
BATTERY 4
NATIVE INSTRUMENTS
THE FUTURE OF SOUND

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1. Disclaimer

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2. Welcome to BATTERY

BATTERY is the cutting-edge drum sampler designed for the 21st century. It combines a supercharged library, tailor-made for electronic and hip hop music, with a radically-intuitive workflow that focuses on creativity. Instantly find and arrange sounds with a new, tag-based browser, and route powerful new effects with drag-and-drop simplicity. With a straightforward, compelling interface that puts incredible power at your fingertips, BATTERY launches drum sampling into the future.

2.1. Document Conventions

In this document the following formatting is used to highlight useful information:

Italics	Indicates paths to locations on your hard disk or other storage devices
Bold	Highlights important names, concepts, and software interface elements.
[Brackets]	References keys on a computer's keyboard

The following three icons represent different types of information:

The **light bulb** icon indicates a useful tip, suggestion, or interesting fact.

The **information** icon highlights important information that is essential for the given context.

The **warning** icon alerts you of serious issues and potential risks that require your full attention.

3. Getting Started

Setting up BATTERY differs between the stand-alone application and the plug-in. The stand-alone application runs on its own and can be opened from the Native Instruments folder in your applications directory. The plug-in can be loaded in a compatible host software, most commonly a DAW.

Using the stand-alone application allows you to efficiently play BATTERY in the most straight-forward manner. If the computer is not used for recording, editing, and arranging the music, the stand-alone application turns it into a powerful, dedicated drum instrument. To setup the stand-alone application, you need to configure its Audio settings in the Preferences. For more information, refer to Setting up BATTERY as Stand-Alone Application.

Using the plug-in fully integrates BATTERY into your DAW, making it an integral part of recording, editing, and arranging your music. Synchronization and saving are handled by the DAW, and you benefit from your DAW's automation functionality. To setup the plug-in, you need to make it available to your DAW and load it into an instrument track. For more information, refer to Setting up BATTERY as Plug-in in a DAW.

3.1. Installing BATTERY

Before you can make music with BATTERY, you must install the necessary software using Native Access. If you are new to Native Instruments, you will first have to create your Native ID. To learn more about Native Access, visit our support page here.

1. Download and install Native Access here.
2. Create a Native ID, if you do not yet have one.
3. Login to Native Access using your Native ID.
4. Click the **Not installed** tab.
5. Click **INSTALL** for the following products:
   - BATTERY

   The software is installed automatically.

> If the software is already installed, click the **Available updates** tab and check for new updates before proceeding.

3.2. Setting up BATTERY as Stand-Alone Application

To setup the stand-alone application, you need to configure its audio settings in the Preferences:

1. Click the Main menu in the Header and open **Audio and MIDI Settings...** in the **Edit** sub-menu.
2. Go to the **Audio** tab and select the audio interface you want to use from the **Device** drop-down menu.
3. Go to the **Routing** tab and select the outputs of your audio interface that are connected to your speaker system or headphones from the **St 1/2 L** and **St 1/2 R** drop-down menus.

4. Go to the **MIDI** tab and change the **Status** for your MIDI controller to **On** using the drop-down menu.

   If you do not intend to play BATTERY via MIDI, you can omit this step.

5. Close the Audio and MIDI Settings by clicking **OK**.
   The BATTERY stand-alone application is setup and ready to be played.

3.3. Setting up BATTERY as Plug-in in a DAW

BATTERY can be loaded in any DAW supporting the VST, AU, and AAX plug-in formats. All three formats are automatically included when installing BATTERY using Native Access.

On Windows computers, the correct path for VST plug-ins needs to be selected in Native Access prior to installation. Learn more in this support video on our website: VST Plug-in Administration on Windows Computers

To setup the plug-in for use in your DAW, you need to load it on an audio track and configure the track's routing:

1. Open your DAW after installing BATTERY using Native Access.
2. Create a new instrument or MIDI track, depending on how your DAW facilitates the use of plug-in instruments.
3. Load the BATTERY plug-in in the instrument or MIDI track.
4. Activate the record-ready or monitoring state of the track to enable playing the instrument via MIDI.
   The BATTERY plug-in is setup and ready to be played.

4. Overview of BATTERY

BATTERY has an intuitive and flexible user interface, with designated areas for drum and sample programming, browsing, automation, modulation, and an effects and routing section.

The BATTERY interface consists of the following key sections:

1. **Header**: Contains Global settings such as tempo and master output volume. For more information, refer to Header.
2. **Sidebar**: Contains the Browser for Kits and samples, functions to organize BATTERY's Library, and parameter automation. For more information, refer to Sidebar.
3. **Cell Matrix**: Provides a visual arrangement of all samples in the Kit, giving access to all sounds and making them playable. For more information, refer to Cell Matrix.
4. **Quick Access area**: Contains frequently used tools for cell editing. For more information, refer to Quick Access Area.
5. **Edit area**: Provides advanced editing, effects, modulation, MIDI features, and routing options. The Edit area is organized in six pages, accessed by clicking on the respective tab:
    - **Main** page: Features basic tools for adjusting the sound of the individual cells within your Kit. Refer to Main Page.
    - **Effects** page: Contains effects that can be applied to a cell's audio output, allowing you to further customize your sound. Refer to Effects Page.
    - **Modulation** page: Allows you to modulate your sound with a variety of sources, including LFOs, envelopes, aftertouch, and MIDI controllers. Refer to Modulation Page.
    - **Setup** page: Provides tools specifically designed for drum playing and programming, enabling you to fine-tune cells/Kits or create entirely new sounds from the existing library content. Refer to Setup Page.
    - **Editor** page: Contains audio editing tools, a loop editor, and a layer and mapping editor, all of which provide extensive editing features for cells. Refer to Editor Page.

- **Master** page: Consists of group effects, controls for the Reverb and Delay send effects, and Buses for routing and mixing cells with additional effects processing. Refer to Master Page.

5. Header

The Header at the top of BATTERY provides access to global functions such as Kit management, master level control, tempo, and voice management. It also hosts the main menu that offers file, editing, and layout options.

The Header consists of the following elements:

1. **BATTERY logo**: Launches the About splash screen when clicked. This contains version and software licensing information, and software credits. Click on the About splash screen to close it.
2. **Sidebar button**: Toggles the visibility of the Sidebar. For more information, refer to Sidebar.
3. **Main menu**: Provides access to file, editing, and layout options, including the application menu bar and links to BATTERY's online documentation. For more information, refer to Main Menu.
4. **Kit menu**: Displays the name of the currently loaded Kit. The adjacent arrow buttons allow you to quickly load Kits into BATTERY and operates in two different ways:
   - In case the current Kit was loaded via the File Browser or per drag-and-drop, clicking on the arrow buttons will load the **next/previous Kit located in the current Kit's folder**. Refer to Files Browser.
   - If the current Kit was loaded via the Library Browser, clicking on the arrow buttons will load the **next/previous Kit located in the relevant Library folder**, taking into account the tags you have used to narrow your selection when loading the current Kit. Refer to Library Browser.
5. **Sync**: Determines whether BATTERY is synchronized to the internal clock to the tempo of a host software application when used as a plug-in. When **Sync** button is deactivated, BATTERY follows its own tempo. When using audio files that contain embedded timing information, such as REX loops, ACID wav files, and Apple Loop files, the loop will play back at the tempo set with the tempo control. The tempo display provides three input methods for setting the tempo: clicking and dragging the tempo, double-clicking and typing in the value, or tapping on the **BPM** label repeatedly. When tapping the label it will display **TAP** and act as a tap tempo button.
6. **Selection Follows MIDI Input**: Switches cell focus automatically upon receiving MIDI notes when activated. When a key is pressed, not only will the relevant cell be triggered, but the cell focus will also switch to the cell, and the cell's content will be accessible in the Quick Access area. Refer to Quick Access Area.
7. **Voice**: Displays the number of currently active voices on the left side, and the voice limit (maximum number of voices allowed) on the right side. Click + drag the number on the right side to change the voice limit. This setting will be saved with the Kit.
8. **CPU meter**: Monitors BATTERY's CPU usage.
9. **Panic button**: Resets BATTERY's audio engine. When activated, the Panic button will stop all audio from playing immediately.
10. **Output Level slider**: Displays the levels of BATTERY's outputs. The slider on top adjusts the overall Output Level of all output section channels. To avoid distortion, you should prevent the meters from metering in the red. This setting is not saved with a Kit; however, it is saved when

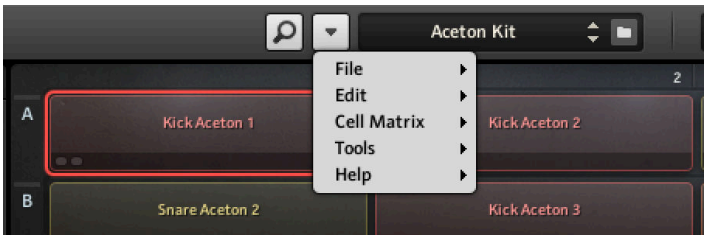
using BATTERY as a plug-in in a session with a host software, and will be recalled the next time you load that session.

6. Main Menu

The main menu provides access to common file and editing options, preferences, audio and MIDI settings, cell layout, tools (such as Batch Resave), and the Help menu.

To open the Main menu:

- Click the drop-down menu in the Header, then select **File**.



The Main menu

6.1. File

The File submenu contains standard file options and an entry for accessing the preferences panel.

To open the File menu:

- Click the drop-down Main menu in the Header, then select **File**.

The File submenu contains the following entries:

- **New Kit**: Opens a new Kit. (Windows: [Ctrl]+[N] / Mac OS: [Cmd]+[N].)
- **Open Kit...:** Opens a BATTERY Kit file from a specific location on your computer. (Windows: [Ctrl]+[O] / Mac OS: [Cmd]+[O].)
- **Save Kit**: Saves the current Kit under its original name to its original location. (Windows: [Ctrl]+[S] / Mac OS: [Cmd]+[S].)

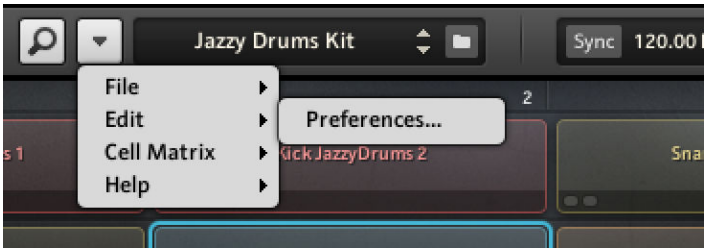
- **Save Kit as...**: Saves the current Kit under a new name to a specific location on your computer. (Windows: [Ctrl]+[Shift]+[S] / Mac OS: [Cmd]+ [Shift]+[S].) The subsequent saving dialog presents you with additional options for saving a Kit:
  - **Patch Only**: Saves the Kit and cell settings along with pointers to where samples reside on your hard disk. It references samples but does not include them in the file, thus, producing a smaller file size than if the samples were included. Select this option if your file system is unlikely to be changed at a later or point and/or if you're sure you will not be using the Kit on another computer.
  - **Patch and Samples**: Saves the Kit and cell settings, and it lets you specify a directory into which the samples will be saved. This is a good choice if you want a transportable patch, for example, when collaborating with another musician. Specify a sample folder with the **Sample sub-directory** menu.
  - **Monolith**: Saves the Kit and cell settings and all samples into a single BATTERY Kit file. This is a good choice if you want a transportable patch, for example, when collaborating with another musician.

6.2. Edit

The Edit submenu provides access to the Preferences, and Audio and MIDI Settings.

To open the Edit menu:

- Click the drop-down Main menu in the Header, then select **Edit**.



The Edit submenu contains the following entries:

- **Preferences...**: Launches BATTERY's preferences panel in a new window. Refer to Preferences for further information about the preferences panel.
- **Audio and MIDI Settings...**: Launches BATTERY's Audio and MIDI Settings panel in a new window. Refer to Audio and MIDI Settings for further information about the preferences panel.

6.3. Cell Matrix

The Cell Matrix submenu allows you to change the layout of the cells. This includes the ability to apply a preset layout or create a custom confirmation by adjusting the row and column settings.

To open the Usage Data preference page:

- Click the drop-down Main menu in the Header, select **Preferences**, then **Usage Data**.

The Cell Matrix submenu contains the following entries:

- **Size**: Selects a layout preset for the Cell Matrix.
- **Add Row**: Adds a row at the bottom of the Cell Matrix.
- **Delete Last Row**: Removes a row from the bottom of the Cell Matrix.

- **Add Column**: Adds a column on the right side of the Cell Matrix.
- **Delete Last Column**: Removes a column from the right side of the Cell Matrix.

6.4. Tools

Use the following tool to process samples.

To open the Tools menu:

- Click the drop-down Main menu in the Header, then select **Tools**.

The Tool submenu contains the following entry:

- **Batch Resave**: Converts a batch of selected samples to make them compatible with BATTERY 4. This is useful if you have old samples from BATTERY 3 or MASCHINE. Follow the onscreen instructions once you have selected this option.

6.5. Help

This menu provides links to documentation and other sources of information.

To open the Help menu:

- Click the drop-down Main menu in the Header, then select **Help**.

The Help submenu contains the following entries:

- **Launch Native Access**: Launches the Native Access application in a new window. From there, you can manage your NI software licenses and download software updates.
- **Online Battery Documentation**: Opens a submenu with links to various documentation items.
- **Visit Battery 4 on the web**: Opens the BATTERY 4 product homepage in your standard web browser.
- **Visit the Knowledge Base**: Opens the NI Knowledge Base in your standard web browser.
- **About Battery 4**: Launches the About splash screen with version and software licensing information. The software credits are also displayed here. Click on the About splash screen again to close it.

7. Sidebar

The Sidebar is located on the left side of BATTERY's interface and contains the Library Browser, the File Browser, and the Automation page. These are accessed by clicking the respective tab at the top of the Sidebar.

The Sidebar contains the following key sections:

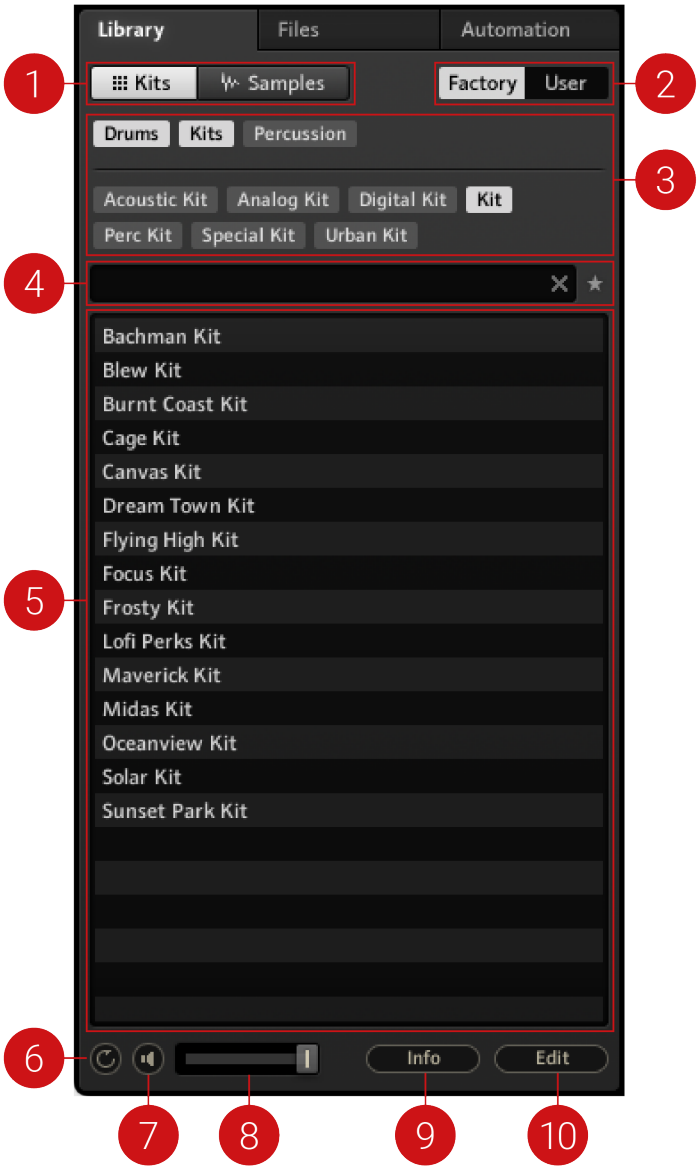
1. **Library** Browser: Enables you to find sounds and Kits in BATTERY's Library, and categorize and organize your samples and Kits. Refer to Library Browser for more information.
2. **Files** Browser: Enables you to search your computer's file structure for sound files and Kits. You can bookmark your favorite locations and import files to BATTERY's Library from the **Files** browser. For more information, refer to Files Browser.
3. **Automation** page: Enables you to assign BATTERY's parameter controls to MIDI controllers and to automation controls in a host software. For more information, refer to Automation Page.

Use the Sidebar button in the Header to toggle the visibility of the Sidebar. For more information, refer to Header.

7.1. Library Browser

The Library Browser provides access to BATTERY's extensive sound library, where you can categorize and organize your Kits and Samples.

The Library Browser consists of the following key elements:



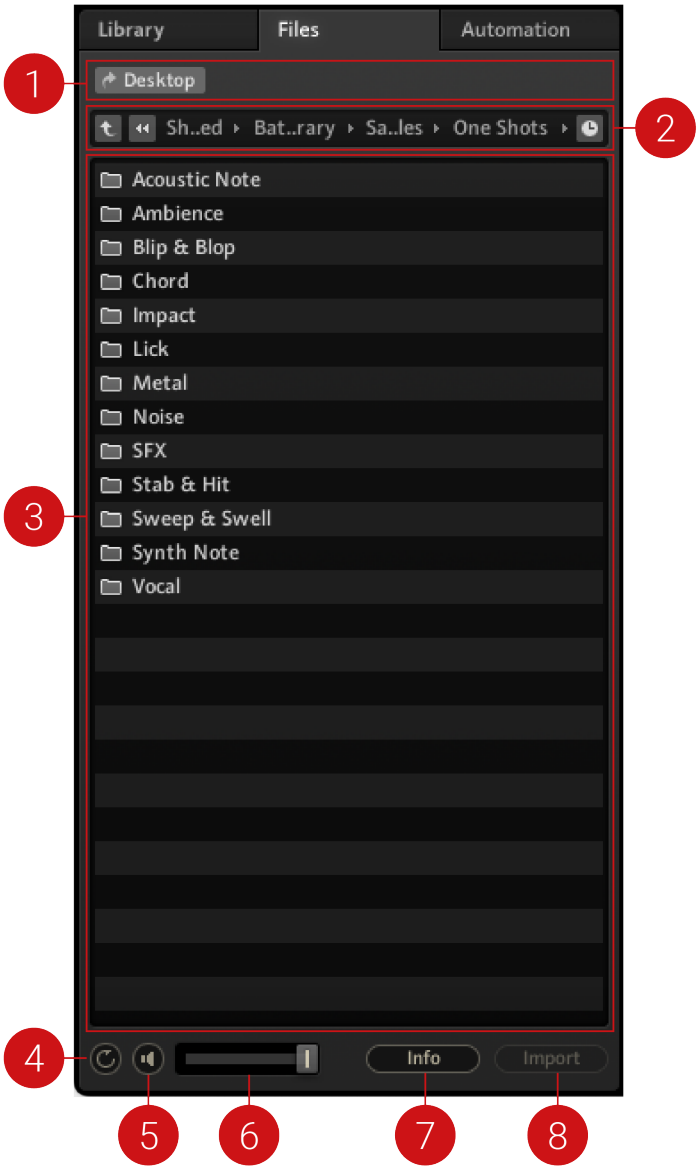
1. **Kits/Samples**: Selects between Kits and Samples. The selected filter displays the list of available results in the Library.
    - **Kits**: Displays all Kits available in the Library. Narrow your selection with the tags in the Category window, and select whether to display factory kits or your own user Kits with the **Factory**/**User** buttons.
    - **Samples**: Displays all samples available in the Library. Narrow your selection with the tags in the Category window, and select whether to display factory samples or your own user samples with the **Factory**/**User** buttons.
2. **Factory/User**: Selects between Factory and User option to determine what type of Kits/Samples are displayed.
    - **Factory**: Sets the Selection/Results window to display factory content only.
    - **User**: Sets the Selection/Results window to display user content only.
3. **Category window**: Provides a two-level tag filter system for refining and narrowing your search in the Selection/Results window. The second category level appears once a tag in the first level has been selected.

4. **Search field**: Enables you to search the Library using a specific term, to narrow down the selection in the Selection/Results window.
5. **Selection/Results window**: Lists Library content according to your selection.
6. **Loop button** (circular arrow icon): Continuously loops the currently previewed sound when active.
7. **Preview button** (speaker icon): Toggles the previewing function on/off. When active, you will hear a preview of the sample currently selected in the Browser.
8. **Preview Output Level**: Displays the output level of the sound being currently previewed in the Browser.Adjust the preview output level using the slider.
9. **Info button**: Displays additional information for the item selected in the Selection/Results window.
10. **Edit button**: Opens the Edit panel, where you can edit category tags and add further information to the item selected in the Selection/Results window.
    - **Category**: Allows you to edit first-level category tags in the left column and second-level category tags in the right column.
    - **Properties**: Allows you to add additional information to your samples/Kits, and assign a color to the item's list entry.

7.2. Files Browser

The **Files** Browser allows you to search your computer's file structure for samples and Kits. You can bookmark your favorite locations and import files to BATTERY's Library.

The Files Browser consists of the following elements:



1. **Favorites bar**: Add locations on your hard drive to the Favorites bar by right-clicking an item in the Selection/Results window, and selecting the **Add to Favorites** entry.
2. **Navigation bar**: Enables you to navigate through your computer's file structure.
   - **Up** (^ icon): Navigates to the parent folder.
   - **Breadcrumbs** navigation bar: Displays the folder hierarchy down to the folder that is currently open in the Selection/Results window.
   - **Recently visited locations** (clock icon): Opens a list of currently visited locations. Click on an entry to open it in the Selection/Results window.
3. **Selection/Results window**: Displays the folder content of the current folder.
4. **Loop button** (circular arrow icon): Continuously loops the currently previewed sample, when active.
5. **Preview button** (speaker icon): Toggles the previewing function on/off. When active, you will hear a preview of the sample currently selected in the Browser.
6. **Preview Output level**: Displays the output level of the sample being currently previewed in the Browser. Adjust the preview output level using the slider.

7. **Info button**: Displays additional information for the currently selected item in the Selection/ Results window.
8. **Import button**: Allows you to import files from your file system to the Library. Refer to Importing Files to the Library to learn about importing samples from your file system to the Library, and the Library's convenient tagging system.

7.3. Automation Page

The **Automation** page allows BATTERY's parameter controls to be assigned to control elements on a MIDI controller, and to automation control IDs in a host application. These destinations are reflected by the **Host** and **MIDI** tabs in the Automation pane.

The **Host** button is used to assign BATTERY parameter controls to automation control IDs in a host application. You can then automate the parameter from within your host software, e.g., to record volume changes of a specific cell throughout a track. The **MIDI** button is used to assign BATTERY parameter controls to keys, knobs, faders, wheels, or any other control element on a MIDI controller. This enables you control the Battery stand-alone application directly from your MIDI controller. When using the Battery plug-in, you can also record the MIDI data.

The Automation page contains of the following options and controls:

1. **Host/MIDI**: Selects between the two types of parameter control automation (Host automation and MIDI automation).
2. **Control mapping entry**: Displays a new control mapping entry in the mapping list when **Add New...** is selected.
   - **Host mapping**: The entry will be labeled **Drag to any Knob or Slider...**. You can then drag and drop the selection cross hair onto a parameter control in the user interface. The relevant parameter control will then be available for automation from within your host application. For further instruction, consult the relevant documentation of your host application.
   - **MIDI mapping**: The entry will first be labeled **Use the Controller you would like to add...**, whereby you must turn a knob or move a slider on your MIDI controller. The entry will subsequently be labeled **Drag to any Knob or Slider...**. You can then drag and drop the selection cross hair onto a parameter control in the user interface. The relevant parameter control will then be assigned to the control element on your MIDI controller. If BATTERY does not respond to any movement on your MIDI controller, check if the controller is activated in the **MIDI** section of the Audio and MIDI Settings dialog, or in the MIDI settings dialog of your host application. Refer to Routing Page for more information.
3. **Selection cross hair**: Assigns BATTERY's parameter controls to a control mapping entry via drag-and-drop.
4. **Value control limitation scale**: Sets the minimum and maximum values for the parameter controls that are assigned to a MIDI controller or your host software. For example, this can be helpful when you want to automate a volume slider with a slider on your MIDI keyboard, but ensure the volume won't exceed a certain level when the slider is pulled back up.
5. **Add New...**: Adds a new control mapping entry to the mapping list when selected.

8. Cell Matrix

The Cell Matrix is BATTERY's central interface for viewing and editing the content of a Kit. It consists of up to 128 cells that are arranged in a flexible number of rows (maximum of eight) and columns (maximum of 16).

Each cell can contain a maximum of 128 samples. If a cell contains multiple samples, they can either be layered and played at once, or assigned to different velocity layers. For more information about editing layers, refer to Editor Page.

A 12x4 Cell Matrix layout.

8.1. Using the Cell Matrix

The Cell Matrix offers a number of basic workflows for selecting cells, setting mute or solo states, as well as editing cell options and controls.

- To select a cell for editing using the Edit area, click on it.
- To select multiple cells for editing using the Edit area, [Ctrl] + click (Windows) or [Cmd] + click (macOS) the cells. Alternatively, you can click the column headers (**1**-**16**) or the row headers (**A**-**H**) to select all cells in the respective column or row.
- To mute or solo a cell, or a selection of multiple cells, click Solo (yellow button) or Mute (red button) in the cell, respectively.

- To open the cell context menu with various options related to the cell, right-click the cell. For more information about the available options, refer to The Cell Context Menu.

The Quick Access area below the Cell Matrix provides frequently used sample editing and cell controls. Refer to Quick Access Area for more information.

8.2. Cell States

A cell can have different states, which are all visualized for clarity. The available states differ between the regular view of the Cell Matrix, and the view shown when the Master page is selected in the Edit area.

The following cell states are available in the regular view of the Cell Matrix:

- **In focus**: When you click on a cell, it is in focus and highlighted with a colored frame. The Quick Access area and the Edit area show the parameters and settings specific to this cell.

- **Selected for editing**: When selecting multiple cells, only the cell clicked last is in focus. The other cells are selected for editing and highlighted with a grey frame. All changes made to the cell in focus will also be applied to the cells selected for editing.

- **Triggered**: When you play the note(s) associated to a cell, it will light up.

- **No samples loaded**: When no samples are loaded in a cell, the Cell Matrix background is shown.

The following cell states are available in the Cell Matrix when the **Master** page is selected in the Edit area:

- **In focus and selected for editing**: When you click on a cell, it is in focus and highlighted with a grey frame. When selecting multiple cells for editing, all selected cells are highlighted with a grey frame. Only the the cell clicked last is in focus.

- **Routed to current bus**: When selecting the **Master** or any of the **Buses** in the Master page, the cells assigned to the **Master** or the respective bus are highlighted. All other cells are dimmed.

- **Routed to side-chain input**: When a cell is routed to the side-chain input of the **Compressor** module on the **Master** page, the cell displays **SC** in its lower right corner. For more information, refer to Compressor.

8.3. Cell Colors

Cells in the Cell Matrix can have different colors to signify their contents. All Factory Kits use the same color scheme so you can easily find the sounds you are looking for within a Kit. You can change the color assigned to a cell, or a selection of multiple cells, to match your own Kits to the official color scheme, or create your own custom color schemes.

8.3.1. Color Scheme

The color scheme used for the Factory Kits is made out of seven of the 16 available colors in the color palette. The colors have been chosen to offer contrast between highly differentiated sounds, and similarity between related sounds.

The color palette in the Cell's context menu

The following colors are used in the Factory Kits:

(**1**): Kicks

(**4**): Snares

(**2**): Toms and percussion

(**9**): Hi-hats

(**8**): Cymbals

(**16**): Claps

(**11**): Other

8.3.2. Changing Cell Colors

To change the color of a cell:

1. Right-click the cell to open the context menu.
2. Select a color from the **Cell Color** submenu by clicking on it.

The cell shows the selected color.

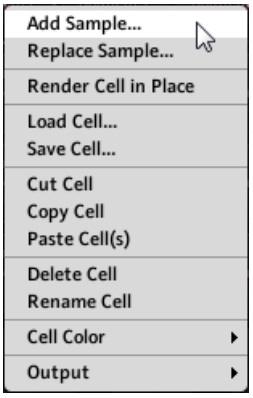
You can change the color of multiple cells by selecting them before opening the context menu. For more information, refer to Cell Matrix.

8.4. The Cell Context Menu

The cell context menu provides various options related to the cell.

- To open the context menu, right-click on a cell in the Cell Matrix.

The cell context menu contains the following entries:



- **Add Sample...**: Opens the file browser that allows you to load a sample from your hard drive and add it to the cell. You can also add samples to a cell using drag and drop.

- **Replace Sample...**: Opens the file browser that allows you to replace the cell's content with a sample from your hard drive.
- **Render Cell in Place**: Renders the cell and all of its effects into a new sample that replaces the existing cell content. For more information, refer to Applying Effects.
- **Load Cell...**: Opens the file browser that allows you to replace the cell's content with a BATTERY Cell file (*.nbcl) from your hard drive.
- **Save Cell...**: Opens the file browser that allows you to save the cell's content to a new BATTERY Cell file (*.nbcl) on your hard drive.
- **Cut Cell**: Cuts the cell including its content and settings to the clipboard.
- **Copy Cell**: Copies the cell including its content and settings to the clipboard.
- **Paste Cell(s)**: Pastes the content from the clipboard to the currently selected cell(s).
- **Delete Cell**: Deletes the cell content and resets all parameters and settings to their default values.
- **Rename Cell**: Renames the cell.
- **Cell Color**: Opens a submenu that you can use to change the color of the cell. For more information, see Changing Cell Colors.
- **Output**: Selects the output for the cell. A cell can be routed to the **Master** or one of the four **Buses** on the Master page, or a **Direct Out** that can be sent to a dedicated track in your DAW.

9. Quick Access Area

The Quick Access area provides quick access to the most frequently used tools for cell editing. The Quick Access area is located below the Cell Matrix, and consists of the **Waveform control**, **Sample selector**, and the **Quick Access controls**. The Quick Access area is displayed at all times, unless the **Editor** page or **Master** page is open. For more information, refer to Editor Page and Master Page.

The Quick Access area consists of the following options and controls:

1. **Waveform control**: Provides controls to adjust the start and end points of a sample, apply envelopes, quick-load samples, and select sample layers from the cell for editing:
   - **Sample Start/End markers**: Adjusts the sample's start and end points, by clicking and dragging the start (**S**) and the end markers (**E**), respectively.
   - **Volume Envelope overlay**: Only visible when the **Volume Envelope** module on the **Main** page is active. For more information on how to adjust the volume envelope settings, see Main Page.
   - **Pitch Envelope overlay**: Only visible when the **Pitch Envelope** module on the **Main** page is active. For more information on how to adjust the volume envelope settings, see Main Page.
   - **Zooming/scrolling**: Click and drag up/down anywhere in the waveform to zoom in/out on the sample, respectively. Click and drag left/right anywhere in the waveform to scroll left/right in the sample.
2. **Sample selector**: Displays the name of the currently loaded sample / sample layer. The adjacent arrow buttons allow you to quick-load other samples into the cell. This works in two ways:
   - In case the current sample was loaded via the Files Browser (see also Files Browser) or per drag-and-drop, clicking on the arrow buttons will load **the next/previous sample available in the current sample's folder**.
   - If the current sample was loaded via the Library Browser (see also Library Browser), clicking on the arrow buttons will load **the next/previous sample available in the Library**, taking into account the tags you have used to narrow down your selection when loading the current sample.

   Whenever there is more than one sample layer in a cell, an additional drop-down menu appears on the left side of the sample name field. From that menu, you can select the sample layer to be displayed and edited in the Waveform control.

> ⓘ Keep in mind that the controls on the right side of the Waveform Control (**Tune**, **Pan** etc.) affect the whole cell, not the individual sample layers. Tuning, panning, and volume settings for individual sample layers can be done from the Editor page, see Editor Page.

3. **Quick Access controls**: This area controls the basic sonic characteristics, and the MIDI key assignments of the selected cell(s).
    - **Tune knob**: Changes the pitch of the cell and all sample layers contained, with a range of +3 to-3 Octaves. Turn the knob right to raise the pitch up, and turn the knob left to decrease the pitch down. Hold [Shift] while turning the know to finely adjust the parameter.
    - **Reverse button**: Click this button to reverse playback for the cell (and all sample layers contained).
    - **Pan knob**: Click + drag this knob to position the cell in the stereo field. [Shift] + click + drag to finely adjust this parameter.
    - **Level meter/slider**: Monitors the cell's output level. Click and drag the slider up/down to adjust the level. [Shift] + click + drag to finely adjust this parameter.
    - **Key Range control**: Determines the MIDI note(s) that trigger the cell. For example, a **Key Range** of **C2 / C2** means that the cell will play only upon receiving data from MIDI note C2. If you set it to **C1 / E1**, then all notes in that range will trigger the cell, i.e., C1, C#1, D1, D#1, and E1. You can double-click the field and enter an alphanumeric value, or click the Learn button (MIDI icon) and press two keys on your keyboard, one after the other. Make sure the **Selection Follows MIDI Input** button in the Header is deactivated when using the **Learn** button, otherwise the cell focus will switch to another cell when pressing a key on your keyboard. See also, Header.
    - **Phase Invert button**: Inverts the phase of the cell.
    - **L/R Swap button**: Swaps the stereo channels of the cell.

10. Main Page

The **Main** page holds the basic tools for adjusting the sound of the individual cells within your Kit; pitch and volume envelope modules, basic filters, a sample engine selection, a one-knob compressor, and send controls for delay and reverb effects can be found here.

The Main page in the Edit area.

10.1. Volume Envelope

Apply a volume envelope to the currently active cell from here. When hovering over this module, you can see the envelope shape against the waveform in the Waveform Control (refer to Quick Access Area).

The **Volume Envelope** module contains the following parameters and controls:

The Volume Envelope module.

- **Power**: Activates/deactivates the envelope.
- **Envelope mode**: The two envelope symbols on the right side of the section header let you choose between two basic types of volume envelope: AHDSR (Attack, Hold, Decay, Sustain, Release), which is represented by the left envelope symbol, and AHD (Attack, Hold, Decay), which is represented by the right envelope symbol. Typically, the AHDSR envelope is for sustained samples, while the AHD envelope is more for “one-shot” sample playback. AHD mode disables the Sustain and Release controls below.
- **Attack**: Adjusts the time it takes for the envelope to reach its maximum level.
- **Hold**: Adjusts how long the envelope will remain at its maximum level. Set this to 10-30ms to add punch to the signal.
- **Decay**: Adjusts the time it takes for the envelope to fall from the hold level to the sustain level.
- **Sustain**: Adjusts the level that will be maintained in the sustain phase as long as the incoming MIDI note is held. Sustain control is not available in AHD mode (see envelope mode selectors description above).

- **Release**: Adjusts the time it takes to return to zero level after receiving a MIDI note-off command (for instance, the MIDI trigger ends). Release control is not available in AHD mode (see envelope mode selectors description above).

> In case you selected multiple cells before activating the envelope, the most recently selected cell (with a colored frame) will be displayed in the Waveform Control; however, all selected cells (those with a gray frame) will be affected by the envelope settings.

10.2. Pitch Envelope

Apply a pitch envelope to the currently active cell from here. You can see the envelope shape against the waveform in the Waveform Control when hovering over this module.

The **Pitch Envelope** module contains the following parameters and controls:

The Pitch Envelope module.

- **Power**: Activates/deactivates the envelope.
- **Envelope mode**: The two envelope symbols on the right side of the section header let you choose between two types of pitch envelope: standard mode (with **Amount**, **Decay 1**, **Break**, and **Decay 2** controls), which is represented by the left envelope symbol, and easy mode (with only an **Amount**, and a **Decay** control), which is represented by the right envelope symbol.
- **Amount**: Sets the degree to which the envelope affects pitch.
- **Decay 1**: Adjusts the time for the envelope to go from its initial level (as set with the **Amount** control) to the level set with the **Break** knob.
- **Break**: Adjusts the point where the envelope *breaks*, for instance, the min/max value from where it moves back towards zero (the pitch can be either higher or lower than the cell's normal pitch).
- **Decay 2**: Adjusts how long it takes for the level set with the **Break** knob to decay back to zero again.

> In case you selected multiple cells before activating the envelope, the most recently selected cell (with a red frame) will be displayed in the Waveform Control; however, all selected cells (those with a gray frame) will be affected by the envelope settings.

10.3. Velocity

Lets you adjust how much the input velocity will affect the volume and pitch of triggered cells.

The **Velocity** module contains the following parameters and controls:

The Velocity module.

- **To Volume**: Adjusts how input velocity will affect the volume of triggered cells. When set to **0 %**, velocity will not affect the volume of the triggered cell, for instance., no matter how hard you hit the key or pad, the output volume will always be 100% of the cell's volume setting. Turning the knob all the way to the right will translate the input velocity to a percentage of the cell's volume level (with an underlying minimum value of -inf dB).
- **To Pitch**: Adjusts how input velocity will affect the pitch of triggered cells. When set to **0 st.**, velocity will not affect the pitch of the triggered cell, for instance, no matter how hard you hit the key or pad, the cell will always play at its original pitch. Turning the knob to the right will translate the input velocity to semitones (with an underlying minimum value of **0 st.**, and a maximum value of **+12 st.**)

10.4. Engine

The engine module allows you to select between two basic sampler engine modes: **Sampler** mode and **Stretch** mode. The former has an additional submode that emulates the sound of two legendary hardware samplers. An additional mode, **Beat** mode, is available for samples containing timing information, such as REX files, ACID wav files, and Apple Loop files.

The **Engine** module contains the following parameters and controls:

The Engine module.

- **Sampler**: In Sampler mode, BATTERY stores sample data in the system memory, reads it out from memory, and applies any needed pitch-shifting by re-sampling the audio data.
  - **Standard**: Activates BATTERY's standard sampler engine.
  - **Vintage**: Activates vintage interpolation modes, which emulate the sonic characteristics of two legendary samplers often used in Hip Hop and electronic music. With Vintage mode active, you can select one of the sampler emulations from the drop-down menu below.
  - **DFD**: Streams samples Direct From Disk instead of RAM. This is important if you have large samples but limited RAM.
- **Stretch**: In Stretch mode, BATTERY uses granular synthesis to alter sample speed while preserving the original pitch information.
  - **Standard**: Activates BATTERY's standard stretch engine. It contains the following parameters:
    - **Grain**: Adjusts the size of the sound particles used for resynthesis.
    - **Speed**: Changes the playback rate independently of pitch. The length values are expressed as a percentage of the original length: for example, 100% plays back the sound at the original speed, 200% doubles the speed, 50% halves the speed, etc.
    - **Smooth**: Adjusts the number of granular micro-envelopes to reduce unwanted artifacts, thus altering the sonic character of the resynthesis process. Note that small values generally cause a buzzier sound.
  - **Pro**: Activates BATTERY's Pro stretch engine.
    - **Speed**: Changes the playback rate independently of pitch. The length values are expressed as a percentage of the original length: for example, 100% plays back the sound at the original speed, 200% doubles the speed, 50% halves the speed, etc.
- **Beat**: Sets options for Beat mode. When you load a sample containing timing information (such as a REX file, an ACID wav file, or an Apple Loop file) into a cell in BATTERY, the Engine module will automatically be set to Beat mode. The individual slices of the sample will playback at the speed determined by the module's controls, or synchronized to BATTERY's internal clock (or that of your host application), depending on the module's settings in its Sync menu. It contains the following parameters:
  - **Expand**: Expands the individual slices of the sample to individual cells in BATTERY, starting with the next empty cell. In BATTERY's preferences (refer to Loading), there is also a setting to make this the default behavior.
  - **Sync**: Adjusts the sync mode between BATTERY and your DAW. Selecting **Sync Off** uncouples the sample from BATTERY's internal tempo or that of your host software. Selecting one of the note values synchronizes the sample's slices to the beats of BATTERY's internal clock (or that of your host software).
  - **Speed**: Alters the sample's playback speed without altering its pitch.
  - **Smooth**: Adjusts the attack and release of the individual slices to prevent clicks.

10.5. Filter

A simple high-pass/low-pass filter to be applied to the selected cells.

The **Filter** module contains the following parameters and controls:

The Filter module.

- **Power**: Activates/deactivates the filter.
- **High Cut**: Sets the frequency above which the signal will be attenuated.
- **Low Cut**: Sets the frequency below which the signal will be attenuated.

10.6. Compressor

A one-knob control feedback compressor to smooth out the audio signal.

The **Compressor** module contains the following parameters and controls:

The Compressor module.

- **Power**: Activates/deactivates the module.
- **VU meter**: Displays the amount of gain reduction in real-time.
- **Amount**: Adjusts the amount of compression.

10.7. Sends

Contains two knobs that control the amount of the signal to be sent to the delay and reverb units in the **Master** page (refer to Master Page).

The **Sends** module contains the following parameters and controls:

The Sends module.

- **Delay**: Determines the amount of signal to be sent to the **Delay** module on the **Master** page.
- **Reverb**: Determines the amount of signal to be sent to the **Reverb** module on the **Master** page.

Refer to Master Page for instructions on adjusting the delay and the reverb module.

11. Effects Page

The **Effects** page consists of a number of effects that can be applied to the selected cell. You can make subtle changes and adjustments or radically change the character of your sounds.

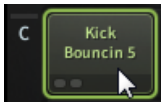
The Effects page in the Edit area.

11.1. Applying Effects

The effects on the Effects page can be applied to a cell in real-time, or rendered into a new sample that replaces the existing content in the cell. Rendering effects is useful for creating new sounds, but also for reducing the CPU load.

To apply an effect to a cell in real-time:

1. Select the cell you want to apply the effect to by clicking on it.



> You can select multiple cells for editing using [Ctrl] + click (Windows) or [Cmd] + click (macOS).

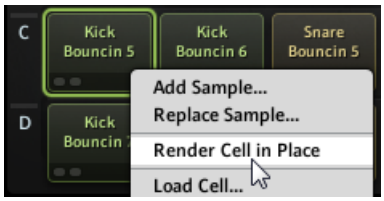
2. Click the Module On/Off button in the upper left corner of the module to activate the effect.

When you trigger the cell, the effect is applied in real-time.

To render the effects into a new sample that replaces the existing content in the cell:

1. Right-click the cell to open the context menu.

2. Select **Render Cell in Place**.



The newly rendered sample is loaded in the cell. The effects are deactivated automatically.

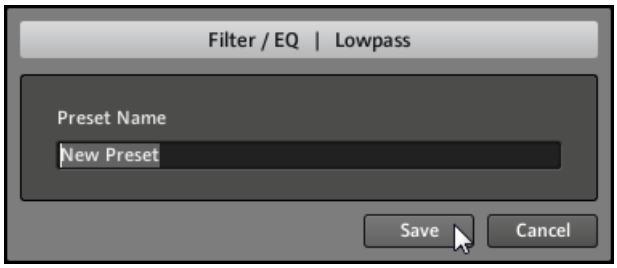
11.2. Using Effect Presets

Each effect on the **Effects** page comes with a set of presets that you can access using the Preset menu. It is located next to the module name (arrow icon). The Preset menu contains two submenus for **Factory** and **User** content.

To save the current effect settings as a User preset:

1. Click the arrow icon next to the module name to open the Preset menu.
2. Select **Save Preset…**.

3. Enter a **Preset Name** for your new User preset .



4. Click **Save**.
   A new User preset containing your settings is saved to the hard drive. The preset will appear in the **User** submenu of the module's Preset menu.

To load a preset from the Preset menu:

1. Click the arrow icon next to the module name to open the Preset menu.

2. Go to either the **Factory** or **User** submenus and select a preset from the list.

The effect settings contained in the preset are loaded in the module.

11.3. Saturation

The **Saturation** module emulates the behavior of analog circuits when signal levels go into overdrive and clipping. This reduces signal peaks and add the same time adds harmonic content to the signal, creating the warm and full sound associated with analog saturation. When taken to the extreme, the module can be used to create distortion effects.

This module contains the following parameters and controls:

- **Module On/Off**: Activates or deactivates the module.
- **Preset menu (arrow button)**: Opens the Preset menu that enables you to load factory presets or save and recall your own user presets.
- **Mode Selector**: Selects one of three available saturation modes, **Classic**, **Drums**, and **Tape**.
- **Gain**: Adjusts the input level of the module, effectively controlling the amount of saturation applied to the signal.
- **Warmth**: Adjusts the level of low-frequency content in the signal. This control is only available in **Tape** mode.
- **HF**: Adjusts the cutoff frequency of a low-pass filter applied to the signal. Frequency content exceeding the cutoff frequency is attenuated. This control is only available in **Tape** mode.
- **Output**: Adjusts the output level of the module.

11.4. LoFi

The **Lo-fi** module decreases the quality of the signal by lowering the resolution or sample rate, and by adding noise and coloration to it.

This module contains the following parameters and controls:

- **Module On/Off**: Activates or deactivates the module.
- **Preset menu (arrow button)**: Opens the Preset menu that enables you to load factory presets or save and recall your own user presets.
- **Bits**: Adjusts the amount of available quantization values by setting the bit depth. Each sample of the signal is quantized to the available values. A lesser amount of values results in a more distorted sound.
- **Hertz**: Adjusts the sampling frequency at which the input signal is resampled.
- **Noise**: Adjusts the amount of noise added to the signal.
- **Color**: Adjusts the sound character of the noise signal by applying a low-pass filter.
- **Output**: Adjusts the output level of the module.

11.5. Filter / EQ

The **Filter / EQ** module shapes the frequency content of signals, not unlike equalizers. You can use it to polish and clean up sounds, or add color and resonances. The filter modes offer a selection of different filter types, each with their own unique character.

This module contains the following parameters and controls:

- **Module On/Off**: Activates or deactivates the module.
- **Preset menu (arrow button)**: Opens the Preset menu that enables you to load factory presets or save and recall your own user presets.
- **Mode selector**: Selects one of seven filter modes that determine the basic character of the filter, **Solid G EQ**, **3-band EQ**, **Lowpass**, **Highpass**, **Bandpass**, **Peak/Notch**, **Effect**. The following sections describe each of the modes in detail.
- **Type selector**: Selects different filter types in **Lowpass**, **Highpass**, **Bandpass**, **Peak/Notch**, **Effect** mode, and the frequency band in **Solid G-EQ** and **3-band EQ** mode.

- **Filter controls**: Adjust the available parameters for the selected filter mode.

> Since filters require a considerable amount of CPU power, it is recommended to switch this module off when it is not in use.

11.5.1. Solid G-EQ

Solid G-EQ mode emulates the 4-band parametric equalizer of a highly regarded mixing desk. It offers four dedicated frequency bands that can be used simultaneously.

You can select the frequency band for editing using the Type selector:

- **L**: Low frequency band
- **LM**: Low-mid frequency band
- **HM**: High-mid frequency band
- **H**: High frequency band

The following controls are available in this mode:

- **Freq**: Adjusts the filter frequency of the respective frequency band.
- **Bell**: Switches the **L** and **H** frequency bands to a bell instead of a shelf filter.
- **Q**: Adjusts the Q factor, or resonance, of the **LM** and **HM** frequency bands. The Q factor determines the width of the frequency band around the filter frequency that is attenuated or boosted.
- **Output**: Adjusts the output level of the module.

11.5.2. 3-Band EQ

3-Band EQ mode is a classic parametric equalizer. It offers three flexible frequency bands that can be used simultaneously.

You can select the frequency band for editing using the Type selector:

- **Band 1**
- **Band 2**
- **Band 3**

The following controls are available in this mode:

- **Freq**: Adjusts the filter frequency of the respective frequency band.
- **BW**: Adjusts the Q factor, or resonance, of the respective frequency band. The Q factor determines the width of the frequency band around the filter frequency that is attenuated or boosted.
- **Gain**: Adjusts the output level of the respective frequency band. Setting Gain to high values can be used to apply a soft saturation effect.

11.5.3. Lowpass

Lowpass mode is a resonant filter that attenuates frequency content above the cutoff frequency, creating a darker sound. It offers four different filter types that change the character of the filter.

You can select the filter type using the Type selector:

- **Ldr 1P**: 1-pole ladder filter with a -6 dB/octave slope
- **Ldr 2P**: 2-pole ladder filter with a -12 dB/octave slope
- **Ldr 4P**: 4-pole ladder filter with a -24 dB/octave slope
- **Daft**: Aggressive 2-pole filter with a -12 dB/octave slope

The following controls are available in this mode:

- **Cutoff**: Adjusts the cutoff frequency.
- **Reso**: Adjusts the resonance amount of the filter. Turning the control to the right makes the frequency content at the cutoff frequency more pronounced.
- **Gain**: Adjusts the output level of the filter. Setting Gain to high values can be used to apply a soft saturation effect. This control is not available when selecting the **AR** filter types.

11.5.4. Highpass

Highpass mode is a resonant filter that attenuates frequency content below the cutoff frequency, creating a brighter sound. It offers four different filter types that change the character of the filter.

You can select the filter type using the Type selector:

- **Ldr 1P**: 1-pole ladder filter with a -6 dB/octave slope
- **Ldr 2P**: 2-pole ladder filter with a -12 dB/octave slope
- **Ldr 4P**: 4-pole ladder filter with a -24 dB/octave slope
- **Daft**: Aggressive 2-pole filter with a -12 dB/octave slope

The following controls are available in this mode:

- **Cutoff**: Adjusts the cutoff frequency.
- **Reso**: Adjusts the resonance amount of the filter. Turning the control to the right makes the frequency content at the cutoff frequency more pronounced.
- **Gain**: Adjusts the output level of the filter. Setting Gain to high values can be used to apply a soft saturation effect. This control is not available when selecting the **AR** filter types.

11.5.5. Bandpass

Bandpass mode is a resonant filter that attenuates frequency content above and below the cutoff frequency, creating a thinner and more focused sound. It offers four different filter types that change the character of the filter.

You can select the filter type using the Type selector:

- **Ldr 2P**: 2-pole ladder filter with a -12 dB/octave slope
- **Ldr 4P**: 4-pole ladder filter with a -24 dB/octave slope
- **SV 2P**: 2-pole state-variable filter with a -12 dB/octave slope
- **SV 4P**: 4-pole state variable filter with a -24 dB/octave slope

The following controls are available in this mode:

- **Cutoff**: Adjusts the cutoff frequency.
- **Reso**: Adjusts the resonance amount of the filter. Turning the control to the right makes the frequency content at the cutoff frequency more pronounced.
- **Gain**: Adjusts the output level of the filter. Setting Gain to high values can be used to apply a soft saturation effect. This control is not available when selecting the **AR** filter types.

11.5.6. Peak/Notch

Peak/Notch mode is a resonant filter that can create either peaks or notches in the frequency spectrum. It offers four different filter types that change the character of the filter.

You can select the filter type using the Type selector:

- **Ldr Peak**: Ladder peak filter that boosts frequency content at the cutoff frequency. The amount of boost can be set using **Reso**.
- **Ldr Notch**: Ladder notch filter that attenuates frequency content in two narrow bands above and below the cutoff frequency.
- **SV Notch**: 4-pole state-variable notch filter that attenuates or boosts frequency content at the cutoff frequency. The amount of attenuation or boost can be set using **Reso**.
- **SV BR**: State-variable band reject filter that attenuates frequency content in a narrow band slightly below cutoff frequency.

The following controls are available in this mode:

The following controls are available per filter: **Cutoff** (adjusts the frequency below which signals will be attenuated); **Reso** (with a value greater than 0, this control will boost a small frequency range around the cutoff frequency); and **Gain** (controls the amplitude increase after the filter, which can be used to compensate for amplitude reduction due to the filter, or to increase the soft saturation of the effect — this one is only available for **Ldr Peak** and **Ldr Notch**).

- **Cutoff**: Adjusts the cutoff frequency.
- **Reso**: Adjusts the resonance amount of the filter. Turning the control to the right makes the frequency content at the cutoff frequency more pronounced.
- **Gain**: Adjusts the output level of the filter. Setting Gain to high values can be used to apply a soft saturation effect. This control is not available when selecting the **Ldr** filter types.

11.5.7. Effect

Effect mode is a collection of special filters that transform the frequency spectrum in specific ways. It offers four different filter types that change the character of the filter.

You can select the filter type using the Type selector:

- **Frm 1**: Variation 1 of a formant filter that produces resonances typical to those of the human voice.
- **Frm 2**: Variation 2 of a formant filter that produces resonances typical to those of the human voice.
- **Vow A**: Variation A of a special filter that mimics the way vowel sounds are produced by the human mouth, similar to classic talk box effects.
- **Vow B**: Variation B of a special filter that mimics the way vowel sounds are produced by the human mouth, similar to classic talk box effects.

- **Phaser**: Classic phaser effect that produces a number of peaks and troughs in the frequency spectrum.

The following controls are available in this mode when the **Vow** or **Phaser** filter types are selected:

- **Cutoff**: Adjusts the filter frequency, effectively shifting the position of the effect in the frequency spectrum.
- **Reso**: Adjusts the resonance amount. Turning the control to the right makes the effect more pronounced.

The following controls are available in this mode when the **Frm** filter types are selected:

- **Talk**: Adjusts the the frequency response of the filter in order to produce different vowel sounds.
- **Sharp**: Adjusts the resonance amount. Turning the control to the right makes the effect more pronounced.
- **Size**: Adjusts the filter frequency, effectively shifting the position of the effect in the frequency spectrum.

11.6. Compressor

The **Compressor** module is a classic studio effect that shapes the contour and dynamics of a signal. It can be used to add punch, bring out the attack or sustain of sounds, increase overall loudness, or distort the signal.

This module contains the following parameters and controls:

- **Module On/Off**: Activates or deactivates the module.
- **Preset menu (arrow button)**: Opens the Preset menu that enables you to load factory presets or save and recall your own user presets.
- **Mode Selector**: Selects one of four available compressor modes that offer different flavors of compression, **Solid Bus Comp**, **Classic**, and **Pro**.
- **Threshold (Compressor)**: Adjusts the threshold level of the compressor. When the control signal rises above the threshold, gain reduction at a ratio set using the **Ratio** control is applied to the signal. Turning **Threshold** to the left lowers the threshold, which increases the amount of gain reduction by making the compressor more sensitive to low input levels.
- **Ratio**: Adjust the relative amount of gain reduction applied to signals rising above the threshold. When turned fully to the left, minimal gain reduction is applied. When turned fully to the right, the compressor acts as a limiter.
- **Attack**: Adjusts the attack time, which is the time it takes the compressor to apply the full amount of gain reduction after the control signal rises above the threshold.

- **Release**: Adjusts the release time, which is the time it takes the compressor to stop applying gain reduction after the control signal falls below the threshold.
- **Makeup**: Adjusts the amount of gain added to the signal after the compression. You can use this control to compensate for the gain reduction applied by the compressor and thus increase the overall loudness of the signal. This control is only available in **Solid Bus Comp** mode.
- **Mix**: Blends the input signal with the effect signal, facilitating parallel compression. When the control is turned fully to the left, only the input signal is sent to the output. Turning the control to the right adds the compressed signal to the output. When turned fully to the right, only the compressed signal is sent to the output. This control is only available in **Solid Bus Comp** mode.
- **Output**: Adjusts the output level of the module.

> Since compression requires a considerable amount of CPU power, it is recommended to switch this module off when it is not in use.

11.7. TM (Transient Master)

The **TM** (Transient Master) module enables you to emphasize or attenuate the transients of your audio material by manipulating its attack and sustain phases. Unlike compressors and limiters, it does not use the level of your signal to decide when to come into effect, but rather modifies the envelopes of every attack and sustain phase. A notable benefit of this processing is that it affects all parts of the signal, whatever their level is, therefore retaining the natural character of your sound.

This module contains the following parameters and controls:

- **Module On/Off**: Activates or deactivates the module.
- **Preset menu (arrow button)**: Opens the Preset menu that enables you to load factory presets or save and recall your own user presets.
- **Attack**: Sharpens/softens the attack phases in your signal. With the knob at the center position, the attack phases are not altered. From this position, turning the **Attack** knob to the left softens the attack phases, while turning it to the right sharpens them.
- **Sustain**: Prolongs/shortens the sustain phases in your signal. With the knob at the center position, the sustain phases are not altered. From this position, turning the **Sustain** knob to the left shortens the sustain phases, while turning it to the right prolongs them.
- **Input**: Adjusts the input level of the module.

- **Output**: Adjusts the output level of the module.

12. Modulation Page

The **Modulation** page allows you to modulate your sound with a variety of sources, including LFOs (Low-Frequency Oscillators), envelopes, aftertouch, and external MIDI controllers.

The Modulation page in the Edit area.

This can not only add dynamics and color to a patch, but in conjunction with a software sequencer host, it can automate functions that add dramatic, real-time changes. Since these modulation sources can also be MIDI controllers, it's possible to feed signals from external hardware MIDI fader boxes and manipulate the sound as a real-time performance. If you record these signals in a sequencer, you can have the best of both worlds: real-time improvisation and signal warping, recorded as automation data for later playback.

12.1. LFO 1 and LFO 2

The LFOs (Low-Frequency Oscillators) provide a periodic modulation effect.

The **LFO 1** and **LFO 2** modules contain the following settings and options:

The LFO modules.

- **Waveform selection menu**: Selects from sine, saw, pulse, or random waveforms.
- **Sync selection menu**: Syncs the frequency to BATTERY's internal tempo, or to your host's tempo when using BATTERY as a plug-in in sync mode (refer to **Sync** in Header). In the latter case, **Freq** indicates note values rather than an absolute rate.
- **Retrigger**: Retriggers the LFO cycle on each incoming note.
- **Freq**: Varies the LFO modulation rate.
- **Attack**: Sets the time over which the LFO signal fades in after triggering.
- **PW**: Adjusts the waveform's duty cycle. For example, it can continuously vary the square waveform's width.

12.2. Modulation Envelope

When triggered, the envelope adds a modulation signal that varies over time in a non-periodic way.

The **Modulation Envelope** module contains the following settings and options:

The Modulation Envelope module.

- **Envelope mode selection menu**: The two envelope symbols on the right side of the module header let you choose between two basic types of volume envelopes:
  - **AHDSR** (left): An AHDSR (Attack, Hold, Decay, Sustain, Release) envelope. Typically the AHDSR envelope is for samples with a significant sustain time (especially when played from a MIDI keyboard).
  - **AHD** (right): A simple AHD (Attack, Hold, Decay) envelope. This envelope is well suited for one-shot sample playback.
- **Curve knob**: Adjusts the shape of the envelope curves from concave to linear (0) to convex.
- **Attack knob**: Adjusts the time it takes for the envelope to reach its maximum level.
- **Hold knob**: Adjusts how long the envelope will remain at its maximum level. Set this to 10-30ms to add punch to a signal.
- **Decay knob**: Adjusts the time it takes for the envelope to fall from the held level to the sustain level.
- **Sustain knob**: Adjusts the level maintained in the sustain phase as long as the incoming MIDI note is held. The Sustain control is not available in AHD mode.
- **Release knob**: Adjusts the time it takes to return to zero level after receiving a MIDI note-off command (for instance, the MIDI trigger ends). Release control is not available in AHD mode.

12.3. Modulation Slots

This module provides up to eight modulation paths on two pages (**1 - 4** and **5 - 8**), each selected by a corresponding drop-down menu.

A modulation path consists of a modulation source and a modulation destination. The amount slider determines the amount of modulation.

> ⓘ Note that certain modulation sources cannot be routed to specific targets. Therefore, these targets will not be available from the corresponding modulation destination selection menu on the right side.

The **Modulation Slots** module contains the following settings and options:

The Modulation Slots module.

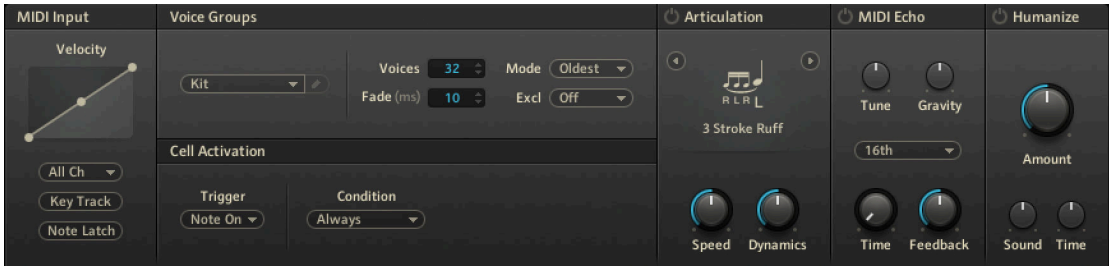
- **Modulation Source selection menu**: Selects the modulation source.
- **Inv. button**: Changes the amount of the Modulation Amount slider into a negative value.
- **Modulation Amount slider**: Determines the depth of the effect on the modulation destination. The range is from 0% to 100%. If any combination of modulations exceeds an effect level of 100%, the value will be limited to the maximum value.
- **Modulation Destination selection menu**: Selects the modulation destination.

If the modulation intensity is not sufficient for some reason, you can route several modulation strips to one destination!

13. Setup Page

The **Setup** page provides tools specifically designed for drum playing and programming. You can use them to fine-tune cells/Kits or create totally new sounds out of the existing library content. All effects/parameters are cell-based, which means that each cell can have totally different settings.

- To open the Setup page, click on the **Setup** tab at the bottom of the application.



The Setup page in the Edit area.

13.1. MIDI Input

The **MIDI Input** module lets you customize the MIDI channel and velocity response of cells and change their trigger behavior.

The **MIDI Input** module contains the following settings and options:

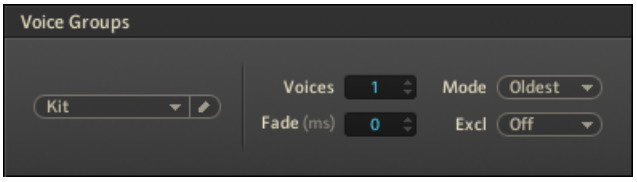
The MIDI Input module.

- **Curve**: Adjusts the velocity curve for a cell using handles.
- **MIDI channel**: Specifies whether a cell should receive data from all MIDI channels or only a specific MIDI channel with this menu.
- **Key Track**: Sets key range tracking. When activated (lit) and the key range exceeds one note (refer to "Key Range control" in Quick Access Area), all samples in the current cell will change pitch in response to the MIDI input. For example, if the key range is C1-D1 and you play D1 with **Key Track** on, the pitch will be two semitones higher than if you had played C1. When deactivated, the cell's pitch will be determined solely by its root key and the **Tune** knob (refer to Quick Access Area).
- **Note Latch**: Activates "latch" for incoming notes. For instance, you can play a note to trigger the sample, play the note again to stop it.

13.2. Voice Groups

The **Voice Groups** module allows you to create virtual groups with limited voices. This can be useful when, for example, simulating a real drum set, where an open and a closed hi-hat would never occur at the same time, you'd assign both cells to a voice group and set the **Voices** setting to 1, which would allow only one of the cells in the voice group to play at a time. But there can be a number of creative reasons for using voice groups.

The **Voice Groups** module contains the following settings and options:



The Voice Groups module.

- **Voice group**: Assigns a cell to either no voice group (this is the default **Kit** setting) or to any of the 128 available voice groups from here. Use the pencil button to rename a voice group for more transparency.
- **Voices**: Sets the number of voices allowed for the given voice group (1 to 127) with this control.
- **Mode**: Selects a mode to decide which notes to choke if the voice group runs out of voices. You can choose from:
  - **Kill Any**: Removes any note.
  - **Kill Oldest**: Removes the earliest note played.
  - **Kill Newest**: Removes the last note played.
  - **Kill Highest**: Removes the highest note played.
  - **Kill Lowest**: Removes the lowest note. For example, if the voice group allows for three simultaneous voices, and you play four notes in a row, the first note will be muted for the fourth note to be audible when you set the Mode to **Kill Oldest**.
- **Fade (ms)**: Sets the time that voices overlap before cutting each other off completely (for instance, the previously played voice sustains for a while even after a new voice has been triggered). This prevents an overly abrupt transition between voices. Available settings are 0 to 999 milliseconds.
- **Excl**: This advanced programming feature allows for even more complex muting schemes; assign multiple voice groups to an exclude group to make the assigned groups mute each other.

You could assign a blank sample (no sound) to a group so that triggering this cell turns off any loops playing and silences the output.

Take some hi-hat sounds and set them to exclusive voice groups, for example, with the open hi-hat assigned to voice group 1 and the closed hi-hat to voice group 2. Now the open hi-hat sound can be set to more voices, five, for example. This allows some audio trails to be heard. The second voice group can be set to one voice. Both of these groups should now be assigned to exclude group 1. With this setup, you obtain the effect of trailing drum sounds while having a controlled polyphony (voice group 1), and you can still mute that group with the closed hi-hat.

13.3. Cell Activation

The **Cell Activation** module allows you to determine conditions under which a cell is triggered. Usually, a cell is triggered upon receiving a MIDI note, which is expressed by the default settings of **Trigger** being set to **Note On**, and **Condition** being set to **Always** in this module.

The **Cell Activation** module contains the following settings and options:

The Cell Activation module.

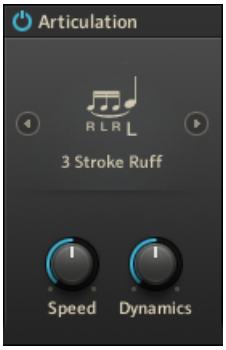
- **Tabbed pages 1 and 2**: The pages provide you with two menus for setting up nested conditions. Page **2** is only available when **Condition 1** is not set to **Always**.
- **Trigger**: A cell can be triggered either by a **Note On** command (default setting) or a **Note Off** command. If you choose **Note Off**, the cell will be triggered when you release the key. Velocity and duration will work the same way as **Note On**, only after you release the note. This is important when combining the **Note Off** trigger with articulations such as **Roll** or **Geiger Counter** in the **Articulation** module.

- **Condition 1 and 2**: The **Condition** menus provide the following options:
  - **Always**: **Always** Sets no condition for when a MIDI note triggers a cell. This is the default setting.
  - **Start on Key**: Activates a cell with a specific key/pad (range) on your keyboard. The two key-number fields (**Key Min** and **Key Max**) will appear right next to the menu when this option is selected. Here, you can set the specific key range that will trigger the cell by incoming MIDI notes. For example, if cell A1 is triggered by MIDI note C1 (which you assign with the **Key Range** controls of the Quick Access area; refer to Quick Access Area), and the Start On Key condition is set to C2/C2, then pressing C2 on your keyboard will activate the cell, that is, you will hear it playing upon pressing C1 on your keyboard. Press C2 again, and the cell will no longer be triggered by the C1 key.
  - **Start on Controller**: Allows cells to be triggered depending on the position of a MIDI controller, for example, on the position of the mod wheel. Choose the controller number of the controller you want to use for activating a cell (**CC**), then set the **Min** and the **Max** values in between of which the condition will be fulfilled.
  - **Cycle Round Robin**: Allows you to cycle through various cells using only one key on your keyboard. It's good to start with an example: select multiple cells and press the Learn button (the MIDI symbol button) in the Quick Access area (refer to Quick Access Area); then hit a key twice on your MIDI keyboard. You have just assigned all selected cells to be triggered by that one MIDI note; now, back in the **Setup** page, set the cell activation to **Cycle Round Robin**. You can now assign a **Position** in the cycle to each of the selected cells. For example, let's say you've assigned cells A1 through A6 to be triggered by MIDI note C1, and you have then assigned cells A1 through A6 to the **Position** numbers **1** to **6** in the cycle; the cells will then play successively when you hit MIDI note C1 on your controller repeatedly. Once you are familiar with this, it can turn out to be a very frequently used feature. **Position** sets the cell's position in the cycle; **Cycle Nr.** is used to set up further cycles that run simultaneously to the first one; **Reset CC** is used to assign a MIDI note to reset the relevant cycle to position 1.
  - **Cycle Random**: This works the same way the **Cycle Round Robin** function does, only you cannot influence the order of the cells being played.

13.4. Articulation

Use **Articulation** to add articulation presets to your performance. It is important to note that each articulation can sound different on different instruments. Also, since many of them alter velocity, be sure to check the **Velocity To Volume** modulation settings in the **Velocity** module on the **Main** page (refer to Main Page).

The **Articulation** module contains the following settings and options:



The Articulation module.

- **Power**: Activates/deactivates the module.
- **Articulation**: There are ten different articulation presets available in the articulation selection menu. Depending on the articulation selected, the buttons below will have different functions. Use them to adjust articulation parameters such as velocity, speed, or depth of the effect.
  - **Alternate Stroke**: Produces sounds that slightly vary in character.
  - **Release Stroke**: Plays the original note and produces a second stroke when you release your MIDI key.
  - **Flam**: Plays two notes in rapid succession, the first of which is a grace note.
  - **Drag**: Plays an exaggerated flam-like effect.
  - **3 Stroke Ruff**: Plays a nice military-style drum effect.
  - **Roll**: Plays a continuous drum roll.
  - **Buzz**: Produces a buzz-like effect.
  - **Muted**: Produces a "muted" version of your drum sound by quickly fading in and out.
  - **Speed Roll**: Plays a very fast drum roll. The duration of the triggered sample is also shortened, so even though many notes are triggered, the voice count is reasonable.
  - **Geiger Counter**: Produces a random Geiger-like effect.

13.5. MIDI Echo

The **MIDI Echo** module can be used to create a variety of tempo-syncable echo effects.

The **MIDI Echo** module contains the following settings and options:

The MIDI Echo module.

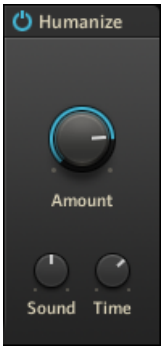
- **Power**: Activates/deactivates the module.
- **Tune**: Adjusts the tuning of the echoes.
- **Gravity**: Adjusts the gravity of the echoes. When turned clockwise, there'll be less gravity and the echoes get slower. When turned counterclockwise, the echoes get faster.
- **Note value**: Sets the echo time to either a tempo-based value (which is synchronized to BATTERY's tempo control or your host's tempo), or an absolute time-based value (**Sync Off**), which is independent of the host tempo.
- **Time**: Adjusts the Echo time. If you select **Sync Off** from the note value selection menu above, the **Time** knob will let you set an absolute echo time value of 10 to 1000 milliseconds. With sync activated, the value depicted represents the numerator for the note value.

- **Feedback**: Sets the number of echoes from 1 to 100. If you feel that adjusting this control has no effect, make sure to check the **Velocity To Volume** modulation settings in the **Velocity** module on the **Main** page (refer to Main Page). With a high modulation amount (near 100), the last echoes might not be audible.

13.6. Humanize

The Humanize module can add slight randomization to the sonic characteristics and the timing of your performance.

The **Humanize** module contains the following options:



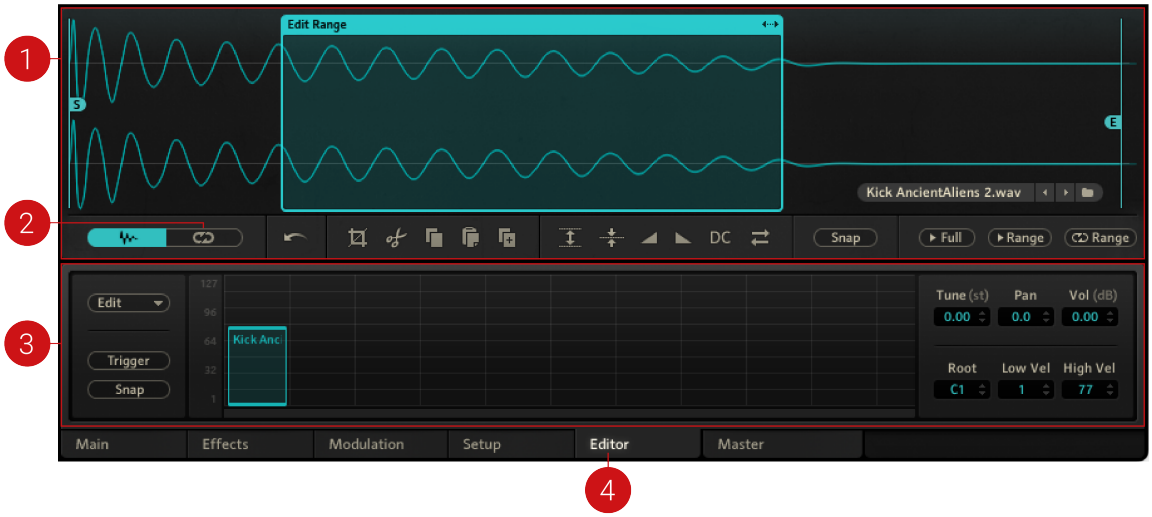
The Humanize module.

- **Power**: Activates/deactivates the module.
- **Amount**: Adjusts the amount of randomization of **Sound** and **Time**.
- **Sound**: Slightly randomizes the sonic characteristics such as velocity, tune, and volume.
- **Time**: Slightly randomizes the timing of the notes played.

14. Editor Page

The **Editor** page contains audio editing tools, a loop editor, and a layer and mapping editor, all of which provide you with extensive editing features for cells, down to the level of editing individual sample layers within a cell. When the Editor page is opened, The Quick Access area is converted to a full-blown Wave and Loop Editor. For more information, refer to Quick Access Area.

The Editor page contains the following main sections and elements:



The Editor page

1. **Wave Editor**: Allows you to edit the audio samples within a cell. When there are multiple sample layers in a cell, you can edit each of the layers individually. For more information, refer to Wave Editor.
2. **Loop Editor**: Allows you to create up to four loop regions in a sample and create loops for each individual sample layer. For more information, refer to Loop Editor.
3. **Mapping Editor**: Allows you to edit sample layers and define velocity trigger zones for the sample layers in a cell, enabling you to restrict sample layers triggering within certain velocity zones. For more information, refer to Mapping Editor.
4. **Editor page**: Opens the Editor page when selected.

14.1. Wave Editor

The Wave Editor allows you to destructively edit the audio samples within a cell. When there are multiple sample layers in a cell, you can edit each of the layers individually.

To open the Wave Editor:

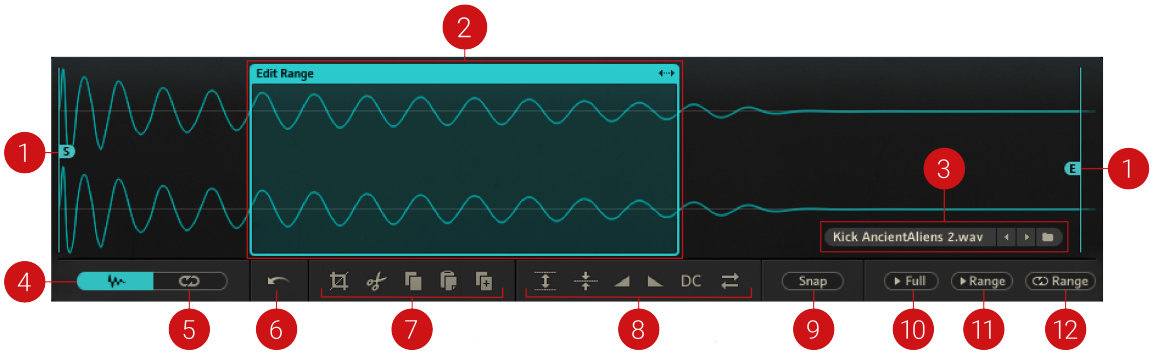
- Click the Wave Editor button below the Waveform Control.

Storing of edited samples differs between the stand-alone application and the plug-in:

- **Stand-alone**: BATTERY automatically stores new files for all edited samples when saving a Kit using the option **Patch + Samples**. Alternatively, you can render a new sample including all edits and effects using **Render Cell in Place** from the cell context menu. For more information, refer to Applying Effects.

- **Plug-in**: Once you make a destructive edit in the Wave Editor, BATTERY asks you whether or not to store your edited samples. By clicking **Yes**, edited samples are stored as new files on the hard drive when you save your DAW project file. You can change the location for edited samples on the **Engine** page of the Preferences. For more information, refer to Engine.

The Wave Editor contains the following controls:



The Wave Editor on the Editor page.

1. **Sample Start/End**: Adjusts the sample's start point and end point markers, by clicking and dragging the start (**S**) and the end marker (**E**), respectively.
2. **Sample Region Selector**: Selects the region to edit. You can adjust the size of the region by clicking and dragging on either side of the Sample Region selector.
3. **Sample Selector**: Displays the name of the currently loaded sample / sample layer. The adjacent arrow buttons allow you to quick-load other samples into the cell. If more than one sample layer in a cell, an additional drop-down menu appears on the left side of the sample name field. From that menu, you can select the sample layer to be displayed and edited in the Waveform Control. Refer to Quick Access Area for further information on the Sample Picker.
4. **Wave Editor**: Opens the Wave Editor in the Waveform Control.
5. **Loop Editor**: Opens the Loop Editor in the Waveform Control.
6. **Undo**: Undoes the previous operation performed in the Wave Editor.
7. **Editing Tools**: Contains options for cropping, cutting, copying, pasting and duplicating the selected sample:
   - **Crop**: Removes all audio data before and after the selected region.
   - **Cut**: Cuts out the selected region from the sample.
   - **Copy**: Copies the selected region from the sample.
   - **Paste**: Pastes audio from the clipboard into the selected region of the sample.
   - **Duplicate**: Copies the selected region and appends it at the end of the sample.
8. **Audio Tools**: Contains options for normalizing, fading, reversing, inserting silence and eliminating DC drifts in the sample:
   - **Normalize**: Adjusts the volume of the selected region to a standard, optimum level.
   - **Silence**: Inserts silence in the selected region.
   - **Fade In**: Fades your sample in over a selected region.
   - **Fade Out**: Fades your sample out out over a selected region.
   - **DC Correct**: Eliminates DC drifts in the selected region.

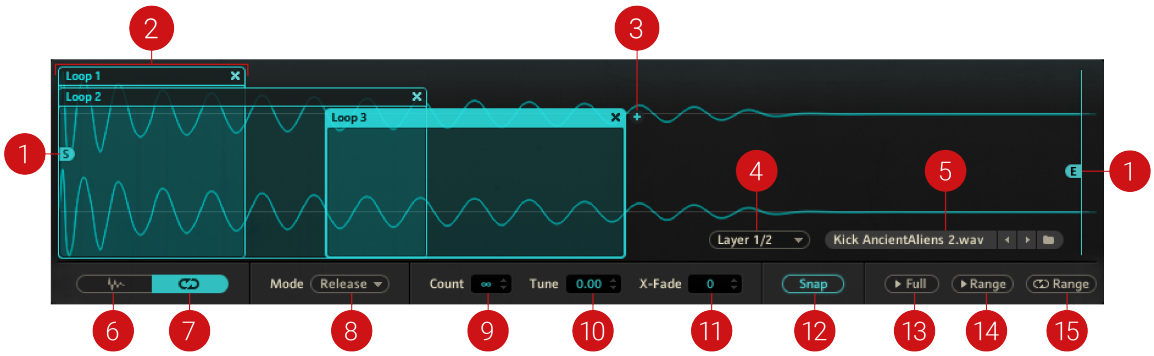
- **Reverse**: Reverses the sample.

9. **Snap**: When activated, all markers snap to the next location where the waveform crosses the zero line, or to another marker.
10. **Full** (play icon): Plays the whole sample, from start to finish, i.e. from Start marker (**S**) to End marker (**E**).
11. **Range** (play icon): Plays within the Sample Region selector.
12. **Range** (loop icon): Loops the audio material within the Sample Region continuously.

14.2. Loop Editor

The Loop Editor allows you to create up to four loop regions in a sample. In case there are multiple sample layers in a cell, you can create loops for each of the sample layers individually.

The Loop Editor contains the following controls:



1. **Sample Start/End**: Adjusts the sample's start and end point markers, by clicking and dragging the start (**S**) and the end marker (**E**), respectively.
2. **Loop Region Selector**: Sets the loop region by clicking and dragging on either side of the Loop Region selector. To remove the loop, click on the delete button (x icon) in the upper right corner of the selector.
3. **Add Loop** (+ icon): Adds a loop to your sample. In case of more than one loop in your sample, click on an individual Loop Region selector to select it for editing.
4. **Layer Selector**: Displays the name of the currently loaded sample layer, when there is more than one sample layer in a cell. Use the drop-down menu on the left side of the sample name field to
5. **Sample Selector**: Displays the name of the currently loaded sample. The adjacent arrow buttons allow you to quick-load other samples into the cell. For more information, refer to Quick Access Area.
6. **Wave Editor**: Opens the Wave Editor in the Waveform Control.
7. **Loop Editor**: Opens the Loop Editor in the Waveform Control.
8. **Mode**: Determines whether the loop is played until the volume envelope has passed its release phase (**Loop until End of Envelope**), or to the exact moment the key is released (**Loop until Key Release**).
9. **Count**: Determines the number of times the loop will repeat before continuing to play through the rest of the sample. Possible repetition settings are 0 to 127, and infinite. When set to 0, the loop repeats for as long as the key is held.
10. **Tune**: Adjusts the independent tuning of each loop, in a range of +12/-12 semitones.

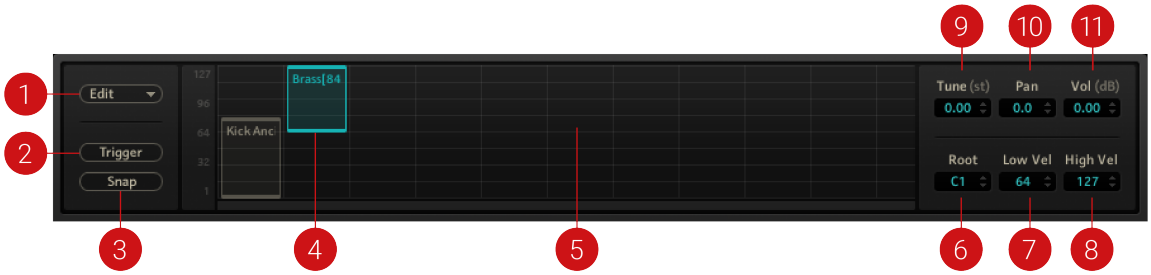
11. **X-Fade**: Blends the end of a loop with its beginning to create a more seamless transition. The display field shows the length of the section being mixed in, with samples being the unit of length. .
12. **Snap**: When activated, loop start and end points will snap to the nearest zero crossing in the waveform to prevent unwanted transition noises. Some sound designers loop at non-zero-amplitude points to create buzzier sounds. Experiment with snapping to see what works best for you. This feature is global affects all loops in the sample.
13. **Full** (play icon): Plays the whole sample from start to finish, i.e. from Start marker (**S**) to End marker (**E**).
14. **Range** (play icon): Plays the selected loop.
15. **Range** (loop icon): Loops the material within the loop region continuously.

14.3. Mapping Editor

The Mapping Editor allows you to edit sample layers and define velocity trigger zones for the sample layers in a cell. In practice, when you drag-and-drop a sample onto a cell, a velocity zone covering the whole velocity range (1 to 127) is created in the Mapping Editor. Irregardless of how hard or soft you hit a key (or pad) assigned to that cell, the sample will always be triggered. The Mapping Editor allows you to restrict sample layers to be triggered only within certain velocity zones.

The visual representation of the velocity zone is the Sample Block in the Mapping grid. You can also adjust things such as transitioning behavior between sample layers with different velocity zones. Furthermore you can set properties such as tuning and panning for individual layers from the Mapping Editor.

The Mapping Editor contains the following elements and controls:



The Mapping Editor

1. **Edit menu**: Provides a range of editing options for your sample layers. Note that layer-specific options affect only the layers currently selected for editing in the Mapping grid:
    - **Add Layer...**: Launches the file browser, where you can navigate through your computer's file structure to select and load a sample layer to the cell. You can also drag-and-drop audio files into the Mapping grid. The layer will be replaced, however all layer setting such as tune and pan will stay unaffected.
    - **Cut Layer(s)**: Cuts the currently selected layer(s) from the cell.
    - **Copy Layer(s)**: Copies the currently selected layer(s) to the clipboard.
    - **Paste Layer(s)**: Pastes a layer(s) from the clipboard to the cell.
    - **Delete Layer(s)**: Deletes the currently selected layer(s) from the cell.

- **Set Velocity Crossfades**: Applies a crossfade between sample layers to provide a smoother transition, useful if the velocity range over which a layer is triggered overlaps with that of another layer. Selecting this menu entry brings up a dotted line in the Sample Block, which represents the crossfade velocity boundaries of the layer. Use the cursor to adjust these boundaries for each individual layer.
- **Remove Velocity Crossfades**: Removes any crossfade velocity boundaries from the selected layers.
- **Stack Layers**: Auto-arranges the cell's layers so that together they span the entire velocity range of the cell in equal shares.
- **Reset Stacked Layers**: Resets all layers so that each one covers the entire velocity range.
- **Auto-Spread Layers**: Auto-arranges the cell's layers so that together they span the entire velocity range of the cell, wherein the upper and lower velocity border of neighboring Sample Blocks meet half way. In case of previously overlapping layers, the borders stay in place.
- **Reset Overlapping Layers**: Auto-arranges overlapping Sample Blocks, wherein the upper and lower velocity border of neighboring Sample Blocks meet half way.

2. **Trigger**: When activated, the sample layer is played back when clicking on its Sample Block in the Mapping grid.
3. **Snap**: When activated, moving velocity limits snaps to velocity limits of neighboring layers.
4. **Sample Block**: Provides a visual representation of a sample layer and its velocity range in the cell.
5. **Mapping grid**: Allows you to select the individual layers of a cell for editing by clicking on their Sample Blocks. You can also adjust a layer's velocity limits by clicking and dragging the Sample Block's lower/upper borders.
6. **Root**: Sets the original pitch (note center), which typically equals the pitch at which the sample was recorded. The root key also defines the basis for pitch shifting; for each semitone that you deviate from the selected root key note, BATTERY will pitch-shift the selected layer by one semitone. For example, if a layer's **Root** key is set to C1, and you play a D1 note, the sample will be pitched up by two semitones.
7. **Low Vel**: Sets the lower velocity limit of a layer. This is equivalent to clicking and dragging the lower border of the layer's Sample Block.
8. **High Vel**: Sets the upper velocity limit of a layer. This is equivalent to clicking and dragging the upper border of the layer's Sample Block.
9. **Tune (st)**: Changes tuning of a layer from –12 to +12 semitones.
10. **Pan**: Positions the layer in the stereo field: from -100 (fully left); to 0 (center); to +100 (fully right).
11. **Vol**: Adjusts the volume level of each layer.

15. Master Page

The **Master** page consists of a number of effects that can be applied to all cells or a selection thereof, controls for the Reverb and Delay send effects that each cell can be sent to, and the Buses area that facilitates routing and mixing of cells with additional effects processing.

The Master page in the Edit area.

> The representation of cell states in the Cell Matrix differ depending on whether the **Master** page or one of the other pages in the Edit area is opened. For more information, refer to Cell States.

15.1. Using Buses and Master Effects

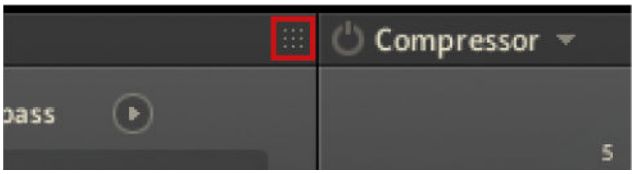
The Master page offers a number of basic workflows for routing cells, applying effects, and setting up buses and outputs.

- To assign cells to a bus or the **Master**, drag and drop a cell or a selection of multiple cells onto the respective control. By default, all cells are assigned to the **Master**.

  The cells are assigned and highlighted in the Cell Matrix when the bus or Master is selected.

- To show the effects for a bus or the **Master**, click on the respective control to select it.

- To apply an effect to all cells assigned to the respective bus or the **Master**, click the Module On/Off button in the upper left corner of the module to activate the effect.
- To change the order of effects, move the module to the left and right by clicking and dragging the matrix symbol in the upper right corner.



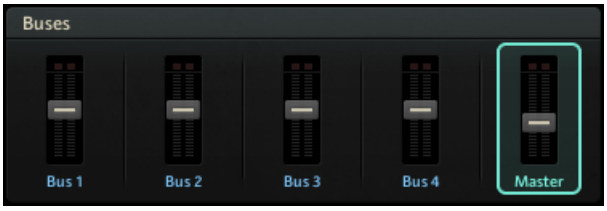
- To route a bus to a specific BATTERY output, right-click it the respective bus control and select the output from **Output** sub-menu in the context menu. By default, all buses are routed to the **Master**.
- To rename a bus, right-click the respective bus control and select **Rename FX Bus** in the context menu.

You can save and load presets for the effects on the Master page in the same way as for the effects on the Effects page. For more information, refer to Using Effect Presets.

15.2. Buses

The **Buses** area on the Master page facilitates routing, mixing and processing of cells. Each bus features the same set of effects as the **Master**.

The buses area contains the following controls:

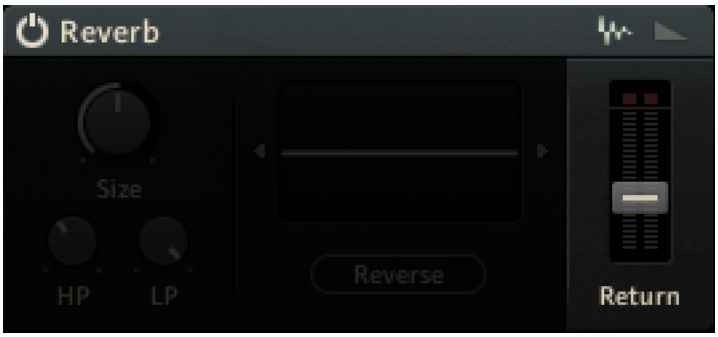


- **Bus 1 - Bus 4**: The four buses each have their own level control and set of effects. The level meters show the peak level of the respective bus. The buses only apply to cells that have been actively assigned to them. Right-clicking on the bus control opens a context menu with additional functions.
- **Master**: The **Master** has its own level control and set of effects. The level meters shows the **Master**'s peak level. By default, all cells are assigned to the **Master**. Right-clicking on the **Master** control opens a context menu with additional functions.

15.3. Reverb

The **Reverb** send effect simulates the properties of acoustic spaces. You can use it to achieve a wide range of spatial effects, from adding ambience and depth to completely washing out the sound. It offers both algorithmic and convolution reverb modes that can be selected using the icons in the upper right corner of the effect.

This module contains the following parameters and controls:



- **Module On/Off**: Activates or deactivates the module.
- **Mode selector**: Selects either the algorithmic (envelope symbol, right) or the convolution reverb (waveform symbol, left) mode. The following sections describe each of the modes in detail.
- **Return**: Adjusts the output level of the effect.

15.3.1. Convolution Mode

- **Size**: Adjusts the swell and reflection pattern of the reverb effect, creating the impression of differently sized spaces. Turning the control to the right changes the size from small to large.
- **HP**: Adjusts the cutoff frequency of the high-pass filter applied to the effect signal.
- **LP**: Adjusts the cutoff frequency of the low-pass filter applied to the effect signal.
- **Convolution display**: Click the arrow-shaped buttons next to the display to select one of the presets for the reverb module. You can also drag and drop samples from the Library Browser, or .wav files from your desktop directly onto the display to use them as reverberation templates for the convolution reverb.
- **Reverse**: Reverses the impulse response.

15.3.2. Algorithmic Mode

- **Module On/Off**: Activates or deactivates the module.
- **Size**: Resizes the impulse response, affecting both the time and the color of the reverb.
- **Predelay**: Adjusts the duration of the predelay, which is the time it takes for the reverb effect to set in.
- **Color**: Adjusts the frequency response of the reverb, emulating the effect of different types of surfaces in a room. Turning **Color** to the left emulates softer surfaces, turning it to the right emulates harder surfaces.
- **Damp**: Adjusts the tonal quality from bright to dark. Turning the control to the right attenuates the reverb's high-frequency content.
- **Stereo**: Adjusts the stereo width of the reverb effect.gez va

15.4. Delay

The **Delay** send effect is an echo effect that can be used to add depth to the sound or create rhythmic effects.

This module contains the following parameters and controls:

- **Module On/Off**: Activates or deactivates the module.
- **Sync**: Selects a musical interval relative to the tempo of the host that is used to synchronize the delay time. When **Sync Off** is selected, the **Time** can be set freely in milliseconds.
- **Feedb**: Adjusts the amount of feedback. Turning **Feedb** to the right increases the amount of delay repetitions.
- **Time**: Adjusts the delay time in milliseconds. When **Sync** is used, **Time** is set in musical intervals relative to the tempo of the host.

- **Pan**: Adjusts the stereo spread of the delay repetitions. When set to 0, all delay repetitions are located at the center of the stereo image. When turning **Pan** to the right, the delay repetitions alternate between the left and right stereo channel. When set to 100, the delay repetitions alternate between the extremes of the stereo image.
- **Damp**: Attenuates high-frequency content in the delay signal. Since the filtering occurs in the feedback path, the sound gets darker with each delay repetition.
- **Return**: Adjusts the output level of the effect.

15.5. Filter / EQ

The **Filter / EQ** module shapes the frequency content of signals, not unlike equalizers. You can use it to polish and clean up sounds, or add color and resonances. The filter modes offer a selection of different filter types, each with their own unique character.

This module contains the following parameters and controls:

- **Module On/Off**: Activates or deactivates the module.
- **Preset menu (arrow button)**: Opens the Preset menu that enables you to load factory presets or save and recall your own user presets.
- **Mode selector**: Selects one of seven filter modes that determine the basic character of the filter, **Solid G EQ**, **3-band EQ**, **Lowpass**, **Highpass**, **Bandpass**, **Peak/Notch**, **Effect**. The following sections describe each of the modes in detail.
- **Type selector**: Selects different filter types in **Lowpass**, **Highpass**, **Bandpass**, **Peak/Notch**, **Effect** mode, and the frequency band in **Solid G-EQ** and **3-band EQ** mode.
- **Filter controls**: Adjust the available parameters for the selected filter mode.

> Since filters require a considerable amount of CPU power, it is recommended to switch this module off when it is not in use.

15.5.1. Solid G-EQ

Solid G-EQ mode emulates the 4-band parametric equalizer of a highly regarded mixing desk. It offers four dedicated frequency bands that can be used simultaneously.

You can select the frequency band for editing using the Type selector:

- **L**: Low frequency band

- **LM**: Low-mid frequency band
- **HM**: High-mid frequency band
- **H**: High frequency band

The following controls are available in this mode:

- **Freq**: Adjusts the filter frequency of the respective frequency band.
- **Bell**: Switches the **L** and **H** frequency bands to a bell instead of a shelf filter.
- **Q**: Adjusts the Q factor, or resonance, of the **LM** and **HM** frequency bands. The Q factor determines the width of the frequency band around the filter frequency that is attenuated or boosted.
- **Output**: Adjusts the output level of the module.

15.5.2. 3-Band EQ

3-Band EQ mode is a classic parametric equalizer. It offers three flexible frequency bands that can be used simultaneously.

You can select the frequency band for editing using the Type selector:

- **Band 1**
- **Band 2**
- **Band 3**

The following controls are available in this mode:

- **Freq**: Adjusts the filter frequency of the respective frequency band.
- **BW**: Adjusts the Q factor, or resonance, of the respective frequency band. The Q factor determines the width of the frequency band around the filter frequency that is attenuated or boosted.
- **Gain**: Adjusts the output level of the respective frequency band. Setting Gain to high values can be used to apply a soft saturation effect.

15.5.3. Lowpass

Lowpass mode is a resonant filter that attenuates frequency content above the cutoff frequency, creating a darker sound. It offers four different filter types that change the character of the filter.

You can select the filter type using the Type selector:

- **Ldr 1P**: 1-pole ladder filter with a -6 dB/octave slope
- **AR 2P**: 2-pole ladder filter with a -12 dB/octave slope
- **AR 4P**: 4-pole filter with a -24 dB/octave slope
- **Daft**: Aggressive 2-pole filter with a -12 dB/octave slope

The following controls are available in this mode:

- **Cutoff**: Adjusts the cutoff frequency.
- **Reso**: Adjusts the resonance amount of the filter. Turning the control to the right makes the frequency content at the cutoff frequency more pronounced.

- **Gain**: Adjusts the output level of the filter. Setting Gain to high values can be used to apply a soft saturation effect. This control is not available when selecting the **AR** filter types.

15.5.4. Highpass

Highpass mode is a resonant filter that attenuates frequency content below the cutoff frequency, creating a brighter sound. It offers four different filter types that change the character of the filter.

You can select the filter type using the Type selector:

- **Ldr 1P**: 1-pole ladder filter with a -6 dB/octave slope
- **AR 2P**: 2-pole ladder filter with a -12 dB/octave slope
- **AR 4P**: 4-pole filter with a -24 dB/octave slope
- **Daft**: Aggressive 2-pole filter with a -12 dB/octave slope

The following controls are available in this mode:

- **Cutoff**: Adjusts the cutoff frequency.
- **Reso**: Adjusts the resonance amount of the filter. Turning the control to the right makes the frequency content at the cutoff frequency more pronounced.
- **Gain**: Adjusts the output level of the filter. Setting Gain to high values can be used to apply a soft saturation effect. This control is not available when selecting the **AR** filter types.

15.5.5. Bandpass

Bandpass mode is a resonant filter that attenuates frequency content above and below the cutoff frequency, creating a thinner and more focused sound. It offers four different filter types that change the character of the filter.

You can select the filter type using the Type selector:

- **Ldr 2P**: 2-pole ladder filter with a -12 dB/octave slope
- **Ldr 4P**: 4-pole ladder filter with a -24 dB/octave slope
- **AR 2P**: 2-pole ladder filter with a -12 dB/octave slope
- **AR 4P**: 4-pole filter with a -24 dB/octave slope
- **Daft**: Aggressive 2-pole filter with a -12 dB/octave slope

The following controls are available in this mode:

- **Cutoff**: Adjusts the cutoff frequency.
- **Reso**: Adjusts the resonance amount of the filter. Turning the control to the right makes the frequency content at the cutoff frequency more pronounced.
- **Gain**: Adjusts the output level of the filter. Setting Gain to high values can be used to apply a soft saturation effect. This control is not available when selecting the **AR** filter types.

15.5.6. Peak/Notch

Peak/Notch mode is a resonant filter that can create either peaks or notches in the frequency spectrum. It offers four different filter types that change the character of the filter.

You can select the filter type using the Type selector:

- **Ldr Peak**: Ladder peak filter that boosts frequency content at the cutoff frequency. The amount of boost can be set using **Reso**.
- **Ldr Notch**: Ladder notch filter that attenuates frequency content in two narrow bands above and below the cutoff frequency.
- **SV Notch**: 4-pole state-variable notch filter that attenuates or boosts frequency content at the cutoff frequency. The amount of attenuation or boost can be set using **Reso**.
- **SV BR**: State-variable band reject filter that attenuates frequency content in a narrow band slightly below cutoff frequency.

The following controls are available in this mode:

The following controls are available per filter: **Cutoff** (adjusts the frequency below which signals will be attenuated); **Reso** (with a value greater than 0, this control will boost a small frequency range around the cutoff frequency); and **Gain** (controls the amplitude increase after the filter, which can be used to compensate for amplitude reduction due to the filter, or to increase the soft saturation of the effect — this one is only available for **Ldr Peak** and **Ldr Notch**).

- **Cutoff**: Adjusts the cutoff frequency.
- **Reso**: Adjusts the resonance amount of the filter. Turning the control to the right makes the frequency content at the cutoff frequency more pronounced.
- **Gain**: Adjusts the output level of the filter. Setting Gain to high values can be used to apply a soft saturation effect. This control is not available when selecting the **Ldr** filter types.

15.5.7. Effect

Effect mode is a collection of special filters that transform the frequency spectrum in specific ways. It offers four different filter types that change the character of the filter.

You can select the filter type using the Type selector:

- **Frm 1**: Variation 1 of a formant filter that produces resonances typical to those of the human voice.
- **Frm 2**: Variation 2 of a formant filter that produces resonances typical to those of the human voice.
- **Vow A**: Variation A of a special filter that mimics the way vowel sounds are produced by the human mouth, similar to classic talk box effects.
- **Vow B**: Variation B of a special filter that mimics the way vowel sounds are produced by the human mouth, similar to classic talk box effects.
- **Phaser**: Classic phaser effect that produces a number of peaks and troughs in the frequency spectrum.

The following controls are available in this mode when the **Vow** or **Phaser** filter types are selected:

- **Cutoff**: Adjusts the filter frequency, effectively shifting the position of the effect in the frequency spectrum.
- **Reso**: Adjusts the resonance amount. Turning the control to the right makes the effect more pronounced.

The following controls are available in this mode when the **Frm** filter types are selected:

- **Talk**: Adjusts the the frequency response of the filter in order to produce different vowel sounds.

- **Sharp**: Adjusts the resonance amount. Turning the control to the right makes the effect more pronounced.
- **Size**: Adjusts the filter frequency, effectively shifting the position of the effect in the frequency spectrum.

15.6. Compressor

The **Compressor** module is a classic studio effect that shapes the contour and dynamics of a signal. It can be used to add punch, bring out the attack or sustain of sounds, increase overall loudness, or distort the signal.

This module contains the following parameters and controls:

- **Module On/Off**: Activates or deactivates the module.
- **Preset menu (arrow button)**: Opens the Preset menu that enables you to load factory presets or save and recall your own user presets.
- **Mode Selector**: Selects one of four available compressor modes, **Solid Bus Comp**, **Classic**, **Pro**, and **SC Bus Comp**. The first three modes offer different flavors of compression, while **SC Bus Comp** enables side-chain compression. In this case, the compression applied to the input signal is controlled by a specific cell that can be selected by dragging it onto the **SC Source** area.
- **Threshold (Compressor)**: Adjusts the threshold level of the compressor. When the control signal rises above the threshold, gain reduction at a ratio set using the **Ratio** control is applied to the signal. Turning **Threshold** to the left lowers the threshold, which increases the amount of gain reduction by making the compressor more sensitive to low input levels.
- **Ratio**: Adjust the relative amount of gain reduction applied to signals rising above the threshold. When turned fully to the left, minimal gain reduction is applied. When turned fully to the right, the compressor acts as a limiter.
- **Attack**: Adjusts the attack time, which is the time it takes the compressor to apply the full amount of gain reduction after the control signal rises above the threshold.
- **Release**: Adjusts the release time, which is the time it takes the compressor to stop applying gain reduction after the control signal falls below the threshold.
- **Makeup**: Adjusts the amount of gain added to the signal after the compression. You can use this control to compensate for the gain reduction applied by the compressor and thus increase the overall loudness of the signal. This control is only available in **Solid Bus Comp** mode.

- **Mix**: Blends the input signal with the effect signal, facilitating parallel compression. When the control is turned fully to the left, only the input signal is sent to the output. Turning the control to the right adds the compressed signal to the output. When turned fully to the right, only the compressed signal is sent to the output. This control is only available in **Solid Bus Comp** mode.
- **SC Source**: Accepts drag and drop from a cell to select it for controlling side-chain compression in **SC Bus Comp** mode. This control is only available in **Solid Bus Comp** mode.
- **Output**: Adjusts the output level of the module.

> Since compression requires a considerable amount of CPU power, it is recommended to switch this module off when it is not in use.

15.7. TM (Transient Master)

The **TM** (Transient Master) module enables you to emphasize or attenuate the transients of your audio material by manipulating its attack and sustain phases. Unlike compressors and limiters, it does not use the level of your signal to decide when to come into effect, but rather modifies the envelopes of every attack and sustain phase. A notable benefit of this processing is that it affects all parts of the signal, whatever their level is, therefore retaining the natural character of your sound.

This module contains the following parameters and controls:

- **Module On/Off**: Activates or deactivates the module.
- **Preset menu (arrow button)**: Opens the Preset menu that enables you to load factory presets or save and recall your own user presets.
- **Attack**: Sharpens/softens the attack phases in your signal. With the knob at the center position, the attack phases are not altered. From this position, turning the **Attack** knob to the left softens the attack phases, while turning it to the right sharpens them.
- **Sustain**: Prolongs/shortens the sustain phases in your signal. With the knob at the center position, the sustain phases are not altered. From this position, turning the **Sustain** knob to the left shortens the sustain phases, while turning it to the right prolongs them.
- **Input**: Adjusts the input level of the module.
- **Output**: Adjusts the output level of the module.

15.8. Saturation

The **Saturation** module emulates the behavior of analog circuits when signal levels go into overdrive and clipping. This reduces signal peaks and add the same time adds harmonic content to the signal, creating the warm and full sound associated with analog saturation. When taken to the extreme, the module can be used to create distortion effects.

This module contains the following parameters and controls:

- **Module On/Off**: Activates or deactivates the module.
- **Preset menu (arrow button)**: Opens the Preset menu that enables you to load factory presets or save and recall your own user presets.
- **Mode Selector**: Selects one of three available saturation modes, **Classic**, **Drums**, and **Tape**.
- **Gain**: Adjusts the input level of the module, effectively controlling the amount of saturation applied to the signal.
- **Warmth**: Adjusts the level of low-frequency content in the signal. This control is only available in **Tape** mode.
- **HF**: Adjusts the cutoff frequency of a low-pass filter applied to the signal. Frequency content exceeding the cutoff frequency is attenuated. This control is only available in **Tape** mode.
- **Output**: Adjusts the output level of the module.

15.9. Limiter

The **Limiter** module is a specialized compressor with a high compression ratio and a fast response. It effectively prevents the signal to rise above the specified level. You can use it to protect your outputs and speakers from clipping or increase the overall loudness, however it can also be applied creatively to shape the contour of a sound.

This module contains the following parameters and controls:

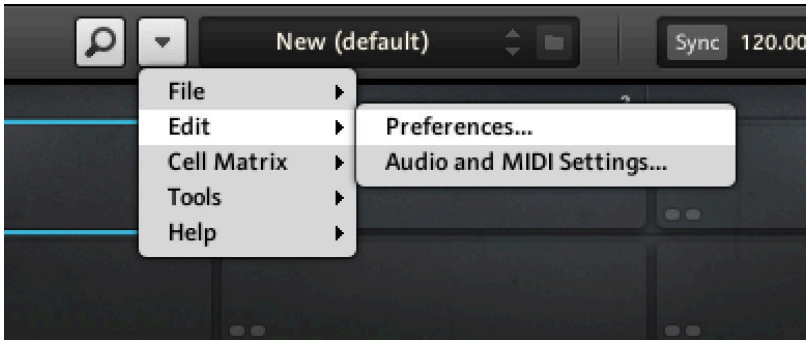
- **Module On/Off**: Activates or deactivates the module.
- **Preset menu (arrow button)**: Opens the Preset menu that enables you to load factory presets or save and recall your own user presets.
- **In Gain**: Adjusts the input level of the module, effectively controlling the amount of limiting applied to the signal.
- **Release**: Adjusts the release time, which is the time it takes the limiter to stop applying gain reduction after the signal falls below the threshold.
- **GR**: Shows the amount of gain reduction applied to the signal.
- **Output**: Adjusts the output level of the module.

16. Preferences

The **Preferences** panel lets you specify various default settings for BATTERY.

To open the **Preferences** panel:

- Click on the application menu button in BATTERY's Header, select **Edit**, then **Preferences...**.



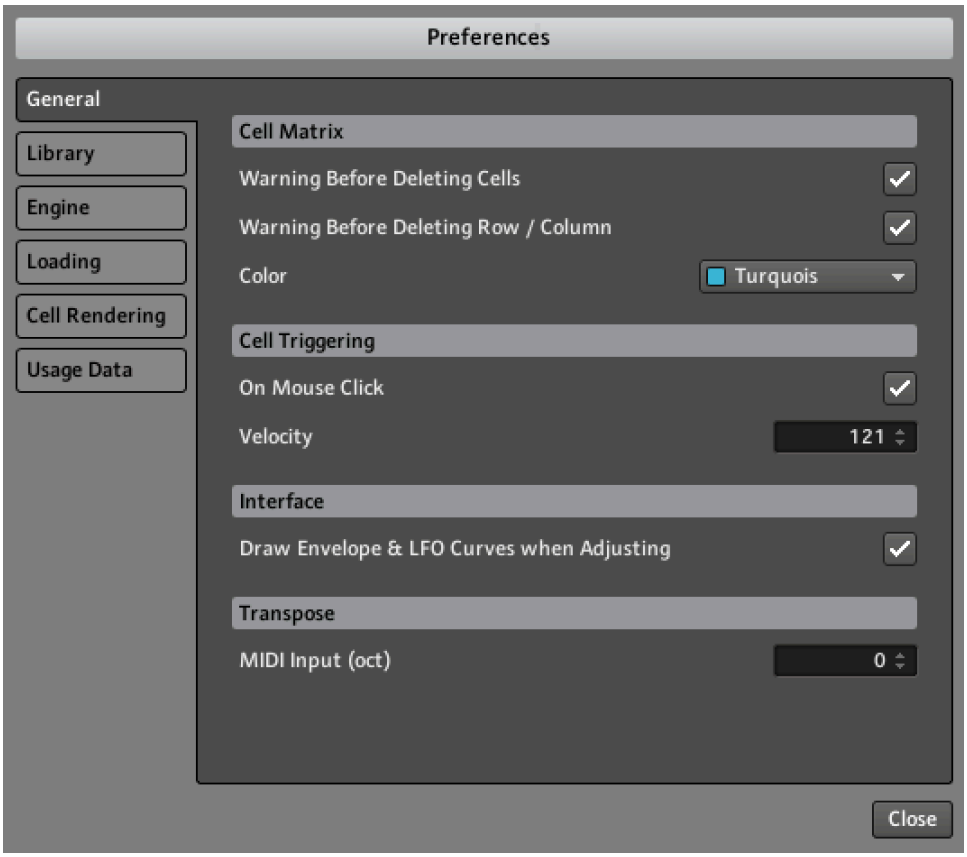
The following pages are available in the Preferences panel:

- **General**: Contains several options related to BATTERY's appearance and how you can interact with it. For more information, refer to General.
- **Library**: Allows you to edit the locations of all BATTERY's library files (both factory and user) that appear in the Browser.
- **Engine**: Determines a combination of BATTERY's settings, such as multiprocessor performance, audio outputs, reverb settings, and defining the directory for edited samples. For more information, refer to Engine.
- **Loading**: Provides various options for opening kits and samples in Battery. For more information, refer to Loading.
- **Cell Rendering**: Determines BATTERY's MIDI and Audio rendering settings. For more information, refer to Cell Rendering.
- **Usage Data**: Sets the option to track and send anonymous usage data. For more information, refer to Usage Data.

16.1. General

The General page contains several options related to BATTERY's appearance and how you can interact with it. Here you can also find the MIDI input transpose settings for working with MIDI keyboards with a smaller key range.

The **General** tab contains the following settings and options:



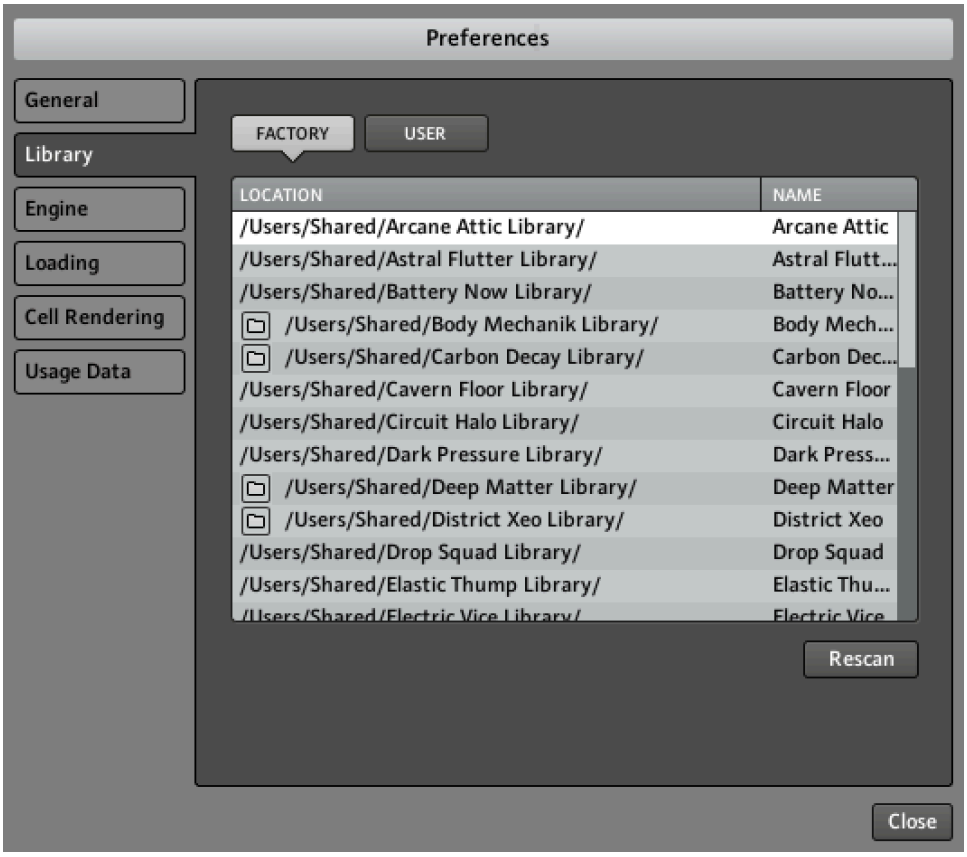
Preferences – General page

- **Cell Matrix**:
  - **Warning Before Deleting Cells**: Check this option to display a warning before deleting a cell(s) from the Cell Matrix.
  - **Warning Before Deleting Row / Column**: Check this option to display a warning before deleting a row or column of cells from the Cell Matrix.
  - **Default Color**: Selects the default color to be used for cells in the Cell Matrix. All cells set to **Use Default Color** in their context menu will use the color specified in this menu.
- **Cell Triggering**:
  - **On Mouse Click**: Check this option to trigger cells via mouse click.
  - **Velocity**: Sets the velocity trigger level for cells when triggered via mouse click.
- **Interface**:
  - **Draw Envelope & LFO Curves when Adjusting**: Enables envelope drawing and LFO curves in the Waveform Control (refer to also Quick Access Area).
- **Transpose**:
  - **MIDI Input (oct)**: Transposes the MIDI input by octaves. This can be helpful when working with MIDI keyboards of a smaller key range.

16.2. Library

The Library page allows you to edit the locations of all BATTERY's library files (both factory and user) that appear in the Browser.

The **Library** tab contains the following settings and options:



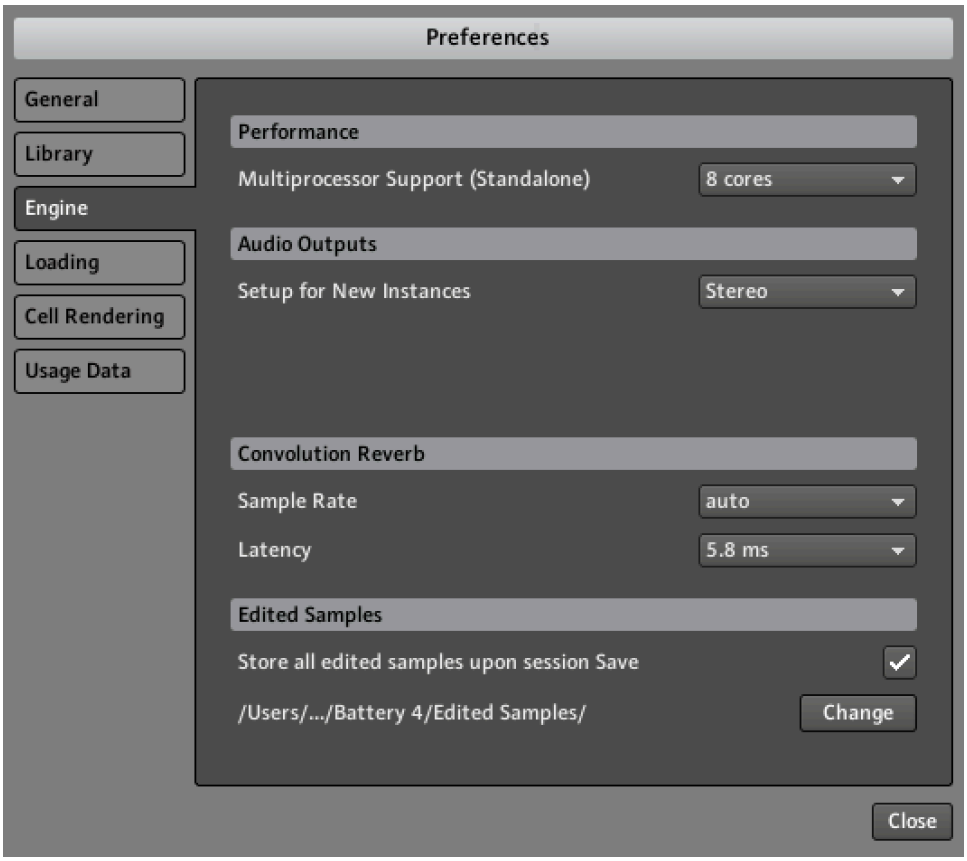
Preferences – Library page

- **Factory**: Sets the location of BATTERY's Factory Library.
- **User**: Sets the location of your additional user libraries. Use the **Add** and **Remove** buttons to add and remove entries.
- **Rescan**: Rescans the currently highlighted library folder in the list.

16.3. Engine

The Engine page determines a combination of BATTERY's settings, such as multiprocessor performance, audio outputs, reverb settings, and defining the directory for edited samples.

This **Engine** tab contains the following settings and options:



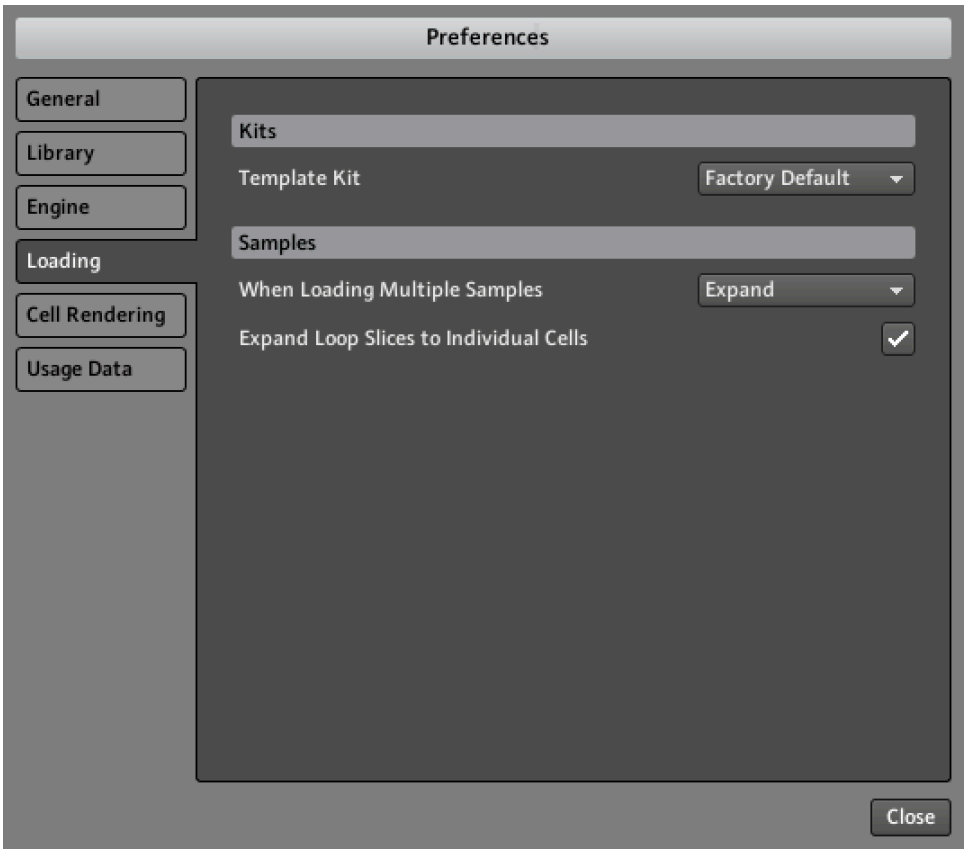
Preferences – Engine page

- **Performance**:
  - **Multiprocessor Support (Standalone)**: Sets the number of CPUs to be utilized by BATTERY in stand-alone mode. When using BATTERY as a plug-in, multiprocessor support will be handled by your host software.
- **Audio Outputs**:
  - **Setup for New Instances**: Sets the type and amount of outputs for each new BATTERY instance. The default setting is a 16 channel stereo output configuration.
- **Convolution Reverb**:
  - **Sample Rate**: Sets the sample rate for the convolution reverb mode of the **Reverb** module on the **Master** page. Experiment with the settings to see which ones provide the best results for you.
  - **Latency**: Sets the latency for the convolution reverb mode of the **Reverb** module in the **Master** page. Experiment with the settings to see which ones provide the best results for you.
- **Edited Samples**:
  - **Store all edited samples upon session save**: Saves a copy of edited samples to the selected directory. For information about editing samples, see Wave Editor.
  - **Change**: Sets the directory where edited samples are saved.

16.4. Loading

The Loading page provides various options for opening kits and samples in Battery.

The **Loading** tab in the Preferences contains the following settings and options:



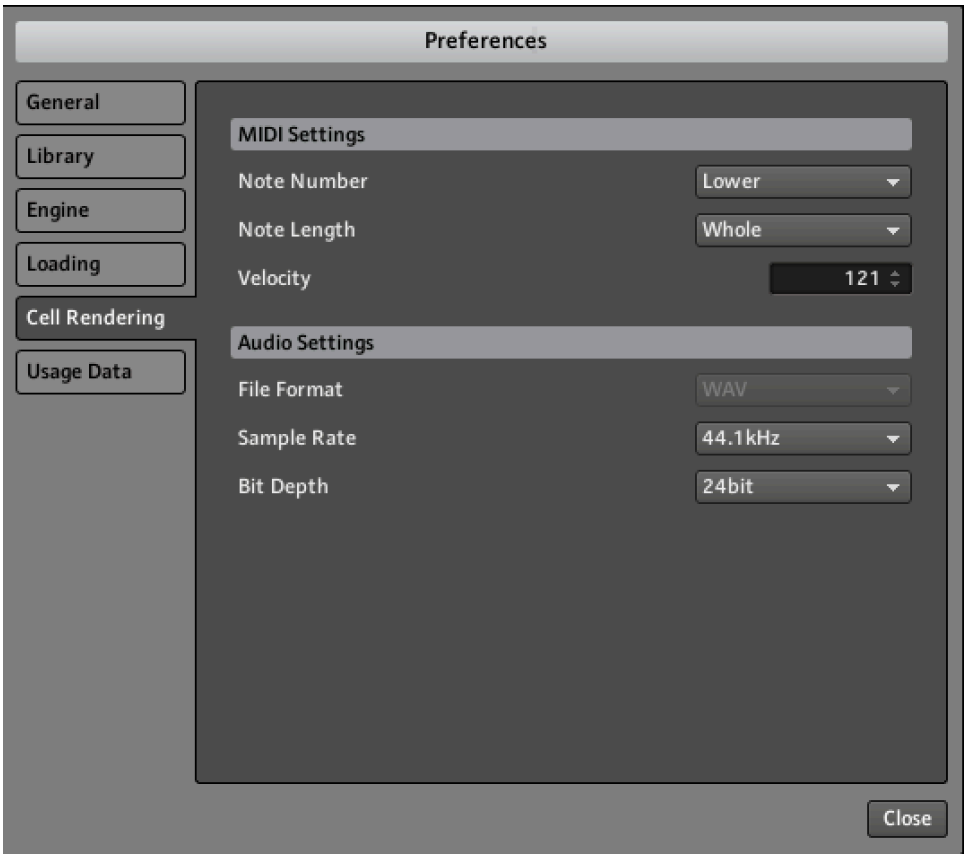
Preferences – Loading page

- **Kits**:
  - **Template Kit**: Sets a Kit for BATTERY to start each new instance with. You can select the **Factory Default** Kit, or the Kit currently loaded to be used as BATTERY's default Kit.
- **Samples**:
  - **When Loading Multiple Samples**: Sets whether loading multiple samples at once results in all samples becoming sample layers of one cell (refer to also Editor Page), or if they are being spread out across multiple cells in the Cell Matrix.
  - **Expand Loop Slices to Individual Cells**: Imports each slice to an individual cell when loading a loop file. Certain file types (such as REX files, ACID wav files, and Apple Loop files) contain information about individual loop slices in the file.
  - **Load Files Ignoring Original Loop Points**: Ignores the loop points upon loading loop files. The files will then behave like an ordinary audio file, and will not be influenced by BATTERY's or the host application's tempo. Certain file types (such as REX files, ACID wav files, and Apple Loop files) contain information about individual loop slices in the file.

16.5. Cell Rendering

The Cell Rendering page determines BATTERY's MIDI and Audio rendering settings.

The **Cell Rendering** tab in the Preferences contains the following settings and options:



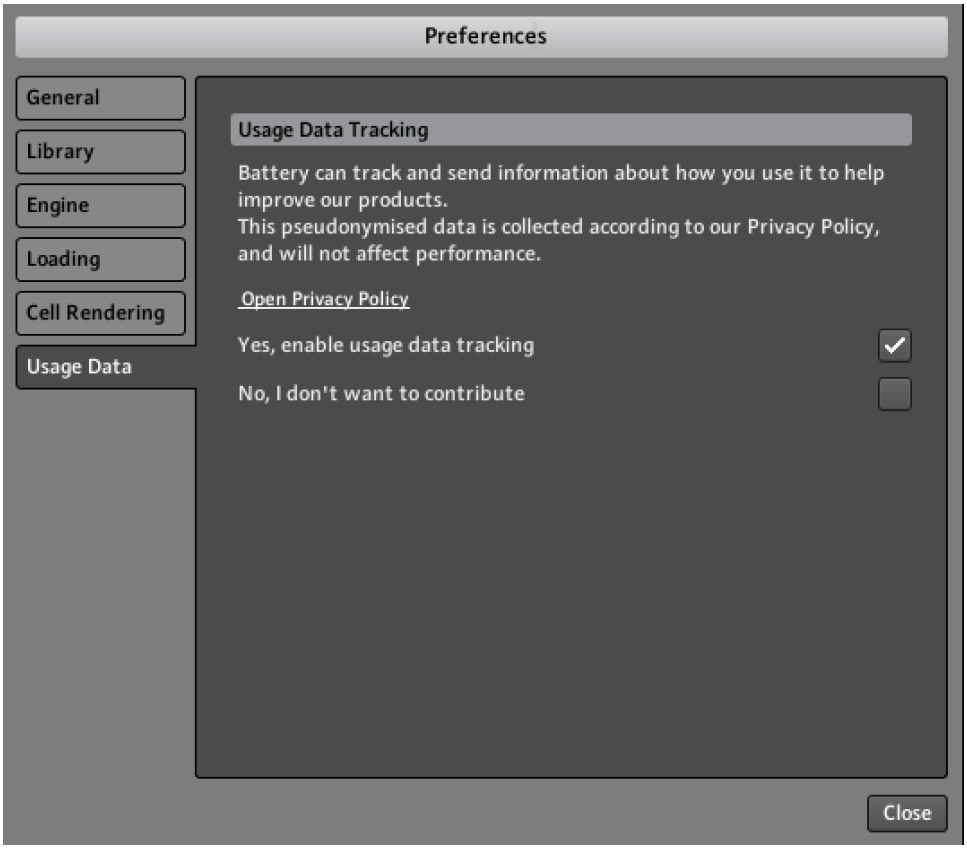
Preferences – Cell Rendering page

- **MIDI Settings**: This section determines the characteristics of the rendered cell based on the settings of the cell to be rendered during conversion.
  - **Note Number**: Determines the **Key Range**. If the **Key Range** for a given cell is wider than one note (refer to Quick Access Area), and **Key Track** is activated in the **Setup** page's **MIDI Input** module (refer to Setup Page), the rendered cell will be tuned according to this setting; for example, when you have a bass sample playing in half-note steps from C1 to C2, and the **Note Number** is set to **Upper**, the rendered cell will be tuned according to the tuning of the bass sample on C2.
  - **Note Length**: Determines the length of the rendered cell, which happens based on BATTERY's tempo set during conversion.
  - **Velocity**: Determines the level of the rendered cell based on the velocity of the cell to be rendered during conversion.
- **Audio Settings**: This section determines the Battery's audio settings.
  - **File Format**: Selects the file format for rendered cells from here.
  - **Sample Rate**: Selects the sample rate for rendered cells from here.
  - **Bit Depth**: Selects the bit depth for rendered cells from here.

16.6. Usage Data

Sets the option to track and send anonymous usage data. When activated, this data is sent to Native Instruments, helping us improve our products.

The **Usage Data** tab contains the following option.



Preferences – Usage Data page

- **Usage Data Tracking**: Sets the option to track and send anonymous usage data. When activated, this data is sent to Native Instruments, helping us improve our products.

17. Audio and MIDI Settings

The Audio and MIDI Settings panel allows you to configure the BATTERY stand-alone application for your audio and MIDI hardware, including the audio routing from BATTERY to your audio interface.

To open the Audio and MIDI Settings panel:

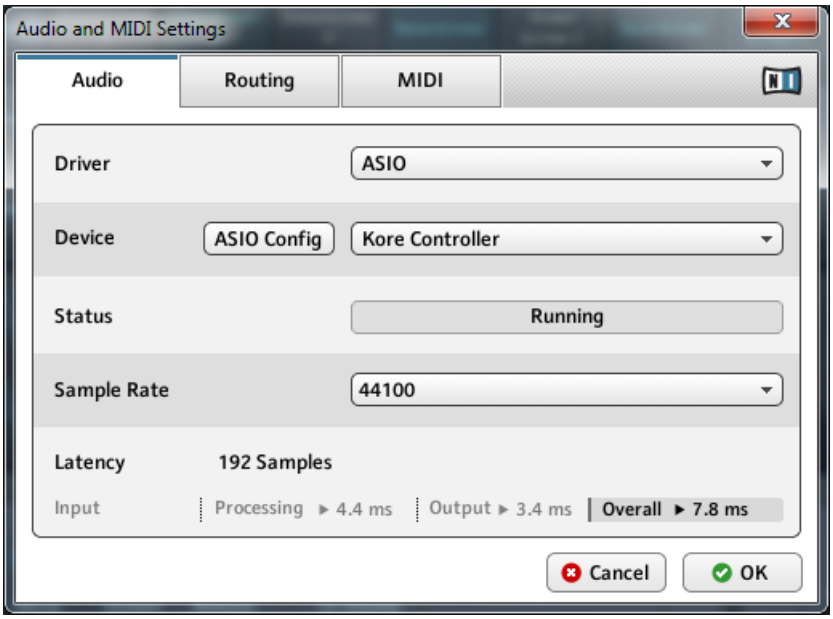
- Select the **Audio and MIDI Settings…** entry from the **File** menu (in the application menu bar or via the application menu button in the header).

The Audio and MIDI Settings panel contains three pages, **Audio**, **Routing**, and **MIDI**. Each page can be displayed by clicking on the corresponding tab at the top of the window.

17.1. Audio Page

The **Audio** page holds settings related to your audio interface.

The **Audio** page contains the following settings and options:



The Audio page of the Audio and MIDI Settings panel.

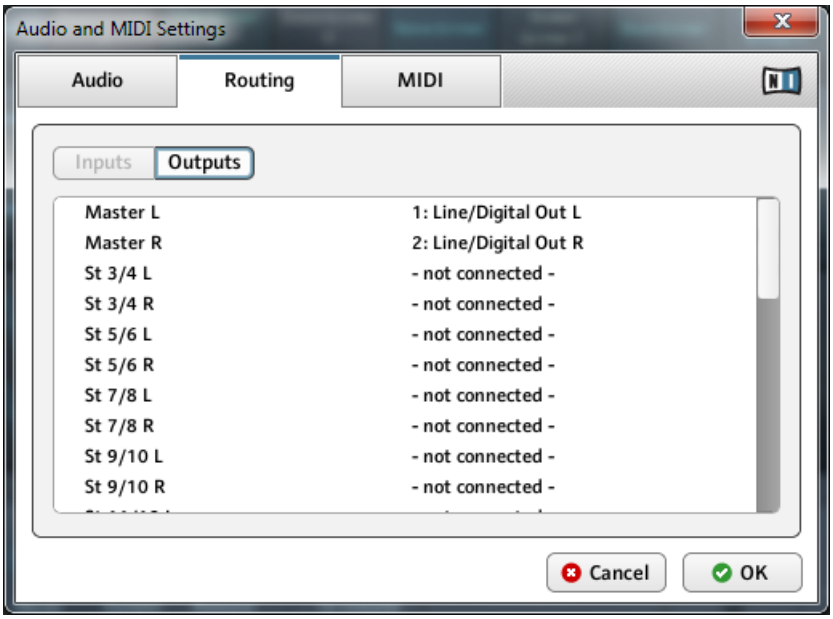
- **Driver**: Selects the type of device driver used to communicate with the audio interface.
- **Status**: Displays the status of the connection with the audio interface.
- **Sample Rate**: Selects the sample rate of the audio input and output, as well as the audio processing. High sample rate settings improve the audio quality but increase the CPU load. Please restart BATTERY after changing the sample rate.
- **Latency**: Selects the buffer size used for the audio processing. High latency settings reduce the CPU load but increase the time it takes to process the audio input, which can cause a noticeable lag when playing in real-time.

For information about optimizing the audio settings and your computer system, refer to the article Mac Tuning Tips for Audio Processing (macOS) or Windows Tuning Tips for Audio Processing (Windows).

17.2. Routing Page

The **Routing** page allows you to configure the connections between the virtual outputs of BATTERY and the physical outputs of your audio interface.

The **Routing** page contains the following settings and options:



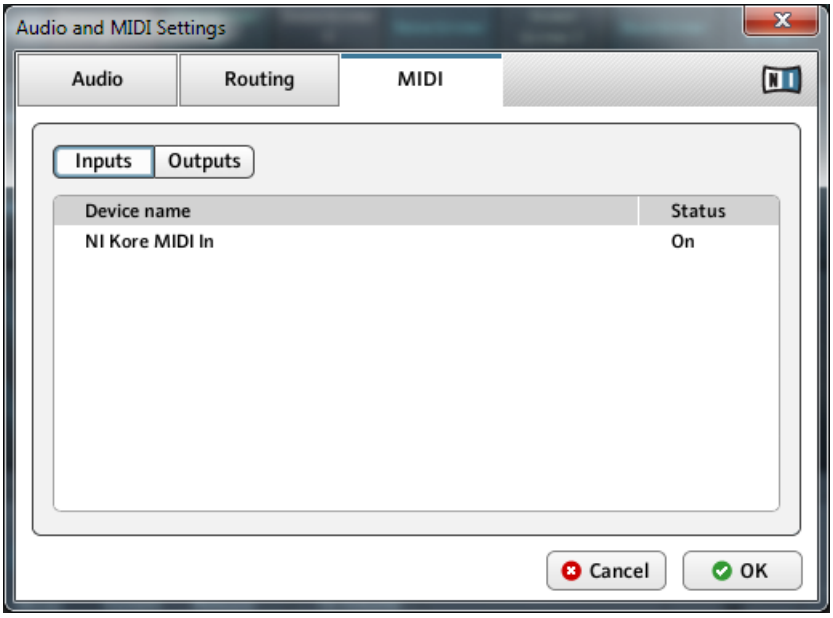
The Routing page of the Audio and MIDI Settings panel.

- **Outputs**: Assigns BATTERY's outputs to the physical outs of your audio interface. Click the fields in the right column to select the desired outputs via a drop-down menu.

17.3. MIDI Page

The **MIDI** page allows you to set up the MIDI input and output ports that you want to use with BATTERY.

The **MIDI** page contains the following settings and options:



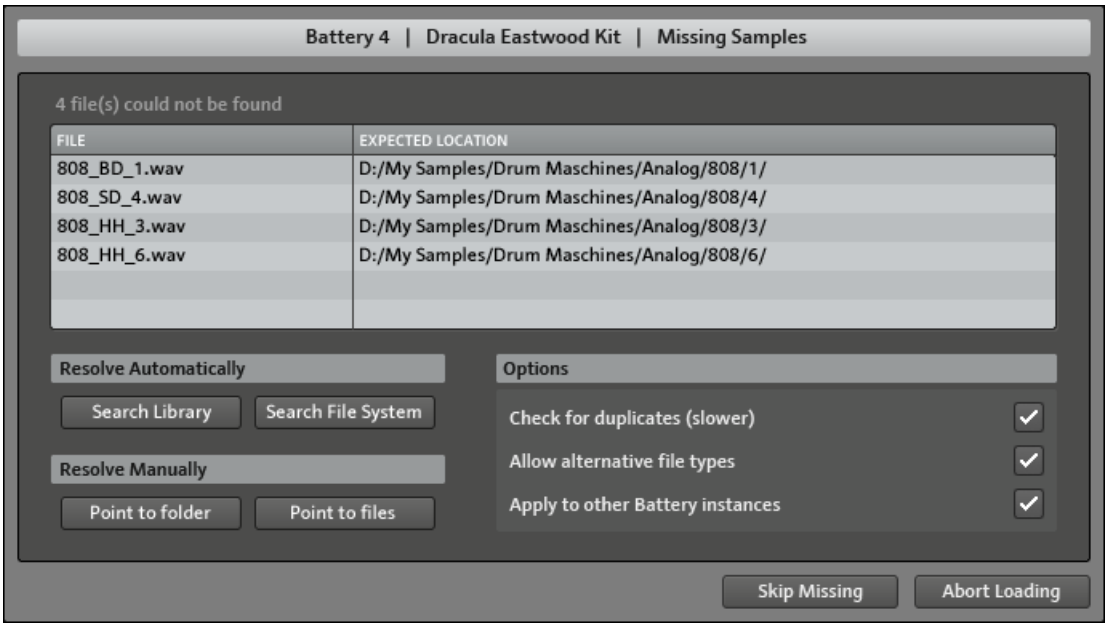
The MIDI page of the Audio and MIDI Settings panel (entries may vary on your computer).

- **Inputs**: Displays a list of all the available MIDI inputs of your system. You can activate/deactivate each input by clicking the fields in the **Status** column, which displays the current status of the corresponding port.
- **Outputs**: Displays a list of all the available MIDI outputs of your system. You can activate/deactivate each output by clicking the fields in the **Status** column, which displays the current status of the corresponding port.

18. Missing Samples

The Missing Samples dialog allows you to resolve issues regarding samples that are missing upon loading Kits. This can happen when you have moved files or folders outside of BATTERY. In case of missing samples, you will be presented with the **Missing Samples** dialog.

The **Missing Samples** dialog contains the following settings and options:



The Missing Samples dialog, informing you about the samples missing, and where BATTERY expected to find them.

- **Resolve Automatically**:
  - **Search Library button**: Scans BATTERY's Library for the missing samples.
  - **Search File System button**: Scans your entire file system for the missing samples.
- **Resolve Manually**:
  - **Point to Folder button**: Sets a specific folder on your computer to scan for the missing samples.
  - **Point to Files button**: Lets you point directly to the new location of a sample.
- **Options**:
  - **Check for Duplicates checkbox**: Loads the first file that matches the file name of a missing sample. When you enable this option, duplicates will be collected, and another dialog will guide you through selecting the right missing sample for your Kit.
  - **Allow Alternative File Types checkbox**: Allows use of alternative file types with the same name (for example, if you converted a sample to another file type).
  - **Apply to other Battery Instances checkbox**: Forwards resolved conflicts to other instances of BATTERY, so you don't have to resolve missing samples issues more than once.

19. Supported File Types

The following file types are supported by BATTERY.

Native BATTERY Files

File Type	Related Software	File Extension	Possible Drag-and-Drop Targets
Kit	BATTERY 4	.nbkt	Cell Matrix
Cell	BATTERY 4	.nbcl	Cell
Kit	BATTERY 3	.kt3	Cell Matrix
Cell	BATTERY 3	.cl3	Cell
Kit	BATTERY 2	.kt2	Cell Matrix
Cell	BATTERY 2	.cel	Cell

Audio Files

File Type	Related Software	File Extension	Drag and Drop Targets
WAV (mono/stereo)	-	.wav	Cell, Waveform Control, Mapping Grid, Convolution Reverb Display
WAV (multichannel)	-	.wav	Cell, Waveform Control, Mapping Grid
Apple Loop	-	.aiff/.aif	Cell, Waveform Control, Mapping Grid
REX1	Recycle	.rex	Cell, Waveform Control, Mapping Grid
REX2	Recycle	.rx2	Cell, Waveform Control, Mapping Grid
ACIDized WAV	ACID	.wav	Cell, Waveform Control, Mapping Grid