The DrivenByMoss Manual

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September 22, 2025

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Welcome to the DrivenByMoss Documentation

DrivenByMoss is an extension for the digital audio workstations (DAW) **Bitwig Studio** and **Cockos Reaper**. It provides support for many hardware controllers as well as protocols like OSC. Furthermore, it brings some tools and utilities.

DrivenByMoss is written by Jürgen Moßgraber also known as MOSS.

Feedback and Bug Reports

Post all questions, bug reports wishes and discussion

- related to **Bitwig Studio** into the KVR Thread.
- related to **Cockos Reaper** into the Reaper Forum Thread.

Download latest Release

Always download the latest release from my homepage.

> **The version on GitHub might always be in an alpha or beta state, you have been warned!**

List with Bitwig Changes.

List with Reaper Changes.

Video Tutorials

There are many in-depth video tutorials available on my Youtube channel.

Installation & Feature Documentation

Follow the Installation instructions.

After that check the specific documentation for your controller in the respective chapter.

Installation

Bitwig Studio

1. Extract the ZIP file. It contains a file named **DrivenByMoss.bwextension**.
2. Copy that file in the following location depending on your OS:
   - Windows: `%USERPROFILE%\Documents\Bitwig Studio\Extensions\`
   - Mac: `~/Documents/Bitwig Studio/Extensions/`
   - Linux: `~/Bitwig Studio/Extensions/` Since Bitwig Studio 4.3 you can simply drag and drop the file on it's main window and the file will be automatically copied in the correct folder!
3. Start Bitwig Studio and open the *Dashboard*. Select *Settings* and *Controllers*.
4. If **Autdetect** is enabled for most of the controllers you automatically get a popup notification.
5. Alternatively, click on *Add controller*, select the manufacturer, then the controller and click on *Add*. In that case note that the extension does not start until you configured the necessary in- and outputs!

See the documentation of the individual controllers for further installation/configuration instructions.

Cockos Reaper

Updating a previous version

Important: If you update from a previous version make sure to delete the old files first. Otherwise you will have files in different versions, which will result in several problems.

Installation

Unzip the downloaded file "DrivenByMoss4Reaper-X.XX-PLATFORM.zip" to the Reaper UserPlugins folder.

Important:

1. Make sure you keep the folder structure of the ZIP file intact (UserPlugins/java-runtime, UserPlugins/drivenbymoss-libs, ...)!
2. Do not put the files in an additional sub-folder (e.g. DO NOT: UserPlugins/DrivenByMoss-6.11/reaper-drivenbymoss.lib)!

Note: For the Portable Reaper installation drop the files into the "Plugins" folder of your portable installation.

You find the UserPlugins folder at the following locations:

- Windows 10/11 > `C:\Users\<YOUR_USER_NAME>\AppData\Roaming\REAPER\UserPlugins` Note that the AppData folder is hidden, you need to make it visible by enabling "Show hidden files" in the View tab of explorer.
- Mac OS X (minimum version 10.12 Sierra) > `~/Library/Application Support/REAPER/UserPlugins` These folders are hidden as well. Press cmd+shift+. in the finder to make them visible.
- Linux (I am testing on Ubuntu Studio) Look up the location at which you have installed Reaper. Install the *.so file into `~/.config/REAPER/UserPlugins` or in the case of a portable install into REAPER/UserPlugins.

Alternatively, you can start Reaper and click in the Options menu on *Show REAPER resource path in explorer/finder... ". In the folder that opens, navigate into the UserPlugins subfolder.

Tip: This is also the path in which Reaper stores all configuration files including the DrivenByMoss configuration. If you want to backup your DrivenByMoss configuration, simply copy all files in this folder starting with *DrivenByMoss*.

Windows specifics

If you get an error when starting DrivenByMoss that says *jvm.dll could not be loaded - Error 126* make sure that the latest C++ redistributable packet for Visual Studio is installed. It can be downloaded here:

https://aka.ms/vs/17/release/vc_redist.x64.exe

MacOS specifics

If you get the following error when starting Reaper: `"reaper_drivenbymoss.dylib" can't be opened because Apple cannot check it for malicious software.`, do the following:

1. Run Reaper to get the error
2. Close Reaper
3. Open the System Settings
4. Open the Privacy & Security tab
5. Click the Lock icon at the bottom of the window and enter your password
6. Above it you should see the notification that "reaper_drivenbymoss.dylib" was blocked
7. Click the button to "allow it anyway"

Accessibility Support

If you have a screen reader installed you might get the following error: `drivenbymoss: ERROR: Could not call startup.java.lang.UnsatisfiedLinkError: bin\javaaccessbridge.dll: Can't find dependent libraries`

In that case try to install the full Java JDK from: https://adoptopenjdk.net/ This should install the missing files.

Configuration in Reaper

1. Start Reaper
2. Open the Preferences (Ctrl+P)
3. Scroll down and select "Control/OSC/web"
4. Click on "Add"
5. In the "Control surface mode" select "DrivenByMoss4Reaper" (if it is not there, you put the reaper_drivenbymoss library file into a wrong location).
6. The configuration displays the JAVA_HOME path for information and contains a button to open the DrivenByMoss user interface. You can keep this user interface open if you want and only close the Reaper dialogs.

Adding and configuring devices

IMPORTANT: Since DrivenByMoss v26 the native MIDI ports of Reaper are used. Therefore, they need to be enabled in the Reaper MIDI settings! For the outputs make sure that the option "Do not send reset messages" is enabled, otherwise you will have strange effects! Sending MIDI clock can be activated for the output if necessary.

The DrivenByMoss window consists of three parts:

1. The list of the configured controllers. The listbox before the controller name depicts if he controller is active (checked) or deactivated.
2. The lower part displays logging information about started controllers and errors.
3. The buttons on the right have the following functions:
   - **Detect** - Automatically adds connected controllers.
   - **Add** - Not all controllers can be detected automatically. Use the Add button and select the controller to add from the appearing menu.
   - **Remove** - Removes the controller which is selected in the list.
   - **Configuration** - Opens the configuration dialog for the controller. Make sure that the correct in-/outputs are selected. Only MIDI in-/outputs which are enabled in the Reaper settings are shown! All other options are described in the specific controller section in this manual.

- **Project** - Opens the dialog with controller settings which are stored individually with each Reaper project, e.g. Scale settings. See the specific controller section in this manual.
- **Parameters** - Opens a dialog to modify the mapping of the currently selected devices' parameters.
- **Dis-/enable** - Disable a controller to save performance if you do not use it (or it is not connected).
- **Debug** - Only used for development, ignore it. However, the *Device simulator* might be handy for some people with a touch display. Furthermore, if you somehow dislike the popup notifications, they can be disabled here.

Your setup will automatically be loaded if you run Reaper and stored when you close Reaper.

Known Issues

Windows

- You might get the following error on Windows: **Could not open MIDI output. There is not enough Memory for this Task**. This error means that Windows cannot open the device since another process already opened it. Check if you have accidently assigned it to another script or any MIDI tool which is runing in the background. If it is a Native Instruments device also check if the NI background services work correctly.

Windows 11 on ARM

I tested all devices which are supported by DrivenByMoss on Windows 11 on ARM. Here are the results.

Fully working devices

- Ableton: Push 1-3
- Akai: APC 40 Mk 1 / Mk 2, APCmini Mk 1 / Mk 2, Fire
- Arturia: Beatstep (template needs to be installed from a x64 machine)
- Electra One
- ESI Xjam
- Faderfox EC4
- Generic Flexi
- Mackie HUI/MCU: Depends on if the specific device needs a MIDI driver or not (class compliant), e.g. Behringer X-Touch works fine
- Native Instruments Komplete Kontrol Mk 3
- Novation: Launchkey Mini mk3, Launchkey mk3, LaunchControl XL, Launchpad, SL Mk 1 / Mk 2 / Mk 3
- OXI One
- Yaeltex TURN

No MIDI drivers

The following devices miss MIDI drivers and therefore do not work.

- Akai MPC Live I/II, One, X, Force
- Native Instruments Kontrol Mk 1, Kontrol Mk 2 / A-series, M32, Maschine Mk 2/3, Studio, Maschine+, JAM, Mikro Mk3

Needs a MIDI Input

The following extensions do need a MIDI input port to work. So far I could not find a virtual MIDI driver (if there is one please tell me). As a workaround connect any MIDI device which features a MIDI input port (and you don't need) and use this MIDI input port.

- Gamepad
- OSC

Bitwig Studio

- Novation SL MkIII: If the keyboard is transposed the pressed notes are off for the light guide.
- User Parameters cannot be reset
- If you are wondering where the document settings are: open the right hand pane (which contains the browser as well) and select the pane "Studio I/O" on the bottom. Then click the little arrow before the script name to reveal the document settings. These settings are stored with every project individually.

Cockos Reaper

Limitations

DrivenByMoss is developed for Bitwig Studio. Bitwig has several concepts, which are not available in Reaper, e.g. Scenes, Clips and User parameters.

- Since Reaper does not have specific track types FX Track Banks do not appear (or cannot be selected) on the devices. E.g. in Generic Flexi the *FX Track* actions do nothing. Furthermore, options to in-/exclude FX tracks have no effect.
- The metronome volume text description is not updated (always shows -6.0dB).
- Automation Touch mode is only supported for volume and panorama (limitation of the Reaper CSI API). Use Latch mode instead.
- Disabled envelope automations are still sent to the device (since the bypass info can currently only be retrieved via the envelope chunk which has a bad performance impact).

Workarounds

For some limitations there are workarounds available:

- The Groove settings allow to dis-/enable the arrange swing grid and set the amount.
- **Browser**: A popup browser is available for devices and Reaper device presets. A browser window is simulated in Reaper. Filter columns of this browser can be hidden with the menu in the window. All filter columns for presets are hidden by default since they have no function. Preference settings for plugin types are applied from the settings in the Reaper browser as well as smart folders.
- **Clips**: Clips are track media items on the timeline. Triggering a clip starts the playback at the position of the media item start. There are no alternative launching options (ALT option in Bitwig). A clip is indicated as playing when the play cursor is in the range of the region marker with the same index as the clip and playback is active. A slot is indicated as recording when the play cursor is in the range of the region marker with the same index as the slot and the track is armed.
- **Scenes**: Scenes are emulated by range markers. Starting the n-th Scene triggers playback from the start of the n-th range marker. *Creating a scene* is emulated by inserting a new region marker after the last region marker in the project (or at the beginning of the project if there is no region marker yet). The length is taken from the *new clip length* setting. *Duplicating a scene* is emulated by duplicating all clips in the time range of the region. The new clips are inserted after the current region (all other clips are moved back) and a new region is created for duplicated clips. *Creating scene from playing clips* is emulated by duplicating the the region which contains the edit cursor (if any). For smooth transitions between scene switches activate the option *Smooth Seeking (seeks at end of measure)* in the Options menu of Reaper. In Reapers' preference dialog in the *Audio* section there is a sub-section called *Seeking*. In its' setting page there is the option *Do not change playback position immediately when seeking (smooth seek)* which is identicial to the option in the Options menu. If enabled there is a refinement to choose to switch on measure or enable *Play to next project marker, ...*.
- **Project / Track Parameters**: Since Bitwig 5, user parameters are replaced by Project parameters. Furthermore, track remote parameters are introduced as well. On devices which support project remotes (previously User Parameters), these control the Master FX parameters in Reaper. If a Project Remotes mode is active and a new Track FX parameter is added, the user mode must be left and reentered to make the parameter work.
- **Crossfader**: On devices which support a crossfader it controls the 1st track FX parameter on the master track.
- **Layouts**: Switching to Arrange, Mix or Edit layout setting loads Screenset #01, #02 and #03 in Reaper.
- **Toggle Automation Editor Pane**: Maps to 'Envelope: Toggle show all active envelopes for all tracks' in Reaper.
- **Sequencer**: If a note is not perfectly on the grid it is still drawn on the nearest pad(s) but to be deleted it needs to be exactly on the grid. Therefore, hit Quantise after recording and then you can delete the note(s).

- **Panels/Mixer/Layouts**: The following Bitwig commands are mapped to the following Reaper actions:
  - **Toggle Automation Editor**: Envelope: Toggle show all active envelopes.
  - **Toggle Cue Marker Visibility**: Ruler: Display project regions/markers as gridlines in arrange view.
  - **Toggle Track Height**: View: Cycle track zoom between minimum, default, and maximum height (limit to 100%).
  - **Toggle Inspector**: View: Show track manager window.
  - **Toggle Browser Visibility**: Media explorer: Show/hide media explorer.
  - **Toggle Device Section Visibility**: Mixer: Toggle show FX inserts if space available.
  - **Toggle Sends Section Visibility**: Mixer: Toggle show sends if space available.
  - **Toggle IO Section Visibility**: Mixer: Toggle show FX parameters if space available.
  - **Select panel layout Arranger/Mixer/Edit/Play**: Screenset: Load window set #01/#02/#03/#04

Further issues

- If you use Melda plugins, turn off GPU acceleration in the Melda plugin settings. Otherwise Reaper will crash.
- On Linux (Ubuntu) some Undo calls can freeze Reaper. E.g. I could reproduce that by simply creating a loop range and pressing Undo on the Launchpad. It does not happen if executed from inside Reaper. I tried to switch to calling the Undo-action instead of the API Undo-function but it has the same result. Since it hangs in the method call this looks like a Reaper bug to me.

Ableton Push 1, 2 and 3

Support script for Ableton's Push 1, Push 2 and Push 3 controller. You can control track parameters, devices, transport, session view and get a plenty of sequencers.

Installation

To add the controller manually, choose **Ableton -> Push X**, where X is the version of your specific controller. On **Push 1** make sure that for MIDI in- and output the 2nd port is selected (**MIDIIN2 (Ableton Push)** and **MIDIOUT2 (Ableton Push)** on Windows). For **Push 2** and **Push 3** it is the first port.

Installation on Linux

Accessing USB requires root access. To run the Application as a normal user copy the file `99-userusbdevices.rules` to the folder `/etc/udev/rules.d/`. It gives the group **audio** access to the Push 2/3 controller. Make sure that your user is a member of that group and the group does exist. A more in-depth explanation can be found here. After you have copied the file reboot your computer.

Global Features

- **Play**: Start/Stop playback. Double click to move play cursor to start of song. You can configure the behavior on stop in the preferences.
- **Shift+Play**: Toggle repeat
- **Select+Play**: Toggle Punch In
- **Select+Shift+Play**: Toggle Punch Out
- **Record**: Start/Stop recording
- **Shift+Record**: Toggle launcher overdub. If the selected slot on the selected track is recording it stops the recording instead.
- **New**: Creates a new clip on the selected track and slot, starts playback and enables overdub.
- **Shift+New**: Like New button but without activating launcher overdub.
- **Automation**: Toggle Automation Write. Long press to bring up the Automation dialog which allows you to change the automation mode.
- **Shift+Automation**: Toggles the clip launcher automation write enabled state of the transport.
- **Delete+Automation**: Resets any automation overrides.
- **Fixed Length**: Select the length of the midi clip for *New*. The upper row gives you the option to create a new clip of the selected length without storing it.
- **Duplicate**: Combine with a scene pad (duplicate scene) or a track select button (duplicate track). To copy clips in session mode keep the Duplicate button pressed; choose the source clip (it must be a clip with content, you can still select a different clip as the source); select the destination clip (this must be an empty clip, which can also be on a different track); release the Duplicate button.
- **Shift+Duplicate**: Create a new scene from the currently playing clips.
- **Select+Duplicate**: Creates a new scene at the end of the scene list.
- **Quantize**: Quantize the currently selected clip.
- **Shift+Quantize** (or long press Quantize): Access the Quantize and Groove configuration modes
- **Double (Loop)**: Duplicate the content of the currently selected clip (not the clip itself)
- **Undo**: Undoes the last action. Press Shift for Redo.
- **Delete**: Like pressing the delete key. Hold the button for additional functionality in combination with other buttons knobs, see the mode and view explanations below.
- **Metronome**: Toggle metronome. Long press to bring up the metronome settings mode which contains volume and pre-roll settings.
- **Shift+Metronome**: Toggle metronome ticks
- **Tap Tempo**: Tap Tempo
- **Knobs 1-8**: Value encoders, [Shift+Knob] fine increment value change.
- Keep the **Master button** pressed for a screen which allows to toggle perspectives and panels.
- **Footswitch 1**: Sends sustain.

- **Footswitch 2**: Function can be configured in the settings (see the descriptions of the settings below).
- **Arrows**: The cursor keys change the track page (device, layers) and scene bank, except in the browser they change the browser tabs. **Center button** (Push 3 only): Starts the selected scene with alternate option (Bitwig only).
- **Shift+Touchstrip**: Change behavior of touch-strip: Send pitch bend, a midi CC or a mixed mode. If mixed mode is selected upwards pitch bend is sent and downwards the select midi cc.
- **Shift+Track**: Turn off/on VU meters.
- **Browse**: Enters Preset selection mode for a device. If no device is selected the browser is opened to add a device.
- **Add Track**: Opens the menu for inserting tracks. Tracks with pre-configured devices can be configured in the settings.
- **Repeat**: Toggles note repeat. Long press to enter Note Repeat Mode to configure the note repeat settings.
- **Repeat+Scene**: Changes note repeat period.
- **Shift+Note Repeat+Scene**: Changes note repeat note length.
- **Select+Note Repeat**: Toggle Fill Mode.
- **Accent**: If active, velocity is always max in Sequencer and Play modes. Long press Accent to change fixed accent value.
- **Scale**: De-/Activates the Scale mode.

Push 1 specifics

- **Add Effect**: Add a device after the currently selected one.
- **Shift+Add Effect**: Add a device before the currently selected one.
- **Select+Add Effect**: Opens the favorites menu on the device page.
- **Shift+User**: Adjust some hardware settings like pad sensitivity. Also configurable in the script settings.
- **Mute**: Selects track mute state of 2nd row.
- **Solo**: Selects track solo state of 2nd row.
- **Stop Clip**: Selects stop clip state of 2nd row. Combine 2nd row button with Shift to execute the alternative stop function (Bitwig only).
- **Shift+Select+Stop Clip**: Executes the alternative stop all clips function (Bitwig only).
- **Select+Stop Clip**: Stops all playing clips.
- **Select+Mute**: Deactivate all mutes.
- **Select+Solo**: Deactivate all solos.
- **Small Knob 1**: Change tempo (press *Shift* for fine adjustment). Press *Select* to change the arrange loop start (combine with *Shift* for small changes).
- **Small Knob 2**: Move play cursor (press *Shift* for fine adjustment). Press *Select* to change the arrange loop length (combine with *Shift* for small changes).
- **Knob 9**: Changes Master Volume.
- **Select+Knob 9**: Changes the arranger zoom.

Push 2 specifics

- **Convert**: Brings up the Slice to Drum Machine dialog.
- **Shift+Convert**: Bring up the Slice to Multi-sample dialog.
- **Add Device**: Add a device after the currently selected one.
- **Shift+Add Device**: Add a device before the currently selected one.
- **Select+Add Device**: Opens the favorites menu on the device page.
- **Setup**: Adjust some hardware settings like pad sensitivity. Also configurable in the script settings.
- **Layout**: Layout button steps through the play or sequencer modes (depending on which type is active).
- **Shift+Layout**: Toggles between play and sequencer modes.
- **Mute**: Mutes the currently selected track. Long press to select mute state with 2nd row buttons. Lock this feature it with **Shift+Mute**.
- **Solo**: Solos the currently selected track. Long press to select solo state with 2nd row buttons. Lock this feature with **Shift+Solo**.

- **Stop Clip**: Stops the clip of the currently selected track. Long press to select stop clip state with 2nd row buttons. Lock this feature with **Shift+Stop Clip**. Combine 2nd row button with Shift to execute the alternative stop function (Bitwig only).
- **Shift+Select+Stop Clip**: Executes the alternative stop all clips function (Bitwig only).
- **Select+Stop Clip**: Stops all playing clips.
- **Select+Mute**: Deactivate all mutes.
- **Select+Solo**: Deactivate all solos.
- **Small Knob 1**: Change tempo (press *Shift* for fine adjustment). Press *Select* to change the arrange loop start (combine with *Shift* for small changes).
- **Small Knob 2**: Move play cursor (press *Shift* for fine adjustment). Press *Select* to change the arrange loop length (combine with *Shift* for small changes).
- **Knob 9**: Changes Master Volume.
- **Select+Knob 9**: Changes the arranger zoom.

Push 3 specifics

- **File**: Shows the Open dialog.
- **Save**: Save the project.
- **Help**: Shows learning resources.
- **Convert**: Brings up the Slice to Drum Machine dialog.
- **Shift+Convert**: Bring up the Slice to Multi-sample dialog.
- **Add Track/Device**: Opens the 'add track/device' menu.
- **Setup**: Adjust some hardware settings like pad sensitivity. Also configurable in the script settings.
- **Layout**: Layout button steps through the play or sequencer modes (depending on which type is active).
- **Shift+Layout**: Toggles between play and sequencer modes.
- **Mute**: Mutes the currently selected track. Long press to select mute state with 2nd row buttons. Lock this feature it with **Lock+Mute**.
- **Solo**: Solos the currently selected track. Long press to select solo state with 2nd row buttons. Lock this feature with **Lock+Solo**.
- **Stop Clip**: Stops the clip of the currently selected track. Long press to select stop clip state with 2nd row buttons. Lock this feature with **Lock+Stop Clip**. Combine 2nd row button with Shift to execute the alternative stop function (Bitwig only).
- **Shift+Select+Stop Clip**: Executes the alternative stop all clips function (Bitwig only).
- **Select+Stop Clip**: Stops all playing clips.
- **Select+Mute**: Deactivate all mutes.
- **Select+Solo**: Deactivate all solos.
- **Capture MIDI**: Creates a new scene.
- **Shift+Capture MIDI**: Creates a new scene from the currently playing launcher clips.
- **Show Clip Grid**: Toggle between showing scenes/clips and the mixer when in session mode.
- **Small Knob**: Change tempo (press *Shift* for fine adjustment). Press *Select* to change the arrange loop start (combine with *Shift* for small changes). Press to toggle to changing the shuffle amount.
- **Medium Knob**: Changes Master/Cue Volume. Press to toggle between controlling master volume and cue mix volume.
- **Select+Medium Knob**: Changes the arranger zoom.
- **Large Knob**: Move play cursor (press *Shift* for fine adjustment). Combine with *Select* to change the arrange loop length (combine with *Shift* for small changes). Pressing it starts/stops playback. Moving it left/right moves the play cursor to the start, start of loop, end of loop and end of project.

Edit Modes

- Hold Delete and Touch Encoder to reset a value to its default value in all modes.
- Since the Push 2/3 is missing the buttons Volume and Pan & Send use the navigation knobs above the display.
- Press the Duplicate button and one of the Track-Select buttons to duplicate a track.

- In all track modes, press and release the Select button to enter the track details mode. In this mode you can set different states like enable, solo, mute, rec arm, monitor and change the color of the track. If you currently have a layer selected this brings up a similar view to edit the states of the layer. Furthermore, the note insert/edit MIDI channel can be selected in this mode. Selecting an already selected group track toggles its' expanded state if the Shift button is held.
- Push 2/3: Hold Shift to access the 4th Send mode.

1. **Volume** - Push 1: Press "Volume" to enter - Push 2/3: Press "Mix" and "Volume" above the display
   - 8 edit knobs: Change volume of selected 8 tracks. Hold **Shift** for fine adjustments.
   - 1st 8 button row: If tracks are hierarchical (see settings): Press to select a track, press again to enter a group. Combine with the **Select** button to select multiple tracks (Reaper only). To rec arm a track, keep the record button pressed and select the channel (first button row). Use in combination with the Delete button to delete a track. Long press a button to leave a track group.
   - 2nd 8 button row: Toggle mute or solo of track, dependent of Mute or Solo button selection.
   - Left/Right arrows: Select next/previous track page.
   - Shift+Left/right arrows: Moves the selected track.
2. **Crossfader** - Push 1: Press "Volume" twice to enter - Push 2/3: Press "Mix" and "Crossfader" above the display
   - 8 edit knobs: Change crossfader setting of selected 8 tracks.
   - Buttons behave as above.
3. **Pan & Send** - Push 1: Press "Pan & Send" to enter (press multiple times to switch between the modes) - Push 2/3: Press "Mix" and "Send X" above the display. The 4th button above the display moves to the next sends page. Combine with Shift to move backwards.
   - 8 edit knobs: Change pan/send1-6 of selected 8 tracks. Hold **Shift** for fine adjustments.
   - Sends can be dis-/enabled. Keep SHIFT pressed, then additionally SELECT and finally touch a knob which modifies a send.
   - Buttons behave as above.
4. **Track** - Press "Track" (Push 1) or "Mix" (Push 2/3) to enter (press twice to toggle between normal and effect tracks)
   - 8 edit knobs: Change volume/pan/crossfader/Send1-5 of selected track. Hold **Shift** for fine adjustments.
   - Buttons behave as above.
5. **Clip** - Press "Clip" to modify clip properties
   - Loop, Play range, Shuffle and Accent
   - Other buttons behave as above.
6. **Device** - Press "Device" to enter
   - The buttons of the 1st row select the device or the parameter banks. Use in combination with the Delete button to delete a device.
   - 2nd row buttons (buttons above display on Push 2/3):
     - Button 1: Dis-/enables the device.
     - Button 2: Shows/hides the remote controls section of the plugin.
     - Button 3: Toggles the device between extended and small view.
     - Button 4: Enter the *Chains* sub-devices for Bitwig devices which have slots.
     - Button 5: Toggles between device and parameter bank navigation.
     - Button 6: Pins the device to the controller. If a different device is selected in the DAW or from another contrroller it will not change.
     - Button 7: Opens/closes the plugin window or pop-out window of specific Bitwig devices.
     - Button 8: Navigates up to the track mode.
   - To navigate groups, layers and devices press now the respective first row button. Long press any of the first row buttons to move up the hierarchy again.
   - 8 edit knobs: Change 8 parameters of the selected device (FX). Hold **Shift** for fine adjustments. Hold the delete key and touch a knob to reset its value.
   - Left/Right buttons: Select next/previous device or parameter bank
   - Left/Right arrows: Select next/previous devices or parameter page.
   - Shift+Left/right arrows: Moves the selected device.

- Mute+Device: Toggles the enabled state of the device.

- Press Browse to select a different patch of the device. Hold the Shift button in Preset mode to scroll quickly.
- Push 1: Use **Select+Volume/Pan/Track** buttons to activate the different layer modes. For Send modes press **Pan** multiple times.

7. **Browse** - Press "Browse" ("Hot Swap" on Push 3) to enter
   - Edit knob 8: Change the patch
   - Edit knobs 1-7: Change the different filters
   - Tempo knob: Changes the value of the last selected column
   - Hold the Shift button in Preset mode to scroll quickly.
   - 1st button row: Select the previous patch/filter
   - 2nd button row: Select the next patch/filter
   - Shift + 8th button on the 1st button row: Toggle preview
   - Use the arrow left and right to switch between the browser tabs
   - **Delete+touch knob**: Resets a filter to its default value
   - Press *Browse* again to Confirm the selection or *Shift+Browse* to Cancel.
   - **Large Knob** (Push 3 only): Selects the previous/next result or filter item in the selected column. Pushing it works like the *Browse* button on the earlier models. Moving it left/right selects the previous/next filter/result column. **Center Arrow button** (Push 3 only): Toggle between inserting a device before/after the currently selected one.
8. **Master** - Press "Master" to enter
   - 8 edit knobs: Change volume, pan of master track and Cue Volume and Mix. Hold **Shift** for fine adjustments.
   - Dis-/Enable audio engine
   - Switch to the next/previous opened project with buttons 7 and 8.
9. **User** - Press "User" to enter Gives access to the project and track parameters.
   - 8 edit knobs: Change value of a mapped parameter. Hold **Shift** for fine adjustments.
   - Left/Right buttons: Select next/previous parameter page
   - Buttons of 1st row select the parameter page.
   - First 2 buttons of the 2nd row toggle between Project and (selected) Track parameters.

Play Modes

Play Mode

Press *"Note"* and select *Play* to change to the Play mode.

- The key layout shows all notes of a scale with different offsets between the rows. To get a continuous layout of notes without any offsets, select *Sequent* ˆ as the scale layout and enable *Chromatic mode*.
- The touch-strip (Ribbon) can be configured for different tasks. Call up the configuration mode with Shift+Touchstrip.
- Press *"Scales"* (keep pressed for temporary) to change the scale (Chromatic, Major, Minor, etc.) and the root note with the 16 buttons below the display. Press and keep the **Shift** button to change the scale layout.
- The played keys are lit green when played and red if global or clip recording is active.
- Use the Delete button in combination with a pad. This deletes all appearances of that note in the currently selected clip. Use with care since the notes you see lit might not come from the currently selected clip!

Chords Mode

Press *"Note"* and select *Chords* to change to the Chords mode.

This mode allows to play a chord by pressing a single pad. The base note is taken from the current scale and increases from left to right. The same octave, scale and base note settings apply as with the play mode. The

rows from bottom to top contain the following chords:

- Triads,
- Dyads (Power chords),
- Suspended second (Sus2),
- Suspended fourth (Sus4),
- Add sixth (6),
- Major seventh chord (maj7),
- Add ninth (9),
- Add eleventh (11).

Other functions are identical to the Play view.

Piano Mode

Press *"Note"* and select *Piano* to enter **Piano** mode.

- Arranges the pads like a classic piano keyboard.
- The white lit pads are the white keys.
- The pads lit in the color of the track are the black keys.
- You get 4 octaves to play with.
- Other functions are identical to the Play view.

Drum 64 play mode

Press *"Note"* and select *Drum 64*.

This mode gives you 64 pads for playing a drum device. The 16 pads in the left lower area are the same as in the drum sequencer mode.

Session Mode

Press *"Session"* to enter **Session** mode. Keep button pressed to switch back to Note mode on release. This allows you to launch clips then release the Session button to jump straight back into Note mode.

Delete+Scene button (in Play, Piano, Drum 64, Session view) deletes the scene.

Hold *Browse* and select a pad to browse for clips.

All the buttons and knobs behave like in Play mode with the following exceptions:

- The pads on the grid start/record the clips. This depends on the clip launch and launch release settings (Bitwig only).
- The 1/4 to 1/32t buttons start scenes.
- Hold **Shift** to execute the alternative action of the clip and scene (Bitwig only).
- Hold **Select** to select a clip or scene without starting it.
- Hold **Shift+Select** to switch to the birds-eye view. In this mode each pad represents 8x8 clips. Select a pad to quickly jump to that area.
- The arrow keys up/down scroll the scenes. Hold **Shift** to scroll in blocks of 8.
- Pressing **Shift+1st row buttons** returns to the arrangement for that track.
- Press the **Fixed Length** button to choose the length for new clips.
- Press **Clip** to display the current clip in the editor.
- The ribbon controls the crossfader. Press Shift and touch the Ribbon to center the crossfader.
- Press **Delete+Pad** in Session Mode to the delete the clip.

When in Session view and press Session again a menu turns up (like in note view) where you can select different views. The normal Session view, the flipped version and the Scene view. Use the Layout button on Push 2/3 to quickly step through these views. Furthermore, you can select the Clip, Marker or Mixer mode which display either clips/scenes, markers or the mixer in the display. In Clip and Marker mode the knobs

control the volume of the tracks. **Large Knob** (Push 3 only): When clip/scene mode is active it navigates the clip/scenes grid. Turn it to select the previous/next clip/scene. Press it to start the clip/scene. Move it to the left/right to switch tracks/select the previous/next scene.

Marker mode

The 8 buttons below the display moves the play cursor to the position of the marker and (optionally) starts the playback from the respective marker. 2nd row buttons 7 and 8 choose between select only or start playback. *Delete* + 1st row buttons in Marker mode deletes a marker. Use the first 2nd row button to add a marker at the current play position.

Scene view

This view displays the first 64 scenes ready for jamming. The color of a scene uses the color of the first clip found in the scene (only checks in the first 8 tracks). **Delete+pad** deletes a scene.

Sequencers

Sequencer Functions common to all sequencers (except Raindrop)

- To navigate in a clip use the Page left/right (device in/out on Push 1) buttons.
- Note that you can scroll past the end of the clip (to the right).
- Press pads to enter/delete notes. The velocity of the pressed key is set as well.
- Change the note length or create long notes by pressing a note pad, keep it pressed, wait a bit and then press a pad right to it.
- To duplicate notes keep the Duplicate button pressed, select the source note, press empty destination pad(s). The note will be copied with all settings.
- Note starts and lengths are lit in different colors.
- Use the Scene buttons to change the grids resolution.
- **Shift+Pad** enables and increases note repeat by 1.
- **Shift+Select+Pad** enables and decreases note repeat by 1.
- **Select+Pad** selects a note for editing. Selected notes are lit in yellow.
- **Mute+Pad** in step sequencer toggles the mute state of the note. A muted note is lit in gray.

Note editing

- Long press a pad which contains a note to activate the note edit mode and edit the parameters of the note (or all notes at that step in case of Poly Sequencer).
- When the note edit mode is active, press the pads which contain notes to select the for editing or remove them from editing.
- Multiple notes can be de-/selected for editing by using the select button in combination with a sequencer note pad as well.
- When the last note is deactivated for editing, the note edit mode is closed.
- Pressing a pad which does not contain a note closes the edit mode as well.
- Pressing a pad which does contain the continuation of a note, does nothing.

Note Sequencer

Press *"Note"* and select *Squencr* to enter **Sequencer** mode.

- The pads of the top row represent the pages of the clip. Green indicates the page currently played. Blue is the page selected for editing. Press one of the pads to select it for editing. Keep one of the pads pressed and press another one to change the loop.
- The other pads display an 8x7 view of the selected clips note grid.
- The rows represent the notes of the selected scale.
- Use Shift+Octave Up/Down to transpose by 1 step. Select+Octave transposes in 12 steps.

Poly Sequencer

Press *"Note"* and select *Poly Seq.* to enter **Poly Sequencer** mode:

- The lower half displays the playable notes like in the Note Mode
- Play one or more notes in that area
- Create a step in the upper part by pressing a pad. The step will contain the last notes you played in the lower part.

Drum Sequencer

Press *"Note"* and select *Drum* to change to the Drum Sequencer. While the drum sequencers work with any instrument full features (solo, mute, colors) are only available when a Bitwig drum machine device is loaded on the track.

- The drum sequencer works as described in the Push manual.
- Note starts and lengths are lit in different colors.
- Hold *Delete*+Drumpad to delete the midi notes of the current clip on that 'pad'.
- Hold *Mute/Solo* button + Drumpad to mute/solo the drum pad.
- To make the display of mute/solo/exists states work, the primary device needs to be the drum machine (which is normally the case).
- Hold down the *Select* button while pressing a drum pad to select it without playing its sound. This also selects the according drum pad layer in the display.
- Press *Browser+Drum Pad* in Drum View and Drum 64 to open the browser.
- The drum pads use the colors set in the drum machine for each pad.
- There are three additional drum sequencers. Press Shift in drum mode and use upper 4 scene buttons to change between the four modes. 2nd mode displays 4 drum sound, 3rd mode 8. Use the lower 4 scene buttons (while holding Shift) in 2nd mode to toggle between the drum sounds 1-4, 5-8, 9-12, 13-16. Use the lower 2 scene buttons in 3rd mode to toggle the drum sounds 1-8, 9-16. The fourth mode displays 64 drum pads.
- Use Octave Up/Down to move the pads by 16.
- Use Shift+Octave Up/Down to move the pads by 4.
- If *Accent* is active the loop/clip length area shows 16 velocities. The selected velocity is used when enabling a note in the sequencer.

Drum 4 and Drum 8 sequencer

Press *"Note"* and select *Drum 4* or *Drum 8* to activate it.

These drum sequencers show 4 or 8 drum sounds for sequencing. Use the Page buttons to move in the clip.

Drum XoX Sequencer Mode

This mode is inspired by the Roland XoX devices. Press *"Note"* and select *Drum XoX* to activate it.

- The *first 2 rows* (from the top) represent 16 slots (clips) of the currently selected track.
  - The pads have the same color as the clips.
  - Press one of the pads to start the playback or recording (depending on the settings) of the clip.
  - Use SHIFT + pad to trigger the alternative function for the clip launch (Bitwig only).
  - Use SELECT + pad to only select the clip.
  - Use DELETE + pad to delete the clip.
  - Use DUPLICATE + pad to copy a clip. Keep DUPLICATE pressed then first select the source clip and the destination slot.
- The rows *three and four* represent 16 drum pads.
  - The pads have the same color as the 'pads' of the drum machine.
  - Press one of them to select it to edit its steps as well as to play it.
  - Use SELECT + pad to only select it (without making it sound).

  - Use DUPLICATE + pad to copy the steps of a pad. Keep DUPLICATE pressed then first select the source drum pad and the destination drum pad.
- Rows *five to eight* represent up to 32 steps (depending on the selected resolution) of the selected drum pad.
  - Press them to dis-/enable the step.
  - Press two pads (keep the 1st pressed) to create longer notes.
  - Keep the **Fixed Length** button pressed to set the length of the clip loop.
  - Move to the previous/next page of the clip with Page left/right.
  - Use the Fixed buttons to change the step resolution.

Raindrop sequencer

Press *"Note"* and select *Raindrp* to change to the Raindrop Sequencer. To simulate the raindrops, multiple notes are created which have the distance between them which relates to the *height* from which the raindrop does start. To make this work reliably clip lengths of 32 bars should be used. But also smaller sizes create interesting effects since the height of a drop changes depending on the length of the clip.

- The lowest row displays the playable notes.
- Press a pad on the rows above the bottom note row to start a raindrop (the note row can be used as well).
- If the raindrop reaches the bottom row the note is played.
- Use Shift+Octave Up/Down to transpose by 1 step. Select+Octave transposes in 12 steps.

Program Change Mode

Press *"Note"* and select *PrgChang* to enter **Program Change** mode.

- Pads send program change
- Scene buttons switch banks
- Pressing scene button twice toggles 0-63 and 64-127.

Clip Length Mode

- The pads change the length of the currently selected clip loop
- This is the default view for audio tracks.

Preferences Settings

You can set several preferences which are stored when you exit the DAW. These are global settings and not specific to projects.

Session

- Pads: How/what to display on the grid.
- Select clip/scene on launch: If a clip/scene is started from the controller and this setting is off the clip/scene will not be selected. Use if you edit another clip and want not to change the focus.
- Display clips of record enabled tracks in red: if enabled, in the session view for record enabled tracks the empty pads are displayed in red.
- Action for pressing rec armed empty clip: what should happen if you press an empty clip in the session view?

Transport

- Behaviour on Pause: Sets the action to be executed when playback is stopped with the Play button.
- Flip arranger and clip record / automation: if enabled, the functionality of the Record and Automation button when used with Shift is flipped with the function when not using Shift. Enable this if you tend to work more in the Clip Launcher than the Arranger.

Play and Sequence

- Activate Fixed Accent: If a note is played the velocity is ignored and a fixed value is used.
- Fixed Accent Value: The velocity value to use when fixed accent is active.
- Quantize Amount: The amount of quantization to use when Quantize is executed. 100% aligns all notes fully to the grid.
- Startup view: The view that should be selected on startup.
- Start with session view: Enables the session view on startup if active otherwise the default note view is displayed.
- Turn off scale pads: Activate to turn off the pads which are not the root note (instead of being white).
- Notify played chords: Displays the played chords or notes if enabled.

Drum Sequencer

- Auto-select drum settings: If *channel* is selected and a drum pad is played the display switches to the layer settings of the drum cell.
- Turn off empty drum pads: Empty drum cells are displayed in orange. If enabled the pad LEDs are off.

Workflow

- Track navigation: If *flat* is selected all tracks are shown at once. Otherwise if *hierarchical* is selected only folders are shown. Press the select button of the track again to enter a group/folder. Long press the select button of any track to leave the group/folder.
- Cursor Keys Track Option: Which function should be executed when the left/right cursor keys are used.
- Shifted Cursor Keys Track Option: Which function should be executed when the left/right cursor keys combined with shift are used.
- Cursor Keys Scene Option: Which function should be executed when the up/down cursor keys are used.
- Shifted Cursor Keys Scene Option: Which function should be executed when the up/down cursor keys combined with shift are used.
- Include (Group-)Mastertrack: If set to off, the group-master tracks are removed from the track bank.
- Exclude deactivated items: If active, deactivated items like tracks will not be displayed on the controller. This cleans up the displayed banks but also prevents the options to activate a deactivated item from the controller.
- VU meters: The display of VU meters can be disabled with this option
- Footswitch 2: What action to execute if you press the 2nd foot switch (1st foot switch is always assigned to MIDI sustain). The available functions should be self-explanatory, except *Clip Based Looper*: this uses the currently selected MIDI clip slot. If it is empty, a new clip is created (like using the New button) and playback is started. As long as the foot switch is pressed overdub is activated. If the foot switch is released overdub is deactivated.
- Stop automation recording on knob release: If you e.g. change the volume of a track for automation and release the knob, automation recording is automatically switched off.
- New clip length: The length of a clip created with the New function.
- Knob Sensitivity Default: Adjust the speed of the knobs
- Knob Sensitivity Slow: Adjust the speed of the knobs when used with Shift for fine adjustments

Add Track - favorite devices

- Select your favorite devices for the *Add Track* menu.

Ribbon

- Mode: What the Ribbon should do
- CC: The MIDI CC command to send if CC is selected as the mode.
- Function if Note Repeat is active: Option to use the ribbon for note repeat (or always use the selected Mode).

Pads

- Sensitivity: Adjust the hardware sensitivity of the pads
- Gain: Adjust the hardware gain of the pads
- Dynamics: Adjust the hardware dynamics of the pads
- Convert Poly Aftertouch to: The pads support poly aftertouch. If the device you play does not support this option allows to change it to Channel Aftertouch or a MIDI CC command.

Pads (Push 3 only)

- MIDI Polyphonic Expression (MPE): Enable MPE
- MPE Pitch Bend Sensitivity (Bitwig only): The range of the MPE pitch bend in semitones.
- Per-Pad Pitchbend: Allows to change the pitch of each pad.
- In Tune Location: The position at which the pitch bend starts.
- In Tune Width (mm): The width in millimeter at which the note does not pitch bend.
- Slide height (mm): The height in millimeter at which the sliding does not start.

Browser

- Options to hide filter columns which are not used to easier spot the relevant ones

Hardware Setup

- Display brightness: Dims down the display
- LED brightness: Dims down the pad LEDs

Display Colors

- Reset colors to default: Sets all values to their default value
- Color options: Changes the color of different elements of the display graphics

Audio Interface (only Push 3)

- Pedal & CV 1: Use the 1st pedal connector either for a foot switch or as 2 CV outputs.
- Pedal & CV 2: Use the 2nd pedal connector either for a foot switch or as 2 CV outputs.
- Preamp 1: Preamp setting for the 1st line input.
- Preamp 2: Preamp setting for the 2nd line input.
- Gain 1: (Digital) gain setting for the 1st line input.
- Gain 2: (Digital) gain setting for the 2nd line input.
- Outputs: Headphone configuration.

Debug

These options are only for testing. Ignore them.

Document Settings

These settings are specific to each project.

Scales

- Scale: Select the scale
- Base: Select the base note of the scale
- In Key: Select *Chromatic* to also display notes which are not part of the scale.
- Layout: Select the layout of the scale for the Play mode. The numbers are the offsets between the rows of the grid. The arrows depict the direction from lower to higher notes: left to right or bottom to top.

Note Repeat

- Active: Enable note repeat
- Period: The repeat rate of the note repeat
- Length: The length of a repeated note
- Mode: The arpeggiator mode
- Octave: The octave range which is used by the arpeggiator

Play and Sequence

- MIDI Edit: Select the MIDI channel to use to display and edit MIDI notes in sequencers

Akai Professional APC40 / APC40mkII

Support script for Akai's APC40 and APC40mkII controller.

Global Functions

- **Play** - Start/Stop playback. Double click to move play cursor to start of song.
- **Shift+Play** - Toggle repeat.
- **Stop** *only mkI* - Stop playback. Press again to move play cursor to start of the song. Double click to move play cursor to end of song.
- **Record** - Start/Stop recording.
- **Shift+Record** - Creates a new clip on the selected track and slot, starts playback and enables overdub.
- **Shift+Track selection buttons** - Select the length for new clips: 16 bars, 8 bars, 4 bars, 2 bars, 1 bar, 2 beats, 1 beat, 32 bars
- **Metronome** - Toggle metronome.
- **Shift + Metronome** - Enable Metronome Ticks.
- **Detail View** - Toggle plugin window (if any).
- **Shift+Detail View** - Step through the layout perspectives.
- **Cue Level** - Move play cursor (press shift for finer adjustment).
- **Left cursor + Cue Level** - Changes arrange loop start (combine with Shift for small changes).
- **Right cursor + Cue Level** - Changes arrange loop length (combine with Shift for small changes).
- **Tap Tempo** - Tap Tempo.
- **Shift + Tap Tempo** - Inserts a new marker at the current play position.
- APC40: **Tap Tempo + Cue Level** changes tempo.
- **Nudge+** - Redo.
- **Nudge-** - Undo.
- **A|B Crossfader** - Crossfade between tracks assigned to crossfade mode A and B.

Specifics for the Mk I

- **Midi Overdub** - Toggle launcher overdub.
- **Rec Quantization** - Quantize selected clip.

Specifics for the Mk II

- **Session** - Toggle launcher overdub
- **Shift + Session** - Enable automation write in clip launcher
- **Dev. Lock** - Quantize selected clip.
- **Shift + Dev. Lock** - Pin the cursor track and the cursor device.
- **Tempo** - Change the tempo. Keep Shift pressed for fine adjustment.

Device and Parameters

- **Device Knobs 1-8** - Change the currently selected 8 device parameters
- **Device On/Off** - Turn the selected device on/off
- **Clip/Track** - Toggles the devices panel

Devices - Specifics for the Mk I

- **Arrow left** - Select previous parameter bank of device
- **Arrow right** - Select next parameter bank of device
- **Shift+Arrow left** - Move focus to previous device
- **Shift+Arrow right** - Move focus to next device

Devices - Specifics for the Mk II

- **Device Arrow left** - Move focus to previous device or select previous layer if in layer mode
- **Device Arrow right** - Move focus to next device or select next layer if in layer mode
- **Shift+Device Arrow left** - Exit layer mode or a layer ("out")
- **Shift+Device Arrow right** - Enter layer mode or enter a layer ("in")
- **Bank Arrow left** - Select previous parameter bank of device
- **Bank Arrow right** - Select next parameter bank of device

Browser

- MkI: Press **Shift+Device On/Off** button to open/close the browser.
- MkII: Press the **Bank** button to open/close the browser. To discard the patch selection press **Shift+Bank**.
- Navigate filter and result columns with the **Track Control knobs**.
- Cursor left/right: select the previous/next browser tab.
- Cursor up/Down: select the previous/next result item.

Tracks

- **8 faders** - Change volume of selected 8 tracks.
- Press Shift and move Volume Fader to move the fader to the current value of the matching track. On the screen you get information if you need to move it up or down.
- **Master fader** - Change volume of master fader
- **Activator buttons** - Un-/mute the specific track
- **Solo buttons** - Un-/solo the specific track
- **Record-arm buttons** - Press to arm the specific track for recording.
- **Shift+Mute, Shift+Solo** - Toggle monitor and auto monitor
- **A|B buttons** (on first version press Shift+RecArm) - Select channel A or B for crossfader.
- **Cursor right** - Move track bank focus 8 tracks up
- **Cursor left** - Move track bank focus 8 tracks down
- **Shift+Cursor right** - Selects the next marker to the right of the play cursor.
- **Shift+Cursor left** - Selects the next marker to the left of the play cursor.
- **Track selection buttons** - Select the specific track
- **Master button** - Select the master track
- **Shift+Master button** - Toggles between editing of normal and effect tracks.
- **Track control**
  - Press and hold **Sends/Send A** button and press **Track Select 1-8** to select the sends 1 to 8.
  - *only mkI* Press Shift+Send A/B/C to select the sends 4 to 6.

User mode - *only mkII*

- Press USER to select the user mode to control project and track parameters. Press again to toggle between the project and track parameters.
- **Device Knobs 1-8** - Change the mapped project/track parameter.
- **User+Select 1-8** - Select one of the 8 parameter pages.

Clip/scene control

- **Clip Stop** - Stop the clip on the specific track.
- **Shift+Clip Stop** - Executes the alternative stop function (Bitwig only).
- **Stop all clips** - Press this button to stop all playing clips.
- **Shift+Stop all clips** - Executes the alternative clip stop (Bitwig only).
- **Scene launch buttons** - Start the specific scene
- **Cursor up** - Move scene focus 1 scene up

- **Cursor down** - Move scene focus 1 scene down
- **Clip launch** - The buttons on the grid start/record the clips.

Foot switches

- **Footswitch 1** - The function can be configured in the settings.
- **Footswitch 2** *only mkI* - The function can be configured in the settings.

But there is MUCH more! If you press the Shift button and then press one of the five Scene Launch buttons you will change the main mode of the script:

- 1st button: Session mode - if already enabled toggles the birds-eye view
- 2nd button: Play mode, allows you to play notes in different scales
- 3rd button: Drum sequencer (as known from the Push) - Requires a selected midi clip
- 4th button: Note sequencer (as known from the Push) - Requires a selected midi clip
- 5th button: Raindrop sequencer - Requires a selected midi clip

Session Mode

- The pads on the grid start/record the clips. This depends on the clip launch and launch release settings (Bitwig only).
- The 5 scene buttons on the right start the scenes.
- Use **Shift + clip/scene** buttons to execute the alternative clip/scene functions (Bitwig only).
- Press the **Stop Clip** button of the track and a pad to delete the clip.
- Press the **Select** button of the track and a pad to duplicate the clip.

Session Mode - Birds-eye-view

If Session Mode is already enabled select it again to toggle the birds-eye view. In this mode one pad represents an 8x5 area in the clip grid. Press a pad to quickly move to that area.

Play Mode

- *Grid* - Play notes in the currently selected scale.
- *Scene Launch button 1* - Selects the next Scale. The new scale is displayed on the computer screen.
- *Scene Launch button 2* - Selects the previous Scale. The new scale is displayed on the computer screen.
- *Scene Launch button 3* - Switch between Chromatic and In-Key.
- *Scene Launch button 4* - Transpose notes 1 octave up. The new key range is displayed on the computer screen.
- *Scene Launch button 5* - Transpose notes 1 octave down. The new key range is displayed on the computer screen.
- Press **Shift** and use the first two row buttons (arranged like a keyboard) to select the root note of the scale.

Sequencers

- Cursor Up+Pad in sequencers enables and increases note repeat by 1.
- Cursor Down+Pad in sequencers enables and decreases note repeat by 1.

Drum Sequencer

- The upper 2 rows contains 16 steps for the currently selected drum pad. Press one of the pads to turn the step on or off.
- The left bottom 4x3 area contains 12 drum sounds. Pressing a pad plays the drum sound and selects it for editing in the step area.

- The right bottom 4x3 area contains the available pages of the clip. Press one of the pads to select the page for editing. Keep one of the pads pressed and select a pad after the first one to set the clip loop.
- *Clip Stop buttons* - Select the note resolution (displayed on computer screen)
- *Scene Launch button 1* - Transpose notes 1 row up. The new key range is displayed on the computer screen.
- *Scene Launch button 2* - Transpose notes 1 row down. The new key range is displayed on the computer screen.
- *Scene Launch button 3* - Toggles the additional combination buttons in the loop area.
- *Scene Launch button 4* - Transpose notes 1 block up. The new key range is displayed on the computer screen.
- *Scene Launch button 5* - Transpose notes 1 block down. The new key range is displayed on the computer screen.

Additional combination buttons in the loop area: * **Button 1**: Keep pressed and select a drum pad to select it without sounding it. * **Button 2**: Keep pressed and select a drum pad to toggle its' mute state. * **Button 3**: Keep pressed and select a drum pad to toggle its' solo state. * **Button 4**: Keep pressed and select a drum pad to open the browser for it. * **Button 5**: Toggles note repeat on/off. * **Button 6**: Toggles note repeat period on/off. If enabled the stop clip buttons select the note repeat period. * **Button 7**: Toggles note repeat length on/off. If enabled the stop clip buttons select the note repeat length. * **Button 8**: -

Editing notes

Press the pad of an existing note and keep it pressed to edit the values of a note with the 8 mode knobs. The knobs edit the following parameters:

1. Duration (1/32 to 4 bars (128 * 32th))
2. Velocity
3. Velocity Spread
4. Gain
5. Panorama
6. Chance
7. Timbre
8. Pressure

Parameter 3 to 8 are only available with Bitwig.

Note Sequencer

- The pads display an 8x5 view of the selected clips note grid.
- The rows represent the notes of the selected scale.
- Note that you can scroll past the end of the clip (to the right).
- Press pads to enter/delete notes.
- Change note length or create long notes in the Sequencers (Note, Drum) by pressing a note pad and then a pad right of it.
- Use the Clip Stop buttons to change the grids resolution.
- *Scene Launch button 1* - Selects the next Scale. The new scale is displayed on the computer screen.
- *Scene Launch button 2* - Selects the previous Scale. The new scale is displayed on the computer screen.
- *Scene Launch button 3* - Switch between Chromatic and In-Key.
- *Scene Launch button 4* - Transpose notes 1 octave up. The new key range is displayed on the computer screen.
- *Scene Launch button 5* - Transpose notes 1 octave down. The new key range is displayed on the computer screen.
- Press **Shift** and use the first two row buttons (arranged like a keyboard) to select the root note of the scale.
- **Editing notes**, see the Drum Sequencer

Raindrop sequencer

- The lowest row displays the playable notes
- Pressing a pad in a row above a note start a raindrop
- If the raindrop reaches the note it makes the note sound
- *Clip Stop buttons* - Select the note resolution (displayed on computer screen)
- *Scene Launch button 1* - Selects the next Scale. The new scale is displayed on the computer screen.
- *Scene Launch button 2* - Selects the previous Scale. The new scale is displayed on the computer screen.
- *Scene Launch button 3* - Switch between Chromatic and In-Key.
- *Scene Launch button 4* - Transpose notes 1 octave up. The new key range is displayed on the computer screen.
- *Scene Launch button 5* - Transpose notes 1 octave down. The new key range is displayed on the computer screen.
- Press **Shift** and use the first two row buttons (arranged like a keyboard) to select the root note of the scale.

Functions in Shift mode

If you press and release the Shift button the grid changes to the Shift mode. If you keep the Shift button pressed and execute one of the functions of this mode, it will close automatically when the Shift button is released (except in the Session mode).

The following functions are available on the pads of the 5th (top) row:

- 1st: Add instrument track
- 2nd: Add audio track
- 3rd: Add effect track
- 4th: Add device before
- 5th: Add device after
- 7th: Undo
- 8th: Redo

The 2 rows at the bottom represent a keyboard, which allows you to select the root note of the scale.

Preferences Settings

You can set several preferences which are stored when you exit the DAW. These are global settings and not specific to projects.

Session

- Select clip/scene on launch: If a clip/scene is started from the controller and this setting is off the clip/scene will not be selected. Use if you edit another clip and want not to change the focus.
- Display clips of record enabled tracks in red: if enabled, in the session view for record enabled tracks the empty pads are displayed in red.
- Action for pressing rec armed empty clip: what should happen if you press an empty clip in the session view?

Play and Sequence

- Quantize Amount: The amount of quantization to use when Quantize is executed. 100% aligns all notes fully to the grid.
- Startup view: The view that should be selected on startup.
- Start with session view: Enables the session view on startup if active otherwise the default note view is displayed.
- Turn off scale pads: - *only mkII* - Activate to turn off the pads which are not the root note (instead of being white).

- Notify played chords: Displays the played chords or notes if enabled.

Transport

- Behaviour on Pause: Sets the action to be executed when playback is stopped with the Play button

Drum Sequencer

- Turn off empty drum pads: Empty drum cells are displayed in orange. If enabled the pad LEDs are off.

Workflow

- Exclude deactivated items: If active, deactivated items like tracks will not be displayed on the controller. This cleans up the displayed banks but also prevents the options to activate a deactivated item from the controller.
- New clip length: The length of a clip created with the New function.
- Footswitch 1: Select the function to execute for the first footswitch.
- Footswitch 2: - *only mkI* - Select the function to execute for the first footswitch.

Document Settings

These settings are specific to each project.

Scales

- Scale: Select the scale
- Base: Select the base note of the scale
- In Key: Select *Chromatic* to also display notes which are not part of the scale.
- Layout: Select the layout of the scale for the Play mode. The numbers are the offsets between the rows of the grid. The arrows depict the direction from lower to higher notes: left to right or bottom to top.

Note Repeat

- Active: Enable note repeat
- Period: The repeat rate of the note repeat
- Length: The length of a repeated note
- Mode: The arpeggiator mode
- Octave: The octave range which is used by the arpeggiator

Akai Professional APCmini / APCmini Mk2

Support script for Akai's APCmini and APCmini Mk2 controller. You can control track parameters, devices and session view.

Installation

If you added the controller manually, select the MIDI input and output named 'APC MINI' / 'APC mini mk2'.

Features

For the basic usage see the APCmini manual. The differences are as follows:

- *Shift+Device* - If pressed twice, the browser is opened to exchange the selected device.
- *Shift+Scene button 6 (DRUM on Mk2)* - Toggles between editing of normal and effect tracks.
- *Shift+Scene button 7 (NOTE on Mk2)* - Toggles VST window.

But there is MUCH more! If you press the *Shift* button the grid reveals more options:

- **Buttons in left upper corner** - These five buttons change the main modes of the script
  - 1st button: Session mode (the basic functionality)
  - 2nd button: Play mode, allows you to play notes in different scales
  - 3rd button: Drum sequencer (as known from the Push) - Requires a selected midi clip
  - 4th button: Note sequencer (as known from the Push) - Requires a selected midi clip
  - 5th button: Raindrop sequencer - Requires a selected midi clip
- **Buttons on the bottom** - These buttons form a 1 octave keyboard (red = black keys, orange = white keys, selection = green). Press one of the keys to select the base note of the current scale. Used for *Play*, *Rain* and *Note Sequencer* mode.
- **8th column buttons** (from top to bottom) - Transport control
  - Play/Stop
  - Record on/off
  - Toggle arrangement loop on/off
  - Toggle click on/off
- **7th column buttons** (from to to bottom) - Clip/global control
  - Create a new 1 bar clip
  - Toggle overdub recording on/off
  - Quantize
  - Undo
- **Buttons in the center of the Shift-page**
  - Select next / previous device with the two green buttons on the left.
  - Select next / previous device parameter bank with the two orange buttons on the left of the Shift-page.
  - The two red buttons in the middle change the scale.
  - Toggle in-key/chromatic with pad below the scale selection pads).
- **Shift+Cursor up** - Scrolls scene bank down (8 scenes)
- **Shift+Cursor down** - Scrolls scene bank up (8 scenes)
- **Shift+Cursor left** - Scrolls track bank down (8 tracks)
- **Shift+Cursor right** - Scrolls track bank up (8 tracks)

Browser Mode

Press *"Shift+Device"* twice to enter the browser mode for preset selection. It will only enter the mode if a device is currently selected.

- The first 6 columns of the grid relate to the first 6 columns of the preset browser.
- The 8th column (yellow) relates to the result (preset) column of the browser.

- The 1st row moves the selection up by 1.
- The 2nd row moves the selection up by 8.
- The 3rd row moves the selection down by 8.
- The 4th row moves the selection down by 1.
- The red button dismisses the new preset selection and closes the browser.
- The green button confirms the new preset selection and closes the browser.
- The yellow buttons of the 1st row are for previewing presets of instrument devices.

Session Mode

- The pads on the grid start/record the clips. This depends on the clip launch and launch release settings (Bitwig only).
- Existing scenes have now the color green. The selected scene blinks green.
- Colors of the clips on the Mk1 are as follows:
  - Yellow: Present clip
  - Green: Playing clip
  - Red: Recording clip
- Use **Shift + clip/scene** buttons to execute the alternative clip/scene functions (Bitwig only).
- **Track buttons** - Clip stop, solo, mute, rec arm or select

Play Mode

- *Grid* - Play notes in the currently selected scale. Yellow pads are the base notes.
- **Track buttons** - like in Session mode
- *Scene Launch buttons* - Top 2 buttons change the scale layout. 3rd button has no function. 4th and 5th button change the scale. 6th button toggles chromatic mode. 7th and 8th button change the octave.

Drum Sequencer

- The drum sequencer works as described in the Ableton Push manual.
- *Fader Ctrl buttons* - no function.
- *Cursor up* - Move the note range up.
- *Cursor down* - Move the note range down.
- *Cursor left* - Decrease the edit page of the clip.
- *Cursor right* - Increase the edit page of the clip.
- *Scene Launch buttons* - Select the note resolution (displayed on computer screen)

Note Sequencer

- The pads display an 8x8 view of the selected clips note grid.
- The rows represent the notes of the selected scale.
- Note that you can scroll past the end of the clip (to the right).
- Press pads to enter/delete notes.
- Change note length or create long notes in the Sequencers (Note, Drum) by pressing a note pad and then a pad right of it.
- Use the Scene buttons to change the grids resolution.
- *Cursor up* - Move the note range up.
- *Cursor down* - Move the note range down.
- *Cursor left* - Decrease the edit page of the clip.
- *Cursor right* - Increase the edit page of the clip.

Raindrop sequencer

- The lowest row displays the playable notes
- The row above a note starts a raindrop

- If the raindrop reaches the note it sounds
- *Cursor up* - Move the note range up.
- *Cursor down* - Move the note range down.
- *Cursor left* - No function.
- *Cursor right* - No function.

Preferences dialog

You can set several preferences which are stored when you exit the DAW. These are global settings and not specific to projects.

Hardware

- Pad Brightness (only Mk2): Sets the brightness of the pads.

Play and Sequence

- Quantize Amount: The amount of quantization to use when Quantize is executed. 100% aligns all notes fully to the grid.
- Startup view: The view that should be selected on startup.
- Start with session view: Enables the session view on startup if active otherwise the default note view is displayed.
- Notify played chords: Displays the played chords or notes if enabled.

Workflow

- Exclude deactivated items: If active, deactivated items like tracks will not be displayed on the controller. This cleans up the displayed banks but also prevents the options to activate a deactivated item from the controller.
- New clip length: The length of a clip created with the New function.

Transport

- Behaviour on Pause: Sets the action to be executed when playback is stopped with the Play button

Session

- Select clip/scene on launch: If a clip/scene is started from the controller and this setting is off the clip/scene will not be selected. Use if you edit another clip and want not to change the focus.

Button Control

- Fader Ctrl: Select the function of the faders
- Soft keys: Select the function of the vertical buttons

Document Settings

These settings are specific to each project.

Scales

- Scale: Select the scale
- Base: Select the base note of the scale
- In Key: Select *Chromatic* to also display notes which are not part of the scale.
- Layout: Select the layout of the scale for the Play mode. The numbers are the offsets between the rows of the grid. The arrows depict the direction from lower to higher notes: left to right or bottom to top.

Akai Professional Fire

Support script for Akai Fire controller.

Transport

- **Pattern/Song** - Toggle metronome
- **Shift+Pattern/Song** - Toggle metronome ticks
- **Pattern/Song+Select knob**: Change the play position.
- **Pattern/Song+Shift+Select knob**: Change the play position in small steps.
- **Play** - Start/Stop playback. Double click to move play cursor to start of song. You can configure the behavior on stop in the preferences.
- **Shift+Play** - Toggle repeat
- **Alt+Play** - Toggle Punch In
- **Alt+Shift+Play** - Toggle Punch Out
- **Stop** - Stop playback. If already stopped the play cursor is set to the start of the arranger timeline. Double click to move play cursor to the end of the arranger timeline.
- **Shift+Stop** - Toggle clip automation write
- **Alt+Stop** - Toggle arranger automation write
- **Record** - Start/Stop recording
- **Shift+Record** - Toggle launcher overdub. If the selected slot on the selected track is recording it stops the recording instead.
- **Alt+Record** - Creates a new clip on the selected track and slot, starts playback and enables overdub.
- **Alt+Shift+Record** - Creates a new clip on the selected track and slot and starts playback.

Changing the tempo:

- **Shift+Drum** - Tap tempo
- **Drum+Select knob** - Change tempo in steps of 1
- **Drum+Select+Select knob** - Change tempo in steps of 10
- **Drum+Shift+Select knob** - Change tempo in steps of 0.01
- **Drum+Shift+Select+Select knob** - Change tempo in steps of 0.1

Knob Modes

In all modes use the knobs in combination with the Shift key for fine adjustments.

- **Bank button**: Select the next Knob mode
- **Bank button + Touch knob**: Resets the knobs value to the default value
- **Shift+Bank button**: Select the previous Knob mode
- **Alt+Bank button**: If MIXER is active it switches to a new display mode, which shows the volume, pan and sends of 16 tracks depending on the touched knob. Especially, helpful in the performance mix view. If CHANNEL is active it shows the volume, pan and sends of the 4 drum machine channels depending on the touched knob. If playback is active and no knob is touched it shows the VU meter activity of all 16 tracks.

Channel Mode (CHANNEL)

Changes the parameters of the selected layer of the first instrument device on the channel. Has no effect if the device does not have layers. Especially useful, for drum devices.

- **Volume knob**: Change the layers volume
- **Pan knob**: Change the layers panorama
- **Filter knob**: Change the layers send 1
- **Resonance knob**: Change the layers send 2

- **Alt+Volume knob**: Change the layers send 3
- **Alt+Pan knob**: Change the layers send 4
- **Alt+Filter knob**: Change the layers send 5
- **Alt+Resonance knob**: Change the layers send 6
- **Alt+Select Knob**: Select the previous/next track. In addition you can press the knob while turning to switch between track pages (a page contains 16 tracks).

Track Mode (MIXER)

Change parameters of the currently selected track. Combine with **Shift** for fine adjustments.

- **Volume knob**: Change the tracks volume
- **Pan knob**: Change the tracks panorama
- **Filter knob**: Change the tracks send 1
- **Resonance knob**: Change the tracks send 2
- **Alt+Volume knob**: Change the tracks send 3
- **Alt+Pan knob**: Change the tracks send 4
- **Alt+Filter knob**: Change the tracks send 5
- **Alt+Resonance knob**: Change the tracks send 6
- **Alt+Select Knob**: Select the previous/next track. In addition you can press the knob while turning to switch between track pages (a page contains 16 tracks).

Device Mode (USER 1)

Change parameters of the currently selected device. Combine with **Shift** for fine adjustments.

- **Volume knob**: Change the 1st device parameter
- **Pan knob**: Change the 2nd device parameter
- **Filter knob**: Change the 3rd device parameter
- **Resonance knob**: Change the 4th device parameter
- **Alt+Volume knob**: Change the 5th device parameter
- **Alt+Pan knob**: Change the 6th device parameter
- **Alt+Filter knob**: Change the 7th device parameter
- **Alt+Resonance knob**: Change the 8th device parameter
- **Alt+Select Knob**: Select the previous/next device.
- **Shift+Alt+Select Knob**: Select the previous/next parameter page.
- Press the **Alt+Select knob** to toggle the window of the current device.
- Press the **Shift+Alt+Select knob** to toggle the on/off state of the current device.
- Activate delete mode and press the **Select knob** to delete the currently selected device.

Project/Track Parameters Mode (USER 2)

Change project or track parameters. Combine with **Shift** for fine adjustments.

- **Volume knob**: Change the 1st parameter
- **Pan knob**: Change the 2nd parameter
- **Filter knob**: Change the 3rd parameter
- **Resonance knob**: Change the 4th parameter
- **Alt+Volume knob**: Change the 5th parameter

- **Alt+Pan knob**: Change the 6th parameter
- **Alt+Filter knob**: Change the 7th parameter
- **Alt+Resonance knob**: Change the 8th parameter
- **Alt+Select Knob**: Select project or track parameters.
- **Shift+Alt+Select Knob**: Select the previous/next parameter page.

Pad Modes

The play and sequencer modes are selected with the **Step**, **Note** and **Drum** buttons. All of the three buttons have two modes (except DRUM has three). Press the button again when selected to call up the second mode. The buttons can also be used in combination with Shift and have then the following functions:

- **Shift+Step** - Toggle Accent on/off. If enabled, the velocity of the pads is ignored and the accent value, which can be configured in the settings, is used instead.
- **Shift+Note** - Toggle through Record Quantization setting values
- **Alt+Note** - Quantize the selected clip
- **Shift+Perform** - Toggle the birds-eye view of the session

The following functions are available in all modes:

- **Pattern up/down**: Select the next/previous clip of the currently selected track
- **Alt+Pattern down**: Undo
- **Alt+Pattern up**: Redo

Play Modes

These modes are optimized for playing notes like with a real instrument.

Play Mode

Press the **Note** button to activate. The NOTE LED is lit orange.

- **Select Knob**: Move the note range one octave up/down
- **Grid buttons**: Toggle Chromatic / In Scale
- **Shift+Grid buttons**: Change the Scale
- **Shift+Alt+Grid buttons**: Change the Scale Layout
- **Alt+Grid buttons**: Change the Scale Base key
- **Mute/Solo 1-4**: Same as in Note Sequencer mode

Piano Mode

Press the **Note** button twice to activate. The NOTE LED is lit red. The grid buttons form a piano style keyboard. The *black keys* are in the color of the selected track. The functions are the same as described for the Play mode but the scale settings do not apply.

Drum 64 Mode

Press the **Drum** button three times to activate. The DRUM LED is lit bright red.

64 drum sounds can be played.

- **Select Knob**: Move the range 16 notes up/down
- **Grid buttons**: -
- **Mute/Solo 1-2**: -
- **Mute/Solo 3 + Pad**: Solo the drum sound
- **Mute/Solo 4 + Pad**: Mute the drum sound

Sequencers

Note editing

Note editing is available in all sequencers. Note edit mode is de-/activated with **Alt+STEP** or **Alt+DRUM**. Press the pad(s) with the note(s) to edit. Selected notes are lit in dark yellow. Then use the knobs as follow:

- **Volume knob**: Changes the gain of the note
- **Alt+Volume knob**: Changes the pressure of the note
- **Pan knob**: Changes the panorama of the note
- **Alt+Pan knob**: Changes the timbre of the note
- **Filter knob**: Changes the duration of the note
- **Alt+Filter knob**: Changes the chance of the note
- **Resonance knob**: Changes the velocity of the note
- **Alt+Resonance knob**: Changes the velocity spread of the note
- **Select knob**: Changes the pitch of the note
- **Alt+Select knob**: Changes the repeat count of the note

Note Sequencer Mode

Press the **Step** button to activate. The STEP LED is lit orange.

- **Select Knob**: Move the note range up/down. Keep it pressed when turning to transpose the clip up or down by octaves.
- **Grid buttons**: Move to the previous/next page of the clip.
- **Alt+Grid buttons**: Change the step resolution.
- **Shift+Grid buttons**: Change the Scale.
- **Shift+Alt+Grid buttons**: Change the Scale Base key.
- **Shift+Select knob**: Transpose notes of clip up/down.
- **Pattern Up+Pad**: Enables and increases note repeat by 1.
- **Pattern Down+Pad**: Enables and decreases note repeat by 1.

To change the other scale settings switch to the Play Mode and change it there.

- **Mute/Solo 1** (from top): Stop playing clip of selected track
- **Mute/Solo 2**: Toggle Mute of selected track
- **Mute/Solo 3**: Toggle Solo of selected track
- **Mute/Solo 4**: Toggle Record Arm of selected track

Poly Sequencer Mode

Press the **Step** button twice to activate. The STEP LED is lit red.

The buttons behave as with Note Sequencer. Play a chord in the lower part then enable steps in the upper chord which will be filled with the played chord.

To change the other scale settings switch to the Play Mode and change it there.

Drum XoX Sequencer Mode

This mode is inspired by the Roland XoX devices. Press the **Drum** button to activate. The DRUM LED is lit orange. While the drum sequencers work with any instrument full features (solo, mute, colors) are only available when a Bitwig drum machine device is loaded on the track.

- The *first row* (from the top) represents 16 slots (clips) of the currently selected track.
  - The pads have the same colors as the clips.
  - Press one of the pads to start the playback or recording (depending on the settings) of the clip.
  - Use ALT + pad to trigger the alternative function for the clip launch (Bitwig only).
  - Use ALT + SHIFT + pad to only select the clip.

  - Press and hold Select knob and press a pad to immediately launch a clip. Release the clip pad while holding Select, to return immediately to the last playing clip.
- The *second row* represents 16 drum pads.
  - The pads have the same colors as the drum pads.
  - Press one of them to select it for editing its steps as well as to play it.
  - Use ALT + pad to only select it (without making it sound).
- Row *three and four* represent up to 32 steps (depending on the selected resolution) of the selected drum pad. Press them to dis-/enable the step. Press two pads (keep the 1st pressed) to create longer notes.

The *Mute/Solo 1-4* buttons can be used in combination with the pads for additional functions:

- **Mute/Solo 1**: Press once to toggle between *copy (green)* and *delete (red)*. If copy is selected keep the button pressed and press the source slot pad (1st row), still keeping the button pressed press the destination slot to copy to the clip. If delete is selected selected a slot to delete its' clip. When combined with the drum pads (2nd row), delete mode clears all notes of the drum pad. Tip: swipe over all pads to clear the full clip. In copy mode first select a drum pad (2nd row), then select the destination clip (can be as well the source clip) and then the destination drum pad to copy and overwrite the notes.
- **Mute/Solo 2**: Press once to toggle between *solo (green)* and *mute (red)*. If solo is selected keep the button pressed and press a clip pad (2nd row) to solo it. If mute is selected keep the button pressed and press a clip pad (2nd row) to mute it. Combine with ALT button either unmute or unsolo all pads.
- **Mute/Solo 3**: Hold and press a step button (3rd/4th row) to set the loop length (last step) of the clip. Press once to turn on loop length permanently. Press again to turn it off.
- **Mute/Solo 4**: Press to toggle note repeat.
- **Select Knob**: Move the note range up/down. If note repeat is enabled and one of the drum pads is held, changes the repeat period between 1/4, 1/8, 1/16 and 1/32.
- **Grid buttons**: Move to the previous/next page of the clip.
- **Alt+Grid buttons**: Change the step resolution.
- **Shift+Grid buttons**: Moves the notes of a drum pad left or right by 1 step.
- **Pattern Up+Pad**: Enables and increases note repeat by 1.
- **Pattern Down+Pad**: Enables and decreases note repeat by 1.

Drum 4 Sequencer Mode

Press the **Drum** button twice to activate. The DRUM LED is lit red.

- **Select Knob**: Move the note range up/down.
- **Grid buttons**: Move to the previous/next page of the clip.
- **Alt+Grid buttons**: Change the step resolution.
- **Mute/Solo 1-4**: Mute the drum sound of the row.
- **Shift+Mute/Solo 1-4**: Solo the drum sound of the row.
- **Alt+Mute/Solo**: Show the drum sounds name of the row in the display.
- **Pattern Up+Pad**: Enables and increases note repeat by 1.
- **Pattern Down+Pad**: Enables and decreases note repeat by 1.

Other Modes

Session Mode

Press the **Perform** button to activate. The PERFORM LED is lit orange.

- The pads on the grid start/record the clips. This depends on the clip launch and launch release settings (Bitwig only).

- *Long press a pad in session mode to select the clip without starting it. Alternatively, use ALT + pad.*
- **Select Knob**: Scroll to the previous/next scene. In addition you can press the knob while turning to switch between scene pages (a page contains 4 scenes).
- **Press and hold Select knob+PAD**: Immediately launches a clip. Release the clip pad while holding Select, to return immediately to the last playing clip.
- **Grid buttons**: Select the previous/next page of the track bank.
- **Mute/Solo 1-4**: Start Scene 1-4; the LED is lit if the scene is selected.
- **Alt+Mute/Solo 1-4** Executes the alternative launch function of the scene (Bitwig only).
- **Alt+Shift+Mute/Solo 1-4**: Stop all playing clips.
- Use the **Stop** button in combination with any clip of a track to stop the playing clip of that track.

Use **Shift+Perform** to toggle the birds-eye view of the session. In this view a pad represents a block of 16x4 tracks/clips. Press a pad to move the view to that range.

Mix Mode

Press the **Perform** button twice to activate. The PERFORM LED is lit red.

- **Select Knob**: Moves the play position.
- **Grid buttons**: Select the previous/next page of the track bank
- **Mute/Solo 1** (from top): Moves the play cursor to the start of the arranger loop.
- **Mute/Solo 2**: Turn off mute on all tracks; the LED is lit red if there is at least one muted track.
- **Mute/Solo 3**: Turn off solo on all tracks; the LED is lit green if there is at least one soloed track.
- **Mute/Solo 4**: Moves the play cursor to the end of the arranger loop.

Shift Mode

If you press the Shift button (and keep it pressed) the grid changes to the Shift mode.

In the first 2 4x4 blocks the note *repeat settings* can be configured:

- The left/top button dis-/enables note repeat
- The buttons 3 and 4 in the top row select the arpeggiator modes
- All other buttons in the first block select the number of octaves
- The first two columns in the second block select the period length
- The remaining two columns in the second block select the note length

The buttons in the 3rd and 4th block have the following functions:

- Buttons of the 1st row (from top):
  - Button 10 (blue) activates duplicate mode. Can be used with the first row of the Mix mode to duplicate tracks and with clips in the Session mode.
  - Button 11 (green) doubles the content of the currently selected clip.
  - Button 12 (red) activates delete mode. Can be used with the first row of the Mix mode to delete tracks and with clips in the Session mode.
  - Buttons 14-16 create new Instrument, Audio and Effect tracks.
- Buttons of the 2nd row:
  - Button 14 (green/red): Toggles pinning of the cursor track.
  - Button 15 (green/red): Toggles pinning of the cursor device.
  - Button 16 (green/red): Toggles pinning of the cursor clip.
- Buttons of the 3rd row select the Automation Write Mode.
- The bottom row selects the length of new clips (which can be created with Alt+Record).

The Mute/Solo buttons have the following functions:

- **Mute/Solo 1** (from top): Undo

- **Mute/Solo 2**: Redo
- **Mute/Solo 3**: Quantize
- **Mute/Solo 4**: -

Browser Mode

You can use the browser to add devices, switch presets, insert clips and select sounds for the drum machine.

You can activate the browser in different ways, depending on the use-case:

- **Browser**: Activates the browser mode to exchange the currently selected device or select a different preset for the device.
- **Shift+Browser**: Activates the browser mode to insert a device *before* the currently selected one.
- **Alt+Browser**: Activates the browser mode to insert a device *after* the currently selected one.
- **Browser+Pad**: If the drum sequencer is active and the Bitwig drum machine is loaded in the selected track you can exchange the sound of one of the drum machine pads by keeping the browser button pressed and pressing any of the grid pads. The sound of the row which contains the pressed pad will be exchanged. If the session mode is active the browser is opened to select a clip to insert into the session slot.

The browser is used in the same way no matter how you opened it:

- **Knobs 1-4**: Change the filter value of the respective filter column
- **Alt+Knobs 1-3**: ditto, for column 5-7
- **Select Knob**: Choose a new result item. If you keep the knob pressed while turning the knob you switch sounds in steps of 3.
- **Grid left/right**: Change the browser pane (Devices, Presets, . . .)

To close the browser and confirm the selection press either the select knob or the browser button. To discard the selection press **Alt+Browser**.

Preferences Settings

You can set several preferences which are stored when you exit the DAW. These are global settings and not specific to projects.

Session

- Select clip/scene on launch: If a clip/scene is started from the controller and this setting is off the clip/scene will not be selected. Use if you edit another clip and want not to change the focus.
- Display clips of record enabled tracks in red: if enabled, in the session view for record enabled tracks the empty pads are displayed in red.
- Action for pressing rec armed empty clip: what should happen if you press an empty clip in the session view.

Transport

- Behavior on Stop: Sets the action to be executed when playback is stopped with the Stop button
- Behavior on Pause: Sets the action to be executed when playback is stopped with the Play button
- Flip arranger and clip record: if enabled, the functionality of the Record button when used with Shift is flipped with the function when not using Shift. Enable this if you tend to work more in the Clip Launcher than the Arranger.

Play and Sequence

- Activate Fixed Accent: If a note is played the velocity is ignored and a fixed value is used.
- Fixed Accent Value: The velocity value to use when fixed accent is active.

- Quantize Amount: The amount of quantization to use when Quantize is executed. 100% aligns all notes fully to the grid.
- Default note view: The view that should be the default when you select an instrument track for the first time (e.g. Play, Drum, Sequencer, ...).
- Start with session view: Enables the session view on startup if active otherwise the default note view is displayed.
- Turn off scale pads: Activate to turn off the pads which are not the root note (instead of being white).
- Notify played chords: Displays the played chords or notes if enabled.

Drum Sequencer

- Turn off empty drum pads: Empty drum cells are displayed in orange. If enabled the pad LEDs are off.
- Use combination button to sound drum pads: Toggle to sound drum pads with or without pressing Alt button.

Workflow

- Exclude deactivated items: If active, deactivated items like tracks will not be displayed on the controller. This cleans up the displayed banks but also prevents the options to activate a deactivated item from the controller.
- New clip length: The length of a clip created with the New function.
- Knob Sensitivity Default: Negative values slow the knobs changes down, positive values speed them up.
- Knob Sensitivity Slow: Negative values slow the knobs changes down, positive values speed them up.
- Color all track states (mute, solo, rec arm): Since the difference of the colors between the on/off state is not that big, the color for the off-state can be switched off completely.

Hardware Setup

- Pad Brightness: Changes the brightness of the pads.
- Pad Saturation: Changes the color saturation of the pads.

Document Settings

These settings are specific to each project.

Scales

- Scale: Select the scale.
- Base: Select the base note of the scale.
- In Key: Select *Chromatic* to also display notes which are not part of the scale.
- Layout: Select the layout of the scale for the Play mode. The numbers are the offsets between the rows of the grid. The arrows depict the direction from lower to higher notes: left to right or bottom to top.

Note Repeat

- Active: Enable note repeat.
- Period: The repeat rate of the note repeat.
- Length: The length of a repeated note.
- Mode: The arpeggiator mode.
- Octave: The octave range which is used by the arpeggiator.

Play and Sequence

- MIDI Edit: Select the MIDI channel to use to display and edit MIDI notes in sequencers.
- Turn off scale pads: If enabled, all pads which represent notes which are in-scale are switched off (instead of white).

Akai Professional MPC Live I/II, One, X, Force

Support script for Akai devices supporting the ACVS protocol. Currently, these are the

- MPC Live,
- MPC Live II,
- MPC One,
- MPC-X and
- the Force.

The MPC Key 61 does currently not support the control mode.

Installation

Install the Akai Network Driver as described in the MPC/Force manual. This driver is currently only available for Windows and Intel Macos. Therefore, Linux is not supported but a Macos ARM driver is planned by Akai. After that connect the device to your Mac/PC with a network cable or enable WIFI. Then make sure that the device is selected in the *Akai Professional Network MIDI Control Panel*. This is also explained in detail in the MPC/Force manual.

If you have multiple devices connected to your network (e.g. a MPC Live and a Force), only one can be used at a time. But it can be changed on the fly in the *Akai Professional Network MIDI Control Panel*.

The device is auto-detected. If this is not working for any reason, select the *Akai Network – DAW Control* as the first in- and output and the *Akai Network - MIDI* as the second input.

To open Control mode on the MPC, press Menu (or tap the icon in the upper-left corner of the screen) and tap CONTROL. Alternatively, press and hold the Menu button and then tap Pad 4 to jump to Control mode. To exit Control mode, press Menu (or tap the icon in the upper-left corner of the screen) on your MPC and then select another mode. Alternatively, press and hold the Menu button and then tap a pad to jump to another mode. On the Force press the *MENU* button and select *LIVE CONTROL*.

Functions of the touch display

Control Bar

At the top of the interface is the Control Bar. This toolbar can be configured to one of three presets (Session, Arrangement, Performance) based on typical use cases in the Settings window (press the gearwheel on the right to open it). Sadly, none of the modes contains all functions.

- **BPM field**: adjusts the tempo. Change it with the data dial (combine with Shift for smaller increments) or open the menu by double tapping it or pressing the data dial to enter a value.
- **Nudge Down / Up**: decreases or increases the tempo by 1.
- **Metronome icon**: Enables / disables the metronome.
- **Follow icon**: Switches follow playback on or off.
- **Position field**: If selected, use the data dial to move the playback position. Combine with the Shift button for slower changes.
- **Plus icon**: Enables / disables Arrangement overdubbing. Combine with Shift for toggling clip launcher overdubbing.
- **Automation icon**: Enables / disables Arranger automation recording. Combine with Shift for toggling clip launcher automation.
- **Loop icon**: Enable / disable the Arrangement loop.
- **Loop Start**: If selected, use the data dial to move the start of the arranger loop. Combine with the Shift button for slower changes.
- **Loop Length**: If selected, use the data dial to change the length of the arranger loop. Combine with the Shift button for slower changes.

The Settings window also contains a **Quantize To** field to set the time division for quantization: 1/4, 1/8, 1/8T, 1/8 and 1/8T, 1/16, 1/16T, 1/16 and 1/16T or 1/32. Since these values cannot be set in Bitwig, they are transformed to a *Quantize Amount* between 30% and 100%.

Views

Control Mode consists of three main views, which can be selected by tapping the tabs on the left side of the display: Matrix View, Mixer View and Device Control View. Click the links to jump to that section. In each of these modes, you will always have access to the following controls and functions on the display:

- Tap a track name to select it. Selecting an already selected group track toggles its' expanded state.
- Tap the stop icons at the bottom of the display to stop clips in the selected track.
- Tap the Launch Quantize field (above the scene launch arrows) to set the Launch Quantize value. Since Bitwig does only support straight notes only those can be selected.
- Tap the Scene Launch arrows on the right side of the display to launch all clips in that row.

Matrix View

The Matrix View provides an overview of the clip matrix from the Session view, displaying up to eight tracks and eight rows of clips on the display. The tracks and clips displayed the touchscreen will be shown in Bitwig with a colored box outline.

All tracks, clips and scenes will display the same color and names as assigned in the DAW. The pads on the device will also change color depending on the playback or recording state:

- When a clip is stopped, it will display the color set in the DAW on both the hardware pads and display.
- When a clip is playing, the hardware pad will blink green, and the clip on the display will fill with white based on the clip length.
- When a clip is preparing to record, it will flash red on both the hardware pads and display until the launch quantization value is reached.
- When a clip is recording, it will blink red on the hardware pads and be lit red on the display.

You can also access the following controls and features by tapping the buttons at the bottom of the display:

- Tap Quantize at the bottom of the screen to quantize the currently selected clip according to the *Quantize To* value.
- Tap Delete at the bottom of the screen to delete the currently selected clip.
- Tap Insert Scene at the bottom of the screen to insert a new scene.
- Tap Rec at the bottom of the screen to insert a new MIDI clip, start playing it back and enable overdub. The length of the clip can be configured in the settings.

MPC

The MPC's pads control up to four tracks and four rows of clips, marked by a white outline on the display. To move the 4x4 Session Matrix focus one row or column at a time:

- MPC X: Use the cursor buttons.
- MPC Live I/II / One: Use the Bank buttons.

To move the 4x4 Session Matrix focus by eight rows or eight columns at a time:

- MPC X: Hold Shift and use the cursor buttons.
- MPC Live I/II / One: Hold Shift and use the Bank buttons.

To launch a clip from the 4x4 Session Matrix, press the corresponding pad on your MPC. This depends on the clip launch and launch release settings (Bitwig only).

You can also use the pads to launch scenes. To toggle between launching clips and scenes:

- MPC X: Press the XYFX button.
- MPC Live I/II / One: Press the 16 Level button.

To launch a scene, press a pad in the corresponding row.

Force

To launch a clip press the corresponding pad on your Force. This depends on the clip launch and launch release settings (Bitwig only). Use SELECT in combination with a pad to only select it. Hold SHIFT to execute the alternative action of the clip (Bitwig only).

Use the cursor buttons to move the Matrix view by one row or column at a time. Press the Master button to select the Master track. This will also bring the Master and Sends tracks into view if they are not already.

Mixer View

The Mixer View gives control of key mixing features, such as levels, stereo panning, up to 4 sends and more. Use the tabs at the bottom of the display to select what information is shown on the display.

- Levels: The Levels tab gives an overview of the volume level of the tracks, including the FX and the Master track.
  - Tap a level slider and then use the data dial or –/+ buttons to adjust the volume level of the currently selected track, FX or master. Alternatively, tap and drag a level slider to adjust the volume level.
  - The level sliders and meters in each pad show a visual representation of the level. Double-tap a track on the screen to open a large version of the level slider and meter.
- Main: The Main tab gives you a full channel strip with a number of mixing options for your tracks.
  - Tap the track activator (under the track name) to enable or disable (mute) the track.
  - Tap the S button to solo the track.
  - Tap the record button to arm the track for recording.
  - The pan sliders in each track show a visual representation of the pan. Tap a pan slider and then use the data dial or –/+ buttons to adjust the panning of the currently selected track, FX or master. Alternatively, tap and drag the pan slider to adjust the panning. Double-tap a pan slider on the screen to open a large version of the slider.
  - Tap a level slider and then use the data dial or –/+ buttons to adjust the volume of the currently selected track, FX or master. Double-tap a level slider on the screen to open a large version of the slider. Alternatively, tap and drag a level slider to adjust the volume level.
- Sends: The Sends tab gives you an overview of up to 4 Send controls.
  - Use the send knobs to adjust the send level of tracks. Tap the knob and use the data dial or –/+ buttons to adjust the level. Alternatively, tap and drag the send knob to adjust the send level.
  - Tap the A or B icons to assign the track to Bitwig's A or B cue mix.

Device Control View

The Device Control View allows to control devices (= plugins) from the MPC/Force. The current view of the Device Control Tab is determined by the currently selected device/plugin.

- Tap the Track Name under the Control Bar to select the Track. If there is a Device(s) associated with the Track, the first will be shown below.
- Tap the lock icon on the right side to pin the device.
- Use the sliders to adjust the parameters of the device. Tap a slider and then use the data dial or –/+ buttons to adjust the parameter. Alternatively, tap and drag a slider to adjust the parameter.
- Use the Device – and + buttons to change devices on the same track. The white and gray boxes below the parameter sliders represent the number of available Devices.
- Use the Bank – and + buttons to cycle through banks of controls for the device, if available.
- Tap Device On to enable or disable (bypass) the device.

Hardware: MPC / Force

- **REC** - Start Arranger recording.
- **SHIFT + REC** - Toggle Launcher overdub.

- **OVERDUB** - Toggle Arranger overdub.
- **SHIFT + OVERDUB** - Toggle Launcher overdub.
- **STOP** - Stop playback. If already stopped it sets the play cursor to the start of the project. If double clicked it sets the play cursor to the end of the project.
- **PLAY** - Start/Stop playback.
- **SHIFT + PLAY** - Toggle Arranger loop.
- **PLAY START** - Start the playback from the beginning of the project.
- **TAP** - Press multiple times to tap the tempo.
- **SHIFT + TAP** - Toggles the metronome.
- **UNDO** - Undoes the last action.
- **REDO** - Executes the last undone action.
- **SHIFT + Pad** - Press and hold this button and tap a clip or scene to launch it with the alternative settings.

Hardware: Only MPC

- **NOTE REPEAT** - Toggle plugin window.
- **SHIFT + NOTE REPEAT** - Toggle Arrange and Mix layout.
- **FULL LEVEL** - Toggle Write Arranger Automation.
- **SHIFT + FULL LEVEL** - Toggle Write Clip Automation.
- **16 LEVEL** - Toggle clip / scene launching on pads.
- **ERASE** - Keep pressed and press a pad to delete the according clip or scene depending on the launch mode.
- **COPY** - Keep pressed and press a pad to duplicate the according clip or scene depending on the launch mode.
- **PAD BANK A-D** - Moves the clip view left/right and up/down.
- **Q-Link Knobs** - Page 1 and 2 control the volume of the tracks 1-8. Page 3 and 4 control the 8 parameters of the currently selected device.

All other buttons either have no function or leave the Control Mode.

Hardware: Only Force

- **LOAD** - Open the Load dialog to open a project (button cannot be lit).
- **SAVE** - Save the current project (button cannot be lit).
- **SELECT** - Press and hold this button and tap a clip or scene to select it without launching it (Bitwig only).
- **SELECT + COPY** - Creates a new scene.
- **COPY** - Duplicates the selected clip and starts it. Keep pressed and press a pad to duplicate the according clip. Combine with LAUNCH buttons to duplicate the scene. Combine with track select buttons to duplicate a track.
- **DELETE** - Keep pressed and press a pad to delete the according clip. Combine with LAUNCH buttons to delete the scene. Combine with track select buttons to delete a track.
- **MATRIX, CLIP, MIXER** - Selects the three views of the Control Mode.
- **Cursor buttons** - Navigate the clip matrix by 1. Use with SHIFT for steps of 8.
- **Track Selectors** - Select one of the current eight tracks. The selected track will be highlighted white. Combine with COPY/DELETE to duplicate/delete the track. Selecting an already selected group track toggles its' expanded state.
- **MUTE** - Sets the Track Assign buttons to Mute for the current eight tracks.
- **SOLO** - Sets the Track Assign buttons to Solo for the current eight tracks.
- **REC ARM** - Sets the Track Assign buttons to Record Arm for the current eight tracks.
- **CLIP STOP** - Sets the Track Assign buttons to Stop Clips for the current eight tracks.
- **Track Assign** - Performs the selected action (Mute, Solo, Rec Arm or Clip Stop) for the current eight tracks.
- **SHIFT + 1st Track Assign** - Quantize the currently selected clip to the grid value set by Force. To

set this value, tap the Setting gear icon in the top-right of the display, then use the Quantize To field to set the value.
- **SHIFT + 2nd Track Assign** - Creates a new MIDI clip, starts playback and activates overdub.
- **SHIFT + 3rd Track Assign** - Duplicates the content of the currently selected clip.
- **SHIFT + 5th Track Assign** - Toggles the metronome.
- **Assign A / Assign B** - Press and hold one of these buttons and then press a Track Assign Button to assign the track to one of Bitwig's cue mixes.
- **Master** - Selects the Master track and Sends. Press again to return to the previously selected track.
- **Stop All** - Stops all clips that are playing or recording.
- **Knobs** - Adjusts the parameters displayed in the OLED screens above. Use the **Knobs Button** to toggle between Knobs 1–8 (which control Track Level for the eight tracks currently viewed) and Knobs 9–16 (which are mapped to control the device on the current track, based on the location of the "blue hand" in Ableton Live's Detail View).
- **Crossfader** - Controls Bitwig's crossfader to blend between Cue Mixes A and B.

All other buttons either have no function.

Preferences Settings

You can set several preferences which are stored when you exit the DAW. These are global settings and not specific to projects.

Hardware Setup

- Device: Shows the currently connected device. This is set automatically, don't touch it.

Session

- Launch: Selects launching clips or scenes on the MPC pads. Leave it set to clips on the Force.

Transport

- Behaviour on Stop: Sets the action to be executed when playback is stopped with the Stop button
- Behaviour on Pause: Sets the action to be executed when playback is stopped with the Play button

Play and Sequence

- Quantize Amount: The amount of quantization to use when Quantize is executed. 100% aligns all notes fully to the grid.

Workflow

- Exclude deactivated items: If active, deactivated items like tracks will not be displayed on the controller. This cleans up the displayed banks but also prevents the options to activate a deactivated item from the controller.
- New clip length: The length of a clip created with the New function.

Arturia Beatstep

Support script for Arturia's Beatstep controller. You can control track parameters incl. groups, devices, transport, browse patches, session view, play the pads and have a drum and note sequencer.

Known Issues: * The LEDs updates are not always reliable and might show a wrong color.

Installation

Load the respective template from the folder *resources/Beatstep* into the device by using Arturia's Midi Control Center.

Make sure that the Global MIDI channel is set to 3.

Features

The buttons on the left are not usable for scripting since they do not send MIDI data. Luckily, I could facilitate the Shift button for an extended functionality. The Play and Stop button do send midi data but also start the internal sequencer which overwrites the knob colors. If you do not care about that problem you can use the hardware sequencer as well. For that there is a specific midi input to select in Bitwig.

The big knob is used to move the play cursor in the Arrange view. Warning: Don't use it in combination with the Shift button or you will (still) transpose the midi notes sent by the pads, which will make the pads act funny.

Shift-Mode (when the Shift button is pressed) - Mode change and Transport

This mode allows to switch between several modes and control the transport. All modes are described below. The knobs have no function in this mode.

- **Pad 1**: Activates the Track Mode to control the parameters of a track.
- **Pad 2**: Activates the Device Mode to control the parameters of a device.
- **Pad 3**: Activates the Play Mode to play an instrument on a track in the selected scale.
- **Pad 4**: Activates the Drum Sequencer Mode to play drum notes and sequence them.
- **Pad 5**: Activates the Sequencer Mode. Similar to the drum sequencer but with scales.
- **Pad 6**: Activates the Session Mode. Allows to start scenes.
- **Pad 7**: *Not used*
- **Pad 8**: Toggles the Window of the currently selected plugin.
- **Pad 9**: Toggles playback.
- **Pad 10**: Toggles arranger recording.
- **Pad 11**: Toggles arranger repeat (loop).
- **Pad 12**: Toggles the metronome.
- **Pad 13**: Press multiple times to tap the tempo.
- **Pad 14**: Opens the device browser to insert a device before the currently selected one on the selected track.
- **Pad 15**: Opens the device browser to insert a device after the currently selected one on the selected track.
- **Pad 16**: Opens the device browser.

Track Mode

This mode allows to edit the parameters of the selected track.

The knobs have the following functions:

- **Knob 1**: Change the volume of the selected track.
- **Knob 2**: Change the panorama of the selected track.
- **Knob 3**: Change the mute state of the selected track.

- **Knob 4**: Change the solo state of the selected track.
- **Knob 5**: Change the crossfade mode setting of the selected track.
- **Knob 6**: Change the tempo.
- **Knob 7**: Move the play cursor.
- **Knob 8**: Change the volume of the master track.
- **Knob 9-14**: Change the volume of the sends 1-6
- **Knob 15**: *Not used*
- **Knob 16**: Crossfades between crossfade mode A and B.

The pads have the following functions:

- **Pad 1-8**: Selects one of the 8 tracks from the currently selected track page.
- **Pad 9**: Toggles the selected track on/off.
- **Pad 10**: Toggles record arm on the selected track.
- **Pad 11**: Opens/closes the currently selected group/folder.
- **Pad 12**: Inserts a new instrument track.
- **Pad 13**: Inserts a new audio track.
- **Pad 14**: Inserts a new effect track.
- **Pad 15**: Select the previous track page.
- **Pad 16**: Select the next track page.

Device Mode

In this mode you can edit the parameters of the selected device.

The knobs have the following functions:

- **Knob 1-8**: Identical to the Track Mode
- **Knob 9-16**: Edit the 8 parameters from the currently selected parameter page of the selected plugin device.

The pads have the following functions:

- **Pad 1-8**: Select the parameter page 1-8
- **Pad 9**: Turn the device on/off.
- **Pad 10**: Select the previous device (or layer).
- **Pad 11**: Select the next device (or layer).
- **Pad 12**: Enter the layer structure of a device (e.g. Bitwig Drum Machine and Instrument layer).
- **Pad 13**: Leave the layer structure.
- **Pad 14**: *Not used*
- **Pad 15**: Select the previous 8 parameter pages.
- **Pad 16**: Select the next 8 parameter pages.

Play

This mode is for playing notes in a selected scale.

The knobs have the following functions:

- **Knob 1-12**: Identical to the Track Mode.
- **Knob 13**: Toggle between scale and chromatic mode.
- **Knob 14**: Select the root note of the scale.
- **Knob 15**: Select the scale.
- **Knob 16**: Transpose the pads up or down.

The pads play the notes of the current scale and octave. The pads containing the root notes are colored in red.

Drum Sequencer

This mode is for playing drum notes and drum sequencing. The sequencer works on a clip. Therefore, a (playing) clip needs to be selected on the respective track.

The sequencer has two modes which are toggled with knob 16. The Play mode is for playing the notes, the last played note is selected for the step sequencer. The Sequencer mode allows to turn on/off each of the 16 steps of the selected note.

The knobs have the following functions:

- **Knob 1-12**: Identical to the Track Mode.
- **Knob 13**: If there are more than 16 steps use this knob to move between the different pages.
- **Knob 14**: Changes the resolution of the grid (default is 16th notes).
- **Knob 15**: Transpose the pads up or down.
- **Knob 16**: Toggle between playing notes or sequencing the selected note.

Sequencer Mode

This mode is for playing notes and step sequencing. The usage is identical to the *Drum Sequencer* but respects the selected scale settings.

Session Mode

This mode is for launching scenes.

The knobs have the following functions:

- **Knob 1-12**: Identical to the Track Mode.
- **Knob 13-16**: Not used.

The pads have the following functions:

- **Pad 1-8**: Start the scene 1-8
- **Pad 9-14**: *Not used*
- **Pad 15**: Select the previous page of 8 scenes.
- **Pad 16**: Select the next page of 8 scenes.

Browser Mode

This mode is for browsing patches or devices.

The knobs have the following functions:

- **Knob 1-8**: *Not used*
- **Knob 9-14**: Changes the selection of the filter columns 1-6.
- **Knob 15**: *Not used*
- **Knob 16**: Changes the selection of the result column.

The pads have the following functions:

- **Pad 3-6,11-14**: Play some notes (C-1, C0, C1, C2, C3, C4, C5, C6) to preview the selected patch/device.
- **Pad 9**: Discard the selection and closes the browser.
- **Pad 16**: Accepts the selection and closes the browser.

Preferences Settings

You can set several preferences which are stored when you exit the DAW. These are global settings and not specific to projects.

Workflow

- Exclude deactivated items: If active, deactivated items like tracks will not be displayed on the controller. This cleans up the displayed banks but also prevents the options to activate a deactivated item from the controller.

Pads

- Convert Poly Aftertouch to: The pads support poly aftertouch. If the device you play does not support this option allows to change it to Channel Aftertouch or a MIDI CC command.

Document Settings

These settings are specific to each project.

Scales

- Scale: Select the scale
- Base: Select the base note of the scale
- In Key: Select *Chromatic* to also display notes which are not part of the scale.
- Layout: Select the layout of the scale for the Play mode. The numbers are the offsets between the rows of the grid. The arrows depict the direction from lower to higher notes: left to right or bottom to top.

Electra One

Support for the Electra One Mk I as well as the Mk II controller.

Configuration

- Make sure that at least Firmware 3.5 is installed on the device.
- Send the DrivenByMoss Electra One preset (DrivenByMoss.eproj) to the device which is located in the resources folder in the sub-folder Electra One. It can be stored in any slot you prefer but the name must not be changed and be **DrivenByMoss**.
- The device should be auto detected. If you need to add it manually, select the first and third (CTRL) MIDI in-/output.

Global Features and Page navigation

The DrivenByMoss preset contains 7 pages with different features. Switching pages works like any other Electra One preset. But there is a faster way: touch 3 consecutive knobs to select a page!

The knobs to use can be configured in the settings (or turned off completely). The following *touch gestures* are configured by default (knob numbering starts with 1 on the top row):

- Knobs 1, 2 and 3: selects the Mixer page
- Knobs 2, 3 and 4: selects the Sends page
- Knobs 3, 4 and 5: selects the Device page
- Knobs 4, 5 and 6: selects the EQ page
- Knobs 7, 8 and 9: selects the Transport page
- Knobs 8, 9 and 10: selects the Session page
- Knobs 9, 10 and 11: selects the Project/Track parameters page
- Knobs 10, 11 and 12: jumps to a specific Electra One synthesizer preset for editing the plugin in focus. The preset must have the exact same name as the plugin! To jump back to the DrivenByMoss preset touch the same knobs!
- Knobs 1, 2, 7 or 5, 6, 12: emulates the pressing of a 'shift' button. Currently, this allows to fine tune all knobs.

The following controls in the 6th column are identical on all pages:

- **MASTER VOLUME**: Changes the volume of the master track.
- **POSITION**: Changes the position of the play cursor in the arranger.
- **RECORD**: Starts recording in the arranger.
- **PLAY**: Starts/stops playback.

Mixer Page

The mixer page shows 5 tracks at once. The next/previous tracks can be reached with the **BANK NAVIGATION** buttons in the 6th column.

Each track has several parameters, from top to bottom they are:

1. **VOLUME**: Changes the volume of the track.
2. **PAN**: Changes the panorama of the track.
3. **REC ARM**: Changes the volume of the track.
4. **MUTE**: Un-/mutes the track.
5. **SOLO**: Un-/solos the track.
6. **SELECT**: Selects the track.

The volume and panorama is colored in the color of the track. Since the Electra One does currently not support full RGB the closest color is used. Above the volume the position and name of the track is displayed.

Sends Page

The Sends page is similar to the Mixer page but provides access to the volume of 6 sends (if they exist). All Send volumes are colored in the color of the track.

Devices Page

This page allows to control the parameters and settings of the selected device. Buttons addressing the selected device are:

- **ON**: Toggles the device on/off.
- **WINDOW**: Open or close the window of the device (if it has one).
- **PIN**: Un-/pins the selected device as well as the track which contains the device. Selecting different tracks and/or devices in the DAW or with another controller will not change the selection of the device on the Electra One.
- **EXPAND**: Expands the user interface of the device.

The other elements are:

- **REMOTE CONTROL PARAMETERS**: Controls the value of 8 parameters on the currently selected parameter page of the selected device.
- **PARAMETER PAGES**: Selects one of 8 parameter pages of the device for editing. Use the two buttons on the left to access the previous/next 8 parameter pages.
- **DEVICES**: Select one of 8 devices on the currently selected track for editing. Use the two buttons on the left to access the previous/next 8 devices.

Equalizer Page

This page allows to edit the parameters of an equalizer device with up to 6 bands. If the track does not contain one press the button **ADD EQ DEVICE**.

The parameters of each band are (from left to right):

- **ON**: Toggles the band on/off. Note: this is just a shortcut for selecting the *Off* option from the type parameter. When turning it on, the Bell type is selected.
- **TYPE**: Select the type of the band, e.g. a low pass, bell or high pass.
- **FREQUENCY**: Set the frequency of the band.
- **GAIN**: Set the gain to de-/increase the frequency of the band.
- **Q**: Set the Q factor of the band.

Transport Page

The Transport page gives more options for transport control but as well additional global parameters and marker control. Starting from the top:

CLIP area

- **NEW**: Creates a new clip on the selected track and slot, starts playback and enables overdub.
- **RECORD**: Start recording of a clip in the currently selected slot.
- **QUANTIZE**: Quantize the selected clip.
- **OVERDUB**: Toggles clip overdub.

AUTOMATION area

- **ARRANGER**: Toggle the automation recording in the arranger on/off.
- **CLIP**: Toggle the automation recording in the launcher on/off.
- **READ**: Sets automation to read.
- **WRITE**: Set the automation mode to *Write*.

- **LATCH**: Set the automation mode to *Latch*.
- **TOUCH**: Set the automation mode to *Touch*.

MARKERS area

The 8 buttons in the center move the play position to one of 8 markers. Depending on the state of the **LAUNCH** button on the bottom, playback is started as well from that position (in sync). Press **ADD** in the 5th row to add a new marker at the current position of the play cursor. The two buttons on the left move the marker page to the previous/next 8 markers.

TEMPO area

- **TEMPO**: In-/Decreases the tempo by 1.
- **TAP TEMPO**: Tap this button multiple times to set a tempo.

GLOBAL area

- **REDO**: Redoes the last undone command.
- **UNDO**: Undoes the last undone command.
- **CLICK**: Toggle the metronome on/off.
- **CLICK VOLUME**: Change the volume of the metronome click.
- **CUE VOLUME**: Changes the cue volume.
- **ARR. OVERDUB**: Toggle overdub in the arranger.
- **LAST PARAM**: Changes the last hovered/clicked parameter.

Session Page

The session page provides access to scenes and clips.

- The first row buttons launch the respective scene.
- The 5x5 matrix shows the clips of the respective scene and track.
- Each clip shows the color (within the limitations of the Electra One) and name of the clip.
- If the clip does not have a name the name of the track is displayed.

There are 2 additional buttons on the right: NAVIGATION and FUNCTIONS which activate additional modes.

Navigation

This mode allows to move the window of the displayed clips. The top row buttons move the window either in the direction of the tracks or the scenes in steps of 5. The 5x5 matrix provides a fast selection of a specific grid area. Each pad represents 5x5 clips, which means one can quickly navigate between 25 tracks and scenes. The text of the pad displays the track/scene index of the top left clip.

Functions

This mode gives access to 5 functions which can be executed on the displayed clips. First select one of the 5 functions, then select a clip or empty slot on which to execute the function. The functions are:

- **New**: Creates a new MIDI clip in the selected empty slot. The length of the clip can be configured in the settings.
- **Delete**: Deletes the clip from the selected slot.
- **Duplicate**: Duplicates the selected clip into the next slot.
- **Quantize**: Quantize the selected clip.
- **Stop**: Stops the playback of the clip.

Project/Track Parameters Page

This provides access to the Project and Track Parameters.

The upper part controls 8 project parameters and the lower part 8 track parameters of the currently selected track. Both provide access to 5 pages of parameters.

Preferences Settings

You can set several preferences which are stored when you exit the DAW. These are global settings and not specific to projects.

Hardware Setup

- Enable Electra One logging: If enabled the device is instructed to send logging messages which are written to the console. This is only for debugging and has a performance impact. Therefore, keep it off.

Transport

- Behaviour on Pause: Sets the action to be executed when playback is stopped with the Play button.

Workflow

- Knob Sensitivity Normal: Adjust the speed of the knobs
- Knob Sensitivity Slow: Adjust the speed of the knobs when used with Shift for fine adjustments
- Exclude deactivated items: If active, deactivated items like tracks will not be displayed on the controller. This cleans up the displayed banks but also prevents the options to activate a deactivated item from the controller.
- New clip length: The length of a clip created with the New function.

Assignable button touches

These allow to configure the execution specific functions and actions when touching 3 knobs. If *Action* is selected as the function, select the respective action from the related action field.

ESI Xjam

Support for the ESI Xjam controller.

Configuration

- Send the DrivenByMoss Xjam preset (DrivenByMoss.xjam) to the device which is located in the resources folder in the sub-folder ESI with the Xjam editor. It can be stored in any Scene you prefer but it must be selected when running **DrivenByMoss**.
- To have different note setups create a duplicate of this template but only make changes to the first PAD BANK! Then store it to a different scene. You can assign anything to the pads in this mode but stay away from MIDI channel 16 which is used by this extension.
- The Xjam device should be auto detected. If you need to add it manually, select the Xjam ports as MIDI in-/output. Note that Bitwig already comes with an implementation for the Xjam, therefore make sure that you select the DrivenByMoss version.
- To make the REPEAT function of the pads work in sync with the Bitwig tempo make sure that the Clock is set to *External* on the *Repeat* page in the Xjam editor. Then enable that the MIDI clock is sent to the Xjam on the *Synchronization* page in the Bitwig settings.

General concept

The device provides three knob modes and three pad modes which are totally independent from each other. Note that there is no programmatic control over the pad colors. Therefore, no states can be displayed. To work around this there are no modes and each knob and pad has a fixed function.

Knob Mode 1 - Track

This first mode (CTRL BANK LED is lit green) controls the selected track. The knobs have the following functions from top/left:

1. Volume of the selected track
2. Panorama of the selected track
3. Volume of the Master track
4. Volume of Send 1
5. Volume of Send 2
6. Volume of Send 3

Knob Mode 2 - Device Parameters

This second mode (CTRL BANK LED is lit orange) controls 8 parameters of the selected parameter page of the selected device. Since there are not 8 knobs, the parameters can be toggled between controlling parameters 1-4 and 5-8 in Pad Mode 3.

The knobs have the following functions from top/left:

1. Value of the 1st/5th parameter
2. Value of the 2nd/6th parameter
3. Volume of the Master track
4. Value of the 3rd/7th parameter
5. Value of the 4th/8th parameter
6. Volume of the selected track

Knob Mode 3 - Project Parameters

This third mode (CTRL BANK LED is lit red) controls 6 parameters (project remotes) which can be freely mapped on a project level.

Pad Mode 1 - Play

This first mode (PAD BANK LED is lit green) can be used to play notes. Changes to the OCTAVE and TRANSPOSITION settings of the Xjam can be applied as well. See the comments in the Configuration section above for further configuration of this mode.

Pad Mode 2 - Track / Transport

This second mode (PAD BANK LED is lit orange) provides transport control on the bottom row:

- Play/stop: starts / stops the playback. Double tap quickly to move the play cursor to the start of the arranger.
- Rewind (can be kept pressed): moves the play cursor to the left
- Forward (can be kept pressed): moves the play cursor to the right
- Record (function can be configured, see settings below)

Row 2 (from the bottom) controls the selected track:

- Toggle Solo
- Toggle Mute
- Toggle Record Arm
- Toggle the active state of the track

Row 3 and 4 select the first 8 tracks in the project.

Pad Mode 3 - Device / Transport

This third mode (PAD BANK LED is lit red) provides transport control on the bottom row like in Mode 2.

Row 2 (from the bottom) has the following function:

- Select the previous device
- Select the next device
- Turns the selected device on/off
- Toggles the window of the selected device (if it has one)

Row 3 and 4 select the first 7 parameter pages of the selected device. The 8th pad (4th pad of the top row) toggles the knobs in parameter mode between controlling the values of parameters 1-4 and 5-8.

Preferences Settings

You can set several preferences which are stored when you exit the DAW. These are global settings and not specific to projects.

Transport

- Record button: Selects the function to be executed when the record button is pressed.

Workflow

- New clip length: The length of a clip created with the New function.
- Exclude deactivated items: If active, deactivated items like tracks will not be displayed on the controller. This cleans up the displayed banks but also prevents the options to activate a deactivated item from the controller.
- Footswitch: Select the function to be executed when a connected foot switch is pressed.

Faderfox EC4

Support for the Faderfox EC4 controller.

Configuration

This requires at least the EC4 Firmware 2.0.

Send the DrivenByMoss EC4 template (*EC4_DrivenByMoss_Setup.syx*) to the device either with the EC4 editor or any MIDI sysex utility. The file is located in the resources folder in the sub-folder Faderfox of the DrivenByMoss download. It can be stored in any of the 16 Setup slots but it needs to be configured in the settings of the extension (default is slot 1).

This extension uses only MIDI channel 16. All other channels can be used for additional control configurations. For this you will find in Bitwig MIDI channel 1-15 inputs among the inputs.

Introduction

The Faderfox EC4 was designed for simplicity and has several limitations. Therefore, the idea is not to cram in each and every possible function but instead focus on a clear task. The implementation for the Faderfox EC4 is optimized towards performing, which means it focuses on mixing and device editing. Not on recording, editing or arranger navigation.

Many performers use prepared projects with 8 tracks (e.g. Drums, Bass, Synths, Vocals, ...) and then perform different scenes and apply effects to them. This implementation supports 12 tracks with 12 scenes as well as editing parameters from the selected device, track parameters and project parameters.

Usage

The implementation uses only the 1st Group of the Setup since switching between groups requires a lot of button presses. Instead modes can be switched in the group itself.

There are 2 main modes, namely *Track* and *Device* (but they contain several sub-modes). Press **knob 14** to toggle between the 2 modes. The bottom row of knobs (incl. their buttons) provides the same functions in both modes:

- Knob 13: Changes the *Tempo*
- Shift+Button 13: Set the tempo to 120
- Knob 14: Changes the *Crossfader*
- Shift+Button 14: Resets the crossfader
- Knob 15: Changes the *Cue Level*
- Shift+Button 15: Resets the cue level to it's default value
- Knob 16: Changes the *Master Volume*
- Shift+Button 16: Resets the master level to it's default value
- Button 13: Toggle Scenes Overlay-Mode (or hold for temporary activation), see explanation below
- Button 14: Toggle between Track/Device mode
- Button 15: Toggle 12-Mode, see explanation below
- Button 16: Start or stop arranger playback

Session Overlay Mode

If this mode is active the **buttons 1-12** start the scenes 1-12. This button overlay is activated by pressing **button 13**. To temporarily activate this mode, keep **button 13** pressed, start a scene by pressing one of the buttons 1-12 and then release button 13 again.

Track Mode

This mode controls either the parameters of the selected track or one specific track parameter of 12 tracks at once (*12-Mode*). Press **button 15** to toggle between the 2 sub-modes.

Selected Track Sub-Mode

- Buttons 1-12 : Selects the track 1-12.
- Shift+Buttons 1-12 : Resets the parameter that is controlled by the knob.
- Knobs 1-12 : Changes the parameters Volume, Pan, Mute, Solo and the Sends 1-8 of the selected track.

12 Sub-Mode

- Buttons 1-12: Selects the track parameter to edit: Volume, Pan, Mute, Solo and the Sends 1-8.
- Shift+Buttons 1-12: Resets the parameter that is controlled by the knob.
- Knobs 1-12: Changes the selected track parameter of the tracks 1-12.

Parameters Mode

This mode allows to edit the parameters of either the selected device, the track or the project.

- Button 1 : Selects the parameters of the selected device for editing.
- Button 2 : Selects the Track parameters for editing.
- Button 3 : Selects the Project parameters for editing.
- Button 4 : Toggles the window of the selected device (if it has one).
- Buttons 5-12: Select parameter page 1-8 (of the selected device, track or project).
- Shift+Buttons 1-4: Resets the parameter that is controlled by the knob.
- Shift+Buttons 5-12: Select the device 1-8 on the selected track.
- Knobs 1-4 : Changes the parameters Volume, Pan, Mute and Solo of the selected track.
- Knobs 5-12 : Changes the value of parameter 1-8 of the selected page (of the selected device, track or project).

Preferences Settings

You can set several preferences which are stored when you exit the DAW. These are global settings and not specific to projects.

Setup

- Setup with template: Select the Setup which contains the DrivenByMoss template.

Transport

- Behaviour on Pause: Sets the action to be executed when playback is stopped with the Play button.

Workflow

- Exclude deactivated items: If active, deactivated items like tracks will not be displayed on the controller. This cleans up the displayed banks but also prevents the options to activate a deactivated item from the controller.
- New clip length: The length of a clip created with the New function.
- Knob Sensitivity Default: Negative values slow the knobs changes down, positive values speed them up.
- Knob Sensitivity Slow: Negative values slow the knobs changes down, positive values speed them up.

Functions - User 1-4

Select 4 actions to execute. To execute one of the action, keep the *Func* button pressed and press one of the first column buttons (1, 5, 9 or 13).

Auto Color

This extensions allows to automatically assign a color to your tracks based on the tracks' name.

Installation

The *Auto Color* extension needs to be added manually. Open the controller settings and click on *Add controller*, select *Utilities*, and then *Auto Color* from the list.

Usage

The first parameter allows to turn auto-coloring on and off.

Below that there is a search string for each color. E.g. if you write *Bass* in the text field *Red*, all tracks, which contain the word *Bass* in their name will automatically be colored in red. For multiple search strings use a comma, e.g. I put "Drum,BD,Snare,HiHat,Crash" after blue to auto color all drum related tracks.

Gamepad

Supports several Gamepad controllers, e.g. from Xbox.

Installation

The Gamepad controller support needs to be added manually. Open the controller settings and click on *Add controller*, select *Generic*, and then *Gamepad* from the list. After that, select one input MIDI input. The MIDI input is necessary to send MIDI data to the DAW. It should not be used by anything else, best bet is to use/create a virtual MIDI input.

Make sure your gamepad is connected before starting the DAW. If not, press the Refresh button after connecting the gamepad (in Reaper it is necessary to close and reopen the dialog to make the gamepad list appear). Finally, select your gamepad from the list.

Configuration

The settings show several controls of the gamepad. A control is either a button or an axis (normally a joystick moved horizontally or vertically). For each of these controls a function can be selected to be executed. Some functions are marked to be only available for buttons or axis controls. For controls not present on the selected controller the selection list is grayed out.

For each axis which has a CC message set as the function the range can be configured:

- 127 - 0 : 0 - 127: The axis sends MIDI CC values from 0 to 127 in both directions.
- 0 - 64 : 64 - 127: The axis covers MIDI CC values from 0 to 63 when moved to the left or upwards, 64 when centered and 65 to 127 when moved to the right or downwards.
- 127 - 64 : 64 - 0 : Like the previous option but flipped.

Generic Flexi

Supports any (MPE) MIDI controller with 1 midi in-/output. You can assign several commands in Bitwig to the knobs, button, faders, etc. of your controller, which will then be readily available each time you start your DAW.

The Generic Flexi needs to be added manually. Open the controller settings and click on *Add controller*, select *Generic*, and then *Flexi* from the list. After that, select the input and output of your MIDI controller.

Installation

Linux: If the file dialogs to save/load do not work make sure you have *zenity* installed. To install zenity from the command line enter: sudo apt install zenity

Important notes

- Your settings are not automatically stored! Use *Save* (see below).
- MIDI notes are blocked when mapped
  - If you have selected *All* for the keyboard channel the mapped notes are blocked on all channels!
  - The blocked notes are only updated when loading a configuration or when switching between slots.
- Using CC as a target can only be used with VST plugins in Bitwig. It cannot be mapped with the Bitwig mapping system, which will always see the original MIDI command. Instead use Project/Track parameters.

Storing and loading a configuration

- In the **Load/Save section** click on the Save button, enter a file name and confirm the dialog to store the settings.
- Click on *Load* to load a configuration (make sure to *Save* your current configuration first).
- The last selected file (shown in the filename text field) will automatically be loaded when the DAW starts the next time.

Configuration

You have 300 slots to map buttons, knobs, faders, etc. to a function in your DAW. It is a good idea to save the settings to a file before you start to do any mapping, then regularly click on *Save* again.

To map your controller do the following:

1. Select the slot in which you want to put a mapping.
2. Next press a button, move a knob/fader or press a pad/key on your controller. You should see the transmitted MIDI command (CC, note, Program Change, Pitchbend or MMC (other MIDI data types are not supported)) that was sent by your controller. Alternatively, you can select the values manually.
3. Click the Set button to assign the received MIDI values to the selected slot.
4. Finally, select the function you want to assign from the various drop down lists. The special *mode commands* are explained below.
5. Select the next slot and continue with step 2. If you want to clear a slot, set the MIDI trigger type to "Off".

Parameters for each slot

Each slot has the following parameters:

- Type: MIDI status type, which triggers the function: CC, a note, program change command or pitchbend

- Number: The CC, note or Program change number, which should trigger the function (ignored for pitchbend)
- Midi Channel: The midi channel (1-16), on which the MIDI message should be accepted/received
- Resolution: High resolution of 14-bit is available for pitchbend (always) and CC messages below 32.
- Knob Mode: This option only applies to continuous functions like changing the volume of a track. Depending on the possibilities of your controller knob you need to choose the matching mode.
- Function: Choose a function from the different categories that should be executed, when the configured MIDI message is received.
- Send value to device: This option only applies to continuous functions like changing the volume of a track. If it is enabled, the current value is sent to the controller with the configured CC.
- Functions Layer: Assigns the function to one of 10 layers. The function is only executed if the respective layer is active. Layer 1 is the default layer. Use the functions under *Function Layers* to temporarily or permanently activate a different layer. **Note:** if notes are used as triggers, they are always blocked from being sent to Bitwig, no matter if the layer is active or not. This is due to the fact since this configuration needs to happen on startup of the extension.

Features of Modes

Besides fixed functions which can be assigned to the hardware controls, there is the concept of modes. Each mode controls a parameter (e.g. volume) of an item (e.g. a track) which are grouped into pages of 8 items. Each mode uses (up to) 8 continuous controls (a knob or fader) for setting the parameters' value, 8 buttons to select the individual items, and 4 buttons to move the page window of 8 items up or down. Furthermore, there are functions to select individual modes or to select the previous/next mode.

Track Mode

- Set Item value 1-8: 1) Change Volume of selected track 2) Change Panorama of selected track 3-8) Change volume of Send 1-6
- Select Item 1-8: Select track 1-8 in the current bank page
- Select Next Item: Select the next track (if any)
- Select Previous Item: Select the previous track (if any)
- Select Next Item Page: Select the next page of the track bank
- Select Previous Item Page: Select the previous page of the track bank

Volume Mode

- Set Item value 1-8: Change Volume of track 1-8 in the current bank page
- Other controls are the same as in track mode

Panorama Mode

- Set Item value 1-8: Change Panorama of track 1-8 in the current bank page
- Other controls are the same as in track mode

Send 1-8 Mode

- Set Item value 1-8: Change Volume of the Send X of track 1-8 in the current bank page
- Other controls are the same as in track mode

Device Mode

- Set Item value 1-8: Change the value of parameter 1-8 in the current bank page
- Select Item 1-8: Select parameter page 1-8
- Select Next Item: Select the next device (if any)
- Select Previous Item: Select the previous device (if any)
- Select Next Item Page: Select the next page of parameters

- Select Previous Item Page: Select the previous page of parameters

Browser Mode

- Set Item value 1-8: Change the selection of filter 1-7, knob 8 changes the selected result
- Select Item 1-8: Select next item in filter columns 1-7 and result column
- Select Next Item: Select the next tab in the browser (if any)
- Select Previous Item: Select the previous tab in the browser (if any)
- Select Next Item Page: Confirm the browser selection and close the browser
- Select Previous Item Page: Discard the browser selection and close the browser

Configuring Program Banks

If the controller is a synthesizer (or only a synthesizer) you can configure Program Banks from which you can select Programs to send MIDI program changes to the synthesizer. This way you can select patches directly from the document settings in Bitwig (right hand pane).

The program banks are contained in a file which must be placed in the same directory as the properties file for the Flexi configuration. The difference is that the ending is *programs* instead of *properties*. E.g. if you created a setup *MatrixBrute.properties* you need to have a file *MatrixBrute.programs*. The **resources** folder of DrivenByMoss contains an example file (Example.programs).

For each bank in the file you need to have one line of the format

```
$BANK=bank_name$MSB=msb_value$LSB=lsb_value$CHANNEL=midi_channel
```

for example to have a bank named *Bank A*, which is addressed by MSB 0 and LSB 0 on MIDI channel 1, write:

```
$BANK=Bank A$MSB=0$LSB=0$CHANNEL=0
```

After that up to 127 lines with program names can follow (you can have less).

Configure the keyboard / pads

Note (Bitwig): To make changes in this section become effective a restart of the extension is required (turn it off and on again).

If your controller has a keyboards or pads you can enable it by configuring the MIDI channel. The MIDI channel can also be turned off or set to all. If a MIDI note is mapped to a function on this MIDI channel, the note is blocked from being played. The Note Input (Bitwig only) can be named.

The Modulation Wheel (CC 01), Sustain Pedal (CC 64), Timbre (CC 74) and Pitchbend can be directly routed to your In that case they are not available as a mapping source.

If the controller supports MPE, enable the MPE switch. In that case the lower MPE zone is enabled using all 15 channels. Furthermore, the direct routing of Timbre should be activated, which normally is used as another MPE modulator besides pitch bend.

Preferences Settings

You can set several preferences which are stored when you exit the DAW. These are global settings and not specific to projects.

Slot

- Selected: The selected mapping slot to edit (1-300)

Selected Slot - MIDI trigger

This block configures the MIDI command, which needs to be received to trigger the function of this slot.

- Type: The type of MIDI command to trigger the command
- Number: The number of the MIDI command
- Midi Channel: The MIDI channel on which to receive the command. Can also be set to *All* to accept the command on all MIDI channels. In that case the *Send value to device* option cannot be executed.
- Resolution: High resolution of 14-bit (16384 values instead of 128) is available for pitchbend (always) and CC messages below 32.
- Knob Mode: The encoding of the value sent by a knob, e.g. relative or absolute knobs
- Send value to device: Enable if value changes of the assigned function should be reflected back to the controller. Only works, if the controller uses the exact same command for sending and receiving.
- Send value to device when received: Sends back the received value to the controller. This is necessary to update button states on some controllers but can confuse others.

Selected Slot - Function

You can select only one function from the lists. If you select a function from a different list the previous list will be set to *Off*.

- Browser: Select a browser related function.
- Clip: Select a clip related function.
- Device: Select a device related function.
- FX Track: Select an effect track related function.
- Global: Select global commands.
- Layout: Select layout related function.
- Marker: Select a marker related function.
- Master: Select a function which is related to the Master track.
- MIDI CC: Sends a MIDI CC message to the DAW. This can also be used to transform a MIDI CC to a different one (e.g. Expression to Modulation).
- Modes: Select a mode related function. See the mode descriptions above.
- Note Input: Functions to control Note Repeat and Transposition of the attached keyboard/pads.
- Project Remotes: Select a project remote parameter related function.
- Scene: Select a scene related function.
- Track: Select a track related function. The function *Toggle trackbank* allows to switch between the Instrument/Audio track bank and the Effect track bank.
- Track Remotes: Select a track remote parameter related function.
- Transport: Select a transport related function.
- Action: Function to execute one of 8 actions. The 8 actions are selected below under *Options*.

Global: Shift Button The function *Global: Shift Button* is intended to be assigned to a button. Using this button in combination with other knobs and buttons provides the following features:

1. Using it in combination with a relative (!) knob, slows down the value change of this knob (see *Knob Speed Normal/Slow* settings below).
2. Some of the functions found in *Transport* provide additional functionality when used with Shift:
   - Play: Toggles Repeat
   - Rewind: Moves in slower steps
   - Fast Forward: Moves in slower steps

Use a knob/fader/button then click Set...

- Type, Number, Midi channel: Displays the received MIDI values
- Set: Press the button to assign the received MIDI command as the MIDI trigger for the currently selected mapping slot.

Load/Save

- Filename: An absolute path to the filename to automatically load when started.
- Save: Store the current configuration into the selected file.
- Load: Load the configuration from the selected file.

Keyboard / Pads

Changing these settings requires restarting the extension to make them active! If the connected device has a keyboard or pads, the following settings allow to configure it.

- MIDI Polyphonic Expression (MPE): Enable if your controller supports MPE.
- MPE Pitch Bend Sensitivity: Sets the sensitivity of the pitch bend modulation when MPE is active.
- Midi Channel: The MIDI channel on which the keyboard sends its data
- Route Timbre: Enable to send received MIDI timbre commands to the DAW. Disable if you use MIDI modulation as a slot trigger. Enable if you use MPE.
- Route Modulation: Enable to send received MIDI modulation commands to the DAW. Disable if you use MIDI modulation as a slot trigger.
- Route Expression: Enable to send received MIDI expression commands to the DAW. Disable if you use MIDI expression as a slot trigger.
- Route Sustain: Enable to send received MIDI sustain commands to the DAW. Disable if you use MIDI sustain as a slot trigger.
- Route Pitchbend: Enable to send received MIDI pitchbend commands to the DAW. Disable if you use MIDI pitchbend as a slot trigger.

Options

- Selected Mode: The currently selected mode (if modes are used).
- Action 1-8: Select the DAW Action to execute if the functions Action 1-8 are used.

Workflow

- Knob Speed Normal: Adjust the speed of the knobs.
- Knob Speed Slow: Adjust the speed of the knobs when used with Shift for fine adjustments. There is a function to define the Shift button available (*Global: Shift button*).
- Exclude deactivated items: If active, deactivated items like tracks will not be displayed on the controller. This cleans up the displayed banks but also prevents the options to activate a deactivated item from the controller.
- New clip length: The length of a clip created with the New function.

Transport

- Behaviour on Pause: Sets the action to be executed when playback is stopped with the Play button.
- Behaviour on Stop: Sets the action to be executed when playback is stopped with the Stop button.

Document Settings

These settings are specific to each project.

Note Repeat

- Active: Enable note repeat
- Period: The repeat rate of the note repeat
- Length: The length of a repeated note
- Mode: The arpeggiator mode
- Octave: The octave range which is used by the arpeggiator

Program Banks

In this section configured program banks are displayed for selection. See *Configuring Program Banks* above.

Intuitive Instruments Exquis

Support for the Intuitive Instruments Exquis controller.

Configuration

- The device should be auto detected. If you need to add it manually, select the in- and output with Exquis in the name.

Global Features

The following controls in the 6th column are identical on all pages:

- **Play**: Start/Stop playback. Double click to move play cursor to start of song. You can configure the behavior on stop in the preferences.
- **CLips**: Toggles between the note and session view.
- **Loop**: Toggles the arrnger loop on/off. Long press to activate the selection view.
- **Record**: Start/Stop arranger recording.
- **Left**: Undos the last action.
- **Right**: Redos the last undone action.

Knob Modes

The knobs can control (device) parameters and the mixer. The different modes can be selected by pressing the knobs.

- Press Knob 1: Activates Project parameter mode. Press again to toggle between parameters 1-4 and 5-8.
- Press Knob 2: Activates Track parameter mode. Press again to toggle between parameters 1-4 and 5-8.
- Press Knob 3: Activates Cursor Device parameter mode. Press again to toggle between parameters 1-4 and 5-8.
- Press Knob 4: Activates Track mode. Press again to activate Volume mode.

Project parameters

In this mode the knobs control 4 parameters of the active project parameter page.

Track parameters

In this mode the knobs control 4 parameters of the active track parameter page.

Cursor device parameters

In this mode the knobs control 4 parameters of the active parameter page of the selected device.

Cursor track parameters

In this mode the knobs control the volume, panning and send 1/2 of the selected track.

Volume parameters

In this mode the knobs control the volume of 4 tracks.

Selection View

Long press the *Loop* button to activate the selection view. The pads allow not to select tracks, devices and parameter pages.

- Top row: the 4 pads in the middle select one of the 4 tracks of the current track page. The left/right most pad move to the previous/next trak page.
- Touchstrip: selects one of the first 6 track/scene pages. Use the Down/Up buttons to switch between selecting tracks or scene pages.
- Row 1-4: Press one of the lit pads to select a parameter page (depends on the selected parameter mode).
- Row 5-8: If cursor device mode is active the pads represent the device of the selected track. Press one of the lit pads to select the device.

Note View

The note view works exactly like described in the Exquis manual incl. the configuration pages.

Session View

The session view allows to control clips and the mixer.

- The 6 left-most buttons are the function buttons (from bottom to top):
  - Select: Hold and select a clip pad to only select the clip without starting/recording it.
  - Alternative: Hold and select a clip pad to execute the alternative start (Bitwig only).
  - Create Scene: Press to create a new scene which contains all currently playing clips.
  - New clip: Creates a new clip of the selected length (see settings), activates MIDI overdub and starts playback.
  - Duplicate: Copies a clip. Keep the duplicate pad pressed, then press the source clip pad and then the destination pad.
  - Delete: Hold and select a clip pad to delete the clip.
- 1st row: This row has a double function which can be toggled with the right-most pad of the row.
  - Select: Selects a track.
  - Rec-Arm: Toggles record arm of the track.
- 2nd row: Toggle solo state of the track. The right-most pad defeats all solos.
- 3rd row: Toggle mute state of the track. The right-most pad defeats all mutes.
- 4th row: Stops the playback of the clip of the track. The right-most pad stops the playback all clips.
- All other rows: Start/select/record a clip (see the different options in the settings). Right-most pad starts the scene.

Project/Track Parameters Page

This provides access to the Project and Track Parameters.

The upper part controls 8 project parameters and the lower part 8 track parameters of the currently selected track. Both provide access to 5 pages of parameters.

Preferences Settings

You can set several preferences which are stored when you exit the DAW. These are global settings and not specific to projects.

Session

- Select clip/scene on launch: If a clip/scene is started from the controller and this setting is off the clip/scene will not be selected. Use if you edit another clip and want not to change the focus.
- Display clips of record enabled tracks in red: if enabled, in the session view for record enabled tracks the empty pads are displayed in red.
- Action for pressing rec armed empty clip: what should happen if you press an empty clip in the session view?

Transport

- Behaviour on Pause: Sets the action to be executed when playback is stopped with the Play button.

Workflow

- Exclude deactivated items: If active, deactivated items like tracks will not be displayed on the controller. This cleans up the displayed banks but also prevents the options to activate a deactivated item from the controller.
- New clip length: The length of a clip created with the New function.
- Knob Sensitivity Default: Adjust the speed of the knobs

Document Settings

These settings are specific to each project.

- MPE Pitch Bend Sensitivity: Select the MPE pitch-bend range.
- Scale: Select the scale
- Base: Select the base note of the scale

Mackie HUI

Support script for the Mackie HUI protocol. It supports up to 3 devices. It can be any combination of devices which support the HUI protocol.

While this extension supports the Mackie HUI protocol in general I could only test it with the following devices:

- icon QConPro X (in Pro Tools mode)
- Novation SLMkIII

In the following, the supported features are described. In brackets the names of the HUI buttons are noted which trigger the feature.

The settings dialog contains profiles for several devices, which sets the correct hardware settings.

Transport

- « (HUI REWIND) - Move the play cursor to the left.
- » (HUI FORWARD) - Move the play cursor to the right.
- **Repeat** (HUI LOOP) - Toggle repeat
- **Stop** (HUI STOP) - Stop playback. Press again to move play cursor to start of song. Double click to move play cursor to the end of the song.
- **Play** (HUI PLAY) - Start/Stop playback. Double click to move play cursor to start of song.
- **Shift (HUI SHIFT)+Play** - Toggle arranger repeat
- **Option (HUI OPTION)+Play** - Toggle Punch In
- **Option+Shift+Play** - Toggle Punch Out
- **Record** (HUI RECORD) - Start/Stop recording
- **Shift+Record** - Toggle launcher overdub
- **Option+Record** - Creates a new clip on the selected track and slot, starts play and enables overdub.
- **Jog Wheel** - Move play cursor (press **Shift** for fine adjustment)
- **Control+Jog Wheel** - Change loop start (press **Shift** for fine adjustment)
- **Alt+Jog Wheel** - Change loop length (press **Shift** for fine adjustment)
- **Scrub** - Toggles between Track and Device editing mode
- **Arrow left, right, up, down** - Like pressing the arrow keys on the computer keyboard
- **Zoom** - If active, the arrow buttons left/right zoom the arranger horizontally. The up/down arrows both toggle the height of the track.
- **Metronome** (HUI PRE) - Toggle metronome
- **Tap Tempo** - (HUI POST) - Executes Tap Tempo
- **Quick Punch** - (HUI QUICK PUNCH) - Toggle Punch In
- **In** - (HUI IN) - Toggle Punch In
- **Out** - (HUI OUT) - Toggle Punch Out
- **Audio Engine** (HUI ON LINE) - Toggle Audio Engine on/off for current project
- **Return to Zero** (HUI RETURN TO ZERO) - Return the play cursor to the start of the arranger
- **RecRdyAll** (HUI ASSIGN2 RECRDYAL) toggles rec arm state on all tracks (of the active bank page in Bitwig).

Buttons

Functions

- **Shift** (HUI SHIFT) - Use in combination with other buttons for additional functions.
- **Option** (HUI OPTION) - Use in combination with other buttons for additional functions.
- **Control** (HUI CONTROL) - Use in combination with other buttons for additional functions.
- **Alt** (HUI ALT) - Use in combination with other buttons for additional functions.
- **F1-F8** (HUI F1-F8) - Functions for these buttons can be assigned in the settings dialog.
- **Undo** (HUI UNDO) - Undoes the last action

- **Shift+Undo** - Redoes the last undone action

Assignment

- **Track** (HUI ASSIGN1 INPUT) - Activates track mode
- **Pan** (HUI MODE PAN) - Select the Panorama edit mode. See the section **Edit Modes** below.
- **Send A-E** (HUI MODE SEND A-E) - Select the Send edit mode A-E.
- **EQ** (HUI ASSIGN1 OUTPUT) - Selects EQ mode
- **Device** (HUI ASSIGN2 BYPASS) - Activates device mode

Automation

- **Read/Off** (HUI READ) - Disables arranger automation recording.
- **Write** (HUI WRITE) - Enables arranger automation recording and sets it to Write mode.
- **Trim** (HUI TRIM) - Since Bitwig has not Trim mode, this button toggles the clip automation recording.
- **Touch** (HUI TOUCH) - Enables arranger automation recording and sets it to Touch mode.
- **Latch** (HUI LATCH) - Enables arranger automation recording and sets it to Latch mode.

Edit

- **Paste** (HUI PASTE) - Adds an instrument track.
- **Shift+Paste** - Adds an effect track.
- **Option+Paste** - Adds an audio track.
- **Copy** (HUI COPY) - Insert/replace a device
- **Shift+Copy**: Insert a device before the currently selected device.
- **Option+Copy**: Insert a device after the currently selected device.

Utilities

- **Note Editor** (HUI WINDOW EDIT) - Toggles the display of the note editor pane
- **Automation Editor** (HUI WINDOW TRANSPORT) - Toggles the display of the automation editor pane
- **Toggle Device** (HUI WINDOW STATUS) - Toggles the display of the device pane
- **Shift+Toggle Device** - Toggles the display of a plugin window
- **Mixer** (HUI WINDOW MIXER) - Toggles the display of the mixer pane
- **Save** (HUI SAVE) - Save button saves the current project

Fader Controls

- |< (HUI TRACK LEFT) - Select the previous track.
- >| (HUI TRACK RIGHT) - Select the next track.
- « **8** (HUI BANK LEFT) - Move track bank focus 8 tracks up.
- **8** » (HUI BANK RIGHT) - Move track bank focus 8 tracks down.

Edit Modes

Common functions in all modes

- **Record-arm buttons** (HUI ARM1-8) - Press to arm the specific track for recording.
- **Mute buttons** (HUI MUTE1-8) - Un-/mute the specific track
- **Solo buttons** (HUI SOLO1-8) - Un-/solo the specific track
- **Track selection buttons** (HUI SELECT1-8) - Select the specific track.
- **Shift+Solo** - Toggle auto monitor
- **Shift+Mute** - Toggle monitor
- **8 faders** (HUI FADER_TOUCH1-8) - Change volume of selected 8 tracks. Touching a fader automatically selects the track.

- **Press knob** (HUI VSELECT1-8) - Resets the current parameter to its default value.

Track edit mode

Press *Assign 1* - *Input* to enter.

- **Knob 1** - Changes the volume of the selected channel.
- **Knob 2** - Changes the panorama of the selected channel.
- **Knob 3** - Changes Send 1 of the selected channel.
- **Knob 4** - Changes Send 2 of the selected channel.
- **Knob 5** - Changes Send 3 of the selected channel.
- **Knob 6** - Changes Send 4 of the selected channel.
- **Knob 7** - Changes Send 5 of the selected channel.
- **Knob 8** - Changes Send 6 of the selected channel.

Panorama edit mode

Press *Pan* to enter.

- **8 knobs** - Change the panorama of that channel.

Send 1 - 8 edit mode

Press *Send 1* to enter. Press multiple times to select the Send channels 1 to 8. Use in combination with the **Track select** buttons to select the respective Send channel 1-8. *Send 2* and *Send 3* directly select Send channels 2 and 3.

- **8 knobs** - Change the volume of the selected send on that channel.

Device edit mode

Press *Assign 2* - *Bypass* to enter.

- **8 knobs** - Changes the parameters of the selected parameter page.
- Use Channel Left/Right to switch between the different parameter pages.
- Fader Bank Left/Right switches between the devices on the selected track.

EQ edit mode

Press *Assign 1* - *Output* to enter. Edits the equalizer device on the track. If none is present a device is inserted when the mode gets activated.

- **8 knobs** - Changes the parameters of the EQ.
- Use Channel Left/Right to switch between the different parameter pages.

Foot switches

- **Footswitch 1** (HUI FOOTSWITCH A) - Function be assigned in the settings dialog.
- **Footswitch 2** (HUI FOOTSWITCH B) - Function be assigned in the settings dialog.

Preferences Settings

You can set several preferences which are stored when you exit the DAW. These are global settings and not specific to projects.

Hardware Setup

- Profile: This list contains some presets to setup the following hardware settings. If one of the controllers from the list is connected select the according entry from the list.
- Has a display: Enable if the HUI compatible controller has a display.
- Has a position/tempo: Enable if the HUI compatible controller has an additional position display.
- Has motor faders: Enable if the HUI compatible controller has motor faders.
- Send Ping: The HUI protocol requires to send a ping message every second otherwise the device will go off. If you do not use an original HUI this might be simply ignored by the device and get in the way when you want to use MIDI learn in a project (since the reply is a note message). Therefore, this option allows you to turn it off.
- VU meters: Enable if the HUI compatible controller supports the display of VU values.

Assignable buttons

- Footswitch 1/2: Select a function to execute when the first/second footswitch is pressed
- F1-F8: Select a function to execute when the respective function key is pressed

The available functions should be self-explanatory, except:

- *Clip Based Looper*: this uses the currently selected MIDI clip slot. If it is empty, a new clip is created (uses the *New Clip Length* setting) and playback is started. As long as the footswitch is pressed overdub is activated. If the footswitch is released overdub is deactivated.

Transport

- Behaviour on Stop: Sets the action to be executed when playback is stopped with the Stop button
- Behaviour on Pause: Sets the action to be executed when playback is stopped with the Play button

Workflow

- Exclude deactivated items: If active, deactivated items like tracks will not be displayed on the controller. This cleans up the displayed banks but also prevents the options to activate a deactivated item from the controller.
- Zoom: If enabled, cursor keys are used for zooming in the arranger.
- Select Channel on Fader Touch: The channel to which the touched fader belongs is selected if this option is enabled.
- New clip length: The length of a clip created with the New function.

Mackie MCU

Support script for the Mackie MCU protocol. It supports up to 4 MCU devices, which can be original Mackie extenders or any other device which supports the protocol.

While this extension supports the Mackie MCU protocol in general, I could only test it with the following devices:

- Asparion D700
- Behringer X-Touch / X-Touch Extender
- Behringer X-Touch One
- iCON Platform M/M+ with extender
- iCON QConPro X - Select the Bitwig mode and use the Bitwig overlay!
- iCON V1M
- Mackie MCU Pro
- Zoom R16

In the following the supported features are described. In brackets the names of the MCU buttons are noted which trigger the feature.

Configuration

The settings dialog contains profiles for several devices, which sets the correct hardware settings. If your device is not listed make sure you configure the hardware settings manually to match your device.

Configuration X-Touch

To make the display colors work make sure that:

1) The latest X-Touch Firmware is installed (1.22).
2) The color option for the X-Touch in the settings are enabled (or simply choose the X-Touch from the Profiles menu).
3) The Mode must be set to “MC” on the X-Touch.

Configuration X-Touch One

In device mode the FADER BANK left/right buttons change the devices, while the CHANNEL left/right buttons change single parameters of the current bank page. To also be able to switch parameter pages, you can sacrifice 2 buttons, e.g. F1 and F2:

1. Press Stop+Press the edit knob to enter the configuration mode
2. Make sure that you have selected the “MCU user” mode.
3. Keep F1 pressed and select “CHAN <” with the edit knob.
4. Keep F2 pressed and select “CHAN >” with the edit knob.
5. Press the edit knob 3 times to leave configuration mode

F1 will now select the previous page, and F2 the next.

Transport

- **Play** (MCU PLAY) - Start/Stop playback. Double click to move play cursor to start of song.
- **Shift (MCU SHIFT)+Play** - Toggle repeat
- **Option (MCU OPTION)+Play** - Toggle Punch In
- **Option+Shift+Play** - Toggle Punch Out
- **Record** (MCU RECORD) - Start/Stop recording
- **Shift+Record** - Toggle launcher overdub
- **Option+Record** - Creates a new clip on the selected track and slot, starts play and enables overdub.
- « (MCU REWIND) - Move the play cursor to the left.

- » (MCU FORWARD) - Move the play cursor to the right.
- **Option+«** (MCU REWIND) - Move the play cursor to the closest marker before the current play position.
- **Option+»** (MCU FORWARD) - Move the play cursor to the closest marker after the current play position.
- **Repeat** (MCU REPEAT) - Toggle repeat
- **Stop** (MCU STOP) - Stop playback. Press again to move play cursor to start of song. Double click to move play cursor to the end of the song.
- **Jog Wheel** - Move play cursor (press **Shift** for fine adjustment)
- **Option+Jog Wheel** - Change tempo (press **Shift** for fine adjustment)
- **Control+Jog Wheel** - Change loop start (press **Shift** for fine adjustment)
- **Alt+Jog Wheel** - Change loop length (press **Shift** for fine adjustment)
- **Scrub** - Toggles between all editing mode
- **Arrow left, right, up, down** - Like pressing the arrow keys on the computer keyboard
- **Zoom** - If active, the arrow buttons left/right zoom the arranger horizontally. The up/down arrows both toggle the height of the track.
- **Nudge** - Executes Tap Tempo

Buttons

Display Mode

- **Display Mode** - Toggles the display of the track names in the 1st display.
- **Tempo/Ticks** - Toggle content of segment display. The last 3 digits toggle between ticks or the song tempo.
- **Global View (MCU EDIT)** - Toggle VU meters on/off
- **Aux (MCU AUX)** - Switches to Arrange layout.
- **Busses (MCU BUSSES)** - Switches to Mix layout.
- **Outputs (MCU OUTPUTS)** - Switches to Edit layout.
- **Shift+Track selection buttons** - Select the length for new clips: 16 bars, 8 bars, 4 bars, 2 bars, 1 bar, 2 beats, 1 beat, 32 bars

Functions

- **Shift** (MCU SHIFT) - Use in combination with other buttons for additional functions.
- **Option** (MCU OPTION) - Use in combination with other buttons for additional functions.
- **F1-F8** (MCU F1-F8) - Functions for these buttons can be assigned in the settings dialog.
- **Undo** (MCU UNDO) - Undoes the last action
- **Shift+Undo** - Redoes the last undone action

Assignment

- **Track** (MCU MODE IO, TRACK) - Select the Track edit mode. Press again to select the Volume edit mode. See the section **Edit Modes** below.
- **Option+Track** - Pin cursor track
- **Pan** (MCU MODE PAN/SURROUND) - Select the Panorama edit mode. See the section **Edit Modes** below.
- **Send** (MCU MODE SENDS) - Select the Send edit mode. Press multiple times to select the Send channels 1 to 8. See the section **Edit Modes** below. Use in combination with the **Track select** buttons to select the respective Send channel 1-8. Use **Shift+Send** to move backwards.
- **Device** (MCU DEVICE, PLUG-IN) - Select the Device edit mode. Press again to select project/track parameters mode. See the section **Edit Modes** below.
- **Option+Device** - Pin cursor device
- **EQ** (MCU MODE EQ) - Select the equalizer device edit mode.
- **Instrument** (MCU MODE DYN, INSTRUMENT) - Select the instrument device edit mode.

Automation

- **Read/Off** (MCU READ) - Disables arranger automation recording.
- **Option+Read/Off** - Resets any automation overrides.
- **Write** (MCU WRITE, MCU GROUP) - Enables arranger automation recording and sets it to Write mode.
- **Trim** (MCU TRIM) - Enables arranger automation recording and sets it to Trim mode. Since Bitwig has not Trim mode, it enables the Read mode.
- **Touch** (MCU TOUCH) - Enables arranger automation recording and sets it to Touch mode.
- **Latch** (MCU LATCH) - Enables arranger automation recording and sets it to Latch mode.

Utilities

- **Note Editor** (MCU MIDI TRACKS) - Toggles the display of the note editor pane
- **Automation Editor** (MCU INPUTS) - Toggles the display of the automation editor pane
- **Toggle Device** (MCU AUDIO TRACKS) - Toggles the display of a plugin window
- **Shift+Toggle Device** - Toggles the different layouts
- **Option+Toggle Device** - Toggle the devices' expanded state
- **Mixer** (MCU AUDIO INSTRUMENT) - Toggles the display of the mixer pane
- **Browser** (MCU USER) - Starts the browser to browse for presets
- **Shift+Browser** - Starts the browser to insert a new device before the current one
- **Option+Browser** - Starts the browser to insert a new device after the current one
- **Metronome** (MCU CLICK) - Toggle metronome
- **Shift+Metronome** - Toggle Metronome Ticks
- **Shift+Masterfader** - Changes Metronome Volume
- **Solo** (MCU SOLO) - Deactivates all solos, Shift+SOLO deactivates all mutes
- **Shift+Solo** - Deactivates all mutes
- **OVR** (MCU REPLACE) - Toggle arranger overdub
- **Shift+OVR** - Toggle launcher overdub
- **Save** (MCU SAVE) - Save button saves the current project
- **Marker** (MCU MARKER) - Activates marker mode
- **Shift+Marker** - Toggles the display of markers in the arranger
- **Option+Marker** - Inserts a new marker at the current play position
- **Drop** (MCU DROP) - Duplicate the selected track

Fader Controls

- **Lock** (Not on MCU) - Locks the faders.
- **Flip** (MCU FLIP) - Toggles **Use faders like knobs** option.
- **Shift+Flip** - Toggles between Instrument/Audio/Hybrid tracks and the Effect tracks.
- **Cancel** (MCU CANCEL) - Cancels browsing when the Browser is active, otherwise like pressing the Escape key on the computer keyboard.
- **Enter** (MCU ENTER) - Confirms browsing when the Browser is active, otherwise like pressing the Enter key on the computer keyboard.

Edit Modes

Common functions in all modes

- Pressing a knob can be combined with modifier keys: SHIFT - set parameter to center value, CONTROL - set parameter to minimum, ALT - set parameter to maximum.
- **Record-arm buttons** (MCU ARM1-8) - Press to arm the specific track for recording.
- **Shift+Record-arm buttons** - Toggles rec arm state on all tracks (of the active bank page in Bitwig).
- **Mute buttons** (MCU MUTE1-8) - Un-/mute the specific track / layer
- **Solo buttons** (MCU SOLO1-8) - Un-/solo the specific track / layer
- **Option+one of the Mute buttons**: Deactivate all mutes

- **Option+one of the Solo buttons**: Deactivate all solos
- **Track selection buttons** (MCU SELECT1-8) - Select the specific track. If *hierarchical* is selected as track navigation in the settings, press the select button of the track again to enter a group/folder. Long press the select button of any track to leave the group/folder. If track navigation is set to *flat*, selecting an already selected group track toggles its' expanded state. Press the select button of the track again to enter layers mode, if the track contains an instrument with layers or drum pads.
- **Shift+Track selection buttons** - Multi-select tracks (if supported by DAW).
- **Option+Track selection buttons** - Stop the playing clip on the specific track.
- **Control+Track selection buttons** - Open/close the group folder if the track is a group.
- **Alt+Track selection buttons** - Set the length of a new clip.
- **Send (MCU MODE SENDS)+Track selection buttons** - Select the send channel 1-8.
- **Shift+Solo** - Toggle auto monitor
- **Shift+Mute** - Toggle monitor
- **8 faders** (MCU FADER_TOUCH1-8) - Change volume of selected 8 tracks. Touching a fader automatically selects the track.
- **Master fader** (MCU FADER MASTER) - Change volume of master fader. Touching the fader selects the master track.
- **Press knob** (MCU VSELECT1-8) - Resets the current parameter to its default value. It can be combined with modifier keys: **SHIFT** - set parameter to center value, **CONTROL** - set parameter to minimum, **ALT** - set parameter to maximum. **OPTION** - of the knob controls a send level it toggles the send on/off.
- **< BANK** (MCU BANK LEFT) - Move track bank focus 8 track up, except in device mode (see below).
- **BANK >** (MCU BANK RIGHT) - Move track bank focus 8 track down, except in device mode (see below).
- **Option+BANK left/right** - Moves the selected device to the left/right, except in device mode (see below).
- **< CHANNEL** (MCU TRACK LEFT) - Move track bank focus 1 tracks up, except in device mode (see below).
- **CHANNEL >** (MCU TRACK RIGHT) - Move track bank focus 1 tracks down, except in device mode (see below).
- **Option+CHANNEL left/right** - Moves the selected track to the left/right.

Track edit mode (tr)

Press *Track* to enter or press *Pan* twice.

- **8 knobs** - Change the volume, panorama, crossfader and Send 1-5 of the selected track. Hold **Shift** for fine adjustments.
- You can configure in the preferences that the crossfader option is hidden and you get 6 sends instead.

Volume edit mode (Vl)

Press *Track* twice to enter.

- **8 knobs** - Change the volume of that channel. Hold **Shift** for fine adjustments.

Panorama edit mode (Pn)

Press *Pan* to enter.

- **8 knobs** - Change the panorama of that channel. Hold **Shift** for fine adjustments.

Send 1 - 8 edit mode (S1, S2, . . .)

Press *Send* to enter. Press multiple times to select the Send channels 1 to 8. Use in combination with the **Track select** buttons to select the respective Send channel 1-8.

- **8 knobs** - Change the volume of send of that channel. Hold **Shift** for fine adjustments.

Layer / Drum Pad Edit Modes

Layers and drum pads can be edited (Volume, Pan, Sends, Mute, Solo). Press Select on the already selected track containing the instrument with the layers/drum pads on the top level to enter. Use Mode buttons to select the different layer modes. Long press any of the Select buttons to leave layers mode.

Master edit mode (Nt)

Touch the master fader to enter

- **1st knob** - Change the master volume. Press to reset.
- **2nd knob** - Change the master panorama. Press to reset.
- **knob 3-5** - Press to toggle the audio engine on/off for this project
- **7th knob** - Press to switch to the previous project.
- **8th knob** - Press to switch to the next project.

Device edit mode (dC)

- **Device Knobs 1-8** - Change the currently selected 8 device parameters.
- **< BANK** (MCU BANK LEFT) - Selects the previous device.
- **BANK >** (MCU BANK RIGHT) - Selects the next device.
- **< CHANNEL** (MCU TRACK LEFT) - Selects the previous parameter page.
- **CHANNEL >** (MCU TRACK RIGHT) - Selects the next parameter page.

Keep the Control button pressed to show the devices on the selected track. Press the respective knob to select the device for editing. Keep the Option button pressed to show the parameter pages of the selected device. Press the respective knob to select the page for editing.

Equalizer edit mode (E9)

Works like the Device edit mode but for the equalizer device on the track (Bitwig: EQ+, Reaper: ReaEQ). When the EQ mode is active and a track is selected which does not yet have an equalizer device, one is automatically added.

Project/Track Parameter edit mode (uS)

- **Shift+Device** (MCU DEVICE, PLUG-IN) - Toggles between project/track parameters.
- **Device Knobs 1-8** - Change the currently selected 8 parameters.

Browser mode (Br)

- Press the *Browser* button (MCU USER) to start.
- Navigate columns with the *Track Control knobs*.
- Click the knobs to enter a filter or the results. Click again to confirm.
- To confirm a patch or device selection and close the Browser press the *Browser* or *Enter* button.
- To discard the patch selection press the *Cancel* button or *Shift+Browser*.
- **Arrow up**: Switches to the previous browser tab (if any).
- **Arrow down**: Switches to the next browser tab (if any).
- **Arrow left**: Switch to insert a device before the currently selected device (if any).
- **Arrow right**: Switch to insert a device after the currently selected device (if any).
- **Zoom**: Switch to replace the currently selected device (if any).
- **Jog Wheel** - Scroll the results.

Marker mode (Mr)

- Press the *Marker* button to start. If you do not have a marker button you can assign this command to a function button.
- Click the knobs to start the playback from a marker position.

Foot switches

- **Footswitch 1** (MCU USER A) - Function be assigned in the settings dialog (see below).
- **Footswitch 2** (MCU USER B) - Function be assigned in the settings dialog (see below).

Preferences Settings

You can set several preferences which are stored when you exit the DAW. These are global settings and not specific to projects.

Hardware Setup

- Profile: This list contains some presets to setup the following hardware settings. If one of the controllers from the list is connected select the according entry from the list. Note: this menu will not(!) stay on the selected entry which is correct. It is only for configuring the following parameters.
- Main display: Enable if the MCU compatible controller has a (main) display. Choose the 7 characters option (instead of 6 characters and a blank) for devices which do not have one large display but 8 separate ones which have a space in between already.
- Has a second display: Enable if the controller has a second display, which supports specific protocols of Asparion or iCON.
- Has a segment display: Enable if the MCU compatible controller has an additional segment display (for play position and tempo).
- Has an assignment display: Enable if the MCU compatible controller has an additional assignment display (to display to current mode).
- Has motor faders: Enable if the MCU compatible controller has motor faders.
- Has only 1 fader: Enables a specific handling of banks to support controllers with only 1 fader
- Display track names in 1st display: If enabled to 1st row of the 1st display the track names instead of the mode labels.
- Use vertical zoom to change modes: If enabled, the up/down arrow keys in zoom mode can be used to select the different parameter modes.
- Use faders like editing knobs: If enabled, the faders execute the same functions as the knobs. Handy for e.g. recording automation data.
- VU meters: Enable if the MCU compatible controller supports the display of VU values (select Mackie). Specific support for additional Asparion and iCON features.
- Always send VU Meters: Always send VU meter updates to the controller, even if the value did not change. Enable if your controller deactivates VU meters after a while when the value is the same.
- Display colors (Behringer X-Touch): Enables the display back-light colors on the Behringer X-Touch and X-Touch Extender models.

Extender Setup

Select the type of the MCU compatible controller. The number of slots depends on which extension is chosen. Select *Main* for the main device, this enables the master fader as well as all additional commands like transport control. Select *Extender* if the device is an extender which uses the same MCU protocol as the main device. Select *MCU Extender* if the extender uses the original Mackie MCU extender protocol. It is possible to select multiple main devices. Changing these settings requires a restart of the extension.

Segment Display

- Display time or beats: If a segment display is present, selects to display time or beats (measures) of the play position.
- Display tempo or ticks: Select what to display with the last 3 digits

Tracks

- Include FX and master tracks in track bank: If enabled, all tracks are included in the track bank. Handy if the controller misses a master track or has no button to toggle between track banks.
- Pin FX tracks to last device: If enabled the FX track bank is created with a page of 8 FX tracks and is always displayed on the last (right most) controller. The page size of the instrument/audio track bank is reduced accordingly.
- Track navigation: If *flat* is selected all tracks are shown at once. Otherwise if *hierarchical* is selected only folders are shown. Press the select button of the track again to enter a group/folder. Long press the select button of any track to leave the group/folder.

Assignable buttons

- Footswitch 1/2: Select a function to execute when the first/second footswitch is pressed
- F1-F5: Select a function to execute when the respective function key is pressed

The available functions should be self-explanatory, except:

- *Clip Based Looper*: this uses the currently selected MIDI clip slot. If it is empty, a new clip is created (uses the *New Clip Length* setting) and playback is started. As long as the footswitch is pressed overdub is activated. If the footswitch is released overdub is deactivated.
- *Action*: if selected as the function, the field below allows to select the action to execute.

Transport

- Behaviour on Stop: Sets the action to be executed when playback is stopped with the Stop button
- Behaviour on Pause: Sets the action to be executed when playback is stopped with the Play button
- Flip arranger and clip record / automation: if enabled, the functionality of the Record and Automation button when used with Shift is flipped with the function when not using Shift. Enable this if you tend to work more in the Clip Launcher than the Arranger.

Play and Sequence

- Quantize Amount: The amount of quantization to use when Quantize is executed. 100% aligns all notes fully to the grid.

Workflow

- Exclude deactivated items: If active, deactivated items like tracks will not be displayed on the controller. This cleans up the displayed banks but also prevents the options to activate a deactivated item from the controller.
- New clip length: The length of a clip created with the New function.
- Zoom: If enabled, arrow keys are used for zooming in the arranger.
- Select Channel on Fader Touch: The channel to which the touched fader belongs is selected if this option is enabled.
- Activate Volume mode on Fader Touch: If enabled the volume mode is temporarily enabled until the fader is no longer touched.
- Knob Sensitivity Default: Negative values slow the knobs changes down, positive values speed them up
- Knob Sensitivity Slow: Negative values slow the knobs changes down, positive values speed them up

Browser

- Options to hide filter columns which are not used to easier spot the relevant ones

Midi Monitor

Displays all midi information of the selected input device in the logging area of the extension console.

Installation

The *Midi Monitor* extension needs to be added manually. Open the controller settings and click on *Add controller*, select *Utilities*, and then *Midi Monitor* from the list.

Preferences Settings

You can set several preferences which are stored when you exit the DAW. These are global settings and not specific to projects.

Filter

- System Realtime: Filters System Realtime commands from the logging if enabled.

Native Instruments Komplete Kontrol 1 S25, S49, S61, S88

Provides support for the Native Instruments Komplete Kontrol controller Version 1.

Installation

Important: This implementation accesses the device directly via USB. This has several advantages but also disadvantages. On the positive side, you get useful information in the display, e.g. you can see track and parameter names and it works on Linux. On the negative side, the Komplete Kontrol integration cannot be used.

The device cannot be auto-detected and needs to be manually added. From the controller menu select *Native Instruments* and then *Komplete Kontrol Sxx MkI*, where xx is the number of keys of your specific device (25, 49, 61 or 88). As MIDI input select the *normal* Komplete Kontrol input (not the external (EXT) and not the DAW (DAW) one). For the USB port there should only be one option show up, select that one. If none shows up, there is an issue with the USB detection. In that case, try disabling the NI service and/or try different USB ports and cables. Explaining how to disable the NI hardware integration service would lead too far in this manual, search the web for a tutorial how to disable a system service on your OS.

Installation on Linux

Accessing USB requires root access. To run the Application as a normal user copy the file `99-userusbdevices.rules` to the folder `/etc/udev/rules.d/`. It gives the group **audio** access to the controller. Make sure that your user is a member of that group and the group does exist. A more in-depth explanation can be found here. After you have copied the file reboot your computer.

Global

- **SHIFT** - Use in combination with other buttons for additional functionality.
- **SCALE** - Activates the currently configured scale. The scale is only indicated by the LEDs above the keys, the keys always behave the same.
- **SHIFT+SCALE** - Enter scale configuration mode.
- **ARP** - Toggle Metronome.
- **SHIFT+ARP** - Toggle metronome ticks.
- **SHIFT+MAIN ENCODER** - Changes the volume of the master track.

Transport buttons

- **LOOP** - Toggle repeat
- **RWD (Rewind)** - Rewinds play cursor position until released.
- **SHIFT+RWD (Rewind)** - Slowly rewinds play cursor position until released.
- **FFW (Forward)** - Forwards play cursor position until released.
- **SHIFT+FFW (Forward)** - Slowly forwards play cursor position until released.
- **PLAY** - Start/Stop playback. Double click to move play cursor to start of song. You can configure the behaviour on stop in the preferences.
- **SHIFT+PLAY** - Create new clip, start playback and activate overdub
- **REC (Record)** - Start/Stop recording
- **SHIFT+REC** - Toggle launcher overdub
- **STOP** - Stop playback. Press again to move the playback cursor to the start of the arranger. Double click to move play cursor to the end of the song.

Use the page left and right buttons to switch modes.

Track mode

- Controls the volume, panorama and effect sends of the selected track.

- The most left display shows the name and the number of the selected track.
- Use the knobs to change a value.
- Change the selected track by 1 with the cursor left and right buttons or use the main encoder.
- Change the selected track by 8 with the cursor up and down buttons.
- **BACK** - Toggles mute on the selected track.
- **SHIFT+BACK** - Toggles monitor on the selected track.
- **ENTER** - Toggles solo on the selected track.
- **SHIFT+ENTER** - Toggles rec arm on the selected track.
- **MAIN ENCODER** - Toggles between instrument/audio bank and effect bank.

Volume mode

- Controls the volume of the displayed tracks.
- The most left display displays the number of the first and last displayed track.
- Use the knobs to change a volume.
- All other knobs and buttons behave like in the Track mode.

Device/Parameter Mode

- Controls the parameters of the currently selected device.
- The most left display displays the name of the selected device and the name of the selected parameter bank.
- Use the knobs to change a value.
- Change the parameter bank with the cursor left and right buttons or use the main encoder.
- Change to the next/previous device with the cursor up and down buttons.
- **BACK** - Toggles the on/off state of the device
- **ENTER** - Toggles the visibility of the parameters
- **MAIN ENCODER** - Toggles the display of the device window (if any) of the device

Browser Mode

Press the **BROWSE** button to open the browser for the selected device. If no device is selected the browser is opened to insert a new device on the selected track. Press **SHIFT+BROWSE** to insert a new device before the selected one.

- Use the main encoder to change the selection. Click the main encoder to display 16 items to select from. Click again to close.
- The first 7 columns display the filters. Touch a knob above a filter to select it. Use the main encoder to change the filter selection. Click the main encoder or touch any of the knobs to close the filter selection.
- **BROWSER** / **ENTER** - Commits/accepts the new selection and closes the browser
- **SHIFT+BROWSER** / **BACK** - Cancels the new selection and closes the browser
- Cursor left/right switches to the next / previous browser tab

Scale Mode

Press **SHIFT+SCALE** button to enter the configuration mode for the current scale. Press again to close this mode. The scale is only indicated by the LEDs above the keys, the keys always behave the same.

- Use the knobs above the parameters to change their value.
- Use the cursor left and right buttons or the main encoder to change the scale.
- Use the cursor up and down to change the base note.
- **BACK** - Closes the scale mode
- **ENTER** - Closes the scale mode

Preferences Settings

You can set several preferences which are stored when you exit the DAW. These are global settings and not specific to projects.

Transport

- Behaviour on Stop: Sets the action to be executed when playback is stopped with the Stop button
- Behaviour on Pause: Sets the action to be executed when playback is stopped with the Play button
- Flip arranger and clip record / automation: if enabled, the functionality of the Record and Automation button when used with Shift is flipped with the function when not using Shift. Enable this if you tend to work more in the Clip Launcher than the Arranger.

Workflow

- Exclude deactivated items: If active, deactivated items like tracks will not be displayed on the controller. This cleans up the displayed banks but also prevents the options to activate a deactivated item from the controller.
- VU meters: The display of VU meters can be disabled with this option
- Knob Sensitivity Default: Negative values slow the knobs changes down, positive values speed them up
- Knob Sensitivity Slow: Negative values slow the knobs changes down, positive values speed them up

Document Settings

These settings are specific to each project.

Scales

- Is active: Turn the light guide scale on/off
- Scale: Select the scale
- Base: Select the base note of the scale

Native Instruments Komplete Kontrol 2/3 S49, S61, S88, Komplete Kontrol A49, A61, M32

Support for Native Instruments Komplete Kontrol controllers, which use the NI Host Integration protocol.

Since Native Instruments Host Integration service is only available for Windows and Macos, **Linux is not supported** for all devices except Kontrol 3 keyboards.

Installation

Native Instruments Host Integration service must be installed and running. It is automatically the case if you installed Komplete Kontrol on your machine.

Important - Bitwig: to make the selection of the Kontrol/Kontakt plugins work reliably, the Bitwig *Plug-in Hosting Mode* must NOT be set to *Individually*! **Important - Reaper**: the selection of the Kontrol/Kontakt plugins are based on their name, therefore do not rename them!

1. Select the MIDI input and output ending with "DAW" as the first channel.
2. Select the MIDI input and output without an ending as the second.

Transport

- **PLAY**: Starts/pauses (depends on setting, see below) playback. Double click to move the play cursor to the beginning of the project.
- **SHIFT+PLAY**: Triggers the *New* function which creates a new MIDI clip in the arranger, activates overdub and starts playback.
- **REC**: Starts recording in the arranger (depends on setting, see below).
- **SHIFT+REC**: Triggers the *New* function and enables automation (depends on setting, see below).
- **STOP**: Stops playback (depends on setting, see below). Double click to move the play cursor to the end of the project.
- **LOOP**: Toggles the arranger loop on/off.
- **LOOP+Turn Encoder**: Change the Loop start in the arranger.
- **SHIFT+LOOP+Turn Encoder (only Mk3)**: Change the Loop end in the arranger.
- **METRO**: Toggles the metronome on/off.
- **TEMPO** (**SHIFT+METRO** on Mk3): Tap tempo. **only Mk3:** SHIFT+METRO activates the tempo mode which shows the tempo in the display. Turn the main encoder to change the tempo value. Combine with Shift for changing the fractions.
- **AUTO**: Toggles arranger automation on/off.
- **SHIFT+AUTO (only Mk3)**: Toggle clip automation recording.
- **QUANTIZE**: Quantizes the selected clip.
- **SHIFT+QUANTIZE (only Mk3)**: Switches the options for recording quantize.
- **UNDO**: Undoes the last action.
- **REDO**: Redoes the last undone action.

Edit modes

A-series and Kontrol 2

To enter the edit modes press the following button:

- Komplete Kontrol A49, A61, M32: **TRACK** button
- Komplete Kontrol 2 S49, S61, S88: **MIXER** button

The implementation of Native Instruments only foresees a simple volume mode which allows to change volume and panorama. This implementation gives you access to additional modes for editing parameters and sends.

Modes can be changed with in the following ways:

- Komplete Kontrol A49, A61, M32: **SHIFT+STOP** buttons.
- Komplete Kontrol 2 S49, S61, S88: **CLEAR** button.

Kontrol Mk3 (API v4)

Firmware v2 of Kontrol 3 introduces a native plug-in edit mode but this implementation adds even more functionality to it:

- a layer mixer
- access to track and project parameter pages
- access to the browser

Press the **DAW** button multiple times to toggle between the following modes:

- Volume
- Sends
- Layer Volume

Press the **PLUG-IN** button multiple times to toggle between the following modes:

- Parameters (either of a top level device or a device in a layer depending on the last active DAW mode)
- Track Parameters
- Project Parameters

In all modes, hold the **SHIFT** button to make slower changes of values.

Volume mode

- **8 knobs**: Change the volume of the track.
- **Page left/right**: Select the previous/next track page.
- Main Encoder
  - **Press**: Starts the selected clips. *Bitwig*: The clip release features cannot be used since pressing the encoder only sends a pressed and no release event.
  - **Turn**: Moves the play cursor in the arranger.
  - **SHIFT+Turn (only Mk3)**: Zoom in/out in the Arranger.
  - **Push up/down/left/right**: Selects the previous/next track/clip depending on the settings (see below).
- Komplete Kontrol A49, A61, M32
  - **SHIFT+8 knobs**: Change the panorama.
  - **Touch 8 knobs**: Select the track.
  - **SHIFT+Page left**: Un-/mute the selected track.
  - **SHIFT+Page right**: Un-/solo the selected track.
- Komplete Kontrol 2 S49, S61, S88
  - **SHIFT+Push main encoder up/down**: Toggle between editing volume/panorama with the 8 knobs.
  - **8 buttons**: Select the track.
  - **MUTE+8 buttons**: Un-/mute the track.
  - **SOLO+8 buttons**: Un-/solo the track.
- Komplete Kontrol 3 S49, S61, S88
  - **Push main encoder up/down**: Toggle between editing volume/panorama with the 8 knobs.
  - **8 buttons**: Un-/mute the track.
  - **SHIFT+8 buttons**: Un-/solo the track.

Send mode

This mode controls 8 sends of the currently selected track.

- The volume and pan display represents the value of each send.
- The knobs below the display change the send values (both in volume and pan mode).

- The page left/right buttons switch between the sends 1-8 and 9-16 of the channel.
- The encoder left/right/up/down switch between the sends 1-8 and 9-16 of the channel as well.
- Select/Mute/Solo buttons always control the tracks.

Layer mode

This mode is identical to the Volume mode but for the layers of a device (e.g. the Drum Machine).

Device parameters mode (A-series and Kontrol Mk2)

This mode controls parameters.

- The volume and pan values represent the value of each parameter.
- The knobs below the display changes the parameter values (both in volume and pan mode).
- The page left/right buttons switch between the parameter pages of the selected device (buttons do not work on A/M-series).
- The encoder up/down switch between the 3-submodes: cursor device, track and project parameters.
- The encoder left/right switch between the devices of the channel.
- Pressing the encoder toggles the window of the selected device (if any).
- Select/Mute/Solo buttons always control the tracks.

Device/Track/Project parameters mode (Kontrol Mk3)

This mode controls device parameters. If a supported NI-plugin is loaded (Komplete, Kontakt 7/8) a special NKS2 mode is active instead! **Note: Since the special NKS mode is not notified, device and track modes cannot be changed when a NKS device is selected!**

If the Volume mode was active the selected device of the currently selected channel is edited. If the Layer mode was active the selected device of the active layer is edited.

- The knobs below the display change the parameter values.
- The page left/right buttons switch between the parameter pages of the selected device.
- The buttons above the display select the devices 1-8 (if you need more than 8 you are doing something wrong ;-))
- Pressing the encoder toggles the window of the selected device (if any).

The Browser

The Mk2 has only very limited browser support since the SHIFT, PREVIOUS and NEXT buttons cannot be used. On Mk2 the browser needs to be opened manually in the DAW.

To open the browser (only Mk3):

- Press the **PREVIOUS** or **NEXT** button to open the browser to select a preset for the selected device.
- Press **SHIFT+NEXT** to open the browser to insert a device after the selected device.
- Press **SHIFT+PREVIOUS** to open the browser to insert a device before the selected device.

When the browser is open:

- Turn the main encoder to select the previous/next preset.
- Alternatively, press the **PREVIOUS** / **NEXT** buttons (only Mk3).
- Select different categories by holding SHIFT and turning the main encoder (only Mk3).
- Press the main encoder to confirm the selection.
- Since SHIFT cannot be combined with pressing the main encoder, use **SHIFT+PREVIOUS or NEXT** instead to cancel the selection (only Mk3).

Preferences Settings

You can set several preferences which are stored when you exit the DAW. These are global settings and not specific to projects.

Hardware Setup

- Device Background (only Mk3): Select the background for the plug-in mode.

Transport

- Behaviour on Stop: Sets the action to be executed when playback is stopped with the Stop button.
- Behaviour on Pause: Sets the action to be executed when playback is stopped with the Play button.
- Record button: Select the function of the record button.
- Shift + Record button: Select the function of the record button when used in combination with the Shift key.

Navigation

- Flip track/clip navigation: Flips the direction (previous/next) if enabled.
- Flip clip/scene navigation: Flips the direction (previous/next) if enabled.

Workflow

- Exclude deactivated items: If active, deactivated items like tracks will not be displayed on the controller. This cleans up the displayed banks but also prevents the options to activate a deactivated item from the controller.
- New clip length: The length of a clip created with the New function.
- Knob Speed Normal: Adjust the speed of the knobs.
- Knob Speed Slow: Adjust the speed of the knobs when used with Shift for fine adjustments.

Native Instruments Maschine Jam

Support for Native Instruments Maschine Jam.

Since the extension requires the Native Instruments Host Integration service it **only works on Windows and Mac (no Linux)**.

Installation

Load the respective template from the folder *resources/Maschine Jam* into the device by using Native Instruments Controller Editor.

Important notes

This extension uses the MIDI mode of the device. Press **SHIFT+HEADPHONES (MIDI)** buttons to enter MIDI mode.

Global

- **SONG** - Changes the representation of the Clip Launcher on Maschine JAM's 8x8 click-pad matrix between vertical (default) and horizontal views. *Long press* to enter birds-eye-view. This allows to quickly navigate the clips in blocks of 8.
- **STEP** - Activates the Sequencer Mode.
- **PAD MODE** - Activates the Play Mode.
- **SHIFT+SONG** - Toggles between Arrange Panel View and Mix Panel View.
- **AUTO** - Toggle write arranger automation.
- **SHIFT+AUTO** - Toggle write clip launcher automation.
- **SELECT+AUTO** - Press multiple times to select different automation modes.
- **SHIFT+SWING** - Toggle the shuffle rate.
- **SELECT+SWING** - Toggle groove on/off.
- **NOTE REPEAT** - Toggle Note repeat.
- **SHIFT+NOTE REPEAT** (or long press) - Opens the configuration mode. The first two colored columns control the repeat interval and the other two columns the note length. The bottom row sets the octave range of the note repeat arpeggiator. The two green buttons select the different arpeggiator modes. Press Note Repeat again to close the configuration.
- **SELECT+NOTE REPEAT** - Toggle Fill Mode.
- **CLEAR** - Use in combination with other buttons to delete a scene (scene buttons), clip (a pad in session mode) or track (group buttons).
- **DUPLICATE** - Combine with a scene pad (duplicate scene) or a group button (duplicate track). To copy clips in session mode keep the Duplicate button pressed; choose the source clip (it must be a clip with content, you can still select a different clip as the source); select the destination clip (this must be an empty clip, which can also be on a different track); release the Duplicate button.
- **SHIFT+DUPLICATE** - Duplicate (double) the content of the currently selected clip (not the clip itself).

Transport

- **PLAY** - Start/Stop playback. Double click to move play cursor to the start of song.
- **SHIFT+PLAY** (RESTART) - Start playback from beginning of song.
- **SELECT+PLAY** - Toggle punch in.
- **SELECT+SHIFT+PLAY** - Toggle punch out.
- **REC** - The function can be configured in the settings (Transport -> Record button).
- **SHIFT+RECORD** - The function can be configured in the settings (Transport -> Shift + Record button).
- **SHIFT+PAGE LEFT** - Toggle the metronome.

- **SHIFT+PAGE RIGHT** - Toggle transport loop.
- **SHIFT+TEMPO** - Tap Tempo.
- **GRID** - Quantize the selected clip.
- **SHIFT+GRID** - Press multiple times to select the next record quantization mode.
- **SELECT+GRID** - Press multiple times to select the previous record quantization mode.
- **SHIFT+SOLO** - Press multiple times to select the next length for a new clip.
- **SELECT+SOLO** - Clears Solo on all tracks.
- **SHIFT+MUTE** - Stops all playing clips (playback continues).
- **SELECT+MUTE** - Clears Mute on all tracks.

Smart Strip Modes

These buttons activate different modes for the 8 smart strips:

- **MACRO** - Controls the parameters of the selected track: Volume, Panorama, Sends 1-6. Volume and pan is displayed in the track color, the sends in white.
- **LEVEL** - Toggles between Volume and Panorama editing of 8 tracks. If Volume is active and playback is started the VU of the tracks is displayed as well. All strips are lit in their tracks' color.
- **AUX** - Edit a specific send for all tracks. Press multiple times to step through up to 8 sends. Press AUX in combination with one of the group buttons A-H to quickly select a send. The sends are lit in white.
- **SHIFT+AUX** - Toggles between instrument/audio and effect tracks.
- **CONTROL** - Toggles between editing remote control parameters (colored) and project (all white)/track (all amber) parameters. Use *PAGE LEFT* and *PAGE RIGHT* to switch the remote control pages.
- **SELECT+CONTROL** - Toggles between project/track parameters.
- **SHIFT+CONTROL** - Toggles the windows of the selected device, if it has one.

The following button combinations are available:

- **SELECT+MACRO**: Add an instrument channel.
- **SELECT+LEVEL**: Add an audio channel.
- **SELECT+AUX**: Add an effect channel.

Group Buttons (A-H)

The **group buttons (A-H)** select the tracks in the current page of the track bank. Selecting an already selected group (folder) track toggles its' expanded state.

They can be used with the following button combinations:

- **REC** - Toggle rec arm of the track.
- **SOLO** - Toggle solo of the track.
- **MUTE** - Toggle mute of the track.
- **CLEAR** - Delete the track.
- **DUPLICATE** - Duplicate the track.
- **GRID** - Set the sequencer resolution.

Encoder modes

The main mode of the encoder knob is set with the four buttons above the encoder. Furthermore, additional modes can be activated in combination with other buttons.

The level meter displays the VU of the master track except when GRP is selected then the VU of the selected track is displayed.

- **MST** - Activates changing the volume of the master track.
- **GRP** - Activates changing the play position.
- **IN1** - Activates changing the metronome volume.

- **HEADPHONE** - Activates changing the cue volume.

Press the encoder button to toggle to the 2nd order functions:

- **MST** - Activates changing the panorama of the master track.
- **GRP** - Activates changing the loop start position. Hold **SELECT** to change the loop length.
- **IN1** - Activates changing the metronome volume.
- **HEADPHONE** - Activates changing the cue mix.

Use the encoder in combination with **SHIFT** for slower changes.

Additional button combinations:

- **TEMPO** - Changes the tempo.
- **GRID** - Moves the play position in the arranger.
- **SWING** - Change the shuffle amount.

Browser

- **BROWSE** - Opens the browser on the current device. If there is no device the browser is opened to insert a new device. If the browser is active, the browser is closed and the selection is accepted. Use in combination with a pad in Clip Mode to open the browser to load a clip.
- **Encoder turn** - Changes the selection of the results.
- **Shift+Encoder turn** - Changes the selected browser tab.
- **Select+Encoder turn** - Switch from replacing the current device to inserting a new device before or after it.
- Press the Encoder to confirm your selection and close the browser.
- Press the browse button to discard your selection and close the browser.

The grid pads provide further features:

- The first 6 columns relate to the first 6 columns of the preset browser.
- The 8th column (yellow) relates to the result (preset or device) column of the browser.
- The 1st row moves the selection up by 1.
- The 2nd row moves the selection up by 8.
- The 3rd row moves the selection down by 8.
- The 4th row moves the selection down by 1.
- The red button dismisses the new preset or device selection and closes the browser.
- The green button confirms the new preset or device selection and closes the browser.
- The orange buttons at the bottom are for previewing presets of instrument devices.

Pad Modes

- **Scene Buttons** - The 8 scene buttons on the top always start the related scene no matter which pad mode is active.
- **SELECT+Scene** - Select the scene without starting it.
- **SHIFT+Scene** - Creates a new scene from the playing clips.
- **CLEAR+Scene** - Delete the scene.
- **LOCK** - Dis-/enables the velocity setting. Keep lock pressed to show and change the velocity options.

Session Mode

Press *"Song"* to enter **Session** mode. Press again to toggle the clip orientation (vertical or horizontal). *Long press* to enter birds-eye-view. This allows to quickly navigate the clips in blocks of 8.

- **PAD** - The pads on the grid start/record the clips. This depends on the clip launch and launch release settings (Bitwig only).
- **SHIFT+PAD** - Execute the alternative action of the clip (Bitwig only).
- **SELECT+PAD** - Selects the clip.

- **CLEAR+PAD** - Delete the clip.
- **DUPLICATE** - To duplicate a clip keep the duplicate button pressed; choose the source clip (it must be a clip with content, you can still select a different clip with content); select the destination clip (this must be an empty clip, which can also be on a different track); release the Duplicate button.
- **MUTE+PAD** - Select any clip of the track to stop playback of the playing clip of the track.
- **MUTE+SELECT+PAD** - Select any clip of the track to execute the alternative stop function (Bitwig only).
- **GRID+PAD** - Returns to the playback of the arrangement for that track.
- **BROWSE+PAD** - Browse for clips.
- The arrow keys scroll the grid by blocks of 8 tracks/scenes. Hold **Shift** to only scroll 1 track/scene. The keys respect the session flip state.

Play Modes

Note Mode

Keep **PAD MODE** pressed and press **Scene 1** to activate.

- Arrow keys up/down change the note range (transposition).
- Arrow keys left/right change the layout in play view.

Keep one of the following buttons pressed and turn the encoder to change a scale option:

- **PERFORM** - Change the scale.
- **NOTES** - Change the base note of the scale.
- **LOCK** - Toggle chromatic mode.
- **TUNE** - Changes the octave offset.

Chords Mode

Keep **PAD MODE** pressed and press **Scene 2** to activate.

This mode allows to play a chord by pressing a single pad. The base note is taken from the current scale and increases from left to right. The same octave, scale and base note settings apply as with the play mode. The rows from bottom to top contain the following chords:

- Triads,
- Dyads (Power chords),
- Suspended second (Sus2),
- Suspended fourth (Sus4),
- Add sixth (6),
- Major seventh chord (maj7),
- Add ninth (9),
- Add eleventh (11).

Other functions are identical to the Play view.

Piano Mode

Keep **PAD MODE** pressed and press **Scene 3** to activate.

- Arranges the pads like a classic piano keyboard.
- The white lit pads are the white keys.
- The pads lit in the color of the track are the black keys.
- You get 4 octaves to play with.
- Other functions are identical to the Play view.

Drum 64 play mode

Keep **PAD MODE** pressed and press **Scene 4** to activate.

This mode gives you 64 pads for playing a drum device. The 16 pads in the left lower area are the same as in the drum sequencer mode.

Sequencers

- Arrow keys up/down change the note range (transposition).
- Arrow keys left/right change the selected page in sequencers.
- Select+Pad enables and increases note repeat by 1.
- **MUTE+Pad** in step sequencer toggles the mute state of the note. A muted note is lit in gray.

Note Sequencer

Keep **STEP** pressed and press **Scene 1** to activate.

- The pads of the top row represent the pages of the clip. Green indicates the page currently played. Blue is the page selected for editing. Press one of the pads to select it for editing. Keep one of the pads pressed and press another one to change the loop.
- The other pads display an 8x7 view of the selected clips note grid.
- The rows represent the notes of the selected scale.

The **PERFORM**, **NOTES**, **LOCK** and **TUNE** buttons have the same functions as in the *Play Mode*.

Poly Sequencer

Keep **STEP** pressed and press **Scene 2** to activate.

- The lower half displays the playable notes like in the Note Mode.
- Play one or more notes in that area.
- Create a step (or more) in the upper part by pressing a pad. The step will contain the last notes you played in the lower part.

Raindrop sequencer

Keep **STEP** pressed and press **Scene 3** to activate.

- The lowest row displays the playable notes.
- The row above a note starts a raindrop.
- If the raindrop reaches the note it sounds.
- Use Shift+Octave Up/Down to transpose by 1 step. Select+Octave transposes in 12 steps.

Drum Mode

Keep **STEP** pressed and press **Scene 4** to activate.

- The drum sequencer works as described in the Ableton Push manual.
- Hold *Delete* + Drumpad to delete the midi notes of the current clip on that 'pad'.
- To make the display of mute/solo/exists states work, the primary device needs to be the drum machine (which is normally the case).
- The Drumpads use the colors set in the drum machine for each pad.
- **LOCK** - Dis-/enables the velocity setting. Replaces the loop area if enabled.

Keep one of the following buttons pressed and turn the encoder to change additional options:

- **PERFORM** - None.
- **NOTES** - None.
- **LOCK** - None.

- **TUNE** - Changes the play offset.

Drum 4 and Drum 8 sequencer

Keep **STEP** pressed and press **Scene 5/6** to activate.

These drum sequencers show 4 or 8 drum sounds for sequencing. Use the Page buttons to move in the clip.

Shift Mode

Press and release the *Shift* button to activate.

- **Stop+Pad 1 (UNDO)** - Undo
- **Stop+Pad 2 (REDO)** - Redo
- **Stop+Pad 3 (QUAN)** - Quantize the selected MIDI 100%
- **Stop+Pad 4 (QUAN 50%)** - Quantize the selected MIDI 50%
- **Stop+Pad 5 (SEMI-)** - Transpose the selected MIDI clip a semitone down
- **Stop+Pad 6 (SEMI+)** - Transpose the selected MIDI clip a semitone up
- **Stop+Pad 7 (OCT-)** - Transpose the selected MIDI clip an octave down
- **Stop+Pad 8 (OCT+)** - Transpose the selected MIDI clip an octave up

Preferences Settings

You can set several preferences which are stored when you exit the DAW. These are global settings and not specific to projects.

Transport

- Record button: Set the function for the record button.
- Shift + Record button: Set the function for the record button used in combination with Shift.
- Behaviour on Pause: Sets the action to be executed when playback is stopped with the Play button.

Play and Sequence

- Quantize Amount: The amount of quantization to use when Quantize is executed. 100% aligns all notes fully to the grid.
- Startup view: The view that should be selected on startup.
- Start with session view: Enables the session view on startup if active otherwise the default note view is displayed.
- Turn off scale pads: Activate to turn off the pads which are not the root note (instead of being white).
- Notify played chords: Displays the played chords or notes if enabled.

Session

- Select clip/scene on launch: If a clip/scene is started from the controller and this setting is off the clip/scene will not be selected. Use if you edit another clip and want not to change the focus.
- Action for pressing rec armed empty clip: what should happen if you press an empty clip in the session mode.
- Display clips of record enabled tracks in red: if enabled, in the session view for record enabled tracks the empty pads are displayed in red.
- Flip Session: Toggle the session modes' orientation horizontal or vertical.

Workflow

- Exclude deactivated items: If active, deactivated items like tracks will not be displayed on the controller. This cleans up the displayed banks but also prevents the options to activate a deactivated item from the controller.

- New clip length: The length of a clip created with the New function.
- Knob Sensitivity Default: Negative values slow the knobs changes down, positive values speed them up.
- Knob Sensitivity Slow: Negative values slow the knobs changes down, positive values speed them up.
- Footswitch settings: The Maschine Jam supports 2 footswitches. Since there is only 1 stereo connector, a double footswitch like a Boss FS-6 needs to be used. Select the function you want to assign to a footswitch from the drop down lists. The available functions should be self-explanatory, except *Clip Based Looper*: this uses the currently selected MIDI clip slot. If it is empty, a new clip is created (depending on the *New clip length* setting above) and playback is started. As long as the footswitch is pressed overdub is activated. If the footswitch is released overdub is deactivated.

Drum Sequencer

- Turn off empty drum pads: Empty drum cells are displayed in gray. If enabled the pad LEDs are off.

Document Settings

These settings are specific to each project.

Scales

- Scale: Select the scale.
- Base: Select the base note of the scale.
- In Key: Select *Chromatic* to also display notes which are not part of the scale.
- Layout: Select the layout of the scale for the Play mode. The numbers are the offsets between the rows of the grid. The arrows depict the direction from lower to higher notes: left to right or bottom to top.

Note Repeat

- Active: Enable note repeat.
- Period: The repeat rate of the note repeat.
- Length: The length of a repeated note.
- Mode: The arpeggiator mode.
- Octave: The octave range which is used by the arpeggiator.

Native Instruments Maschine Mk2 / Mk3 / Maschine+ / Studio

Support for Native Instruments Maschine Mk2, Mk3, Maschine+ and Maschine Studio.

Since the extension requires the Native Instruments Host Integration service it **only works on Windows and Mac (no Linux)**.

Installation

Load the respective template from the matching folder *resources/Maschine Mk2*, *resources/Maschine Mk3*, *resources/Maschine+* or *resources/Maschine Studio* into the device by using Native Instruments Controller Editor.

Important: Selecting the template is a bit tricky since when you activate a template from the Maschine which overwrites the left/right buttons you are stuck with the template list on the display. Therefore, you need to select the template from the controller editor. If you are already stuck in the template list do the following to fix it:

1. Open the controller editor.
2. Select a template which does not overwrite the left/right button
3. On the Maschine press Shift and select *Knobs* with the button over the 2nd display to move away from the template list
4. Select the DrivenByMoss template in the controller editor.

Important notes

This extension uses the MIDI mode of the device. Press **Shift+CHANNEL** (on the left / top) buttons to enter MIDI mode. On the Mk2 it is **Shift+CONTROL**.

Differences between the models

The Mk3 and Maschine+ are identical (besides some slight label changes).

Mk2

The Mk2 misses some buttons of the Mk3. The differences are as follows:

- The SHIFT button is not working in MIDI mode on the Mk2. The *STEP LEFT* button (above the REC button) is used as both a replacement of the STOP and SHIFT button.
- The Page left / right buttons cannot be used in MIDI mode. Use NAVIGATE and pads instead (see below).
- The *STEP RIGHT* button (above the ERASE button) is the *TAP TEMPO/METRO* button.
- 4D-Encoder left/right: Use the 2 arrows below the encoder.
- 4D-Encoder up/down: Use the 2 arrows below the encoder with Shift (STEP LEFT).
- The *Lock* button is the *Enter* button on Mk2.
- The *File/Save* button is the *All/Save* button on Mk2.
- The *Auto* button is the *Auto Wr* button on Mk2.
- The *Follow/Grid* button is the *Grid* button on Mk2.
- The 4 buttons above the pads of the Mk3 are missing (PAD MODE, KEYBOARD, CHORDS, STEP): PAD MODE can be found left of the pads, use Shift+PAD MODE for KEYBOARD, CHORDS does not have a replacement, STEP is found on the top/left next to the CONTROL button.
- The *Events* button is replaced by pressing the *STEP LEFT + Select/Events* button on Mk2.

Studio

The Maschine Studio misses some buttons of the Mk3 but also adds new features. The differences are as follows:

- The SHIFT button is not working in MIDI mode on the Maschine Studio. Therefore, the *BACK* button (in the Edit section) is used instead.
- The Page left / right buttons cannot be used in MIDI mode. Use NAVIGATE and pads instead (see below).
- 4D-Encoder left/right: Use the 2 function arrows below the encoder.
- 4D-Encoder up/down: Use the 2 function arrows below the encoder with Shift (BACK).
- *Select+2 function arrows* select the previous/next device.
- There is no *Stop* button on the Maschine Studio use the Play Button instead.
- The *Lock* button is the *Enter* button on the Maschine Studio.
- The *File/Save* button is the *All/Save* button on the Maschine Studio.
- The *Follow/Grid* button is the *Grid* button on Maschine Studio.
- The 4 buttons above the pads are missing (PAD MODE, KEYBOARD, CHORDS, STEP): PAD MODE can be found left of the pads, use Shift+PAD MODE for KEYBOARD, CHORDS does not have a replacement, STEP is found on the left next to the TAP button.

The Maschine Studio provides some additional buttons and features:

- **METRO** - Toggles the metronome.
- **Shift+METRO** - Toggles the *Play Ticks* option.
- **COPY** - Not used.
- **PASTE** - Not used.
- **NOTE** - Transpose the selected MIDI clip a semitone up.
- **Shift+NOTE** - Transpose the selected MIDI clip a semitone down.
- **NUDGE** - Transpose the selected MIDI clip an octave up.
- **Shift+NUDGE** - Transpose the selected MIDI clip an octave down.
- **UNDO** - Undo.
- **REDO** - Redo.
- **QUANTIZE** - Quantize the selected MIDI clip 100%.
- **Shift+QUANTIZE** - Quantize the selected MIDI clip 50%.
- **CLEAR** - Deletes all MIDI notes from the selected MIDI clip.

Metering Section

The level meter displays the VU of the master track except when GRP is selected then the VU of the selected track is displayed.

Since the LED strips do always display the value of the knob when turned, the VU cannot be used together with the knob. Therefore, there are two modes: *VU mode*, in which the knob is deactivated and the *parameter mode* where the knob is active and the LED strips display the value of the selected parameter. The IN3 button toggles between the 2 modes. Another limitation of the MIDI mode is that even if there are 2 LED strips, you can only address them as one strip and both show the same value.

The parameter controlled by the encoder knob is set with the 8 buttons above it:

- **MST** - Activates changing the volume of the master track.
- **IN1** - Activates changing the panorama of the master track.
- **GRP** - Activates changing the volume of the selected track.
- **IN2** - Activates changing the panorama of the selected track.
- **SND** - Activates changing the metronome volume.
- **IN3** - Toggles VU meters and value control.
- **CUE** - Activates changing the cue volume.
- **IN4** - Activates changing the cue mix.

Use the encoder in combination with **SHIFT** for slower changes.

Global

- **CHANNEL** - Insert a new instrument channel.

- **PLUG-IN** - Toggle device window.
- **ARRANGE(R)/IDEAS** - Toggle layouts (Arrange, Mix).
- **MIXER** - Toggle the mixer.
- **Shift+MIXER** - Toggle the device panel.
- **SAMPLING** - Brings up the Slice to Drum Machine dialog.
- **Shift+SAMPLING** - Bring up the Slice to Multi-sample dialog.
- **PAGE LEFT / RIGHT** moves to the previous/next clip on the selected track (moved the scene page before).
- **Shift+PAGE LEFT / RIGHT** moves to the previous/next clip page.
- **FILE** - Saves the project.
- **AUTO** - Toggle write arranger automation.
- **Shift+AUTO** - Toggle write clip launcher automation.
- **LOCK** - Toggle arranger overdub.
- **Shift+LOCK** - Toggle clip launcher overdub.
- **MACRO** - Creates a new clip on the selected track and slot, starts playback and enables overdub.
- **Shift+MACRO** - Creates a new clip on the selected track and slot and starts playback.
- **NOTE REPEAT** - Toggle Note repeat. Long press the button to enter note repeat configuration mode. Use the display knobs to edit the settings. Press Note Repeat again to leave the configuration mode.
- **SELECT+NOTE REPEAT** - Toggle Fill Mode.
- **Shift+SOLO** - Clears Solo on all tracks.
- **Shift+MUTE** - Clears Mute on all tracks.

Transport

- **PLAY** - Start/Stop playback. Double click to move play cursor to the start of song. You can configure the behavior on stop in the preferences.
- **Shift+PLAY** - Toggle transport loop
- **REC** - Different functions can be selected in the settings (see below).
- **Shift+REC** - Different functions can be selected in the settings (see below).
- **STOP** - Stop playback. If pressed when stopped the play cursor is moved to the start of the song.
- **RESTART/LOOP** - Toggle transport loop
- **ERASE** - Use in combination with a pad to delete a scene, clip or track depending on the selected mode.
- **ERASE+touch encoder knob** - Reset the currently edited value to its' default.
- **TAP** - Tap Tempo
- **Shift+TAP** - Toggle metronome
- **FOLLOW/GRID** - Toggles the display of the step sequencer grid resolution

Group buttons

The group buttons select the tracks in the current page of the track bank. Selecting an already selected group (folder) track toggles its' expanded state. They can be used with the following button combinations:

- **REC** - Toggle rec arm of the track
- **SOLO** - Toggle solo of the track
- **MUTE** - Toggle mute of the track
- **ERASE** - Delete the track
- **DUPLICATE** - Duplicate the track

Browser

- **BROWSER** - Opens the browser on the current device. If there is no device the browser is opened to insert a new device. If the browser is active, the browser is closed and the selection is accepted. Use in combination with a pad in Clip Mode to open the browser to load a clip.

- **Shift+BROWSER** - Opens the browser to insert a new device before the currently selected one.
- **Select+BROWSER** - Opens the browser to insert a new device after the currently selected one.
- **SETTINGS** - Opens the browser to insert a new device after the currently selected one. If the browser is active, toggles the selection of Favorites in the browser.

If the browser is active...

- **Knob 1-8** - Changes the selection of the filter or results column.
- **Page left/right** - Selects the previous/next browser tab.
- **Encoder up/down** - Selects the previous/next browser tab
- **Encoder left/right** - Selects the previous/next filter column.
- **Encoder turn** - Changes the selection of the selected filter or results column.
- Press the Encoder to confirm your selection and close the browser.
- Press the browse button to discard your selection and close the browser.

Encoder modes

- **VOLUME** - Enables volume/pan/Sends mode. Press again to toggle between volume, pan and send modes. The encoder changes the volume/pan/sends of the selected track. Keep the Erase button pressed and touch the encoder to set the parameter to its default value.
- **Shift+VOLUME** - Toggles VU meter display.
- **SWING** - Enables position mode. Press Swing button twice to select Arrange Loop Start mode. Press Swing button three times to select Arrange Loop Length mode. In all three modes use the encoder to change the related value.
- **TEMPO/TUNE** - Enables tempo mode. Press again to toggle between fine tune and normal change. The encoder changes the tempo of the song.

The 4D-Encoder controls the parameter of the selected column (e.g. the volume of the selected track). Press it to toggle to controlling the last hovered/clicked parameter.

The buttons above the display have the following functions:

- **Volume** - Enables volume mode
- **Panorama** - Enables panorama mode
- **Send -** - Select the previous send mode (1-8)
- **Send +** - Select the next send mode (1-8)
- **Pin** - Pins either the currently selected track or device depending on the active mode
- **Active** - Either activates the currently selected track or turns on/off the selected device depending on the active mode
- **User Params** - Allows to control either Project or Track remote parameters
- **Parameters** - Activates the device/parameters mode

Volume mode

- **Knob 1-8** - Changes the volume of the 8 tracks of the current track bank page
- **Erase+Knob 1-8** - Reset the volume to the default value
- **Page left/right** - Selects the previous/next clips/scenes page
- **Encoder left/right** - Selects the previous/next track
- **Encoder up/down** - Selects the previous/next track bank page
- **Encoder turn** - Changes the volume of the selected track

Panorama mode

- **Knob 1-8** - Changes the panorama of the 8 tracks of the current track bank page
- **Erase+Knob 1-8** - Reset the panorama to the default value
- **Page left/right** - Selects the previous/next clips/scenes page
- **Encoder left/right** - Selects the previous/next track

- **Encoder up/down** - Selects the previous/next track bank page
- **Encoder turn** - Changes the panorama of the selected track

Send 1-8 mode

- **Knob 1-8** - Changes the volume of the selected send of the 8 tracks of the current track bank page
- **Erase+Knob 1-8** - Reset the volume of the send to the default value
- **Page left/right** - Selects the previous/next clips/scenes page
- **Encoder left/right** - Selects the previous/next track
- **Encoder up/down** - Selects the previous/next track bank page
- **Encoder turn** - Changes the volume of the selected send of the selected track

Project/Track Remote Params mode

- **Knob 1-8** - Changes the value of the 8 parameters of the current parameter page
- **Page left/right** - Selects either Project or Track parameters
- **Encoder left/right** - Selects the previous/next parameter
- **Encoder up/down** - Selects the previous/next parameters page
- **Encoder turn** - Changes the value of the selected parameter

Device Parameters mode

- **Knob 1-8** - Changes the value of the 8 parameters of the current parameter page
- **Erase+Knob 1-8** - Reset the value of the parameter to the default value
- **Page left/right** - Selects the previous/next device of the selected track
- **Encoder left/right** - Selects the previous/next parameter
- **Encoder up/down** - Selects the previous/next parameters page
- **Encoder turn** - Changes the value of the selected parameter

Touchstrip

The Touchstrip behaves based on the following modes.

- **Pitch** - Set the Touchstrip to send pitch bend. Press multiple times to toggle between Down, Up and Down/Up.
- **Mod** - Set the Touchstrip to send Modulation (CC 1). Press again to send Expression (CC 11).
- **Perform/FX Select** - Set the Touchstrip to change the volume of the Master track.
- **Notes** - Set the Touchstrip to change the note repeat period. Press again to change the note repeat length.

Pad Modes

- **FIXED VEL** - If active, velocity of a played pad is fixed. Keep the button pressed and turn the encoder to set the fixed value.
- **SCENE** - Press a pad to start one of the 16 scenes of the current bank page. Combine with Select button to select the scene without starting it. Combine with Shift button to execute the alternative launch function (Bitwig only). Keep SCENE pressed and press any of the pads to stop all currently playing clips. Combine with SHIFT to execute the alternative stop function (Bitwig only).
- **PATTERN** (clip mode) - Press a pad to start one of 16 clips of the current bank page on the selected track. Combine with Select button to select the clip without starting it. Combine with Shift button to execute the alternative launch function (Bitwig only). Keep PATTERN pressed and press any of the pads to stop the active clips playback. Combine with SHIFT to execute the alternative stop function (Bitwig only).
- **VARIATION/NAVIGATE** - Press a pad to select one of 8 or 9 parameters of the current device on the selected track. The parameter pads are colored in the Bitwig parameter colors. The select parameter blinks. Pads 13/14 select the device to edit on the current track. Pads 15/16 select the parameter page.

- **DUPLICATE** - Use in combination with a pad to duplicate a scene, clip or track depending on the selected mode.
- **SELECT** - Keep pressed and use in combination with the bank buttons to toggle the rec arm state of the track.
- **SOLO** - Keep pressed and use in combination with the bank buttons to toggle the solo state of the track.
- **Shift+SOLO** - Clears the Solo state on all tracks.
- **MUTE** - Keep pressed and use in combination with the bank buttons to toggle the mute state of the track.
- **Shift+MUTE** - Clears the Mute state on all tracks.

Drum Mode

Press *Pad Mode* to activate. Press again to toggle to the configuration page. On this page pad 15/16 transpose the drum pads up/down.

- Enable the step sequencer by pressing **Step**. The pads represent 16 steps of the currently selected drum cell. Combine with the Select button to select the drum without playing it.
- Press the **Follow** button to activate the grid configuration. The lower 8 buttons select the grid resolution. Pads 13/14 select the current edit page.
- To edit a note in the step sequencer press **Events**. In this mode, press one or more pads which contain notes to select them for editing. Use the display knobs to edit the parameters of the selected note(s). Use **Encoder up/down** to select more parameter pages. The selected note is lit in yellow.
- **MUTE+Pad** in step sequencer toggles the mute state of the note. A muted note is lit in gray.

Play Mode

Press *Keyboard* to activate. Press again to toggle to the configuration mode. Use the display knobs to edit the settings.

Enable the step sequencer by pressing **Step**. The pads represent 16 steps of the last played note. Press the **Follow** button to activate the grid configuration. The lower 8 buttons select the grid resolution. Pads 13/14 select the current edit page. To edit a note in the step sequencer press **Events**. In this mode, press a pad which contains a note to select it for editing. Use the display knobs to edit the parameters of the selected note.

Enable the chord mode by pressing **Chords**. Playing a pad adds 2 thirds on top of the played note. The second visible octave plays the inversion (added notes are lower than the played note).

Shift Mode

Keep the *Shift* button pressed to activate.

- **Shift+Pad 1 (Undo)** - Undo.
- **Shift+Pad 2 (Redo)** - Redo.
- **Shift+Pad 5 (Quantize)** - Quantize the selected MIDI clip 100%.
- **Shift+Pad 6 (QUANTIZE 50%)** - Quantize the selected MIDI clip 50%.
- **Shift+Pad 9 (CLEAR)** - Deletes all MIDI notes from the selected MIDI clip.
- **Shift+Pad 13 (SEMITONE -)** - Transpose the selected MIDI clip a semitone down.
- **Shift+Pad 14 (SEMITONE +)** - Transpose the selected MIDI clip a semitone up.
- **Shift+Pad 15 (OCTAVE -)** - Transpose the selected MIDI clip an octave down.
- **Shift+Pad 16 (OCTAVE +)** - Transpose the selected MIDI clip an octave up.

Preferences Settings

You can set several preferences which are stored when you exit the DAW. These are global settings and not specific to projects.

Transport

- Record button: Set the function for the record button.
- Shift + Record button: Set the function for the record button used in combination with Shift.
- Behaviour on Pause: Sets the action to be executed when playback is stopped with the Play button.

Play and Sequence

- Activate Fixed Accent: If a note is played the velocity is ignored and a fixed value is used.
- Fixed Accent Value: The velocity value to use when fixed accent is active.
- Quantize Amount: The amount of quantization to use when Quantize is executed. 100% aligns all notes fully to the grid.
- Turn off scale pads: Activate to turn off the pads which are not the root note (instead of being white).
- Notify played chords: Displays the played chords or notes if enabled.
- Startup view: The view that should be selected on startup.
- Ribbon Mode: Select the function of the ribbon strip.

Session

- Select clip/scene on launch: If a clip/scene is started from the controller and this setting is off the clip/scene will not be selected. Use if you edit another clip and want not to change the focus.
- Action for pressing rec armed empty clip: what should happen if you press an empty clip in the session view.

Workflow

- Exclude deactivated items: If active, deactivated items like tracks will not be displayed on the controller. This cleans up the displayed banks but also prevents the options to activate a deactivated item from the controller.
- New clip length: The length of a clip created with the New function.
- Knob Sensitivity Default: Negative values slow the knobs changes down, positive values speed them up.
- Knob Sensitivity Slow: Negative values slow the knobs changes down, positive values speed them up.
- Footswitch settings: The Maschine models Mk3 and Plus support 2 and the Studio 4 footswitches. Since there is only 1 (or 2 on Studio) stereo connector, a double footswitch like a Boss FS-6 needs to be used. Select the function you want to assign to a footswitch from the drop down list. The available functions should be self-explanatory, except *Clip Based Looper*: this uses the currently selected MIDI clip slot. If it is empty, a new clip is created (like using the Macro button) and playback is started. As long as the footswitch is pressed overdub is activated. If the footswitch is released overdub is deactivated.

Pads

- Convert Poly Aftertouch to: The pads support poly aftertouch. If the device you play does not support this option allows to change it to Channel Aftertouch or a MIDI CC command.

Document Settings

These settings are specific to each project.

Scales

- Scale: Select the scale.
- Base: Select the base note of the scale.
- In Key: Select *Chromatic* to also display notes which are not part of the scale.
- Layout: Select the layout of the scale for the Play mode. The numbers are the offsets between the rows of the grid. The arrows depict the direction from lower to higher notes: left to right or bottom to top.

Note Repeat

- Active: Enable note repeat.
- Period: The repeat rate of the note repeat.
- Length: The length of a repeated note.
- Mode: The arpeggiator mode.
- Octave: The octave range which is used by the arpeggiator.

Native Instruments Maschine Mikro Mk3

Support for Native Instruments Maschine Mikro Mk3.

Since the extension requires the Native Instruments Host Integration service it **only works on Windows and Mac (no Linux)**.

Installation

Load the respective template from the folder *resources/Maschine Mikro Mk3* into the device by using Native Instruments Controller Editor.

Important notes

This extension uses the MIDI mode of the device. Press **Shift + Project** (on the left / top) buttons to enter MIDI mode.

The **Shift** and **Cursor buttons** do not send MIDI values, therefore they cannot be used. Some button combinations use the **Stop** button as a replacement for Shift.

Global

- **Sampling** - Brings up the Slice to Drum Machine dialog.
- **Stop + Sampling** - Bring up the Slice to Multi-sample dialog.
- **Group** - Creates a new clip on the selected track and slot, starts play and enables overdub.
- **Auto** - Toggle write arranger automation.
- **Shift + Auto** - Toggle write clip launcher automation.
- **Lock** - Toggle arranger overdub.
- **Shift + Lock** - Toggle clip launcher overdub.
- **Note Repeat** - Toggle Note repeat. Long press the button to enter note repeat configuration mode. In that mode the first two pad columns allow to change the period of the note repeat and the last two columns the length of the notes. Press Note Repeat again to leave the configuration mode.

Transport

- **Play** - Start/Stop playback. Double click to move play cursor to the start of song. You can configure the behavior on stop in the preferences.
- **Rec** - Start/Stop recording.
- **Stop** - Stop playback. If pressed when stopped the play cursor is moved to the start of the song.
- **Restart/Loop** - Toggle transport loop
- **Erase** - Use in combination with a pad to delete a scene, clip or track depending on the selected mode.
- **Erase + touch encoder knob** - Reset the currently edited value to its default.
- **Tap** - Tap Tempo
- **Stop + Tap** - Toggle metronome
- **Follow** - Toggles the display of the step sequencer grid resolution

Browser

- **Projects** - Adds an instrument track. If the browser is active, it closes the browser and discards the new selection.
- **Stop + Projects** - Save the project.
- **Favorites** - Opens the browser to add a device on the selected channel. If the browser is active, toggles the selection of Favorites in the browser.
- **Browser** - Opens the browser on the current device. If there is no device the browser is opened to insert a new device. If the browser is active, the browser is closed and the selection is accepted. Use in combination with a pad in Clip Mode to open the browser to load a clip.

If the browser is active... * use the Encoder to scroll through the items. * Press the Encoder to confirm your selection and close the browser. * Press the browse button to discard your selection and close the browser.

Encoder modes

- **Volume** - Enables volume/pan/Sends mode. Press again to toggle between volume, pan and send modes. The encoder changes the volume/pan/sends of the selected track. Keep the Erase button pressed and touch the encoder to set the parameter to its default value. Press the encoder to toggle between fast and slow value changes.
- **Swing** - Enables position mode. The encoder changes the position of the play cursor in the arranger. Press the encoder to toggle between fast and slow movement.
- **Tempo** - Enables tempo mode. Press again to toggle between fine tune and normal change. The encoder changes the tempo of the song. Press the encoder multiple times to tap the tempo.
- **Plug-In** - Enables device mode. The encoder changes the value of a device parameter. Keep the Erase button pressed and touch the encoder to set the parameter to its default value. Press the encoder to toggle between fast and slow value changes.
- **Stop + Plug-In** - Toggle the window (if any) of the selected device (if any).

Touchstrip

The Touchstrip behaves based on the following modes.

- **Pitch** - Set the Touchstrip to send pitch bend. Press multiple times to toggle between Down, Up and Down/Up.
- **Mod** - Set the Touchstrip to send Modulation (CC 1). Press again to send Expression (CC 11).
- **Perform/FX Select** - Set the Touchstrip to change the volume of the Master track.
- **Notes** - Set the Touchstrip to change the note repeat period. Press again to change the note repeat length.

Pad Modes

- **Fixed Vel** - If active, velocity of a played pad is fixed. Keep the button pressed and turn the encoder to set the fixed value.
- **Scene** - Press a pad to start one of the 16 scenes of the current bank page.
- **Pattern** - Press a pad to start one of 16 clips of the current bank page on the selected track.
- **Pattern + Pad** - Stops the clip.
- **Variation** - Press a pad to select one of 8 or 9 parameters of the current device on the selected track. The parameter pads are colored in the Bitwig parameter colors. The select parameter blinks. Pads 13/14 select the device to edit on the current track. Pads 15/16 select the parameter page.
- **Duplicate** - Use in combination with a pad to duplicate a scene, clip or track depending on the selected mode.
- **Select** - Press a pad to select one of 16 channels of the current bank page. The selected track blinks.
- **Solo** - Press a pad to toggle Solo of 16 channels of the current bank page. Soloed tracks blink.
- **Mute** - Press a pad to toggle Mute of 16 channels of the current bank page. Muted tracks blink.

To change bank pages turn the encoder and keep the related button pressed (scenes - *Scene*, clips - *Pattern*, tracks - *Select, Solo or Mute*))

Drum Mode

Press *Pad Mode* to activate. Press again to toggle to the configuration page. On this page pad 15/16 transpose the drum pads up/down.

- Enable the step sequencer by pressing **Step**. The pads represent 16 steps of the currently selected drum cell.

- Press the **Follow** button to activate the grid configuration. The lower 8 buttons select the grid resolution. Pads 13/14 select the current edit page.
- To edit a note in the step sequencer press **Events**. In this mode, press one or more pads which contain notes to select them for editing. Use the display knobs to edit the parameters of the selected note(s). Use **Encoder up/down** to select more parameter pages. The selected note is lit in yellow.
- Turn the encoder to change the value of the selected note parameter. Select the 6 available parameters by pressing the *Volume*, *Swing* and *Tempo* buttons. Press the buttons twice for the second parameter.
- **MUTE+Pad** in step sequencer toggles the mute state of the note. A muted note is lit in gray.

Play Mode

Press *Keyboard* to activate. Press again to toggle to the configuration page:

- Pad 1 toggles chromatic or scale notes only modes
- Pad 5/6 select the scale layout
- Pad 9/10 select the root note for the active scale
- Pad 13/14 select the active scale
- Pad 15/16 transpose the grid up/down by an octave

Enable the step sequencer by pressing **Step**. The pads represent 16 steps of the last played note. Press the **Follow** button to activate the grid configuration. The lower 8 buttons select the grid resolution. Pads 13/14 select the current edit page. To edit a note in the step sequencer press **Events**. In this mode, press a pad which contains a note to select it for editing. Use the display knobs to edit the parameters of the selected note.

Enable the chord mode by pressing **Chords**. Playing a pad adds 2 thirds on top of the played note. The second visible octave plays the inversion (added notes are lower than the played note).

Preferences Settings

You can set several preferences which are stored when you exit the DAW. These are global settings and not specific to projects.

Transport

- Behaviour on Pause: Sets the action to be executed when playback is stopped with the Play button
- Flip arranger and clip record / automation: if enabled, the functionality of the Record and Automation button when used with Shift is flipped with the function when not using Shift. Enable this if you tend to work more in the Clip Launcher than the Arranger.

Play and Sequence

- Activate Fixed Accent: If a note is played the velocity is ignored and a fixed value is used.
- Fixed Accent Value: The velocity value to use when fixed accent is active.
- Quantize Amount: The amount of quantization to use when Quantize is executed. 100% aligns all notes fully to the grid.
- Ribbon Mode: Select the function of the ribbon strip

Session

- Select clip/scene on launch: If a clip/scene is started from the controller and this setting is off the clip/scene will not be selected. Use if you edit another clip and want not to change the focus.
- Action for pressing rec armed empty clip: what should happen if you press an empty clip in the session view.

Workflow

- Exclude deactivated items: If active, deactivated items like tracks will not be displayed on the controller. This cleans up the displayed banks but also prevents the options to activate a deactivated item from the controller.
- New clip length: The length of a clip created with the New function.

Document Settings

These settings are specific to each project.

Scales

- Scale: Select the scale
- Base: Select the base note of the scale
- In Key: Select *Chromatic* to also display notes which are not part of the scale.
- Layout: Select the layout of the scale for the Play mode. The numbers are the offsets between the rows of the grid. The arrows depict the direction from lower to higher notes: left to right or bottom to top.

Note Repeat

- Active: Enable note repeat
- Period: The repeat rate of the note repeat
- Length: The length of a repeated note
- Mode: The arpeggiator mode
- Octave: The octave range which is used by the arpeggiator

Novation LaunchControl XL

Support for the Novation LaunchControl XL MkI/MkII controller.

Installation

All MIDI CC and notes on MIDI channels 1-8 are directly routed to the DAW. This is the default setup for the user modes. Therefore, these can be used for additional mappings.

Modes

Selecting a factory template triggers the selection of different modes to control the mixer, device of the DAW and even provide sequencers.

In all modes keeping the *Record Arm* button pressed activates the transport mode on the two button rows:

Track Focus row:

- 1 **Play** (yellow): Creates a new clip. The length can be configured in the settings.
- 2 **Clip Overdub** (amber): Toggle clip overdub.
- 3 **Tempo-** (green): Decrease the song tempo by 1.
- 4 **Tempo+** (green): Increase the song tempo by 1.
- 5 **Undo**
- 6 **Redo**
- 7 **Clip Automation Write** (red): Toggle clip automation write.
- 8 **Plugin Window** (green): Toggles the window of the currently selected device (if it has one).

Track Control row:

- 1 **Play** (green): Start/stop playback. Double tap to move the play cursor to the start of the arranger.
- 2 **Record** (red): Start arranger recording.
- 3 **Rewind** (amber): Move the play cursor backwards in the arranger.
- 4 **Forward** (amber): Move the play cursor forwards in the arranger.
- 5 **Cycle** (yellow): Toggle the arranger loop.
- 6 **Click** (green): Toggle the metronome.
- 7 **Arranger Automation Write** (red): Toggle arranger automation write.
- 8 **Solo/Mute defeat** (amber): Turn off all mute and solo states.

The following modes are available:

1. Track Mix
2. Equalizer
3. Layer Mix
4. Drum Sequencer
5. Note Sequencer

Track Mix Mode - 1st Factory template

In the mix mode the labels on the device match the functions (but there is more).

Buttons

- **Track Focus buttons**: Selects one of the 8 tracks on the currently selected track page.
- **Track Control / Device Bank**: This depends on the state of the Device, Mute, Solo and Record Arm buttons:
  - **Device** (yellow): Keep the device button pressed to select one of the 1st 8 parameter pages of the currently selected device.
  - **Mute** (amber): If active the Mute state of the 8 tracks on the currently selected track page is toggled.

  - **Solo** (green): If active the Solo state of the 8 tracks on the currently selected track page is toggled. If the *Solo* button is kept pressed it displays 8 scenes. Press one of the buttons to start the scene. The selected scene is highlighted.
  - **Record Arm** (red): If active the Record Arm state of the 8 tracks on the currently selected track page is toggled. If the *Record Arm* button is kept pressed it displays the transport bar.
- **Send Select**: Select the previous/next page of sends to control. If the *Device* button is pressed it selects the previous/next parameters mode: either the cursor device, track parameters or project parameters.
- **Track Select**: Select the previous/next page of tracks to control. If the *Device* button is pressed it selects the previous/next device of the selected track. If the *Solo* button is pressed it selects the previous/next page of scenes.

Knobs / Faders The knob LEDs are lit brighter with higher values (but sadly on 3 steps plus off state).

- **Send A knobs**: Controls the first send for all 8 tracks of the currently selected track page.
- **Send B knobs**: Controls the second send for all 8 tracks of the currently selected track page.
- **Pan/Device knobs**: Controls panorama for all 8 tracks of the currently selected track page or parameters (either from the selected device, track parameters or project parameters). This depends on the state of the *Device* button.
- **Faders**: Control the volume for all 8 tracks on the currently selected track page. If one of the 8 *Track Focus* buttons is pressed the function changes to controlling the volume of the first 6 send tracks, the metronome volume (fader 7) and the master volume (fader 8).

Equalizer Mode - 2nd Factory template

This mode controls the first equalizer of the currently selected track. If the track does not contain such a device it is automatically added.

Buttons All buttons work identical as in the Mix Mode.

Knobs / Faders

- **Send A knobs**: Sets the equalizer type. Center is Bell (green). Left side chooses between different low-cuts (red) and right side different high-cuts (yellow). Fully left turns the band off (black). Fully right sets it to notch (amber).
- **Send B knobs**: Sets the equalizer bands' Q (amber).
- **Pan/Device knobs**: Sets the equalizer bands' frequency (green).
- **Faders**: Sets the gain of band 1-8.

Layer Mix Mode - 3rd Factory template

This mode works like the track mix mode except that it works on layers instead of tracks. This mode can only be used with Bitwig instruments, which have layer channels like the *Drum Machine* and *Instrument Layer* devices. It uses the first found instrument of the currently selected channel. Difference is that there is no Record Arm mode since layers have no record state (but you can still long press the button to access the transport mode). The device parameters control also the first found instrument of the currently selected channel.

Drum Sequencer - 4th Factory template

This mode is not limited to but should be used with a Bitwig Drum Machine device. This mode is special in a way that it provides access to many parameters of the 8 displayed steps at once.

- **Track Focus** buttons: Select one of the 8 drum pads (sounds) on the currently selected drum machine pads page.
- **Track Control / Device Bank**: This depends on the state of the Device, Mute, Solo and Record Arm buttons:

  - **Mute/Solo/Rec Arm buttons are off**: Press to toggle the step on/off.
  - **Device** (yellow): Keep the device button pressed to select one of the 1st 8 parameter pages of the drum machine device.
  - **Mute** (amber): If active, the Mute state of the 8 drum pads of the currently selected drum machine pads page is toggled. Keep the Mute button pressed to select one of 8 step resolutions for the sequencer.
  - **Solo** (green): If active, the Solo state of the 8 drum pads of the currently selected drum machine pads page is toggled. If the *Solo* button is kept pressed it displays 8 scenes. Press one of the buttons to start the scene. The selected scene is highlighted.
  - **Record Arm** (red): If active, the Loop Length of the currently selected clip can be set. If the *Record Arm* button is kept pressed it displays the transport bar as already described above.
- **Send Select**: Moves the page of the drum pads (sounds) up/down.
- **Track Select**: Select the previous/next page of the clip. If the *Solo* button is pressed it selects the previous/next page of scenes.

Knobs / Faders Each column of 3 knobs and 1 fader control different parameters of the respective step:

- **Send A knobs**: Sets the Chance parameter of the note (step). This is the probability that the note will play: 0-100%
- **Send B knobs**: Sets the number of Repeats of the note. To make this usable with the knob the values are limited to 16 in both directions. Center position is only 1 repeat (= off).
- **Rec Arm + Send B knobs**: Sets the note velocity spread.
- **Pan/Device knobs**: Sets the panorama of the note.
- **Faders**: Sets the velocity of the note.

Note Sequencer - 5th Factory template

This mode is special in a way that it provides access to many parameters of the 8 displayed steps at once. It is intended to create a monophonic melody.

- **Track Focus buttons**: If the step contains a note it is deleted. Otherwise a new note is created using the currently selected base note of the scale.
- **Track Control / Device Bank**: This depends on the state of the Device, Mute, Solo and Record Arm buttons:
  - **Mute/Solo/Rec Arm buttons are off**: Press to toggle the mute state of the note of the step.
  - **Device** (yellow): Keep the device button pressed to select one of the 1st 8 parameter pages of the first instrument device.
  - **Mute, Solo, Rec Arm**: These are identical to the drum sequencer. The layer mute/solo might not be that helpful in this sequencer but they are there anyway.
- **Send Select**: Selects the previous/next scale.
- **Track Select**: Select the previous/next page of the clip. If the *Solo* button is pressed it selects the previous/next page of scenes.

Knobs / Faders Each column of 3 knobs and 1 fader control different parameters of the respective step. This is identical to the Drum Sequencer except the first button row:

- **Send A knobs**: Sets the pitch of the note (step). This depends on the scale settings! Combine with *Rec Arm* button to access the chance parameter.

Preferences Settings

You can set several preferences which are stored when you exit the DAW. These are global settings and not specific to projects.

Transport

- Behaviour on Pause: Sets the action to be executed when playback is stopped with the Play button.

Play and Sequence

- MIDI Edit: Select the MIDI channel to use to display and edit MIDI notes in sequencers

Workflow

- Exclude deactivated items: If active, deactivated items like tracks will not be displayed on the controller. This cleans up the displayed banks but also prevents the options to activate a deactivated item from the controller.
- New clip length: The length of a clip created with the New function.

Document Settings

These settings are specific to each project.

Scales

- Scale: Select the scale
- Base: Select the base note of the scale
- In Key: Select *Chromatic* to also display notes which are not part of the scale.

Novation Launchkey Mk3

Support for the Novation Launchkey Mk3 controller models 25, 37, 49, 61 and 88.

Installation

Important: Make sure that you have the latest firmware for your device installed with the Novation Components application! Otherwise, you might have strange effects!

- If you added the controller manually, choose the 2nd MIDI port ("DAW port") of the device as in-/output. Select the first port as the 2nd input ("MIDI port").
- If you want to use the arpeggiator of the Launchkey you need to enable sending MIDI clock to the device.

Global Features

- **Capture MIDI** - Creates a new clip on the selected track and slot, starts playback and enables overdub.
- **Shift+Capture MIDI** - Like New button but without activating launcher overdub.
- **Quantise** - Quantizes the selected clip.
- **Shift+Quantise** - Press multiple times to toggle through the record quantization settings.
- **Click** - Toggle the metronome.
- **Shift+Click** - Tap Tempo.
- **Undo** - Undoes the last action.
- **Shift+Undo** - Executes the last undone action.
- **Play** - Start or pause the playback.
- **Shift + Play** - Switches playback back to arranger on all tracks.
- **Stop** - Stops playback. If already stopped it moves the play cursor to the start of the song.
- **Shift+Stop** - Stops all playing clips.
- **Record** - Start/Stop recording. Can be changed in the settings.
- **Shift+Record** - Toggle launcher overdub. Can be changed in the settings.
- **Repeat** - Toggle repeat.
- **Track Left/Right**: Select the previous/next track.
- **Device Lock** - Toggle pinning the cursor device.
- **Shift+Device Lock** - Toggle the cursor devices' window (if any).
- **...** - Opens the browser for the selected device. If no device is selected the browser is opened to insert a new device on the selected channel.
- **Shift+...** - Opens the browser to add a new device after the currently selected.

The following buttons behave like described in the Novation manual:

- Fixed Chord
- Arp
- Scale
- Octave-, Octave+

Modes

By using the Shift button in combination with the pads, you can switch between two kinds of modes: modes for the knobs (colored blue) and modes for the pads (colored green).

Knob modes

Use the 8 green buttons to switch between the modes for the knobs. The text above the pads indicate their function. Press the Sends pad twice to toggle between send 1 and send 2.

The 4 custom modes can be configured with the Novation Components application and can be used accordingly in the DAW.

Device Mode The display shows the name of the selected device and parameter page in the first row. The second row shows the selected track which contains the device.

- **Knob 1-8**: Changes the value of the 8 parameters on the current device parameter page.
- **Device Select**: Keep pressed to bring up the device selection mode. In this mode the Scene up/down buttons select the next/previous device. The pads select the up to 16 parameter pages of the current device. The Scene 1 button toggles the enabled state of the device.

Volume Mode The display shows the name of the mode and the range of the tracks on the selected page in the first row. The second row shows the selected track.

- **Knob 1-8**: Changes the volume of the 8 tracks on the current track bank page.

Pan Mode The display shows the name of the mode and the range of the tracks on the selected page in the first row. The second row shows the selected track.

- **Knob 1-8**: Changes the panorama of the 8 tracks on the current track bank page.
- **Track Left/Right**: Select the previous/next track.
- **Shift+Track Left/Right**: Select the previous/next track bank page

Sends Mode The display shows the name of the send 1 or 2 and the range of the tracks on the selected page in the first row. The second row shows the selected track.

- **Knob 1-8**: Changes the Send 1 or 2 volume of the 8 tracks on the current track bank page.
- **Track Left/Right**: Select the previous/next track.
- **Shift+Track Left/Right**: Select the previous/next track bank page

Pad Modes

Use the green colored buttons to switch between the modes for the pads. The text above the pads indicate their function.

The Scale Chord and User Chord are provided by the hardware and behave like described in the Novation manual. They cannot be changed.

The 4 custom modes can be configured with the Novation Components application and can be used accordingly in the DAW.

Session Mode The Session mode is quite complex since it provides several sub-modes for controlling solo, mute, record arm, etc. Long press the SSM (Stop/Solo/Mute - Scene 2) button to switch between the sub-modes or turn them off. The SSM button is also lit in the color of the selected sub-mode. The first row button allows to set the New Clip Length.

- The pads start playback or recording of the respective clip.
- The Scene and SSM buttons start the first and second scene in the selected scene window.
- Use Scene up/down buttons to move the clip/scene window.
- Press **Repeat** + Pad In Session Mode to trigger the alternative launch of the clip (Bitwig only).
- Press **Stop** + Pad In Session Mode to stop the clip.
- Press **Play** + Pad In Session Mode to stop the clip immediately.
- Press **Undo** + Pad In Session Mode to delete the clip.

If one of the sub-modes is enabled, the lower pad row changes and displays the states of the sub-mode. Press one of these pads to toggle the state. The following sub-modes are available:

1) **Record Arm**: Toggle the recording armed state of the 8 tracks on the selected track bank page.
2) **Track select**: Select one of the 8 tracks on the selected track bank page.
3) **Mute**: Toggle the mute state of the 8 tracks on the selected track bank page.
4) **Solo**: Toggle the solo of the 8 tracks on the selected track bank page.

5) **Stop clip**: Stop the playing clip on one of the 8 tracks on the selected track bank page.

Drum Mode This mode provides a simple drum sequencer and access to the drum instrument but is also usable with any other device.

This mode can be toggled with the Scene button between two views: one to play the 16 sounds and one to toggle the note steps of one of the 16 sounds. In the step view change the note length or create long notes by pressing a note pad, keep it pressed, wait a bit and then press a pad right to it.

If you have a Bitwig drum device selected, the play view displays the colors of the sounds as well if there is an instrument loaded in a slot. The last selected pad is the one you can edit when switching to the note steps view.

Long press the SSM (Scene 2) button to enter the drum sequencer settings (only available if a clip is selected!). While keeping the SSM button pressed, select an upper row pad to select a grid resolution. The selected resolution is shown in the display. Use the first 2 lower row pads to select one of the previous/next edit page.

The **Scene up/down** buttons scroll the drum pad range up/down.

Browser Mode The browser mode facilitates the Navigation mode of the Launchkey, which means that the lit pads send cursor keys and the return key. Luckily, the Bitwig browser can be navigated nicely with cursor keys. Pressing the **...** button again discards the selection and closes the browser.

- The **Scene up/down** buttons flip through the tabs of the browser.
- The **Scene 1** button confirms the selection and closes the browser.
- The **Scene 2** button discards the selection and closes the browser.

Note: There is a little bug in Launchkey, which causes the **...** button to be lit when closed with the Return key or the scene buttons.

Fader modes (only Launchkey 46 and 61 models)

The faders control the values selected by their mode: Device parameters, volume, send 1/2 and the 4 custom modes. The master fader always controls the volume of the master track. The buttons below the faders selects or arms record of a track depending on the Arm/Select button state. Selecting an already selected group track toggles its' expanded state. Keep the **Undo** button pressed and press one of the buttons to delete the track.

Preferences Settings

You can set several preferences which are stored when you exit the DAW. These are global settings and not specific to projects.

Transport

- Behaviour on Stop: Sets the action to be executed when playback is stopped with the Stop button.
- Behaviour on Pause: Sets the action to be executed when playback is stopped with the Play button.
- Record button: Set the function for the record button.
- Shift + Record button: Set the function for the record button used in combination with Shift.

Workflow

- Exclude deactivated items: If active, deactivated items like tracks will not be displayed on the controller. This cleans up the displayed banks but also prevents the options to activate a deactivated item from the controller.
- Include (Group-)Mastertrack: If set to off, the group-master tracks are removed from the track bank.

Session

- Select clip/scene on launch: If a clip/scene is started from the controller and this setting is off the clip/scene will not be selected. Use if you edit another clip and want not to change the focus.

Novation Launchkey Mini Mk3

Support for the Novation Launchkey Mini Mk3 controller.

Installation

Important: Make sure that you have the latest firmware for your device installed with the Novation Components application! Otherwise, you might have strange effects!

- If you added the controller manually, choose the 2nd MIDI port ("DAW port") of the device as in-/output. Select the first port as the 2nd input ("MIDI port").

Global Features

- **Play** - Start/Stop playback. Double click to move play cursor to start of song.
- **Shift+Play** - Toggle repeat.
- **Record** - Start/Stop recording. Can be changed in the settings.
- **Shift+Record** - Toggle launcher overdub. Can be changed in the settings.

Modes

By using the Shift button in combination with the upper row pads, you can switch between two kinds of modes: modes for the knobs (colored green) and modes for the pads (colored orange).

Knob modes

Use the 5 green buttons to switch between the modes for the knobs. The text above the pads indicate their function.

Device Mode

- Knob 1-8: Changes the value of the 8 parameters on the current device parameter page.
- Track Left/Right buttons (Shift + Arp/Fixed Chord): Select the previous/next device.
- Program Change (Shift + +/-): Select the previous/next parameter page.

Volume Mode

- Knob 1-8: Changes the volume of the 8 tracks on the current track bank page.
- Track Left/Right buttons (Shift + Arp/Fixed Chord): Select the previous/next track.
- Program Change (Shift + +/-): Select the previous/next track bank page.

Pan Mode

- Knob 1-8: Changes the panorama of the 8 tracks on the current track bank page.
- Track Left/Right buttons (Shift + Arp/Fixed Chord): Select the previous/next track.
- Program Change (Shift + +/-): Select the previous/next track bank page.

Sends Mode

- Press Shift and use pad 7 and 8 on the lower pad row to switch between Send 1 and Send 2.
- Knob 1-8: Changes the Send 1 or 2 volume of the 8 tracks on the current track bank page.
- Track Left/Right buttons (Shift + Arp/Fixed Chord): Select the previous/next track.
- Program Change (Shift + +/-): Select the previous/next track bank page.

Custom Mode

- Knob 1-8: Changes the value of a project/track parameter.
- Track Left/Right buttons (Shift + Arp/Fixed Chord): Toggles between controlling project and track parameters.
- Program Change (Shift + +/-): Select the previous/next project/track parameters page.

Pad Modes

Use the 3 amber colored buttons to switch between the modes for the knobs. The text above the pads indicate their function.

Session Mode The pads start playback or recording of the respective clip. The behaviour depends on the clip launch and launch release settings (Bitwig only). The Scene and SSM buttons start the first and second scene in the selected scene window. Use **Shift+Scene/SSM buttons** to move the scene window.

The Session mode provides additional sub-modes for controlling solo, mute, record arm, etc. Keep the **SSM (Scene 2) button** pressed to enter the sub-mode selection view. In the lower row the sub-modes can be selected or turned off. The following sub-modes are available:

1) **Off** (green): No sub-mode is selected
2) **Record Arm** (red): Toggle the recording armed state of the 8 tracks on the selected track bank page.
3) **Track select** (white): Select one of the 8 tracks on the selected track bank page.
4) **Mute** (orange): Toggle the mute state of the 8 tracks on the selected track bank page.
5) **Solo** (yellow): Toggle the solo of the 8 tracks on the selected track bank page.
6) **Stop clip** (rose): Stop the playing clip on one of the 8 tracks on the selected track bank page.

The SSM button is also lit in the color of the selected sub-mode. If one of the sub-modes is enabled, the *lower pad row* of the session displays the states of the sub-mode. Press one of these pads to toggle the state (e.g. to toggle mute of the track).

The upper part of the mode selection view provides additional functions:

1) Toggle the metronome
2) Tap Tempo
3) Undo
4) Redo
5) Quantize
6) Add an instrument track
7) Add an audio track
8) Add an effect track

Drum Mode This mode provides a simple drum sequencer and access to the drum instrument but is also usable with any other device. Since the number of buttons on the device is limited you can only access the main 16 notes. The manually played notes are send to the 'Pads' input.

This mode can be toggled with the Scene button between two views: one to play the 16 sounds and one to toggle the note steps of one of the 16 sounds. In the step view change the note length or create long notes by pressing a note pad, keep it pressed, wait a bit and then press a pad right to it.

If you have a Bitwig drum device selected, the play view displays the colors of the sounds as well if there is an instrument loaded in a slot. The last selected pad is the one you can edit when switching to the note steps view.

Long press the SSM (Scene 2) button to enter the drum sequencer settings. While keeping the SSM button pressed, select an upper row pad to select a grid resolution, which is displayed in Bitwig as well. Use the first 2 lower row pads to select one of the previous/next edit page. The 4th pad toggles the metronome. Use the last 2 lower row pads to scroll the drum pads up/down.

Custom Mode This is the MIDI note configuration you can setup in the Novation Components application. Note: Do only change the pad display, not the knob settings!

Preferences Settings

You can set several preferences which are stored when you exit the DAW. These are global settings and not specific to projects.

Transport

- Behaviour on Pause: Sets the action to be executed when playback is stopped with the Play button
- Record button: Setting the function for the record button.
- Shift + Record button: Setting the function for the record button used in combination with Shift.

Workflow

- Exclude deactivated items: If active, deactivated items like tracks will not be displayed on the controller. This cleans up the displayed banks but also prevents the options to activate a deactivated item from the controller.
- Include (Group-)Mastertrack: If set to off, the group-master tracks are removed from the track bank.

Session

- Select clip/scene on launch: If a clip/scene is started from the controller and this setting is off the clip/scene will not be selected. Use if you edit another clip and want not to change the focus.

Novation Launchpad

The following of Novation's Launchpad controllers are supported:

- Launchpad Pro
- Launchpad ProMk3
- Launchpad Mk2
- Launchpad Mini Mk3
- Launchpad X

Installation

Important:

- If you have one of the newer models which are supported by the Novation Components application, first make sure to update to the latest firmware for your device! Otherwise, you might have strange effects!
- If the virtual faders (volume, pan, send, etc.) do not work, set the *Takeover mode* to *Immediate*.
- If (Poly-)Aftertouch is not working (on devices which support it), check the global aftertouch settings of the Launchpad (check the Launchpad manual).

If you added the controller manually, choose the following port for **both input and output**:

- Pro Mk3: choose the 1st port (e.g. `LPProMK3 MIDI` on Windows, `MK3 [hw:X:0:0]` or similar on Linux).
- Pro, Mini Mk3, X: choose the 2nd port (e.g. *MIDIIN2 (Launchpad Pro)* and *MIDIOUT2 (Launchpad Pro)* on Windows).
- Make sure the Launchpad sends on Midi Channel 1!
- To have pads blinking in sync with your song tempo activate to send MIDI clock to the device.

Differences between the Launchpad models

The Pro models have an additional left column and bottom row of buttons.

Especially, they have a **Shift** button to access additional functionality (see the *Shift Mode* below). To work around this missing button on the other models another button has to function as the Shift button. It is the last button of the top button row (MkII: **Mixer**, Mini Mk3: **User**, X: **Capture Midi**).

The three buttons on the top row, right to the cursor keys are named differently on the models:

- Pro Mk1: Session, Note, Device
- MkII: Session, User 1, User 2
- X: Session, Note, Custom
- Mini Mk3: Session, Drums, Keys

These differences will not be mentioned again in the following text and **only the names of the Pro model will be used!**

Pro Mk3

The differences on the Pro Mk3 are more drastic. It contains an additional row of buttons to select a track on the bottom. Additional functions are available in combination with the Clear button, to delete a track and the Duplicate button to duplicate a track.

Furthermore, some buttons were moved to a button which needs to be used in combination with the Shift button, e.g. for Undo press Shift+Record Arm. The implementation follows the labels on the buttons.

Transport and Editing (Left button column)

- **Shift** - Use in combination with other buttons for additional functionality.
- **Click** - Toggle the metronome.
- **Shift+Click** - Tap Tempo.

- **Undo** - Undo. Press Shift for Redo.
- **Delete** (**Clear** on the Pro Mk3) - Hold the button for additional functionality in combination with other buttons knobs, see the view explanations below.
- **Shift+Delete** - Toggle arranger loop
- **Quantise** - Quantizes the selected clip.
- **Record Quantise** - Press multiple times to toggle through the record quantization settings.
- **Duplicate** button (only Pro models) - On the non-pro models, activate the duplicate mode instead (see Shift mode)
  - Session mode: Duplicates the first selected clip on the current track if pressed with no other button.
  - Session mode: To copy a specific clip:
    - Keep Duplicate button pressed;
    - choose the source clip (it must be a clip with content, you can still select a different clip with content);
    - select the destination clip (this must be an empty clip, which can also be on a different track);
    - release the Duplicate button.
  - Keep the Duplicate button pressed and select a pad from the 1st row when a track mode is on to duplicate the track.
  - Keep the Duplicate button pressed and select a scene to duplicate it.
- **Shift+Duplicate** - Double the currently selected MIDI clip incl. its' content.
- **Double** (**Play** on the Pro Mk3) - Start/Stop playback. Double click to move play cursor to start of song.
- **Shift+Double** (**Play** on the Pro Mk3) - Creates a new clip on the selected track and slot, starts play and enables overdub.
- **Record** - The function can be configured in the settings. The default is to start Arranger Record and enable automation recording.
- **Shift+Record** - The function can be configured in the settings. The default is to create a new clip, enable overdub and automation recording.
- **Fixed Length** (only Pro Mk3) - Executes the *New* function.
- **Fixed Length + Track buttons** (only Pro Mk3) - Create new clips of different lengths.

Cursors and Mode selection (Upper button row)

- **Arrows** - Navigate in the different modes (see below), holding an arrow button down will scroll through the specific View (e.g. track, scene).
- **Session** - Selects the Session mode to start, stop and record clips. Session can be flipped if Session button is pressed twice. Long press Session to select *birds-eye-view* to quickly navigate the clip grid. Press Session again to leave this mode or keep Session pressed while selecting a pad to close it automatically. Temporary session mode: if any mode except session is active, hold the session button and then start a clip or scene. When the session button is released the previous mode is restored.
- **Note** - Pressing the Note button brings up a menu where you can select the note/sequencer mode. First row (from top) selects play modes, 3rd row drum modes and 5th row sequencer modes. On the **Pro Mk3** pressing the Note button toggles through the 3 play modes.
- **Device** - Selects the Device mode to change the Parameters of the currently selected device. If pressed again it opens the browser for preset selection mode. If no device is selected the browser is opened to insert a device.
- **Shift+Device** - Opens the device browser to add a device after the currently selected one (on the Pro Mk3 this executes Tempo. Use the up/down buttons in the browser instead).
- **User** (only Pro, **Custom** on the Mk3) - Brings up the clip length mode.
- **Chord** (only Pro Mk3) - Toggles through the 3 drum sequencer modes.
- **Sequencer** (only Pro Mk3) - Toggles through the 3 note sequencer modes.

Note: The preferred play/sequencer mode is remembered for each track.

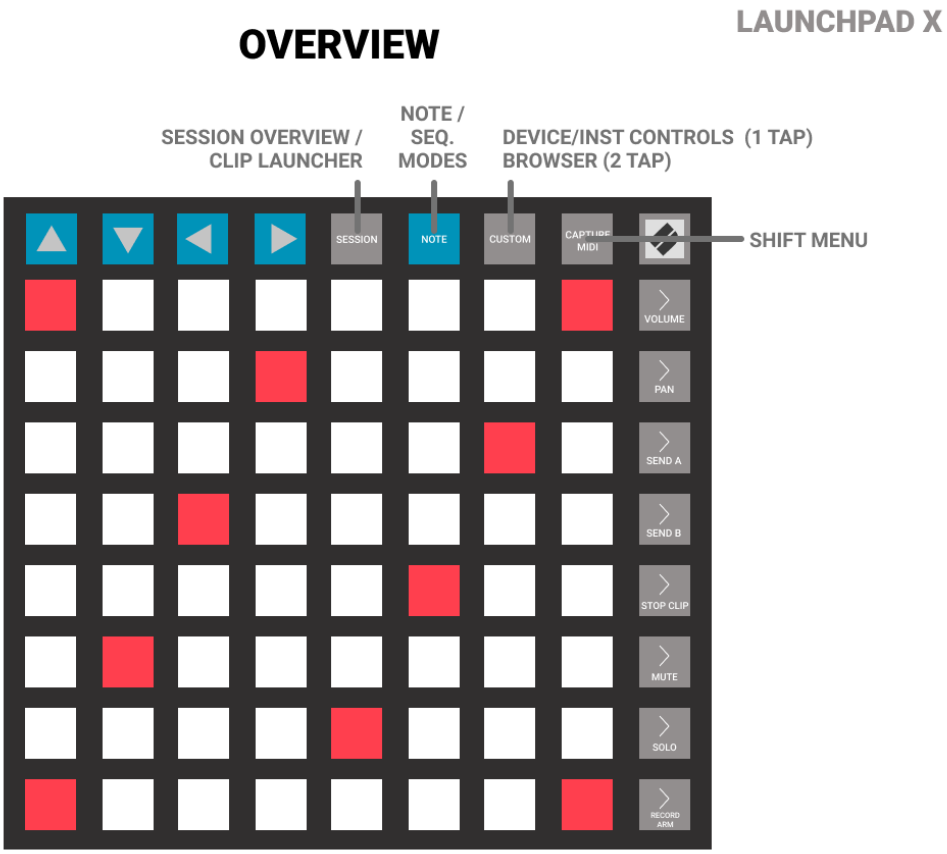


Figure 1: Overview

Shift Mode

If you press and release the Shift button the grid changes to the Shift mode. If you keep the Shift button pressed and execute one of the functions of this mode, it will close automatically when the Shift button is released (except in the Session mode).

All models

- Press the **Session** button to enter Mix-Mode.
- The pads of the first row (from the bottom) change the length of newly created clips.
- The three green buttons in the right upper corner insert an instrument, audio or effect track.
- The yellow button in the right upper corner toggles between fixed accent/velocity for the pads in note/drum modes. The percentage value of the fixed accent can be set in the controller settings panel.
- The buttons in the center control note repeat for play modes. The blue button on top de-/activates note repeat. The two red buttons right to it de-/increase the octave range. The pads of the first two columns below change the note repeat period and the other two columns the note length.
- Up/down cursor buttons activate **Tempo mode**.
- Left/right cursor buttons activate **Swing mode**.
- The red button in the lower right corner stops the playback of all clips.

Non-pro models

- The **first column (from the left)** of the grid now represents the missing left column of the Pro model. The **second column** represents the functions of these buttons in Shift state.
- Pressing the **Delete (pink) or Duplicate (purple) pads** in shift mode activates the related mode. The pad starts to blink to indicate that the Delete/Duplicate mode is enabled. Press the pad again to cancel the mode. Leaving the shift mode and entering session mode allows then to delete/duplicate clips, scenes and tracks. After deleting/duplicating an item the delete/duplicate mode is automatically turned off.
- The **Scene buttons** represent the missing bottom row of the Pro (Volume, Pan, etc. but differently ordered). The colors of the buttons are identical. This area is empty on the Pro model.

Track Control

There are 8 modes to control different aspects of the currently selected page of tracks.

Use the Shift button in combination with one of the Scene buttons to select the according mode (Volume, Pan, etc.) or the dedicated button row on the Pro models. The modes which trigger something (stop clip, mute, solo and rec arm) send you to the Session mode. The lowest row of the session mode will now be replaced with the according track states of the select mode (e.g. you see the mute-state of the current track page):

- **Record Arm** (red) - The 8 buttons of the bottom row of the grid allow to toggle record arm of the currently focused 8 tracks of the track bank.
- **Track Select** (green) - The 8 buttons of the bottom row of the grid allow to select one of the currently focused 8 tracks of the track bank. The currently selected track is indicated on the first row (round) buttons by a brighter white. Furthermore, the front LED is also lit in the color of the current track. Selecting an already selected group track toggles its' expanded state.
- **Mute** (yellow) - The 8 buttons of the bottom row of the grid allow to toggle Mute of the currently focused 8 tracks of the track bank.
- **Solo** (blue) - The 8 buttons of the bottom row of the grid allow to toggle Solo of the currently focused 8 tracks of the track bank.
- **Volume** - Each column of the grid controls the Volume of the currently focused 8 tracks of the track bank. Hit buttons harder for faster change. The color of a fader is the same as the color of the track. Use the scene buttons for master volume.
- **Pan** - Each column of the grid controls the Panorama of the currently focused 8 tracks of the track bank. Hit buttons harder for faster change. The color of a fader is the same as the color of the track.

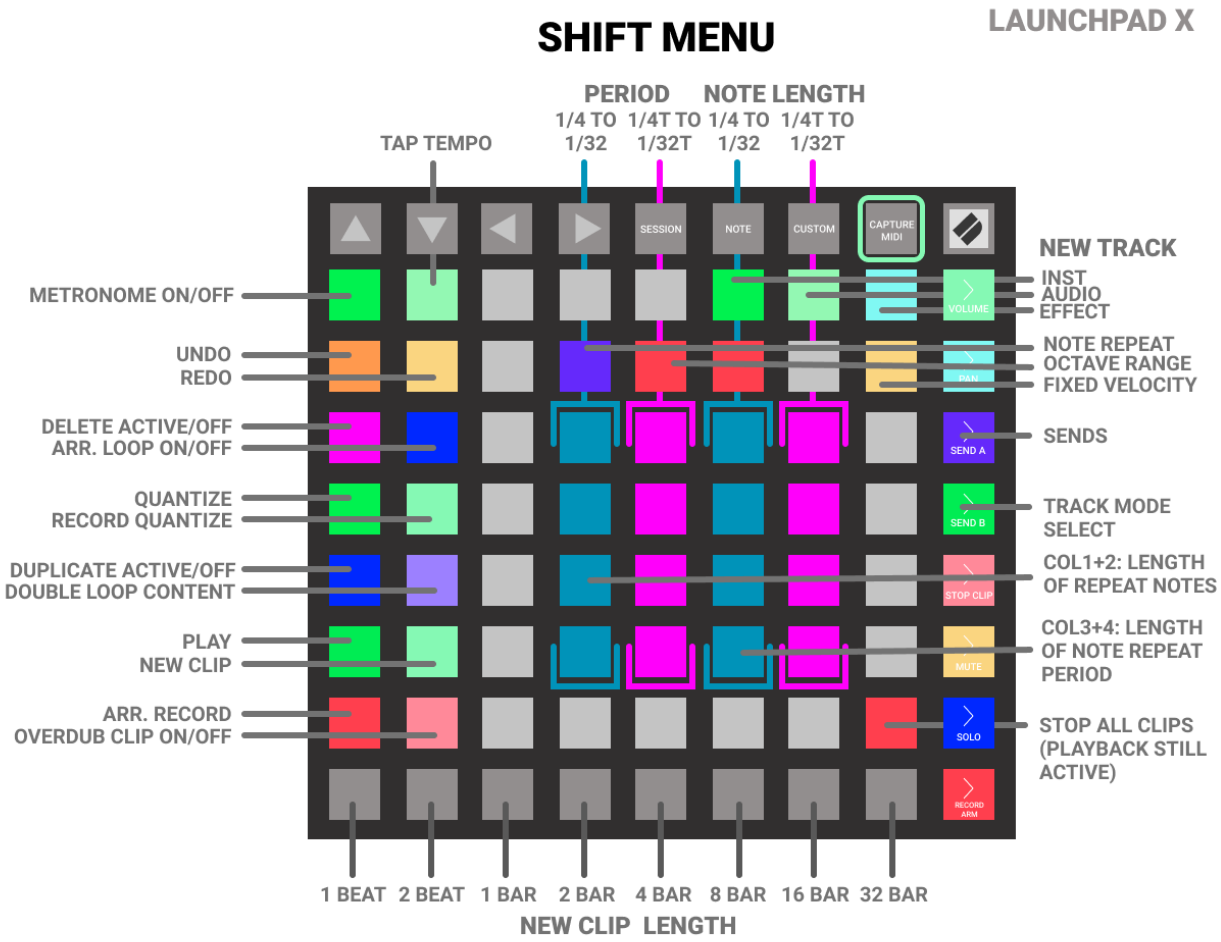


Figure 2: Shift menu diagram

- **Sends** - Each column of the grid controls the Send of the currently focused 8 tracks of the track bank. Hit buttons harder for faster change. The color of a fader is the same as the color of the track. Use the Scene buttons to select the Sends 1 to 8.
- **Stop Clip** - The 8 buttons of the bottom row of the grid allow to stop the playing clip of the track of the currently focused 8 tracks of the track bank. Use in combination with the Shift button to trigger the alternative Stop function (Bitwig only).

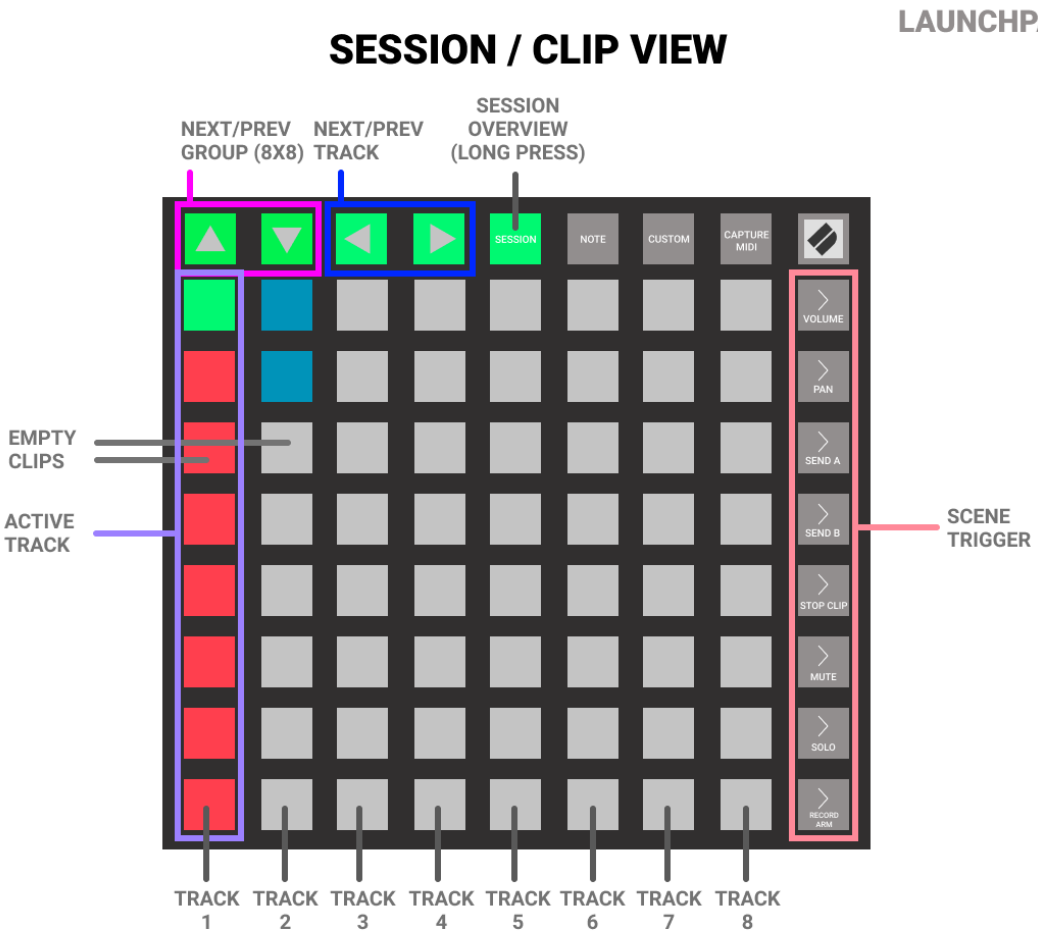
Shifted functions on the Pro models

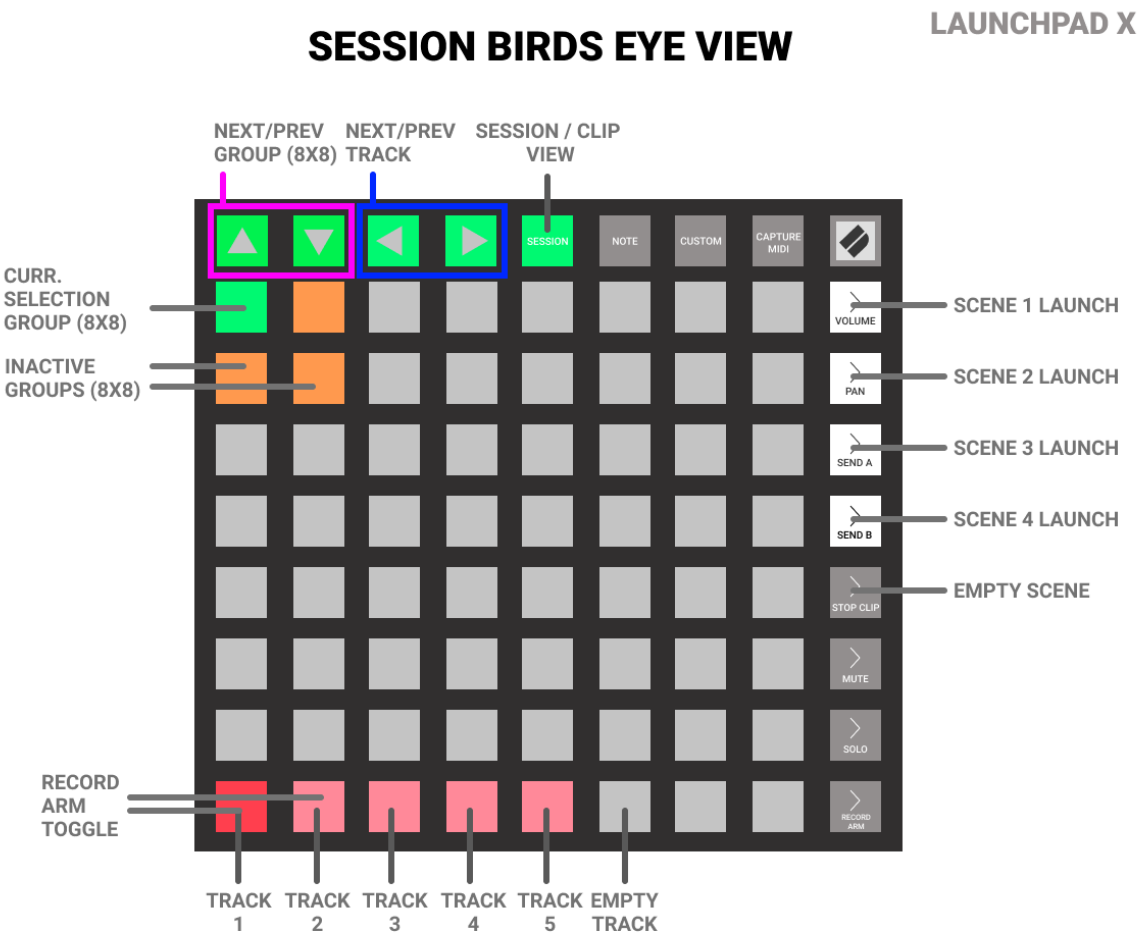
- **Shift+Record Arm**: Undo
- **Shift+Mute**: Redo
- **Shift+Solo**: Toggle Metronome
- **Shift+Sends**: Tap Tempo
- **Shift+Solo**: Toggle Metronome
- **Shift+Device**: Enter tempo mode
- **Shift+Stop Clip**: Enter swing mode

Session Mode

Press *"Session"* to enter **Session** mode. Press again to toggle the clip orientation (vertical or horizontal). *Long press* to enter birds-eye-view.

- The buttons on the grid start/record the clips. The behaviour depends on the clip launch and launch release settings (Bitwig only).
- The 8 scene buttons on the right start the scenes.
- Hold **Shift** to execute the alternative action of the clip and scene (Bitwig only).
- Use **Shift + clip/scene** buttons to execute the alternative clip/scene functions (Bitwig only).
- The arrow keys scroll the grid.
- Hold **Delete** and press a clip/scene button to delete the clip/scene.


LAUNCHPAD X
SESSION / CLIP VIEW
NEXT/PREV GROUP (8X8)
NEXT/PREV TRACK
SESSION OVERVIEW (LONG PRESS)
SESSION
NOTE
CUSTOM
CAPTURE MIDI
VOLUME
PAN
SEND A
SEND B
STOP CLIP
MUTE
SOLO
RECORD ARM
EMPTY CLIPS
ACTIVE TRACK
SCENE TRIGGER
TRACK 1
TRACK 2
TRACK 3
TRACK 4
TRACK 5
TRACK 6
TRACK 7
TRACK 8



Mix Mode

Press *"Shift+Session"* to activate Mix mode.

This mode contains all session modes at once. The rows from bottom to top are:

- rec arm,
- solo,
- mute,
- clip stop,
- send 2,
- send 1,
- panorama,
- volume.

The panorama and sends pad are only colored for the selected track. Press one of the pads of the upper 4 rows to select a track. Select a volume, panorama or sends pad to activate it and then change its value with the virtual fader of the scene buttons.

Scene Play Mode

Press *"Shift+Session"* twice to activate Mix mode.

In this view each pad represents 1 scene, which means that 64 scenes can be directly triggered.

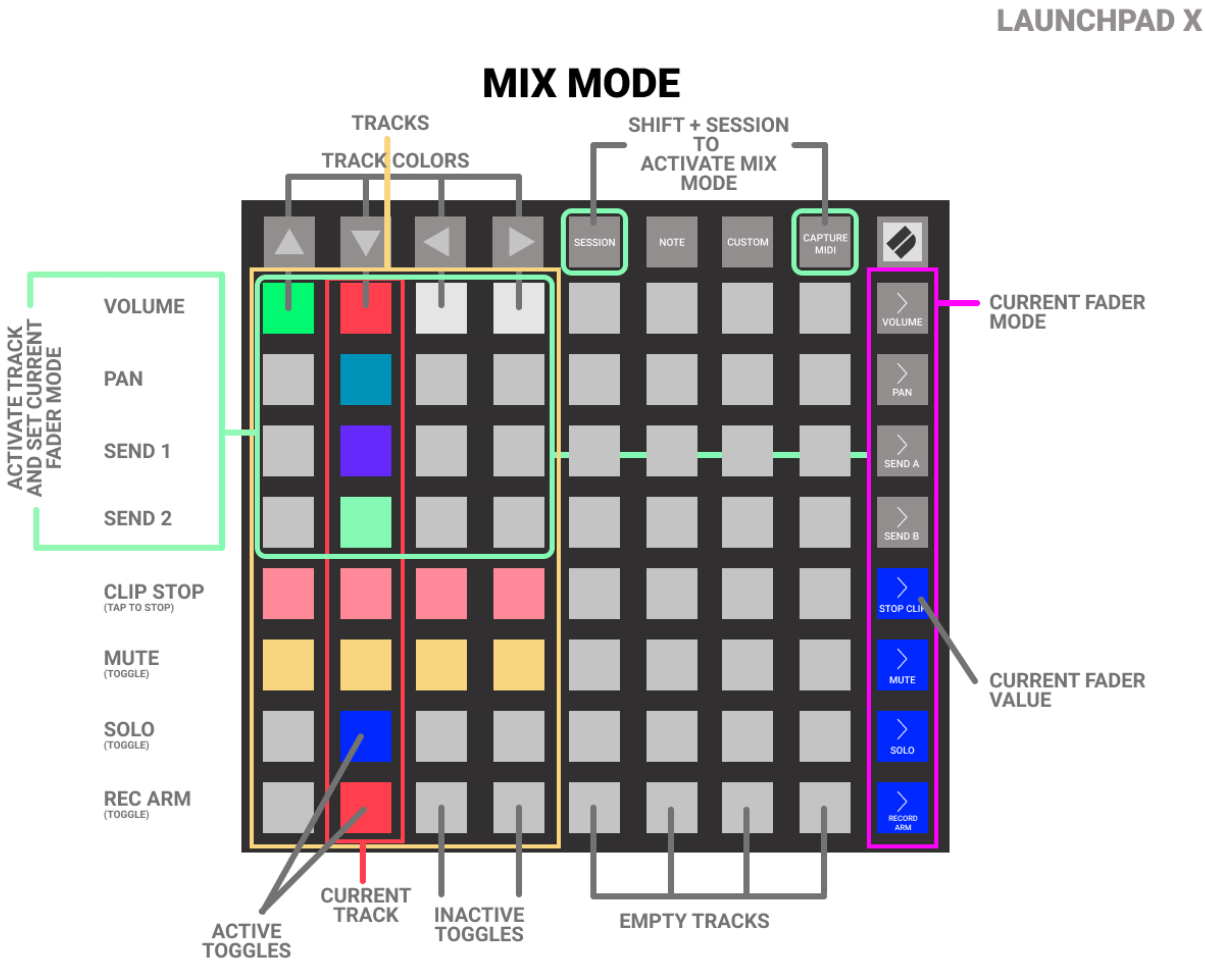


Figure 3: Mix Mode

Selecting Note or Sequencer Modes

Press *"Note"* to choose a **Note** or **Sequencer** mode. On the **Pro Mk3** use the **Note**, **Chord** and **Sequencer** buttons to toggle through the modes.

- The first three (red) pads represent **Play** modes - Scale, Piano, and Drum64.
- The second three (blue) pads represent **Drum Sequencer** modes - Drum, Drum4, and Drum 8
- The final three (orange) pads represent **Note Sequencer** modes - Sequencer, Poly, and Raindrop

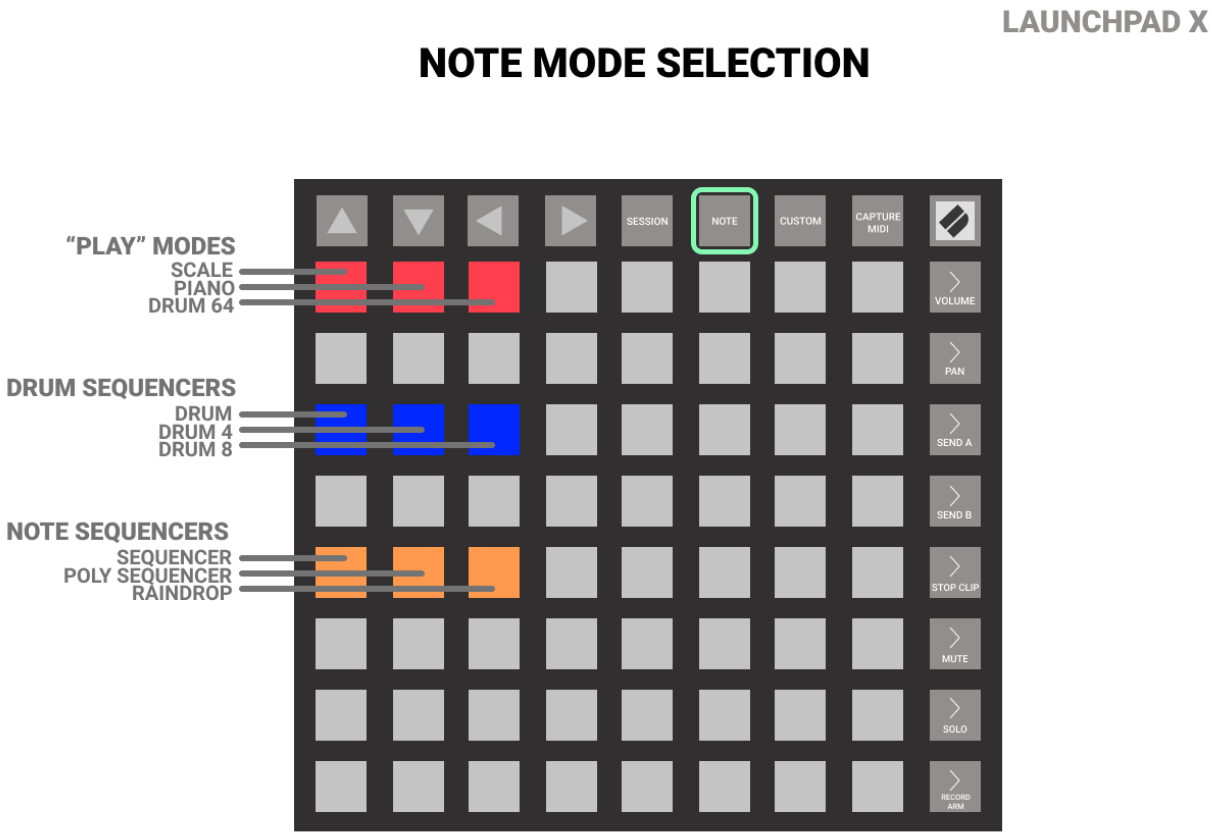


Figure 4: Session mode diagram

Play modes

Note Mode (Playing the pads)

Press *"Note"* and select the first red pad to change to **Scale** mode.

- The key layout is the same one used with Ableton Push. To get a continuous layout of notes without any offsets, select *Sequent ˆ* as the scale layout and enable *Chromatic mode*.
- Left/Right buttons change the scale (Major, Minor, etc.)
- Up/Down buttons transpose the note range (pitch) up/down.
- The played keys are lighting red if global or clip recording (does not work if recording clip is outside of the monitored 8x8 matrix)

Scene buttons have to following functions:

- The upper 2 scene buttons change the key layout.
- The 4th scene button (green) in the play mode activates additional controls in the first pad row. First pad toggles sustain. Second and third pad are pitch down/up and the following pads switch to different intensities of the modulation wheel. You can slide these modulation wheel pads to imitate a modulation wheel.
- The 5th scene button (amber) in the play mode activates the chords mode. This mode allows to play a chord by pressing a single pad. The base note is taken from the current scale and increases from left to right. The rows from bottom to top contain the following chords: Triads, Dyads (Power chords), Suspended second (Sus2), Suspended fourth (Sus4), Add sixth (6), Major seventh chord (maj7), Add ninth (9), Add eleventh (11). The same octave, scale and base note settings apply as with the play mode.
- The white scene button toggles between Chromatic and Scale Only mode.
- The lower 2 scene buttons change the root note of the scale.

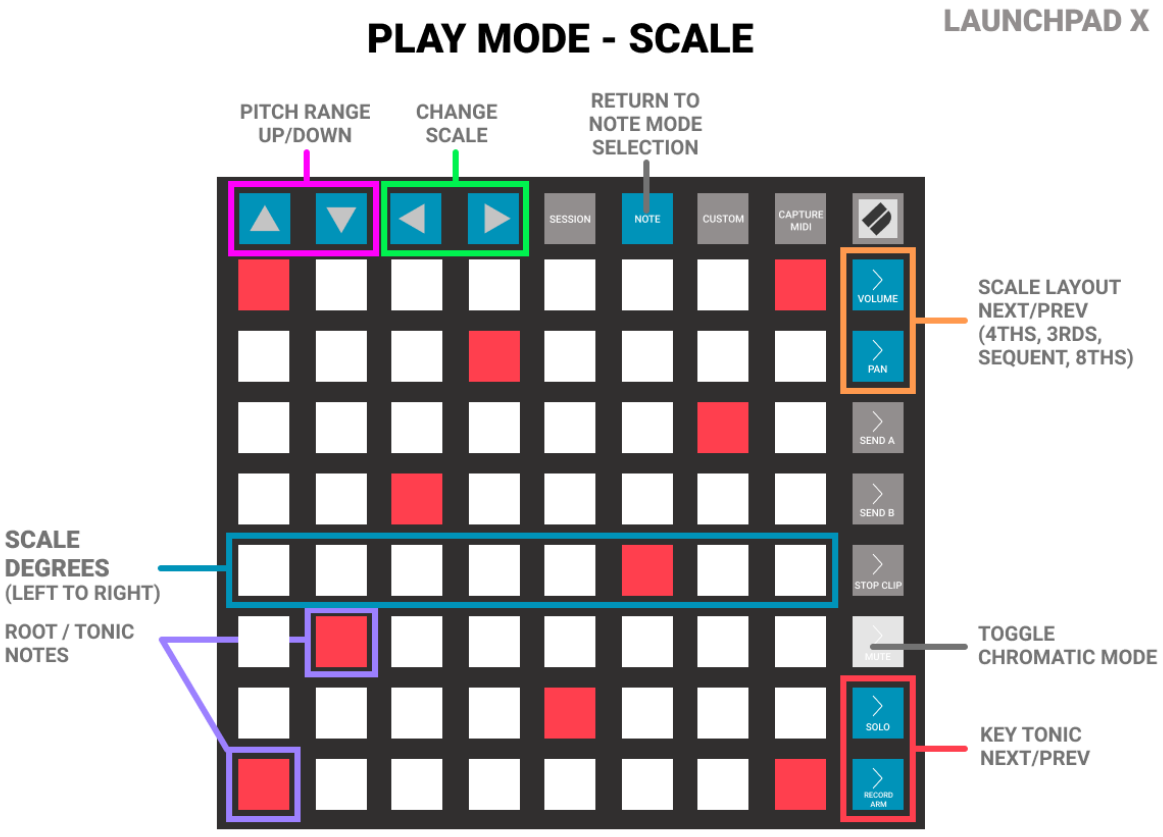


Figure 5: Play Mode - Scale

Piano Mode

Press *"Note"* twice to enter.

- Arranges the pads like a classic piano keyboard.

- The white lit pads are the white keys.
- The gray lit pads are the black keys.
- You get 4 octaves to play with

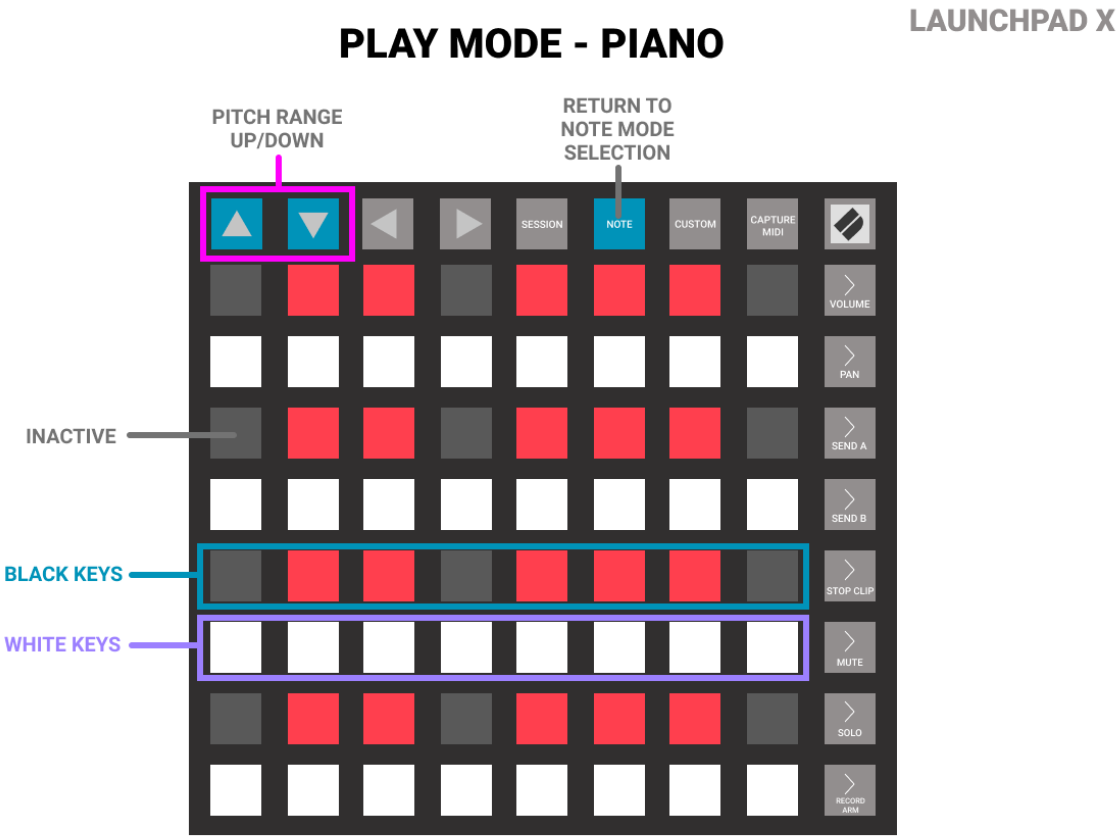


Figure 6: Play Mode - Piano

Drum 64 play mode

Press *"Note"* multiple times to select *Drum 64*.

This mode gives you 64 pads for playing a drum device. The 16 pads in the left lower area are the same as in the drum sequencer mode.

Sequencers

Sequencer Functions common to all sequencers (except Raindrop)

- Long press a step to edit its' note(s).
- Use the arrow keys to navigate in the grid.
- Note that you can scroll past the end of the clip (to the right).
- Press pads to enter/delete notes. The velocity of the pressed key is set as well.
- Change the note length or create long notes by pressing a note pad and then a pad right of it.

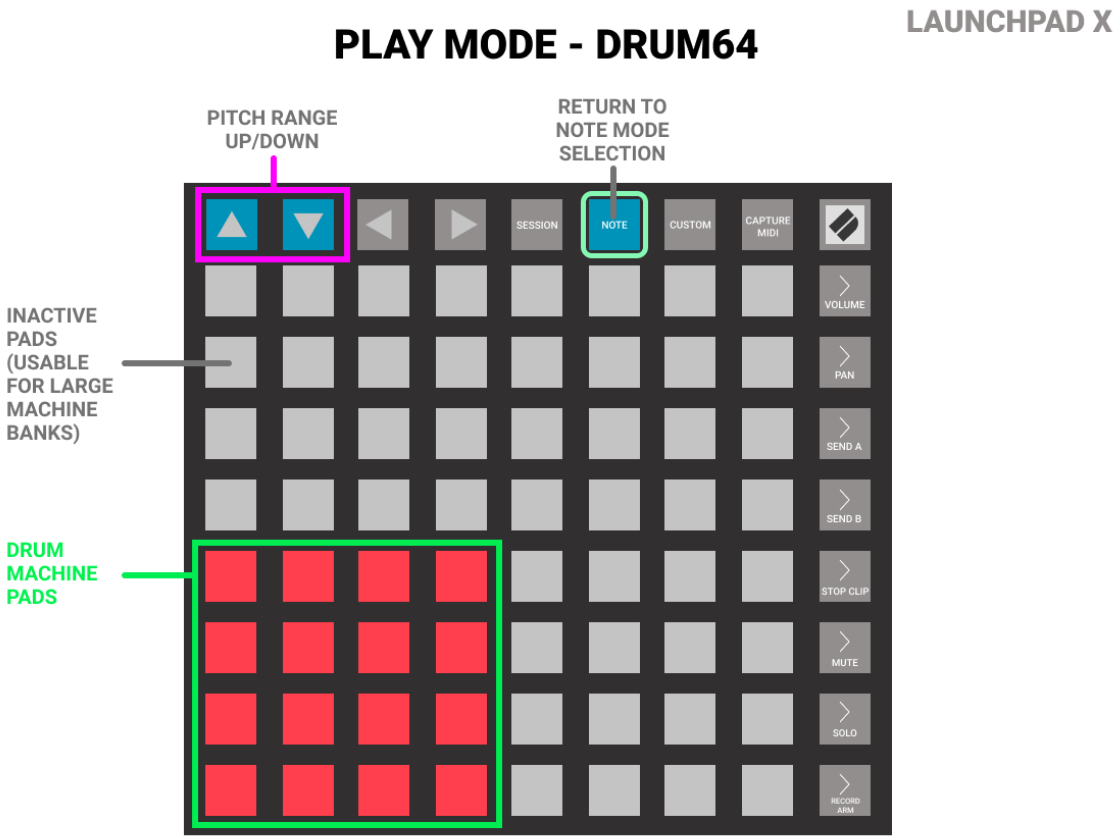


Figure 7: Play Mode - Drum64

- To duplicate notes keep the Duplicate button pressed, select the source note, press empty destination pad(s). The note will be copied with all settings.
- Note starts and lengths are lit in different colors.
- Use the Scene buttons to change the grids resolution.
- Cursor Up+Pad (on a sequencer step): enables and increases note repeat by 1.
- Cursor Down+Pad (on a sequencer step): enables and decreases note repeat by 1.

Note Edit Mode

Long press a note and release it to activate the note edit mode. In this mode 9 note parameters can be edited. Press the sequencer button (depending on model) again to leave the note edit mode.

- Column 1: Velocity
- Column 2: Velocity Spread
- Column 3: Chance
- Column 4: Gain
- Column 5: Panorama
- Column 6: Pitch
- Column 7: Timbre
- Column 8: Pressure
- Scene 1 mutes the note.

Sequencer Mode

Press *"Note"* and select the first orange pad to enter the **Sequencer** mode:

- The pads of the top row represent the pages of the clip. Green indicates the page currently played. Blue is the page selected for editing. Press one of the pads to select it for editing. Keep one of the pads pressed and press another one to change the loop.
- The other pads display an 8x7 view of the selected clips note grid.
- The rows represent the notes of the selected scale.

Poly Sequencer

Press *"Note"* and select the second orange pad to change to the **Poly Sequencer**:

- The lower half displays the playable notes like in the Note Mode
- Play one or more notes in that area
- Create a step in the upper part by pressing a pad. The step will contain the last notes you played in the lower part.
- Arrow keys change the octaves and step pages

Raindrop sequencer

Press *"Note"* and select the third orange pad to change to the **Raindrop Sequencer**:

- The lowest row displays the playable notes
- The row above a note starts a raindrop
- If the raindrop reaches the note it sounds

Drum Sequencer Mode

Press *"Note"* and select the first blue pad to change to the **Drum Sequencer**.

- The drum sequencer works as described in the Ableton Push manual (mostly).
- Hold *Delete* + Drumpad to delete the midi notes of the current clip on that 'pad'.
- To make the display of mute/solo/exists states work, the primary device needs to be the drum machine (which is normally the case).

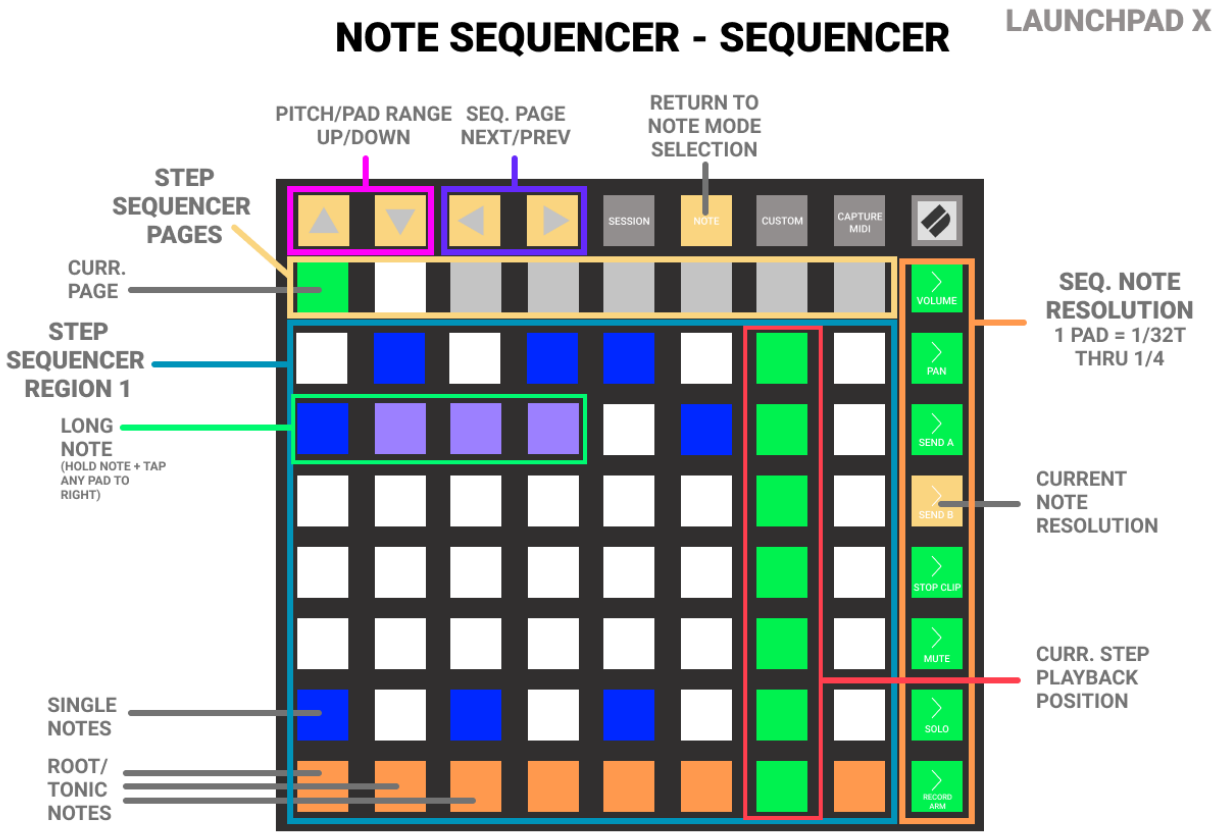


Figure 8: Sequencer Mode - Sequencer

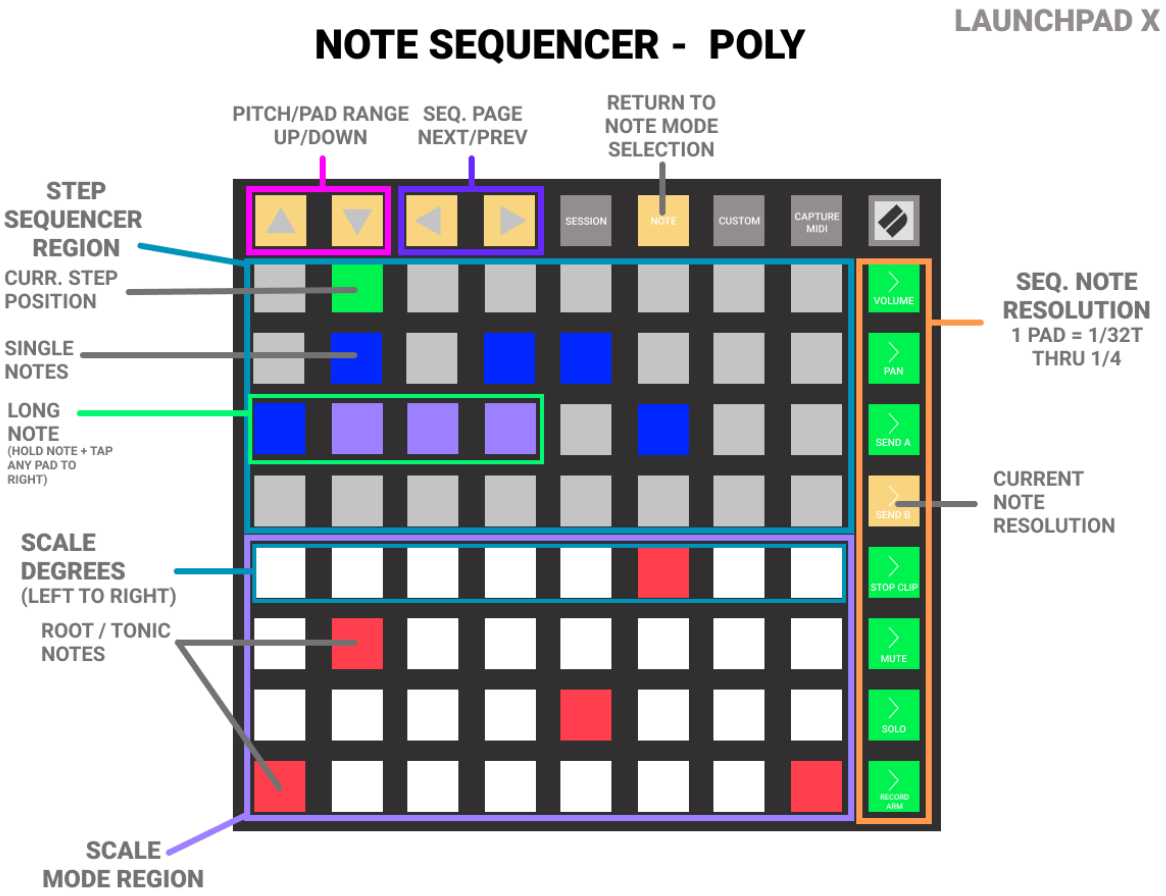


Figure 9: Sequencer Mode - Poly

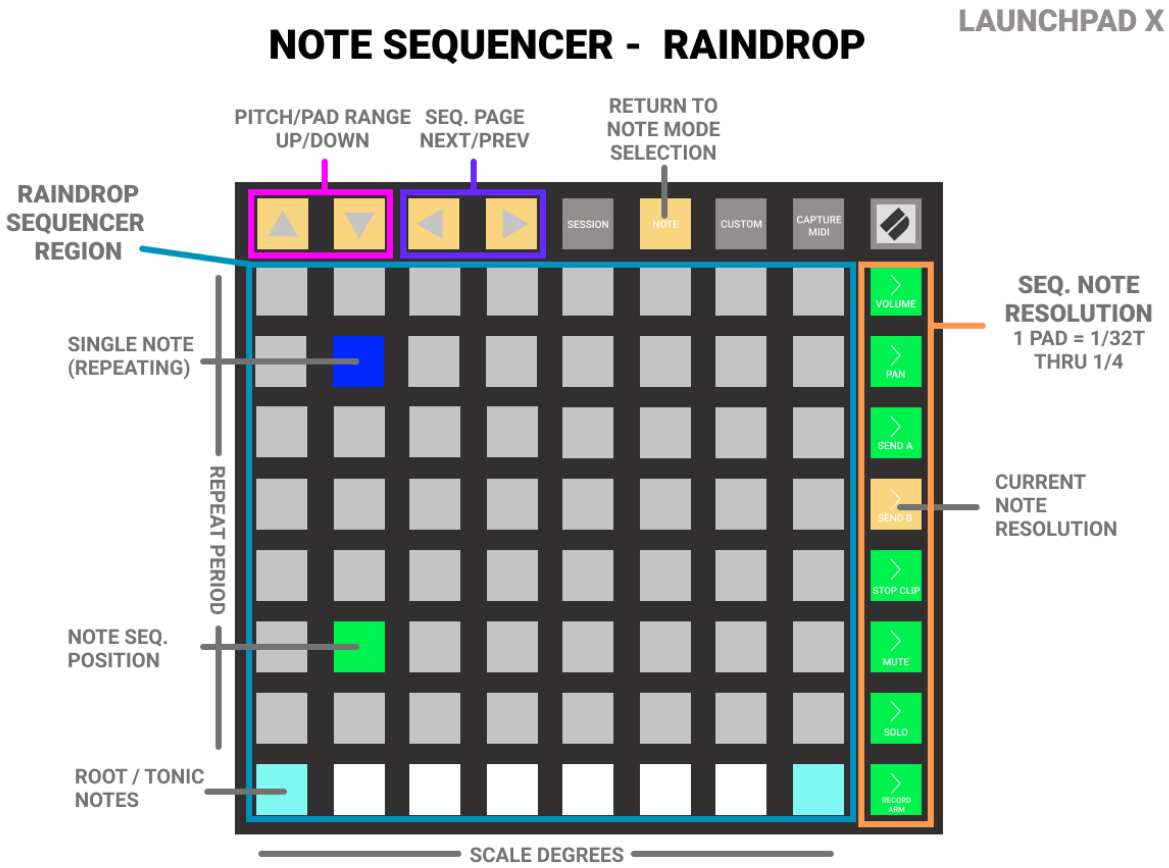


Figure 10: Sequencer Mode - Raindrop

- The Drumpads use the colors set in the drum machine for each pad.
- If *Fixed Accent* is active the loop area shows 15 velocities. The selected velocity is used when enabling a note in the sequencer.
- The last pad (red) in the loop area toggles additional functions. From left to right and top to bottom they provide the following functions:
  - **Button 1**: Keep pressed and select a drum pad to select it without sounding it.
  - **Button 2**: Keep pressed and select a drum pad to toggle its' mute state.
  - **Button 3**: Keep pressed and select a drum pad to toggle its' solo state.
  - **Button 4**: Keep pressed and select a drum pad to open the browser for it.
  - **Button 5**: Toggles note repeat on/off.
  - **Button 6**: Toggles note repeat period on/off. If enabled the scene buttons select the note repeat period.
  - **Button 7**: Toggles note repeat length on/off. If enabled the scene buttons select the note repeat length.
  - **Button 8**: Turns additional functions on/off.

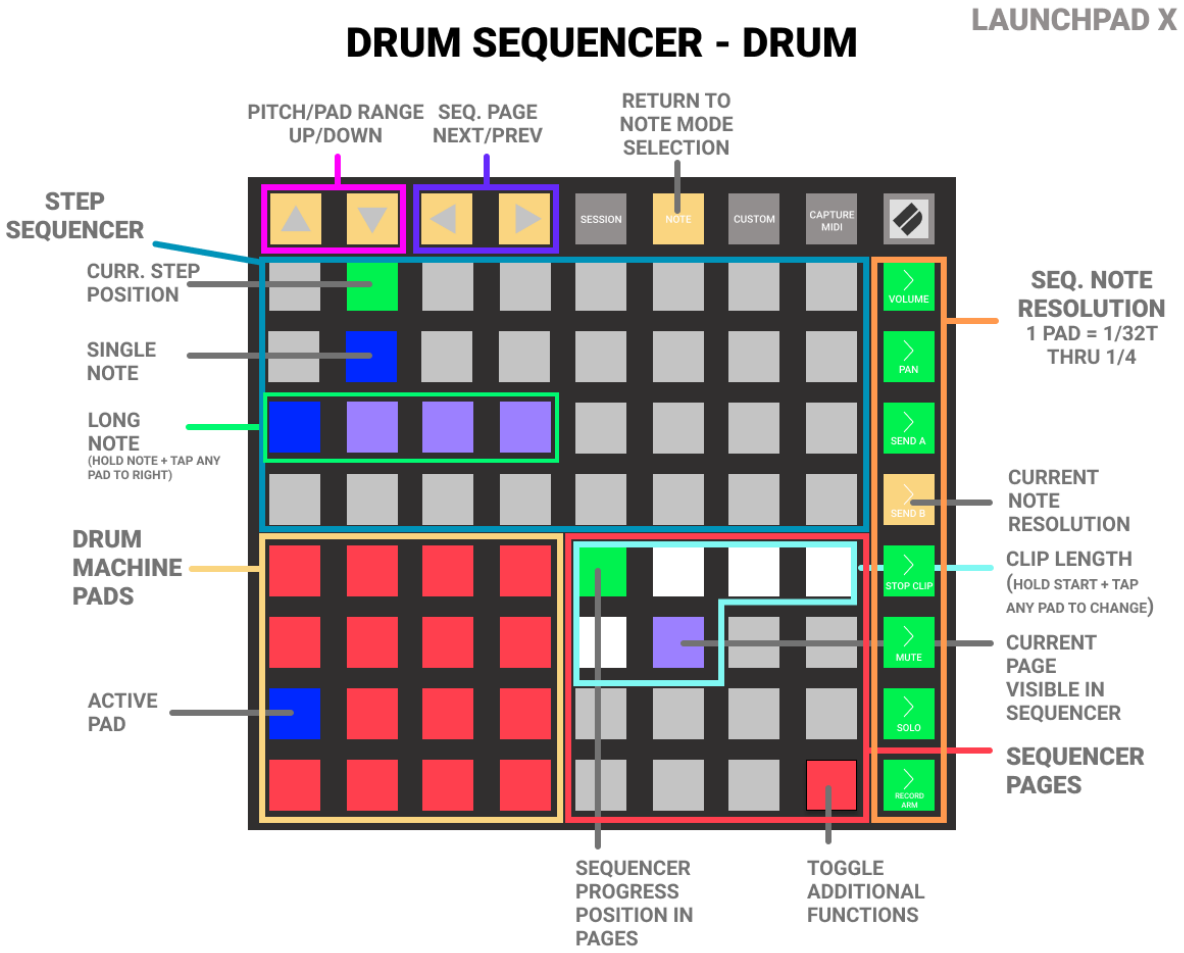
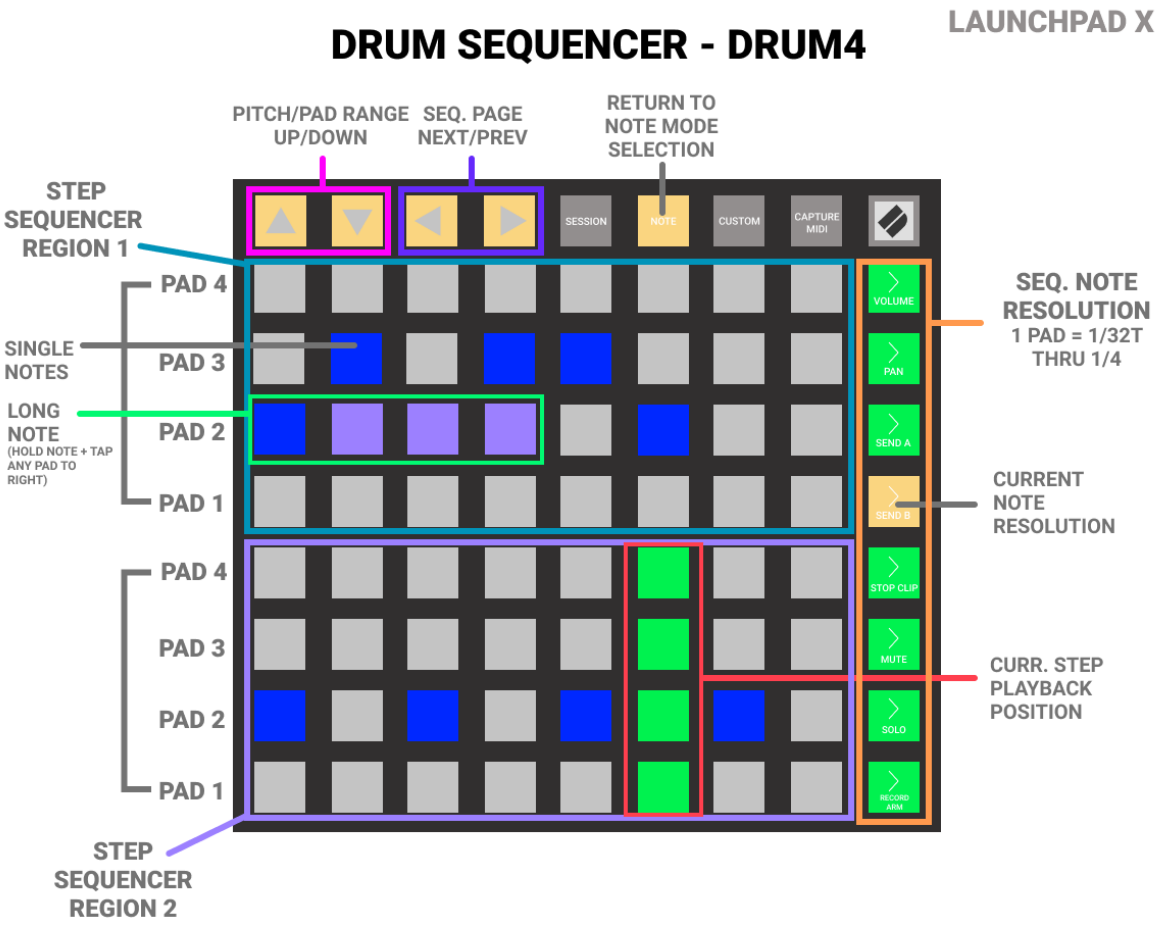


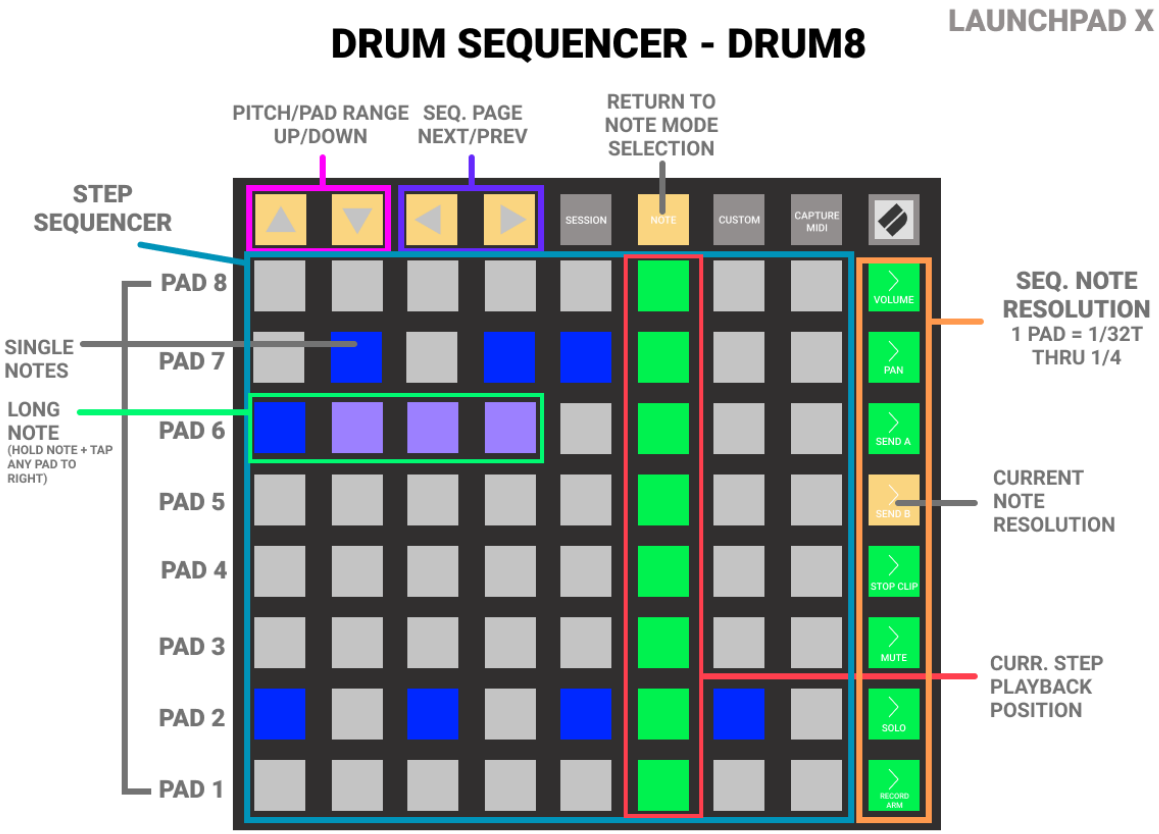
Figure 11: Drum Sequencer Mode - Drum

Drum 4 and Drum 8 sequencer

Press *"Note"* and select the second or third blue pad to change to *Drum 4* or *Drum 8*.

These drum sequencers show 4 or 8 drum sounds for sequencing. Use the cursor buttons to move in the clip.





Device Mode

Press *"Device"* to enter the **Device** mode:

- Each column of the grid controls a parameter of the currently selected device.
- These virtual faders use the same colors as the Bitwig highlight colors.
- Hit buttons harder for faster fader change.
- **Cursor up/down**: Select the next / previous device
- **Cursor left/right**: Select the next / previous parameter bank
- **Scene Button 1**: Toggle the device on/off
- **Scene Button 2**: Toggle the device window
- **Scene Button 3**: Toggle the display of the remote control parameters section
- **Scene Button 4**: Toggle the display of the device user interface
- **Scene Button 5**: Pin the selected device and track
- **Scene Button 6**: -
- **Scene Button 7**: -
- **Scene Button 8**: Opens the browser

Project/Track Parameter Mode

Press *"Device"* twice to enter this mode. This mode either controls the Project or Track parameters.

- **Cursor up/down**: Switches between controlling Project or (selected) Track parameters.

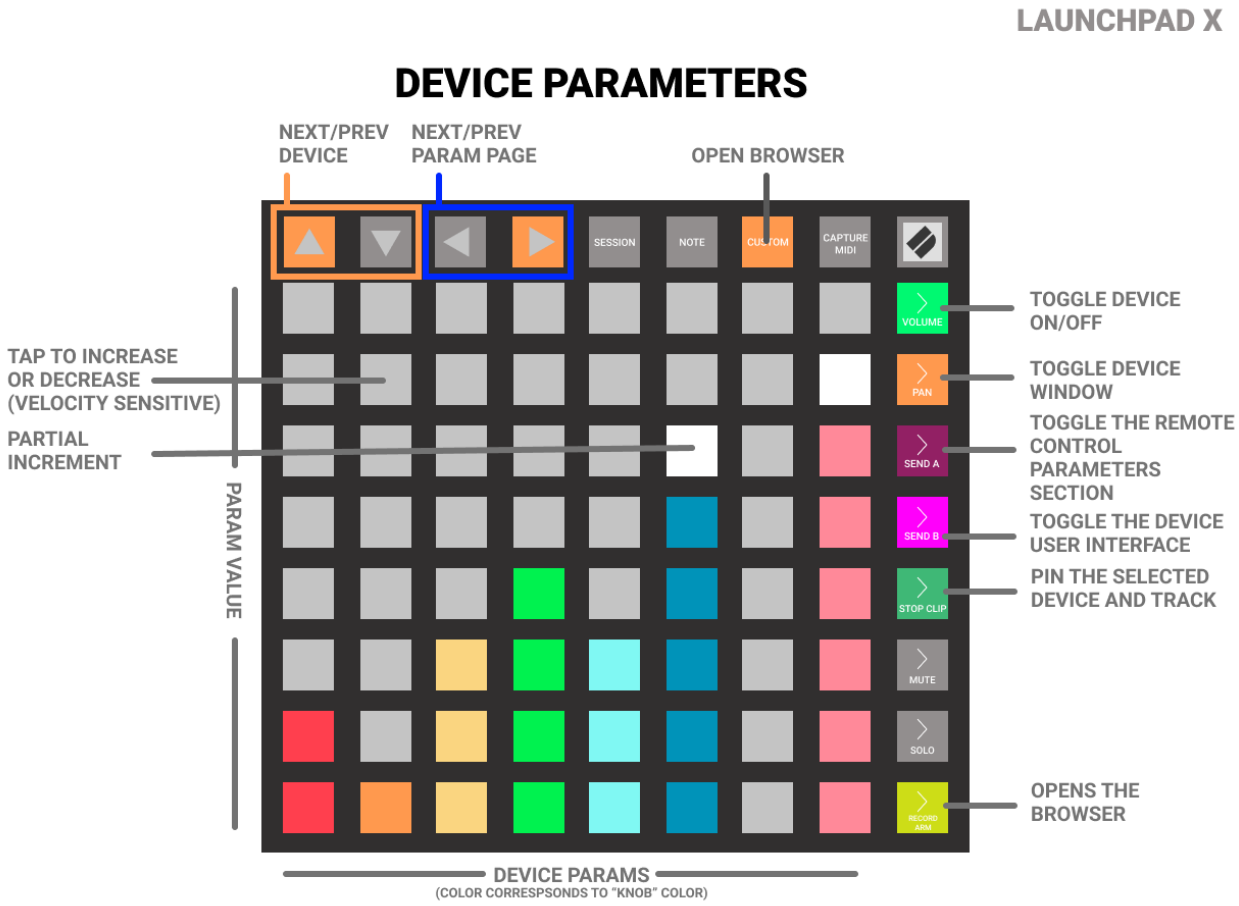


Figure 12: Device Mode

- **Cursor left/right**: Switches pages.
- **Scene buttons**: Select the pages 1-8.

Browser Mode

Press *"Device"* twice to enter the browser mode for preset selection. It will only enter the mode if a device is currently selected. Press *"Shift+Device"* to open the device browser to add a device after the currently selected one.

- The first 6 columns of the grid relate to the first 6 columns of the preset browser.
- The 8th column (yellow) relates to the result (preset or device) column of the browser.
- The 1st row moves the selection up by 1.
- The 2nd row moves the selection up by 8.
- The 3rd row moves the selection down by 8.
- The 4th row moves the selection down by 1.
- The red button dismisses the new preset or device selection and closes the browser.
- The green button confirms the new preset or device selection and closes the browser.
- The purple buttons are for previewing presets of instrument devices.
- Left/Right buttons switch to the next / previous browser tab.
- Up/Down buttons switch from replacing the current device to inserting a new device before or after it.

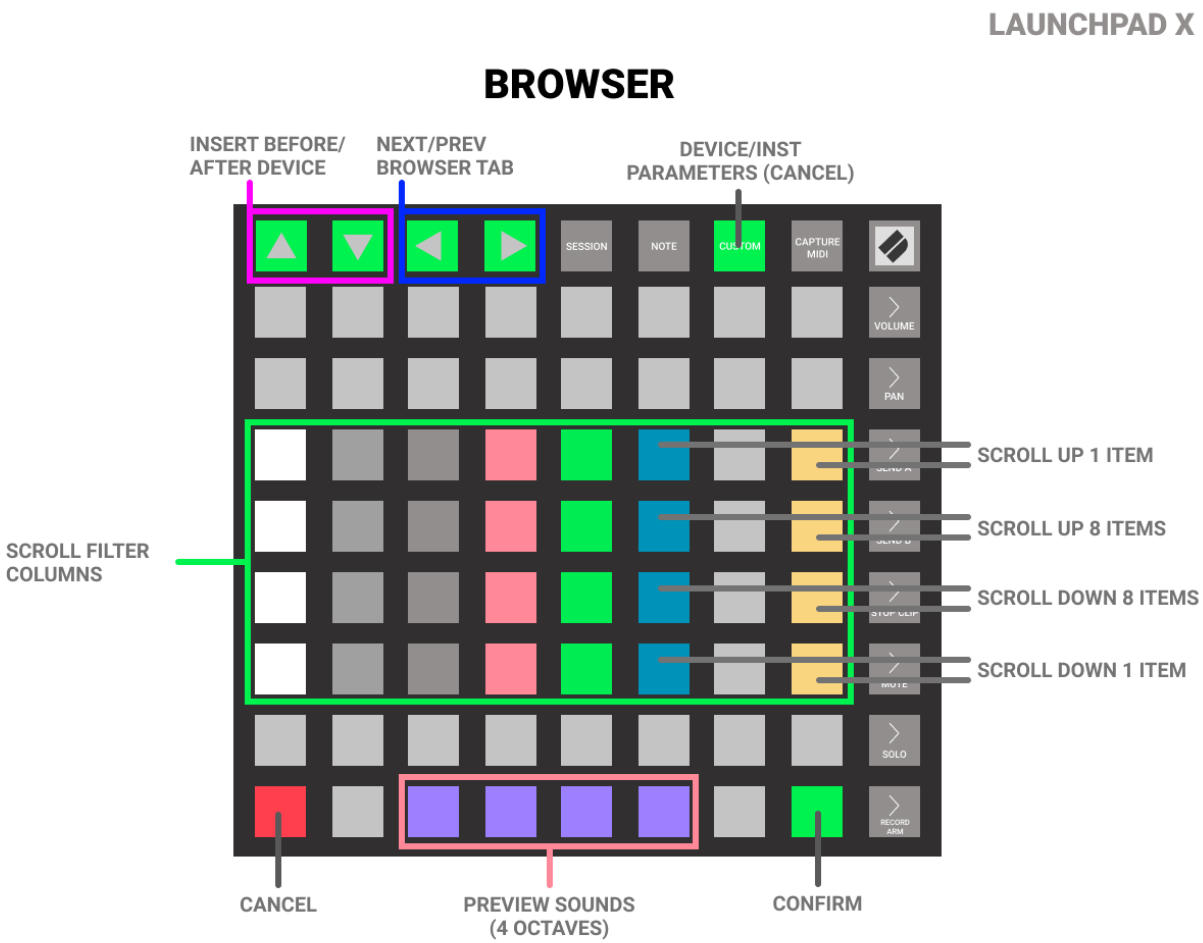


Figure 13: Browser Mode

Tempo mode

On all models, press Shift and either the arrow up or down button. On the Pro models you can also press **Shift+Device**.

The grid displays the current tempo. Change the tempo with the cursor keys. Up/down change by 1 and left/right by steps of 10. You can also keep a button pressed for continuous changes. If you do not release the Shift button when entering the mode with up/down the up/down buttons change the fractions of the tempo.

Press any of the grid pads to exit this mode.

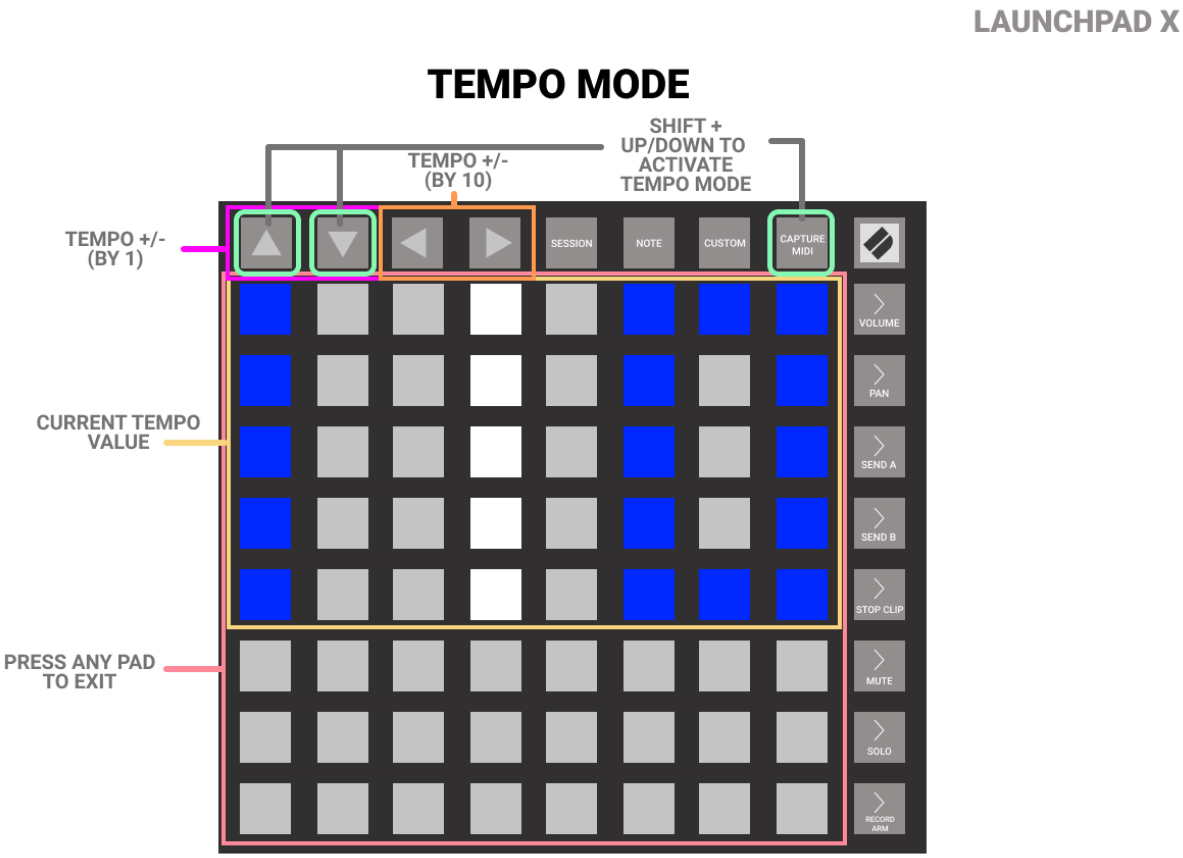


Figure 14: Tempo Mode

Shuffle mode

Press **Shift+Stop clip** on the Pro models. On all other models. Press Shift and either the arrow left or right button.

The grid displays the current shuffle value. Change the value with the cursor keys. Up/down change by 1 and left/right by steps of (about) 10. You can also keep a button pressed for continuous changes.

Press any of the grid pads to exit this mode.

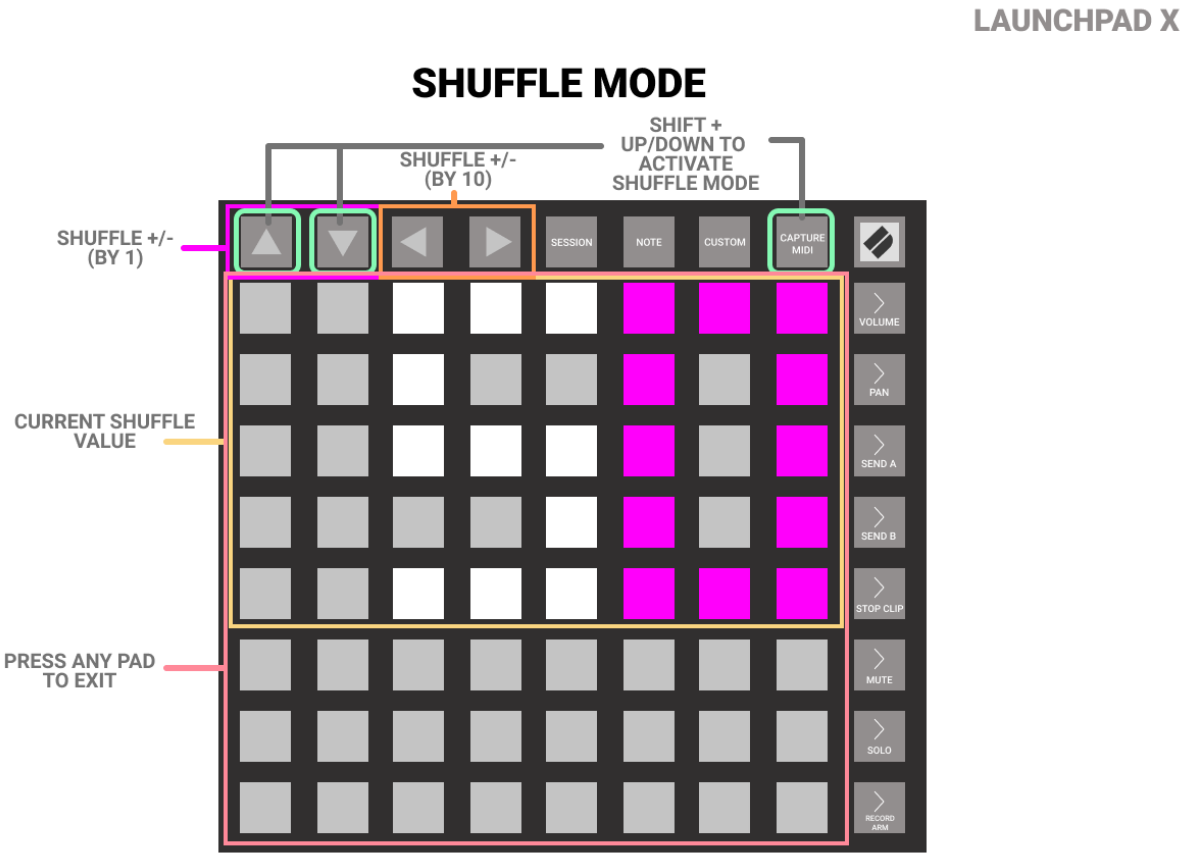


Figure 15: Shuffle Mode

Clip Length Mode (only Launchpad Pro / Pro Mk3)

Press **User** button on Pro or **Custom** button on the Pro Mk3 to enter.

- The pads change the length of the currently selected clip loop
- This is the default view for audio tracks.

Project mode (only Launchpad Pro Mk3)

Press the **Project** button to enter.

- Top Border (from left to right):
  - Switch to previous project (if multiple projects are open)
  - Toggle Audio Engine on/off of the selected project
  - Switch to next project (if multiple projects are open)
- Left Border: Toggle the inspector pane
- Right Border: Toggle the Browser pane
- Bottom Border (from left to right):
  - Toggle Note editor pane
  - Toggle Automation editor pane
  - Toggle Devices pane
  - Toggle Mixer pane
- Center buttons: Select layouts 1-3
- Cursor keys left/right: Zoom the arranger (arranger pane needs to be active!)
- Cursor keys up/down: Toggle track height (arranger or clip pane needs to be active!)

Preferences Settings

You can set several preferences which are stored when you exit the DAW. These are global settings and not specific to projects.

Play and Sequence

- Activate Fixed Accent: If a note is played the velocity is ignored and a fixed value is used.
- Fixed Accent Value: The velocity value to use when fixed accent is active.
- Quantize Amount: The amount of quantization to use when Quantize is executed. 100% aligns all notes fully to the grid.
- Startup view: The view that should be selected on startup.
- Start with session view: Enables the session view on startup if active otherwise the default note view is displayed.
- Turn off scale pads: Activate to turn off the pads which are not the root note (instead of being white).
- Notify played chords: Displays the played chords or notes if enabled.

Transport

- Behaviour on Pause: Sets the action to be executed when playback is stopped with the Play button.
- Record button: Configure the function to execute when the record button is pressed.
- Shift + Record button: Configure the function to execute when the record button is pressed in combination with the Shift button.

Session

- Flip Session: Change the orientation of the tracks/clips horizontal or vertical.
- Select clip/scene on launch: If a clip/scene is started from the controller and this setting is off the clip/scene will not be selected. Use if you edit another clip and want not to change the focus.
- Action for pressing rec armed empty clip: what should happen if you press an empty clip in the session view?

Drum Sequencer

- Auto-select drum settings: If *channel* is selected and a drum pad is played the display switches to the layer settings of the drum cell.
- Turn off empty drum pads: Empty drum cells are displayed in orange. If enabled they pad LEDs are off.

Workflow

- Exclude deactivated items: If active, deactivated items like tracks will not be displayed on the controller. This cleans up the displayed banks but also prevents the options to activate a deactivated item from the controller.
- Include (Group-)Mastertrack: If set to off, the group-master tracks are removed from the track bank.
- New clip length: The length of a clip created with the New function.

Pads

- Convert Poly Aftertouch to: The pads support poly aftertouch. If the device you play does not support this option allows to change it to Channel Aftertouch or a MIDI CC command.
- Brightness (only available on *Mini Mk3* and *X*): Set the global brightness of the pads.

Document Settings

These settings are specific to each project.

Scales

- Scale: Select the scale.
- Base: Select the base note of the scale.
- In Key: Select *Chromatic* to also display notes which are not part of the scale.
- Layout: Select the layout of the scale for the Play mode. The numbers are the offsets between the rows of the grid. The arrows depict the direction from lower to higher notes: left to right or bottom to top.

Note Repeat

- Active: Enable note repeat.
- Period: The repeat rate of the note repeat.
- Length: The length of a repeated note.
- Mode: The arpeggiator mode.
- Octave: The octave range which is used by the arpeggiator.

Novation Remote SL MkI & MkII

Support script for Novation's Remote MkII controller. You can control track parameters, devices, transport, play the pads, start scenes and a step sequencer.

Installation

- If you added the controller manually, choose the 2nd MIDI port of the device as in-/output. Select the first port as the 2nd input.

Introduction

The Transport button acts as a kind of Shift key. If you press it (no need to keep pressed) the behaviour of the Transport buttons changes slightly and you can switch between Control and Play mode. To switch mode use the first row buttons. Use the P1 buttons to access several menus of a specific row.

Notes for the **ZeRO SL MkII**:

- The script also supports this model
- The P1 up/down buttons are the Page left/right buttons on the ZeRO
- The P2 up/down buttons are the Page left/right buttons with keeping the Preview button pressed at the same time on the ZeRO
- To switch the display to a specific row keep the Preview button pressed and press a button on the row.
- The Crossfader is the same as the X-axis of the Touchpad and therefore can be configured with the Touchpad settings.

Control Mode

1. 1st button row - Various functions
    - **Undo** - Undoes the last operation.
    - **Redo** - Redoes the last operation.
    - **Delete** - Like pressing the delete key.
    - **Double** - Duplicates the selected item(s), notes, etc.
    - **New** - It creates a new clip on the selected track and slot, starts play and enables overdub.
    - **Window** - Open/close the VST window.
    - **Metronome** - Toggle the metronome.
    - **Tap Tempo** - Tap Tempo.
    - Press row selection button twice (or use the P1 buttons) to edit the length of the clip which is created when you execute the **New** function.
2. 1st knob row - Edit device parameters
    - Use the up/down P1 buttons to select the next/previous 8 device parameters.
    - 8 edit knobs: Change 8 parameters of the selected device (FX).
3. 2nd button row - Toggle parameters of selected track and device
    - **Mute** - (Un-)mutes the selected track.
    - **Solo** - (Un-)solos the selected track.
    - **Rec Arm** - Arm/disarm the selected track.
    - **Write** - Toggle Automation Write of selected track.
    - **Browse** - Press Browse to enter patch selection mode for the currently selected device. Press one of the buttons to select changing of a filter or patch. Then use the first 2 buttons for navigation. Confirm with the 8th button or discard with all others.
    - **Device** - Dis-/Enable the currently selected device.
    - **«Device** - Select the previous device in the chain.
    - **Device»** - Select the next device in the chain.

- Press row selection button twice (or use the P1 buttons) to switch perspectives and dis-/enable panels.

4. 2nd knob row - Edit parameters of selected track.

   - **Volume** - Change the volume of the selected track.
   - **Pan** - Change the panning of the selected track.
   - **Crossfader** - Change the crossfader A or B setting of the selected track.
   - **Send 1** - Change the volume of 1st send of the selected track.
   - **Send 2** - Change the volume of 2nd send of the selected track.
   - **Send 3** - Change the volume of 3rd send of the selected track.
   - **Send 4** - Change the volume of 4th send of the selected track.
   - **Send 5** - Change the volume of 5th send of the selected track.

5. Drum Pads - Plays the Midi notes 36 to 43

6. Sliders - Change volume of selected 8 tracks

   - Select row to see the track names and volumes
   - Use the up/down P2 buttons to select the next/previous 8 tracks (track bank)

7. 3rd button row - Track selection

   - Press one of the buttons to select one of the 8 tracks of the current track bank. Selecting an already selected group track toggles its' expanded state.

8. 4th button row - Transport Off

   - **« (Rewind)** - Rewinds play cursor position until released.
   - **« (Forward)** - Forwards play cursor position until released.
   - **[] (Stop)** - Stop playback. Press twice to move play cursor to start of song.
   - **> (Play)** - Start/Stop playback. Double click to move play cursor to start of song.
   - **Loop** - Toggle repeat
   - **Record** - Toggle Arranger recording
   - **7th button** - Decreases tempo until released.
   - **8th button** - Increases tempo until released.

9. 4th button row - Transport On Same as above but

   - **Record** - Toggle launcher overdub
   - 7th and 8th button do not work

Play Mode

The functionality of this mode is twofold: You can start scenes and sequence. The step sequencer is mainly intended for drums but works also with notes. The sequencer uses the buttons below the faders which form 16 steps. They have two modes which are toggled with the 8th button of the 2nd button row. The first mode is for playing the notes, the last played note selects it for the step sequencer. The second mode allows to dis/enable each step.

1. 1st button row - Launch Scenes

   - Launch the 8 scenes of the current scene bank
   - Use the P1 buttons to move the page bank. **Note:** The names are always Scene 1 to Scene 8 on each page (API limitation). To prevent confusion give names to your scenes.

2. 1st knob row - Same as in Control mode

3. 2nd button row - Toggle parameters of selected track and device

   - Octave down
   - Octave up

- Resolution down
- Resolution up
- Scroll grid left
- Scroll grid right
- No function
- Toggle Play / Sequence

4. 2nd knob row - Same as in Control mode
5. Drum Pads - Same as in Control mode
6. Sliders - Same as in Control mode
7. 3rd + 4th button row - Play notes / sequence
    - Toggle step or play/select notes

Preferences Settings

You can set several preferences which are stored when you exit the DAW. These are global settings and not specific to projects.

Touchpad

- Mode: Select what to control with the touchpad.

Workflow

- Exclude deactivated items: If active, deactivated items like tracks will not be displayed on the controller. This cleans up the displayed banks but also prevents the options to activate a deactivated item from the controller.
- New clip length: The length of a clip created with the New function.
- Use drum pads for mode selection: The drums can be used to select the different modes if enabled.

Transport

- Behaviour on Stop: Sets the action to be executed when playback is stopped with the Stop button.
- Behaviour on Pause: Sets the action to be executed when playback is stopped with the Play button.

Novation SL Mk III

Support for Novation's SL Mk III controller.

Installation

Important: Make sure that you have the latest firmware for your device installed with the Novation Components application! Otherwise, you might have strange effects!

- If you added the controller manually, choose the 2nd MIDI port of the device as in-/output. Select the first port as the 2nd input.
- To activate DAW control you need to press the **INCONTROL button** on the SL MkIII, which is on the left between the Global and Tempo button. Toggling the button allows you to use both the DrivenByMoss features as well as the hardware features of the SL!

Global Features

- « - Move the play cursor to the left in the arranger.
- » - Move the play cursor to the right in the arranger.
- **Stop** - Stop playback. Press again to move play cursor to start of song. Double click to move play cursor to the end of the song.
- **Play** - Start/Stop playback. Double click to move play cursor to start of song. You can configure the behavior on stop in the preferences.
- **Shift+Play** - Toggle repeat.
- **Repeat** - Toggle repeat.
- **Record** - Start/Stop recording.
- **Shift+Record** - Toggle launcher overdub.
- **Duplicate** - Duplicates the first selected clip on the current track. Combine with a pad in session mode (duplicate clip) or a track select button (duplicate track).
- **Clear** - Like pressing the delete key. Hold the button for additional functionality in combination with other buttons and knobs, see the mode and view explanations below.

Fader and button section

- The faders always control the volume of the 8 tracks currently in view.
- The LEDs above the faders show the color of the track. The higher the volume of the track, the brighter the LED.
- The buttons above the LEDs allow to control either Mute/Solo or Monitor/Arm states. Use the up/down buttons to the right to switch between the two options.

Modes

- Hold the Clear button and move an encoder to reset a value to its default value in all modes.
- Hold the Duplicate button and press one of the Select buttons below the display to duplicate an item.
- Hold the Clear button and press one of the Select buttons below the display to remove an item.
- Hold the Shift button when using the Encoders for fine increment value changes.

Options Mode

Press the "Options" button to activate.

- Knob 1 **Mstr Vol** - Changes the Master Volume
- Knob 2 **Mstr Pan** - Changes the Master Panorama
- Knob 5 **Tempo** - Changes the Tempo
- Knob 6 **Metronome** - Changes the Metronome Volume

- Button 1 **Undo** - Undoes the last action
- Button 2 **Redo** - Redoes the previously undone action
- Button 3 **« Project** - Switch to the previous opened project
- Button 4 **Project»** - Switch to the next opened project
- Button 5 **Tap** - Press multiple times to tap a new tempo
- Button 6 **Off/On** - De-/activate the Metronome
- Button 7 **Engine** - Dis-/Enable audio engine
- Button 8 **Quantize** - Quantize the currently selected clip

Track Modes

Press the **Down button** left to the display to switch between the different modes. Alternatively, hold the Down button and select one of the modes with the select buttons below the display.

1. **Track** - The Down button LED is lit **Green**
   - 8 edit knobs: Change volume/pan/Send1-6 of selected track. Hold **Shift** for fine adjustments.
   - 8 buttons: Press to select a track
   - Track Left/Right buttons: Select next/previous track
   - Shift+Track Left/right arrows: Select next/previous track bank
2. **Volume** - The Down button LED is lit **Blue**
   - 8 edit knobs: Change volume of selected 8 tracks. Hold **Shift** for fine adjustments.
   - Buttons behave as above.
3. **Pan** - The Down button LED is lit **Amber**
   - 8 edit knobs: Change pan of selected 8 tracks. Hold **Shift** for fine adjustments.
   - Buttons behave as above.
4. **Send 1-8** - The Down button LED is lit **Yellow**
   - 8 edit knobs: Change volume of Send 1-8 selected 8 tracks. Hold **Shift** for fine adjustments.
   - Buttons behave as above.

In all track modes hold **Shift** for additional functions:

- Button 1 **On/Off**: De-/Activate track.
- Button 2 **Pin**: Pin the track (does no longer follow the selection in Bitwig).
- Button 3 **Color**: Select a new color for the track. After pressing the button press one of the pads to select a color. You can access more colors by using the Scene up/down buttons.
- Button 5 **New Clip**: Creates a new clip on the current track.
- Button 6 **Add Instr**: Adds a new instrument track.
- Button 7 **Add Audio**: Adds a new audio track.
- Button 8 **Add FX**: Adds a new effect track.

Device Modes

Press the **Up button** left to the display to switch to Device mode and toggle between the display of devices and parameter pages. Alternatively, hold the **Up button** and select one of the modes with the select buttons below the display. This menu also contains the **First Instrument** (press 6th button), **Project FX** (press 7th button) and the **Track FX** mode (press 8th button).

1. **Device - Devices** - The Up button LED is lit **Mint**
   - 8 edit knobs: Change 8 parameters of the selected device (FX). Hold **Shift** for fine adjustments. Hold the Clear key and turn the encoder to reset its value.
   - Buttons select a device of the selected track.
2. **Device - Parameter Pages** - The Up button LED is lit **Purple**
   - 8 edit knobs: As above.

    - Buttons select a parameter page of the selected device.
3. **First Ins** - The Up button LED is lit **Yellow**
    - 8 edit knobs: Change the value of the mapped first instrument parameters on the selected track.
    - Buttons select a parameter page.
4. **Project FX** - The Up button LED is lit **White**
    - 8 edit knobs: Change the value of the mapped project parameters.
    - Buttons select a parameter page.
5. **Track FX** - The Up button LED is lit **Amber**
    - 8 edit knobs: Change the value of the mapped parameters of the selected track.
    - Buttons select a parameter page.

In the device and parameters modes hold **Shift** for additional functions:

- Button 1 **On/Off**: De-/Activate the selected device
- Button 2 **Params**: Show/hide the remote controls section of the currently selected device
- Button 3 **Expanded**: Show the currently selected device in narrow or wide form
- Button 4 **Window**: Show/hide the device window (if any)
- Button 5 **Pin**: Pin the device (does no longer follow the device selection in Bitwig)
- Button 6 **« Insert**: Open the browser to add a device before the currently selected one
- Button 7 **Replace**: Open the browser to replace the currently selected device or select a different preset
- Button 8 **Insert »**: Open the browser to add a device after the currently selected one

Buttons 6-8 open the browser mode, which works as follows:

- Columns 1/2 buttons/knobs: Select the browser tab
- Columns 3/4 buttons/knobs: Select the filter column
- Columns 5/6 buttons/knobs: Select the filter columns value
- Columns 7/8 buttons/knobs: Select the result value

Grid Modes

1. **Session** - The Grid button LED is lit **Green**

Press the Grid button till the LED is lit Green to enter **Session** mode.

- The buttons on the grid start/record the clips. The behaviour depends on the clip launch and launch release settings (Bitwig only).
- Long press a pad to select the clip without starting it.
- The 2 scene buttons start scenes.
- The arrow keys left of the grid scroll the grid. Hold **Shift** to scroll in blocks of 8.
- Press **Clear** + Pad In Session Mode to delete the clip.
- Press **Stop** + Pad In Session Mode to stop the clip.

2. **Sequencer** - The Grid button LED is lit **Blue**

Press the Grid button till the LED is lit Blue to enter **Sequencer** mode.

The Sequencer is mainly intended for Drum Sequencing but can also be used for instruments.

- Make sure that a MIDI clip is selected.
- If a Bitwig Drum Instrument is selected the steps are drawn in the color of the selected drum pad.
- Press one of the pads to play and select a note.

Switch to step view with the Scene 1 button. In step view:

- Dis-/enable the steps by pressing the pads.
- Change the note length or create long notes by pressing a note pad, keep it pressed, wait a bit and then press a pad right to it.

- Long press a step to edit the note. Selected notes are lit in yellow. The first four buttons select between the different edit pages of the note edit mode which contain many note parameters. On the last page, to edit the recurrence pattern hold the Shift button and use the buttons below the display to toggle the steps. The length of the recurrence pattern can be changed with all knobs.
- **Scene 1** - Toggle between note and step view
- **Scene 2** - Open the resolution selection mode. Press one of the buttons below the display to select a resolution.
- **Scene up/down** - Change the range of selected notes.
- **Shift+Scene up/down** - Navigate the pages of a clip.
- **Shift+Pad** - Enables and increases note repeat by 1.

Preferences Settings

You can set several preferences which are stored when you exit the DAW. These are global settings and not specific to projects.

Workflow

- Exclude deactivated items: If active, deactivated items like tracks will not be displayed on the controller. This cleans up the displayed banks but also prevents the options to activate a deactivated item from the controller.
- New clip length: The length of a clip created with the New function.
- Knob Speed Normal: Adjust the speed of the knobs
- Knob Speed Slow: Adjust the speed of the knobs when used with Shift for fine adjustments
- Enable Faders: Option to disable the faders to prevent unwanted value changes.
- Enable Lightguide: Activates the light guide, which displays the currently selected scale. The root note is lit in the color of the currently selected track. Change the scale and root note in the document settings.

Transport

- Behaviour on Stop: Sets the action to be executed when playback is stopped with the Stop button
- Behaviour on Pause: Sets the action to be executed when playback is stopped with the Play button

Session

- Select clip/scene on launch: If a clip/scene is started from the controller and this setting is off the clip/scene will not be selected. Use if you edit another clip and want not to change the focus.
- Display clips of record enabled tracks in red: if enabled, in the session view for record enabled tracks the empty pads are displayed in red.
- Action for pressing rec armed empty clip: what should happen if you press an empty clip in the session view.

Open Sound Control (OSC) protocol

Supports the OSC protocol.

Installation

1. Click on *Add controller*, select *Open Sound Control* and click on *Add*.
2. Select a midi input port. It is not really important which one you choose because it is just used to insert midi notes into the DAW received as an OSC command. Best thing is to use a virtual midi port.
3. Adjust the IP-addresses and ports of your computer and the client device you want to use.

The ZIP file has a folder *resources/OSC* which contains example files for Cycling 74s Max and Open Stage Control. Note: The templates require the setting "resolution" to be set to low.

Command documentation

The parameters of the command documentation below are as follows: * Possible values are shown in curly braces, e.g. {0,1} means that the value can either be 1 or 0. * A dash means an integer value range, e.g. {0-20} means all value starting from 0 up to and including 20. * *MAX_VALUE* is configured in the configuration settings. * If the comment contains a question the value 1 means *Yes* and the value 0 *No*. * {color} depicts an RGB color formatted as: *rgb(r,g,b)* with r,g,b in the range of {0-255}. * {0,1,-} means that either the off/on value can be turned on (1) or off (0) or toggled if the value is omitted.

The following OSC messages are sent from the script

Send - Global

Command	Value	Comment
/update	{0,1}	Sent before / after each update cycle (if there is at least 1 message).
/crossfade	{0-MAX_VALUE}	The crossfader value. 0 is to the left and MAX_VALUE to the right.
/project/name	{text}	The name of the project.
/project/engine	{0,1}	Is audio active (1) or off (0).
/project/param/selected/name	{text}	The name of the selected parameter.
/project/param/{1-8}/exists	{0,1}	Does the parameter exist?
/project/param/{1-8}/name	{text}	The name of the parameter.
/project/param/{1-8}/value	{0-MAX_VALUE}	The value of the parameter.
/project/param/{1-8}/valueStr	{text}	The value of the parameter formatted as a text.
/project/param/{1-8}/modulatedValue	{0-MAX_VALUE}	The modulated value of the parameter.
/project/page/selected/name	{text}	The name of the selected parameter page.
/project/page/{1-8}/exists	{0,1}	Does the parameter page exist?
/project/page/{1-8}/selected	{0,1}	Is the parameter page selected?
/project/page/{1-8}/name	{text}	The name of the parameter page.

Send - Transport

Command	Value	Comment
/play	{0,1}	Is playback active?
/record	{0,1}	Is recording active?
/repeat	{0,1}	Is repeat active?

Command	Value	Comment
/click	{0,1}	Is the metronome active?
/click/volume	{0-MAX_VALUE}	The volume of the metronome.
/click/volumeStr	{text}	The volume of the metronome formatted as a text.
/click/ticks	{0,1}	Should there be ticks played between the main metronome beats?
/click/preroll	{0,1}	Should there be a preroll before recording?
/preroll	{0,1,2,4}	The number of bars to preroll before recording?
/punchIn	{0,1}	Is punch in active?
/punchOut	{0,1}	Is punch out active?
/overdub	{0,1}	Is arranger overdub active?
/overdub/launcher	{0,1}	Is clip launcher overdub active?
/autowrite	{0,1}	Is arranger automation write active?
/autowrite/launcher	{0,1}	Is clip launcher automation write active?
/automationWriteMode	{latch,touch,write}	The active automation mode.
/time/str	{text}	Play position formatted as time: hours.minutes.seconds:milliseconds
/time/signature	{text}	The signature at the play position: numerator / denominator
/beat/str	{text}	Play position as beats: Bitwig: measures.quarters.eights:ticks Reaper: measures.beats:ticks,
/tempo/raw	{0-666}	The tempo at the play position.
/quantize		Quantize the currently selected clip.
/launcher/ postRecordingAction	{off,play_recorded, record_next_free_slot, stop,return_to_arrangement, return_to_previous_clip,play_random}	The action to execute after recording a clip.
/launcher/ postRecordingTimeOffset	{0-4000}	The time offset of the post recording action in beats.
/launcher/ defaultQuantization	{none,1,2,4,8,1/2,1/4, 1/8,1/16}	The default clip launcher quantization.

Send - Layout and panels

Command	Value	Comment
/layout	{arrange,mix,edit}	Selects the active layout
/arranger/playbackFollow	{0,1}	Is *follow playback* active?
/arranger/trackRowHeight	{0,1}	Is track row height large (1) or small(0)?
/arranger/cueMarkerVisibility	{0,1}	Are markers visible?
/arranger/clipLauncherSectionVisibility	{0,1}	Is the clip launcher section visible in the arranger layout?
/arranger/timeLineVisibility	{0,1}	Is the time line visible in the arranger layout?
/arranger/ioSectionVisibility	{0,1}	Is the input/output section visible?
/arranger/effectTracksVisibility	{0,1}	Are effect tracks visible?
/mixer/clipLauncherSectionVisibility	{0,1}	Is the clip launcher section visible in the mixer layout?
/mixer/crossFadeSectionVisibility	{0,1}	Is the crossfade section visible?
/mixer/deviceSectionVisibility	{0,1}	Is the device section visible in the mixer layout?

Command	Value	Comment
/mixer/sendsSectionVisibility	{0,1}	Are the sends visible in the mixer layout?
/mixer/ioSectionVisibility	{0,1}	Is the input/output section visible in the mixer?
/mixer/meterSectionVisibility	{0,1}	Is the meter section visible in the mixer?

Send - Track

Command	Value	Comment
/track/toggleBank	{0,1}	Is the Effect track bank is active?
/track/hasParent	{0,1}	Is there a parent group track? A group/folder content is displayed.
/track/{1-8}/name	{text}	The name of the track.
/track/{1-8}/type	{unknown, audio, instrument, hybrid, group, effect, master, layer}	The type of the track.
/track/{1-8}/isGroup	{0,1}	Is the track a group track?
/track/{1-8}/activated	{0,1}	Is the track active?
/track/{1-8}/exists	{0,1}	Does the track exist?
/track/{1-8}/canHoldNotes	{0,1}	Can the track hold notes (aka a MIDI track)?
/track/{1-8}/canHoldAudioData	{0,1}	Can the track hold audio?
/track/{1-8}/position	{0-N-1}	The position of the track in all tracks, 0-based
/track/{1-8}/selected	{0,1}	Is the track selected?
/track/{1-8}/volume	{0-MAX_VALUE}	The volume of the track.
/track/{1-8}/volumeStr	{text}	The volume of the track formatted as text.
/track/{1-8}/pan	{0-MAX_VALUE}	The panorama of the track. 0 is full left. MAX_VALUE full right.
/track/{1-8}/panStr	{text}	The panorama of the track formatted as text.
/track/{1-8}/mute	{0,1}	Is the track muted?
/track/{1-8}/solo	{0,1}	Is the track soloed?
/track/{1-8}/recarm	{0,1}	Is the track armed for recording?
/track/{1-8}/monitor	{0,1}	Is monitoring enabled for the track?
/track/{1-8}/autoMonitor	{0,1}	Is auto monitoring enabled for the track?
/track/{1-8}/crossfadeMode/{A,B,AB}	Crossfade mode set for the track: A = Channel A, B = Channel B, AB = both.	
/track/{1-8}/vu	{0-MAX_VALUE}	The current VU meter output value of the track when played back.
/track/{1-8}/color	{color}	The color of the track.

Command	Value	Comment
/track/{1-8}/recordQuantization	{OFF, 1/32, 1/16, 1/8, 1/4}	The default record quantization for the MIDI input of the track. This is the global value in Bitwig.
/track/{1-8}/send/{1-8}/activated	{0,1}	Is the send disabled (=0) or enabled (=1)?
/track/{1-8}/send/{1-8}/volume	{0-MAX_VALUE}	The volume send to the send channel.
/track/{1-8}/send/{1-8}/volumeStr	{text}	The volume send to the send channel formatted as text.
/track/{1-8}/send/{1-8}/name	{text}	The name of the send channel.
/track/selected/pinned	{0,1}	Is the cursor track pinned? Doesn't follow selection in DAW.
/track/selected/{attribute}	{value}	All attributes as above for the currently selected track.
/track/param/selected/name	{text}	The name of the selected parameter.
/track/param/{1-8}/exists	{0,1}	Does the parameter exist?
/track/param/{1-8}/name	{text}	The name of the parameter.
/track/param/{1-8}/value	{0-MAX_VALUE}	The value of the parameter.
/track/param/{1-8}/valueStr	{text}	The value of the parameter formatted as a text.
/track/param/{1-8}/modulatedValue	{0-MAX_VALUE}	The modulated value of the parameter.
/track/page/selected/name	{text}	The name of the selected parameter page.
/track/page/{1-8}/exists	{0,1}	Does the parameter page exist?
/track/page/{1-8}/selected	{0,1}	Is the parameter page selected?
/track/page/{1-8}/name	{text}	The name of the parameter page.
/master/{attribute}	{value}	All attributes as above for the master track, except sends and track parameters.

Send - Scenes, Slots and Clips

Command	Value	Comment
/scene/{1-8}/exists	{0,1}	Does the scene exist?
/scene/{1-8}/name	{text}	The name of the scene.
/scene/{1-8}/selected	{0,1}	Is the scene selected?
/scene/color	{color}	The color of the scene.
/track/{1-8}/clip/{1-8}/name	{text}	The name of the clip in the slot (if any).
/track/{1-8}/clip/{1-8}/isSelected	{0,1}	Is the slot selected.
/track/{1-8}/clip/{1-8}/hasContent	{0,1}	Does the slot has a clip as content.
/track/{1-8}/clip/{1-8}/color	{color}	The color of the clip.
/track/{1-8}/clip/{1-8}/isPlaying	{0,1}	Is the clip playing back?
/track/{1-8}/clip/{1-8}/isRecording	{0,1}	Is the slot currently recording a clip?
/track/{1-8}/clip/{1-8}/isPlayingQueued	{0,1}	Is the clip queued for playback?
/track/{1-8}/clip/{1-8}/isStopQueued	{0,1}	Is the clip queued to be stopped? (does not work)

Command	Value	Comment
/track/{1-8}/clip/{1-8}/isRecordingQueued	{0,1}	Is the slot queued to record a clip?
/clip/exists	{0,1}	Does the cursor clip point to an existing clip?
/clip/color	{color}	The color of the clip the cursor clip is pointing to.
/clip/pinned	{0,1}	Is the cursor clip pinned? Doesn't follow selection in DAW.
/clip/name	{text}	The name of the cursor clip.

Send - Cursor Device / Primary Device / EQ

Command	Value	Comment
/device/exists	{0,1}	Does the device exist?
/device/name	{text}	The name of the device.
/device/bypass	{0,1}	Is the device bypassed?
/device/pinned	{0,1}	Is the cursor device pinned? Only for cursor device.
/device/expand	{0,1}	Is the device display expanded?
/device/parameters	{0,1}	Are the parameters of the device displayed?
/device/window	{0,1}	Is the plugin window displayed (if it has one)?
/device/param/{1-8}/exists	{0,1}	Does the parameter exist?
/device/param/{1-8}/name	{text}	The name of the parameter.
/device/param/{1-8}/value	{0-MAX_VALUE}	The value of the parameter.
/device/param/{1-8}/valueStr	{text}	The value of the parameter formatted as a text.
/device/param/{1-8}/modulatedValue	{0-MAX_VALUE}	The modulated value of the parameter.
/device/page/{1-8}/exists	{0,1}	Does the page exist?
/device/page/{1-8}/selected	{0,1}	Is the parameter page selected?
/device/page/{1-8}/name	{text}	The name of the parameter page.
/device/page/selected/name	{text}	The name of the selected parameter page.
/device/sibling/{1-8}/exists	{0,1}	Does the sibling device exist?
/device/sibling/{1-8}/name	{text}	The name of the devices sibling (devices before or after the device).
/device/sibling/{1-8}/bypass	{0,1}	Is the sibling device bypassed?
/device/sibling/{1-8}/selected	{0,1}	Is the sibling selected?
/device/layer/{1-8}/exists	{0,1}	Does the layer exist?
/device/layer/{1-8}/activated	{0,1}	Is the layer active?
/device/layer/{1-8}/selected	{0,1}	Is the layer selected?
/device/layer/{1-8}/name	{text}	The name of the layer.
/device/layer/{1-8}/volume	{0-MAX_VALUE}	The volume of the layer.
/device/layer/{1-8}/volumeStr	{text}	The volume of the layer formatted as a text.
/device/layer/{1-8}/pan	{0-MAX_VALUE}	The panorama of the layer.
/device/layer/{1-8}/panStr	{text}	The panorama of the layer formatted as a text.
/device/layer/{1-8}/vu	{0-MAX_VALUE}	The current VU meter output value of the layer.
/device/layer/{1-8}/mute	{0,1}	Is the layer muted?
/device/layer/{1-8}/solo	{0,1}	Is the layer soloed?
/device/layer/{1-8}/color	{color}	The color of the layer.

Command	Value	Comment
/device/layer/{1-8}/send/{1-8}/activated	{0,1}	Is the send disabled (=0) or enabled (=1)?
/device/layer/{1-8}/send/{1-8}/volume	{0-MAX_VALUE}	The volume send to the send channel.
/device/layer/{1-8}/send/{1-8}/volumeStr	{text}	The volume send to the send channel formatted as a text.
/device/layer/selected/{attribute}	{value}	All attributes as above for the currently selected layer.
/device/drumpad/{1-16}/{attribute}	{value}	All attributes as above for a drum pad layer.
/device/drumpad/selected/{attribute}	{value}	All attributes as above for the selected drum pad layer.
/primary/{attribute}	{value}	All attributes as above for the primary device of the channel, except siblings and pinning.
/eq/{attribute}	{value}	All attributes as above for the equalizer device of the channel, except parameters (see next section instead), siblings and pinning.

The following values are sent for the last hovered/clicked parameter:

Command	Value	Comment
/device/lastparam/exists	{0,1}	Does the parameter exist?
/device/lastparam/name	{text}	The name of the parameter.
/device/lastparam/value	{0-MAX_VALUE}	The value of the parameter.
/device/lastparam/valueStr	{text}	The value of the parameter formatted as a text.
/device/lastparam/modulatedValue	{0-MAX_VALUE}	The modulated value of the parameter.

Additional EQ parameters

Command	Value	Comment
/eq/type/{1-8}	{off, lowcut, lowshelf, bell, highcut, highshelf, notch}	The type of the band.
/eq/{param}/{1-8}/name	{text}	The name of the parameter.
/eq/{param}/{1-8}/value	{0-MAX_VALUE}	The value of the parameter.
/eq/{param}/{1-8}/valueStr	{text}	The value of the parameter formatted as a text.
/eq/{param}/{1-8}/modulatedValue	{0-MAX_VALUE}	The modulated value of the parameter.

{param} is *freq* for the frequency, *gain* for the The gain and *q* for the q-factor of the n-th band.

Send - Browser

Command	Value	Comment
/browser/isActive	{0,1}	Is the browser active?
/browser/filter/{1-6}/wildcard	{text}	The name of the wildcard for the filter.
/browser/filter/{1-6}/exists	{0,1}	Does the filter exist?
/browser/filter/{1-6}/name	{text}	The name of the filter.
/browser/filter/{1-6}/item/{1-16}/exists	{0,1}	Does the filter item exist?
/browser/filter/{1-6}/item/{1-16}/name	{text}	The name of the filter item.
/browser/filter/{1-6}/item/{1-16}/hits	{0-N}	The number of result hits if this filter item is applied.
/browser/filter/{1-6}/item/{1-16}/isSelected	{0,1}	Is the filter item selected?
/browser/result/{1-16}/exists	{0,1}	Does the result item exist?
/browser/result/{1-16}/name	{text}	The name of the result item.
/browser/result/{1-16}/isSelected	{0,1}	Is the result item selected?
/browser/tab	{name}	The name of the selected browser tab.

Send - Marker

Command	Value	Comment
/marker/{1-8}/exists	{0,1}	Does the marker exist?
/marker/{1-8}/name	{name}	The name of the marker.
/marker/{1-8}/color	{color}	The color of the marker.

Send - Play

Command	Value	Comment
/vkb_midi/note/{0-127}/color	{color}	The color to use for the note. These are colors for root notes, scale notes, out-of-scale notes, pressed or sequence notes (in red if recording is enabled).

The following OSC messages can be received by the script

Receive - Global

Command	Value	Comment
/refresh		Flushes all values to the clients.
/undo		Undoes the last action.
/redo		Redoes the last undone action.
/action	{1-20}	Execute one of the configured actions.
/project/{+,-}		Switch to the next/previous opened project.
/project/engine	{0,1,-}	De-/Activate the audio engine.
/project/save		Save the current project.
/project/param/{+,-}	{0,1,-}	Select the next/previous parameter page.
/project/param/bank/page/{+,-}	{0,1,-}	Select the next/previous 8 parameter pages.

Command	Value	Comment
/project/param/{1-8}/value	{0-MAX_VALUE}	Set the value of the project parameter.
/project/param/{1-8}/indicate		Toggle the edit indication.
/project/param/{1-8}/reset		Reset the parameter to its' default value.
/project/param/{1-8}/touched		Toggle the touched state.
/project/page/selected	{1-8}	Select a project parameter page.
/project/page/{1-8}		Select a project parameter page.

Receive - Transport

Command	Value	Comment
/stop		Stop playback.
/play	{0,1,-}	Stop/Start/toggle playback.
/playbutton	{1,-}	Toggles playback, you can configure the Stop behavior in the configuration settings.
/restart	{1,-}	Restarts playback from the beginning of the timeline.
/record		Start recording in the arranger.
/repeat	{0,1,-}	Disable, enable, toggle repeat (loop).
/click	{0,1,-}	Disable, enable, toggle the metronome.
/click/volume	{0-MAX_VALUE}	Set the metronome volume.
/click/ticks	{0,1,-}	Disable, enable, toggle the metronome ticks.
/click/preroll	{1,-}	Toggles the metronome in preroll.
/preroll	{0,1,2,4}	Set the number of bars to preroll before recording.
/punchIn	{0,1,-}	Disable, enable, toggle punch in.
/punchOut	{0,1,-}	Disable, enable, toggle punch out.
/overdub	{1,-}	Toggle arranger overdub.
/overdub/launcher	{1,-}	Toggle clip launcher overdub.
/crossfade	{0-MAX_VALUE}	Sets the crossfader value. 0 is to the left and MAX_VALUE to the right.
/crossfade/reset		Resets the crossfader to center position.
/autowrite	{1,-}	Toggle arranger automation write.
/autowrite/launcher	{1,-}	Toggle clip launcher automation write.
/automationWriteMode	{latch, touch, write}	Set the automation write mode.
/tempo/raw	{0-666}	Set the tempo. Can be a decimal value.
/tempo/tap	{1,-}	Trigger the tapping the tempo.
/tempo/{+,-}		In-/decreases the tempo by 1.
/time	{0-N}	Set the transport playback position. The new playback position in beats.
/position/{+,-}		Small in-/decrease of play position.
/position/{++,–}		Large in-/decrease of play position.

Command	Value	Comment
/position {-2,-1,1,2}		Small in-/decrease of play position for -1 and 1, large for all other values.
/launcher/postRecordingAction	{off, play_recorded, record_next_free_slot, stop,return_to_arrangement, return_to_previous_clip, play_random}	The action to execute after recording a clip.
/launcher/postRecordingTimeOffset	{0-4000}	The time offset of the post recording action in beats.
/launcher/defaultQuantization	{none, 1, 2, 4, 8, 1/2, 1/4, 1/8, 1/16}	The default clip launcher quantization.

Receive - Layout and panels

Command	Value	Comment
/layout/{arrange,mix,edit}		Switch to the given layout.
/panel/noteEditor		Toggle the note editor.
/panel/automationEditor		Toggle the automation editor.
/panel/devices		Toggle the devices section.
/panel/mixer		Toggle the mixer.
/panel/fullscreen		Toggle the main window fullscreen.
/arranger/cueMarkerVisibility		Toggle the visibility of the marker section.
/arranger/playbackFollow		Toggle *playback follow*.
/arranger/trackRowHeight		Toggle the track row height large (1) or small(0).
/arranger/clipLauncherSectionVisibility		Toggle the visibility of the clip launcher.
/arranger/timeLineVisibility		Toggle the visibility of the time line.
/arranger/ioSectionVisibility		Toggle the visibility of the arranger IO section.
/arranger/effectTracksVisibility		Toggle the visibility of the effect tracks.
/mixer/clipLauncherSectionVisibility		Toggle the visibility of the clip launcher.
/mixer/crossFadeSectionVisibility		Toggle the visibility of the crossfade section.
/mixer/deviceSectionVisibility		Toggle the visibility of the devices in the mixer.
/mixer/sendsSectionVisibility		Toggle the visibility of the sends in the mixer.
/mixer/ioSectionVisibility		Toggle the visibility of the IO section in the mixer.
/mixer/meterSectionVisibility		Toggle the visibility of VU meters in the mixer.

Receive - Track

Command	Value	Comment
/track/indicate/volume	{0,1,-}	Dis-/enable, toggle the indication of the volumes on all 8 tracks.
/track/indicate/pan	{0,1,-}	Dis-/enable, toggle the indication of the pans of all 8 tracks.
/track/indicate/send/{1-8}	{0,1,-}	Dis-/enable, toggle the indication of the send 1-8 of all 8 tracks.
/track/bank/{+,-}		Scroll the track bank by 1.
/track/bank/page/{+,-}		Scroll the track bank by 8.
/track/{+,-}		Select the next/previous track.
/track/add/audio		Add a new audio track.
/track/add/effect		Add a new effect track.
/track/add/instrument		Add a new instrument track.
/track/toggleBank		Toggles between the Audio/Instrument and Effect track bank.
/track/vu	{0,1,-}	En-/Disable VU-Meter notifications.
/track/stop		Stop the playing clip on the track.
/track/stopAlt		Alternative function to stop playback on the track, e.g. not quantized.
/track/parent		Select the parent group, if any.
/track/{1-8}/name {text}		Set a new name for the track.
/track/{1-8}/activated	{0,1,-}	Dis-/enable, toggle the track activation.
/track/{1-8}/crossfadeMode/{A,B,AB}		Set the crossfade mode: A = Channel A, B = Channel B, AB = both.
/track/{1-8}/select	{1,-}	Select the track. Selecting an already selected group track toggles its' expanded state.
/track/{1-8}/duplicate		Duplicate the track.
/track/{1-8}/remove		Remove/delete the track.
/track/{1-8}/volume	{0-MAX_VALUE}	Set the volume of the track.
/track/{1-8}/volume/indicate	{0,1,-}	Turn off/on, toggle the volume indication.
/track/{1-8}/volume/reset		Reset the volume value to its' default.
/track/{1-8}/volume/touched	{0,1}	Turn off/on, toggle the volume touched state.
/track/{1-8}/pan	{0-MAX_VALUE}	Set the panorama of the track.
/track/{1-8}/pan/indicate	{0,1}	Turn off/on, toggle the panorama indication.
/track/{1-8}/pan/reset		Reset the panorama value to its' default.
/track/{1-8}/pan/touched	{0,1}	Turn off/on, toggle the panorama touched state.
/track/{1-8}/mute	{0,1,-}	Dis-/enable, toggle mute.
/track/{1-8}/solo	{0,1,-}	Dis-/enable, toggle solo.
/track/{1-8}/recarm	{0,1,-}	Dis-/enable, toggle record arm.
/track/{1-8}/monitor		Dis-/enable, toggle monitoring.
/track/{1-8}/autoMonitor		Dis-/enable, toggle auto monitoring.

Command	Value	Comment
/track/{1-8}/send/{1-8}/activated	{1,-}	Toggle the send disabled or enabled.
/track/{1-8}/send/{1-8}/volume	{0-MAX_VALUE}	Set the volume of the send of the track.
/track/{1-8}/send/{1-8}/volume/indicate	{0,1}	Turn off/on, toggle the send volume indication.
/track/{1-8}/send/{1-8}/volume/touched	{0,1}	Turn off/on, toggle the send volume touched state.
/track/{1-8}/send/{1-8}/volume/reset	{0,1}	Reset the volume.
/track/{1-8}/enter		Enter the group, if the track is a group/folder track. Toggles the folder open/closed, if track bank is flat.
/track/{1-8}/color	{color}	Set the color of the track.
/track/{1-8}/recordQuantization	{OFF, 1/32, 1/16, 1/8, 1/4}	Sets the default record quantization for the MIDI input of the track. Sets the global value in Bitwig.
/track/selected/{attribute}	{value}	As above.
/track/selected/pinned	{0,1,-}	Unpin, pin, toggle pinning of the selected track.
/track/param/{+,-}	{0,1,-}	Select the next/previous parameter page.
/track/param/bank/page/{+,-}	{0,1,-}	Select the next/previous 8 parameter pages.
/track/param/{1-8}/value	{0-MAX_VALUE}	Set the value of the track parameter.
/track/param/{1-8}/indicate		Toggle the edit indication.
/track/param/{1-8}/reset		Reset the parameter to its' default value.
/track/param/{1-8}/touched		Toggle the touched state.
/track/page/selected	{1-8}	Select a track parameter page.
/track/page/{1-8}		Select a track parameter page.
/master/{attribute}	{value}	As above, except sends and track parameters.

Receive - Scenes, Slots and Clips

Command	Value	Comment
/scene/{+,-}	{1,-}	Step by 1.
/scene/bank/{+,-}	{1,-}	Step by 8.
/scene/create	{1,-}	Create a new scene from all playing clips.
/scene/add	{1,-}	Create a new scene at the end of the scene list.
/scene/{1-8}/select	{0,1}	Selects the scene.
/scene/{1-8}/launch	{0,1}	Launches the scene.
/scene/{1-8}/launchAlt	{0,1}	Alternative launch function of the scene.
/scene/{1-8}/duplicate		Duplicates the scene.
/scene/{1-8}/remove		Remove/delete the scene.
/scene/{1-8}/name	{text}	Set the name of the scene.
/scene/{1-8}/color	{color}	Set the color of the scene.

Command	Value	Comment
/track/{1-8}/clip/{1-8}/select		Select the clip.
/track/{1-8}/clip/{1-8}/launch	{0,1}	Launch the clip (launch = 1, release = 0).
/track/{1-8}/clip/{1-8}/launchAlt	{0,1}	Alternative launch function for the clip (launch = 1, release = 0).
/track/{1-8}/clip/{1-8}/record		Record a clip in the slot.
/track/{1-8}/clip/{1-8}/create	{beats}	Create new clip, activate overdub and start it. Beats is the length of the clip in quarter notes.
/track/{1-8}/clip/{1-8}/insertFile	{filepath}	Load a file into the clip.
/track/{1-8}/clip/{1-8}/duplicate		Duplicate the clip.
/track/{1-8}/clip/{1-8}/remove		Remove/delete the clip.
/track/{1-8}/clip/{1-8}/color	{color}	Set the color of the clip.
/track/{1-8}/clip/stop		Stop the playing clip on the track.
/track/{1-8}/clip/returntoarrangement		Switch playback back to the arrangement.
/clip/pinned	{0,1,-}	Unpin, pin, toggle pinning of the cursor clip.
/clip/{+,-}		Select the next/previous slot on the track.
/clip/launch	{0,1}	Launch the cursor clip (launch = 1, release = 0).
/clip/launchAlt	{0,1}	Alternative launch function for the clip (launch = 1, release = 0).
/clip/stop		Stop the playback of the cursor clip.
/clip/stopall		Stop the playback of all playing clips.
/clip/stopallAlt		Alternative function to stop the playback of all clips, e.g. not quantized.
/clip/record		Record a clip in the selected slot.
/clip/create	{beats}	Create new clip, activate overdub and start it. Beats is the length of the clip in quarter notes.
/clip/quantize		Quantize the cursor clip.
/clip/name	{text}	Set the name of the cursor clip.
/clip/color	{color}	Set the color of the cursor clip.
/clip/insertFile	{filepath}	Load a file into the cursor clip.

Receive - Cursor Device / Primary Device / EQ

The following commands apply to all devices. The cursor device (/device), the primary device of the channel (/primary) and the equalizer device (/eq)

Command	Value	Comment
/device/duplicate		Duplicate the device.
/device/remove		Remove/delete the device.
/device/bypass		Toggle bypass.
/device/expand	{0,1}	Toggle the devices' expanded display.
/device/parameters	{0,1}	Toggle the devices' parameters section.
/device/window		Toggle the devices' window, if any.
/device/indicate/param	{0,1,-}	Dis-/enable, toggle parameter indication.
/device/param/{+,-}	{0,1,-}	Select the next/previous parameter page.
/device/param/bank/page/{+,-}	{0,1,-}	Select the next/previous 8 parameter pages.
/device/param/{1-8}/value	{0-MAX_VALUE}	The value of the parameter.

Command	Value	Comment
/device/param/{1-8}/indicate	{0,1}	Turn off/on the parameter indication.
/device/param/{1-8}/reset		Sets the parameter to its' default value.
/device/param/{1-8}/touched	{0,1}	Turn off/on the touched state.
/device/page/selected	{1-8}	Select the device page.
/device/page/{1-8}/selected		Select the device page.
/device/layer/{1-8}/activated	{0,1}	De-/actives the layer.
/device/layer/{1-8}/selected		Select the layer.
/device/layer/{1-8}/name	{text}	Set a new name for the layer.
/device/layer/{1-8}/volume	{0-MAX_VALUE}	Set the volume of the layer.
/device/layer/{1-8}/volume/indicate	{0,1}	Dis-/enable the layer volume indication.
/device/layer/{1-8}/volume/touched	{0,1}	Turn off/on the volume touched state.
/device/layer/{1-8}/volume/reset		Reset the volume.
/device/layer/{1-8}/pan	{0-MAX_VALUE}	Set the panorama of the layer.
/device/layer/{1-8}/pan/indicate	{0,1}	Dis-/enable the layer panorama indication.
/device/layer/{1-8}/pan/touched	{0,1}	Turn off/on the panorama touched state.
/device/layer/{1-8}/pan/reset		Reset the panorama.
/device/layer/{1-8}/mute	{0,1,-}	Dis-/enable, toggle the layer mute.
/device/layer/{1-8}/solo	{0,1,-}	Dis-/enable, toggle the layer solo.
/device/layer/{1-8}/send/{1-8}/activated	{1,-}	Toggle the send disabled or enabled.
/device/layer/{1-8}/send/{1-8}/volume	{0-MAX_VALUE}	Set the send volume for the layer.
/device/layer/{1-8}/send/{1-8}/volume/indicate	{0,1}	Dis-/enable the layers' send volume indication.
/device/layer/{1-8}/send/{1-8}/volume/touched	{0,1}	Dis-/enable the layers' send touch state.
/device/layer/{1-8}/send/{1-8}/volume/reset		Reset the send volume.
/device/layer/{1-8}/enter		Enter the device chain of the layer.
/device/layer/selected/{attributes}	{value}	The selected layer, same attributes as above.
/device/layer/parent		Leave the device chain of the layer.
/device/layer/{+,-}		Select the next/previous layer.
/device/layer/page/{+,-}		Select the next/previous layer page.
/device/drumpad/{1-16}/{attributes}	{value}	Same attributes as for a layer.

The following commands are additional for the cursor device.

Command	Value	Comment
/device/sibling/{1-8}/selected	{0,1}	Select a sibling device.
/device/{+,-}		Select the next/previous device.
/device/bank/page/{+,-}		Select the next/previous devices page.
/device/pinned	{0,1,-}	Unpin, pin, toggle pinning of the cursor device.

The following commands are additional for the equalizer device.

Command	Value	Comment
/eq/add		Add an equalizer device as the last device on the track.
/eq/type/{1-8}	{off, lowcut, lowshelf, bell, highcut, highshelf, notch}	Set the band type.
/eq/freq/{1-8}	{0-MAX_VALUE}	Set the frequency of the n-th band.
/eq/gain/{1-8}	{0-MAX_VALUE}	Set the gain of the n-th band.
/eq/q/{1-8}	{0-MAX_VALUE}	Set the q-factor of the n-th band.

The following commands are supported for the last hovered/clicked parameter.

Command	Value	Comment
/device/lastparam/value	{0-MAX_VALUE}	The value of the parameter.
/device/lastparam/indicate	{0,1}	Turn off/on the parameter indication.
/device/lastparam/reset		Sets the parameter to its' default value.
/device/lastparam/touched	{0,1}	Turn off/on the touched state.

Receive - Browser

Command	Value	Comment
/browser/preset		Activates the browser to browse for presets of the currently selected device.
/browser/device		Activates the browser to insert a device after the currently selected device.
/browser/device/after		Same as /browser/device.
/browser/device/before		Activates the browser to insert a device before the currently selected device.
/browser/commit		Commits the current selection in the browser.
/browser/cancel		Cancels the current browser session.
/browser/filter/{1-6}/{+,-}		The columns are as follows: 1: Favorites, 2: Location, 3: File Type, 4: Category, 5: Tags, 6: Creator
/browser/filter/{1-6}/reset		Resets the filter of the column.
/browser/result/{+,-}		Select the next/previous result.
/browser/tab/{+,-}		Select the next/previous tab (Devices/Presets/Multisamples/...).

Receive - Play

Command	Value	Comment
/vkb_midi/{Channel:1-16}/note/{Note:0-127}	{Velocity:0-127}	Plays a note.
/vkb_midi/{Channel:1-16}/note	{Note:0-127} {Velocity:0-127}	Plays a note.
/vkb_midi/{Channel:1-16}/note/+		Transposes 1 octave up.
/vkb_midi/{Channel:1-16}/note/-		Transposes 1 octave down.
/vkb_midi/{Channel:1-16}/drum/{Note:0-127}	{Velocity:0-127}	Play a drum note.
/vkb_midi/{Channel:1-16}/drum/+		Transposes 1 drum *octave* up.
/vkb_midi/{Channel:1-16}/drum/-		Transposes 1 drum *octave* down.
/vkb_midi/{Channel:1-16}/cc/{CC:0-127}	{Value:0-127}	Sends a MIDI CC message.
/vkb_midi/{Channel:1-16}/aftertouch/{Note:0-127}	{Pressure:0-127}	Sends Poly Aftertouch for a note.
/vkb_midi/{Channel:1-16}/aftertouch	{Pressure:0-127}	Sends Channel Aftertouch.
/vkb_midi/{Channel:1-16}/pitchbend	{Pitch:0-127}	Sends pitchbend. No-Bend: 64.
/vkb_midi/velocity	{0-127}	Sets a fixed velocity. 0: disables fixed velocity, 1-127: fixes the velocity to the value.
/vkb_midi/noterepeat/isActive	{0,1}	Turn on/off note repeat.
/vkb_midi/noterepeat/period	{1/4, 1/4t, 1/8, 1/8t, 1/16, 1/16t, 1/32, 1/32t}	The repeat period.
/vkb_midi/noterepeat/length	{1/4, 1/4t, 1/8, 1/8t, 1/16, 1/16t, 1/32, 1/32t}	The note length.

Receive - Marker

Command	Value	Comment
/marker/{1-8}/launch		Start playback at the marker position.
/marker/bank/{+,-}		Scroll the marker bank up-/down.

Preferences Settings

You can set several preferences which are stored when you exit the DAW. These are global settings and not specific to projects.

Setup

- Port to receive on: The port on which the OSC extension listens for incoming commands.
- Host to send to: The host address to which to send OSC commands from the OSC extension. Requires a restart of the extension if changed.
- Port to send to: The host port to which to send OSC commands from the OSC extension. Requires a restart of the extension if changed.

Protocol

- Value resolution: Configures the value range to use. Higher values provide a higher resolution but the client need (or OSC template of your client) needs to be configured accordingly! The included Open Stage Control template uses a 128 resolution.

- Bank page size: The number of entries to be used for bank pages. The default is 8. Increase the size to control more tracks, etc. at once but the OSC client must support that as well.

Transport

- Behaviour on Stop: Sets the action to be executed when playback is stopped with the Play button

Play and Sequence

- Activate Fixed Accent: If a note is played the velocity is ignored and a fixed value is used.
- Fixed Accent Value: The velocity value to use when fixed accent is active.

Workflow

- Track navigation: If *flat* is selected all tracks are shown at once. Otherwise if *hierarchical* is selected only folders are shown.
- Exclude deactivated items: If active, deactivated items like tracks will not be displayed on the controller. This cleans up the displayed banks but also prevents the options to activate a deactivated item from the controller.
- VU meters: The display of VU meters can be disabled with this option

Actions

- Action 1-20: Select the Action to execute if an /action command is received

Debug

Enable only for finding issues since this has a performance impact.

- Log input commands: Received OSC commands are logged to the console if enabled
- Log output commands: Transmitted OSC commands are logged to the console if enabled
- Filter heartbeat commands: Ping commands are not logged if enabled

OXI One

Support script for OXI Instruments One controller and sequencer.

Global Function Buttons

- **Load**: Show the Open dialog.
- **Save**: Save the project.
- **Play**: Start/Stop playback. Double click to move play cursor to start of song. You can configure the behavior on Pause in the preferences.
- **Shift+Play (Tap)**: Press the knob multiple times to tap the tempo.
- **Stop**: Stop playback. If already stopped the play cursor is set to the start of the arranger timeline. Double click to move play cursor to the end of the arranger timeline. You can configure the behavior on Stop in the preferences.
- **Shift+Stop (Sync)**: Opens the Transport mode.
- **Record**: Start/Stop recording
- **Shift+Record**: Toggle launcher overdub. If the selected slot on the selected track is recording it stops the recording instead.
- **32/Up**: Select the previous scene page.
- **48/Down**: Select the previous scene page.
- **Shift+32/Up**: Scrolls the scene page back by 1
- **Shift+48/Down**: Scrolls the scene page forward by 1
- **1-4**: Starts scene 1-4 of the currently selected scene page.
- **Shift+1-4**: Alternative start the scene 1-4 of the currently selected scene page.
- **Mute**: Unmutes all tracks.
- **Shift+Mute**: Unsoloes all tracks.
- **Shift+Random**: Toggle device window.
- **Random**: Quantizes the selected clip using the amount setting (see below).

Knob Modes

Sadly, the knobs are not touch sensitive. Therefore, to see the parameter that is edited by the knob in the display without changing the value, press it. If the knob is turned the value is shown as well. At the bottom of the display four 3-letter names are displayed to give a hint about the parameter the knob changes.

- Press the knob to show the parameter it controls in the display.
- Keep the knob for a bit to reset the value of the parameter to its default value.
- Keep the **Back** button pressed while turning a knob to change values in smaller increments.
- Press the **Back** button to either leave a temporary mode (like the Transport mode) or to select the next main mode.

Track Mode

Edits parameters of the selected track. The top of the display shows the index and name of the selected track. Below, the selected parameter and its value is shown incl. a bar which represents the amount of the value.

Press **Shift+Back** to toggle the display to show volumes, panoramas or send values of all 16 tracks of the current track bank page. If playback is active it always displays the VU meters.

- **Knob 1**: Changes the track volume.
- **Knob 2**: Changes the track panorama.
- **Knob 3**: Changes the track send 1.
- **Knob 4**: Changes the track send 2.
- **Shift+Knob 1**: Changes the track send 3.
- **Shift+Knob 2**: Changes the track send 4.
- **Shift+Knob 3**: Changes the track send 5.

- **Shift+Knob 4**: Changes the track send 6.

Buttons:

- **16/Left**: Select the previous track page.
- **64/Right**: Select the next track page.
- **Shift+16/Left**: Scrolls the track page back by 1.
- **Shift+64/Right**: Scrolls the track page forward by 1

Layer Mode

Edits parameters of the selected layer channel.

Press **Shift+Back** to toggle the display to show volumes, panoramas or send values of all 16 tracks of the current track bank page. If playback is active it always displays the VU meters.

- **Knob 1**: Changes the layer volume.
- **Knob 2**: Changes the layer panorama.
- **Knob 3**: Changes the layer send 1.
- **Knob 4**: Changes the layer send 2.
- **Shift+Knob 1**: Changes the layer send 3.
- **Shift+Knob 2**: Changes the layer send 4.
- **Shift+Knob 3**: Changes the layer send 5.
- **Shift+Knob 4**: Changes the layer send 6.

Buttons:

- **16/Left**: Select the previous layer page.
- **64/Right**: Select the next layer page.
- **Shift+16/Left**: Scrolls the layer page back by 1.
- **Shift+64/Right**: Scrolls the layer page forward by 1

Device / Project / Track Modes

Press **Shift+Back** to toggle between controlling the parameters of the cursor device, project or track.

- **Knob 1**: Change the 1st device/project/track parameter
- **Knob 2**: Change the 2nd device/project/track parameter
- **Knob 3**: Change the 3rd device/project/track parameter
- **Knob 4**: Change the 4th device/project/track parameter
- **Shift+Knob 1**: Change the 5th device/project/track parameter
- **Shift+Knob 2**: Change the 6th device/project/track parameter
- **Shift+Knob 3**: Change the 7th device/project/track parameter
- **Shift+Knob 4**: Change the 8th device/project/track parameter

Buttons:

- **16/Left**: Select the previous parameter page.
- **64/Right**: Select the next parameter page.
- **Shift+16/Left**: Selects the previous device.
- **Shift+64/Right**: Selects the next device.

Transport Mode

Press **Shift+Stop (Sync)** to activate this mode. Press the **Back** button to leave it.

- **Knob 1**: Changes the Tempo. Hold Shift and press the knob to toggle playing Ticks.
- **Knob 2**: Changes Shuffle. Hold Shift and press the knob to turn Shuffle on/off.
- **Knob 3**: Changes the metronome volume. Hold Shift and press to toggle the metronome on/off.
- **Knob 4**: Changes the Play Position. Hold Shift and press the knob to toggle the arranger repeat on/off.

Automation Mode

Press **Shift+MOD** to activate this mode. Press the **Back** button to leave it.

- **Knob 1**: Selects the automation mode.
- **Knob 2**: -
- **Knob 3**: -
- **Knob 4**: -

Play Mode Configuration Mode

Press **Shift+KEYBOARD** to activate this mode. Press the **Back** button to leave it.

- **Knob 1**: Changes the octave offset.
- **Knob 2**: Changes the scale.
- **Knob 3**: Changes the base note.
- **Knob 4**: Toggles between in-key and chromatic.
- **Shift+Knob 1**: Changes the layout.

Repeat Mode Configuration Mode

Press **Shift+ARPEGGIATOR** to activate this mode. Press the **Back** button to leave it.

- **Knob 1**: Toggles the note repeat on/off.
- **Knob 2**: Changes the period of the repeats.
- **Knob 3**: Changes the length of the repeats.
- **Knob 4**: Changes the repeat mode.
- **Shift+Knob 1**: Changes the octave range.
- **Shift+Knob 2**: Toggle holding the notes on/off.

Note Edit Mode

Note editing is available in all sequencers. Note edit mode is de-/activated with the **MOD** button (or by long pressing a pad with a note). Press the pad(s) with the note(s) to edit. If no more notes are selected the edit mode is closed automatically. Selected notes are lit in dark yellow.

Use the edit knobs as follow:

- **Knob 1**: Changes the gain of the note
- **Knob 2**: Changes the panorama of the note
- **Knob 3**: Changes the duration of the note
- **Knob 4**: Changes the velocity of the note
- **Shift+Knob 1**: Changes the pressure of the note
- **Shift+Knob 1**: Changes the timbre of the note
- **Shift+Knob 1**: Changes the chance of the note
- **Shift+Knob 1**: Changes the velocity spread of the note

Sequencer Configuration Mode

This mode is de-/activated with the **Y Div** button.

Use the edit knobs as follow:

- **Knob 1**: Changes the play range (offset)
- **Knob 2**: Selects the clip page to edit
- **Knob 3**: Selects the grid resolution

Mixer Mode

Press the **ARRANGER** button to activate this mode. Keep it pressed to temporarily activate this mode, then press any of the pads and finally release the button. The view will switch back to the previous pad mode of the selected track.

This mode gives access to 16 tracks at once. The pads of the rows have the following functions (from bottom to top):

- **Row 1-4**: Start one of four clips of the tracks.
- **Row 5**: Toggle record arm
- **Row 6**: Toggle solo
- **Row 7**: Toggle mute
- **Row 8**: Select the track. The selected track is blinking. The pads use the color of the track (as close as possible). If the track is a folder and it is already selected, the folder is opened/closed.

Clip combination buttons:

- **Shift**: Keep the shift button pressed and select a track to stop the playing clip of the track.
- **Shift**: Keep the shift button pressed and select clip to start a clip with the alternative start setting.
- **Duplicate**: Keep the duplicate button pressed and select a clip to duplicate it. If playback is active, the copied clip is started as well.
- **Shift+Duplicate**: Creates a new scene which contains all currently playing clips.
- **Delete (Paste)**: Keep the delete button pressed and select a clip to delete it.
- **Mute**: Turn off mute on all tracks; the LED is lit red if there is at least one muted track.
- **Shift+Mute**: Turn off solo on all tracks; the LED is lit green if there is at least one soloed track.

Play Modes

Play Mode

Press the **KEYBOARD** button to activate this mode.

- The key layout shows all notes of a scale with different offsets between the rows. To get a continuous layout of notes without any offsets, select *Sequent* ˆ as the scale layout and enable *Chromatic mode*. The root note is colored with the (closest available) color of the track.
- The played keys are lit green when played and red if global or clip recording is active.
- Press **Shift+KEYBOARD** to activate the configuration mode to change the scale, layout, octave offset and the root note.
- Press **Shift+ARPEGGIATOR** to activate the configuration mode to change the note repeat settings.

Drum 128 Mode

Press the **KEYBOARD** button twice to activate this mode.

- This mode allows to play all 128 MIDI notes.
- If a drum machine is selected the pads are colored like the pads in the drum machine.
- There is an option in the settings to deactivate all pads which relate to an empty drum slot.

Sequencer Modes

Note editing

- Long press a pad which contains a note to activate the note edit mode and edit the parameters of the note (or all notes at that step in case of Poly Sequencer).
- When the note edit mode is active, press the pads which contain notes to select the for editing or remove them from editing.
- Multiple notes can be de-/selected for editing by using the select button in combination with a sequencer note pad as well.

- When the last note is deactivated for editing, the note edit mode is closed.
- Pressing a pad which does not contain a note closes the edit mode as well.
- Pressing a pad which does contain the continuation of a note, does nothing.

Drum 8 Sequencer Mode

Press the **SEQUENCER (HOLD)** button to activate this mode.

This mode gives 8 rows (sounds) with 16 steps.

- Press a pad to create/delete a note.
- Keep a note pressed and press a pad to the right of it to lengthen or shorten it.
- Keep the **LFO** button pressed to increase the ratcheting setting of the note.
- Keep the **Step Chord** button pressed to decrease the ratcheting setting of the note.
- Press **MOD** to edit notes (see above).
- Press **Y Div** to configure the sequencer mode (see above).
- Keep the **Duplicate** button pressed and press a pad to store the note. Then (still keeping Duplicate pressed). Select different pads to insert the note with its settings.
- Keep the **Mute** button pressed which changes the content of the pads:
  - Column 1: Selects the drum instrument of the row and shows its name in the display.
  - Column 2: Toggles mute of the drum sound of the row.
  - Column 3: Toggles solo the drum sound of the row.
- Keep the **Init** button pressed and select a pad in the column where the clip loop should start (can be on a different clip page).
- Keep the **End** button pressed and select a pad in the column where the clip loop should end (can be on a different clip page).

Drum XoX Sequencer Mode

Press the **ARRANGER** button twice to activate this mode. This mode is inspired by the Roland XoX devices but in contrast you get 96 steps at once!

- The *first row* (from the top) represent 16 slots (clips) of the currently selected track.
  - The pads have the same color as the clips.
  - Press one of the pads to start the playback or recording (depending on the settings) of the clip.
  - Use **Shift** + pad to trigger the alternative function for the clip launch (Bitwig only).
  - Use **Delete (Paste)** + pad to delete the clip.
  - Press **Duplicate** to copy a clip.
  - Keep **Duplicate** pressed, then first select the source clip and then the destination slot.
- The *second* row represents 16 drum pads.
  - The pads have the same color as the 'pads' of the drum machine.
  - Press one of them to select it to edit its steps as well as to play it.
  - Keep **Duplicate** pressed, then first select the source drum pad and then the destination drum pad.
  - Keep the **Mute** button pressed which changes the content of the pads:
    - Row 1: Selects the clip of the row without starting it.
    - Row 2: Selects the drum instrument of the row and shows its name in the display.
    - Row 3: Toggles mute of the drum sound of the row.
    - Row 4: Toggles solo the drum sound of the row.
- Rows *three to eight* represent up to 96 steps (depending on the selected resolution) of the selected drum pad.
  - Press them to dis-/enable the step.
  - Press two pads (keep the 1st pressed) to create longer notes.
  - Keep a note pressed and press a pad to the right of it to lengthen or shorten it.
  - Keep the **LFO** button pressed to increase the ratcheting setting of the note.
  - Keep the **Step Chord** button pressed to decrease the ratcheting setting of the note.

- Keep the **Init** button pressed and select a pad in the column where the clip loop should start (can be on a different clip page).
- Keep the **End** button pressed and select a pad in the column where the clip loop should end (can be on a different clip page).
- Press **MOD** to edit notes (see above).
- Keep the **Duplicate** button pressed and press a pad to store the note. Then (still keeping Duplicate pressed). Select different pads to insert the note with its settings.
- Press **Y Div** to configure the sequencer mode (see above).

Note Sequencer Mode

Press the **SEQUENCER (HOLD)** button twice to activate this mode.

This mode works the same as the Drum 8 Sequencer Mode. The difference is that the rows do not represent the drum sounds but the notes of the selected scale. Root notes are drawn in the color of the track. Button combinations work the same except Mute.

Poly Sequencer Mode

Press the **SEQUENCER (HOLD)** button three times to activate this mode.

Play a chord (= several notes) in the lower part then enable steps in the upper chord which will be filled with the played chord. Button combinations work the same as in note sequencer except that there is no ratcheting.

Raindrop sequencer

Press the **SEQUENCER (HOLD)** button four times to activate this mode.

This works best with a clip which 32 bars long. Only work on the 1st sequencer page.

- The lowest row displays the playable notes in the active scale.
- The row above a note starts a raindrop. The height defines the interval between the single notes.
- If the raindrop reaches the bottom the note is played.
- Use the sequencer setup (Y-DIV) to change the visible note range.

Preferences Settings

You can set several preferences which are stored when you exit the DAW. These are global settings and not specific to projects.

Session

- Select clip/scene on launch: If a clip/scene is started from the controller and this setting is off the clip/scene will not be selected. Use if you edit another clip and want not to change the focus.
- Display clips of record enabled tracks in red: if enabled, in the mixer view for record enabled tracks the empty pads are displayed in red.
- Action for pressing rec armed empty clip: what should happen if you press an empty clip in the mixer view.

Transport

- Behavior on Stop: Sets the action to be executed when playback is stopped with the Stop button
- Behavior on Pause: Sets the action to be executed when playback is stopped with the Play button
- Record button: Set the function for the record button.
- Shift + Record button: Set the function for the record button used in combination with Shift.

Play and Sequence

- Quantize Amount: The amount of quantization to use when Quantize is executed. 100% aligns all notes fully to the grid.
- Turn off scale pads: Activate to turn off the pads which are not the root note (instead of being white).
- Notify played chords: Displays the played chords or notes if enabled.
- Startup view: The view that should be selected on startup.

Drum Sequencer

- Turn off empty drum pads: Empty drum cells are displayed in orange. If enabled the pad LEDs are off.

Workflow

- Exclude deactivated items: If active, deactivated items like tracks will not be displayed on the controller. This cleans up the displayed banks but also prevents the options to activate a deactivated item from the controller.
- New clip length: The length of a clip created with the New function.
- Knob Sensitivity Default: Negative values slow the knobs changes down, positive values speed them up.
- Knob Sensitivity Slow: Negative values slow the knobs changes down, positive values speed them up.
- Color all track states (mute, solo, rec arm): Since the difference of the colors between the on/off state is not that big, the color for the off-state can be switched off completely.

Document Settings

These settings are specific to each project.

Scales

- Scale: Select the scale.
- Base: Select the base note of the scale.
- In Key: Select *Chromatic* to also display notes which are not part of the scale.
- Layout: Select the layout of the scale for the Play mode. The numbers are the offsets between the rows of the grid. The arrows depict the direction from lower to higher notes: left to right or bottom to top.

Note Repeat

- Active: Enable note repeat.
- Period: The repeat rate of the note repeat.
- Length: The length of a repeated note.
- Mode: The arpeggiator mode.
- Octave: The octave range which is used by the arpeggiator.

Play and Sequence

- MIDI Edit: Select the MIDI channel to use to display and edit MIDI notes in sequencers.
- Turn off scale pads: If enabled, all pads which represent notes which are in-scale are switched off (instead of white).

Yaeltex Turn

Support script for the Yaeltex Turn controller.

Installation

To use the extension the included template (called a *Bank*) needs to be installed on the Yaeltex Turn. To do so, open the Kilowhat editor and when prompted choose to load from a file. Select the file TURN.ytx from the Yaeltex folder in the resources folder coming with DrivenByMoss. After that, press the button *Send to Device*.

Modifier Keys

The two buttons to the right bottom of *Fader 8* are used as modifier keys:

- The bottom one is used as the **Shift** button.
- The one above as the **Select** button.

These buttons can be used in combination with other button and knobs to access additional functions.

Global Functions

The knobs and buttons described in this section always provide the same functions.

Knobs from top to bottom on the right hand side of the controller:

- **tempo**: Changes the tempo. To makes this more usable the tempo range is limited to 60 to 188 bpm. Keep Shift pressed to allow fractions.
- **a|b**: Crossfade between tracks assigned to crossfade mode A and B.
- **cue**: Changes cue level.
- **master**: Changes the volume of the master track.

Buttons from top to bottom on the right hand side of the controller:

The first four buttons select the behaviour of the relative (digital) knobs. See the mode descriptions below.

- **clips**: Select the Drum Sequencer mode.
- **session**: Select the Note Sequencer mode.
- **usr**: Select the Layer Mix mode.
- **trk**: Select the Track Mix mode.

The following 6 buttons control parameters of the transport:

- **play**: Start/Stop playback. Press twice to move play cursor to start of song.
- **shift+play**: Toggle repeat.
- **select+play**: Toggle punch in.
- **shift+select+play**: Toggle punch out.
- **stop**: Stop playback. Press again to move play cursor to start of the song. Press twice to move play cursor to end of song.
- **shift+stop**: Stop all playing clips.
- **rec**: Start/Stop recording.
- **shift+rec**: Creates a new clip on the selected track and slot, starts playback and enables overdub.
- **select+rec**: Toggle Arranger Automation.
- **overdub**: Toggle arranger overdub.
- **shift+overdub**: Toggle launcher overdub.
- **select+rec**: Toggle Launcher Automation.
- **loop**: Toggle arranger loop.
- **tap tempo**: Tap Tempo.
- **shift+tap tempo**: Toggle metronome.

- **select+tap tempo**: Quantize the currently selected clip.
- **select+left**: Move play cursor to the left (combine with *shift* for finer adjustment)
- **select+right**: Move play cursor to the right (combine with *shift* for finer adjustment)

Track Mode

Digital knobs - Mixer

These 4 rows of knobs control the following things (from top to bottom):

1. Panorama for 8 tracks.
2. Volume of the 1st Send of the currently selected send page for 8 tracks.
3. Volume of the 2nd Send of the currently selected send page for 8 tracks.
4. 8 parameters of the currently selected device on the selected track.

Pressing a knob has 2 functions depending on the state of the **session** button.

1. Session mode
   - This shows 4 clip slots for each of the 8 tracks.
   - The LED shows the color of the clip. Playing and recording slots do blink in green/red.
   - Pressing a knob starts playback or recording of the slot depending on the rec arm state of the track and the session recording settings. This depends on the clip launch and launch release settings (Bitwig only).
   - Hold Shift to execute the alternative action of the clip (Bitwig only).
   - Hold Select to select the clip without starting playback.
2. Scene Play mode
   - This shows up to 32 scenes.
   - The LED shows the color of the scene.
   - Pressing a knob starts playback of the scene. The selected scene is lit white.
   - Hold Shift to execute the alternative action of the scene (Bitwig only).
   - Hold Select to select the scene without starting playback.

Digital knobs - Monophonic Sequencer

Pressing the **clips** button toggles between the Mixer and Monophonic Sequencer.

The idea of the monophonic sequencer is to edit a monophonic melody (one note per step). Each of the 32 knobs provide access to the note parameters of a step:

- Press a knob to toggle the step on/off. The created note uses the root note of the currently selected scale.
- Shift + pressing a knob sets the end of the loop to this step. Note that this can be done on all edit pages for longer loops.
- Turning a knob controls one of 16 note parameters for the step.

If Shift is pressed the four button rows provide the configuration options for the sequencer (from top to bottom):

1. Press one of the 16 buttons to the select the note parameter to edit.
2. This row contains the 3 settings for the scale to use. The first 12 buttons select the root note. The last to buttons select the previous/next scale. Button 14 toggles chromatic mode (this disables the scale).
3. Selects the resolution of the steps.
4. Selects edit page 1-8.

Analog knobs

These knobs control an equalizer (EQ+) on the currently selected track. Switching a track automatically inserts an EQ+. The four columns control the 8 bands of the equalizer. From top to bottom the rows control the following EQ parameters:

1. Filter type
2. Q
3. Frequency
4. Gain

Buttons

- **left/right**: Select the previous/next page of tracks to control.
- **up/down**: Select the previous/next page of scenes to control.
- **shift+up/down**: Select the previous/next page of sends to control.
- **a/b** buttons: Select channel A or B for crossfader.
- **stop** buttons: Stop the playing clip on the channel.
- **shift+stop** buttons: Stop the playing clip on the channel using the alternative setting (Bitwig only).
- **select+stop** buttons: Return to arrangement playback for that track.
- **shift+a/b** and **shift+stop** buttons: Selects one of 16 devices on the selected channel.
- **arm** buttons: Press to arm the specific track for recording.
- **cue/solo** buttons: Toggle solo on the specific track.
- **shift+arm** and **shift+cue/solo** buttons: Selects one of 16 parameter pages of the selected device.
- **select+cue/solo** buttons: Clears solo on all tracks.
- **mute** buttons: Toggle mute on the specific track.
- **select+mute** buttons: Clears mute on all tracks.
- **select** buttons: Selects a track of the current track page. If already selected and the track is a group it toggles the display of the sub-tracks.
- **shift+select** buttons: Select the length for new clips: 16 bars, 8 bars, 4 bars, 2 bars, 1 bar, 2 beats, 1 beat, 32 bars.
- **8 faders**: Change volume of selected 8 tracks.

Drum Mixer Mode

Digital knobs - Mixer

These 4 rows of knobs control the following things (from top to bottom):

1. Panorama for 8 drum pad layers.
2. Volume of the 1st Send of the currently selected send page for 8 drum pad layers.
3. Volume of the 2nd Send of the currently selected send page for 8 drum pad layers.
4. 8 parameters of the drum device on the selected track.

The *Session* and *Scene Play* modes are identical to the Track Mixer mode.

Digital knobs - Monophonic Sequencer

Pressing the **clips** button toggles between the Drum Machine Mixer and Drum Sequencer.

The idea of the drum sequencer is to edit the row of a drum pad sound at a time (one note per step). Each of the 32 knobs provide access to the note parameters of a step:

- Press a knob to toggle the step on/off.
- Shift + pressing a knob sets the end of the loop to this step. Note that this can be done on all edit pages for longer loops.
- Turning a knob controls one of 16 note parameters for the step.

If Shift is pressed the four button rows provide the configuration options for the sequencer (from top to bottom):

1. Press one of the 16 buttons to the select the note parameter to edit. The parameters are identical to the ones of the Monophonic Sequencer except that the 1st parameter is *Transpose* instead of *Pitch*.
2. Not used.

3. Selects the resolution of the steps.
4. Selects edit page 1-8.

Analog knobs

Identical to the Track Mixer Mode.

Buttons

- **left/right**: Select the previous/next page of drum pad layers to control.
- **up/down**: Select the previous/next page of scenes to control.
- **shift+up/down**: Select the previous/next page of sends to control.
- **a/b** + **stop** buttons 1-8: Play the 8 drum pads.
- **a/b** + **stop** button 11: Toggle note repeat on/off.
- **a/b** + **stop** button 12: Toggle between even/uneven periods.
- **a/b** + **stop** buttons 13-15: Select the note repeat period.
- **arm** buttons: Not used.
- **cue/solo** buttons: Toggle solo on the specific drum pad layer.
- **shift+arm** and **shift+cue/solo** buttons: Selects one of 16 parameter pages of the drum machine device.
- **select+cue/solo** buttons: Clears solo on all drum pad layer.
- **mute** buttons: Toggle mute on the specific drum pad layer.
- **select+mute** buttons: Clears mute on all drum pad layer.
- **select** buttons: Selects a drum pad layer of the current drum pad layer page.
- **shift+select** buttons: Select the length for new clips: 16 bars, 8 bars, 4 bars, 2 bars, 1 bar, 2 beats, 1 beat, 32 bars.
- **8 faders**: Change volume of selected 8 drum pad layers.

Preferences Settings

You can set several preferences which are stored when you exit the DAW. These are global settings and not specific to projects.

Transport

- Behaviour on Pause: Sets the action to be executed when playback is stopped with the Play button.
- Behaviour on Stop: Sets the action to be executed when playback is stopped with the Stop button.

Session

- Select clip/scene on launch: If a clip/scene is started from the controller and this setting is off the clip/scene will not be selected. Use if you edit another clip and want not to change the focus.
- Display clips of record enabled tracks in red: if enabled, in the session view for record enabled tracks the empty pads are displayed in red.
- Action for pressing rec armed empty clip: what should happen if you press an empty clip in the session view?

Play and Sequence

- MIDI Edit: Select the MIDI channel to use to display and edit MIDI notes in sequencers.

Workflow

- Exclude deactivated items: If active, deactivated items like tracks will not be displayed on the controller. This cleans up the displayed banks but also prevents the options to activate a deactivated item from the controller.

- New clip length: The length of a clip created with the New function.

Document Settings

These settings are specific to each project.

Scales

- Scale: Select the scale.
- Base: Select the base note of the scale.
- In Key: Select *Chromatic* to also display notes which are not part of the scale.

Note Repeat

- Active: Enable note repeat.
- Period: The repeat rate of the note repeat.
- Length: The length of a repeated note.
- Mode: The arpeggiator mode.
- Octave: The octave range which is used by the arpeggiator.

Changes - Bitwig Studio

26.2.1

- Requires Bitwig 5.3+
- Electra One
  - Fixed: The first page (mixer) was not selected on startup, which means that if a different one was selected it did not work.
  - Fixed: The 'Behaviour on Pause' setting was completely ignored.
- Native Instruments Kontrol Mk3
  - Fixed: Names in different mix modes are reduced to 1 line to fix overflow of the graphics.

26.2.0

- Requires Bitwig 5.3+
- Native Instruments Kontrol Mk3
  - New: In device mode up/down changes tracks.
  - Fixed: First track of the current page could not be muted/soloed.
  - Fixed: Selecting devices did not fully work after removing/adding a device.
  - Fixed: Fixed several issues caused by the presence of a NKS device (Kontrol, Kontakt 7/8). Note: Since the special NKS mode is not notified, device and track modes cannot be changed when a NKS device is selected!
- Push 2
  - New: Added a graphical visualisation for the pad sensitivity curve.
- Push 3
  - New: MPE Pitchbend does now work with the selected scale!
  - New: Added support for configuring the pad sensitivity curve incl. a graphical visualisation.

26.1.0

- Requires Bitwig 5.3+
- Removed support for Melbourne Instrument Roto-Control. Use the native Bitwig implementation instead.

26.0.0

- Requires Bitwig 5.3+
- New: Added 'stop is queued' state to the session grid clips. Signal is the same as queued playing.
- Faderfox EC4
  - Fixed: Updated template to make it work with current Faderfox web-interface.
- Generic Flexi
  - Fixed: Parameter #1 reset on 1st instrument did not work.
- MCU
  - Fixed: Improved formatting of bars to align with the text on the hardware.
- Native Instruments Kontrol Mk2
  - New: Loop+Encoder changes Loop start
  - New: The browser presets can be navigated by turning the encoder and confirmed by pressing the encoder.
- Native Instruments Kontrol Mk3
  - New: Added support for NHIA protocol v4:
    - Support for the Shift-Button
      - Slow change of values when using knobs in combination with Shift
      - Zoom in/out with Shift+Encoder
      - Shift+Quantize: switches the options for recording quantize
      - Shift+Auto: toggle clip automation recording
    - Support for native Plug-in mode
    - Support for changing tempo
    - Colored track VUs

        * Added detection of Maschine 3 plugin
        * Loop/Shift+Loop+Encoder changes Loop start/length
        * Mixer modes are now switched by pressing DAW multiple times
        * Added a new layer mode
        * The browser can be used (see the manual for details)
- Push 2/3
    - New: Improved state icons in clip mode.
    - New: Having pressed the Mute/Solo for a longer time does deactivate toggling Mute/Solo on button release.
    - New: Improved lookup on latest macOS.
- XJam
    - New: The knobs are now real relative knobs! Requires Firmware 1.55 and update the template incl. in DrivenByMoss.

25.5.0

- Requires Bitwig 5.3+
- New: Added support for Intuitive Instruments Exquis

25.1.1

- Requires Bitwig 5.3+
- Akai APC40 / APC40mkII
    - New: Shift mode is automatically closed again if Shift was used in combination with a button.
- Electra One
    - New: The 3rd knob on the bottom row of the transport page controls now the hovered parameter introduced in Bitwig 5.3. It is required to reinstall the template.
- Fire
    - Fixed: Switching Project and Track parameter pages did jump by 8 and not 1.
- Maschine
    - New: The 4D-Encoder can now control the hovered parameter introduced in Bitwig 5.3. Press it to toggle to that function.
- MCU
    - New: The hovered parameter introduced in Bitwig 5.3 can now also be controlled with the master fader.

25.1.0

- Requires Bitwig 5.3+
- Fire
    - New: Press Alt+SELECT knob to toggle thes window of the current device (was only SELECT).
    - New: Press Shift+Alt+SELECT knob to toggle the on/off state of the current device (was Alt+SELECT).
    - New: Press SELECT to toggle controlling the hovered parameter introduced in Bitwig 5.3.
- Generic Flexi
    - New: Added new function 'Device: Last Parameter' which controls the hovered parameter introduced in Bitwig 5.3..
- MCU
    - New: The encoder can now control the hovered parameter introduced in Bitwig 5.3. To toggle the feature assign the *Last hovered/clicked parameter* to a function key or a footswitch.
- OSC
    - New: Added new commands and values for /device/lastparam/.
- Push 1-3
    - New: The *Last Touched* setting of the ribbon controls now the hovered parameter introduced in Bitwig 5.3.

25.0.2

- Requires Bitwig 5.3+
- Implemented adaptive scrolling for play position as well as the loop start and length on all devices which provide these functions.
- ROTO CONTROL
  - New: Support for stepped parameters. Since Bitwig cannot provide the option names, they are labelled Option 1 - Option N.
  - Fixed: Track button states could get inconsisten when tracks were added or removed.
  - Fixed: Parameter mapping did only work for parameters on the first page (did crash for all others). Regression in 25.0.1.

25.0.1

- Requires Bitwig 5.2+
- Fixed: In rare cases groups could not be entered when using hierarchical navigation.
- ROTO CONTROL
  - New: Adapted to work with Firmware 1.1.3 but does no longer work with older versions!
  - New: Increased number of monitored remote control parameter pages to 16 (was 10).

25.0.0

- Requires Bitwig 5.2+
- New: Added support for Melbourne Instruments ROTO CONTROL.
- Akai Force
  - Fixed: Scrolling tracks by 8 did not work.
- Elektra One
  - Fixed: The Parameter Page Buttons 2 and 5 were flipped on the Devices page. Upload the updated template to fix this.
- Kontrol MkI
  - Fixed: Option to dis-/enable 'Notify play chords' was missing.

24.7.1

- Requires Bitwig 5.2+
- Updated some libraries.
- Kontrol MkI
  - Fixed: Scale could not be changed.
- Remote SL Mk2
  - Fixed: Turning relative knobs to the left did reset the value.

24.7.0

- Requires Bitwig 5.2+
- New: Note/Chord notification is now off by default.
- OSC
  - New: Added insertFile commands: /track/{1-8}/clip/{1-8}/insertFile and /clip/insertFile
- OXI One, Push
  - New: Enabling edit mode and selecting notes for editing has now been harmonized across all sequencers:
    - Long press a pad which contains a note to activate the note edit mode and edit the parameters of the note (or all notes at that step in case of Poly Sequencer).
    - When the note edit mode is active, press the pads which contain notes to select them for editing or remove them from editing.
    - Multiple notes can be de-/selected for editing by using the select button in combination with a sequencer note pad as well.
    - When the last note is deactivated for editing, the note edit mode is closed.
    - Pressing a pad which does not contain a note closes the edit mode as well.
    - Pressing a pad which does contain the continuation of a note, does nothing.
- Push

  - New: Added options to configure the behaviour of the cursor keys for scrolling tracks and scenes.
  - Fixed: *Add Device* and *Shift+Add Device* did not work as expected.

24.6.0

- Requires Bitwig 5.2+
- Fixed: Browser could crash.
- Fixed: Scrolling items (e.g. tracks) left could jump in steps of 8. Side effect from the change that the 1st instead of the last item is selected when changing a page backwards.
- Maschine JAM
  - Fixed: When holding down Grid button in step sequencer mode, the group/channel buttons A-H did not reflect the available resolution options. Furthermore, the number of selectable resolutions was coupled to the number of tracks in the project.
- MCU
  - Fixed: Changed VU meter range (when Mackie is selected) to 0-12 instead of 0-13.
- OXI One
  - New: Added DrumXoX sequencer (press Arrange button twice).
  - New: Added the Raindrop sequencer (press Sequencer button 4 times).
  - New: Added automation mode (press Shift+MOD buttons).
  - New: Mixer mode: press Shift+track pads to stop the playing clip of the track.
  - Fixed: Drum 128 was named Drum 64 in the startup view setting.
- Push 1
  - Fixed: Notify played chords feature did halt other display updates.

24.5.1

- Requires Bitwig 5.2+
- AutoColor
  - Fixed: Could crash on start and shutdown.
- Kontrol Mk2/Mk3
  - New: Added support for Kontakt 8.
  - Fixed: Only show option to select mode-switch button on Mk3 devices.
- LaunchControl XL
  - New: Keep the Device button pressed and use Send Select up/down to switch between either the cursor device, track parameters or project parameters.
- Launchpad
  - New: Press Shift+Session twice to activate the new Scene Play view. In this view each pad represents 1 scene, which means that 64 scenes can be directly triggered.
- MCU
  - Fixed: Switched Shift+Press Knob in Parameter mode for selecting devices to Control+Press Knob to still be able to do fine adjustments with Shift+Knob.

24.5.0

- Requires Bitwig 5.2+
- New: Added support for APCmini mk2.
- New: Updated to Bitwig API 19.
- APCmini mk1
  - New: Added option to toggle 'Notify played chords' on/off.
- Fire
  - Fixed: Drum 64 view: Shifting the notes up/down with select knob did not work.
- Fire, Launchpad, Push
  - Fixed: Drum 64 view: Notes were not in sync with pad colors.
- Push
  - Fixed: Drum XoX view was missing from preferred view selection in settings.

24.4.0

- Requires Bitwig 5.2+
- New: Updated to JDK 21.
- Fire
  - New: Added setting 'Color all track states (mute, solo, rec arm)' which allows to switch off the colors for the deactivated states in Mix mode.
  - New: Press Alt+Select knob to toggle the on/off state of the current device.
- Generic Flexi
  - New: Added setting for the length of a new clip.
- OXI One
  - Fixed: Extension did crash in 24.3 (regression).

24.3.0

- Requires Bitwig 5.0+
- All devices
  - New: When scrolling track bank page left the 1st instead of the last track of the new page is selected.
- APC40mkII, Fire, Launchpad, Maschine, Maschine JAM, OXI One, Push
  - New: Added option to disable showing played chords.
  - New: Renamed setting *Default note view* to *Startup view*.
- Fire
  - New: The Shift mode is not activated when ALT is already pressed.
  - Fixed: Slow knob mode got stuck when pressing SHIFT a second time.
- Launchpad
  - New: The bird's eye view in session mode is now closed automatically if the Session button is kept pressed.
  - New: In Project/Track params mode the scene buttons do now select the pages 1-8 (instead of blocks of 8 pages).
  - Fixed: Extension crashed when pressing one of the cursor keys in clip loop edit view.
  - Fixed: Shift mode should not be activated when used in combination with cursor keys in session mode.
- Maschine, OXI One
  - New: Added new setting 'Startup view' which allows to auto-select the preferred view on startup.
- MCU
  - New: Keep the Option button pressed to show the parameter pages of the selected device. Press the respective knob to select the page for editing.
  - New: Device mode shows number of available pages on 2nd display.
- Push 1
  - New: Notification messages which are shorter than 18 characters are now shown in the right upper corner of the display instead of clearing the whole display.

24.2.0

- Requires Bitwig 5.0+
- MCU
  - New: Added additional MCU support for Asparion D700 series.
  - New: Track names have a prefix of the send index in Send mode.

24.1.0

- Requires Bitwig 5.0+
- APC40mkII, Fire, Launchpad, Maschine, Maschine JAM, OXI One, Push
  - New: Added new setting 'Turn off scale pads'. If enabled, all pads which represent notes which are in-scale are switched off (instead of white).
  - New: Played chords are displayed in play modes.
- Fire
  - New: The Shift Mode allows to pin the cursor track, cursor device and cursor clip (3 green buttons

in the 2nd row from the top).
  - New: The Automation Write Mode can be selected in the Shift Mode (buttons of the 3rd row).
  - New: The initial pad brightness is now set to 20%.
  - New: Switched button combinations for changing the root note and changing the scale layout.
  - New: Toggling clip launcher/arranger automation gives now feedback in the display.
- Generic Flexi
  - New: Functions can now be assigned to 10 different layers. With the 'Function Layers' functions each layer can be temporarily or permanently activated.
  - New: Added functions for Groove: 'Toggle Active', 'Set Shuffle Amount', 'Set Accent Amount'.
  - New: Added functions 'Track: Scroll Bank Page by 1 left', 'Track: Scroll Bank Page by 1 right'.
  - New: Added functions 'FX Track: Scroll Bank Page by 1 left', 'FX Track: Scroll Bank Page by 1 right'.
  - New: Added functions 'Scene: Scroll Bank Page by 1 left', 'Scene: Scroll Bank Page by 1 right'.
  - New: Added settings for 'Behaviour on Pause' and 'Behaviour on Stop'.
- HUI
  - New: Added track, device and EQ modes.
  - New: AUTO1-8 is used for knob press as well (e.g. used like this with X-Touch).
  - New: 'Paste' adds an instrument track.
  - New: 'Shift+Paste' adds an effect track.
  - New: 'Option+Paste' adds an audio track.
  - New: 'Copy' inserts/replaces a device.
  - New: 'Shift+Copy' inserts a device before the currently selected device.
  - New: Option+Copy' inserts a device after the currently selected device.
- MCU
  - New: Keep the Shift button pressed to show the devices on the selected track. Press the respective knob to select the device for editing.
  - New: Added 'Channel Prev/Next' to the function commands which emulate the respective buttons for devices which do not have them.
- OSC
  - New: Added command to de-/activate a layer (/device/layer/{1-8}/activated).
- OXI One
  - New: Playing/recording clips do no longer blink.
- Push 1-3
  - New: In Clips and Markers mode the knobs control now the volume of the tracks.
  - New: Added Load/Save commands to the master mode.
- SLMk3
  - New: Project Parameter Mode - info display shows now the project name.
  - New: Track Parameter Mode - info display shows now the track name.
  - New: Parameter Mode - info display shows now the track name instead of the selected parameter page.
  - New: The first instrument of the track can now be edited (long press UP, then select 'First Ins').
  - Fixed: Selecting Project/Track parameter pages did not work.

24.0.0

- Requires Bitwig 5.0+
- Added support for OXI One hardware sequencer.
- All devices
  - Fixed: Device detection was broken on Macos ARM.
- Maschine JAM
  - Fixed: Extension crashed due to an ill-formatted sysex message.
- MCU
  - Fixed: Device layers could not be navigated.

23.2.2

- Requires Bitwig 5.0+
- Akai Fire
  - New: When unselecting the last edit note in seqencers a notification is now shown that the note edit mode is off.
  - Fixed: In drum sequencers when the last edit note was unselected, it was deleted as well.
- HUI
  - New: Automation mode is shown in the display when a new mode is selected.
- Launchpad Pro
  - Fixed: Play mode restore did not work when combined with keeping Track Select button pressed.
- Native Instruments Kontrol Mk3
  - New: 'Metronome' can now also be selected to switch modes.
- Native Instruments Maschine Mk2/Studio
  - Fixed: Shift+Cursor left/right did not switch parameter pages.

23.2.1

- Requires Bitwig 5.0+
- AutoColor
  - Fixed: Delayed the color change a bit to allow Undo to work.
- HUI
  - Fixed: The right VU meter was not working
- Native Instruments Kontrol
  - New: Mute/solo states are switched off in Parameter and Send Mode to prevent that the graphics get darkened in the display. Mute/solo buttons can still be used but state will not be visible in these modes.
  - Fixed: Added missing Poly-Aftertouch (available in 88-key model).

23.2.0

- Requires Bitwig 5.0+
- All devices
  - Fixed: On-screen notifications about sends could show a wrong text.
- MCU
  - New: Added support for iCON V1-M (display RGB colors, 2nd display)
  - New: Send VU updates only if necessary.
  - Fixed: VU meters did not work anymore on iCON devices.

23.0.1

- Requires Bitwig 5.0+
- Native Instruments Kontrol
  - Fixed: Added missing support for Kontakt 7 plugin UI/light guide.

23.0.0

- Requires Bitwig 5.0+
- LaunchkeyMini Mk3
  - New: In Custom mode Shift+Arp/FixedChord toggles between track/remote parameters and the program change buttons switch pages now to be consistent with device mode.
- Launchkey
  - Fixed: 88 version was not fully supported. Display and fader modes did not work.
- Launchpad
  - Fixed: Project/Track params mode: color indication on scene buttons were missing.
- Native Instruments Kontrol
  - New: Added support for Mk3 keyboards.
  - New: Added Track and Project parameter modes for S, A and M keyboards.
- OSC
  - New: Added /device/layer/{1-8}/volume/reset

  - New: Added /device/layer/{1-8}/pan/reset
  - New: Added /device/layer/{1-8}/send/{1-8}/volume/reset
  - Fixed: /track/{1-8}/send/{1-8}/volume/indicate did set the volume to 0.
  - Fixed: /track/{1-8}/send/{1-8}/volume/touched did set the volume to 0.

22.2.1

- Requires Bitwig 5.0+
- Fire
  - New: Selecting an already selected group track in mix mode does toggle the group open/closed.
- LaunchControl XL
  - New: In transport mode (keeping 'Record Arm' pressed) button 5 triggers Undo and button 6 Redo.
- OSC
  - Fixed: /track/param/{-,+} and /project/param/{-,+} did switch 8 pages instead of 1.
- Push
  - Fixed: Improved button colors in simulator.

22.2.0

- Requires Bitwig 5.0+
- All devices
  - Fixed: The range of the gain note parameter seems to have changed. Adapted now.
- Fire
  - Fixed: Alternate clip launch option in Drum XoX could not be used.
- Launchpad
  - New: The selected note for editing is automatically cleared when the note edit mode is closed.
- Push
  - New: Added Drum XoX sequencer.
  - New: By long pressing an edited note in the sequencers it can be deselected. If no more notes are selected the previous mode is restored.
  - New: Opening the track/layers detail mode is now only triggered on button up and if the select button was not used to e.g. select a drum sound.
  - New: The Scenes/Clips and Markers modes stay now active when the session view is left.
  - New: Tracks can now be optionally navigated 'flat' (instead of 'hierarchical').
  - New: Added option to include the master track in the track list. This allows to have access to the clips on the master track.
  - New: Push 3: The button in the upper right switches now between the Session/Clips and Marker mode.
  - New: Push 3: In MIDI clip mode, turning the encoder selects the previous/next note for editing. Moving it left/right selects the previous/next clip page.

22.1.0

- Requires Bitwig 5.0+
- APC40
  - Fixed: In drum sequencer the first 4 pads of the 2nd step row played sounds.
- Arturia Beatstep
  - Fixed: Knobs were totally broken. Additionally, prevented some weird parameter jumps.
- Electra One
  - New: Added knob sensitivity (speed) settings.
  - New: Made knob touch combinations configurable with plenty of options.

22.0.0

- Requires Bitwig 5.0+
- Added support for Faderfox EC4 (requires Firmware 2.0).
- Electra One

  - Fixed: Next/previous marker page were flipped.
  - Fixed: Settings had *Behaviour on stop* instead of *Behaviour on pause*.
- Generic Flexi
  - New: Added option to directly route Program Change to DAW.
- Komplete Kontrol Mk2
  - New: Default values for knob speeds are much slower.
- Launchkey Mk3
  - New: Undo+Track button deletes the track.
  - New: In Session Mode the 'Stop Solo Mute' menu allows to set the New Clip Length with the buttons on the 1st row.
  - New: Repeat + Pad triggers the alternative launch of the clip.
- Maschine Mk3
  - Fixed: Chord mode did crash when base note which is not part of the selected scale was played.
- MCU
  - New: The function keys F6-F8 can be now configured as well. Punch In/Out and Device on/off can now be selected from the list as well and are set as the default for F6-F8.
  - Fixed: Scrolling upwards in the browser did scroll by 64 steps.
- OSC
  - New: Added /scene/{1-8}/select to select a scene.
  - New: Added /scene/{1-8}/name to set the name of the scene.
  - New: Added /scene/{1-8}/color to set the color of the scene.
  - New: Added /clip/name to set the name of the cursor clip.
  - New: Added /clip/color to set the color of the cursor clip.
  - New: Added /crossfade/reset to reset the crossfader to center position.
  - New: Added /track/{1-8}/recordQuantization to get and set the default record quantization for the MIDI input of the track (this is the global value in Bitwig).
  - New: Added /track/param/bank/page/{+,-} to select the next/previous 8 parameter pages.
  - New: Added /project/param/bank/page/{+,-} to select the next/previous 8 parameter pages.
  - Fixed: Prevent unnecessary restarts of OSC server.

21.5.1

- Requires Bitwig 5.0+
- All devices
  - Fixed: Tracks could not be selected on some devices.
- Electra One
  - Fixed: Session mode: clip recording could not be started.
- Generic Flexi
  - Fixed: 'Device: Reset Parameter 1' command was missing.
  - Fixed: Could crash if no longer existing command was mapped.
- Launchpad
  - Fixed: Project/track remote parameter pages did scroll by 8 instead of 1 page.
- SL MkIII
  - Fixed: Parameter text values were not ASCII safe.

21.5.0

- Requires Bitwig 5.0+
- Electra One MkI + MkII
  - Requires Firmware 3.5
  - New: All knobs are now relative.
  - New: New page for controlling project and track parameters. Touch knobs 9, 10 and 11 to activate.
- Generic Flexi
  - Fixed: Set number of monitored browser results and filter column entries to 1 which speeds up the opening of the browser.

21.4.0

- Requires Bitwig 5.0+
- Push
  - New: Support for the Push 3 encoder in Scene display mode.
  - New: Push 2/3: selected notes in clip note view are now drawn darker.
  - Fixed: The play position was not drawn correctly in sequencer mode.
  - Fixed: Push 2/3 - List elements (Scale and Browser mode) were using black text on black background.

21.3.0

- Requires Bitwig 5.0+
- All devices
  - Fixed: New clips could only be created on 1st page (slot 1-8).
- Auto Color
  - Fixed: Did crash on startup.
- Fire
  - Fixed: Do not toggle the plugin window when the select knob is pressed and turned to transpose the clip by octaves.
- Generic Flexi
  - New / Fixed: Added new relative knob mode 'Signed Bit 2'. The previously called knob mode 'Signed Bit' is actually the new 'Signed Bit 2'. IMPORTANT: This is a breaking change, so check all selected relative modes in your configurations!
  - Fixed: Selecting Send modes 1-8 from the configuration menu did not activate them.
- Kontrol Mk2
  - Fixed: More stable clip/scene/track navigation with 4D knob.
- Maschine:
  - New: When switching tracks the previous selected play mode (PAD MODE or KEYBOARD) is recalled.
- MCU
  - Fixed: Removed the no longer working browser filter settings.
- Push
  - New: Push 2/3: Clip and session modes contain now track names. The mixer layout is changed accordingly for consistency. Reset the colors in the Push settings!
  - Fixed: Adapted note pitch transpose to new Bitwig 5 range of -96 to 96 semi-tones (was -24 to 24).
  - Fixed: Accent parameter in clip mode could not be set.
  - Fixed: Removed the no longer working browser filter settings.
  - Fixed: More stable clip/scene/track navigation with large encoder.

21.2.0

- Requires Bitwig 5.0+
- All devices
  - Fixed: Button combinations on session grid did always execute clip play.
- Launchkey Mk3
  - Fixed: Parameter Pages 9-16 could not be accessed.
- Push 3
  - New: Added configuration page for audio interface

21.1.0

- Requires Bitwig 5.0+
- Generic Flexi
  - New: Clip selection follows now track selection.
- Launchpad
  - Fixed: In session mode playing pads were not green and recording pads not red.
  - Fixed: Pro Mk3: Selected Play/Sequence modes were not restored correctly when switching back from Session.

- Maschine
  - Fixed: Do not show play mode notifications on devices with a display.
- Push
  - New: Added all available u-he CLAP versions to favorites as well as Vital (CLAP version), Captain (VST3) plugins and Korg modwave (VST3 version).
  - New: Push 1/2: Select+Add Device: Opens the favorites menu on the device page.
  - Fixed: Project/Track page selection did not work.
  - Fixed: Push 3: Only activate MPE on Play, Piano, Drum 64 and Drum modes. Also fixed non working button combinations when MPE was active.
  - Fixed: MPE settings in configuration were not documented in the manual.

21.0.0

- Requires Bitwig 5.0+
- All devices
  - Fixed: Improved feedback of automation modes.
- Beatstep
  - New: Clip launcher grid indication is now always enabled (previously only when Session mode was active).
- Generic Flexi
  - Fixed: Switching project/track remote pages was triggered twice.
- HUI
  - New: RecRdyAll toggles rec arm state on all tracks of the active bank page.
  - New: Option+Jog Wheel - Change tempo (press Shift for fine adjustment).
  - New: Control+Jog Wheel - Change loop start (press Shift for fine adjustment).
  - New: Alt+Jog Wheel - Change loop length (press Shift for fine adjustment).
  - Fixed: Clip related function did not work when assigned to F1-F8 buttons.
- Kontrol MkII
  - Fixed: Clip launcher grid indication was not enabled.
- MCU
  - New: Shift+RecArm toggles rec arm state on all tracks of the active bank page.
- OSC
  - Fixed: /track/param did trigger project parameters.
- Push
  - New: Added support for Ableton Push 3.
  - New: Push 1: Pressing the Stop Clip button allows now to stop clips with the 8 2nd row buttons (similar to solo/mute). Combine 2nd row button with Shift for alternate stop action. Stopping all clips is now Select+Stop clip.
  - New: Push 2: Stop Clip can now be locked with Shift+Stop Clip (similar to solo/mute).
  - New: Push 2: Removed unnecessary Rec Arm, Solo and Mute from Cue channel.
  - New: Metronome volume has been moved into the metronome settings mode (long press metronome button).
  - New: Improved session configuration mode. Easier selection of what to show on the display.
  - New: 'Add Track' mode has now 7 favorites for each track type as well as 7 device favorites.
  - New: Removed 1st column in browser for the time being until API gets adapted to Bitwig 5 browser.
  - Fixed: Push 1: Master volume graphical representation was not missing line if VU mode was active.
  - Fixed: Do not notify tempo value when tempo knob is used in browser mode to scroll results.

20.3.2

- Requires Bitwig 5.0+
- All devices
  - Fixed: Workaround for an incompatibility with Bitwig 5.0.2.
- Generic Flexi

  - Fixed: Crash on startup when keyboard MIDI channel was set to Off.

20.3.1

- Requires Bitwig 5.0+
- All devices
  - New: Toggling solo on a track now respects the 'solo exclusive' setting in the Bitwig settings.
  - Fixed: There might have been a potential crash.
- Gamepad
  - New: Added different options for the range of MIDI CC values sent for each axis.
- Generic Flexi
  - New: Added functions for 1st instrument device.
  - New: The name of the keyboard input can now be configured.
  - New: Added more functions to navigate project/track remote pages.
  - Fixed: Track Remote functions did also show up in Track functions but did not work.
- OSC
  - Fixed: The Open Stage Control template did still send /user commands for touch events.
- Push
  - Fixed: Removed unnecessary pad mode notifications on track selection.

20.3.0

- Requires Bitwig 5.0+
- All devices
  - New: Sends can now be changed for send channels as well.
- APC40 mkII
  - New: Press USER to select the user mode to control project and track parameters. Press again to toggle between the project and track parameters.
- APCmini
  - Fixed: Send channels could not selected.
- Fire
  - New: The User mode was replaced with the Project/Track Parameters mode to change project or track parameters.
- Generic Flexi
  - New: User parameter commands are replaced with commands for project and track parameters (*Project Remotes / Track Remotes*).
  - New: The FX Track section has now also Send commands.
- Launchkey Mini
  - New: The User mode was replaced with the Project Parameters mode to change project parameters.
- Launchkey Mk3
  - Fixed: Toggling groups open/closed always got triggered twice.
- Launchpad
  - New: The User mode was replaced with the Project/Track Parameters mode to change project or track parameters. Up/down button switches between them. Left/right switches pages.
- Maschine
  - New: The User mode was replaced with the Project/Track Parameters mode to change project or track parameters. Cursor left/right switches between them. Encoder up/down buttons switches pages.
- Maschine JAM
  - New: The User mode was replaced with the Project/Track Parameters mode to change project or track parameters. SELECT+CONTROL switches between them.
- MCU
  - New: The User mode was replaced with the Project/Track Parameters mode to change project or track parameters. Fader bank left/right switches between them. Channel left/right switches pages.
- OSC
  - New: There is now a setting to choose between flat and hierarchical track navigation.

  - New: Increased the number of configurable actions to 20.
  - New: /automationWriteMode also dis-/enables clip automation record.
  - New: /user commands are replaced with according /project and /track commands. OpenStage-Control template got updated to reflect this (but only with /project commands).
  - Fixed: Send attributes could not be changed (except volume).
  - Fixed: Device page name was missing the 'name' part.
- Push
  - New: The user mode gives now access to the project and track parameters. First 2 buttons of the 2nd row toggle between Project and (selected) Track parameters.
  - Fixed: Only the first 8 scenes could be launched in Scenes view.
- SLMkIII
  - New: The user mode has been replaced with a Project FX and Track FX mode. Keep the **UP** button pressed and select the modes with the 7th/8th row button. These modes give access to the project and track parameters.
- Turn
  - Fixed: Only the first 8 scenes could be launched in Scenes view.

20.2.1

- Requires Bitwig 5.0+
- Fire
  - New: Names of drum pads are now displayed when switching selection in drum mode.
- Generic Flexi
  - Fixed: MIDI feedback from on/off values did sent 1/0 instead of 127/0.
- Launchkey Mk3
  - Fixed: Wrong mode was set after closing the browser.
- MCU
  - Fixed: Fader flip did not work in Instrument mode.

20.2.0

- Requires Bitwig 5.0+
- Added support for the ESI Xjam controller
- Komplete Kontrol MkII
  - New: Make sure that the same slot is selected when switching tracks.
- MCU
  - Fixed: Added missing EQ and INST buttons to simulator.

20.1.0

- Requires Bitwig 5.0+
- Launch Control XL
  - Fixed: Moving drum pad range was broken.
- Launchpad, Push
  - Fixed: Clip Length mode was not always recalled.
- MCU
  - New: Layer mode uses now the first instrument instead of the selected device.
  - Fixed: Device froze when there were no sends and send 2 was selected.
- OSC
  - Fixed: Moving drum pad range was broken.
- SLMkIII
  - Fixed: Set knob layout only when necessary.

20.0.0

- Requires Bitwig 5.0+
- Beatstep, Electra One, Gamepad, Generic Flexi
  - New: The new Bitwig 5 clip and scene release functions can be used.

- APC40
  - New: The new Bitwig 5 clip and scene release functions can be used. The alternative functions are triggered in combination with the SHIFT button.
  - New: Shift+Stop All Clips button triggers the alternative stop function.
  - New: MkI: Press Shift+Device On/Off button to open/close the browser (was Shift+Stop All Clips).
  - Fixed: MkI: Selecting channel A or B for crossfader did not work.
- APCmini
  - New: The new Bitwig 5 clip and scene release functions can be used. The alternative functions are triggered in combination with the SHIFT button.
  - New: Existing scenes have now the color green. The selected scene blinks green.
- Fire
  - New: Toggling the Birds Eye view in session mode (SHIFT+PERFORM) directly closes the Shift mode and displays an info in the display which mode is selected.
  - New: The new Bitwig 5 clip and scene release functions can be used. The alternative function is triggered in combination with the SHIFT button. To only select a clip or scene press ALT and the pad of the clip.
- Generic Flexi:
  - New: Added new functions *Clip: Play Alternative* and *Scene N: Launch Scene Alternative*.
  - New: Added new functions *Clip: Stop Alternative*, *Clip: Stop All* and *Clip: Stop All Alternative*.
- Launch Control XL
  - New: The new Bitwig 5 scene release function can be used.
- Launchkey / Launchkey Mini / SLMk3
  - New: The new Bitwig 5 clip and scene release functions can be used.
  - New: Mini: The executed functions when Stop/Solo/Mute is pressed are displayed.
- Launchpad
  - New: The new Bitwig 5 clip and scene release functions can be used. The alternative functions are triggered in combination with the SHIFT button. The previous long press function to select a clip had to be removed to make this work.
  - New: The Shift mode has a new button to execute the alternative 'stop all clips' function (left to the normal 'stop all clips' pad).
  - New: If the 'stop clip' row is active in session mode, the pads can be used in combination with the Shift button to trigger the alternative Stop function.
  - New: Pro Mk3: Combine Shift with the track buttons in Stop Clip mode to trigger the alternative Stop function.
- Maschine
  - New: Pattern + Scene modes: The new Bitwig 5 clip and scene release and alternative functions can be used. The alternative functions are triggered in combination with the SHIFT button. To select a clip/scene use the SELECT button.
  - New: Pattern mode: Shift+PATTERN button triggers the alternative clip stop function.
  - New: Scene mode: Shift+SCENE button triggers the alternative clip stop function.
- Maschine JAM
  - New: Pattern + Scene modes: The new Bitwig 5 clip release and alternative functions can be used. The alternative functions are triggered in combination with the SHIFT button. To select a clip/scene use the SELECT button.
  - New: Select + MUTE + clip pad triggers the alternative clip stop function.
- MCU
  - New: SAVE button LED is off when project is not modified.
  - New: OPTION + press a knob which controls a send level toggles the send on/off.
- MPC/Force
  - New: The new Bitwig 5 clip release and alternative functions can be used. The alternative functions are triggered in combination with the SHIFT button.
  - New: Shift+Stop All Clips button triggers the alternative stop function.
  - New: (Force only): Use SELECT in combination with a pad to only select a clip or scene.

  - New: (Force only): Use SHIFT+Scene button to trigger the alternative Scene function.
- OSC
  - New: 'launch' has now a parameter to trigger press and release on both clips and scenes.
  - New: Added 'launchAlt' to trigger the alternative launch function on both clips and scenes.
  - New: Added sending: /track/{1-8}/send/{1-8}/activated - Is the send disabled or enabled?
  - New: Added sending: /device/layer/{1-8}/send/{1-8}/activated - Is the send disabled or enabled?
  - New: Added receive: /track/{1-8}/send/{1-8}/activated - Toggle the send disabled or enabled.
  - New: Added receive: /device/layer/{1-8}/send/{1-8}/activated - Toggle the send disabled or enabled.
  - New: Added receive: /track/stopAlt - Alternative function to stop playback on the track, e.g. not quantized.
  - New: Added receive: /clip/stopallAlt - Alternative function to stop the playback of all clips, e.g. not quantized.
- Push
  - New: The new Bitwig 5 clip and scene release and alternative functions can be used. The alternative functions are triggered in combination with the SHIFT button. The previous long press function to select a clip had to be removed to make this work.
  - New: Use Select+Clip/Scene to select it.
  - New: The birds-eye view in Session mode is now activated by holding Shift+Select.
  - New: Stop Clip button+first row buttons triggers the alternative stop function.
  - New: Shift+Stop Clip button triggers the alternative stop all function.
  - New: Sends can be dis-/enabled. Keep SHIFT pressed, then additionally SELECT and finally touch a knob which modifies a send.
  - New: Added some CLAP devices to the *Add Track* settings.
  - Fixed: Birds-eye view in Session mode had a blinking issue.
- SL Mk II
  - New: The new Bitwig 5 scene release function can be used.
  - Fixed: Transport commands did not work in Play mode.
  - Fixed: Display of scene names did not work for non-existing scenes.
- Turn
  - New: The new Bitwig 5 clip release and alternative functions can be used. The alternative functions are triggered in combination with the SHIFT button.
  - New: Hold Select to select a clip without starting playback.
  - New: Shift+stop buttons: Stop the playing clip on the channel using the alternative setting.

19.2.2

- Requires Bitwig 4.3+
- All devices
  - Fixed: Set note repeat octaves to 1 to match the Bitwig default.
- Generic Flexi
  - New: Enabled clip rectangle.
  - New: Documented Shift button function in the manual.
  - Fixed: Renamed 'Parameters' to 'Device' in the selected mode list to match the naming in the function lists.
- Maschine Mk2 / Studio
  - Fixed: The poly aftertouch settings in the template were off by 2 octaves and therefore did not work. Please install the new template to fix this.
- Push 1
  - Fixed: Low pad threshold warning was not displayed in the info mode (and caused a crash).
  - Fixed: Firmware version was not displayed in info mode.

19.2.1

- Requires Bitwig 4.3+
- All devices

  - New: Sped up arranger position changes (play position, loop, etc.). Normal, changes now 1 bar and slow, 1 quarter.
- Electra One
  - New: The last active mode is restored when returning from a different preset.
  - Fixed: Values were still set in other presets when changes appear in the DAW.
  - Fixed: Mode did not update the values when jumping back from a different preset.

19.2.0

- Requires Bitwig 4.3+
- Electra One
  - Requires Firmware 3.1!
  - New: Labels for parameter values are now set.
  - New: Knob touch states are now available which allows smoother value updates and automation touch mode to work.
  - New: Play position and tempo can now be changed with knobs.
  - New: Replaced Cue Volume with Play Position on all pages. Cue Volume is now available on the Transport page.
  - New: Added a Session mode for launching scenes/clips and more.
  - New: Quick navigation between pages by touching 3 knobs (see the manual).
  - New: Jump to a specific Electra One synthesizer preset for editing the plugin in focus. The preset must have the same name as the preset.
- LaunchControl XL
  - Fixed: Crash when setting the drum or note sequencer resolution.
- Launchpad
  - Fixed: Fader animations did not work in user mode (hopefully this fix works on all systems).
  - Fixed: Do not leave user mode on track change.
  - Fixed: Browser did not open on tracks without a device present.
- MCU
  - New: Master Track mode is only activated on master track selection if the current mode is the Track mode.
  - New: Use the first instrument of the track for layer navigation instead of the cursor device.
- Push
  - New: If ribbon controller is set to the mode 'Fader' or 'Last Touched' it can now be combined with the delete button to reset the respective parameter to its' default value.
  - New: Added / updated several devices for the 'Add Track' - favorite devices settings.

19.1.0

- Requires Bitwig 4.3+
- Fire
  - New: Device and parameter page names are shown now in two lines instead of one.
- Launchpad
  - New: Added clip length (loop area) mode. Press User/Custom on the Pro models. On the other models use the mode selection.
  - New: User parameter mode is now available on all models.
  - New: Pressing Device button twice switches to User parameter mode.
  - New: Rearranged the functions of the Scene buttons in Device mode. Last button opens now the browser.
  - New: Improved harmonization of mode colors.
  - Fixed: Pro Mk3: Tracks could not not be selected.
- Maschine
  - Fixed: Erase+Master Knob did not work to reset parameters.
- Push
  - New: The 'Clip' mode was renamed to 'Clip Length'. The length (actually the loop) is now colored in the clips' color.

19.0.0

- Requires Bitwig 4.3+
- Added support for Electra One controller.
- Generic Flexi
  - Fixed: Browser - Scroll Filter Column did crash.
  - Fixed: Browser - Scrolling in browser mode did always scroll down.
  - Fixed: Last selected mode was not set after restart.
- Launchpad
  - New: Set the default for Shift+Record to *New clip + enable automation.*
  - New: Added a brightness setting for the pads. Only available on *Mini Mk3* and *X*.
  - Fixed: New record command configuration was broken on non-pro models.
- MIDI Monitor
  - New: Added number of bytes to system exclusive message logs.

18.5.0

- Requires Bitwig 4.3+
- All devices
  - Fixed: Poly Sequencer: Registration of notes is more reliable.
- Komplete Kontrol MkII, Launchkey / Mini, Launchpad, Maschine
  - New: Added new record button options to additionally enable automation writing.
- Launchpad
  - New: Sequencers have now a note editing mode. Long press a step with a note to activate the note editor.
  - New: Pro Mk3: State of metronome is shown on Solo/Click button when Shift is pressed.
  - New: Changing note repeat with cursor up/down+pad in sequencers works now also for Poly Sequencer.
  - New: Record button (and Shift+Record button) can now be configured (instead of only being able to be flipped).
  - New: Scene buttons in device mode have more functions: enable device, toggle user interface, toggle pinning.
  - Fixed: Broke some cursor commands (e.g. tempo change) while fixing note repeat in 18.4.

18.4.0

- Requires Bitwig 4.3+
- Launchpad
  - Fixed: Changing note repeat with cursor up/down+pad in sequencers did also switch the transposition.
- MCU
  - New: Alt+Track selection buttons: Set the length of a new clip (was SHIFT combination).
  - New: Save button is lit.
- OSC
  - Removed the TouchOSC template which is outdated. Please switch OpenStageControl instead.
- Push
  - Fixed: Scene buttons did not work in Piano play layout.

18.3.0

- Requires Bitwig 4.3+
- All devices
  - New: Drum sequencers: When changing note range up/down the offset is now shown on-screen instead of the range (which was wrong anyway).
- APC40, APCmini, Fire, Launchpad, Maschine JAM, Push.
  - New: Added setting 'Start with session view'.
- APC40
  - Fixed: MkI: Pads in Drum and Play mode did sound wrong notes.

- Generic Flexi
  - New: Added new functions: 'Device: Toggle Parameter 1-8'.
  - New: Added new function: 'Master: Select'.
  - New: Added several new functions to control layers (e.g. in a Drum Machine).
- Launchpad
  - Fixed: Record and toggle overdub did not work in Shift view.
  - Fixed: Loop area was not drawn when extra function buttons were active.
- MCU
  - New: Switching devices or parameter pages shows the device and page name as a notification.
  - New: Control+Jog Wheel - Change loop start (press Shift for fine adjustment)
  - New: Alt+Jog Wheel - Change loop length (press Shift for fine adjustment)
  - Fixed: X-Touch - Notification messages might not be seen due to black displays.
- Push
  - New: When changing loop length in Clip view, the second pad can now be pressed multiple times without the need to press the first again.
  - Fixed: Changing loop length in Clip view did not work with 1/16th resolution selected.
  - Fixed: Clip view was not selected on startup if an audio track was selected.

18.2.0

- Requires Bitwig 4.3+
- Added header to manual.
- All devices
  - New: Play position can now be changed during playback and is adjusted to the grid.
- APC40
  - New: Footswitches are now configurable in the settings.
  - Fixed: Cursor left/right to select the previous/next browser tab did not work.
  - Fixed: 12th page pad was off in drum mode.
  - Fixed: MkI: Drum pads in Drum Mode did not send notes.
- Generic Flexi
  - Added new functions: 'Device: Reset Parameter 1-8'
  - Added new functions: 'User: Reset Parameter 1-8'
- Komplete Kontrol MkII
  - New: Added detection for VST3 version of Komplete Kontrol plugin.
- Maschine / Jam
  - New: Footswitch options contains now the option to send sustain (CC 64).
- OSC
  - New: Added message: /device/param/{1-8}/exists
  - New: Added message: /device/page/{1-8}/exists
  - Fixed: Fixed velocity should not be applied to aftertouch.
- Push
  - New: Changing play position now show also measures in the display.
  - New: Select + Master knob: Zoom in/out of arranger.
  - New: Clip view is now the default for audio tracks.
  - New: Note edit mode has now presets for recurrence patterns. Press Shift and use the 1st row buttons.
  - New: Footswitch options contains now the option to send sustain (CC 64).

18.1.0

- Requires Bitwig 4.3+
- Fire
  - Fixed: Regression introduced in 18.0, button LEDs did not update.
- Generic Flexi
  - Fixed: 40th label in the Number field was named indexed as 30th.
- MCU

  - New: Added functions to browser mode:
    * Arrow up/down - Switches to the previous browser tab (if any)
    * Arrow left/right - Switch to insert a device after the currently selected device (if any)
    * Zoom - Switch to replace the currently selected device (if any)
    * Jogwheel - Scroll the results
- Push 1
  - Fixed: Browser mode could crash if presets contained non-ASCII characters.

18.0.0

- Requires Bitwig 4.3+
- Added support for Yaeltex Turn.
- APC40 mkII
  - New: Selected notes in sequencers are now yellow (instead of white).
- Fire
  - New: Alt+Select Knob changes the note repeat in note edit mode.
- Maschine
  - Fixed: Source Aftertouch messages were always sent additionally to the setting of *Convert Aftertouch*.
- MCU
  - Fixed: Crash when Master fader was touched in flip mode.
  - Fixed: State of Flip LED was not correct.
- Novation SLMkIII
  - New: Improved the layout of the recurrence pattern edit screen. The steps can now be toggled with Shift and the buttons below the display. The length of the pattern can now be changed with all knobs.
- OSC
  - New: Added /scene/color
  - New: Added /device/page/{1-8}/name for consistency reasons
  - New: Added /device/sibling/{1-8}/exists
  - New: Added /device/sibling/{1-8}/bypass

  - Fixed: /track/bank/{+,-} did not report the track selection as Off if the selected track went out of the page.
  - Fixed: /device/param/bank/page/{+,-} did not jump 8 pages but only 1.
  - Fixed: /device/param/{+,-} did not jump 1 page but 8.

17.6.0

- Requires Bitwig 4.3+
- APC40 mkI/II
  - New: Drum mode provides functions to select, mute, solo and browse drum pads.
  - New: In note editing the parameter *Release Velocity* was replaced with *Velocity Spread* and *Pitch* with *Chance*.
  - New: Note Repeat can now be used in the play and drum mode.
  - New: Added note repeat settings.
  - New: Added settings *Display clips of record enabled tracks in red*, *Action for pressing rec armed empty clip* and *Turn off empty drum pads*.
  - New: Renamed Note Input to *Pads*.
  - New: Shift + Tap Tempo: Inserts a new marker at the current play position.
  - New: Cursor right: Move track bank focus 8 tracks up
  - New: Cursor left: Move track bank focus 8 tracks down
  - New: Shift+Cursor right: Selects the next marker to the right of the play cursor.
  - New: Shift+Cursor left: Selects the next marker to the left of the play cursor.
- Fire
  - New: Alt+Resonance knob: Changes the velocity spread of the note.

  - New: Alt+Filter knob: Changes the chance of the note.
- LaunchControl XL
  - New: Note Sequencer: RecArm + Send A knob: Changes note chance.
  - New: Drum + Note Sequencer: RecArm + Send B knob: Changes velocity spread.

17.5.0

- Requires Bitwig 4.3+
- Support for Novation LaunchControl XL
- Beatstep
  - New: Toggle Window button uses different colors depending on window state (blue = closed, pink = opened).
  - New: Removed the useless track navigation functions in the track mode and added rec arm and toggling folders instead.
  - Fixed: Prevent view change on track change, which is confusing on the Beatstep since it leaves Track view.

17.1.0

- Requires Bitwig 4.3+
- All devices
  - New: Only color existing session slots red (for which a scene exists) for recording.
- Fire
  - Fixed: Knobs did not work after leaving note edit mode.
- MCU
  - Fixed: Touch state for touch automation recording was not always set correctly.
- Push
  - New: Push 2: The 4th button above the display now moves to the next sends page. Combine with Shift to move backwards.
  - Fixed: Internal Drum Machine Sends were not handled correctly.
  - Fixed: Do not switch to drum channel when browser is open (when playing pads).
  - Fixed: Push 1: Layer panorama mode - value bars were not setup as panorama.
  - Fixed: Push 1: Layer send modes could not be accessed.
- APC40, APCmini, Launchpad, Launchkey Mini, Maschine, Maschine Mikro, Maschine JAM, Push
  - New: Renamed 'Behaviour on Play' to 'Behaviour on Pause' and renamed the options as well.
- Fire, Force, HUI, Kontrol mkI/II, Launchkey, MCU, MPC, SLmkII/mkIII
  - New: Added additional setting 'Behaviour on Pause' triggered by play button.

17.0.0

- Requires Bitwig 4.3+
- Fire
  - New: Added a new drum mode, see manual for details.
  - New: The last selected note/sequencer view is remembered when switching to session/mix and back.
  - New: All LEDs are full turned off on shutdown and a Goodbye message is displayed.
  - New: Session mode: ALT + pad selects clip (without starting playback).
  - New: Bank button + Touch knob: Resets the knobs value to the default value.
  - Fixed: Black pads were not fully turned off.
  - Fixed: Do not leave Mix mode on track selection.
- Fire, Maschine JAM, Push
  - New: In Session mode hold Select to immediately launch a clip. Release the clip pad while holding Select, to return immediately to the last playing clip. To select a clip use long pressing the clip pad instead.
- Fire, Launchpad, Push
  - New: Shift+Record turns off the recording of the selected slot on the selected track, if it is recording (instead of toggling clip launcher overdub). Enable *Select clip/scene on launch* and *Flip arranger*

and clip record to make this work best.
- Komplete Kontrol MkI
  - New: Works now on Apple Silicon.
  - Fixed: USB resources were not freed on shutdown.
- Launchkey
  - New: Added detection for Launchkey 88
- MCU
  - Fixed: Knob LEDs went off when panorama was panned fully left.

16.4.1

- Requires Bitwig 4.1+
- Generic Flexi:
  - New: Added setting to directly route expression (CC 11).
- MPC
  - New: Q-Link knobs are working now (requires MPC Firmware 2.11).
  - Fixed: Volume, pan and parameter indicators were off in Bitwig.

16.4.0

- Requires Bitwig 4.1+
- APC40, APCMini, Fire, JAM, Launchpad
  - New: Added setting for the preferred default note view (e.g. Play, Drum, Sequencer, . . .).
- APC40, APCMini, Fire, JAM, Launchpad, Push
  - New: Added new scale layouts: Staggered Up and Staggered Right
- Generic Flexi
  - New: Added new functions 'Layout: Zoom in arranger timeline' and 'Layout: Zoom out arranger timeline'.
- Komplete Kontrol Mk1
  - Fixed: Expression pedal triggered start/stop instead of sending expression data.
- Komplete Kontrol A/M-Series
  - New: Send and Parameter modes could be activated on these models as well by pressing Shift+Stop (=CLEAR) which was not intended. The labels are now adjusted to make this usable on these models as well. Only drawback is that the display always shows 'Vol' or 'Pan' but everything else works nicely.
- MCU
  - New: Layers and drum pads can now be edited (Volume, Pan, Sends, Mute, Solo). Press Select on the already selected track containing the instrument with the layers/drum pads on the top level to enter. Use Mode buttons to select the different layer modes. Long press any Select button to leave layers modes.
  - New: Pressing a knob can now be combined with modifier keys: SHIFT - set parameter to center value, CONTROL - set parameter to minimum, ALT - set parameter to maximum.
  - Fixed: Previous/next mode function for function keys did not display the selected mode. Also the modes do now wrap around at the beginning/end.
  - Fixed: Previous track mode was not restored when leaving master track.
- MCU - X-Touch
  - Fixed: In Master mode audio engine and project displays were off. In parameter modes displays are now switched off for not existing parameters.
- Novation SLMkIII
  - New: Let program changes pass through to Bitwig.
- OSC
  - Fixed: Several formatting issues in the manual.

16.3.1

- Requires Bitwig 4.1
- MCU

  - Fixed: Fixed a crash in Track mode and increased the number of sends to 14 in that mode.

16.3.0

- Requires Bitwig 4.1
- Launchkey Mini Mk3
  - New: When a second row mode is active on the pads, scenes are scrolled by one.
- Maschine JAM
  - New: GRP - Activates changing the play position with the encoder. This was previously GRID+Encoder, which broke using the GRID button for quantizing the selected clip. When toggled by pressing the encoder it changes the loop start position. Hold SELECT to change the loop length.
- Push 1/2
  - New: Moving tracks and devices now works across page boundaries.
- MCU
  - New: Option+Marker - Inserts a new marker at the current play position.
  - New: Option+« - Move the play cursor to the closest marker before the current play position.
  - New: Option+» - Move the play cursor to the closest marker after the current play position.
  - New: Option+BANK left/right - Moves the selected device to the left/right.
  - New: Option+CHANNEL left/right - Moves the selected track to the left/right.
  - New: Added setting 'Workflow: Activate Volume mode on Fader Touch'.
  - New: Track mode shows now sends 7 and 8 on 2nd device.
- MCU - X-Touch
  - New: Sends use the colors of their channel in track mode.
  - Fixed: Prevent color black to be used for tracks and markers (replaced with gray).

16.2.0

- Requires Bitwig 4.1
- All devices with pad grid
  - Fixed: 3rd shift in chromatic mode was not correct.
- Push 1/2
  - New: Arrow left/right now changes the track/devices page.
  - New: Shift + Arrow left/right in device mode moves the selected device to the left/right (but only in the page).
  - New: Shift + Arrow left/right in track modes moves the selected track to the left/right (but only in the page).
  - New: Added note latch to note repeat menu.
  - New: Added option to ribbon modes 'Last Touched'. This allows to change the parameter which editing knob was last touched.
  - New: Mute + Device in device mode toggles the enabled state of the device.
  - New: Disabled devices are now drawn in the background color on Push 2. On Push 1 disabled devices have a prefixed division sign.
  - New: Push 1: Always show full name in track/layer details mode. The track type is now displayed as well.

16.1.0

- Requires Bitwig 4.1
- MCU
  - New: Added hardware profile for Behringer X-Touch.
  - New: EQ calls up new EQ mode which always edits the parameters of the EQ+ on the track.
  - New: INST calls up new instrument mode which always edits the parameters of the first instrument on the track.
  - New: DROP duplicates the selected track.
  - New: SOLO deactivates all solos, Shift+SOLO deactivates all mutes.
  - New: If 'display track names' is enabled and track mode is active, only the name of the selected

track is displayed instead of the volume label.
  - New: Setting to use 7 characters in the display instead of 6 characters and a blank character. Makes sense for devices which do not have one large display but 8 separate ones which have a space in between already.
  - New: Setting 'Display colors (Behringer X-Touch)' enables the display back-light colors on the Behringer X-Touch and X-Touch Extender models.

16.0.0

- Requires Bitwig 4.1
- New: Support for Gamepads!
- Launchpad:
  - New: Improved the 4 step change of virtual faders on already lit pads. It changes now the direction when the maximum or minimum value of the pad is reached instead of wrapping around.

15.6.0

- Requires Bitwig 4.1
- Generic Flexi
  - New: Added functions for controlling EQ+ equalizer, which is automatically inserted if one of the functions is triggered.
  - Fixed: Updated/corrected the names of CC and MMC commands.
  - Fixed: Resolution was set to 14-bit on first slot when CC was less than 32 on file load.
- Komplete Kontrol Mk1
  - Fixed: Shift+Play to create a new clip did not work
- MCU
  - New: Option+Toggle Device: Toggle the devices' expanded state
- MidiMonitor
  - Fixed: Updated/corrected the names of CC and MMC commands.
- OSC
  - Fixed: Removed unnecessary inversion of Q-factor parameter. Inverted Q-factor knob in Open Stage Control example template instead.
- Push 1/2
  - New: Added new Bitwig 4.2 devices to track template list.
  - Fixed: Layer detail view (pressing Select button in Drum and Drum 64 modes) did not work for pads > 8.

15.5.0

- Requires Bitwig 4.1
- All devices
  - New: Improved speed of opening browser.
- Generic Flexi / MCU / OSC
  - New: Action selection is now split into action categories, which makes the lists much shorter and fixes the issue that not all actions could be displayed on a screen for selection.
- Push 1/2
  - New: Added several VST instruments and effects to the favorites devices.

15.4.0

- Requires Bitwig 4.1
- Fire
  - New: In Mix mode Mute/Solo 1 moves the play cursor to the start of the arranger loop and Mute/Solo 4 moves the play cursor to the end of the arranger loop.
  - New: In Mix mode the select knob does now change the play position.
- Launchpad
  - New: Improved virtual faders for stepped values.
  - New: Always set values immediately to work around Bitwig catch takeover mode.

- MCU
  - Fixed: Wrong setting label *Use vertical zoom to change tracks* but must be *Use vertical zoom to change modes*. Documentation was wrong, too.

15.3.0

- Requires Bitwig 4.1
- Generic Flexi
  - New: Support for MPE.
- Launchpad
  - New: If *Fixed Accent* is active the loop/clip length area now shows 15 velocities. The selected velocity is used when enabling a note in the sequencer.
- Push 1/2
  - New: If *Accent* is active the loop/clip length area now shows 16 velocities. The selected velocity is used when enabling a note in the sequencer.

15.2.0

- Requires Bitwig 4.1
- Generic Flexi
  - New: New functions to select device parameter pages 1-8.
- Launchpad
  - New: Added option to choose action for pressing an empty clip on a record enabled track.
- Mackie HUI
  - New: Added *New Clip Length* setting to be used with footswitch and function-keys commands *New Button* and *Clip Based looper*.
- Push 1/2
  - New: Shift+8th button in browser mode toggles the preview.
  - Fixed: Selecting occurrence types 'with/without prev channel' did crash.
- Push, Maschine, HUI, MCU
  - Fixed: Foot controller command *Clip based looper* did not work. Explanation what it does was added to the manual.

15.1.0

- Requires Bitwig 4.1
- APC40 / APC40 mkII
  - New: Selecting an already selected group track toggles its' expanded state.
  - New: Left cursor + Cue Level knob: Changes arrange loop start (combine with Shift for small changes).
  - New: Right cursor + Cue Level knob: Changes arrange loop length (combine with Shift for small changes).
- Push
  - New: Marker pages can be switched with left/right cursor key (no need to press Shift).
  - Fixed: Open folder icon was not shown in all track modes.

15.0.0

- Requires Bitwig 4.1
- Akai Fire
  - Fixed: Some missing settings were not documented in the manual.
- Akai Force
  - New: SELECT + COPY - Creates a new scene.
- Akai Force / MPC
  - New: COPY - Duplicates the selected clip and starts it.
  - New: Undo button is dimmed if undo (or redo with Shift) is not possible.
  - New: Selecting an already selected group track toggles its' expanded state.
  - New: The loop start and length is displayed and can be changed.

- Generic Flexi
  - New: Increased number of slots to 300.
  - New: Selecting an already selected group track toggles its' expanded state.
- Komplete Kontrol A-Series / M32
  - New: Undo button is off if undo (or redo with Shift) is not possible.
- Komplete Kontrol Mk2
  - New: Undo button is off if undo (or redo with Shift) is not possible.
  - New: Selecting an already selected group track toggles its' expanded state.
- Launchkey Mk3
  - New: Selecting an already selected group track toggles its' expanded state.
- Launchpad Pro Mk3 / Launchkey Mk3 / Push 2
  - New: Selecting an already selected group track toggles its' expanded state.
  - New: Improved auto detection depending on Linux version.
- Maschine+, Maschine Mk2 / Mk3, Maschine Studio, Mikro Mk3
  - New: Selecting an already selected group track toggles its' expanded state.
  - New: Press Swing button twice to select Arrange Loop Start mode.
  - New: Press Swing button three times to select Arrange Loop Length mode.
  - New: Multiple footswitch support (2 on Mk3 / Plus, 4 on Studio), e.g. use a Boss FS-6 with a stereo cable.
- Maschine Jam
  - New: Selecting an already selected group track toggles its' expanded state.
  - New: Multiple footswitch support, e.g. use a Boss FS-6 with a stereo cable.
- MCU
  - New: Selecting an already selected group track toggles its' expanded state (if track navigation is set to flat).
  - Fixed: Prevent not supported automation mode 'latch preview' from being set.
- Novation Remote SL, Mk I, Mk II, SLMkIII
  - New: Selecting an already selected group track toggles its' expanded state.
- OSC
  - New: Selecting an already selected group track toggles its' expanded state.
- Push 1/2
  - New: Selecting an already selected group track toggles its' expanded state.
  - New: Push 1: For group tracks different characters are prefixed to show the opened state of a group track.
  - New: Push 2: Track icon shows the opened state of a group track.
  - New: Select + Tempo knob: Changes arrange loop start (combine with Shift for small changes).
  - New: Select + Position knob: Changes arrange loop length (combine with Shift for small changes).
  - New: Undo button is off if undo (or redo with Shift) is not possible.
  - New: Markers can be added in marker mode.
  - New: Delete + 1st row buttons in Marker mode deletes marker.
  - New: Improved auto detection depending on Linux version.

14.1.0

- Requires Bitwig 4.0
- Generic Flexi
  - New: *Scene: Create Scene:* - Creates a new scene at the end of the scene list.
- Launchpad
  - New: Drum mode: The loop length area has now new functions. There is one red button on the right bottom to toggle the functions on and off. If enabled, the 2nd row contains the previous combination buttons. The first row now allows to toggle note repeat, enable the selection of note repeat period with the Scene buttons, enable the selection of note repeat note length with the Scene buttons.
- OSC
  - New: */scene/add* - Creates a new scene at the end of the scene list.

- Push
  - New: Select+Duplicate: Creates a new scene at the end of the scene list.
  - Fixed: Push 1: Notification messages on the display were canceled too early.
  - Fixed: Push 2: Drawing glitch when no track was selected when navigating into a group with the cursor keys on the computer keyboard.

14.0.0

- Requires Bitwig 4.0
- Support for Akai MPC Live
- Support for Akai MPC Live II
- Support for Akai MPC One
- Support for Akai MPC X
- Support for Akai Force

13.7.0

- Requires Bitwig 4.0
- Beatstep
  - Fixed: Play button did not work.
  - Fixed: The template had set the wrong global MIDI channel (1 instead of 3).
  - Fixed: The manual missed the command tables for all modes.
- Generic Flexi
  - New: MIDI channel can be set to All but this will disable the reflection of the value to the device.
  - Fixed: File dialogs were not working on some Linux systems.
- Launchpad
  - Fixed: Clips in session mode were always shown in orange when not playing.
- Push 2
  - New: A pinned track shows a pin as its' icon.

13.6.0

- Requires Bitwig 4.0
- Fire
  - New: Browser+Session clip: Opens browser to insert a new clip.
  - New: Multiple notes can be selected for editing.
  - New: Notes in Poly Sequencer can now be edited too.
- Launchpad
  - New: The note repeat octave range can now be changed in the Shift Mode (the two red buttons right to note repeat on/off).
  - Fixed: Tempo and Swing values could not be changed.
  - Fixed: Chord mode: additional notes did not respect the velocity (accent) setting.
- Maschine / Mikro Mk3
  - New: Multiple notes can be selected for editing.
  - New: Mute+Pad in sequencer toggles the mute state of the note.
  - New: Sequencer colors in drum and note sequencer are harmonized. Muted notes are gray. The selected notes to edit are yellow.
- Maschine JAM
  - New: Mute+Pad in Sequencer toggles the mute state of the note.
- Push
  - New: Mute+Pad in sequencers toggles the mute state of the note.
  - New: Selected notes in sequencers are now lit in yellow.
  - Fixed: Could not switch pages with Shift+Left/Right.
- Novation SLMkIII
  - New: Added knob speed settings.
  - New: Selected notes in sequencers are now lit in yellow.

13.5.0

- Requires Bitwig 4.0
- Launchpad
  - Fixed: Mix mode was left straight after entering it.
- Launchkey Mini Mk3
  - New: The upper part of the mode selection view provides additional functions: Toggle metronome, Tap Tempo, Undo, Redo, Quantize, Add instrument, audio and effect track.
  - Fixed: Custom Modes were not displayed on change.
- Launchkey Mk3 / Mini Mk3
  - New: Added option for the action to execute when stopping playback.
- Push 1/2
  - New: Multiple notes can now be edited in sequencers. Use the select button in combination with a sequencer note pad.
  - New: To decrease ratcheting use now Shift + Select + Sequencer note pad.
  - New: Notes in Poly Sequencer can now be edited, too.
  - New: Renamed first note edit page to 'Common'. Set gain to 50% when resetting (was 0%).
- Novation SLMkIII
  - New: A new clip can be created from the track menu.
  - New: Long press a note in the sequencer to edit the note.

13.0.1

- Requires Bitwig 4.0
- All devices
  - Fixed: Certain notification messages could crash devices with text display.
- Generic Flexi
  - Fixed: Toggling a value with a MIDI note did not work if Note off (0x80) was sent on note release.
- Maschine JAM
  - New: Removed blinking from playing clips.

13.0.0

- Requires Bitwig 4.0
- All devices
  - New: Muted notes are lit in gray in all sequencers.
- APC40 / APC40 mkII
  - New: Cursor Up+Pad in sequencers enables and increases note repeat by 1.
  - New: Cursor Down+Pad in sequencers enables and decreases note repeat by 1.
- Fire
  - New: Pattern Up+Pad in sequencers enables and increases note repeat by 1.
  - New: Pattern Down+Pad in sequencers enables and decreases note repeat by 1.
- Novation SL Mk III
  - New: Shift+Pad in sequencer enables and increases note repeat by 1.
- Launchpad
  - New: Cursor Up+Pad in sequencers enables and increases note repeat by 1.
  - New: Cursor Down+Pad in sequencers enables and decreases note repeat by 1.
- Mackie MCU / HUI
  - New: Zoom in/out does no longer require to have the keyboard focus in the arranger.
- Maschine
  - New: Support for editing most of the new Operators note parameters.
- Maschine / Maschine JAM
  - New: Select+Pad in sequencers enables and increases note repeat by 1.
  - New: Select+Repeat: Toggle Fill Mode.
- Push 1/2
  - New: Support for editing all new Operators note parameters as well as Mute state.
  - New: Shift+Pad in sequencers enables and increases note repeat by 1.
  - New: Select+Pad in sequencers enables and decreases note repeat by 1.

  - New: Select+Repeat: Toggle Fill Mode.

12.3.2

- Requires Bitwig 3.2.5+ (3.3.4+ to use VST plugins in the Push favorites menu)
- Fire
  - New: Scene 3+Pad in Drum 64 mode solos the drum sound.
  - New: Scene 4+Pad in Drum 64 mode mutes the drum sound.
  - Fixed: Pattern up/down button did trigger twice.
- Launchkey Mini Mk3
  - Fixed: Navigation with Shift+Track left / right was broken.
- Launchpad
  - Fixed: Exiting birds-eye view did also toggle session flip.
- Launchpad Pro Mk3
  - New: Fixed Length + Track buttons creates new clips of different lengths.
- Maschine (except Mikro)
  - New: Mk2: Step-left+Select: Toggle note edit (reload the template!).
  - New: Select + Pattern: Select the clip without starting it.
  - New: Select + Scene: Select the scene without starting it.
  - New: Select + Drum Pad: Select the drum without playing it.
- Push 1/2
  - New: Select+Pad in session mode displays the name of the selected clip (if it has one).

12.3.1

- Requires Bitwig 3.2.5+ (3.3.4+ to use VST plugins in the Push favorites menu)
- All devices
  - New: Improved long press delay depending on system.
  - Fixed: Creating new clips (New-command) did only work on first clip page.
- APC, Fire, Maschine Jam, Maschine
  - New: Shift mode can be operated with one hand. Press and release the Shift button to activate shift mode. Execute Shift actions. Press Shift again to disable Shift mode. Button combinations can still be used as before.
- Generic Flexi
  - New: Improved labels of relative modes in selection box.
  - Fixed: Speed of relative knobs in low-res CC mode was much too slow.
- Launchkey Mk3 / Launchkey Mini Mk3 / SL MkIII
  - New: In the step view of the drum sequencer change the note length or create long notes by pressing a note pad, keep it pressed, wait a bit and then press a pad right to it.
  - New: Longer notes are drawn in a different color.
- Maschine
  - Fixed: Changing note length in sequencers did not work.
  - Fixed: Tempo fractions were truncated.
- Remote SL Mk2
  - Fixed: Long notification messages were truncated.

12.3.0

- Requires Bitwig 3.2.5+ (3.3.4+ to use VST plugins in the Push favorites menu)
- Launchpad
  - Fixed: Poly aftertouch did not work.
- Maschine
  - New: Added support for Maschine Studio!
  - New: Shift+Mixer toggles the device panel.
  - New: Shift+Macro creates a new clip on the selected track and slot and starts playback (like Macro but without enabling overdub).
  - New: Improved simulator layout of Mk2.

  - Fixed: Rec+Group buttons did also execute the record action.
  - Fixed: Poly aftertouch did not work.
- Push
  - Fixed: Poly aftertouch did not work.

12.2.2

- Requires Bitwig 3.2.5+ (3.3.4+ to use VST plugins in the Push favorites menu)
- All devices
  - New: Clicking the question mark on the settings page does now open the PDF manual.
- Maschine+ / Mk3
  - New: Last touchstrip mode is remembered when switching between categories (Pitch, CC, Note Repeat).
  - Fixed: Touchstrip did not update, reinstall the template!
  - Fixed: Mapping of user parameters did not work.
- Novation SLMkIII
  - Fixed: Clip indication was not displayed.
  - Fixed: Improved project left/right label.
- Push
  - Fixed: Color selection did trigger the pad release event on the previous grid mode.

12.2.1

- Requires Bitwig 3.2.5+ (3.3.4+ to use VST plugins in the Push favorites menu)
- Maschine JAM
  - New: Swing button is lit when Groove is enabled.
  - Fixed: Velocity mode was shown on pressing perform, notes and tune but should not.
  - Fixed: Changing values with encoder and perform, notes and tune did not work.
  - Fixed: Cursor LEDs were not lit (requires installing the updated template!).

12.2.0

- Requires Bitwig 3.2.5+ (3.3.4+ to use VST plugins in the Push favorites menu)
- All devices
  - Fixed: Switching between effect and track bank could leave the parameters unassigned in some cases.
- Akai Fire
  - New: Note editing mode is now de-/activated with Alt+Step or Alt+Drum (no more long pressing notes). After that select the note to edit by pressing it.
  - New: In note editing mode Alt+1st knob changes the pressure, Alt+2nd knob the timbre and Alt+4th knob the release velocity.
  - New: Metronome + Select knob: Change the play position.
  - New: Metronome + Shift + Select knob: Change the play position in small steps.
  - Fixed: Tracks could not be changed if the 16 tracks mode was active.
- Maschine JAM
  - New: Added new sequencers Drum 4, Drum 8, Poly and Raindrops (keep STEP pressed and use scene buttons).
  - New: Added new play modes Chords, Piano and Drum 64 (keep PAD MODE pressed and use scene buttons).
  - New: Lock enables the velocity setting. Keep lock pressed to show and change the velocity options.
  - New: Cursor keys respect the session flip state.
  - New: Cursor keys left/right change the layout in play view.
  - New: Cursor keys left/right change the selected page in sequencers.
  - New: Cursor keys up/down change the note range in sequencers and play modes.
  - New: Added option to dis-/enable to display clips of record enabled tracks in red.
  - New: Add option to turn off empty drum pads: if enabled the pad LEDs are off otherwise empty drum cells are displayed in gray.

  - New: Shift + AUX: Toggles between instrument/audio and effect tracks.
  - New: The selected sequencer or play mode is remembered when switching tracks.
  - Fixed: Blinking of pads was missing, therefore e.g. play state on grid was not visible.
- MCU
  - New: Added option to assignable buttons to toggle the motor faders on/off.

12.1.0

- Requires Bitwig 3.2.5+ (3.3.4+ to use VST plugins in the Push favorites menu)
- Fire, Maschine, Push
  - New: Editing note pitch changes now in 0.1 steps independent of the knob speed setting.
- Maschine+
  - New: Now supported by DrivenByMoss! I still don't have one, so fingers crossed that it works.
- Maschine Mk2
  - New: Now supported by DrivenByMoss!
- Maschine Mikro Mk3
  - Fixed: Stop button did not emulate Shift button.

12.0.0

- Requires Bitwig 3.2.5+ (3.3.4+ to use VST plugins in the Push favorites menu)
- Generic Flexi:
  - Fixed: Feedback of track mode was wrong.
- Maschine JAM
  - New: Now supported by DrivenByMoss!
- Maschine Mk3 / Maschine Mikro Mk3
  - New: Renamed template to *DrivenByMoss*.
  - New: Added option to configure record and shift+record in the settings.
- Maschine Mk3
  - New: The Shift button is working!
  - New: Group buttons display now the button combination state (solo/mute/rec arm).
  - New: Rec+Group button toggles rec arm.
  - New: Shift+Solo clears the Solo state on all tracks.
  - New: Shift+Mute clears the Mute state on all tracks.
- Kontrol Mk1
  - Fixed: Out of scale notes were lit.

11.8.0

- Requires Bitwig 3.2.5+ (3.3.4+ to use VST plugins in the Push favorites menu)
- All devices
  - Fixed: Implemented workaround to show page of added track.
- APC40, Kontrol MkI, Push
  - Fixed: Changing selection displayed *None* message.
- Fire
  - Fixed: Track and channel touch automation was not working.
- Launchpad
  - Fixed: Aftertouch was not working.
  - Fixed: First parameter fader column is now red again (had the same color as the 2nd column).
- Mackie HUI
  - New: Added support for up to 3 HUI devices. E.g. several Yamaha DM mixers use this.
  - New: Added setting to turn off sending the ping message.
  - Fixed: Jog Wheel direction was inverted.
  - Fixed: Master fader did not work.
- Mackie MCU
  - New: Track navigation can now be switched to hierarchical in the settings (requires restart). Press the select button again to enter a group. Long press any of the select buttons to leave the group.

- Maschine Mk3 / Mikro Mk3
  - Fixed: Aftertouch did not work. For the Maschine Mk3 also reload the template, which contained wrong notes for aftertouch!
- OSC
  - New: Added /launcher/postRecordingAction to get/set the action to execute after recording a clip.
  - New: Added /launcher/postRecordingTimeOffset to get/set the time offset of the post recording action.
  - New: Added /launcher/defaultQuantization to get/set the default clip launcher quantization.
- SL MkIII
  - Fixed: Added correct lookup names on Linux.

11.7.3

- Requires Bitwig 3.2.5+ (3.3.4+ to use VST plugins in the Push favorites menu)
- All devices
  - New: Newly added tracks now get a color.
- APC40/mkII
  - Fixed: Switching track bank in session mode did leave session mode.

- Komplete Kontrol MkI
  - Fixed: Linux: Fixed USB access rights in rules file.
- Launchpad
  - Fixed: Incorrect and missing on-screen notifications when cursor buttons were used.
  - Fixed: LED state of scene scroll buttons was incorrect in scene mode.
  - Fixed: If temporary modes were used in session mode, session mode was left on button release.
- Push
  - New: Added some more VST plugins to the favorite menus.
  - New: Tracks added via the favorite menu now get the name of the plugin.

11.7.2

- Requires Bitwig 3.2.5+ (3.3.4+ to use VST plugins in the Push favorites menu)
- Launchpad
  - Fixed: Fixed several issues introduced to the Shift view in 11.7.1.

11.7.1

- Requires Bitwig 3.2.5+ (3.3.4+ to use VST plugins in the Push favorites menu)
- Launchpad
  - Fixed: Play button in shift view did not work.
  - Fixed: Using browse button combination in drum mode did randomly change the pad mappings.
- Komplete Kontrol MkI
  - Fixed: Linux: Added USB access rights to rules file and added installation instructions to the manual.

11.7.0

- Requires Bitwig 3.2.5+ (3.3.4+ to use VST plugins in the Push favorites menu)
- Documentation
  - Clarified installation of the extensions which need to be added manually (Flexi, Auto Color, . . .)
- Fire
  - New: Added VU meters to the channel and mixer mode.
  - New: In Mixer mode press Alt+Bank button to switch to a new display mode, which shows the volume, pan and sends of 16 tracks depending on the touched knob. Especially, helpful in the performance mix view. If playback is active and no knob is touched it shows the VU meter activity of all 16 tracks.
  - New: In Channel mode you can press Alt+Bank button to switch to a new display mode, which shows the volume, pan and sends of the 4 drum machine channels depending on the touched knob.

If playback is active and no knob is touched it shows the VU meter activity of the 4 channels.

- Generic Flexi
  - IMPORTANT: Remove all instances of Generic Flexi in the Bitwig settings and add them again. Otherwise you will have mixed up edit controls.
  - New: Added support for 14-bit CC values.
  - Fixed: 0x80 as Note off was missing
  - Fixed: Feedback was not send for notes (only CC and pitchbend).
- Komplete Kontrol Mk2
  - Fixed: Shorten device and page names in parameter mode to prevent too long text.
- Launchpad
  - New: The loop area in the drum sequencer was shortened by 4 pads. These 4 pads can now be used in combination with the play area. From left to right they provide the following functions: select a drum pad without playing the sound, mute the drum pad, solo the drum pad, open the browser for the drum pad.
- MCU
  - New: Hold arrow left/right and turn the jog wheel to zoom in/out
  - New: Hold arrow up/down and turn the jog wheel to change the track height
- OSC
  - New: Added /track/{1-8}/duplicate to duplicate a track.
  - New: Added /track/{1-8}/clip/{1-8}/duplicate to duplicate the clip.
  - New: Added /device/duplicate to duplicate the device.
  - New: Added /scene/{1-8}/duplicate to duplicate the scene.
  - New: Added /scene/{1-8}/remove to remove/delete the scene.
  - New: Added /track/{1-8}/clip/{1-8}/create {beats} creates a new clip, activates overdub and starts it.
  - New: Added /clip/create {beats} creates a new clip, activates overdub and starts it.
  - New: /track/{1-8}/clip/{1-8}/record and /clip/record start now playback as well.
- Push
  - New: Added several VST plugins to the favorite menus. This requires Bitwig 3.3.4+ (crashes in older versions) and that you have the plugin installed.
  - New: Push 2: VUs of muted tracks are drawn in the mute-color.

11.6.1

- Requires Bitwig 3.2.5+
- APC40/mkII
  - New: Select Session mode again when already in Session mode to dis-/activate birds-eye view, which allows to quickly navigate the session grid.
  - Fixed: MkI: All clips did blink not only the selected one.
  - Fixed: Cursor up/down was mixed up in the simulator.
- APCmini
  - Fixed: Selecting a mode did still send the pad up event to the new mode and e.g. started a clip in session mode.
  - Fixed: Selected mode was not always displayed correctly.
  - Fixed: Play/Stop did not work.
- Launchpad
  - Fixed: Drum 64 mode: Selected pads in the right bottom corner were lit in the left upper corner.
- Push
  - Fixed: Drum 64 mode: Selected pads in the right bottom corner were lit in the left upper corner.
  - Fixed: Clip parameters could not be slowly changed with Shift.

11.6.0

- Requires Bitwig 3.2.5+
- APC40mkI/mkII
  - New: The selected clip in the session is now glowing white (mkII) or blinking yellow (mkI).

- Fire
  - New: The selected clip in the session is now blinking white (if not played back or recording).
- Generic Flexi
  - Fixed: Resolution for relative knobs was limited to 128 steps.
- Launchkey Mk3
  - New: Fader button is glowing if the track is selected.
  - New: Fader buttons are turned off if track does not exist.
  - New: **Shift + Play** switches playback back to arranger on all tracks.
  - New: **Play + Pad** switches playback back to arranger on the track which contains the clip.
- Maschine Mk3 / Mikro Mk3
  - New: **Pattern + Pad** stops the clip.
- MCU
  - New: If *Select Channel on Fader Touch* is set to *Off*, touching the master fader is ignored as well.
- Push
  - New: Adding a track has now a menu which allows to add favorite devices. These favorites can be configured in the settings (currently only Bitwig devices).
  - New: The selected clip in the session is now glowing white (if not played back or recording).

11.5.2

- Requires Bitwig 3.2.5+
- APC40mkI/mkII
  - New: Press **Stop Clip** + Pad In Session Mode to delete the clip.
  - New: Press **Select** + Pad In Session Mode to duplicate the clip.
- Fire
  - Fixed: Press **Stop** + Pad In Session Mode to stop the clip did not work.
- Launchkey Mk3
  - New: Press **Shift + Stop** to stop all playing clips.
  - New: Press **Stop** + Pad In Session Mode to stop the clip.
  - New: Press **Undo** + Pad In Session Mode to delete the clip.
  - New: Scenes/Clips scroll now by 1 instead of 2, which is a bit less confusing.
  - Fixed: Browser did open when pressing a pad in session mode when browser was used before.
- Launchpad
  - New: Temporary session mode: if any mode except session is active, hold the session button and then start a clip or scene. When the session button is released the previous mode is restored.
  - Fixed: Virtual fader in mix mode did not work when Takeover Mode was set to Relative Scaling or Catch.
- Maschine
  - Fixed: Could not scroll browser results.
- Novation SL MkIII
  - Fixed: Press **Stop** + Pad In Session Mode to stop the clip did not work and was missing in the documentation.

11.5.1

- Requires Bitwig 3.2.5+
- APC40
  - New: Knob LEDs are totally turned off if parameter does not exist.
- Fire
  - New: In Note Sequencer **Shift + Grid buttons** change the Scale, **Shift + Alt + Grid buttons** change the Scale Base key. For consistency the button combinations in Play and Piano modes are adjusted accordingly.
  - New: Use **Shift + Select knob** in note and Poly Sequencer mode to transpose notes of clip up/down.
  - Fixed: Channel parameters did not get reassigned when drum pad was changed.
  - Fixed: Selection got lost when scrolling too fast through drum pads in drum sequencer.

  - Fixed: Wrong parameter name was shown in combination with ALT button.
- Generic Flexi
  - New: Added functions to toggle user parameters between minimum and maximum value.
- Launchkey Mk3
  - Fixed: Endless opening / closing loop of browser if browser was opened in Bitwig instead of from the Launchkey.
- Launchpad
  - Fixed: Tap tempo in Shift Mode did not work.
- Maschine Mk3 / Mikro Mk3
  - New: Channel and Polyaftertouch of the pads are now routed to Bitwig.
- OSC
  - New: Added */clip/stopall* which stops all playing clips.
- Push
  - Fixed: Device data on Info page was not displayed.
  - Fixed: Several issues with knob mapping in layer modes.

11.5.0

- Requires Bitwig 3.2.5+
- Komplete Kontrol Mk2
  - New: Allow all MIDI channels for the keyboard, so far only channel 1 was enabled.
- Launchkey Mk3
  - New: Added support for models 25, 37, 49 and 61
- Launchkey Mini Mk3
  - Fixed: Session clip indication was no enabled.
  - Fixed: Improved contrast between selected and unselected scene.
  - Fixed: Long pressing a mode pad did crash.
- Launchpad
  - Fixed: Pro Mk3: *Fixed Length* button was missing in simulator.
- APC40, Fire, HUI, MCU, Kontrol MkI/MkII, SL MkIII
  - New: Double click the *stop* button when playback is stopped to move the play cursor to the end of the project.

11.0.0

- Requires Bitwig 3.2.5+
- All devices
  - Fixed: 8th layout for scales which do not have 7 intervals was not aligned correctly (Push, Launchpad, APC).
- Launchpad
  - New: Press the 4th scene button (green) in the play mode to activate additional controls in the first pad row. First pad toggles sustain. Second and third pad are pitch down/up and the following pads switch to different intensities of the modulation wheel. You can slide these modulation wheel pads to imitate a modulation wheel.
  - New: Press the 5th scene button (amber) in the play mode to activate chords mode. This mode allows to play a chord by pressing a single pad. The base note is taken from the current scale and increases from left to right. The rows from bottom to top contain the following chords: Triads, Dyads (Power chords), Suspended second (Sus2), Suspended fourth (Sus4), Add sixth (6), Major seventh chord (maj7), Add ninth (9), Add eleventh (11). The same octave, scale and base note settings apply as with the play mode.
  - New: Pro Mk3: *Fixed Length* button triggers the New clip command.
  - New: The mode strip in session view is now displayed vertically if session is flipped (in the 8th column).
  - New: Show the flipped state in Bitwig when Session is activated from a different view.
  - New: Scrolling in Birdseye view is now per page.
  - Fixed: Birdseye view in session mode should not display mode button row.

- Push
  - New: Added chord mode. Press Note and select *Chords* to enable it or use the Layout button. Functionality is like described above for the launchpad.
  - Fixed: Push 2: Selected play view for a track was not remembered when changed via the Layout button.

10.9.6

- Requires Bitwig 3.2.5+
- All devices
  - Fixed: Some configuration values were not initialized correctly after startup (e.g. LED brightness).
- APC40 MkI
  - Fixed: Drum sequencer crashed.
- Generic Flexi
  - New: Added new function **Track Selected: Toggle Pin**.
  - New: Added new function **Track Selected: Set Pin**.
  - New: Added new function **Device: Toggle Pin**.
  - New: Added new function **Clip: Toggle Pin**.
- Launchpad
  - New: First button in Shuffle view toggles now Groove. 3rd and 4th button selects shuffle rate.
  - Fixed: Shuffle view could not be closed.
- MCU
  - New: Toggle **Use faders like knobs** has been moved to the Flip button to be more consistent with the intended MCU behavior. Toggling instrument/audio and effect tracks is now on Shift+Flip.
- OSC
  - Documented all OSC commands in the manual.
  - New: New command for send and receive **/track/selected/pinned {0,1,-}**.
  - New: New command for send and receive **/device/pinned {0,1,-}**.
  - New: New command for send **/clip/exists {0,1}**
  - New: New command for send **/clip/color** with rgb(r,g,b); r,g,b = 0..255.
  - New: New command for send and receive **/clip/pinned {0,1,-}**.
  - New: New command for receive **/clip/{+,-}**.
  - New: New command for receive **/clip/launch**.
  - New: New command for receive **/clip/stop**.
  - New: New command for receive **/clip/record**.
  - New: New command for receive **/clip/quantize**.
- Midi Monitor
  - Fixed: Crashed on startup.

10.9.5

- Requires Bitwig 3.2.5+
- All devices
  - Fixed: LEDs and controls did not update on Macos 11 on startup. All states are now flushed 10s after startup.
- Fire
  - New: The brightness and the color intensity of the pads can be adjusted in the settings.

10.9.4

- Requires Bitwig 3.2.5+
- Launchkey Mini Mk3
  - New: Added options to choose the function for the record and shift+record button.
- Fire
  - New: Alt + Mute/Solo buttons display the drum sounds name in drum sequencer mode.
- Generic Flexi
  - New: Replaced Select/Export/Import buttons with Load/Save buttons. Remove and add the

extension to remove the old buttons (Bitwig bug)!
  - Fixed: File dialogs did not work on Linux.
  - Fixed: Dialog height was *jumping* until you changed the height.
  - Fixed: Item Select in Parameters mode did not set the parameter page.
- Push
  - Fixed: Play view could be off if quickly switching between track pages.

10.9.3

- Requires Bitwig 3.2.5+
- All devices
  - New: The cursor clip can now be pinned in the studio pane (below the cursor track). By using this you can edit different launcher clips on multiple controllers.
- Novation SL MkIII
  - New: Press Stop + Clip in Session mode to stop the playback of the clip.
  - New: Shift + Play toggles write arranger automation.
  - New: Shift + Loop toggles write clip launcher automation.
- OSC
  - New: Added new command /track/{1-8}/remove
  - New: Added new command /device/remove
- Push 1/2
  - New: First button in the clip mode toggles if the clip is pinned.
  - New: Improved the layout of the Groove mode.

10.9.2

- Requires Bitwig 3.2.5+
- All devices
  - Fixed: Implemented a workaround for parameters not showing their renamed labels.
- MCU
  - Fixed: Scrolling in browser did always jump between first and last item.

10.9.1

- Requires Bitwig 3.2.5+
- APCmini
  - Fixed: Switching modes was broken.
- Beatstep
  - Fixed: Changing scale base note did only work in one direction.
- Fire
  - New: Activate delete mode and press the select knob to delete the currently selected device.
  - Fixed: Don't apply knob speed settings in Browser mode.
- Generic Flexi
  - New: Display parameter changes for Note Input functions.
  - New: Scale Note Input period and length to 127 for better use with absolute faders and knobs. If you assigned these to multiple buttons you need to update their values.
- Launchpad
  - Fixed: Duplicating notes in Poly Sequencer did create notes with velocity of 0 for all notes.
- Push
  - Fixed: Duplicating notes in Poly Sequencer did create notes with velocity of 0 for all notes.

10.9.0

- Requires Bitwig 3.2.5+
- Fire
  - New: In Shift mode the 10th button of the first row (blue) activates duplicate mode. Can be used with the first row of the Mix mode to duplicate tracks and with clips in the Session mode.

  - New: In Shift mode the 12th button of the first row (red) activates delete mode. Can be used with the first row of the Mix mode to delete tracks and with clips in the Session mode.
  - New: In Shift mode the 11th button of the first row (green) doubles the content of the currently selected clip.
  - New: Press Stop+Clip in Session mode to stop the playback of the clip.
- Midi Monitor
  - Fixed: Displayed note octave was wrong for Note on/off and Poly aftertouch (e.g. showed C6 instead of C4).
- MCU
  - New: Added User mode. Press Device button twice to activate user mode.
- OSC
  - New: Added /update before and after each update cycle (if there is at least 1 update message).
  - New: /track/{1-8}/name {text} - Set a new name for the track
  - New: /device/layer/{1-8}/name {text} - Set a new name for the layer
  - New: Open Stage Control template: name of track and layer can be set
  - New: Open Stage Control template: added data receive indicator LED to transport bar
- SL MkIII
  - Fixed: Light guide was only drawn black but not turned off on the hardware when disabled in the settings. The hardware light guide can now used again when the settings is disabled.

10.8.0

- Requires Bitwig 3.2.5+
- APC40
  - Fixed: Changing tempo in combination with Shift button left the shift mode active.
- Launchpad
  - Fixed: Crash when session mode was flipped and 8th row was active.
  - Fixed: Session grid was off by 1 if 8th row was active and long press was used (also crashed on 1st row).
  - Fixed: Stop all clips button was missing in Shift mode on Pro models.
- Maschine Mk3
  - New: Converted knobs to new hardware API.
  - Fixed: Scene, pattern and fixed velocity with encoder knob did behave erroneous.
- MCU
  - New: Converted knobs and faders to new hardware API.
  - Fixed: Page Up/Down (MCU MODE EQ / DYN) did not work.
- SL Mk I + II
  - New: Converted knobs and faders to new hardware API.
  - New: Show all tracks in volume mode (no need to switch between instrument/audio tracks, effect tracks and master).
  - Fixed: Crash in sequencer/play mode.
- SL MkIII
  - New: Out of scale keys of the light guide can now also be lit in dark gray. Select *Chromatic* in the document settings.
  - New: Converted faders and knobs to new hardware API.
  - Fixed: Switching modes did not work with single button presses.

10.7.4

- Requires Bitwig 3.2.5+
- APC40
  - New: Converted crossfader to new hardware API.
  - Fixed: Knob value changes could hang if takeover mode was set to Catch.
  - Fixed: Coloring of Tempo mode in simulator was wrong.
- Fire
  - New: The pad index is now displayed (instead of the page index).

  - New: Added knob speed settings.
  - Fixed: Note was always created with velocity of 0 in drum sequencer (except when Accent was enabled).
- MCU
  - Fixed: Motor fader value changes could hang if takeover mode was set to Catch.

10.7.3

- Requires Bitwig 3.2.5+
- All devices
  - Fixed: Notification message display time was too short (since message was canceled straight away).
  - Fixed: Added a workaround for new hardware API always showing "Send" as the send name.
- APC40
  - New: Display Send index and name as well as user pages when changing to these modes.
  - Fixed: Crash when switching to effect tracks.
  - Fixed: Mk2: Do not switch to next Send when Send button was used in combination with track selection (to select Send N).
  - Fixed: Mk2: Last send mode was not remembered when changed with track selection combination.
- Komplete Kontrol Mk2
  - Fixed: Finished conversion to new hardware API, therefore volume and parameters change with the same speed again.
- Launchpad
  - New: When duplicating a clip the destination clip can now be chosen. Pro models: Keep Duplicate button pressed; choose the source clip (it must be a clip with content, you can still select a different clip with content); select the destination clip (this must be an empty clip, which can also be on a different track); release the Duplicate button. On the non-pro models, activate duplicate mode, duplicate mode is deactivated, as soon as you select an empty clip as the destination.
- Push
  - New: When duplicating a clip the destination clip can now be chosen. Keep Duplicate button pressed; choose the source clip (it must be a clip with content, you can still select a different clip with content); select the destination clip (this must be an empty clip, which can also be on a different track); release the Duplicate button.
  - Fixed: Select button is now blocked in Browse mode since it does not have any function in that mode and left the extension with a blank screen when accidentally pressed.

10.7.2

- Requires Bitwig 3.2.5+
- AutoColor
  - Fixed: Crashed on startup
- Komplete Kontrol
  - Fixed: Crashed on startup

10.7.1

- Requires Bitwig 3.2.5+
- APC40 / APC40 mk2
  - New: APC40 mk2: Select user mode pages now with User+Select 1-8. Cursor keys change tracks like in pan and send mode.
  - New: Knobs in panorama and send mode as well as the faders and device knobs use the new hardware API.
  - Fixed: Pressing notes in drum sequencer for editing did always select notes in the first sequencer row.
- Fire
  - New: Knobs in Mixer and Parameter mode use the new hardware API.
- Launchpad Pro Mk3
  - Fixed: (Regression in 10.7) Mode selection did not always work

- MCU / Novation SL MkI/II
  - New: Removed “Display Crossfader on Track”. Does not make much sense with these devices.
- Push
  - New: Removed “Display Crossfader on Track”. On Push 2 the crossfade mode setting is now always visible and can be changed with the third knob in track mode. On Push 1 it is never displayed in track mode. Use the crossfade mode instead to change the settings.
  - New: Push 2: Nicer drawing of crossfade mode on channel
  - New: Push 2: The 4th/8th send name is now always displayed if the current tracks are not inside of a group. Furthermore, it is displayed if the 8th knob is touched.

10.7.0

- Requires Bitwig 3.2.5+
- APCmini
  - New: Faders use new hardware API, simulator shows positions
- NI Kontrol Mk 1
  - New: Knobs use new hardware API, simulator shows positions
  - New: Added settings for knob speed
- NI Kontrol Mk 2
  - New: Knob speed settings are now from -100 to 100
- Launchpad
  - Fixed: Pro Mk3: The last selected play / sequencer mode was not restored
  - Fixed: Volume, Pan and Sends view was canceled when track selection changed.
- MCU
  - New: Added settings for knob speed
- NI Maschine Mk3
  - New: Added settings for knob speed
- OSC
  - Fixed: /vkb_midi/note/{0-127}/color did not send scale colors, only played notes
  - Fixed: Page size of user parameters was not changed (was always 8)
- Push 2
  - New: Knobs use new hardware API, simulator shows positions
  - Fixed: Shutdown of the display process did not always exit cleanly
  - Fixed: In user mode the value changes couldn’t be slowed down by using Shift

10.6.4

- Requires Bitwig 3.2.5+
- Push
  - Fixed: Grid resolution could not be changed in drum modes

10.6.3

- Requires Bitwig 3.2.5+
- All devices
  - Fixed: Raindrop sequencer did crash if more measures than 32 or 32 with 1/32t and 1/32 were used. The later issue is fixed and the first issue get blocked (only 32 measures get filled).
  - Fixed: Drum 4 / Drum 8 - setting note length on the grid was broken
- Akai Fire
  - New: Displays the number of the edit page when switching to the previous/next.
  - Fixed: Crash in browser when select knob was released.
- Launchpad
  - New: Updated documentation images
  - New: Added fixed accent option to the settings
  - New: Fixed accent can be toggled with the yellow pad in the right upper corner of the shift mode
- Push 2
  - Fixed: Long press delay was about double the time as with Push 1

10.6.2

- Requires Bitwig 3.2.5+
- Akai Fire
  - New: Shift + Scene: Selects the scene without starting it.
  - New: Selecting or starting a scene shows its' name in the display.
- Launchpad
  - New: Display the track number and name on track selection.
  - New: Display the function of the selected row in Mix mode.
  - New: Drum mode 4 and 8 move in steps of 4 and 8 up and down so that now all sounds can be reached.
  - Fixed: Not all selected modes were displayed in Bitwig and some names showed Session.
  - Fixed: Mix view was canceled when track selection changed.
  - Fixed: Long pressing a pad in a fader mode caused the selection of a track.
- Push
  - New: Drum mode 4 and 8 move in steps of 4 and 8 up and down so that now all sounds can be reached. The previous selection with Shift + Scene was removed.
  - New: Note Repeat + Scene - Change note repeat period
  - New: Shift + Note Repeat + Scene - Change note repeat note length

10.6.1

- Requires Bitwig 3.2.5+
- APC40MkII
  - New: Scene buttons are lit in the color of the scene.
- Akai Fire
  - Fixed: Ghost notes could appear when quickly editing pitches in the sequencer and create a new clip.
  - Fixed: Removed session flip option, which did crash.
  - Fixed: Also prevent deletion of note in sequencer when knob was touched but not turned.
- Komplete Kontrol MkI
  - Fixed: Interpretation of knob speed was wrong.
- Push
  - Fixed: Mapped User Parameters did not show their name and value.

10.6.0

- Requires Bitwig 3.2.5+
- APC40 / APC40MkII
  - Fixed: Insert device before / after current from Shift mode did crash.
  - Fixed: APC40: Shift+Stop All Clips did open the browser to insert before the device instead of replacing the current.
- Akai Fire
  - New: **Shift + Stop** - Toggle clip automation write
  - New: **Alt + Stop** - Toggle arranger automation write
- OSC
  - New: Added equalizer commands (uses first EQ+ device on a track)
    - /eq/... - All values/commands available for /device
    - /eq/add - Add an EQ+ device as the last device on the track
    - /eq/type/{1-8} - Set/get the band type (off, lowcut, lowshelf, bell, highcut, highshelf, notch)
    - /eq/freq/{1-8} - Set/get the frequency of the n-th band
    - /eq/gain/{1-8} - Set/get the gain of the n-th band
    - /eq/q/{1-8} - Set/get the q-factor of the n-th band
  - New: Added example Open Stage Control template for equalizer control
- Push 2
  - Fixed: Some device icons were not correct

10.5.0

- Requires Bitwig 3.2.5+
- All devices
  - New: Improved lookup of drum machine device for drum sequencers.
  - New: Only create the device monitors which are necessary for the specific extension.
  - New: Improved synchronization of device and Bitwig browser. If the browser is opened in Bitwig, it will open as well on the device (if browsing is supported on the device).
- APCMini
  - New: Long press a pad in session mode to select the clip without starting it.
- APC40 / APC40MkII
  - New: Long press a pad in session mode to select the clip without starting it.
  - New: Tempo is displayed on grid when tempo is changed.
  - New: APC40: Tap Tempo + Cue Level changes tempo.
  - Fixed: APC40: *Shift+Stop All Clips* did not open the browser.
  - Fixed: Browser mode was not canceled when browser was close in Bitwig.
- Akai Fire
  - New: Long press a pad in session mode to select the clip without starting it.
  - Fixed: Drum sequencer crashed when changing note length on the grid.
  - Fixed: Note in sequencer could not be deleted if its' pitch was changed.
- Launchpad
  - New: Long press a pad in session mode to select the clip without starting it.
  - Fixed: Modes could only be activated once (non-pro models)
- Novation SL MkIII
  - New: Long press a pad in session mode to select the clip without starting it.
  - New: The light guide displays the scale notes. The scale can be selected in the document settings.
  - New: The light guide can be turned off in the settings.
- Push
  - New: Long press a pad in session mode to select the clip without starting it.
  - Fixed: Temporarily activating session mode did only work for starting clips but not for starting scenes.
  - Fixed: Long pressing a pad in Drum 4 mode to edit the note did not work.
  - Fixed: Add Device/Effect did call Replace effect instead of Insert.

10.2.0

- Requires Bitwig 3.2+
- All devices
  - New: All settings are now documented in the manual.
- Akai APC40
  - New: The cursor keys can now be used in the browser mode: Left/right select the previous/next tab. Up/Down select the previous/next result.
- Akai Fire
  - New: Pressing Select knob toggles the window of the current device.
- Generic Flexi
  - New: Option to execute one of 8 Actions.
- MCU
  - New: Added option - include FX and master tracks in track bank
  - New: Added option - pin FX tracks to last device
  - New: Footswitches and Functions keys can now execute an Action. Select *Action* from the list, then select the Action from the list below.
  - New: Option to disable Master VU (iCON extension)
  - Fixed: New function did not work
- OSC
  - New: Updated the Open Stage Control template for Open Stage Control 1.0.0. VU meters are now gray if track is muted.

  - New: /action/{1-8}/ to execute 8 different Actions.
  - Fixed: /automationWriteMode was broken
  - Fixed: /click/ticks did always toggle and was not documented
- Push
  - Fixed: Device and Parameter navigation was broken

10.1.0

- Requires Bitwig 3.2+
- All devices
  - Fixed: Replaced a special # character (e.g. from Diatonic Transposer) with the normal ASCII #.
  - Fixed: Prevent to display identical on-screen messages
- APCmini
  - Fixed: Scene buttons were not lit
  - Fixed: Drum sequencer crashed
- Komplete Kontrol MkI
  - Fixed: Several crashes when activating Scale due to not configured colors
  - Fixed: Light guide did not work correctly when keyboard was transposed
- MCU
  - New: *use faders as knobs* and *Marker mode* functions display their state on the screen if toggled.
  - Fixed: Do not select tracks on fader touch if *use faders as knobs* is active.
- Maschine Mk3
  - New: **Channel** - Insert a new instrument channel (was File)
  - New: **Stop + Channel** - Insert a new audio channel
  - New: **File** - Saves the project (was Stop + File)
  - New: **Page left / right** moves to the previous/next clip on the selected track (moved the scene page before)
  - New: **Stop + Page left / right** moves to the previous/next clip page
  - New: **Stop + Volume** - Toggles VU meter display
  - New: Scale and Note Repeat settings are displayed and can be edited with knobs
- Mikro Mk3
  - New: In track and parameter selection modes the selected tracks/parameters blink.
- Maschine Mk3 / Mikro Mk3
  - New: Play mode is now accessed by pressing *Keyboard*. Press again for play configuration mode.
  - New: Drum mode is now accessed by pressing *Pad Mode*. Press again for drum configuration mode.
  - New: Activating Step provides a step sequencer for the currently selected *drum machine cell* or the last played note if *Keyboard* is active. Follow button provides grid resolution setting and page selection.
  - New: Chord button enables chords in play mode. Note of pad adds 2 thirds on top.
  - New: **Stop + Rec** - Start recording a clip in the currently selected (empty) slot
  - New: *Sequential up* is now the default play layout
  - New: **Erase** - Does no longer trigger Undo. Use **Stop + Pad 1** instead.
  - New: To change bank pages turn the encoder and keep the related button pressed (scenes - *Scene*, clips - *Pattern*, tracks - *Select, Solo or Mute*))
  - New: In the parameter selection (*Variation* button) use the top row pads to switch devices and parameter pages. The parameter pads are now colored in the Bitwig parameter colors
  - New: **Stop + Pad 1 (Undo)** - Undo
  - New: **Stop + Pad 2 (Redo)** - Redo
  - New: **Stop + Pad 5 (Quantize)** - Quantize the selected MIDI 100%
  - New: **Stop + Pad 6 (QUANTIZE 50%)** - Quantize the selected MIDI 50%
  - New: **Stop + Pad 9 (CLEAR)** - Deletes all MIDI notes from the selected MIDI clip
  - New: **Stop + Pad 13 (SEMITONE -)** - Transpose the selected MIDI clip a semitone down
  - New: **Stop + Pad 14 (SEMITONE +)** - Transpose the selected MIDI clip a semitone up
  - New: **Stop + Pad 15 (OCTAVE -)** - Transpose the selected MIDI clip an octave down
  - New: **Stop + Pad 16 (OCTAVE +)** - Transpose the selected MIDI clip an octave up

  - New: Keep **Fixed Vel** pressed and turn the encoder to change the fixed accent value
  - New: Pressing Stop flushes the whole state (display / buttons) to the device. This helps when you switch to MIDI mode and the DAW state changed meanwhile, since there is no way to get the information that the user switches to MIDI mode.
  - New: **Auto** - Toggle write arranger automation.
  - New: **Shift + Auto** - Toggle write clip launcher automation.
  - New: **Lock** - Toggle arranger overdub.
  - New: **Shift + Lock** - Toggle clip launcher overdub.
  - Fixed: *Sequential ^* and *Sequential >* scale layout were using 8 not 4 pads
  - Fixed: Auto and Lock buttons did not respect the setting "Flip arranger and clip record / automation"
- Novation SL MkIII
  - Fixed: Renamed remote control parameters changed to the original name when switching from devices to parameters mode.

10.0.0

- Requires Bitwig 3.2+
- The manual has now a *known issues* section
- New: Support for Akai Fire
  - Note: The display update of the Akai Fire is very slow on Macos and makes it nearly unusable
- New: Support for Native Instruments Maschine Mk3
- Akai APC40 / APC40mkII
  - Fixed: User mode did not work
- Maschine Mikro Mk3
  - New: Show more on-screen notifications (Tap Tempo, Fixed Velocity, value change speed)
  - New: **Stop + Pad Mode** - Selects the previous base note of the scale.
  - New: **Stop + Keyboard** - Selects the next base note of the scale.
  - New: **Stop + Chords** - Selects the previous note layout.
  - New: **Stop + Step** - Selects the next note layout.
  - New: **Stop + Plug-In** - Toggle the window (if any) of the selected device (if any).
  - New: **Sampling** - Brings up the Slice to Drum Machine dialog.
  - New: **Stop + Sampling** - Bring up the Slice to Multi-sample dialog.
  - New: **Auto** - Toggle write arranger automation.
  - New: **Stop + Auto** - Toggle write clip launcher automation.
  - New: **Lock** - Toggle arranger overdub.
  - New: **Stop + Lock** - Toggle clip launcher overdub.
  - New: **Stop + Projects** - Save the project.
  - New: **Tap** - Tap Tempo
  - New: **Stop + Tap** - Toggle metronome
  - Fixed: FX and Master track were missing in Select, Solo and Mute modes
- Push 2
  - New: Increased text size of list elements
- SL MkIII
  - Fixed: Updated MIDI port lookup names on Macos

9.10

- Requires Bitwig 3.2 Beta 8
- Known Issues with Bitwig 3.2 Beta 8
  - OSC User parameters are broken
  - User Parameters cannot be reset
- Launchpad
  - New: Support for Launchpad Pro Mk3
  - New: Drum sequencers use the colors of the drum pads of the drum machine device
  - New: Pads which show states in Shift mode are lit brighter when enabled (Play, Record, Metronome,

...)
  - New: **Shift+Delete**: Toggle Repeat (was Shift+Duplicate)
  - New: **Shift+Duplicate**: Doubles the clips content
  - New: Simulator layout is now closer to the specific Launchpad model
  - New: In Shift mode, cursor up or down enters the tempo mode. In Tempo mode you can change the tempo with the cursor keys.
  - New: In Shift mode, cursor left or right enters the shuffle mode. In Shuffle mode you can change the shuffle amount with the cursor keys.
  - New: Added record quantization setting (Shift+Quantize)
- Push
  - New: Drum sequencers use the colors of the drum pads of the drum machine device

9.00

- All devices
  - New: Added setting to hide deactivated items (tracks, sends, devices, layers)
  - New: Drum modes: selection follows the selection if FOLLOW PLAYED NOTES is active, e.g. if triggered from a different keyboard/controller
  - Fixed: Grid pads did only play MIDI notes but did not execute secondary function (API 11 adaption)
- Akai APC40 / APC40mkII
  - New: Keep a note pressed and use the mode knobs to change the parameters of the note (Sequencer + Drum mode)
  - Fixed: Changing sequencer resolutions with Clip Stop buttons did not work
- Beatstep
  - New: Renamed note inputs
  - Fixed: Knobs did not work (API 11 adaption)
- Launchpad
  - New: Added a new Mixmode. Press Shift+Session to enable it. This mode contains session modes at once. The rows from bottom to top are: rec arm, solo, mute, clip stop, send 2, send 1, panorama, volume. The panorama and sends pad are only colored for the selected track. Press one of the pads of the upper 4 rows to select a track. Select a volume, panorama or sends pad to activate it and then change its value with the virtual fader of the scene buttons.
  - New: Masterfader in Volume mode now has 4 steps per pad (like the other track faders)
  - New: In Pan mode the scene buttons control now the panorama of the master fader (to be consistent with volume mode)
  - New: Stop Clip buttons are now lit in red if pressed
  - Fixed: 8th row in Session mode was not drawn on startup
- MCU
  - Fixed: Touching multiple faders did not restore Pan mode on release.
- Push
  - Fixed: User parameters did not display information, e.g. name, value, ... (API 11 adaption)
  - Fixed: Push 2: Message was flickering if no presets matched the filter in the browser

8.98

- Requires Bitwig 3.1.3
- All devices
  - Fixed: Sometimes non-existing notes appeared when switching sequencer pages
- OSC
  - New: Added /device/parameters {0,1}
  - Fixed: OpenStageControl template: Fixed touch commands on faders

8.97

- Requires Bitwig 3.1.3
- Launchkey Mini Mk3

  - New: Display user pages when switching in user mode
  - Fixed: User mode mapping mapped to CC instead of user parameters.
- MCU
  - New: IMPORTANT: The device MIDI ports are now ordered left to right, which means if your main device is to the right, it needs to be the last!
  - New: You can configure for each of your MCU devices if it should act like the main device (e.g. enable transport controls; you can have multiple) and has now the option to support the specific Mackie extender protocol.
- OSC
  - New: The bank page size can be configured from 1-200.
- Push 1/2
  - New: In Marker mode it can now choose to either Launch or only Select the marker when pressed.
  - New: Color settings are used in MIDI clip mode. Furthermore, always at least 4 rows are displayed.

8.96

- Requires Bitwig 3.1.3
- All devices
  - New: Included PDF manual
  - Fixed: Fixed several issues with user modes
- APC40 MkII
  - New: Added user mode
- Launchkey Mini Mk III
  - New: Option to remove the master and group-master tracks from the track bank (requires restart of extension).
- Launchpad
  - Fixed: Do not switch to play mode when changing tracks in Volume, Pan and Send modes.
- MCU
  - New: **Option+Tempo/Ticks** toggles between displaying the time or beats. **Tempo/Ticks** toggles the display of ticks/milliseconds or the current tempo for the last 3 digits. Both are also available in the settings.
  - Fixed: Fixed some issues with fader touch
- Novation SL MkIII
  - New: Added user mode. Long press the UP button and then 8th row button below the display. Page names are configurable in the settings.
- OSC
  - Fixed: /time/str now really sends the time (did send measures before)
- Push 1/2
  - New: Cancel notification message when changing modes
  - Fixed: Position now really shows the time (did display measures before)

8.95

- Requires Bitwig 3.1.3
- APC / APCmini
  - Fixed: Fixed a crash in Raindrop sequencer
- Generic Flexi
  - New: Added option to send the LED value even when command is received from the device.
- Launchpad
  - New: Poly Sequencer: Currently played sequencer notes are also lit on the play area
  - Fixed: Fixed a crash in Raindrop sequencer
- Komplete Kontrol Mk 1
  - Fixed: Modulation wheel did trigger button press of the main encoder
- Mackie HUI:
  - Fixed: New command could not be triggered from footswitch
  - Fixed: Faders and knobs in simulator view did not work

- Push 1/2
  - New: Poly Sequencer: Currently played sequencer notes are also lit on the play area
  - Fixed: Fixed a crash in Raindrop sequencer

8.94

- Requires Bitwig 3.1.3
- Generic Flexi
  - New: The MIDI channel for the keyboard (or pads if it is a pad controller) can be explicitly set (previously it was fixed to channel 1). It can also be turned off or set to all. If a MIDI note is mapped to a function on this MIDI channel, the note is blocked from being played. Note: If you have selected All for the channel the note is blocked on all channels!
  - New: Modulation Wheel (CC 01), Sustain Pedal (CC 64) and Pitchbend were previously automatically routed to Bitwig. You can now turn them off individually if you want to map them to something else.
- Launchpad
  - New: Option to remove the master and group-master tracks from the track bank (requires restart of extension).
  - New: Pro: Disabled Delete button if used without button combination to prevent accidental deletions.
- OSC
  - Fixed: Changing output server/port did still not work.

8.92

- Requires Bitwig 3.1.3 (which fixes the issues with 8.80)
- Launchpad
  - Fixed: Note selection mode could not be activated on Launchpad Pro since it was mixed up with the user mode.
  - Fixed: Note selection was activated when coming from a non-note mode but should not.

8.91

- Requires Bitwig 3.1+.
- All devices
  - Same known issues as with 8.80 still apply
- Generic Flexi
  - New: If you have multiple banks configured the selected patch of a bank is only reset if the new bank has the same MIDI channel. This allows to configure additional banks for multitimbral synthesizers (= can play different sounds on different MIDI channels).
- Launchpad
  - New: Easier selection of note modes. Pressing the note button brings up a menu where you can directly select the note/sequencer mode. First row (from top) selects play modes, 3rd row drum modes and 5th row sequencer modes.
  - New: Changing note length does now also work in Poly Sequencer
  - Fixed: Displaying longer notes did not work in Poly Sequencer
- Maschine Mikro 3
  - Fixed: Removed restriction that drum octave could only be changed if a clip was active.
- MCU
  - New: Group/Write Automation changed to trigger Latch automation
- Push 1/2
  - New: Changing note length does now also work in Poly Sequencer
  - Fixed: Displaying longer notes did not work in Poly Sequencer

8.90

- Requires Bitwig 3.1+.
- All devices

  - Same known issues as with 8.80 still apply
- Generic Flexi
  - New: Improved handling of Program Change as source. For trigger commands also a *button up* is executed; for continuous commands the value of the PC is sent (and not always replaced with 127). This allows e.g. to map different PC buttons to an Instrument selector device.
  - New: Patch Bank Selection, see Generic Flexi documentation for more info.
- Launchpad
  - New: Inverted back the clip/scene scroll direction (was also not conform with the LED lighting)
- Push 1/2
  - New: Last selected Layer mix mode is remembered
  - New: Inverted back the clip/scene scroll direction

8.80

- Requires Bitwig 3.1+.
- All devices
  - Known Issue: If the audio engine is off also the controller does not work anymore. Because the MIDI processing is now running in the audio process, which means if there is no audio process, there is also no midi. Will be fixed in an upcoming Bitwig Studio version.
- Akai APCmini
  - New: Change note length or create long notes in the Sequencers (Note, Drum) by pressing a note pad and then a pad right of it.
- Akai APC40 / APC40mkII
  - New: Change note length or create long notes in the Sequencers (Note, Drum) by pressing a note pad and then a pad right of it.
  - New: Improved scrolling of browser columns
  - Fixed: Browser crashed when activated
- Generic Flexi
  - New: Added new function: **Clip: Quantize**
  - New: Added functions for note repeat
  - New: Added functions for transposing the keyboard
  - Fixed: Configured knob speed settings were not set on startup
- Komplete Kontrol A-Series / M32
  - Fixed: Configured knob speed settings were not set on startup
- Launchpad
  - New: Virtual faders support 4 velocity steps (on all models)
  - New: Activates hardware play mode again when extension is stopped
  - New: Change note length or create long notes in the Sequencers (Note, Drum, Drum 4, Drum 8) by pressing a note pad and then a pad right of it.
  - New: Launchpad Pro: Duplicate notes in Drum 4 and Drum 8 sequencers
  - Fixed: Color of front LED was wrong when mode was changed
  - Fixed: Cursor left was not lit correctly in Drum 4 and Drum 8 mode
- OSC
  - Known Issue: Receive port is not set correctly on startup (1024). Therefore, the extension crashes and is currently not usable! Should be fixed in the next Bitwig update.
  - New: Check for lower port bound (1024)
  - New: Check that send and receive ports are different
- Push 1/2
  - New: Change note length or create long notes in the Sequencers (Note, Drum, Drum 4, Drum 8) by pressing a note pad and then a pad right of it.
  - Fixed: Master mode only showed up shortly when Master volume knob was touched
  - Fixed: Configured knob speed settings were not set on startup

8.70

- Requires Bitwig 3.1+.

- All devices
  - Known Issue: If the audio engine is off also the controller does not work anymore. Because the MIDI processing is now running in the audio process, which means if there is no audio process, there is also no midi. Will be fixed in an upcoming Bitwig Studio version. Should be fixed in the next Bitwig update.
  - Fixed: Browsing presets (or replacing) the selected device, always brought up the browser on the first device of the track
  - Fixed: Adding a device always added it relative to the first instrument device
  - Fixed: Devices could not be added to the master track if there was no other device yet
- Beatstep
  - New: Easier switching between note selection and step editing in sequencers. Turning knob left selects play/note select, turning it right selects step editing.
  - Fixed: Value change on some knobs were flipped (e.g. scrolling browser).
  - Fixed: The Note Sequencer used the drum mapping and octave shifting.
  - Fixed: Pads sometimes lit with wrong color after pad was pressed
  - Fixed: Pads sometimes lit with wrong color after leaving Shift mode
  - Fixed: Browser mode was canceled when Shift was released
- OSC
  - New: The address and port of the OSC client ("send to") can be configured again but requires restarting the extension (turn off/on).
- Launchpad
  - Known Issue: User mode crashes. Should be fixed in the next Bitwig update.
  - New: **Duplicate+Scene** duplicates the scene.
  - New: Up/Down buttons in browser mode switch from replacing the current device to inserting a new device before or after it.
  - New: Non-Pro models: Pressing the Delete and Duplicate pads in shift mode activates the related mode. Leaving the shift mode and entering session mode allows then to delete/duplicate clips, scenes and tracks. After deleting/duplicating an item the delete/duplicate mode is turned off.
  - New: Turn off panorama lights for non-existing tracks, instead of showing them centered
  - Fixed: Fader scaling was wrong (except Launchpad Pro)
- Komplete Kontrol A-Series / S-Series Mk2 / M32
  - Fixed: Some buttons did not work (Quantize, Metro, Undo)
- MCU
  - Fixed: Crash in Track mode when toggling between FX and normal tracks
  - Fixed: Record button was not always lit correctly
- Push 1/2
  - New: Added duplicating notes in Note, Drum, Drum 4 and Drum 8 sequencers. Keep Duplicate button pressed, select the source note, press empty destination pad(s). The note will be copied with all settings.
  - New: Tempo and Position knobs only show their value as a popup notification. The metronome settings can now be accessed by long-pressing the **Metronome** button.
  - New: Push 2: Only the selected page in user mode is colored white, all others are gray.
  - New: **Duplicate+Scene** duplicates the scene now also in Play, Piano and Drum 64 modes.
  - Fixed: User mode works again
  - Fixed: Modified display colors were not applied after restart
  - Fixed: Layout of Touchstrip mode was not updated to new features on Push 1
  - Fixed: Push 1: Frame mode showed an empty display
- SL MkIII
  - Fixed: Crash when selecting track again to enter device mode

8.60

- Requires Bitwig 3.1+.
- Known Issues

  - User banks are broken since 3.1 (they do not work with the new hardware API).
- AutoColor
  - Fixed: Crashed on startup
- Launchpad
  - New: Drum 4 and Drum 8 Sequencers: draw longer notes in darker color
- Mackie MCU
  - New: Added an explicit setting for devices with only 1 channel ("Has only 1 fader"), e.g. the Behringer X-Touch One. For devices with the normal 8 channels the select button now works again in marker and device mode.
  - New: Send button states for function keys (F1-F5) which turns on the LED if the device has one and supports it (e.g. Behringer X-Touch One).
  - New: Knob LEDs in device mode show only one dot
  - Fixed: Knob speed was too slow
  - Fixed: Knob LEDs were off when panorama was fully left
- Maschine Mikro Mk3
  - Include Bitwig template as Template (Bitwig.ncmm3) again, not the full Memory dump (Bitwig.ncc).
  - You need to load this new template into the Maschine (Bitwig.ncmm3) first (due to changes to the Touchstrip settings).
  - New: Change note repeat period and length via ribbon (MOD: CC1, CC11; PERFORM: Master Volume; NOTES: Note Repeat Period / Length)
  - New: The touchstrip LEDs are updated matching the selected mode.
  - New: Pitchbend modes of touchstrip return to zero setting when finger is released.
  - New: Flipped direction of Pitchbend Down Mode of touchstrip to match the LEDs.
  - New: Added setting "Action for pressing rec armed empty clip"
  - New: Erase+pad deletes scene, clip, track (depending on the selected mode)
  - New: Duplicate+pad duplicates scene, clip, track (depending on the selected mode)
  - New: Browser+pad in Clip Mode opens the browser to load a clip
  - New: Stop+pad in Clip Mode stops the clip. Clips queued to be stopped are now lit in dark green
- Native Instruments Kontrol 1
  - Fixed: Did crash when there was not track in the project
- Push 1/2
  - New: Long press notes in Drum, Drum 4 and Drum 8 Sequencers to edit it.
  - New: Drum 4 and Drum 8 Sequencers: draw longer notes in darker color
  - New: Slow down value changes in note repeat mode
  - New: Change note repeat period and length via ribbon

8.51

- Requires Bitwig 3.1+.
- Launchkey Mini Mk3
  - New: Display info if the Metronome was toggled on/off and the drum sequencer page was changed
  - Fixed: The pad rows of the drum configuration mode were flipped
- Maschine Mikro Mk3
  - Fixed: Displayed Parameter names of row 3 and 4 were flipped

8.50

- Requires Bitwig 3.1+.
  - All devices use the new Hardware API
- Removed support for Arturia Beatstep Pro due to too much limitations (use Generic Flexi instead).
- AutoColor
  - Fixed: Auto coloring did not work on added tracks which had the same name as the track which was before at that position.
- APC40
  - New: Changed direction of session-clip/scene scrolling
- Mackie HUI

  - New: Added support for icon Master fader extension
  - New: Insert buttons select track
  - New: Added (HUI QICK PUNCH) - Toggle Punch In
  - New: Added (HUI IN) - Toggle Punch In
  - New: Added (HUI OUT) - Toggle Punch Out
  - New: Added (HUI ON LINE) - Toggle Audio Engine on/off for current project
  - New: Added (HUI RETURN TO ZERO) - Return the play cursor to the start of the arranger
  - New: Improved unmute/unsolo all tracks
- Native Instruments Kontrol 1
  - New: Improved speed of knobs
  - New: Changed direction of session-clip/scene scrolling
- Launchpad
  - New: Added Poly Sequencer
  - New: Delete + Scene button in Session view deletes the scene
  - New: Shift mode: Enable note repeat and set the note repeat period and length with the pads in the middle
  - New: Sends mode: Display name of sends when selected
  - New: Light buttons brighter when pressed
  - New: Flipped Up/Down button in Device mode
  - New: Changed direction of session-clip/scene scrolling
  - New: Added notification messages to Shift view
  - New: Used several colors in Shift view for easier function identification
  - Fixed: Duplicate did not work on non-pro models
- Maschine Mikro Mk3
  - You need to load the new template into the Maschine (Bitwig.ncc) first
  - New: Use multiple colors on pads
  - New: Added note repeat (long press note view to change settings)
  - New: Pressing the encoder button always toggles between slow/fast value change, except tempo (tap tempo) and browser mode (confirm selection)
- OSC
  - New: The port of the OSC server ("receive on") can be configured again.
  - New: Added commands for note repeat (/vkb_midi/noterepeat/...)
  - New: Added /track/hasParent {0,1}
- Push 1/2
  - New: Added note repeat, long press Repeat button for configuration settings
  - New: Added cue volume and cue mix to Master mode
  - New: Delete + Track button: Delete the track
  - New: Delete + Scene button (in Play, Piano, Drum 64, Session view): Delete the scene
  - New: Delete + pad in scene play mode: Delete the scene
  - New: Added "Clear Mute/Solo" to drum channel details
  - New: The quantize mode now contains the record quantization configuration as well
  - New: More parameters for note editing
  - New: The note insert/edit MIDI channel can be selected in the Track Details mode and in the document settings
  - New: Buttons are lit brighter when pressed
  - New: Automate button is lit orange (instead of red) when Clip automation is displayed
  - New: Improved unmute/unsolo all tracks
  - New: Changed direction of session-clip/scene scrolling
  - New: Scrolling scenes in scene play view scrolls whole 64 scenes
  - New: User page names can be edited in the document settings
  - Fixed: Push 1: Header text in Master mode was missing
  - Fixed: Push 2: Scenes in scene mode were not immediately updated and not in sync Session Scene view.
- SL MkIII

  - New: Changed direction of session-clip/scene scrolling

7.60

- Requires Bitwig 2.4+.
- Support for Novation Launchpad X
- Support for Novation Launchpad Mini Mk3

7.50

- Requires Bitwig 2.4+.
- Support for Novation Launchkey Mini Mk3
- Launchpad MkII
  - Fixed: The Play and New functions in Shift mode were switched.
- MCU
  - Fixed: Do not set pan mode on fader touch release when volume mode was active before.
- OSC
  - Fixed: OSC did crash on startup
  - Fixed: Calls to /track/x/clip did not work

7.40

- Requires Bitwig 2.4+.
- New: Improved auto-detect of some devices
- Ableton Push
  - New: Prevent to enter a layer which has no devices, previously the container device was selected instead which could be confusing
  - New: Added info to the browser mode about if insert or replace is happening and selected track.
  - New: Add device to layer instead of track if a layer mode is active (but there are still some Bitwig weirdnesses in that area)
  - New: Access to slot chains of devices
  - New: Added aftertouch processing to Drum and Drum 64 mode.
  - Fixed: Blinking on queued clips did not work
- Launchpad Pro/MkII
  - New: All tracks are displayed (incl. FX and master track)
  - New: Shift-mode can now also be accessed from the Session mode. To access the Bird-Eye view of the Session mode long press the Session button.
  - New: Optimized Shift-mode, Scene buttons select (again) the Mix-mode of MkII, they have no function on the Pro. First row of buttons select the length of new clips on both models.
  - New: Pro: Added aftertouch processing to Drum and Drum 64 mode.
  - Fixed: Blinking on queued clips did not work
  - Fixed: Page Left LED indication in Note and Raindrops Sequencer was not correct.
  - Fixed: Play in Shift mode of MkII did not work (triggered toggle loop instead).
  - Fixed: Mixer-LED on MkII was not lit.
  - Fixed: Play-Layout was not set when first time switching between Session and Play.
  - Fixed: Stop-Clip mode could not be activated on MkII
- Maschine Mikro MkIII
  - New: Show info text when Duplicate is enabled
  - New: Added template with required settings to the resources folder.
  - New: Added flip arranger and clip recording option
- MCU
  - New: Added preset for Behringer X-Touch One
  - New: If device or marker mode is active, do not change track with MCU_SELECT (necessary for 1 channel controllers like Behringer X-Touch One)
- Native Instruments Komplete S-MkII, A-series/M32
  - New: You can now set the speed of the knobs in the settings.

7.32

- Requires Bitwig 2.4+.
- Added a help page for the extension. Help button appears now with each instance.
- MCU
  - New: Added new function key option “Toggle use faders like editing knobs”.

7.31

- Requires Bitwig 2.4+.
- Added new scales
- Beatstep Pro
  - Fixed: Some knobs did not toggle their value
- Mackie HUI
  - Fixed: Crash on startup and shutdown if Display was active

7.30

- Requires Bitwig 2.4+.
- APCmini
  - Fixed: Sometimes the pad grid was not drawn after startup, since the APCmini is slow to be ready for receiving commands.
- APC40mkI/mkII, APCmini, Launchpad MkII/Pro, Novation SL, Push
  - Fixed: Deactivate all sequencers if no clip is selected. This caused weird effects if the grid resolution of the sequencer was changed with no clip selected and then a clip was selected.
- Native Instruments Komplete S-MkII, A-series/M32
  - New: The extension is now split up into two. One for the S-series and one for the A-series/M32. You need to add your Kontrol device again.
- Novation SLMkIII
  - New: Notification messages are also displayed on the SL display
  - New: Firmware version is displayed on startup
- Push
  - Fixed: Display a message if no clip is selected in clip mode
  - Fixed: Octave buttons were not updated in sequencer modes.

7.21

- Requires Bitwig 2.4+.
- OSC
  - New: /playbutton - Toggles playback, you can configure the Stop behavior in the configuration settings
  - Fixed: All /vkb_midi commands did crash

7.20

- Requires Bitwig 2.4+.
- Launchpad Pro
  - New: Added user mode. Press USER button to enter. Scene buttons switch between the 8 pages of 8 parameters.
- Novation Remote SL MkIII
  - New: Added setting to disable the faders (to prevent accidentally changing volume)
- Push
  - New: Session: The octave and page buttons navigate the pages of the session grid
  - New: Second row buttons (buttons above display on Push 2) allows now to toggle between min/max values in User mode.
  - Fixed: Push 2: Notification messages were not shown on the display
- OSC
  - New: Added user parameters

7.10

- Requires Bitwig 2.4+.
- Generic Flexi
  - New: Commands to edit FX tracks. See commands in new category FX Track
  - New: Commands to edit 64 user parameters. See commands in new category User
  - Fixed: *Track: Toggle trackbank* had no effect
- Komplete Kontrol A-Series / M32
  - Fixed: Track name was not displayed
- Push 1/2
  - New: Added User mode. Allows to map 64 parameters. Press USER button to enter. Setup on Push 1 is now Shift+USER.
  - New: Push 1: Show longer track/layer names in Details mode
  - New: Push 1: Indicate volume with one bar when VU is active
  - New: Push 2: Improved layout of transport mode
  - New: Push 2: Only redraw display image if something has changed
  - Fixed: Layer details page did not close automatically when Select-button was released.
  - Fixed: Do not close transport mode when accidentally tempo or position knob is touched.
  - Fixed: Push 1: Layout of panorama on max right
  - Fixed: Push 1: Send modes could not be accessed
  - Fixed: Push 1: NullPointerException if Track mode was active and an effect track was selected in Bitwig

7.05

- Requires Bitwig 2.4+.
- Generic Flexi:
  - New: Commands to set Solo, Mute, Rec Arm, Monitor and Auto Monitor (in addition to toggle).
- Komplete Kontrol MkII
  - New: Added control indication depending on selected mode (volume, pan, send, device parameters)
- Launchpad MkII
  - Fixed: Blinking of playing clips did not work
- MCU
  - Fixed: Volume indication was broken
- Push 1
  - Fixed: Do not send color palette request, which is only working for Push 2

7.04

- Requires Bitwig 2.4+.
- Ableton Push 2
  - Fixed: Improved stability writing the color palette
- Komplete Kontrol MkII
  - New: Added Send mode (CLEAR button to toggle). Edit all sends of the selected channel.
  - New: Add track number to mixer view channels
  - New: Added Recording Option: Toggle Rec Arm State of selected track
  - New: Now, first checks if the selected device on the selected channel is a Komplete Kontrol device, if not the first instrument device is checked. This way you can edit multiple Komplete Kontrol instances on a channel.

7.03

- Requires Bitwig 2.4+.
- All devices
  - New: Moved scale settings to document
- Ableton Push 2
  - New: Set a new color palette for the pad LEDs to be closer to the Bitwig colors.
  - Fixed: The default note view is set to Play again, was Drum View.
- APC40

  - Fixed: All views except Play View were drawn wrong.
- Komplete Kontrol MkII
  - New: Added a parameter/device mode (CLEAR button to toggle)!
- Maschine Mikro MkIII
  - Fixed: Display warning when no device is selected in parameter mode
  - Fixed: Indicate non-existing parameters as "None" in parameter mode
- MCU
  - Fixed: Jogwheel jumped back one step after movement ended
- Novation Remote SL MkIII
  - Fixed: Drawing of track and device modes were wrong when no track was selected (2nd try)
- OSC
  - Fixed: Open Stage Control template produced a crash if the master volume was changed.

7.02

- Requires Bitwig 2.4+.
- Novation Remote SL MkII
  - Fixed: Drum pads did not work
  - Fixed: Crash displaying send and master track
- Novation Remote SL MkIII
  - New: The browser result name is now shown in two columns
  - Fixed: Drawing of track modes were wrong when no track was selected
  - Fixed: Track could not be added when no track was selected
  - Fixed: Browser mode could crash if a non-existing filter column was selected
  - Fixed: Button long press events caused unnecessary warnings in the log
- OSC
  - New: Added layer tab to Open Stage Control template.
  - New: Added sending of /device/layer/selected/{attributes}
  - Fixed: Some types used "selected" and some "select". Both can be used now.
  - Fixed: Fixed location of master track in Open Stage Control template for 0.47.1.

7.01

- Requires Bitwig 2.4+.
- Arturia Beatstep
  - Fixed: Caught exception when pads are transposed. Now an error is printed to the console.
- Generic Flexi
  - Fixed: MMC commands with device IDs > 15 did not work.
- Novation SL MkIII
  - New: Route all 16 MIDI channels to Bitwig (not only channel 1)

7.0

- Requires Bitwig 2.4+.
- New: Added support for Novation SL MkIII
- Fixed: scrolling of parameter pages by page bank did not work (e.g. Shift + cursor left/right on Push)
- Ableton Push 2
  - New: Deactivated channels and layers are drawn in dark colors
- Komplete Kontrol Mk II / A-series / M32
  - New: Light record button as well on clip recording and clip overdub

6.4

- Requires Bitwig 2.4+.
- Generic Flexi
  - New: The speed (fast and slow) for relative knob changes can be configured
  - New: A command can be assigned to be the Shift button (Global: Shift Button), which gives extra functionality if combined with another control (e.g. Play, Rewind, Forward and Knob Speeds).

- Komplete Kontrol
  - New: Mapping of first Komplete Kontrol parameter is no longer necessary
  - New: Improved automatic lookup

6.3

- Requires Bitwig 2.4+.
- Generic Flexi
  - New: Added setting to store the last selected mode
  - New: MIDI CC is now available as a function destination
- Komplete Kontrol
  - New: Added setting to flip the track/clip navigation of the encoder knob
  - New: Added setting to flip the clip and scene navigation of the encoder knob
  - New: Added setting to set the length of new clips
  - New: Added setting to set the behavior on transport stop
  - New: Added M32 to the extension name

6.2

- Requires Bitwig 2.4+.
- APC40
  - New: Shift mode stays active until you release the Shift key.
  - Fixed: Clip indicator was not displayed.
- Launchpad Pro
  - Improved 2 colors.
- Komplete Kontrol
  - Fixed: Record option "Record clip" did not start recording when transport was stopped.
  - New: Adapted to protocol version 1.9
- Midi Monitor
  - New: Log system realtime events
  - New: Setting to filter system realtime events
- Push 1/2
  - New: You can now tweak the speed of the knobs in the settings (Workflow -> Knob Speed Normal / Knob Speed Slow)

6.1

- Requires Bitwig 2.4.
- Generic Flexi
  - Fixed: Exception when Send volume was mapped/changed and a FX or the Master track was selected.
- Komplete Kontrol
  - New: Added information about mute state due to soloed track(s)
  - New: Added more selected track information to confirm to updated protocol
  - New: Added scene navigation and play
  - New: Slowed down knob change rate on MkII
- OSC
  - New: You can now configure the value range. So far, this was 128. Now you can increase the range to 1024 or 16384. Note that you also need to configure the widgets in your OSC client accordingly.

6.0

- Requires Bitwig 2.4+.
- Generic Flexi
  - New: Use native dialog for selecting the configuration file.
  - Fixed: Fixed a typo (CC40 was named CC30).
- Komplete Kontrol
  - Switched to new MIDI protocol

  - Support for A-series and M32
- Mackie HUI
  - Support added
- Mackie MCU
  - Fixed: Knob LED was not turned off on non-existing tracks for panorama mode.
- OSC
  - Fixed: Reduced the size of a OSC bundles to stay below 64 Kb, which is the maximum for an UDP packet.
- Push
  - Automation could not be activated if an effect track or the master track was selected.

5.9

- Requires Bitwig 2.4.
- Beatstep
  - Fixed: Track and Device mode selection did not work.
- Maschine Mikro Mk3
  - Fixed: Pan and Send modes could not be switched.
- MCU
  - Display mode names for Track, Volume and Sends. Send modes also display the name of the send.
  - You can flip backwards through the send modes with Shift+Send.

5.8

- Requires Bitwig 2.4.
- Launchpad: Fixed: Switching of Note and Sequencer did not work (only if also Push 1/2 was running)

5.7

- Requires Bitwig 2.4.
- Launchpad
  - New: The Bootloader and Firmware version is now logged to the console
  - New: Pro: The user button acts now like the Shift button
- MCU
  - New: Option + one of the Mute buttons: Deactivate all mutes
  - New: Option + one of the Solo buttons: Deactivate all solos
- Push 1/2
  - New: Select + Mute: Deactivate all mutes
  - New: Select + Solo: Deactivate all solos

5.6

- Requires Bitwig 2.4.
- MCU
  - Fixed: Removed unnescessary clip indication.
- Midi Monitor
  - Fixed: System Exclusive formatting was wrong.
  - Fixed: Check for MMC was wrong.
- OSC
  - Fixed: Track selection did not work when using only “select” and/or did not set 1 as parameter.
  - Fixed: Decimal changes of tempo did not work.
  - Fixed: /device/layer/{1-8}/send/{1-8}/volume and /device/layer/{1-8}/send/{1-8}/volume/touched

5.5

- Requires Bitwig 2.4.
- New: There is now only one version number, the number of DrivenByMoss, and one changes file in the Wiki.
- New: Extension Midi Monitor added

- Fixed: Scene navigation with cursors was broken on most devices
- Push 1/2
  - Fixed: Clip indication was broken

Changes - Cockos Reaper

26.2.1

- Requires Reaper 7.22+
- Pitchbend messages were broken on Linux.
- Electra One
  - Fixed: The first page (mixer) was not selected on startup, which means that if a different one was selected it did not work.
  - Fixed: New markers did not show up since their color is black. Markers with the color black are now displayed in gray.
  - Fixed: The 'Behaviour on Pause' setting was completely ignored.
- Native Instruments Kontrol Mk3
  - Fixed: Names in different mix modes are reduced to 1 line to fix overflow of the graphics.
  - Fixed: Komplete plugin was not detected since the name has to match as well.

26.2.0

- Requires Reaper 7.22+
- Native Instruments Kontrol Mk3
  - New: In device mode up/down changes tracks.
  - Fixed: First track of the current page could not be muted/soloed.
  - Fixed: Selecting devices did not fully work after removing/adding a device.
  - Fixed: Fixed several issues caused by the presence of a NKS device (Kontrol, Kontakt 7/8). Note: Since the special NKS mode is not notified, device and track modes cannot be changed when a NKS device is selected!
- Push 2
  - New: Added a graphical visualisation for the pad sensitivity curve.
- Push 3
  - New: MPE Pitchbend does now work with the selected scale!
  - New: Added support for configuring the pad sensitivity curve incl. a graphical visualisation.

26.1.0

- Requires Reaper 7.22+
- Fixed restart issue when closing Reaper configuration dialog.
- Removed support for Melbourne Instrument Roto-Control.

26.0.0

- Requires Reaper 7.22+
- New: The MIDI layer is rewritten and uses now directly the ports from Reaper. Read the installation notes in the DrivenByMoss manual!
- New: Added 'stop is queued' state to the session grid clips. Signal is the same as queued playing.
- Faderfox EC4
  - Fixed: Updated template to make it work with current Faderfox web-interface.
- Generic Flexi
  - Fixed: Parameter #1 reset on 1st instrument did not work.
- MCU
  - Fixed: Improved formatting of bars to align with the text on the hardware.
- Native Instruments Kontrol Mk2
  - New: Loop+Encoder changes Loop start
  - New: The browser presets can be navigated by turning the encoder and confirmed by pressing the encoder.
- Native Instruments Kontrol Mk3
  - New: Added support for NHIA protocol v4:
    - Support for the Shift-Button
      - Slow change of values when using knobs in combination with Shift

        - Zoom in/out with Shift+Encoder
        - Shift+Quantize: switches the options for recording quantize
        - Shift+Auto: toggle clip automation recording
      - Support for native Plug-in mode
      - Support for changing tempo
      - Colored track VUs
      - Added detection of Maschine 3 plugin
      - Loop/Shift+Loop+Encoder changes Loop start/length
      - Mixer modes are now switched by pressing DAW multiple times
      - Added a new layer mode
      - The browser can be used (see the manual for details)
- Push 2/3
  - New: Improved state icons in clip mode.
  - New: Having pressed the Mute/Solo for a longer time does deactivate toggling Mute/Solo on button release.
  - New: Improved lookup on latest macOS.
- XJam
  - New: The knobs are now real relative knobs! Requires Firmware 1.55 and update the template incl. in DrivenByMoss.

25.5.0

- Requires Reaper 7.22+
- New: Added support for Intuitive Instruments Exquis
- Fixed: Latch Preview does now move motorized faders as well.

25.1.2

- Requires Reaper 7.22+
- Some extensions did crash on start up.

25.1.1

- Requires Reaper 7.22+
- Akai APC40 / APC40mkII
  - New: Shift mode is automatically closed again if Shift was used in combination with a button.
- Electra One
  - New: The 3rd knob on the bottom row of the transport page controls now the last used parameter of the active plugin. It is required to reinstall the template.
- Fire
  - Fixed: Switching Project and Track parameter pages did jump by 8 and not 1.
- Maschine
  - New: The 4D-Encoder can now control the last used parameter of the active plugin. Press it to toggle to that function.
- MCU
  - New: The last used parameter of the active plugin can now also be controlled with the master fader.

25.1.0

- Requires Reaper 7.22+
- Fire
  - New: Press Alt+SELECT knob to toggle thes window of the current device (was only SELECT).
  - New: Press Shift+Alt+SELECT knob to toggle the on/off state of the current device (was Alt+SELECT).
  - New: Press SELECT to toggle controlling the last used parameter of the active plugin.
- Generic Flexi

  - New: Added new function 'Device: Last Parameter' which controls the last used parameter of the active plugin.
- MCU
  - New: The encoder can now control the last used parameter of the active plugin. To toggle the feature assign the *Last hovered/clicked parameter* to a function key or a footswitch.
- OSC
  - New: Added new commands and values for /device/lastparam/.
- Push 1-3
  - New: The *Last Touched* setting of the ribbon controls now the last used parameter of the active plugin.

25.0.2

- Requires Reaper 7.22+
- Only selects the plugin in the plugin chain if the chain window is open.
- ROTO CONTROL
  - New: Support for stepped parameters with 2 values (labelled Option 1/2).
  - Fixed: Track button states could get inconsisten when tracks were added or removed.
  - Fixed: Track updates could get inconsistent.
  - Fixed: Parameter mapping did only work if DrivenByMoss parameter page mapping was not used.

25.0.1

- Requires Reaper 7.22+
- ROTO CONTROL
  - New: Adapted to work with Firmware 1.1.3 but does no longer work with older versions!

25.0.0

- Requires Reaper 7.22+
- New: Added support for Melbourne Instruments ROTO CONTROL.
- Fixed: Adding automation envelope data did not check the global automation overwrite mode.
- Fixed: On devices which show all tracks flat including the master track, could miss the master track if it was the 1st track of a page.
- Akai Force
  - Fixed: Scrolling tracks by 8 did not work.
- Elektra One
  - Fixed: The Parameter Page Buttons 2 and 5 were flipped on the Devices page. Upload the updated template to fix this.
- Kontrol MkI
  - Fixed: Option to dis-/enable 'Notify play chords' was missing.

24.7.1

- Requires Reaper 7.22+
- Updated some libraries and the Java runtime.
- Fixed: Linux: Reaper could become unresponsive after opening the DrivenByMoss dialog. This was caused by the GTK look&feel. As a workaround the platform indepenedent look & feel is used.
- Kontrol MkI
  - Fixed: Scale could not be changed.
- Remote SL Mk2
  - Fixed: Turning relative knobs to the left did reset the value.

24.7.0

- Requires Reaper 7.22+
- New: Note/Chord notification is now off by default.
- Fixed: Fixed several issues with FX device selection.
- OSC

  - New: Added insertFile commands: /track/{1-8}/clip/{1-8}/insertFile and /clip/insertFile
- OXI One, Push
  - New: Enabling edit mode and selecting notes for editing has now been harmonized across all sequencers:
    * Long press a pad which contains a note to activate the note edit mode and edit the parameters of the note (or all notes at that step in case of Poly Sequencer).
    * When the note edit mode is active, press the pads which contain notes to select them for editing or remove them from editing.
    * Multiple notes can be de-/selected for editing by using the select button in combination with a sequencer note pad as well.
    * When the last note is deactivated for editing, the note edit mode is closed.
    * Pressing a pad which does not contain a note closes the edit mode as well.
    * Pressing a pad which does contain the continuation of a note, does nothing.
- Push
  - New: Added options to configure the behaviour of the cursor keys for scrolling tracks and scenes.
  - Fixed: *Add Device* and *Shift+Add Device* did not work as expected.

24.6.0

- Requires Reaper 7.22+
- Fixed: Project settings might not all get applied when a project was auto-loaded on Reaper start.
- Fixed: Scrolling items (e.g. tracks) left could jump in steps of 8. Side effect from the change that the 1st instead of the last item is selected when changing a page backwards.
- Maschine JAM
  - Fixed: When holding down Grid button in step sequencer mode, the group/channel buttons A-H did not reflect the available resolution options. Furthermore, the number of selectable resolutions was coupled to the number of tracks in the project.
- MCU
  - Fixed: Changed VU meter range (when Mackie is selected) to 0-12 instead of 0-13.
- OXI One
  - New: Added DrumXoX sequencer (press Arrange button twice).
  - New: Added the Raindrop sequencer (press Sequencer button 4 times).
  - New: Added automation mode (press Shift+MOD buttons).
  - New: Mixer mode: press Shift+track pads to stop the playing clip of the track.
  - Fixed: Drum 128 was named Drum 64 in the startup view setting.
- Push 1
  - Fixed: Notify played chords feature did halt other display updates.

24.5.1

- Requires Reaper 7.22+
- New: Session views display now muted clips in gray or black (depending on the color capabilities of the device).
- Fixed: Potential crash when opening the parameter mapping dialog.
- AutoColor
  - Fixed: Could crash on start and shutdown.
- Kontrol Mk2/Mk3
  - New: Added support for Kontakt 8.
  - Fixed: Only show option to select mode-switch button on Mk3 devices.
- LaunchControl XL
  - New: Keep the Device button pressed and use Send Select up/down to switch between either the cursor device, track parameters or project parameters.
- Launchpad
  - New: Press Shift+Session twice to activate the new Scene Play view. In this view each pad represents 1 scene, which means that 64 scenes can be directly triggered.
- MCU

  - Fixed: Switched Shift+Press Knob in Parameter mode for selecting devices to Option+Press Knob to still be able to do fine adjustments with Shift+Knob.

24.5.0

- Requires Reaper 7.22+
- New: Added support for APCmini mk2.
- APCmini mk1
  - New: Added option to toggle 'Notify played chords' on/off.
- Fire
  - Fixed: Drum 64 view: Shifting the notes up/down with select knob did not work.
- Fire, Launchpad, Push
  - Fixed: Drum 64 view: Notes were not in sync with pad colors.
- Push
  - Fixed: Drum XoX view was missing from preferred view selection in settings.

24.4.1

- Requires Reaper 7.22+
- Fixed: DrivenByMoss did crash on startup on some systems.

24.4.0

- Requires Reaper 7.22+
- Reaper specifics
  - New: The horizontal scrolling in the arranger is now adaptive to the zoom factor! Furthermore, in slow-mode (normally if combined with the SHIFT button) snap to grid is ignored.
  - New: Switched to getting available plugins from Reaper API instead of parsing configuration files.
  - New: Several well known plug-ins are now categorized
  - New: A plugin is now automatically selected when selected in Reaper but only if the track is selected (if the track would be auto-selected, it would get stuck and no other track could be selected. I tried it).
  - New: A clip is now indicated as playing when the play cursor is in the range of the region marker with the same index as the clip and playback is active.
  - New: A slot is now indicated as recording when the play cursor is in the range of the region marker with the same index as the slot and the track is armed.
  - New: Updated to JDK 21.
- Fire
  - New: Added setting 'Color all track states (mute, solo, rec arm)' which allows to switch off the colors for the deactivated states in Mix mode.
  - New: Press Alt+Select knob to toggle the on/off state of the current device.
- Generic Flexi
  - New: Added setting for the length of a new clip.
- MCU
  - New: Improved setting of VU clipping state.
- OXI One
  - Fixed: Extension did crash in 24.3 (regression).

24.3.0

- Requires Reaper 6.71+
- Reaper specifics
  - New: Improved logging area. Errors are now printed in red.
  - New: After changing the settings of a controller, only this controller is restarted.
  - New: The controller can now be double clicked to open the setting dialog.
  - New: Switched setting of automation to global automation mode (instead of per track).
  - New: 'Toggle Cue Marker Visibility' triggers now the Reaper action 'Ruler: Display project regions/markers as gridlines in arrange view'.

  - New: 'Toggle Track Height' triggers now the Reaper action 'View: Cycle track zoom between minimum, default, and maximum height (limit to 100%)'.
  - Fixed: The controller specific project settings were not restored when a project was auto-loaded on Reaper startup.
  - Fixed: Fixed some issues related to the controller listbox.
  - Fixed: There were several startup issues when the extension was initiated for the 1st time and the Reaper configuration dialogs were not closed before making changes in the DrivenByMoss window. The user interface is now blocked until the dialogs are closed. Additionally, some measure are now taken to fix broken configuration files.
- All devices
  - New: When scrolling track bank page left the 1st instead of the last track of the new page is selected.
- APC40mkII, Fire, Launchpad, Maschine, Maschine JAM, OXI One, Push
  - New: Added option to disable showing played chords.
  - New: Renamed setting *Default note view* to *Startup view*.
- Fire
  - New: The Shift mode is not activated when ALT is already pressed.
  - Fixed: Slow knob mode got stuck when pressing SHIFT a second time.
- Launchpad
  - New: The bird's eye view in session mode is now closed automatically if the Session button is kept pressed.
  - New: In Project/Track params mode the scene buttons do now select the pages 1-8 (instead of blocks of 8 pages).
  - Fixed: Extension crashed when pressing one of the cursor keys in clip loop edit view.
  - Fixed: Shift mode should not be activated when used in combination with cursor keys in session mode.
- Maschine, OXI One
  - New: Added new setting 'Startup view' which allows to auto-select the preferred view on startup.
- MCU
  - New: Keep the Option button pressed to show the parameter pages of the selected device. Press the respective knob to select the page for editing.
  - New: Device mode shows number of available pages on 2nd display.
- Push 1
  - New: Notification messages which are shorter than 18 characters are now shown in the right upper corner of the display instead of clearing the whole display.

24.2.0

- Requires Reaper 6.71+
- MCU
  - New: Added additional MCU support for Asparion D700 series.
  - New: Track names have a prefix of the send index in Send mode.

24.1.0

- Requires Reaper 6.71+
- APC40mkII, Fire, Launchpad, Maschine, Maschine JAM, OXI One, Push
  - New: Added new setting 'Turn off scale pads'. If enabled, all pads which represent notes which are in-scale are switched off (instead of white).
  - New: Played chords are displayed in play modes.
- Fire
  - New: The Shift Mode allows to pin the cursor track, cursor device and cursor clip (3 green buttons in the 2nd row from the top).
  - New: The Automation Write Mode can be selected in the Shift Mode (buttons of the 3rd row).
  - New: The initial pad brightness is now set to 20%.
  - New: Switched button combinations for changing the root note and changing the scale layout.

  - New: Toggling clip launcher/arranger automation gives now feedback in the display.
- Generic Flexi
  - New: Functions can now be assigned to 10 different layers. With the 'Function Layers' functions each layer can be temporarily or permanently activated.
  - New: Added functions for Groove: 'Toggle Active', 'Set Shuffle Amount', 'Set Accent Amount'.
  - New: Added functions 'Track: Scroll Bank Page by 1 left', 'Track: Scroll Bank Page by 1 right'.
  - New: Added functions 'FX Track: Scroll Bank Page by 1 left', 'FX Track: Scroll Bank Page by 1 right'.
  - New: Added functions 'Scene: Scroll Bank Page by 1 left', 'Scene: Scroll Bank Page by 1 right'.
  - New: Added settings for 'Behaviour on Pause' and 'Behaviour on Stop'.
- HUI
  - New: Added track, device and EQ modes.
  - New: AUTO1-8 is used for knob press as well (e.g. used like this with X-Touch).
  - New: 'Paste' adds an instrument track.
  - New: 'Shift+Paste' adds an effect track.
  - New: 'Option+Paste' adds an audio track.
  - New: 'Copy' inserts/replaces a device.
  - New: 'Shift+Copy' inserts a device before the currently selected device.
  - New: Option+Copy' inserts a device after the currently selected device.
- MCU
  - New: Keep the Shift button pressed to show the devices on the selected track. Press the respective knob to select the device for editing.
  - New: Added 'Channel Prev/Next' to the function commands which emulate the respective buttons for devices which do not have them.
- OSC
  - New: Added command to de-/activate a layer (/device/layer/{1-8}/activated).
- OXI One
  - New: Playing/recording clips do no longer blink.
- Push 1-3
  - New: In Clips and Markers mode the knobs control now the volume of the tracks.
  - New: Added Load/Save commands to the master mode.
- SLMk3
  - New: Project Parameter Mode - info display shows now the project name.
  - New: Track Parameter Mode - info display shows now the track name.
  - New: Parameter Mode - info display shows now the track name instead of the selected parameter page.
  - New: The first instrument of the track can now be edited (long press UP, then select 'First Ins').
  - Fixed: Selecting Project/Track parameter pages did not work.

24.0.0

- Requires Reaper 6.71+
- Added support for OXI One hardware sequencer.
- All devices
  - Fixed: Device detection was broken on Macos.
  - Fixed: Issues with parsing Reaper properties.
- Maschine JAM
  - Fixed: Extension crashed due to an ill-formatted sysex message.

23.2.2

- Requires Reaper 6.71+
- Akai Fire
  - New: When unselecting the last edit note in seqencers a notification is now shown that the note edit mode is off.
  - Fixed: In drum sequencers when the last edit note was unselected, it was deleted as well.

- HUI
  - New: Automation mode is shown in the display when a new mode is selected.
- Launchpad Pro
  - Fixed: Play mode restore did not work when combined with keeping Track Select button pressed.
- Native Instruments Kontrol Mk3
  - New: 'Metronome' can now also be selected to switch modes.
- Native Instruments Maschine Mk2/Studio
  - Fixed: Shift+Cursor left/right did not switch parameter pages.

23.2.1

- Requires Reaper 6.71+
- Fixed: Generate a marker name if none is set.
- AutoColor
  - Fixed: Delayed the color change a bit to allow Undo to work.
- HUI
  - Fixed: The right VU meter was not working
- Native Instruments Kontrol
  - New: Mute/solo states are switched off in Parameter and Send Mode to prevent that the graphics get darkened in the display. Mute/solo buttons can still be used but state will not be visible in these modes.
  - Fixed: Added missing Poly-Aftertouch (available in 88-key model).

23.2.0

- Requires Reaper 6.71+
- MCU
  - New: Added support for iCON V1-M (display RGB colors, 2nd display)
  - New: Send VU updates only if necessary.
  - Fixed: VU meters did not work anymore on iCON devices.

23.0.1

- Requires Reaper 6.71+
- Native Instruments Kontrol
  - Fixed: Browser/Plugin-buttons were inactive after track changes.
  - Fixed: Added missing support for Kontakt 7 plugin UI/light guide.

23.0.0

- Requires Reaper 6.71+
- LaunchkeyMini Mk3
  - New: In Custom mode Shift+Arp/FixedChord toggles between track/remote parameters and the program change buttons switch pages now to be consistent with device mode.
- Launchkey
  - Fixed: 88 version was not fully supported. Display and fader modes did not work.
- Launchpad
  - Fixed: Project/Track params mode: color indication on scene buttons were missing.
- Native Instruments Kontrol
  - New: Added support for Mk3 keyboards.
  - New: Added Track and Project parameter modes for S, A and M keyboards.
- OSC
  - New: Added /device/layer/{1-8}/volume/reset
  - New: Added /device/layer/{1-8}/pan/reset
  - New: Added /device/layer/{1-8}/send/{1-8}/volume/reset
  - Fixed: /track/{1-8}/send/{1-8}/volume/indicate did set the volume to 0.
  - Fixed: /track/{1-8}/send/{1-8}/volume/touched did set the volume to 0.

22.2.1

- Requires Reaper 6.71+
- All devices
  - Fixed: Controllers could be instantiated twice.
  - Fixed: Device modes could get stuck when switching to a track with less devices than on the previously selected track. Now the first plugin is selected. If there is no plugin on the track the index of the selected plugin is remembered until a track with at least 1 plugin is selected.
- Fire
  - New: Selecting an already selected folder track in mix mode does toggle the folder open/closed.
- LaunchControl XL
  - New: In transport mode (keeping 'Record Arm' pressed) button 5 triggers Undo and button 6 Redo.
- OSC
  - Fixed: /track/param/{-,+} and /project/param/{-,+} did switch 8 pages instead of 1.
- Push
  - Fixed: Improved button colors in simulator.

22.2.0

- Requires Reaper 6.71+
- All devices
  - Fixed: MIDI channel was not handled correctly for sequencer notes.
- Launchpad
  - New: The selected note for editing is automatically cleared when the note edit mode is closed.
- Push
  - New: Added Drum XoX sequencer.
  - New: By long pressing an edited note in the sequencers it can be deselected. If no more notes are selected the previous mode is restored.
  - New: Opening the track/layers detail mode is now only triggered on button up and if the select button was not used to select something.
  - New: Multiple tracks can now be un-/selected by keeping the select button pressed.
  - New: The Scenes/Clips and Markers modes stay now active when the session view is left.
  - New: Tracks can now be optionally navigated 'flat' (instead of 'hierarchical').
  - New: Added option to include the master track in the track list. This allows to have access to the clips on the master track.
  - New: Push 3: The button in the upper right switches now between the Session/Clips and Marker mode.
  - New: Push 3: In MIDI clip mode, turning the encoder selects the previous/next note for editing. Moving it left/right selects the previous/next clip page.

22.1.0

- Requires Reaper 6.71+
- APC40
  - Fixed: In drum sequencer the first 4 pads of the 2nd step row played sounds.
- Arturia Beatstep
  - Fixed: Knobs were totally broken. Additionally, prevented some weird parameter jumps.
- Electra One
  - New: Added knob sensitivity (speed) settings.
  - New: Made knob touch combinations configurable with plenty of options.

22.0.0

- Requires Reaper 6.71+
- All devices
  - New: Added a Reaper action to restart all controllers (*DrivenByMoss: Restart all controllers*).
  - Fixed: VST2/VST3 plugins with characters '-' or '+' in filename could be missing from the browser results.

  - Fixed: JS plugs with spaces in filename/folder were missing from the browser results if filtered by a Collection.
  - Fixed: Device INI files need to be loaded as UTF-8.
  - Fixed: Playing notes could not be parsed.
  - Fixed: Scenes (aka Range markers) were completely broken.
- Added support for Faderfox EC4 (requires Firmware 2.0).
- Electra One
  - Fixed: Next/previous marker page were flipped.
  - Fixed: Settings had *Behaviour on stop* instead of *Behaviour on pause*.
- Generic Flexi
  - New: Added option to directly route Program Change to DAW.
- Komplete Kontrol Mk2
  - New: Default values for knob speeds are much slower.
- Launchkey Mk3
  - New: Undo+Track button deletes the track.
  - New: In Session Mode the 'Stop Solo Mute' menu allows to set the New Clip Length with the buttons on the 1st row.
- Maschine Mk3
  - Fixed: Chord mode did crash when base note which is not part of the selected scale was played.
- MCU
  - New: The function keys F6-F8 can be now configured as well. Punch In/Out and Device on/off can now be selected from the list as well and are set as the default for F6-F8.
  - Fixed: Scrolling upwards in the browser did scroll by 64 steps.
- OSC
  - New: Added /scene/{1-8}/select to select a scene.
  - New: Added /scene/{1-8}/name to set the name of the scene.
  - New: Added /scene/{1-8}/color to set the color of the scene.
  - New: Added /clip/name to set the name of the cursor clip.
  - New: Added /clip/color to set the color of the cursor clip.
  - New: Added /crossfade/reset to resets the crossfader to center position.
  - New: Added /track/{1-8}/recordQuantization to get and set the default record quantization for the MIDI input of the track.
  - New: Added /track/param/bank/page/{+,-} to select the next/previous 8 parameter pages.
  - New: Added /project/param/bank/page/{+,-} to select the next/previous 8 parameter pages.
  - Fixed: Prevent unecessary restarts of OSC server.

21.5.2

- Requires Reaper 6.71+
- All devices
  - Fixed: On some Macos systems, Reaper could hang on startup.

21.5.1

- Requires Reaper 6.71+
- All devices
  - Fixed: Tracks could not be selected on some devices.
  - Fixed: Track parameter was empty when it's name was identical to the parameter on the previous track.
  - Fixed: If a plugin had a space in the filename or in the sub-folder it would not load (e.g. some JS plugins).
  - Fixed: Plugins which had the company name in parentheses '()' removed did not show up in the results list.
  - Fixed: Fix for C++ a memory issue (fingers crossed).
- Electra One
  - Fixed: Session mode: clip recording could not be started.

- Generic Flexi
  - Fixed: 'Device: Reset Parameter 1' command was missing.
  - Fixed: Could crash if no longer existing command was mapped.
- Launchpad
  - Fixed: Project/track remote parameter pages did scroll by 8 instead of 1 page.
- SL MkIII
  - Fixed: Parameter text values were not ASCII safe.

21.5.0

- Requires Reaper 6.71+
- Updated Java to 17.0.9+9.
- Electra One MkI + MkII
  - Requires Firmware 3.5
  - New: All knobs are now relative.
  - New: New page for controlling project and track parameters. Touch knobs 9, 10 and 11 to activate.
- Generic Flexi
  - Fixed: Set number of monitored browser results and filter column entries to 1 which speeds up the opening of the browser.

21.4.0

- Requires Reaper 6.71+
- Push
  - New: Support for the Push 3 encoder in Scene display mode.
  - New: Push 2/3: selected notes in clip note view are now drawn darker.
  - Fixed: Push 2/3: mute state of notes in clip note view were only drawn muted in the first step-part of the note.
  - Fixed: The play position was not drawn correctly in sequencer mode.
  - Fixed: Push 2/3 - List elements (Scale and Browser mode) were using black text on black background.

21.3.0

- Requires Reaper 6.71+
- All devices
  - New: Moved the parameter updates of the primary and EQ plugin on the normal thread (was slower on updates before).
  - New: Improved resolution of parameter changes with relative knobs. Fixes also the issue that too small speed settings led to no change at all.
- Auto Color
  - Fixed: Did crash on startup.
- Fire
  - Fixed: Do not toggle the plugin window when the select knob is pressed and turned to transpose the clip by octaves.
- Generic Flexi
  - New / Fixed: Added new relative knob mode 'Signed Bit 2'. The previously called knob mode 'Signed Bit' is actually the new 'Signed Bit 2'. IMPORTANT: This is a breaking change, so check all selected relative modes in your configurations!
  - Fixed: Selecting Send modes 1-8 from the configuration menu did not activate them.
- Maschine:
  - New: When switching tracks the previous selected play mode (PAD MODE or KEYBOARD) is recalled.
- Push
  - New: Push 2/3: Clip and session modes contain now track names. The mixer layout is changed accordingly for consistency. Reset the colors in the Push settings!

21.2.0

- Requires Reaper 6.71+
- All devices
  - Fixed: Button combinations on session grid did always execute clip play.
- Launchkey Mk3
  - Fixed: Parameter Pages 9-16 could not be accessed.
- Push 3
  - New: Added configuration page for audio interface

21.1.0

- Requires Reaper 6.71+
- Generic Flexi
  - New: Clip selection follows now track selection.
- Launchpad
  - Fixed: In session mode playing pads were not green and recording pads not red.
  - Fixed: Pro Mk3: Selected Play/Sequence modes were not restored correctly when switching back from Session.
- Maschine
  - Fixed: Do not show play mode notifications on devices with a display.
- Push
  - New: Push 1/2: Select+Add Device: Opens the favorites menu on the device page.
  - Fixed: Push 3: Only activate MPE on Play, Piano, Drum 64 and Drum modes. Also fixed non working button combinations when MPE was active.
  - Fixed: Push 3: Unsupported MPE pitch bend range is hidden in the configuration mode.
  - Fixed: MPE settings in configuration were not documented in the manual.

21.0.0

- Requires Reaper 6.71+
- All devices
  - Fixed: Fixed an exception with controllers not having user parameters.
  - Fixed: Improved feedback of automation modes.
- Generic Flexi
  - Fixed: Switching project/track remote pages was triggered twice.
- HUI
  - New: RecRdyAll toggles rec arm state on all tracks.
  - New: Option+Jog Wheel - Change tempo (press Shift for fine adjustment).
  - New: Control+Jog Wheel - Change loop start (press Shift for fine adjustment).
  - New: Alt+Jog Wheel - Change loop length (press Shift for fine adjustment).
  - Fixed: Clip related function did not work when assigned to F1-F8 buttons.
- MCU
  - New: Shift+RecArm toggles rec arm state on all tracks.
- OSC
  - Fixed: /track/param did trigger project parameters.
- Push
  - New: Added support for Ableton Push 3.
  - New: Push 2: Removed unecessary Rec Arm, Solo and Mute from Cue channel.
  - New: Metronome volume has been moved into the metronome settings mode (long press metronome button).
  - New: Improved session configuration mode. Easier selection of what to show on the display.
  - New: 'Add Track' mode has now 7 favorites for each track type as well as 7 device favorites.
  - Fixed: Push 1: Master volume graphical representation was not missing line if VU mode was active.
  - Fixed: Do not notify tempo value when tempo knob is used in browser mode to scroll results.

20.3.2

- Requires Reaper 6.71+
- All devices
  - Fixed: Improved Undo state when changing volume and panorama.
- Generic Flexi
  - Fixed: Crash on startup when keyboard MIDI channel was set to Off.

20.3.1

- Requires Reaper 6.71+
- All devices
  - Fixed: Implemented a workaround to distinguish MIDI ports with the same name, like Behringer X-Touch extenders.
- Gamepad
  - New: Added different options for the range of MIDI CC values sent for each axis.
- Generic Flexi
  - New: Added functions for 1st instrument device.
  - New: Added more functions to navigate project/track remote pages.
  - Fixed: Track Remote functions did also show up in Track functions but did not work.
- OSC
  - Fixed: The Open Stage Control template did still send /user commands for touch events.
- Push
  - Fixed: Removed unecessary pad mode notifications on track selection.
- SL MkIII
  - Fixed: Did crash on startup.

20.3.0

- Requires Reaper 6.71+
- All devices
  - New: Updated JDK to 17.0.7+7.
  - New: Sends can now be changed for send channels as well.
  - Fixed: 'New clip' function must not enable record-arm if track is set to automatic record-arm.
- APCmini
  - Fixed: Send channels could not selected.
- APC40 mkII
  - New: Press USER to select the user mode to control project and track parameters. Press again to toggle between the project and track parameters.
- Fire
  - New: The User mode was replaced with the Project/Track Parameters mode to change project or track parameters.
- Generic Flexi
  - New: User parameter commands are replaced with commands for project and track parameters (*Project Remotes / Track Remotes*).
- Launchkey Mini
  - New: The User mode was replaced with the Project Parameters mode to change project parameters.
- Launchkey Mk3
  - Fixed: Toggling groups open/closed always got triggered twice.
- Launchpad
  - New: The User mode was replaced with the Project/Track Parameters mode to change project or track parameters. Up/down button switches between them. Left/right switches pages.
- Maschine
  - New: The User mode was replaced with the Project/Track Parameters mode to change project or track parameters. Cursor left/right switches between them. Encoder up/down buttons switches pages.
- Maschine JAM
  - New: The User mode was replaced with the Project/Track Parameters mode to change project or

track parameters. SELECT+CONTROL switches between them.
- MCU
  - New: The User mode was replaced with the Project/Track Parameters mode to change project or track parameters. Fader bank left/right switches between them. Channel left/right switches pages.
- OSC
  - New: Increased the number of configurable actions to 20.
  - New: There is now a setting to choose between flat and hierarchical track navigation.
  - New: /user commands are replaced with according /project and /track commands. OpenStage-Control template got updated to reflect this (but only with /project commands).
  - Fixed: Send attributes could not be changed (except volume).
- Push
  - New: The user mode gives now access to the master and track parameters. First 2 buttons of the 2nd row toggle between the master track (Project) and selected Track parameters.
  - Fixed: Only the first 8 scenes could be launched in Scenes view.
- SLMkIII
  - New: The user mode has been replaced with a Project FX and Track FX mode. Keep the **UP** button pressed and select the modes with the 7th/8th row button. These modes give access to the project and track parameters.
- Turn
  - Fixed: Only the first 8 scenes could be launched in Scenes view.

20.2.1

- Requires Reaper 6.71+
- All devices
  - New: Increased the scrolling speed with the mouse wheel in the configuration dialog.
  - Fixed: Moving the play cursor happens now in beats/bars as intended.
  - Fixed: Track mappings did not get updated when a track outside the current bank page was selected in Reaper.
- Generic Flexi
  - Fixed: MIDI feedback from on/off values did sent 1/0 instead of 127/0.
- Launchkey Mk3
  - Fixed: Wrong mode was set after closing the browser.
- MCU
  - Fixed: Fader flip did not work in Instrument mode.

20.2.0

- Requires Reaper 6.71+
- Added support for the ESI Xjam controller
- All devices
  - Fixed: Parameter values were not shown on the controls in the simulator.
- Komplete Kontrol MkII
  - New: Make sure that the same slot is selected when switching tracks.
- MCU
  - Fixed: Added missing EQ and INST buttons to simulator.

20.1.0

- Requires Reaper 6.71+
- Launch Control XL
  - Fixed: Moving drum pad range was broken.
- Launchpad, Push
  - Fixed: Clip Length mode was not always recalled.
- MCU
  - Fixed: Device froze when there were no sends and send 2 was selected.
- OSC

  - Fixed: Moving drum pad range was broken.
- SLMkIII
  - Fixed: Set knob layout only when necessary.

20.0.0

- Requires Reaper 6.71+
- APC40
  - New: MkI: Press Shift+Device On/Off button to open/close the browser (was Shift+Stop All Clips).
- APCmini
  - New: Existing scenes have now the color green. The selected scene blinks green.
- Fire
  - New: Toggling the Birds Eye view in session mode (SHIFT+PERFORM) directly closes the Shift mode and displays an info in the display which mode is selected.
- Launchkey Mini
  - New: Mini: The executed functions when Stop/Solo/Mute is pressed are displayed.
- MCU
  - New: OPTION + press a knob which controls a send level toggles the send mute on/off.
- OSC
  - New: Added sending: /track/{1-8}/send/{1-8}/activated - Is the send disabled or enabled?
  - New: Added sending: /device/layer/{1-8}/send/{1-8}/activated - Is the send disabled or enabled?
  - New: Added receive: /track/{1-8}/send/{1-8}/activated - Toggle the send disabled or enabled.
  - New: Added receive: /device/layer/{1-8}/send/{1-8}/activated - Toggle the send disabled or enabled.
- Push
  - New: Use Select+Clip/Scene to select it.
  - New: The birds-eye view in Session mode is now activated by holding Shift+Select.
  - New: Sends can be dis-/enabled. Keep SHIFT pressed, then additionally SELECT and finally touch a knob which modifies a send.
  - New: Added some CLAP devices to the *Add Track* settings.
  - Fixed: Birds-eye view in Session Mode had a blinking issue.
- SL Mk II
  - Fixed: Transport commands did not work in Play mode.
  - Fixed: Display of scene names did not work for non-existing scenes.
- Turn
  - New: Hold Select to select a clip without starting playback.

19.2.2

- Requires Reaper 6.71+
- All devices
  - New: Set note repeat octaves to 1 as default.
  - New: Automation recording volume and panorama does now only create 1 undo point.
- Generic Flexi
  - New: Documented Shift button function in the manual.
  - Fixed: Renamed 'Parameters' to 'Device' in the selected mode list to match the naming in the function lists.
- Maschine Mk2 / Studio
  - Fixed: The poly aftertouch settings in the template were off by 2 octaves and therefore did not work. Please install the new template to fix this.
- Push 1
  - Fixed: Low pad threshold warning was not displayed in the info mode (and caused a crash).
  - Fixed: Firmware version was not displayed in info mode.

19.2.1

- Requires Reaper 6.71+
- All devices
  - New: Sped up arranger position changes (play position, loop, etc.). Normal, changes now 1 bar and slow, 1 quarter.
- Electra One
  - New: The last active mode is restored when returning from a different preset.
  - Fixed: Values were still set in other presets when changes appear in the DAW.
  - Fixed: Mode did not update the values when jumping back from a different preset.

19.2.0

- Requires Reaper 6.71+
- All devices
  - Fixed: Parameter formatting was broken in 19.1.
- Electra One
  - Requires Firmware 3.1!
  - New: Labels for parameter values are now set.
  - New: Knob touch states are now available which allows smoother value updates and automation touch mode to work.
  - New: Play position and tempo can now be changed with knobs.
  - New: Replaced Cue Volume with Play Position on all pages. Cue Volume is now available on the Transport page.
  - New: Added a Session mode for launching scenes/clips and more.
  - New: Quick navigation between pages by touching 3 knobs (see the manual).
  - New: Jump to a specific Electra One synthesizer preset for editing the plugin in focus. The preset must have the same name as the preset.
- LaunchControl XL
  - Fixed: Crash when setting the drum or note sequencer resolution.
- Launchpad
  - Fixed: Browser did not open on tracks without a device present.
  - Fixed: Do not leave user mode on track change.
- MCU
  - New: Master Track mode is only activated on master track selection if the current mode is the Track mode.
  - New: Use the first instrument of the track for layer navigation instead of the cursor device.
- Push
  - New: If ribbon controller is set to the mode 'Fader' or 'Last Touched' it can now be combined with the delete button to reset the respective parameter to its' default value.
  - New: Added / updated several devices for the 'Add Track' - favorite devices settings.

19.1.0

- Requires Reaper 6.71+
- All devices
  - Fixed: Fixed some issues with the device bank could e.g. cause cursor LEDs to be not lit correctly.
  - Fixed: Formatted values of ReaEQ gain parameters were not correct.
- Fire
  - New: Device and parameter page names are shown now in two lines instead of one.
- Launchpad
  - New: Added clip length (loop area) mode. Press User/Custom on the Pro models. On the other models use the mode selection.
  - New: User parameter mode is now available on all models.
  - New: Pressing Device button twice switches to User parameter mode.
  - New: Rearranged the functions of the Scene buttons in Device mode. Last button opens now the browser.
  - New: Improved harmonization of mode colors.

  - Fixed: Pro Mk3: Tracks could not not be selected.
- Maschine
  - Fixed: Erase+Master Knob did not work to reset parameters.
- Push
  - New: The 'Clip' mode was renamed to 'Clip Length'. The length (actually the loop) is now colored in the clips' color.

19.0.0

- Requires Reaper 6.71+
- Added support for Electra One controller.
- All devices
  - Fixed: Navigating track groups hierarchical did not update the fader/knob bindings.
  - Fixed: Changing some track parameters did not alter the undo state in Reaper (e.g. mute and solo).
- Generic Flexi
  - Fixed: Browser - Scroll Filter Column did crash.
  - Fixed: Browser - Scrolling in browser mode did always scroll down.
  - Fixed: Last selected mode was not set after restart.
- Launchpad
  - New: Set the default for Shift+Record to *New clip + enable automation*.
  - New: Added a brightness setting for the pads. Only available on *Mini Mk3* and *X*.
  - Fixed: New record command configuration was broken on non-pro models.
- MIDI Monitor
  - New: Added number of bytes to system exclusive message logs.

18.5.0

- Requires Reaper 6.71+
- All devices
  - Fixed: Poly Sequencer: Registration of notes is more reliable.
  - Fixed: Fixed a NullPointerException with parsing preset files.
  - Fixed: Extension could not be loaded on older Linux systems.
- Komplete Kontrol MkII, Launchkey / Mini, Launchpad, Maschine
  - New: Added new record button options to additionally enable automation writing.
- Launchpad
  - New: Sequencers have now a note editing mode. Long press a step with a note to activate the note editor.
  - New: Pro Mk3: State of metronome is shown on Solo/Click button when Shift is pressed.
  - New: Changing note repeat with cursor up/down+pad in sequencers works now also for Poly Sequencer.
  - New: Record button (and Shift+Record button) can now be configured (instead of only being able to be flipped).
  - New: Scene buttons in device mode have more functions: enable device, toggle user interface, toggle pinning.
  - Fixed: Broke some cursor commands (e.g. tempo change) while fixing note repeat in 18.4.

18.4.0

- Requires Reaper 6.71+
- All devices
  - New: Removed reading from track chunk completely (also removed the related Debug option) since it causes too much performance issues. This loses track deactivation and record quantization states.
  - New: Parameter names in the mapping dialog can now be emptied. By doing so the original name is used. Use this for parameters which change their name (e.g. the 8 macros in Native Instruments Massive).
  - Browser

        * New: Browser columns can now be hidden.
        * New: Support CLAP plugins in the browser.
        * New: Preferences of duplicated plugin types are filtered as well, e.g. hides VST3 version of u-he Bazille if CLAP version is preferred.
        * New: Location was replaced with Architecture.
        * New: Support braces in NOT arguments in smart folders.
        * Fixed: Presets in the browser do now load immediately.
    - Fixed: Setting of clip color does finally work.
- MCU
    - New: Shift+Track selection buttons: Multi-select tracks (Setting the length of a new clip is now on ALT combination). Allows to change volume, pan, solo, mute and rec arm for multiple tracks at once.
    - New: Save button is lit if project was changed and needs to be saved.
- OSC
    - Removed the TouchOSC template which is outdated. Please switch OpenStageControl instead.
- Push 1/2
    - New: Changes to pre-roll in the Metronome dialog now directly reflect to the controller. Changing pre-roll on the controller is now also applied directly but still does not change the values if the Metronome dialog is open (needs to be closed and reopened to show the effect).
    - Fixed: Display was off (or empty) when the default Reaper project did not contain any tracks.
    - Fixed: Scene buttons did not work in Piano play layout.

18.3.0

- Requires Reaper 6.12+
- All devices
    - New: Drum sequencers: When changing note range up/down the offset is now shown on-screen instead of the range (which was wrong anyway).
- APC40, APCmini, Fire, Launchpad, Maschine JAM, Push.
    - New: Added setting 'Start with session view'.
- APC40
    - Fixed: MkI: Pads in Drum and Play mode did sound wrong notes.
- Generic Flexi
    - New: Added new functions: 'Device: Toggle Parameter 1-8'.
    - New: Added new function: 'Master: Select'.
- Launchpad
    - Fixed: Record and toggle overdub did not work in Shift view.
    - Fixed: Loop area was not drawn when extra function buttons were active.
- MCU
    - New: Switching devices or parameter pages shows the device and page name as a notification.
    - New: Control+Jog Wheel - Change loop start (press Shift for fine adjustment)
    - New: Alt+Jog Wheel - Change loop length (press Shift for fine adjustment)
    - Fixed: X-Touch - Notification messages might not be seen due to black displays.
- Push
    - New: When changing loop length in Clip view, the second pad can now be pressed multiple times without the need to press the first again.
    - Fixed: Changing loop length in Clip view did not work with 1/16th resolution selected.
    - Fixed: Clip view was not selected on startup if an audio track was selected.

18.2.0

- Requires Reaper 6.12+
- Added header to manual.
- APC40
    - New: Footswitches are now configurable in the settings.
    - Fixed: 12th page pad was off in drum mode.

  - Fixed: MkI: Drum pads in Drum Mode did not send notes.
- Generic Flexi
  - Added new functions: 'Device: Reset Parameter 1-8'
  - Added new functions: 'User: Reset Parameter 1-8'
- Maschine / Jam
  - New: Footswitch options contains now the option to send sustain (CC 64).
- OSC
  - New: Added message: /device/param/{1-8}/exists
  - New: Added message: /device/page/{1-8}/exists
  - Fixed: Fixed velocity should not be applied to aftertouch.
- Push
  - New: Changing play position now show also measures in the display.
  - New: Select + Master knob: Zoom in/out of arranger.
  - New: Clip view is now the default for audio tracks.
  - New: Footswitch options contains now the option to send sustain (CC 64).

18.1.0

- Requires Reaper 6.12+
- All devices
  - New: Browser dialog has now an info text about the intent of the browsing.
  - Fixed: First instrument device had always only 1 parameter.
  - Fixed: Changing metronome volume did not work.
- Fire
  - Fixed: Regression introduced in 18.0, button LEDs did not update.
- Generic Flexi
  - Fixed: 40th label in the Number field was named indexed as 30th.
- MCU
  - New: Added functions to browser mode:
    - Arrow up/down - Switches to the previous browser tab (if any)
    - Arrow left/right - Switch to insert a device after the currently selected device (if any)
    - Zoom - Switch to replace the currently selected device (if any)
    - Jogwheel - Scroll the results
- Push 1
  - Fixed: Browser mode could crash if presets contained non-ASCII characters.

18.0.0

- Requires Reaper 6.12+
- Added support for Yaeltex Turn.
- All devices
  - Fixed: Insert track did not insert it after the selected track but after the next track.
- APC40 mkII
  - New: Selected notes in sequencers are now yellow (instead of white).
- Maschine
  - Fixed: Source Aftertouch messages were always sent additionally to the setting of *Convert Aftertouch*.
- MCU
  - Fixed: Crash when Master fader was touched in flip mode.
  - Fixed: State of Flip LED was not correct.
- OSC
  - New: Added /scene/color
  - New: Added /device/page/{1-8}/name for consistency reasons
  - New: Added /device/sibling/{1-8}/exists
  - New: Added /device/sibling/{1-8}/bypass

  - Fixed: /track/bank/{+,-} did not report the track selection as Off if the selected track went out of the page.
  - Fixed: /device/param/bank/page/{+,-} did not jump 8 pages but only 1.
  - Fixed: /device/param/{+,-} did not jump 1 page but 8.

17.6.0

- Requires Reaper 6.12+
- APC40 mkI/II
  - New: Drum mode provides functions to select drum pads without sounding them.
  - New: Note Repeat can now be used in the play and drum mode.
  - New: Added note repeat settings.
  - New: Added settings *Display clips of record enabled tracks in red*, *Action for pressing rec armed empty clip* and *Turn off empty drum pads*.
  - New: Shift + Tap Tempo: Inserts a new marker at the current play position.
  - New: Cursor right: Move track bank focus 8 tracks up
  - New: Cursor left: Move track bank focus 8 tracks down
  - New: Shift+Cursor right: Selects the next marker to the right of the play cursor.
  - New: Shift+Cursor left: Selects the next marker to the left of the play cursor.

17.5.0

- Requires Reaper 6.12+
- Increased length of parameter names in Parameter configuration dialog.
- Support for Novation LaunchControl XL
- Beatstep
  - New: Toggle Window button uses different colors depending on window state (blue = closed, pink = opened).
  - New: Removed the useless track navigation functions in the track mode and added rec arm and toggling folders instead.
  - Fixed: Prevent view change on track change, which is confusing on the Beatstep since it leaves Track view.

17.1.0

- Requires Reaper 6.12+
- Fire
  - Fixed: Knobs did not work after leaving note edit mode.
- MCU
  - New: Added volume automation of master fader.
  - Fixed: Touch state for touch automation recording was not always correctly set.
  - Fixed: Volume envelope data was not sent to master fader.
- Push
  - New: Push 2: The 4th button above the display now moves to the next sends page. Combine with Shift to move backwards.
- APC40, APCmini, Launchpad, Launchkey Mini, Maschine, Maschine Mikro, Maschine JAM, Push
  - New: Renamed 'Behaviour on Play' to 'Behaviour on Pause' and renamed the options as well.
- Fire, Force, HUI, Kontrol mkI/II, Launchkey, MCU, MPC, SLmkII/mkIII
  - New: Added additional setting 'Behaviour on Pause' triggered by play button.

17.0.0

- Requires Reaper 6.12+
- Fire
  - New: Added a new drum mode, see manual for details.
  - New: The last selected note/sequencer view is remembered when switching to session/mix and back.
  - New: All LEDs are full turned off on shutdown and a Goodbye message is displayed.

  - New: Session mode: ALT + pad selects clip (without starting playback).
  - New: Bank button + Touch knob: Resets the knobs value to the default value.
  - Fixed: Black pads were not fully turned off.
  - Fixed: Do not leave Mix mode on track selection.
- Komplete Kontrol MkI
  - New: Works now on Apple Silicon.
  - Fixed: USB resources were not freed on shutdown.
- Launchkey
  - New: Added detection for Launchkey 88
- MCU
  - Fixed: Knob LEDs went off when panorama was panned fully left.

16.4.1

- Requires Reaper 6.12+
- Generic Flexi
  - New: Added setting to directly route expression (CC 11).
- MPC
  - New: Q-Link knobs are working now (requires MPC Firmware 2.11).

16.4.0

- Requires Reaper 6.12+
- All devices
  - New: The selected device page is restored when switching between devices.
  - New: Added 'Refresh MIDI Ports' to the Debug menu, which re-scans all available MIDI devices and restarts all controllers. This is useful if multiple controllers were switched on after the start of Reaper.
  - Fixed: If Automation-Trim mode is active faders are no longer moving.
- APC40, APCMini, Fire, JAM, Launchpad
  - New: Added setting for the preferred default note view (e.g. Play, Drum, Sequencer, ...).
- APC40, APCMini, Fire, JAM, Launchpad, Push
  - New: Added new scale layouts: Staggered Up and Staggered Right
- Generic Flexi
  - New: Added new functions 'Layout: Zoom in arranger timeline' and 'Layout: Zoom out arranger timeline'.
- Komplete Kontrol Mk1
  - Fixed: Expression pedal triggered start/stop instead of sending expression data.
- Komplete Kontrol A/M-Series
  - New: Send and Parameter modes could be activated on these models as well by pressing Shift+Stop (=CLEAR) which was not intended. The labels are now adjusted to make this usable on these models as well. Only drawback is that the display always shows 'Vol' or 'Pan' but everything else works nicely.
- MCU
  - New: Pressing a knob can now be combined with modifier keys: SHIFT - set parameter to center value, CONTROL - set parameter to minimum, ALT - set parameter to maximum.
  - Fixed: Previous/next mode function for function keys did not display the selected mode. Also the modes do now wrap around at the beginning/end.
  - Fixed: Previous track mode was not restored when leaving master track.
  - Fixed: EQ parameter paging did not work correctly.
- MCU - X-Touch
  - Fixed: In Master mode audio engine and project displays were off. In parameter modes displays are now switched off for not existing parameters.
- Novation SLMkIII
  - New: Let program changes pass through to Reaper.
- OSC

  - Fixed: Several formatting issues in the manual.

16.3.1

- Requires Reaper 6.12+
- MCU
  - Fixed: Fixed a crash in Track mode and increased the number of sends to 14 in that mode.

16.3.0

- Requires Reaper 6.12+
- All devices
  - Fixed: Automated mute was inverted on the controller since the envelope is actually inverted.
- Launchkey Mini Mk3
  - New: When a second row mode is active on the pads, scenes are scrolled by one.
- Maschine JAM
  - New: GRP - Activates changing the play position with the encoder. This was previously GRID+Encoder, which broke using the GRID button for quantizing the selected clip. When toggled by pressing the encoder it changes the loop start position. Hold SELECT to change the loop length.
- MCU
  - New: Option+Marker - Inserts a new marker at the current play position.
  - New: Option+« - Move the play cursor to the closest marker before the current play position.
  - New: Option+» - Move the play cursor to the closest marker after the current play position.
  - New: Option+BANK left/right - Moves the selected device to the left/right.
  - New: Option+CHANNEL left/right - Moves the selected track to the left/right.
  - New: Added setting 'Workflow: Activate Volume mode on Fader Touch'.
  - New: Track mode shows now sends 7 and 8 on 2nd device.
- MCU - X-Touch
  - New: Sends use the colors of their channel in track mode.
  - Fixed: Prevent color black to be used for tracks and markers (replaced with gray).

16.2.0

- Requires Reaper 6.12+
- All devices
  - Fixed: Device window was opened when clip was selected.
- All devices with pad grid
  - Fixed: 3rd shift in chromatic mode was not correct.
- Push 1/2
  - New: Arrow left/right now changes the track/devices page.
  - New: Shift + Arrow left/right in device mode moves the selected device to the left/right (but only in the page).
  - New: Shift + Arrow left/right in track modes moves the selected track to the left/right (but only in the page).
  - New: Added option to ribbon modes 'Last Touched'. This allows to change the parameter which editing knob was last touched.
  - New: Mute + Device in device mode toggles the enabled state of the device.
  - New: Disabled devices are now drawn in the background color on Push 2. On Push 1 disabled devices have a prefixed division sign.
  - New: Push 1: Always show full name in track/layer details mode. The track type is now displayed as well.

16.1.0

- Requires Reaper 6.12+
- MCU
  - New: Added hardware profile for Behringer X-Touch.

  - New: EQ calls up new EQ mode which always edits the parameters of the ReaEQ on the track.
  - New: INST calls up new instrument mode which always edits the parameters of the first instrument on the track.
  - New: DROP duplicates the selected track.
  - New: SOLO deactivates all solos, Shift+SOLO deactivates all mutes.
  - New: If 'display track names' is enabled and track mode is active, only the name of the selected track is displayed instead of the volume label.
  - New: Setting to use 7 characters in the display instead of 6 characters and a blank character. Makes sense for devices which do not have one large display but 8 separate ones which have a space in between already.
  - New: Setting 'Display colors (Behringer X-Touch)' enables the display back-light colors on the Behringer X-Touch and X-Touch Extender models.

16.0.0

- Requires Reaper 6.12+
- New: Support for Gamepads!
- All devices
  - New: Changing play position and loop start/length will stick to the closest grid position.
  - Fixed: Crash when there is no device selected.
- Launchpad:
  - New: Improved the 4 step change of virtual faders on already lit pads. It changes now the direction when the maximum or minimum value of the pad is reached instead of wrapping around.

15.6.0

- Requires Reaper 6.12+
- All devices
  - New: A Reaper action was added to open the parameters dialog (assign this to a keyboard shortcut).
  - New: Controller running states are shown with icons and tooltips.
  - Fixed: Reordering parameters (move up/down) in the parameter dialog mapping was not stored.
- Generic Flexi:
  - New: Added functions for controlling ReaEQ equalizer, which is automatically inserted if one of the functions is triggered.
  - Fixed: Updated/corrected the names of CC and MMC commands.
  - Fixed: Resolution was set to 14-bit on first slot when CC was less than 32 on file load.
- Komplete Kontrol Mk1
  - Fixed: Shift+Play to create a new clip did not work.
- MCU
  - New: Option+Toggle Device: Toggle the devices' expanded state.
  - Fixed: 'Selecting a device, does now select it in the device chain' did not work for device navigation.
- MidiMonitor
  - Fixed: Updated/corrected the names of CC and MMC commands.
- OSC
  - Fixed: Removed unnecessary inversion of Q-factor parameter. Inverted Q-factor knob in Open Stage Control example template instead.
  - Fixed: Not all EQ parameters did work.

15.5.0

- Requires Reaper 6.12+
- All devices
  - New: Added editor for parameter mapping of devices.
  - New: Selecting a device, does now select it in the device chain.
  - New: Improved speed of opening browser.
  - New: Replaced colored buttons with icons.

15.4.0

- Requires Reaper 6.12+
- Fire
  - New: In Mix mode Mute/Solo 1 moves the play cursor to the start of the arranger loop and Mute/Solo 4 moves the play cursor to the end of the arranger loop.
  - New: In Mix mode the select knob does now change the play position.
- Launchpad
  - New: Improved virtual faders for stepped values.
- MCU
  - Fixed: Wrong setting label *Use vertical zoom to change tracks* but must be *Use vertical zoom to change modes*. Documentation was wrong, too.

15.3.0

- Requires Reaper 6.12+
- Generic Flexi
  - New: Support for MPE.
- Launchpad
  - New: If *Fixed Accent* is active the loop/clip length area now shows 15 velocities. The selected velocity is used when enabling a note in the sequencer.
- Push 1/2
  - New: If *Accent* is active the loop/clip length area now shows 16 velocities. The selected velocity is used when enabling a note in the sequencer.

15.2.1

- Requires Reaper 6.12+
- All devices
  - Fixed: Devices with empty MIDI input or output ports could not be configured.

15.2.0

- Requires Reaper 6.12+
- All devices
  - New: Improved handling of MIDI devices. Missing devices (e.g. if turned off or not connected) are no longer overwritten in the settings. Missing devices are shown as missing in the selection box. Devices are sorted alphabetically. When *Rescan* is pressed and a missing device shows up it is selected. Controllers with missing devices are not started. Missing or not configured ports are shown in the log.
- Generic Flexi
  - New: New functions to select device parameter pages 1-8.
- Launchpad
  - New: Added option to choose action for pressing an empty clip on a record enabled track.
- Mackie HUI
  - New: Added *New Clip Length* setting to be used with footswitch and function-keys commands *New Button* and *Clip Based looper*.

15.1.0

- Requires Reaper 6.12+
- APC40 / APC40 mkII
  - New: Selecting an already selected group track toggles its' expanded state.
  - New: Left cursor + Cue Level knob: Changes arrange loop start (combine with Shift for small changes).
  - New: Right cursor + Cue Level knob: Changes arrange loop length (combine with Shift for small changes).
- Push
  - New: Marker pages can be switched with left/right cursor key (no need to press Shift).
  - Fixed: The open folder icon was missing.

15.0.0

- Requires Reaper 6.12+
- All devices
  - New: Vertical scroll selected tracks into view (not only in mixer).
  - New: Updated to JDK 17.
  - Fixed: There were some issues with markers.
  - Fixed: Data sent on the low-priority thread was not sent when a data refresh was requested.
- Akai Fire
  - Fixed: Some missing settings were not documented in the manual.
- Akai Force
  - New: SELECT + COPY - Creates a new scene.
- Akai Force / MPC
  - New: COPY - Duplicates the selected clip and starts it.
  - New: Undo button is dimmed if undo (or redo with Shift) is not possible.
  - New: Selecting an already selected group track toggles its' expanded state.
  - New: The loop start and length is displayed and can be changed.
- Generic Flexi
  - New: Increased number of slots to 300.
  - New: Selecting an already selected group track toggles its' expanded state.
- Komplete Kontrol Mk2
  - New: Undo button is off if undo (or redo with Shift) is not possible.
  - New: Selecting an already selected group track toggles its' expanded state.
- Launchkey Mk3
  - New: Selecting an already selected group track toggles its' expanded state.
- Launchpad Pro Mk3 / Launchkey Mk3 / Push 2
  - New: Selecting an already selected group track toggles its' expanded state.
  - New: Improved auto detection depending no Linux version.
- Maschine+, Maschine Mk2 / Mk3, Maschine Studio, Mikro Mk3
  - New: Selecting an already selected group track toggles its' expanded state.
  - New: Press Swing button twice to select Arrange Loop Start mode.
  - New: Press Swing button three times to select Arrange Loop Length mode.
  - New: Multiple footswitch support (2 on Mk3 / Plus, 4 on Studio), e.g. use a Boss FS-6 with a stereo cable.
- Maschine Jam
  - New: Selecting an already selected group track toggles its' expanded state.
  - New: Multiple footswitch support, e.g. use a Boss FS-6 with a stereo cable.
- MCU
  - New: Selecting an already selected group track toggles its' expanded state (if track navigation is set to flat).
- Novation Remote SL, Mk I, Mk II, SLMkIII
  - New: Selecting an already selected group track toggles its' expanded state.
- OSC
  - New: Selecting an already selected group track toggles its' expanded state.
- Push
  - New: Selecting an already selected group track toggles its' expanded state.
  - New: Push 1: For group tracks different characters are prefixed to show the opened state of a group track.
  - New: Push 2: Track icon shows the opened state of a group track.
  - New: Select + Tempo knob: Changes arrange loop start (combine with Shift for small changes).
  - New: Select + Position knob: Changes arrange loop length (combine with Shift for small changes).
  - New: Undo button is off if undo (or redo with Shift) is not possible.
  - New: Delete + 1st row buttons in Marker mode deletes marker.
  - New: Improved auto detection depending on Linux version.
  - Fixed: Push 1: *Add Marker* text was missing in marker mode and button LED was not lit.

14.1.0

- Requires Reaper 6.12+
- All devices
  - New: The Debug menu contains now an option to disable reading of the track chunk, which is by default enabled. This fixes issues with large sample plugins in the project (e.g. Kontakt or Omnisphere) but loses track deactivation and record quantization states.
- Generic Flexi
  - New: *Scene: Create Scene:* - Creates a new scene at the end of the scene list.
- Launchpad
  - New: Drum mode: The loop length area has now new functions. There is one red button on the right bottom to toggle the functions on and off. If enabled, the 2nd row contains the previous combination buttons. The first row now allows to toggle note repeat, enable the selection of note repeat period with the Scene buttons, enable the selection of note repeat note length with the Scene buttons.
- OSC
  - New: */scene/add* - Creates a new scene at the end of the scene list.
- Push
  - New: Select+Duplicate: Creates a new scene at the end of the scene list.
  - Fixed: Push 1: Notification messages on the display were canceled too early.

14.0.0

- Requires Reaper 6.12+
- Support for Akai MPC Live
- Support for Akai MPC Live II
- Support for Akai MPC One
- Support for Akai MPC X
- Support for Akai Force
- All devices
  - New: Arrange and launcher overdub on/off are now mapped to MIDI overdub/replace of the selected track.
  - New: Follow playback triggers *View: Toggle auto-view-scroll during playback*.
  - New: Create scene: Is now emulated by inserting a new region marker after the last region marker in the project (or at the beginning of the project if there is no region marker yet). The length is taken from the 'new clip length' setting.
  - New: Duplicate scene: Is now emulated by duplicating all clips in the time range of the region. The new clips are inserted after the current region (all other clips are moved back) and a new region is created for duplicated clips.
  - New: Create scene from playing clips: Is now emulated by duplicating the region which contains the edit cursor (if any).

13.7.0

- Requires Reaper 6.12+
- All devices
  - New: A browser window is now simulated in Reaper, which makes the browser finally usable on devices without a display.
  - New: Browser: Filters for AU and AUi are only shown if present.
  - New: Browser: Categories for JS plugins are integrated in VST categories.
  - New: Improved adding of tracks with devices (faster and more reliable).
  - New: For Instrument tracks input is set to all MIDI inputs and overdub is activated.
  - New: Preserves the index of the selected device when switching tracks, e.g. if the 2nd device on a track is selected, switching to another track will have the 2nd device on this track selected, if one exists.
  - New: Tracks can now be pinned.
  - New: Improved output message when Java DLL could not be loaded.

  - Fixed: Browser preset selection was wrong when there were more than 9 presets.
- Beatstep
  - Fixed: Play button did not work.
  - Fixed: The template had set the wrong global MIDI channel (1 instead of 3).
  - Fixed: The manual missed the command tables for all modes.
- Generic Flexi
  - New: MIDI channel can be set to All but this will disable the reflection of the value to the device.
- Launchpad
  - Fixed: Clips in session mode were always shown in orange when not playing.
- Push 2
  - New: A pinned track shows a pin as its' icon.

13.6.0

- Requires Reaper 6.12+
- All devices
  - Fixed: Metronome volume could not be changed.
- Fire
  - New: Multiple notes can be selected for editing.
- Komplete Kontrol MkI
  - Fixed: Scale LEDs were not set correctly.
- Launchpad
  - New: The note repeat octave range can now be changed in the Shift Mode (the two red buttons right to note repeat on/off).
  - Fixed: Tempo and Swing values could not be changed.
  - Fixed: Chord mode: additional notes did not respect the velocity (accent) setting.
- Maschine / Mikro Mk3
  - New: Multiple notes can be selected for editing.
  - New: Mute+Pad in Sequencer toggles the mute state of the note.
  - New: Sequencer colors in drum and note sequencer are harmonized. Muted notes are gray. The selected notes to edit are yellow.
- Maschine JAM
  - New: Mute+Pad in Sequencer toggles the mute state of the note.
- Push
  - New: Mute+Pad in sequencers toggles the mute state of the note.
  - New: Selected notes in sequencers are now lit in yellow.
  - Fixed: Could not switch pages with Shift+Left/Right.
- Novation SLMkIII
  - New: Added knob speed settings.
  - New: Selected notes in sequencers are now lit in yellow.

13.5.0

- Requires Reaper 6.12+
- All devices
  - Fixed: Playing notes showed errors in the log.
- Launchpad
  - Fixed: Mix mode was left straight after entering it.
- Launchkey Mini Mk3
  - New: The upper part of the mode selection view provides additional functions: Toggle metronome, Tap Tempo, Undo, Redo, Quantize, Add instrument, audio and effect track.
  - Fixed: Custom Modes were not displayed on change.
- Launchkey Mk3 / Mini Mk3
  - New: Added option for the action to execute when stopping playback.
- Push 1/2
  - New: Multiple notes can now be edited in sequencers. Use the select button in combination with a

sequencer note pad.
  - New: To decrease ratcheting use now Shift + Select + Sequencer note pad.
  - New: Notes in Poly Sequencer can now be edited, too.
  - New: Renamed first note edit page to 'Common'. Set gain to 50% when resetting (was 0%).
- Novation SLMkIII
  - New: A new clip can be created from the track menu.
  - New: Long press a note in the sequencer to edit the note

13.0.1

- Requires Reaper 6.12+
- All devices
  - Fixed: Certain notification messages could crash devices with text display.
- Generic Flexi
  - Fixed: Toggling a value with a MIDI note did not work if Note off (0x80) was sent on note release.
- Maschine JAM
  - New: Removed blinking from playing clips.

13.0.0

- Requires Reaper 6.12+
- All devices
  - New: Muted notes are lit in gray in all sequencers.
- Maschine
  - New: Smoother update of note edits.
  - Fixed: Changing note velocity could delete note when set close to 0%.
- Push 1/2
  - New: Smoother update of note edits.
  - New: Support for editing note mute state.
  - Fixed: Changing note velocity could delete note when set close to 0%.

12.3.2

- All devices
  - Fixed: Track parameters were still shown when the plugin was deactivated
- Fire
  - Fixed: Pattern up/down button did trigger twice.
- Launchkey Mini Mk3
  - Fixed: Navigation with Shift+Track left / right was broken.
- Launchpad
  - Fixed: Exiting birds-eye view did also toggle session flip.
- Launchpad Pro Mk3
  - New: Fixed Length + Track buttons creates new clips of different lengths.
- Maschine (except Mikro)
  - New: Mk2: Step-left+Select: Toggle note edit (reload the template!).
  - New: Select + Pattern: Select the clip without starting it.
  - New: Select + Scene: Select the scene without starting it.
  - New: Select + Drum Pad: Select the drum without playing it.
- Push 1/2
  - New: Select+Pad in session mode displays the name of the selected clip (if it has one).

12.3.1

- All devices
  - New: Improved long press delay depending on system.
- APC, Fire, Maschine Jam, Maschine
  - New: Shift mode can be operated with one hand. Press and release the Shift button to activate shift mode. Execute Shift actions. Press Shift again to disable Shift mode. Button combinations

can still be used as before.
- Generic Flexi
  - New: Improved labels of relative modes in selection box
  - Fixed: Speed of relative knobs in low-res CC mode was much too slow.
- Launchkey Mk3 / Launchkey Mini Mk3 / SL MkIII
  - New: In the step view of the drum sequencer change the note length or create long notes by pressing a note pad, keep it pressed, wait a bit and then press a pad right to it.
  - New: Longer notes are drawn in a different color.
- Maschine
  - Fixed: Changing note length in sequencers did not work.
  - Fixed: Tempo fractions were truncated.
- MCU
  - Fixed: Fixed a weird edge case when a device (specifically Korg nanokontrol 2) sends maximum speed for knobs.
- Remote SL Mk2
  - Fixed: Long notification messages were truncated

12.3.0

- Launchpad
  - Fixed: Poly aftertouch did not work.
- Maschine
  - New: Added support for Maschine Studio!
  - New: Shift+Mixer toggles the device panel.
  - New: Shift+Macro creates a new clip on the selected track and slot and starts playback (like Macro but without enabling overdub).
  - New: Improved simulator layout of Mk2.
  - Fixed: Rec+Group buttons did also execute the record action.
  - Fixed: Poly aftertouch did not work.
- Push
  - Fixed: Poly aftertouch did not work.

12.2.2

- Maschine+ / Mk3
  - New: Last touchstrip mode is remembered when switching between categories (Pitch, CC, Note Repeat).
  - Fixed: Mapping of user parameters did not work.
  - Fixed: Touchstrip did not update, reinstall the template!
- Novation SLMkIII
  - Fixed: Improved project left/right label.
- Push
  - Fixed: Color selection did trigger the pad release event on the previous grid mode.

12.2.1

- Maschine JAM
  - New: Swing button is lit when Groove is enabled.
  - Fixed: Velocity mode was shown on pressing perform, notes and tune but should not.
  - Fixed: Changing values with encoder and perform, notes and tune did not work.
  - Fixed: Cursor LEDs were not lit (requires installing the updated template!).

12.2.0

- All devices
  - Fixed: Switching between effect and track bank could leave the parameters unassigned in some cases.
  - Fixed: Settings were duplicated in the project dialog after a configuration dialog was opened.

- Akai Fire
  - New: Note editing mode is now de-/activated with Alt+Step or Alt+Drum (no more long pressing notes). After that select the note to edit by pressing it.
  - New: In note editing mode Alt+1st knob changes the pressure, Alt+2nd knob the timbre and Alt+4th knob the release velocity.
  - New: Metronome + Select knob: Change the play position.
  - New: Metronome + Shift + Select knob: Change the play position in small steps.
  - Fixed: Tracks could not be changed if the 16 tracks mode was active.
- Maschine JAM
  - New: Added new sequencers Drum 4, Drum 8, Poly and Raindrops (keep STEP pressed and use scene buttons).
  - New: Added new play modes Chords, Piano and Drum 64 (keep PAD MODE pressed and use scene buttons).
  - New: Lock enables the velocity setting. Keep lock pressed to show and change the velocity options.
  - New: Cursor keys respect the session flip state.
  - New: Cursor keys left/right change the layout in play view.
  - New: Cursor keys left/right change the selected page in sequencers.
  - New: Cursor keys up/down change the note range in sequencers and play modes.
  - New: Added option to dis-/enable to display clips of record enabled tracks in red.
  - New: Add option to turn off empty drum pads: if enabled the pad LEDs are off otherwise empty drum cells are displayed in gray.
  - New: Shift + AUX: Toggles between instrument/audio and effect tracks.
  - New: The selected sequencer or play mode is remembered when switching tracks.
  - Fixed: Blinking of pads was missing, therefore e.g. play state on grid was not visible.
- MCU
  - New: Added option to assignable buttons to toggle the motor faders on/off.

12.1.0

- Fire, Maschine, Push
  - New: Editing note pitch changes now in 0.1 steps independent of the knob speed setting.
- Maschine+
  - New: Now supported by DrivenByMoss! I still don't have one, so fingers crossed that it works.
- Maschine Mk2
  - New: Now supported by DrivenByMoss!
- Maschine Mikro Mk3
  - Fixed: Stop button did not emulate Shift button.

12.0.0

- Generic Flexi:
  - Fixed: Feedback of track mode was wrong.
- Maschine JAM
  - New: Now supported by DrivenByMoss!
- Maschine Mk3 / Maschine Mikro Mk3
  - New: Renamed template to *DrivenByMoss*.
  - New: Added option to configure record and shift+record in the settings.
- Maschine Mk3
  - New: The Shift button is working!
  - New: Group buttons display now the button combination state (solo/mute/rec arm).
  - New: Rec+Group button toggles rec arm.
  - New: Shift+Solo clears the Solo state on all tracks.
  - New: Shift+Mute clears the Mute state on all tracks.
- Kontrol Mk1
  - Fixed: Out of scale notes were lit.

11.8.0

- Requires Reaper 6.12+
- APC40, Kontrol MkI, Push
  - Fixed: Changing selection displayed *None* message.
- Launchpad
  - Fixed: Aftertouch was not working.
  - Fixed: First parameter fader column is now red again (had the same color as the 2nd column).
- Mackie HUI
  - New: Added support for up to 3 HUI devices. E.g. several Yamaha DM mixers use this.
  - New: Added setting to turn off sending the ping message.
  - Fixed: Jog Wheel direction was inverted.
  - Fixed: Master fader did not work.
- Mackie MCU
  - New: Track navigation can now be switched to hierarchical in the settings (requires restart). Press the select button again to enter a folder. Long press any of the select buttons to leave the folder.
- Maschine Mk3 / Mikro Mk3
  - Fixed: Aftertouch did not work. For the Maschine Mk3 also reload the template, which contained wrong notes for aftertouch!
- SL MkIII
  - Fixed: Added correct lookup names on Linux.

11.7.3

- Requires Reaper 6.12+
- All devices
  - New: Newly added tracks now get a color.
- APC40/mkII
  - Fixed: Switching track bank in session mode did leave session mode.

- Komplete Kontrol MkI
  - Fixed: Linux: Fixed USB access rights in rules file.
- Launchpad
  - Fixed: Incorrect and missing on-screen notifications when cursor buttons were used.
  - Fixed: LED state of scene scroll buttons was incorrect in scene mode.
  - Fixed: If temporary modes were used in session mode, session mode was left on button release.
- Push
  - New: Tracks added via the favorite menu now get the name of the plugin.

11.7.2

- Requires Reaper 6.12+
- Launchpad
  - Fixed: Fixed several issues introduced to the Shift view in 11.7.1.

11.7.1

- Requires Reaper 6.12+
- Launchpad
  - Fixed: Play button in shift view did not work.
- Komplete Kontrol MkI
  - Fixed: Linux: Added USB access rights to rules file and added installation instructions to the manual.

11.7.0

- Requires Reaper 6.12+
- Documentation
  - Clarified installation of the extensions which need to be added manually (Flexi, Auto Color, ...)
- Fire

  - New: Added VU meters to the channel and mixer mode.
  - New: In Mixer mode press Alt+Bank button to switch to a new display mode, which shows the volume, pan and sends of 16 tracks depending on the touched knob. Especially, helpful in the performance mix view. If playback is active and no knob is touched it shows the VU meter activity of all 16 tracks.
- Generic Flexi
  - New: Added support for 14-bit CC values.
  - Fixed: 0x80 as Note off was missing
  - Fixed: Feedback was not send for notes (only CC and pitchbend).
- Komplete Kontrol Mk2
  - Fixed: Shorten device and page names in parameter mode to prevent too long text.
- Launchpad
  - New: The loop area in the drum sequencer was shortened by 4 pads. These 4 pads can now be used in combination with the play area. From left to right they provide the following functions: select a drum pad without playing the sound, mute the drum pad, solo the drum pad, open the browser for the drum pad. With Reaper only selection is functional.
- MCU
  - New: Hold arrow left/right and turn the jog wheel to zoom in/out
  - New: Hold arrow up/down and turn the jog wheel to change the track height
- OSC
  - New: Added /track/{1-8}/duplicate to duplicate a track.
  - New: Added /track/{1-8}/clip/{1-8}/duplicate to duplicate the clip.
  - New: Added /device/duplicate to duplicate the device.
  - New: Added /scene/{1-8}/remove to remove/delete the scene.
  - New: Added /track/{1-8}/clip/{1-8}/create {beats} creates a new clip, activates overdub and starts it.
  - New: Added /clip/create {beats} creates a new clip, activates overdub and starts it.
- Push
  - New: Push 2: VUs of muted tracks are drawn in the mute-color.

11.6.1

- Requires Reaper 6.12+
- All devices
  - New: Added AU ARM devices to browser.
  - Fixed: AU devices were missing from location browser column.
- APC40/mkII
  - New: Select Session mode again when already in Session mode to dis-/activate birds-eye view, which allows to quickly navigate the session grid.
  - Fixed: MkI: All clips did blink not only the selected one.
  - Fixed: Cursor up/down was mixed up in the simulator.
- APCmini
  - Fixed: Selecting a mode did still send the pad up event to the new mode and e.g. started a clip in session mode.
  - Fixed: Selected mode was not always displayed correctly.
  - Fixed: Play/Stop did not work.
- Launchpad
  - Fixed: Drum 64 mode: Selected pads in the right bottom corner were lit in the left upper corner.
- Push
  - New: Added device types to favorite selection.
  - New: Added AU ARM devices to favorite selection.
  - Fixed: AU plugins were missing from favorite selection.
  - Fixed: Drum 64 mode: Selected pads in the right bottom corner were lit in the left upper corner.
  - Fixed: Clip parameters could not be slowly changed with Shift.

11.6.0

- Requires Reaper 6.12+
- New: Supports now Macos on ARM!
- All devices
  - Fixed: Removed dependency on SWS for duplicating clip content and deactivating track.
- APC40mkI/mkII
  - New: The selected clip in the session is now glowing white (mkII) or blinking yellow (mkI).
- Fire
  - New: The selected clip in the session is now blinking white (if not played back or recording).
- Generic Flexi
  - Fixed: Resolution for relative knobs was limited to 128 steps.
- Launchkey Mk3
  - New: Fader button is glowing if the track is selected.
  - New: Fader buttons are turned off if track does not exist.
- MCU
  - New: If *Select Channel on Fader Touch* is set to *Off*, touching the master fader is ignored as well.
- Push
  - New: Adding a track has now a menu which allows to add favorite devices. These favorites can be configured in the settings.
  - New: The selected clip in the session is now glowing white (if not played back or recording).

11.5.2

- Requires Reaper 6.12+
- APC40mkI/mkII
  - New: Press **Stop Clip** + Pad In Session Mode to delete the clip.
  - New: Press **Select** + Pad In Session Mode to duplicate the clip.
- Launchkey Mk3
  - New: Press **Undo** + Pad In Session Mode to delete the clip.
  - New: Scenes/Clips scroll now by 1 instead of 2, which is a bit less confusing.
- Launchpad
  - New: Temporary session mode: if any mode except session is active, hold the session button and then start a clip or scene. When the session button is released the previous mode is restored.
- Maschine
  - Fixed: Could not scroll browser results.
- MCU
  - New: The scaling of the VU meters is now in the range from -60 to +6dB like in the Reaper mixer display.

11.5.1

- Requires Reaper 6.12+
- All devices
  - New: Added 128 dummy drum channels to the drum pad bank. This allows e.g. to scroll now the rows of the drum sequencer of the Akai Fire.
  - Fixed: User parameters could not be changed.
- APC40
  - New: Knob LEDs are totally turned off if parameter does not exist.
- Fire
  - New: In Note Sequencer **Shift + Grid buttons** change the Scale, **Shift + Alt + Grid buttons** change the Scale Base key. For consistency the button combinations in Play and Piano modes are adjusted accordingly.
  - New: Use **Shift + Select knob** in note and Poly Sequencer mode to transpose notes of clip up/down.
  - Fixed: Channel parameters did not get reassigned when drum pad was changed.
  - Fixed: Selection got lost when scrolling too fast through drum pads in drum sequencer.
  - Fixed: Wrong parameter name was shown in combination with ALT button.

- Generic Flexi
  - New: Added functions to toggle user parameters between minimum and maximum value.
- Launchpad
  - Fixed: Tap tempo in Shift Mode did not work.
- Maschine Mk3 / Mikro Mk3
  - New: Channel and Polyaftertouch of the pads are now routed to Reaper.
- Push
  - Fixed: Device data on Info page was not displayed.

11.5.0

- Requires Reaper 6.12+
- Komplete Kontrol Mk2
  - New: Allow all MIDI channels for the keyboard, so far only channel 1 was enabled.
- Launchkey Mk3
  - New: Added support for models 25, 37, 49 and 61
- Launchkey Mini Mk3
  - Fixed: Session clip indication was no enabled.
  - Fixed: Improved contrast between selected and unselected scene.
  - Fixed: Long pressing a mode pad did crash.
- Launchpad
  - Fixed: Pro Mk3: *Fixed Length* button was missing in simulator.
- APC40, Fire, HUI, MCU, Kontrol MkI/MkII, SL MkIII
  - New: Double click the *stop* button when playback is stopped to move the play cursor to the end of the project.

11.0.0

- Requires Reaper 6.12+
- All devices
  - Fixed: 8th layout for scales which do not have 7 intervals was not aligned correctly (Push, Launchpad, APC).
- Launchpad
  - New: Press the 4th scene button (green) in the play mode to activate additional controls in the first pad row. First pad toggles sustain. Second and third pad are pitch down/up and the following pads switch to different intensities of the modulation wheel. You can slide these modulation wheel pads to imitate a modulation wheel.
  - New: Press the 5th scene button (amber) in the play mode to activate chords mode. This mode allows to play a chord by pressing a single pad. The base note is taken from the current scale and increases from left to right. The rows from bottom to top contain the following chords: Triads, Dyads (Power chords), Suspended second (Sus2), Suspended fourth (Sus4), Add sixth (6), Major seventh chord (maj7), Add ninth (9), Add eleventh (11). The same octave, scale and base note settings apply as with the play mode.
  - New: Pro Mk3: *Fixed Length* button triggers the New clip command.
  - New: The mode strip in session view is now displayed vertically if session is flipped (in the 8th column).
  - New: Show the flipped state in Bitwig when Session is activated from a different view.
  - New: Scrolling in Birdseye view is now per page.
  - Fixed: Birdseye view in session mode should not display mode button row.
- Push
  - New: Added chord mode. Press Note and select *Chords* to enable it or use the Layout button. Functionality is like described above for the launchpad.
  - Fixed: Push 2: Selected play view for a track was not remembered when changed via the Layout button.

10.9.6

- Requires Reaper 6.12+
- All devices
  - Fixed: Some configuration values were not initialized correctly after startup (e.g. LED brightness).
  - Fixed: Global settings were not stored when changed from the controller.
- APC40 MkI
  - Fixed: Drum sequencer crashed.
- Launchpad
  - New: First button in Shuffle view toggles now Shuffle grid.
  - Fixed: Shuffle view could not be closed.
- MCU
  - New: Toggle **Use faders like knobs** has been moved to the Flip button to be more consistent with the intended MCU behavior. Toggling instrument/audio and effect tracks is now on Shift+Flip.
- Midi Monitor
  - Fixed: Crashed on startup.
- OSC
  - Documented all OSC commands in the manual.
  - New: New command for send **/clip/exists {0,1}**
  - New: New command for send **/clip/color** with rgb(r,g,b); r,g,b = 0..255.
  - New: New command for receive **/clip/{+,-}**.
  - New: New command for receive **/clip/launch**.
  - New: New command for receive **/clip/record**.
  - New: New command for receive **/clip/quantize**.
- Push
  - Fixed: Pin button LED was lit in track details mode which is not supported with Reaper.

10.9.5

- Requires Reaper 6.12+
- All devices
  - Fixed: Naming of attributes in DrivenByMoss settings files could be wrong depending on the OS' language locale (e.g. Turkish locale), which could have some strange side effects like e.g. sequencers not working. If this is the case for your OS check the controller settings after the update.
- Fire
  - New: The brightness and the color intensity of the pads can be adjusted in the settings.
- Push
  - New: The Groove mode allows now to dis-/enable the arrange swing grid and set the amount.

10.9.4

- Requires Reaper 6.12+
- All devices
  - Fixed: Switched to TAR files for Linux and Macos to preserve the permissions of the Java runtime files.
- Launchkey Mini Mk3
  - New: Added options to choose the function for the record and shift+record button.
- Generic Flexi
  - New: Replaced Select/Export/Import buttons with Load/Save buttons.
  - Fixed: File dialogs did not work on Linux.
  - Fixed: Dialog height was *jumping* between two heights until it was manually adjusted.

10.9.3

- Requires Reaper 6.12+
- All devices
  - Fixed: First track was renamed to 'Track' when first loading a project after startup.
  - Fixed: Implemented a workaround for pitchbend messages on Linux.
  - Fixed: Crash when a clip without a take was on a track.

- Novation SL MkIII
  - New: Shift + Play toggles write automation.
- OSC
  - New: Added new command /track/{1-8}/remove
  - New: Added new command /device/remove
- Push 1/2
  - New: Improved the layout of the Groove mode.

10.9.2

- Requires Reaper 6.12+
- All devices
  - Fixed: Changed that resetting volume sets it to 0.0dB (was -5.6dB).
  - Fixed: Setting absolute faders controlled by CC was broken.
- MCU
  - Fixed: Scrolling in browser did always jump between first and last item.

10.9.1

- Requires Reaper 6.12+
- Macos
  - New: Library is now a universal binary for Apple Silicon / Intel. Which is currently of no use since there is no Reaper version and no JDK version available.
- APCmini
  - Fixed: Switching modes was broken.
- Beatstep
  - Fixed: Changing scale base note did only work in one direction.
- Fire
  - New: Activate delete mode and press the select knob to delete the currently selected device.
  - Fixed: Don't apply knob speed settings in Browser mode.
- Generic Flexi
  - New: Display parameter changes for Note Input functions.
  - New: Scale Note Input period and length to 127 for better use with absolute faders and knobs. If you assigned these to multiple buttons you need to update their values.
- Launchpad
  - Fixed: Duplicating notes in Poly Sequencer did create notes with velocity of 0 for all notes.
- Push
  - Fixed: Duplicating notes in Poly Sequencer did create notes with velocity of 0 for all notes.

10.9.0

- Requires Reaper 6.12+
- All devices
  - Fixed: Reduced compression of JDK to 1 (was 2) to prevent crash on some Windows 10 systems.
- Fire
  - New: In Shift mode the 10th button of the first row (blue) activates duplicate mode. Can be used with the first row of the Mix mode to duplicate tracks and with clips in the Session mode.
  - New: In Shift mode the 12th button of the first row (red) activates delete mode. Can be used with the first row of the Mix mode to delete tracks and with clips in the Session mode.
  - New: In Shift mode the 11th button of the first row (green) doubles the content of the currently selected clip.
- Midi Monitor
  - Fixed: Displayed note octave was wrong for Note on/off and Poly aftertouch (e.g. showed C6 instead of C4).
- MCU
  - New: Added User mode. Press Device button twice to activate user mode.

- OSC
  - New: Added /update before and after each update cycle (if there is at least 1 update message).
  - New: /track/{1-8}/name {text} - Set a new name for the track
  - New: Open Stage Control template: name of track can be set
  - New: Open Stage Control template: added data receive indicator LED to transport bar
- SL MkIII
  - Fixed: Light guide was only drawn black but not turned off on the hardware when disabled in the settings. The hardware light guide can now used again when the settings is disabled.

10.8.0

- Requires Reaper 6.12+
- All devices
  - New: Support for AU devices in browser on Macos.
  - Fixed: Resetting volumes sets them to 0dB (was -Inf) and pan to center (was full left).
- APC40
  - Fixed: Changing tempo in combination with Shift button left the shift mode active.
- Launchpad
  - Fixed: Crash when session mode was flipped and 8th row was active
  - Fixed: Session grid was off by 1 if 8th row was active and long press was used (also crashed on 1st row).
  - Fixed: Stop all clips button was missing in Shift mode on Pro models.
- Maschine Mk3
  - Fixed: Scene, pattern and fixed velocity with encoder knob did behave erroneous.
- MCU
  - Fixed: Page Up/Down (MCU MODE EQ / DYN) did not work.
- SL Mk I + II
  - New: Show all tracks in volume mode (no need to switch between instrument/audio tracks and master).
  - Fixed: Crash in sequencer/play mode.
- SL MkIII
  - New: Out of scale keys of the light guide can now also be lit in dark gray. Select *Chromatic* in the document settings.
  - Fixed: Switching modes did not work with single button presses.

10.7.4

- Requires Reaper 6.12+
- All devices
  - New: Support for absolute metronome volume changes (e.g. MCU). Relative changes do no longer require SWS to be installed (e.g. Push). The metronome volume text description is still not updated (always shows -6.0dB).
- APC40
  - Fixed: Coloring of Tempo mode in simulator was wrong.
- Fire
  - New: Added knob speed settings
  - Fixed: Note was always created with velocity of 0 in drum sequencer (except when Accent was enabled).
- OSC
  - Fixed: Changing bank size did not work.

10.7.3

- Requires Reaper 6.12+
- All devices
  - New: Windows 10: Updated to latest JDK15 nightly build, which should fix the startup crash on

older Windows 10 installations.
  - New: Parameter mapped knobs/faders display their value in the simulator.
  - Fixed: Notification message display time was too short (since message was canceled straight away).
- APC40
  - New: Display Send index and name as well as user pages when changing to these modes.
  - Fixed: Crash when switching to effect tracks.
  - Fixed: Mk2: Do not switch to next Send when Send button was used in combination with track selection (to select Send N).
  - Fixed: Mk2: Last send mode was not remembered when changed with track selection combination.
- Launchpad
  - New: The behavior of duplicating a clip has changed. After selecting the source clip, press any free clip on the grid. The source clip will be duplicated at the end of the clips' track.
- Push
  - New: The behavior of duplicating a clip has changed. After selecting the source clip, press any free clip on the grid. The source clip will be duplicated at the end of the clips' track.
  - Fixed: Select button is now blocked in Browse mode since it does not have any function in that mode and left the extension with a blank screen when accidentally pressed.

10.7.2

- Requires Reaper 6.12+
- AutoColor
  - Fixed: Crashed on startup
- Komplete Kontrol
  - Fixed: Crashed on startup

10.7.1

- Requires Reaper 6.12+
- APC40 / APC40 mk2
  - New: APC40 mk2: Select user mode pages now with User+Select 1-8. Cursor keys change tracks like in pan and send mode.
  - Fixed: Pressing notes in drum sequencer for editing did always select notes in the first sequencer row.
- Launchpad Pro Mk3
  - Fixed: (Regression in 10.7) Mode selection did not always work
- Push 2
  - New: The 4th/8th send name is now always displayed if the current tracks are not inside of a group. Furthermore, it is displayed if the 8th knob is touched.

10.7.0

- Requires Reaper 6.12+
- NI Kontrol Mk 1
  - New: Added settings for knob speed
- NI Kontrol Mk 2
  - New: Knob speed settings are now from -100 to 100
- Launchpad
  - Fixed: Pro Mk3: The last selected play / sequencer mode was not restored
  - Fixed: Volume, Pan and Sends view was canceled when track selection changed.
  - Fixed: LED lighting of up/down buttons in scene and mix mode was wrong
- MCU
  - New: Added settings for knob speed
- NI Maschine Mk3
  - New: Added settings for knob speed
- OSC
  - Fixed: /vkb_midi/note/{0-127}/color did not send scale colors, only played notes

  - Fixed: Page size of user parameters was not changed (was always 8)
- Push 2
  - Fixed: Shutdown of the display process did not always exit cleanly

10.6.4

- Requires Reaper 6.12+
- Push
  - Fixed: Grid resolution could not be changed in drum modes

10.6.3

- Requires Reaper 6.12+
- All devices
  - Fixed: Raindrop sequencer did crash if more measures than 32 or 32 with 1/32t and 1/32 were used. The later issue is fixed and the first issue get blocked (only 32 measures get filled).
  - Fixed: Drum 4 / Drum 8 - setting note length on the grid was broken
- Akai Fire
  - New: Displays the number of the edit page when switching to the previous/next.
  - Fixed: Crash in browser when select knob was released.
- Launchpad
  - New: Updated documentation images
  - New: Added fixed accent option to the settings
  - New: Fixed accent can be toggled with the yellow pad in the right upper corner of the shift mode
- Push 2
  - Fixed: Long press delay was about double the time as with Push 1

10.6.2

- Requires Reaper 6.12+
- Akai Fire
  - New: Shift + Scene: Selects the scene without starting it.
  - New: Selecting or starting a scene shows its' name in the display.
- Launchpad
  - New: Display the track number and name on track selection.
  - New: Display the function of the selected row in Mix mode.
  - Fixed: Not all selected modes were displayed in Reaper and some names showed Session.
  - Fixed: Mix view was canceled when track selection changed.
  - Fixed: Long pressing a pad in a fader mode caused the selection of a track.
- Push
  - New: Note Repeat + Scene - Change note repeat period
  - New: Shift + Note Repeat + Scene - Change note repeat note length

10.6.1

- Requires Reaper 6.12+
- All devices
  - New: The crossfader controls the 1st track FX parameter on the master track.
  - Fixed: FX parameters (user parameters) on the master track could not be changed.
- Akai Fire
  - Fixed: Removed session flip option, which did crash.
  - Fixed: Also prevent deletion of note in sequencer when knob was touched but not turned.
- APC40MkII
  - New: Scene buttons are lit in the color of the scene (region).
- Komplete Kontrol MkI
  - Fixed: Interpretation of knob speed was wrong.

10.6.0

- Requires Reaper 6.12+
- APC40 / APC40MkII
  - Fixed: Insert device before / after current from Shift mode did crash.
  - Fixed: APC40: Shift+Stop All Clips did open the browser to insert before the device instead of replacing the current.
- Akai Fire
  - New: **Alt + Stop** - Toggle arranger automation write
- OSC
  - New: Added equalizer commands (uses first ReaEQ device on a track)
    - /eq/... - All values/commands available for /device
    - /eq/add - Add an ReaEQ device as the last device on the track
    - /eq/type/{1-8} - Set/get the band type (off, lowcut, lowshelf, bell, highcut, highshelf, notch)
    - /eq/freq/{1-8} - Set/get the frequency of the n-th band
    - /eq/gain/{1-8} - Set/get the gain of the n-th band
    - /eq/q/{1-8} - Set/get the q-factor of the n-th band
  - New: Added example Open Stage Control template for equalizer control

10.5.0

- Requires Reaper 6.12+
- APCMini
  - New: Long press a pad in session mode to select the clip without starting it.
- APC40 / APC40MkII
  - New: Long press a pad in session mode to select the clip without starting it.
  - New: Tempo is displayed on grid when tempo is changed
  - New: APC40: Tap Tempo + Cue Level changes tempo
  - Fixed: APC40: *Shift+Stop All Clips* did not open the browser
- Akai Fire
  - New: Long press a pad in session mode to select the clip without starting it.
  - Fixed: Drum sequencer crashed when changing note length on the grid
- Komplete Kontrol MkII, A-Series / M32
  - Fixed: Lookup of Komplete instance did not work.
- Launchpad
  - New: Long press a pad in session mode to select the clip without starting it.
  - Fixed: Modes could only be activated once (non-pro models)
- Novation SL MkIII
  - New: Long press a pad in session mode to select the clip without starting it.
  - New: The light guide displays the scale notes. The scale can be selected in the document settings.
  - New: The light guide can be turned off in the settings.
- Push
  - New: Long press a pad in session mode to select the clip without starting it.
  - Fixed: Exception when selecting a drum pad
  - Fixed: Temporarily activating session mode did only work for starting clips but not for starting scenes.
  - Fixed: Long pressing a pad in Drum 4 mode to edit the note did not work.
  - Fixed: Add Device/Effect did call Replace effect instead of Insert.

10.2.0

- Requires Reaper 6.12+
- All devices
  - New: All settings are now documented in the manual.
- Akai Fire
  - New: Pressing Select knob toggles the window of the current device.
- MCU
  - New: Footswitches and Functions keys can now execute an Action. Select *Action* from the list,

then select the Action from the list below.
  - New: Option to disable Master VU (iCON extension)
  - Fixed: New function did not work
- OSC
  - New: Updated the Open Stage Control template for Open Stage Control 1.0.0. VU meters are now gray if track is muted.
  - New: /action/{1-8}/ to execute 8 different Actions.
  - Fixed: /automationWriteMode was broken
- Push
  - Fixed: Device and Parameter navigation was broken

10.1.0

- All devices
  - Fixed: Replaced a special # character (e.g. from Diatonic Transposer) with the normal ASCII #.
  - Fixed: Prevent to display identical on-screen messages
- APCmini
  - Fixed: Scene buttons were not lit
  - Fixed: Drum sequencer crashed
- Komplete Kontrol MkI
  - Fixed: Several crashes when activating Scale due to not configured colors
  - Fixed: Light guide did not work correctly when keyboard was transposed
- MCU
  - New: *use faders as knobs* and *Marker mode* functions display their state on the screen if toggled.
  - Fixed: Do not select tracks on fader touch if *use faders as knobs* is active.
- Maschine Mk3
  - New: **Channel** - Insert a new instrument channel (was File)
  - New: **Stop + Channel** - Insert a new audio channel
  - New: **File** - Saves the project (was Stop + File)
  - New: **Page left / right** moves to the previous/next clip on the selected track (moved the scene page before)
  - New: **Stop + Page left / right** moves to the previous/next clip page
  - New: **Stop + Volume** - Toggles VU meter display
  - New: Scale and Note Repeat settings are displayed and can be edited with knobs
- Mikro Mk3
  - New: In track and parameter selection modes the selected tracks/parameters blink.
- Maschine Mk3 / Mikro Mk3
  - New: Play mode is now accessed by pressing *Keyboard*. Press again for play configuration mode.
  - New: Drum mode is now accessed by pressing *Pad Mode*. Press again for drum configuration mode.
  - New: Activating Step provides a step sequencer for the currently selected *drum machine cell* or the last played note if *Keyboard* is active. Follow button provides grid resolution setting and page selection.
  - New: Chord button enables chords in play mode. Note of pad adds 2 thirds on top.
  - New: **Stop + Rec** - Start recording a clip in the currently selected (empty) slot
  - New: *Sequential up* is now the default play layout
  - New: **Erase** - Does no longer trigger Undo. Use **Stop + Pad 1** instead.
  - New: To change bank pages turn the encoder and keep the related button pressed (scenes - *Scene*, clips - *Pattern*, tracks - *Select, Solo or Mute*))
  - New: In the parameter selection (*Variation* button) use the top row pads to switch devices and parameter pages. The parameter pads are now colored in the Bitwig parameter colors
  - New: **Stop + Pad 1 (Undo)** - Undo
  - New: **Stop + Pad 2 (Redo)** - Redo
  - New: **Stop + Pad 5 (Quantize)** - Quantize the selected MIDI 100%
  - New: **Stop + Pad 6 (QUANTIZE 50%)** - Quantize the selected MIDI 50%
  - New: **Stop + Pad 9 (CLEAR)** - Deletes all MIDI notes from the selected MIDI clip

  - New: **Stop + Pad 13 (SEMITONE -)** - Transpose the selected MIDI clip a semitone down
  - New: **Stop + Pad 14 (SEMITONE +)** - Transpose the selected MIDI clip a semitone up
  - New: **Stop + Pad 15 (OCTAVE -)** - Transpose the selected MIDI clip an octave down
  - New: **Stop + Pad 16 (OCTAVE +)** - Transpose the selected MIDI clip an octave up
  - New: Keep **Fixed Vel** pressed and turn the encoder to change the fixed accent value
  - New: Pressing Stop flushes the whole state (display / buttons) to the device. This helps when you switch to MIDI mode and the DAW state changed meanwhile, since there is no way to get the information that the user switches to MIDI mode.
  - New: **Auto** - Toggle write arranger automation.
  - New: **Shift + Auto** - Toggle write clip launcher automation.
  - New: **Lock** - Toggle arranger overdub.
  - New: **Shift + Lock** - Toggle clip launcher overdub.
  - Fixed: *Sequential ^* and *Sequential >* scale layout were using 8 not 4 pads
  - Fixed: Auto and Lock buttons did not respect the setting "Flip arranger and clip record / automation"

10.0.0

- All devices
  - Fixed: MIDI arpeggiator got unnecessarily instantiated on project load even if Note Repeat was off
  - Fixed: Scrolling track bank by 1 was not implemented (e.g. MCU)
- The manual has now a *known issues* section
- New: Support for Akai Fire
- New: Support for Native Instruments Maschine Mk3
- Akai APC40 / APC40mkII
  - Fixed: User mode did not work
- Maschine Mikro
  - New: Show more on-screen notifications (Tap Tempo, Fixed Velocity, value change speed)
  - New: **Stop + Pad Mode** - Selects the previous base note of the scale.
  - New: **Stop + Keyboard** - Selects the next base note of the scale.
  - New: **Stop + Chords** - Selects the previous note layout.
  - New: **Stop + Step** - Selects the next note layout.
  - New: **Stop + Plug-In** - Toggle the window (if any) of the selected device (if any).
  - New: **Sampling** - Brings up the Slice to Drum Machine dialog.
  - New: **Stop + Sampling** - Bring up the Slice to Multi-sample dialog.
  - New: **Auto** - Toggle write arranger automation.
  - New: **Stop + Auto** - Toggle write clip launcher automation.
  - New: **Lock** - Toggle arranger overdub.
  - New: **Stop + Lock** - Toggle clip launcher overdub.
  - New: **Stop + Projects** - Save the project.
  - New: **Tap** - Tap Tempo
  - New: **Stop + Tap** - Toggle metronome
  - Fixed: FX and Master track were missing in Select, Solo and Mute modes
- Push 2
  - New: Increased text size of list elements
- SL MkIII
  - Fixed: Updated MIDI port lookup names on Macos

9.10

- Launchpad
  - New: Support for Launchpad Pro Mk3
  - New: Pads which show states in Shift mode are lit brighter when enabled (Play, Record, Metronome, . . .)
  - New: **Shift+Delete**: Toggle Repeat (was Shift+Duplicate)
  - New: **Shift+Duplicate**: Doubles the clips content

  - New: Simulator layout is now closer to the specific Launchpad model
  - New: In Shift mode, cursor up or down enters the tempo mode. In Tempo mode you can change the tempo with the cursor keys.
  - New: In Shift mode, cursor left or right enters the shuffle mode. In Shuffle mode you can change the shuffle amount with the cursor keys.
  - New: Added record quantization setting (Shift+Quantize)
- Push
  - New: Drum sequencers use the colors of the drum pads of the drum machine device

9.02

- All devices
  - Fixed: reaper-jsfx.ini could not be loaded if it contained non UTF-8 characters
- Push
  - Fixed: Push 2: Message was flickering if no presets matched the filter in the browser

9.01

- All devices
  - Fixed: Crash when closing Reaper device configuration dialog with OK.
- MCU
  - Fixed: Selecting *Mackie Extender* did not work
  - Fixed: Touching multiple faders did not restore Pan mode on release.

9.00

- All devices
  - New: Added setting to hide deactivated tracks (tracks with lock state)
  - Fixed: Retrieval of track lock state (used for active state) was broken
  - Fixed: Potential crash on shutdown of Reaper
  - Fixed: Only add MIDI arpeggiator to track if Repeat is on (was added always if track was selected)
- Akai APC40 / APC40mkII
  - New: Keep a note pressed and use the mode knobs to change the parameters of the note (Sequencer + Drum mode)
  - Fixed: Changing sequencer resolutions with Clip Stop buttons did not work
- Launchpad
  - New: Added a new Mixmode. Press Shift+Session to enable it. This mode contains session modes at once. The rows from bottom to top are: rec arm, solo, mute, clip stop, send 2, send 1, panorama, volume. The panorama and sends pad are only colored for the selected track. Press one of the pads of the upper 4 rows to select a track. Select a volume, panorama or sends pad to activate it and then change its value with the virtual fader of the scene buttons.
  - New: Masterfader in Volume mode now has 4 steps per pad (like the other track faders)
  - New: In Pan mode the scene buttons control now the panorama of the master fader (to be consistent with volume mode)
  - New: Stop Clip buttons are now lit in red if pressed
  - Fixed: 8th row in Session mode was not drawn on startup
- Maschine Mikro Mk3
  - Fixed: Extension did crash on startup

8.98

- All devices
  - Fixed: Values of panorama envelope were flipped (left was right and vice versa)
  - Fixed: Document setting code must not be executed when extension is not running
  - Fixed: Fixed several issues on first startup (when DrivenByMoss is not yet added as control surface)

8.97

- All devices

  - New: Project/document specific settings (e.g. Scale or Note Repeat Settings) are now stored with the project.
  - New: There is now a dialog to edit project/document specific settings (click on the Project button or assign an Action key).
- Launchkey Mini Mk3
  - New: Display user pages when switching in user mode
- MCU
  - New: IMPORTANT: The device MIDI ports are now ordered left to right, which means if your main device is to the right, it needs to be the last!
  - New: You can configure for each of your MCU devices if it should act like the main device (e.g. enable transport controls; you can have multiple) and has now the option to support the specific Mackie extender protocol.
- OSC
  - New: The bank page size can be configured from 1-200.
- Push 2
  - New: Color settings are used in MIDI clip mode. Furthermore, always at least 4 rows are displayed.

8.96

- All devices
  - New: Included PDF manual
  - Fixed: Buttons in the Simulator UI which expect a specific CC value did not work
  - Fixed: Fader/knob touch states were not sent to Reaper
  - Fixed: Some texts were not displayed in the simulator
- APC40 MkII
  - New: Added user mode
- Launchpad
  - Fixed: Do not switch to play mode when changing tracks in Volume, Pan and Send modes.
- MCU
  - New: **Option+Tempo/Ticks** toggles between displaying the time or beats. **Tempo/Ticks** toggles the display of ticks/milliseconds or the current tempo for the last 3 digits. Both are also available in the settings.
  - Fixed: Fixed some issues with fader touch
- Novation SLMkIII
  - New: Added user mode. Long press the UP button and then 8th row button below the display. Page names are configurable in the settings.
- OSC
  - Fixed: /time/str now really sends the time (did send measures before)
- Push 1/2
  - New: Cancel notification message when changing modes
  - Fixed: Position now really shows the time (did display measures before)

8.95

- APC / APCmini
  - Fixed: Fixed a crash in Raindrop sequencer
- Generic Flexi
  - New: Added option to send the LED value even when command is received from the device.
- Komplete Kontrol Mk 1
  - Fixed: Modulation wheel did trigger button press of the main encoder
- Komplete Kontrol Mk 2
  - Fixed: Simulator view did not work
- Launchpad
  - New: Poly Sequencer: Currently played sequencer notes are also lit on the play area
  - Fixed: Note mode menu could not be called up from any drum mode
  - Fixed: Fixed a crash in Raindrop sequencer

- Mackie HUI:
  - Fixed: New command could not be triggered from footswitch
  - Fixed: Simulator GUI did not work
  - Fixed: DO not light LEDs for non-existing tracks
- Push 1/2
  - New: Poly Sequencer: Currently played sequencer notes are also lit on the play area
  - New: When Automation is turned off it is set to Trim/Read instead of Read.
  - Fixed: Shift+New did also activate Record but should not
  - Fixed: Fixed a crash in Raindrop sequencer
  - Fixed: Push 2: Clip Mode in midi grid layout did not show the notes

8.94

- All devices
  - Fixed: Creating sequencer notes was broken
- Generic Flexi
  - New: Commands to edit 64 user parameters (controls track FX parameters). See commands in new category User.
  - New: The MIDI channel for the keyboard (or pads if it is a pad controller) can be explicitly set (previously it was fixed to channel 1). It can also be turned off or set to all. If a MIDI note is mapped to a function on this MIDI channel, the note is blocked from being played. Note: If you have selected All for the channel the note is blocked on all channels!
  - New: Modulation Wheel (CC 01), Sustain Pedal (CC 64) and Pitchbend can now automatically be routed to Reaper. You can now turn them off individually if you want to map them to something else.
- Launchpad
  - New: Option to remove the master track from the track bank (requires restart of extension).
  - New: Pro: Disabled Delete button if used without button combination to prevent accidental deletions.
  - New: Pro: Added user mode (controls track FX parameters). Press USER button to enter. Scene buttons switch between the 8 pages of 8 parameters.
- OSC
  - New: Added user parameters (controls track FX parameters).
  - Fixed: Changing output server/port did still not work.
- Push 1/2
  - New: Added User mode (controls track FX parameters). Allows to map 64 parameters. Press USER button to enter. Setup on Push 1 is now Shift+USER.

8.93

- All devices
  - Fixed: Pressing OK button in configuration dialog removed the extension.

8.92

- All devices
  - New: Added version information to Windows DLL
  - Fixed: Temporary freezes of the Reaper UI with heavy CPU plugins with lots of parameters
  - Fixed: Shutdown was not fully completed after JVM was stopped.
- Launchpad
  - Fixed: Note selection was activated when coming from a non-note mode but should not.

8.91

- All devices
  - Fixed: Pitchbend and Modulation Wheels did not work.
- Generic Flexi

  - New: Improved handling of Program Change as source. For trigger commands also a *button up* is executed; for continuous commands the value of the PC is sent (and not always replaced with 127).
  - New: Patch Bank Selection, see Generic Flexi documentation for more info. But this is currently not that helpful with Reaper since all settings are global.
- Launchpad
  - New: Easier selection of note modes. Pressing the note button brings up a menu where you can directly select the note/sequencer mode. First row (from top) selects play modes, 3rd row drum modes and 5th row sequencer modes.
  - New: Changing note length does now also work in Poly Sequencer
  - New: Inverted back the clip/scene scroll direction (was also not conform with the LED lighting)
  - Fixed: Displaying longer notes did not work in Poly Sequencer
- Maschine Mikro 3
  - Fixed: Removed restriction that drum octave could only be changed if a clip was active.
- MCU
  - New: Group/Write Automation changed to trigger Latch automation
  - New: Support for Read/Trim automation mode
- Push 1/2
  - New: Support for *Read/Trim* and *Latch Preview* automation modes
  - New: Inverted back the clip/scene scroll direction
  - New: Changing note length does now also work in Poly Sequencer
  - Fixed: Displaying longer notes did not work in Poly Sequencer

8.80

- All devices
  - New: The project start time, which can be configured in the project settings, is now added to the displayed time.
  - Fixed: jna-platform.jar file was missing. E.g. caused the file dialog in the Generic Flexi to crash.
  - Fixed: Blinking pads in simulator UI did not work
  - Fixed: Mapping of CC commands to specific values was broken. Mainly affected Kontrol keyboards.
  - Fixed: Scene/clip scrolling LEDs not indicated correctly. Session birds eye view navigation did not work.
- Akai APCmini
  - New: Change note length or create long notes in the Sequencers (Note, Drum) by pressing a note pad and then a pad right of it.
- Akai APC40 / APC40mkII
  - New: Change note length or create long notes in the Sequencers (Note, Drum) by pressing a note pad and then a pad right of it.
  - New: Improved scrolling of browser columns
  - Fixed: Browser crashed when activated
- Generic Flexi
  - New: Added new function: **Clip: Quantize**
  - New: Added functions for note repeat
  - New: Added functions for transposing the keyboard
  - Fixed: Configured knob speed settings were not set on startup
- Komplete Kontrol A-Series / M32
  - Fixed: Configured knob speed settings were not set on startup
  - Fixed: Crashes when scrolling clip page
- Launchpad
  - New: Virtual faders support 4 velocity steps (on all models)
  - New: Activates hardware play mode again when extension is stopped
  - New: Change note length or create long notes in the Sequencers (Note, Drum, Drum 4, Drum 8) by pressing a note pad and then a pad right of it.
  - New: Launchpad Pro: Duplicate notes in Drum 4 and Drum 8 sequencers
  - Fixed: Color of front LED was wrong when mode was changed

  - Fixed: Cursor left was not lit correctly in Drum 4 and Drum 8 mode
- Push 1/2
  - New: Change note length or create long notes in the Sequencers (Note, Drum, Drum 4, Drum 8) by pressing a note pad and then a pad right of it.
  - Fixed: Master mode only showed up shortly when Master volume knob was touched
  - Fixed: Configured knob speed settings were not set on startup

8.70

- All devices
  - New: Stop (or toggle playback) also disables record
  - New: Improved auto detect: Do not add a device if one of the midi ins/outs is already in use. Refresh midi devices before executing the auto detect.
  - New: Configuration window is now a top level window
  - New: Added simulator window for each device
  - Fixed: Some LEDs did not update correctly
  - Fixed: Duplicating media items from the session view did always duplicate the selected media items.
- Beatstep
  - New: Easier switching between note selection and step editing in sequencers. Turning knob left selects play/note select, turning it right selects step editing.
  - Fixed: Value change on some knobs were flipped (e.g. scrolling browser).
  - Fixed: The Note Sequencer used the drum mapping and octave shifting.
  - Fixed: Pads sometimes lit with wrong color after pad was pressed
  - Fixed: Pads sometimes lit with wrong color after leaving Shift mode
  - Fixed: Browser mode was canceled when Shift was released
- Push 1/2
  - Fixed: Filter active sensing warnings from log console
  - Fixed: Push 1: Frame mode showed an empty display
- Launchpad:
  - New: Non-Pro models: Pressing the Delete and Duplicate pads in shift mode activates the related mode. Leaving the shift mode and entering session mode allows then to delete/duplicate clips and tracks. After deleting/duplicating an item the delete/duplicate mode is turned off.
  - New: Turn of panorama lights for non-existing tracks, instead of showing them centered
  - Fixed: Launchpad X was not correctly using the velocity faders
  - Fixed: Fader scaling was wrong (except Launchpad Pro)
- Komplete Kontrol A-Series / S-Series Mk2 / M32
  - Fixed: Some buttons did not work (Quantize, Metro, Undo)
- MCU
  - Fixed: Record button was not always lit correctly
- Push 2
  - New: Added duplicating notes in Note, Drum, Drum 4 and Drum 8 sequencers. Keep Duplicate button pressed, select the source note, press empty destination pad(s). The note will be copied with all settings.
  - New: Tempo and Position knobs only show their value as a popup notification. The metronome settings can now be accessed by long-pressing the **Metronome** button. Note: play position text is only updated when playback is active!
  - Fixed: Layout of Touchstrip mode was not updated to new features on Push 1
  - Fixed: Play view was not active on a newly added track
- SL MkIII
  - Fixed: Crash when selecting track again to enter device mode

8.60

- All devices
  - New: Color drum pads in the tracks color

- AutoColor
  - Fixed: Crashed on startup
- Launchpad
  - New: Drum 4 and Drum 8 Sequencers: draw longer notes in darker color
- Mackie MCU
  - New: Added an explicit setting for devices with only 1 channel ("Has only 1 fader"), e.g. the Behringer X-Touch One. For devices with the normal 8 channels the select button now works again in marker and device mode.
  - New: Send button states for function keys (F1-F5) which turns on the LED if the device has one and supports it (e.g. Behringer X-Touch One).
  - New: Knob LEDs in device mode show only one dot
  - Fixed: Knob speed was too slow
  - Fixed: Knob LEDs were off when panorama was fully left
- Maschine Mikro Mk3
  - Include Bitwig template as Template (Bitwig.ncmm3) again, not the full Memory dump (Bitwig.ncc).
  - You need to load this new template into the Maschine (Bitwig.ncmm3) first (due to changes to the Touchstrip settings).
  - New: Change note repeat period and length via ribbon (MOD: CC1, CC11; PERFORM: Master Volume; NOTES: Note Repeat Period / Length)
  - New: The touchstrip LEDs are updated matching the selected mode.
  - New: Pitchbend modes of touchstrip return to zero setting when finger is released.
  - New: Flipped direction of Pitchbend Down Mode of touchstrip to match the LEDs.
  - New: Added setting "Action for pressing rec armed empty clip"
  - New: Erase+pad deletes scene, clip, track (depending on the selected mode)
  - New: Duplicate+pad duplicates scene, clip, track (depending on the selected mode)
  - New: Browser+pad in Clip Mode opens the browser to load a clip
  - New: Stop+pad in Clip Mode stops the clip. Clips queued to be stopped are now lit in dark green
- Native Instruments Kontrol 1
  - Fixed: Did crash when there was not track in the project
- Push 1/2
  - New: Long press notes in Drum, Drum 4 and Drum 8 Sequencers to edit it.
  - New: Drum 4 and Drum 8 Sequencers: draw longer notes in darker color
  - New: Slow down value changes in note repeat mode
  - New: Change note repeat period and length via ribbon
  - Fixed: Fixed Length button was lit when volume mode was active

8.51

- All devices
  - Fixed: Log output was not visible on startup.
  - Removed support for Arturia Beatstep Pro due to too much limitations (use Generic Flexi instead).
- APC40
  - New: Changed direction of session-clip/scene scrolling
- Mackie HUI
  - New: Added support for icon Master fader extension
  - New: Insert buttons select track
  - New: Added (HUI QICK PUNCH) - Toggle Punch In
  - New: Added (HUI IN) - Toggle Punch In
  - New: Added (HUI OUT) - Toggle Punch Out
  - New: Added (HUI ON LINE) - Toggle Audio Engine on/off for current project
  - New: Added (HUI RETURN TO ZERO) - Return the play cursor to the start of the arranger
  - New: Improved unmute/unsolo all tracks
- Native Instruments Kontrol 1
  - New: Improved speed of knobs
  - New: Changed direction of session-clip/scene scrolling

- Launchpad
  - New: Added Poly Sequencer
  - New: Delete + Scene button in Session view deletes the scene
  - New: Shift mode: Enable note repeat and set the note repeat period and length with the pads in the middle
  - New: Sends mode: Display name of sends when selected
  - New: Light buttons brighter when pressed
  - New: Flipped Up/Down button in Device mode
  - New: Changed direction of session-clip/scene scrolling
  - New: Added notification messages to Shift view
  - New: Used several colors in Shift view for easier function identification
  - Fixed: Duplicate did not work on non-pro models
- Maschine Mikro Mk3
  - You need to load the new template into the Maschine (Bitwig.ncc) first
  - New: Use multiple colors on pads
  - New: Added note repeat (long press note view to change settings)
  - New: Pressing the encoder button always toggles between slow/fast value change, except tempo (tap tempo) and browser mode (confirm selection)
- OSC
  - New: Added commands for note repeat (/vkb_midi/noterepeat/...)
  - New: Added /track/hasParent {0,1}
- Push 1/2
  - New: Delete + Scene button (in Play, Piano, Drum 64, Session view): Delete the scene
  - New: Delete + pad in scene play mode: Delete the scene
  - New: The quantize mode now contains the record quantization configuration as well
  - New: The note insert/edit MIDI channel can be selected in the Track Details mode and in the document settings
  - New: Buttons are lit brighter when pressed
  - New: Changed direction of session-clip/scene scrolling
  - New: Scrolling scenes in scene play view scrolls whole 64 scenes
  - Fixed: Push 1: Header text in Master mode was missing
- SL MkIII
  - New: Changed direction of session-clip/scene scrolling

8.40

- New: Do not display note feedback from muted media items
- New: Switched to "MIDI Arpeggiator" instead of "MIDI Note Repeater" for Note Repeat. This requires a fix on the MIDI Arpeggiator JS plugin to make the note length work: Increase the note length step resolution from 0.1 to 0.001 like this: slider2:1<0.01,1,0.001>Note Length
- New: Support for Novation Launchpad X
- New: Support for Novation Launchpad Mini Mk3
- Fixed: Controller instance was not stopped when deactivated
- Launchpad
  - New: Shift mode: Enable note repeat and set the note repeat period and length with the pads in the middle
- Maschine Mikro Mk3
  - New: Added note repeat settings
- OSC
  - New: Added commands for note repeat
- Push 1/2
  - New: Added note repeat, long press Repeat button for configuration settings
  - New: The note insert/edit MIDI channel can be selected in the Track Details mode and in the document settings

8.30

- New: Speed up browsing filter columns
- Fixed: Last item in a browser filter column could not be selected.
- Support for Novation Launchkey Mini Mk3
- Launchpad MkII
  - Fixed: The Play and New functions in Shift mode were switched.
  - Fixed: Sequencers were not available
- MCU
  - Fixed: Do not set pan mode on fader touch release when volume mode was active before.
- OSC
  - Fixed: OSC did crash on startup
  - Fixed: Calls to /track/x/clip did not work

8.21

- Fixed: Endless recursion when accessing clips

8.20

- New: Improved auto-detect of some devices. Added CoreMidi4J prefix support on Macos.
- Ableton Push
  - New: Added info to the browser mode about if insert or replace is happening and selected track.
  - New: Added aftertouch processing to Drum and Drum 64 mode.
  - Fixed: Blinking on queued clips did not work
- Launchpad Pro/MkII
  - New: All tracks are displayed (incl. FX and master track)
  - New: Shift-mode can now also be accessed from the Session mode. To access the Bird-Eye view of the Session mode long press the Session button.
  - New: Optimized Shift-mode, Scene buttons select (again) the Mix-mode of MkII, they have no function on the Pro. First row of buttons select the length of new clips on both models.
  - New: Sequencers are now available.
  - New: Pro: Added aftertouch processing to Drum and Drum 64 mode.
  - Fixed: Blinking on queued clips did not work
  - Fixed: Page Left LED indication in Note and Raindrops Sequencer was not correct.
  - Fixed: Play in Shift mode of MkII did not work (triggered toggle loop instead).
  - Fixed: Mixer-LED on MkII was not lit.
  - Fixed: Play-Layout was not set when first time switching between Session and Play.
  - Fixed: Stop-Clip mode could not be activated on MkII
- Maschine Mikro MkIII
  - New: Show info text when Duplicate is enabled
  - New: Added template with required settings to the resources folder.
  - New: Added flip arranger and clip recording option
- MCU
  - New: Added preset for Behringer X-Touch One
  - New: If device or marker mode is active, do not change track with MCU_SELECT (necessary for 1 channel controllers like Behringer X-Touch One)
- Native Instruments Komplete S-MkII, A-series/M32
  - New: You can now set the speed of the knobs in the settings.

8.11

- All devices
  - New: Detect button for auto-detecting connected devices.
  - New: Many performance improvements: Some updates were put on a slower thread, track chunk only is read and analyzed if playback is stopped, GUI only gets created if dialog is opened, ...
  - Fixed: Layout of Debug dialog
- MCU
  - New: Added new function key option “Toggle use faders like editing knobs”.

- Native Instruments Komplete S-MkII, A-series/M32
  - Fixed: Definition files were mixed up and therefore the devices did not work properly
- Push 2
  - Fixed: Display preview window did not update and window layout was wrong

8.10

- All devices
  - New: Added new scales
  - New: Added a Debug dialog where you can test to deactivate update routines
  - Fixed: Creating clips did not start recording.
  - Fixed: Send values were always sent for Send 1.
  - Fixed: Only use send envelopes when active
- APCmini
  - Fixed: Sometimes the pad grid was not drawn after startup, since the APCmini is slow to be ready for receiving commands.
- APC40mkI/mkII, APCmini, Launchpad MkII/Pro, Novation SL, Push
  - Fixed: Deactivate all sequencers if no clip is selected. This caused weird effects if the grid resolution of the sequencer was changed with no clip selected and then a clip was selected.
- Beatstep Pro
  - Fixed: Some knobs did not toggle its value
- Mackie HUI
  - Fixed: Crash on startup and shutdown if Display was active
- Native Instruments Komplete S-MkII, A-series/M32
  - New: The extension is now split up into two. One for the S-series and one for the A-series/M32. You need to add your Kontrol device again.
- Novation SL MkIII
  - New: Notification messages are also displayed on the SL display
  - New: Firmware version is displayed on startup
- OSC
  - New: /playbutton - Toggles playback, you can configure the Stop behavior in the configuration settings
  - Fixed: All /vkb_midi commands did crash
- Push
  - Fixed: Display a message if no clip is selected in clip mode
  - Fixed: Octave buttons were not updated in sequencer modes.

8.00

- All devices
  - Fixed: Changing track selection did not correctly adjust the track bank page on the device (except Push)
- Komplete Kontrol A-Series / M32
  - Fixed: Track name was not displayed
- Novation Remote SL MkIII
  - New: Added setting to disable the faders (to prevent accidentally changing volume)
- Push 1/2
  - New: Changed layout of Repeat configuration settings (long press Repeat button)
  - New: Changed the layout of the quantize/groove mode
  - New: Implemented editing of note parameters: length and velocity
  - New: Session: The octave and page buttons navigate the pages of the session grid
  - New: Push 1: Show longer track/layer names in Details mode
  - New: Push 1: Indicate volume with one bar when VU is active
  - New: Push 2: Improved layout of transport mode
  - New: Push 2: Only redraw display image if something has changed
  - Fixed: Stepping out of track folders did skip a level

  - Fixed: Do not close transport mode when accidentally tempo or position knob is touched.
  - Fixed: Push 1: Groove mode crashed
  - Fixed: Push 1: Layout of panorama on max right
  - Fixed: Push 1: Send modes could not be accessed
  - Fixed: Push 2: Notification messages were not shown on the display

7.05

- Generic Flexi:
  - New: Commands to set Solo, Mute, Rec Arm, Monitor and Auto Monitor (in addition to toggle).
- Launchpad MkII
  - Fixed: Blinking of playing clips did not work
- Push 1
  - Fixed: Do not send color palette request, which is only working for Push 2

7.04

- All devices
  - New: Note feedback is implemented. Playing notes from MIDI clips are shown in play and drum views.
  - Fixed: Parameter updates are only slowed down if automation writing is enabled
  - Fixed: Setting automation mode sometimes addressed the wrong track

- Ableton Push 2
  - Fixed: Improved stability writing the color palette
- Komplete Kontrol MkII
  - New: Added Send mode (CLEAR button to toggle). Edit all sends of the selected channel.
  - New: Add track number to mixer view channels
  - New: Added Recording Option: Toggle Rec Arm State of selected track
  - New: Now, first checks if the selected device on the selected channel is a Komplete Kontrol device, if not the first instrument device is checked. This way you can edit multiple Komplete Kontrol instances on a channel.

7.03

- All devices
  - New: Reflect automation changes on device (Volume, Pan, Mute, Send Volume)
  - New: Support for displaying and setting the color of the master track.
  - New: Support for Automation modes on master track.
  - Fixed: Writing Automation did not always work
- Ableton Push 2
  - New: Set a new color palette for the pad LEDs and improved the algorithm to calculate the closest available color.
  - Fixed: The default note view is set to Play again, was Drum View.
- APC40
  - Fixed: All views except Play View were drawn wrong.
- Komplete Kontrol MkII
  - New: Added a parameter/device mode (CLEAR button to toggle)!
- Maschine Mikro MkIII
  - Fixed: Display warning when no device is selected in parameter mode
  - Fixed: Indicate non-existing parameters as “None” in parameter mode
- MCU
  - Fixed: Jogwheel jumped back one step after movement ended
- Novation Remote SL MkIII
  - Fixed: Drawing of track and device modes were wrong when no track was selected (2nd try).
  - Fixed: Another crash in the browser.
- OSC

  - Fixed: Open Stage Control template produced a crash if the master volume was changed.

7.02

- Novation Remote SL MkII
  - Fixed: Drum pads did not work
  - Fixed: Crash displaying send and master track
- Novation Remote SL MkIII
  - New: The browser result name is now shown in two columns
  - Fixed: Drawing of track modes were wrong when no track was selected
  - Fixed: Track could not be added when no track was selected
  - Fixed: Browser mode could crash if a non-existing filter column was selected
  - Fixed: Button long press events caused unnecessary warnings in the log
  - Fixed: Keyboard did not work
  - Fixed: Implemented a workaround for button LEDs being lit when knob or fader values were changed on Windows (bug with MIDI Sysex in JDK).
- OSC
  - New: Added layer tab to Open Stage Control template.
  - New: Added sending of /device/layer/selected/{attributes}
  - Fixed: Some types used "selected" and some "select". Both can be used now.
  - Fixed: Fixed location of master track in Open Stage Control template for 0.47.1.
- New: Updated to OpenJdk 11.0.3+7
- New: Faster calculation of browser results
- Fixed: Navigating parameter pages with cursor keys did not work
- Fixed: flush was still called when a device was set to be deactivated

7.01

- Fixed: Reaper INI was not read on Linux.
- Arturia Beatstep
  - Fixed: Caught exception when pads are transposed. Now an error is printed to the console.
- Generic Flexi
  - Fixed: MMC commands with device IDs > 15 did not work.
- Novation SL MkIII
  - New: Route all 16 MIDI channels to Reaper (not only channel 1)

7.0

- New: Added support for Novation SL MkIII
- Fixed: scrolling of parameter pages by page bank did not work (e.g. Shift + cursor left/right on Push)
- Ableton Push 2
  - New: Deactivated channels and layers are drawn in dark colors
- Komplete Kontrol Mk II / A-series / M32
  - New: Light record button as well on clip recording and clip overdub

6.4

- Generic Flexi
  - New: The speed (fast and slow) for relative knob changes can be configured
  - New: A command can be assigned to be the Shift button (Global: Shift Button), which gives extra functionality if combined with another control (e.g. Play, Rewind, Forward and Knob Speeds).
- Komplete Kontrol
  - New: Mapping of first Komplete Kontrol parameter is no longer necessary
  - New: Improved automatic lookup
- Changed storing of Reaper settings to prevent corruption of INI file.

6.3

- Generic Flexi

  - New: Added setting to store the last selected mode
  - New: MIDI CC is now available as a function destination
- Komplete Kontrol
  - New: Added setting to flip the track/clip navigation of the encoder knob
  - New: Added setting to flip the clip and scene navigation of the encoder knob
  - New: Added setting to set the length of new clips
  - New: Added setting to set the behavior on transport stop
  - New: Added M32 to the extension name
- Fixed: Navigation from and to master track was reversed.

6.2

- APC40
  - New: Shift mode stays active until you release the Shift key.
  - Fixed: Clip indicator was not displayed.
- Launchpad Pro
  - Improved 2 colors.
- Komplete Kontrol
  - Fixed: Record option "Record clip" did not start recording when transport was stopped.
- Midi Monitor
  - New: Log system realtime events
  - New: Setting to filter system realtime events
- Push 1/2
  - New: You can now tweak the speed of the knobs in the settings (Workflow -> Knob Speed Normal / Knob Speed Slow)
- Fixed: Did crash Reaper on startup if UserPlugins folder was located in a path with non-ASCII characters.

6.1

- Generic Flexi
  - Fixed: Exception when Send volume was mapped/changed and a FX or the Master track was selected.
- Komplete Kontrol
  - New: Added information about mute state due to soloed track(s)
  - New: Added more selected track information to confirm to updated protocol
  - New: Added scene navigation and play
  - New: Slowed down knob change rate on MkII
- OSC
  - New: You can now configure the value range. So far, this was 128. Now you can increase the range to 1024 or 16384. Note that you also need to configure the widgets in your OSC client accordingly.
- Fixed: NullPointerException on hierarchical track navigation
- Fixed: A Jar file was missing in the 6.0 release.
- Fixed: Toggling Note Repeat did not work

6.0

- Generic Flexi
  - New: Use native dialog for selecting the configuration file.
  - Fixed: Fixed a typo (CC40 was named CC30).
- Komplete Kontrol
  - Switched to new MIDI protocol
  - Support for A-series and M32
- Mackie HUI
  - Support added
- Mackie MCU
  - Fixed: Knob LED was not turned off on non-existing tracks for panorama mode.

- OSC
  - Fixed: Reduced the size of a OSC bundles to stay below 64 Kb, which is the maximum for an UDP packet.
- Push
  - Automation could not be activated if an effect track or the master track was selected.

5.91

- OSC
  - Fixed: Reduced the size of a OSC bundles to stay below 64 Kb, which is the maximum for an UDP packet.

5.90

- Beatstep
  - Fixed: Track and Device mode selection did not work.
- Maschine Mikro Mk3
  - Fixed: Pan and Send modes could not be switched.
- MCU
  - Display mode names for Track, Volume and Sends. Send modes also display the name of the send.
  - You can flip backwards through the send modes with Shift+Send.

5.80

- Launchpad
  - Fixed: Switching of Note and Sequencer did not work (only if also Push 1/2 was running)

5.70

- Launchpad
  - New: The Bootloader and Firmware version is now logged to the console
  - New: Pro: The user button acts now like the Shift button
- MCU
  - New: Option + one of the Mute buttons: Deactivate all mutes
  - New: Option + one of the Solo buttons: Deactivate all solos
- Push 1/2
  - New: Select + Mute: Deactivate all mutes
  - New: Select + Solo: Deactivate all solos

5.60

- MCU
  - Fixed: Removed unnescessary clip indication.
- Midi Monitor
  - Fixed: System Exclusive formatting was wrong.
  - Fixed: Check for MMC was wrong.
- OSC
  - Fixed: Track selection did not work when using only “select” and/or did not set 1 as parameter.
  - Fixed: Decimal changes of tempo did not work.
  - Fixed: /device/layer/{1-8}/send/{1-8}/volume and /device/layer/{1-8}/send/{1-8}/volume/touched

5.50

- New: Integrated DrivenByMoss 5.5
  - New: There is now only one version number, the number of DrivenByMoss, and one changes file in the Wiki.
  - New: Extension Midi Monitor added
  - Fixed: Scene navigation with cursors was broken on most devices
  - Ableton Push / Push 2 11.04
    - Fixed: Clip indication was broken

5.30

- New: Integrated DrivenByMoss 5.30
  - Added new Midi Monitor extension.
  - Renamed Utilities extension to Auto Color
- Fixed: Removed stretching of dialog configuration widgets when only a view elements are present.

5.20

- New: Integrated DrivenByMoss 5.20
  - Ableton Push / Push 2 11.04
    - New: Use Shift+Octave Up/Down in Drum Sequencer modes to move the pads by 4.
    - Fixed: Marker mode was broken.
  - Akai APC40 / APC40mkII 5.20
    - New: Changed Nudge- to Undo and Nudge+ to Redo.
    - New: Flipped functionality of "Detail View" (is now "Toggle plugin window") and Shift+"Details View" (is now "Step through the layout perspectives").
    - New: Drum sequencer: The highlighted grid in the drum machine now only show the 12 pads. The scene buttons 1/2 move the pad view by 4. The scene buttons 4/5 move the pad view by 12 (previously 16).
    - Fixed: "Step through the layout perspectives" did not work on some display profiles.
  - Generic Flexi 2.2
    - New: Added commands to control Browser filter columns 7 and 8.
    - New: Added Browser mode.
    - New: Added absolute mode for toggle buttons.
    - New: Added support for MMC.
    - New: Added "Transport: Rewind" and "Transport: Fast Forward"
    - New: Select buttons in Parameter mode select parameter pages instead of devices.
    - Fixed: Removed duplicated function "Transport: Set Crossfader", use "Master: Crossfader" instead.
    - Fixed: Mode knobs did always use relative mode 1, even if 2 or 3 was selected.
    - Fixed: Values of Track-, Volume- and Parameter mode were not reflected correctly back to the device.
    - Fixed: Prevent console warnings when values go out of bounds in relative modes.
- New: Added an action to open the DrivenByMoss extension window (search for "DrivenByMoss" in the action list).
- New: The DrivenByMoss extension and configuration windows can now be closed with the Escape key.

5.10

- New: Integrated DrivenByMoss 5.10
  - Native Instruments Komplete Kontrol 1 S25, S49, S61, S88 1.1
    - New: Improved displayed scale colors. Only the root note is now displayed in the track color. All other notes are colored in white. Played note are in green or red if recording. Furthermore, sequenced notes are also displayed in green.
    - New: If a track with a drum device is selected the keyboard LEDs display the according slot colors.
    - New: Keyboard range is displayed on screen and display if changed.
    - New: SHIFT+BACK - Toggles monitor on the selected track.
    - New: SHIFT+ENTER - Toggles rec arm on the selected track.
  - Generic Flexi 2.1
    - New: Added command: "Device: Parameters"
  - Generic Utilities 1.0 added (AutoColor)
- New: Controllers can be deactivated so they do not use any resources when they are not connected.
- New: Speed up of Java/C++ communication; fixes lag of controller playing
- New: Menu for adding controllers is now hierarchical
- New: Improved folder navigation

- New: Implemented sending of Escape and Enter key to Reaper (used by MCU protocol, only Windows & macOS)
- New: Implemented transport restart function (used by Generic Flexi and OSC)
- Fixed: Toggling of plugin window did not work
- Fixed: MIDI editor is no longer closing when executing quantize from a controller, if it was already open.

5.021

- Fixed: Widgets in configuration dialog did not always update their values correctly.
- Fixed: The integrated Java VM did not contain the accessibility module. Therefore, DrivenByMoss crashed on system with enabled accessibility support.

5.01

- Fixed: "error -99" on Macos with Push 2.
- Fixed: NullPointerException in Color Picker, if Cancel is selected.

5.00

- Integrated DrivenByMoss 5.0
  - Open Sound Control (OSC) protocol - 6.12
    - Fixed: Potential synchronization issue when sending OSC messages.
  - Generic Flexi - 2.0
    - New: Completely new settings user interface
    - New: Support for modes: Track, Volume, Panorama, Send 1-8, Parameters
    - New: Support for using Pitchbend as a controller
    - New: Added command: "Master: Crossfader"
    - Fixed: Blocking notes which are mapped to a command did only work after restart.
    - Fixed: "Send value to device" did always send on midi channel 1.
- Bundled Java Virtual Machine for easier installation

4.03

- Integrated DrivenByMoss 4.03
  - Ableton Push / Push 2 - 11.03
    - Fixed: Fixed resetting of Push 2 display colors.
  - Novation Launchpad Pro & MkII - 3.45
    - Fixed: Transposing the piano view was broken
- Fixed: New tracks with no name did sometimes not turn up until given a name

4.02

- Integrated DrivenByMoss 4.02
  - Ableton Push / Push 2 11.02
    - New: Mute and Solo work now in all modes (not only in track modes).
    - Fixed: Fixed a crash in the Browser.
- Fixed: The track for setting the automation mode was off by 1.
- Fixed: Komplete Kontrol 2 plugin browsing and selection works now.

4.01

- Integrated DrivenByMoss 4.01
  - Ableton Push / Push 2 11.01
    - New: Push 2: You can now use Delete+Touch knob in the Setup mode to reset the values to its default.
  - Open Sound Control (OSC) protocol 6.11
    - Fixed: Changed midi channel range for /vkb_midi to 1-16 to be consistent with all other numbering, which start with 1. Furthermore, fixed the documentation which indicated 0-16.
  - Novation Launchpad Pro & MkII 3.44

        * Fixed: Flipped session view triggered the wrong clips
        * Fixed: Temporary modes Rec Arm, Track Select, Mute, Solo and Stop Clip did not return to previous views.
- Fixed: Setting sequencer "loops" was broken.
- Fixed: Push 2: Changing values in Setup mode was buggy.

4.00

- Integrated DrivenByMoss 4.00
  - Mackie MCU - Changes 2.63
    * Fixed: Crash if Marker mode was selected and Assignment display was enabled.
  - Native Instruments Komplete Kontrol 2 S49, S61 * Changes 1.20
    * Fixed: Mute and Solo did not work on Hybrid tracks
  - Maschine Mikro Mk3
    * Initial release

3.31

- New: Clip Loop parameter turns on/off the media items "Loop item source" parameter.
- Fixed: Recording Track Automation did not work.

3.30

- New: Integrated DrivenByMoss 3.30.
- Fixed: Push 2: Clip piano roll: Note texts could not be seen when notes were black.
- Fixed: Scrolling of clips did not work.

3.20

- New: Integrated DrivenByMoss 3.20.
- New: Repeat can be enabled (this uses an Arp in the channel insert). Long press Repeat button to set the speed.
- New: Using 'New' to create a clip does not start recording anymore for easier use with sequencers.
- Fixed: Creating a new clip did not set the selection state correctly.

3.02

- Fixed: Scrolling tracks on Push 1/2 was broken when folders are in the project.

3.01

- Fixed: Tracks without a name did not show up.
- Fixed: New clip did sometimes not work.
- Fixed: Notes in Sequencer were not updated when clip was deselected and selected again.

3.00

- New: Replaced the Reaper EEL backend with a C++ implementation.
- New: Support for clips
- New: Support for scenes
- New: Support for markers
- New: Support for sequencers

2.10

- New: If supported by the Java/OS platform the application is run as a tray icon. Closing the app minimizes it to the tray. Double click the tray icon to show it again. Right click on the tray icon to show the context menu with the options to show the application or to exit it. If Auto-run is enabled, the app is automatically minimized startup.
- New: The console window is no longer shown on startup.
- New: 64 drum pad view for Ableton Push and Novation Launchpad Pro / MkII.
- New: Bank page is now automatically adjusted on controller if changed in Reaper.

- Fixed: Midi In-/Outputs were not correctly restarted when Configuration dialog was closed.
- Fixed: Push 2 preview display window was still drawn when hidden.
- Fixed: Push 2 preview display window produced OutOfMemoryExceptions after a while.

2.03

- Fixed: The Reaper start path was not stored.

2.02

- Fixed: Could not start Reaper when spaces are included in the path.

2.01

- New: Added more logging information for loading Reaper INI files

2.00

- New: Initial release after switching to Java