

# structure

## User Guide



## Introduction

Structure is a plug-in that adds the flexibility and power of a professional sampling workstation to your recording. Using proprietary technology and a musically intuitive design, Structure takes sampling within your audio software to a new level.

## System Requirements and Product Support

For complete system requirements, compatibility information, and product registration, visit the AIR website: [www.airmusictech.com](http://www.airmusictech.com).

## Installation

### Windows®

1. Double-click the **.exe** installer file you downloaded.
2. Follow the on-screen instructions.

**Note:** Structure uses PACE copy protection, so it will install the PACE InterLok driver on your system if you do not already have it. As most audio software uses PACE copy protection, though, this is probably already installed on your system.

### Mac OS X

1. Double-click the **.pkg** installer file you downloaded.
2. Follow the on-screen instructions.

# Overview

## Main Sections



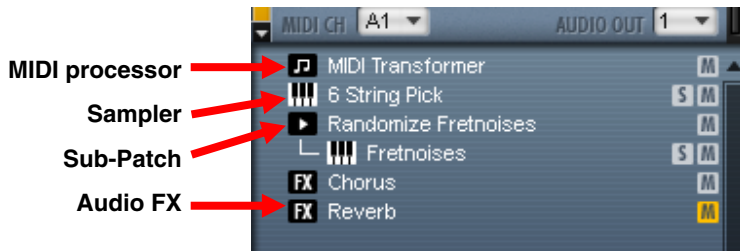
## Patch List

In the Patch list on the left side of Structure, all loaded patches are shown. You can create, select, mix, MIDI-assign, route, and group patches in the Patch list. Click a patch to select it for editing in the Parameter panel on the right. The handle on the left of the selected patch module is lit yellow. You can create, edit and save patches using the Patch menu on top of the Patch list. To learn more about the Patch list, see the **Patch List** section.

## Part List

The Part list shows the parts that are contained in a patch. A part can be a multisample, an insert effect, a Sub-patch, or a MIDI processor. The Part list contains all parts within the selected patch and reflects their grouping as well as audio and MIDI routing. You can create, select, move, and edit parts in the Part list. The vertical order of parts reflects the actual signal flow from top to bottom. This means that the audio output of a Sampler part is fed through any Audio FX parts below it. The resulting signal at the bottom of the Part list is sent to the Patch output. You can change the position of parts within the routing using drag and drop. See the **Part List** section for more information.

### The Different Types of Parts



- **MIDI Processor:** Contains a MIDI processor with its settings, for example, a tuning scale. MIDI processors are placed before Sampler parts and change the way a Sampler part is played.
- **Sampler:** Contains a multisample, its mapping information, metadata, and several sound shaping options, such as filters, envelopes and modulation.

- **Sub-Patch:** Groups multiple Sampler parts, insert effects, or MIDI effect parts within a patch for applying combined playback conditions within a patch. For example, in a patch that holds piano and string Sampler parts, you might want to route only the piano through a reverb effect. In this case, you would group the piano part and an effect part using a Sub-patch. Subpatches can be dragged to the Patch list to become patches. Patches can be dragged into the Part list of another patch to become a Sub-patch. See the **Sub-Patch** section for more information on using Sub-patches.
- **Audio FX:** Contains an Insert effect with its parameter and output settings.

## Keyboard/Smart Knob Section

The Keyboard section provides 88 keys for playing Structure, six Smart knobs, and the Master output control.

You can play and control Structure by clicking the keys, using MIDI input from a MIDI keyboard, or using MIDI data in an Instrument or MIDI track in Pro Tools. When Structure receives MIDI data, the keys reflect the MIDI note input. See **Keyboard Section** for more information.



**Smart Knobs:** Each patch has six Smart knobs. Each Smart knob can be assigned to one or more Structure parameters within the patch. These linked parameters can then be remote controlled at the same time by one Smart knob. This can be useful for making complex sound design easy or to quickly adjust a patch to your session in terms of feel, timbre, enveloping, or any other sensible sound shaping parameter.

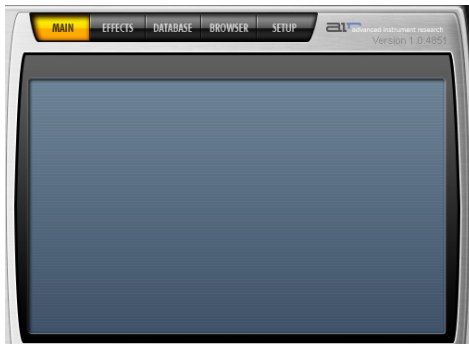


**Master (Output Volume):** The Master control on the right adjusts Structure's Main volume for all outputs.



## Parameter Panel

The Parameter panel displays the different control pages selected by Page tabs. This could be the controls of a patch or a part on the Main page, the global effect slots on the Effects page, the Database, or the Browser. When a patch or part is selected, its parameters (such as playback settings or output assignments) are displayed in the Parameter panel and sorted into sub-pages where necessary.



## Page Tabs

Above the Parameter panel, you can select between five global Control pages covering parameters for all aspects of sampler programming. These Control pages are accessible by clicking their corresponding **Page** tab.



### To display the Output settings of a patch:

1. Select a patch by clicking it.
2. Access the **Main** page.
3. Click on the **Output** sub-page tab in the **Parameter** panel.



## Main (Main Page)

After loading Structure, the Main page is selected by default. Coming from another page, click the **Main** tab to access the parameters for patches and parts.

The Main page provides controls for all available playback parameters of patches and parts, such as transpose, modulation, and output assignments. These controls affect the patch or part which is currently selected. To learn more about the Main page, see the **Main Page** section.



## Effects (Global Send Effects)

Click the **Effects** tab in the Parameter panel to display the Effects page.

The Effects page provides four global effect slots with four inserts each. Audio from each patch, part, or zone can be sent individually to these on its Output sub-page. On the right, there is Structure's Main output also providing four inserts. To learn more about the Effects page, see the **Effects Page** section.



## Database

Click the **Database** tab in the Parameter panel to access the Database page.

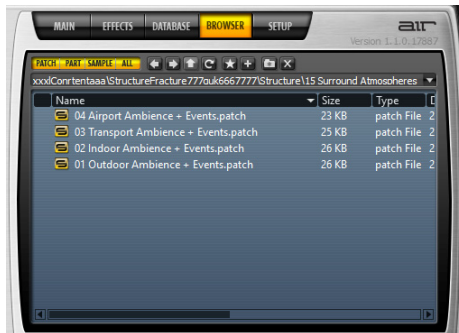
The Database provides tools for quick searching and browsing for files that have previously been registered in the database. The database reads out metadata including comments, manufacturer, and ranking for each file. Supported file types are **Patch** files, **Part** files, and **samples** (audio files). Three columns of freely selectable metadata fields enable you to find the files you need, by **Style**, **Sound** and **Manufacturer**. Within four clicks, all patches on your computer matching these criteria are displayed in the **Result** list. To learn more about the Database, see the **Database Page** section.



## Browser

Click the **Browser** tab to access the Browser page.

The Browser lets you search the local file system. Files like patches, parts, and samples can comfortably be loaded from here using "drag and drop." To learn more about the Browser, see the **Browser Page** section.





## Setup Page

Click the **Setup** tab to access the Setup page.

The Setup page contains controls for adjusting Structure's basic configuration and behavior. There are settings for optimizing Structure's performance and integration with your audio software. To learn more about the Setup page, see the **Setup Page** section.



## Structure File Types

Three types of files can be saved with Structure:

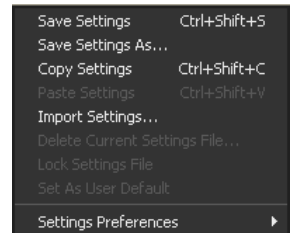
- **Settings:** Pro Tools Plug-In Settings Files, or "presets" save the current configuration of Structure with Patches and Parts (for more information about Pro Tools Plug-In Settings Files, see the *Pro Tools Reference Guide*).
- **Patch:** A Patch is a single "instrument" that consists of parts. A patch can receive MIDI on a unique MIDI port and channel, and plays out through the selected audio output.
- **Part:** A part can be a multisample, an insert effect, a Sub-patch, or a MIDI processor.

## Settings

Using the Settings menu, you can save the complete state of the plug-in including all loaded patches, parts, their parameters, and routing.

### To save a settings file:

1. Click the **Settings** menu and select **Save Settings**.
2. In the following dialog, enter a name and location for the setting and click **Save**.



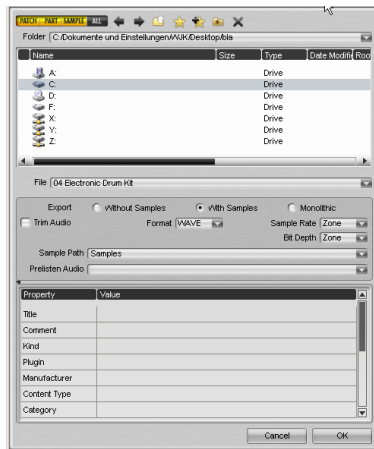
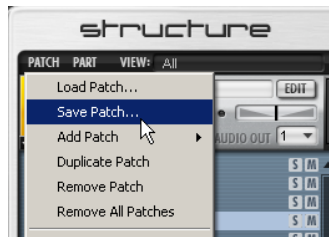
## Patch

You can save a single patch including its parts and all parameters in the Patch menu.

### To save a patch:

1. Select the patch in the **Patch** list.
2. Select **Save Patch** from the **Patch** menu.
3. In the following dialog, enter a name and location for the patch and select one of the **Export** check boxes depending on how you want to export the patch.

- **Without Samples** means that just the Patch file is saved without copying the used samples.
- **With Samples** means that the used samples are copied into a folder named Samples next to the patch. The saved patch will point to the samples in this folder.
- **Monolithic** means that a single Patch file is saved that contains all used samples.

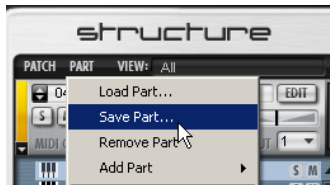


## Part

You can save a single part with all parameters in the Part menu.

### To save a part:

1. Select the part in the **Part** list.
2. Select **Save Part** from the **Part** menu.
3. In the following dialog, enter a name and location and select one of the **Export** check boxes depending on how you want to export the part.
  - **Without Samples** means that just the Part file is saved without copying the used samples.
  - **With Samples** means that the used samples are copied into a folder named Samples next to the part. The saved part will point to the samples in this folder.
  - **Monolithic** means that a single Part file is saved which contains all used samples.



## Importing Third-Party Sample Libraries

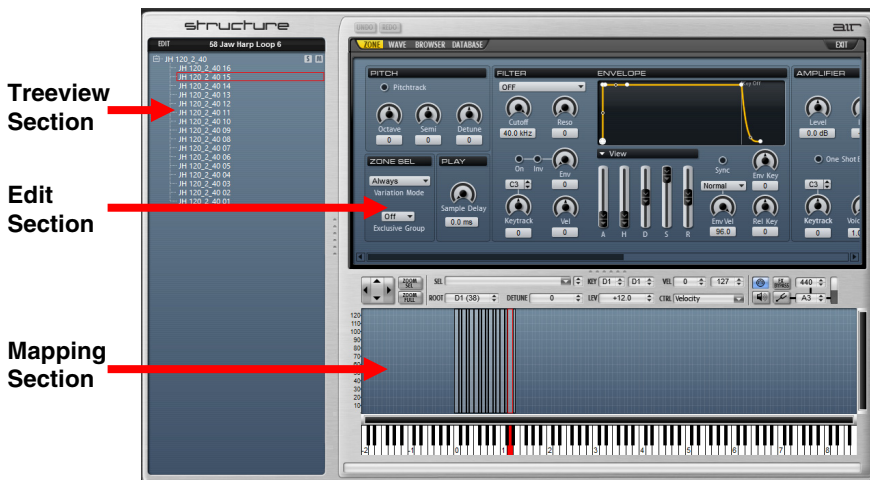
You can import sampler programs, patches and libraries from other software samplers and manufacturers into Structure. The supported formats are SampleCell, SampleCell II, Kontakt, Kontakt2, Kontakt3, Gigasampler, and EXS 24. You can load these just like genuine Structure patches from the **Browser** or by using the **Load** dialog from the **Patch** menu. You can also load Gigasampler Patch format files.

### Important:

- Please see the Structure **Read Me** document for possible known issues with the import of foreign sample formats.
- Encrypted content from third-party vendors cannot be loaded in Structure. iLok-protected Structure Factory Libraries and other protected or encrypted sample libraries can only be saved as patches. They cannot be saved with samples or as monolithic files in Structure. For more information, see **Loading and Saving Patches**.
- When importing Gigasampler Patch files, the sample files are copied to your local computer and a Structure Patch is created. You can specify the directory where Structure will copy the new files on the **Setup** page using **Copy Samples to Local Drive Settings (Content > Copy Samples To Local Drive Options)**.
- Please note that importing third-party sample libraries can be quite complex because of the many available versions of these formats and the different methods each vendor uses to make instruments play naturally (such as key switches, alternations, modulations, MIDI playback variations, and also different filters and effects). Consequently, a perfect reproduction of the original patch in Structure is not always possible. As a general rule, the simpler your original patch, the more precise the imported result in Structure. The larger and more complex your original file is, the more likely it is that you might need to invest some time tweaking the patch to get an exact sonic reproduction.

## The Editor Window

In the Editor window, you can display and modify individual samples within the Sampler parts in a patch. You can wave-edit and loop the contained samples, create and modify sample mappings, and adjust individual playback, filter, and amp settings per sample zone. The Treeview, Mapping, and Edit sections in the Editor window are designed to serve the different purposes of multi-sample editing as explained in the following.



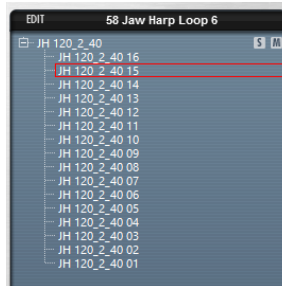
To learn more about the Editor window, see the **Editor Window** section.

To access the Editor window for a patch, click the **Edit** button on a patch module.



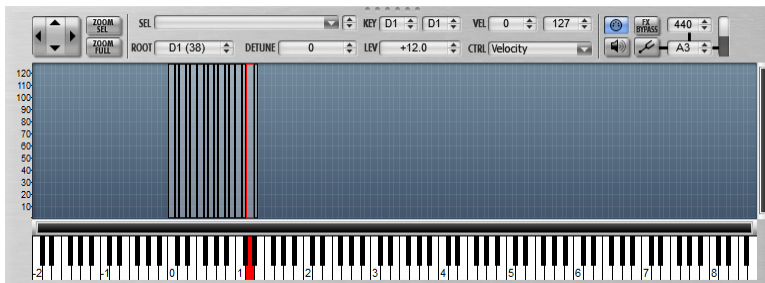
## Treeview Section

The Treeview section on the left lists the names of all Sampler parts of the patch and the names of all samples that are contained in these parts. Click a part or sample zone in the Treeview to select it for further editing in the Mapping and Edit section on the right.



## Mapping Section

The Mapping section reflects the selected part's zones and their keyboard assignment as rectangular zones above the mini-keyboard. A zone represents a sample and holds all its relevant information like keyboard assignment and play parameters within Structure. Zones can be moved, modified, copied, or deleted in the Mapping section. The selection of zones in the Mapping section is synchronized to the Treeview, Wave, and Zone parameters within the Editor window.

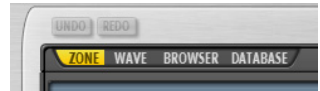


## Edit Section

The Edit section holds four sub-pages, each of which contains a useful editor or view. The subpages are explained in the following.



To access the sub-pages, click the corresponding sub-page tabs.



- **Zone (Zone Parameters):** Provides controls for all available playback parameters of a Zone such as Transpose, Modulation, and Output assignment. The displayed parameter depends on which zone is currently selected.
- **Wave (Wave Editor):** Displays the wave sample of the selected Zone in the Treeview or the Mapping section and provides tools to edit and loop these. The Wave Editor consists of a graphical waveform representation and a parameter and tool set above.
- **Browser:** Provides controls for searching and displaying the local file system. Files like patches, parts, and samples can comfortably be loaded from here using drag and drop into the Patch or Part list. For more information, see the **Browser Page** section.
- **Database:** Provides a powerful set of integrated tools for tracking, organizing and managing your Structure patches, parts, and samples. For more information, see the **Database Page** section.

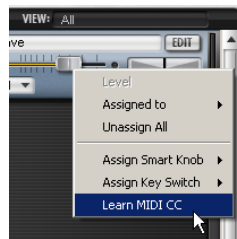


## MIDI Learn

Structure lets you assign standard MIDI controllers ("MIDI Learn") to virtually any parameter so that you can control Structure from a MIDI controller in real-time.

### To assign a MIDI controller to a parameter (MIDI Learn):

1. Right-click (Windows or Mac) or Control-click (Mac) a rotary control or fader.
2. Click **Learn MIDI CC**, and move a control on your MIDI controller. The parameter is automatically assigned to that control.



### To un-assign a MIDI controller:

1. Right-click (Windows or Mac) or Control-click (Mac) the rotary control or fader.
2. Go to the **Assigned to** pop-up menu.
3. Click the **Name** field and select **Delete Assignment**.



## Adjusting Controls

You can adjust all controls by using the computer mouse. Some controls are adjusted by a selecting a value from a pop-up menu or by activating a button.

### Parameter Ranges and Resolution

Most controls have a range of 0–100%. Some controls are bipolar, meaning they support negative values and usually have a range of –100% to +100%.

### Using a Mouse

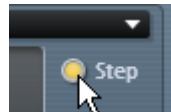
You can adjust controls by dragging the control's slider or knob, or by moving over it with the cursor and scrolling up or down with the scroll wheel. Adjust rotary controls by dragging horizontally or vertically. Parameter values increase as you drag upward or to the right, and decrease as you drag downward or to the left.



### Activating Buttons

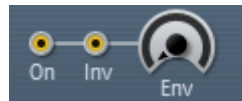
Some controls are enabled or disabled using buttons.

**To enable a button**, click the button. Click again to disable it.



### Zone Mode

Some buttons on Part level do not only have an **On** or **Off** state but feature a third state, called **Zone mode**. This state is indicated by a black dot in the middle of the lit button. If Zone mode is activated, the state of this parameter is taken from each zone in the part (accessible in the Zone section of the Editor window).



## Keyboard Shortcuts

**For finer adjustments**, hold down Control (Windows) or Command (Mac) while moving the control.

**To return a control to its default value**, Alt-click (Windows) or Option-click (Mac) the control.

## Displaying Values

Parameter values of knobs and faders can be displayed in the Info display without editing them.

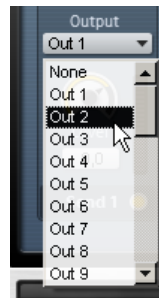
**To display the value of a control in the Info display**, click the control without dragging it.

## Using Pop-up Menus

Some controls have pop-up menus for selecting values.

**To choose a value from a pop-up menu:**

1. Click the parameter's selector.
2. Select a value from the parameter's pop-up menu.



## Scroll Wheel on Knobs, Faders, and Menus

If your mouse has a scroll wheel, you can use it to adjust Structure parameters.

### To change a value with a scroll wheel:

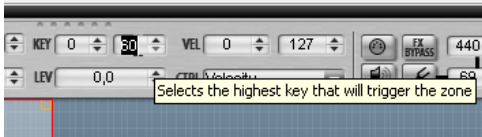
1. Move the cursor over a rotary knob or fader.
2. Scroll the wheel up to increase values. Scroll the wheel down to decrease values.

## Adjusting Values by MIDI

In the Editor window, you can adjust text box values by MIDI input. This can be helpful when defining, for example, key ranges.

### To adjust a value using MIDI input:

1. Click into the text field.
2. Play a note on your MIDI keyboard.



See the **MIDI Learn** section for information on Structure's MIDI Learn functionality.

## Quick Start

This chapter helps you to explore Structure's basic concepts with a hands-on approach within **Avid® Pro Tools®**. You will touch the most important functions, understand the basic concepts and make the first guided steps to get Structure to sound.

## Inserting Structure On a Pro Tools Instrument Track

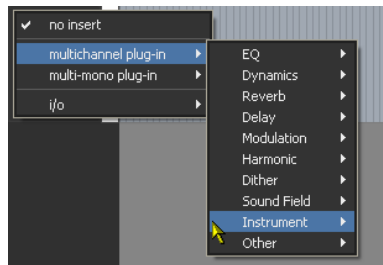
To use the Structure plug-in, you have to insert it on a stereo or surround Instrument track (recommended), Auxiliary input, or Audio track. You can then play Structure using its on-screen keyboard, an external MIDI controller, or a track with MIDI data.

Structure is the sole audio input source for any Instrument track, audio track, or Auxiliary input on which it is inserted. When Structure is inserted on an audio track, any audio clips on that track will not sound during playback. Additionally, the track input will effectively be muted during playback if Structure is inserted on the track. If Structure is inserted more than once in a single track, only the last Structure insert will produce sound. You can use Structure as an insert on more than one track at a time.

### To add a Structure plug-in to a track:

1. Create a new stereo or surround Instrument track in Pro Tools.
2. Click the track's **Insert** selector and choose **Structure** from the list.

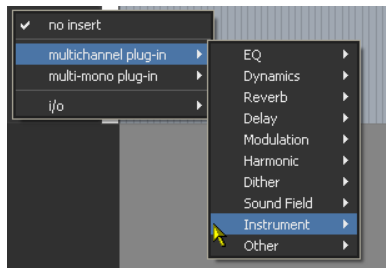
**To remove the plug-in**, click the **Insert** selector and choose **No Insert**.



## Basic Operation

### Loading Structure

1. Create a new stereo Instrument track in Pro Tools.
2. Click the track's **Insert** selector and choose **Structure** from the list.



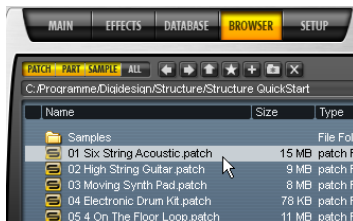
### Making Sound

1. If you have a MIDI keyboard available and prefer to use it, connect it to Structure's MIDI input, and route it to Structure on MIDI channel 1. If there is no MIDI keyboard available, you can play Structure by clicking the keyboard on screen, or using MIDI input from the Instrument track in Pro Tools.
2. Play some notes on your MIDI keyboard. If all is well so far, you are hearing a sine wave signal from the default **Sine Wave Patch** at the top of the **Patch** list.



## Loading a Patch

1. Click the **Browser** tab in the **Parameter** panel to display the Browser page.
2. Click your way through the folders to access the Structure QuickStart content folder. If you chose the suggested path during installation, it is located here, depending on your OS:
  - **Windows:** Program Files\Digidesign\Structure\Structure QuickStart
  - **Mac OS X:** /Applications/Digidesign/Structure/Structure QuickStart
3. Drag the Patch named **01 Six String Guitar.patch** onto the Sine Wave Patch to load it and replace the Sine Wave patch. A red frame around the patch when dragging indicates that you are replacing the existing patch with the new one. Wait until the **Loading** message in the display beneath the Parameter panel disappears.
4. After loading, the multi-purpose display shows a short description of the Patch, and the Parameter panel above displays its Patch parameters.
5. Play some notes and chords. Adjust the Patch volume using the horizontal fader on the Patch module in the Patch list.



## Finding Missing Samples

If samples are not found, the concerned patches and parts are marked by a red exclamation point.

**To find the missing samples for a patch or part:**

1. In the **Patch** or **Part** menu, select **Find Missing Samples**.
2. In the following dialog, navigate to the new sample location and click **OK**.



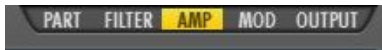
## Exploring the Part List

1. Click the small triangle on the lower left of the Patch module to show the **Part** list.
2. As you can see here, the Patch consists of multiple parts: sampler parts (indicated by a keyboard symbol) and insert effect parts (indicated by an FX symbol).
3. Select the **sampler** part to show its parameters in the Parameter panel.
4. Click the **EQ** and **Reverb** effect parts to display their parameters in the Parameter panel.



## Editing Part Parameters

1. Click **6 String Pick.part** to bring up its parameters in the Parameter panel.
2. Click the **Filter** sub-page tab to go to the part's filter settings.
3. Set the **Cutoff** and **Resonance** controls at will.
4. Click the **Amp** tab to go to the Amplifier subpage. Set the attack time to **200 ms** by moving the upper left handle in the envelope.
5. Use the attack fader (**fader A**) to set it back to **0**.
6. Now grab the top half of the **Attack** fader and set it to **20%** for creating a velocity-sensitive attack behavior for the guitar part.



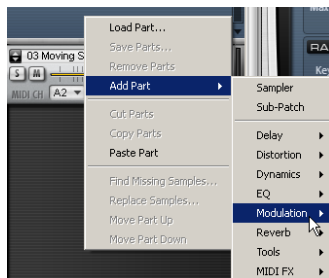
## Adding a Sampler Part

1. Click the **Browser Page** tab to display the Browser in the Parameter panel.
2. Drag the part **02 High String Guitar.part** into the Part list below the 6 String Pick part. This adds a sampler part with high string guitar samples to the patch.
3. Play some notes and chords; the six-string guitar has now become a twelve-string.



## Adding an Effect Part

1. Right-click the **Part** list below all parts.
2. Select **Add Part > Modulation > Phaser Stoned** from the context menu.
3. Play some notes and chords. Adjust the **Effect** controls in the **Parameter** panel.



## Saving the Patch

1. To save the edited Patch, choose **Save Patch** from the **Patch** menu.
2. In the file dialog, choose a name and destination for the Patch, and click **OK**.

## Adding Another Patch

1. Click the **Patch** menu on the upper left of the Patch list and select **Load Patch** from the menu.
2. Load **Moving Synth Pad.patch** from the QuickStart content in the dialog. Wait until the loading message disappears. Another Patch module is added under the guitar patch.
3. The new Patch is assigned to MIDI channel **2**. Assign it to MIDI channel **1** using the **MIDI Input** pop-up menu in the **Patch** module.
4. Play a few notes to hear guitar and synth pad play together. In the next steps we will adjust the synth pad to make up a nice combination with the guitar using Smart Knobs.



## Using Smart Knobs

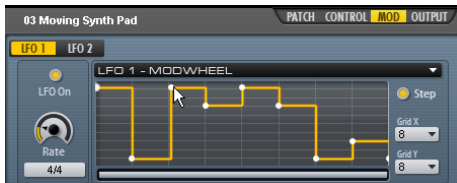
Every Patch has six Smart Knob assignments which are (in the factory content) pre-assigned to useful parameters. You can use them to easily adjust a patch to fit your session.

1. Select the synth patch to display its Smart Knob assignments in the Keyboard section.
2. Set the Smart Knob for **Cutoff** to **30%**.
3. Set the Smart Knob for **Attack** to **65%**.
4. Set the Smart Knobs for **Phaser** and **Delay** to **30%**.
5. Set the Smart Knob for **Release** to **75%**.



## Modulating Amplitude by LFO

1. Select the synth patch and click the **Mod** subpage tab in the Parameter panel.
2. Play a chord or note and move your MIDI keyboards Mod wheel up. You will hear a gating effect on the synth pad. This effect is created by LFO 1 which modulates the patch amplitude. The modulation depth of LFO 1 is hard-wired to the Mod wheel.
3. Drag the handles of the LFO waveform to adjust the gating effect.



## Using Global Send Effects

1. Select the guitar patch, and go to its **Output** sub-page in the Parameter panel.
2. Move the **FX Send 1** fader all the way to the right to feed the Patch into the first Effect slot.
3. Click the **Effects** tab to show the Effects page in the Parameter panel.
4. Click the first insert on the first **Effect** slot and select a reverb preset.
5. Click the Effect insert to adjust the effect parameters in the Parameter panel. Click **Back** when done.



## Using Key Switches

Key Switches are special MIDI notes or keys that are assigned to switch control values instead of triggering notes. For example, they can switch between different Smart Knob settings for a Patch or mute certain parts within a patch. Nearly every control in Structure can be assigned to a Key switch.

1. Load the Patch **04 Electronic Drum Kit.patch**, and play with it on your keyboard.
2. The different Effect parts in this specific Patch are not audible initially. Their Mix parameters and Smart Knobs are assigned to key switches so you can mix them in by just clicking or playing a **Key Switch**. All available Key Switches appear blue on the screen keyboard. The currently activated Key switch is green. After activating a Key Switch, a short description is shown in the multi-purpose display. A Key switch does not trigger samples that are mapped in the corresponding key range.
3. Click the second Key Switch **C#0**, or play the corresponding key to add dirt to the kit's sound.
4. Try out the other Key Switches.
5. The synth pad patch has Key Switches too. Check them out!



## Working with REX Files

Structure is capable of directly importing REX files. When you load a REX file in Structure as a patch it is automatically split up in two parts: a sampler part which holds the slices of audio and a MIDI part which plays back these slices in the correct tempo and order.

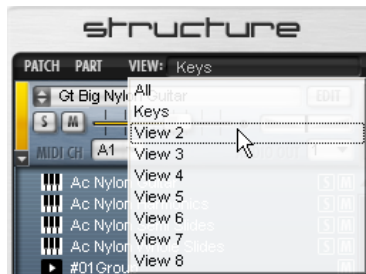
1. Drag the REX file **05 4 On The Floor Loop.rx2** from the QuickStart folder into the **Patch** list. Structure automatically creates a new Patch module with two parts: a Rex Player and a sampler part.
2. Assign the patch to MIDI channel **1**.
3. **Solo** the patch.
4. Play notes between **C0** and **B0** to trigger single slices of the loop.
5. Hold down a note from **C1** upwards to trigger the REX loop at different pitches. The loop tempo automatically matches your session tempo.

For more information about Rex Player controls, see the ***Rex Player*** section.

## Using Viewgroups

In complex setups with lots of patches it can be useful to organize patches in viewgroups for a better overview. Viewgroups do not affect the playback but only the displaying of Patches. Let's put the guitar and the synth patch into one viewgroup called **Keys** and the drum and the loop patch in a viewgroup called **Drums**.

1. Click on the **View** menu on top of the Patch list.
2. Select **View 1**.
3. Double-click **View 1** and type **Keys** to rename it.
4. Accordingly, select **View 2** and rename it to **Drums**.
5. Select **View All** to show all patches.
6. Right-click the **04 Electronic Drum Kit** patch to open the Patch menu.
7. Select **Show In View > Drums**.



Now, when you select **Keys** from the menu, the Patch list shows the guitar and synth patches. When you select **Drums**, it shows the other.

Select **All** again to see all Patches in the Patch list.

## Exploring the Editor Window

1. Select **Remove All Patches** from the **Patch** menu.
2. Load **04 Electronic Drum Kit.patch**, and wait until the loading message disappears.
3. Click the **Edit** button on the upper right of the Patch module.
4. The Editor Window is resizable. Drag the handle on the lower right to resize it to suit your screen space.
5. The Treeview on the left shows the eleven parts which make up this patch. Clicking on the plus (+) symbol next to a part reveals a list of its sample zones.
6. Play a few keys or click some keys on the screen keyboard. You can see that this selects Zones in the Mapping section. The corresponding views of the selected zones are shown in the Treeview and in the Wave editor.

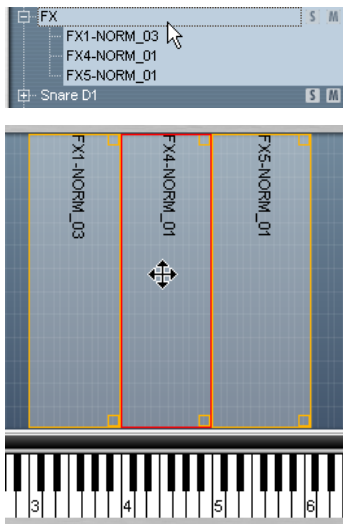
## Zooming the Mapping Section

1. To zoom into the Mapping section, click the right **Zoom** button on the upper left of the Mapping section.
2. Double-click any Zone to zoom and center it. Double-click again to zoom out.
3. Click the **Zoom Selection** button to fully zoom into the selected Zones.



## Moving Sample Zones

1. Select the **FX** part in the treeview. Its sample zones are selected in the Mapping section.
2. Drag the zone frames in the **Mapping** section to change their velocity and key mapping.
3. Drag sample zones to move them around in the **Mapping** section.



## Undoing the Last Step

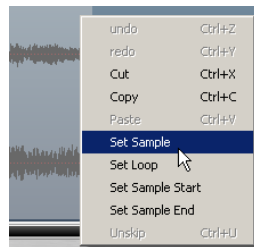
Select **Undo** from the **Edit** menu in the **Treeview** section to revert the last editing step.



## Setting Sample Start and End Points

On the top right of the Editor window, the Wave editor shows the waveform of the currently selected Zone. Here you find the same zooming tools as in the Mapping section.

1. Select a **Zone** to display its sample waveform, and drag horizontally into the waveform to make a selection.
2. Click the **Zoom Selection** button to fully zoom into the selected area.
3. Right-click (Windows) or Control-click (Mac OS X) into the selection to show the context menu. Choose **Set Sample** to set the sample start and end points to your selection.
4. Select the whole waveform and choose **Set Sample** again to bring the sample back to its initial state.



## Using Zone Parameters

1. Click the **Zone** tab to bring up the sub-page for Zone parameters. Zone parameters are basically the same as Part parameters but are applied individually per zone. You can apply Zone parameters to multiple selected Zones at a time.
2. Go to the **Treewiew** and select the folder **FX** which holds all three zones of the upper octaves. All Zones must be selected.
3. Set the **Octave** control in the Zone parameters to **-1**. All selected zones are now tuned down by one octave.



## Playing, Mixing, and Recording Structure: Pro Tools

Whether you are using a single instance of Structure or multiple instances, you can take advantage of the vast capabilities of Pro Tools as a powerful MIDI sequencing, recording, editing, and mixing environment.

### Bus-Recording Structure

One of the first and easiest things you might want to do is record your performance using a single instance of Structure.

#### To bus record Structure in Pro Tools:

1. If you haven't already done so, insert Structure on a stereo Instrument track and set it up for performance.
2. Create a new stereo audio track.
3. Assign the audio **Output** of the Instrument track on which Structure is inserted to a bus (such as Bus 7–8).
4. Select the same bus (such as Bus 7–8) as the **Input** of the stereo audio track for recording (see image).

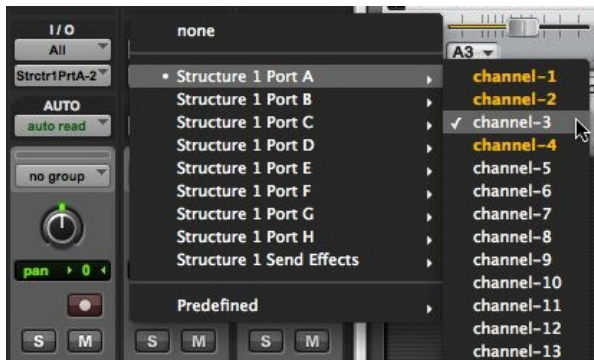
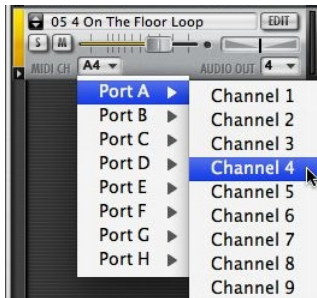


## Routing Multiple MIDI Tracks to Different Parts in Structure

Each Part in a single instance of Structure can receive MIDI data from Pro Tools on unique virtual MIDI ports and channels. In this way you can use a single instance of Structure as an entire band or orchestra, with each Part played by separate Pro Tools MIDI tracks.

### To route Pro Tools MIDI tracks to Parts in Structure:

1. If you haven't already done so, insert Structure on a stereo Instrument track and set it up for performance with two or more Parts.
2. In the **Part** list in Structure, assign each Part to a unique MIDI Port and channel input.
3. In Pro Tools, create the corresponding number of MIDI tracks.
4. Assign each MIDI track **Output** to a unique Structure Part MIDI Input Port and Channel.



## Routing Structure Audio Outs to Multiple Pro Tools Tracks

A more sophisticated way to work with Structure than simple bus-recording is to assign different Parts in Structure to different Audio Outs. You can then route the different Outputs from Parts in Structure to the Inputs of multiple tracks in your Pro Tools session for multitrack mixing, processing, and recording.

### To assign Structure Parts to separate Outputs and route to Pro Tools tracks:

1. In the **Part** list in Structure, assign each Part to a separate **Audio Out**.
2. In your Pro Tools session, create enough new stereo Auxiliary Input (for monitoring and mixing) or audio tracks (for recording and mixing) for each of the Audio Outs used by the Parts in Structure.

**Note:** The Audio Outs from Structure are stereo, so if you want to mix each Part to a mono track in Pro Tools, assign pairs of Parts to the same Audio Out (for example, assign both the first and second part to **Out 4**). Then for each pair, pan one Part hard left and the other hard right. You can then select the left or right channel of a single Structure Out as the Input of a mono track in Pro Tools.

3. Select the corresponding Structure **Audio Out** from each Pro Tools track **Input selector**.

You can now record, mix, and process multiple Structure Outs independently in your Pro Tools Session.



**Important:** For more information about mixing and recording instrument plug-ins in Pro Tools, see the *Pro Tools Reference Guide*.

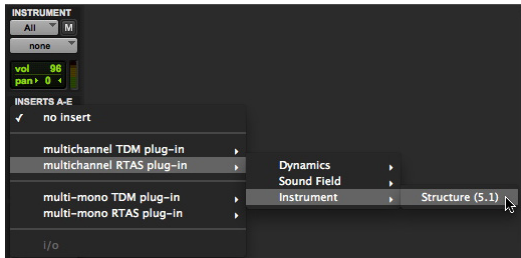
## Using Structure on Multichannel (Greater-Than-Stereo) Tracks

**Important:** For Pro Tools HD and Pro Tools with Complete Production Toolkit Only.

While most instrument plug-ins are only mono or stereo (even those that provide multiple audio outputs), Structure can be inserted on, or bussed to, multichannel tracks up to 8 channels in width. While some factory patches in Structure are specifically designed to play back on multichannel tracks, not every patch in Structure will play through all channels of a multichannel track. For example, a stereo patch played back on an LCR track will only play through channels L and R, and not C. However, you can add a surround panner FX Patch to parts in Structure to effectively make any patch play to any of the common surround formats (such as LCR, Quad, and 5.1).

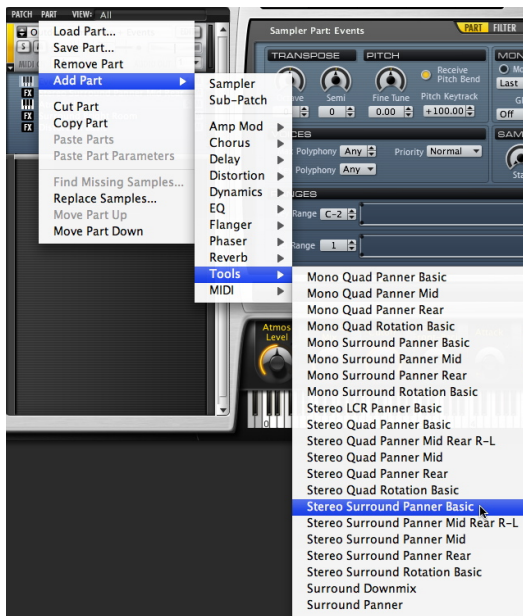
### To use Structure in surround:

1. In your Pro Tools session, create a new multichannel instrument track (such as 5.1).
2. Make sure the track Output is assigned to a multichannel output path for monitoring.
3. Insert Structure on the track.
4. In Structure, select a 5.1 patch and play Structure.



## To pan a stereo (or mono) Sampler patch to surround in Structure:

1. In the **Part** list, reveal the **Patch** list for the Part you want to pan to surround.
2. From the **Patch** menu, select **Add Part > Tools** and select the type of surround panning you want.



## Controls

### Keyboard Section



The Keyboard section provides 88 keys for playing Structure, six Smart knobs, and a context sensitive Info display, as well as the Master volume control for the whole plug-in. You can play and control Structure by clicking the keys, using MIDI input from a MIDI keyboard, or using MIDI data in an Instrument or MIDI track in Pro Tools. When Structure receives MIDI data, the keys reflect the MIDI note input.

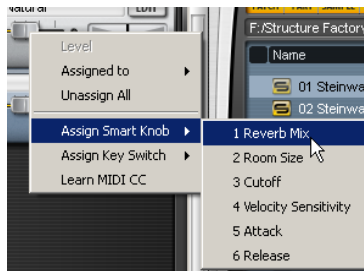
## Smart Knobs

The Smart knobs are special controls which can be assigned to one or more Structure parameters in the currently selected patch. These parameters can then be remote controlled at the same time by moving the Smart knob. This comes in handy for making complex sound design easy or to quickly adjust a patch to suit your session in terms of feel, timbre, enveloping, or any other sensible sound shaping parameter. In Structure's factory content, each patch has Smart knobs pre-assigned to important parameters. The Smart knob can be named in the field above each knob.



### To assign a parameter to a Smart knob:

1. Right-click (Windows or Mac) or Control-click (Mac) a control.
2. Select a Smart knob from the **Assign Smart Knob** pop-up menu.



### To remove a Smart knob assignment:

1. Right-click (Windows or Mac) or Control-click (Mac) the control.
2. In the **Assigned to** pop-up menu, click the control name field and select **Delete Assignment**.





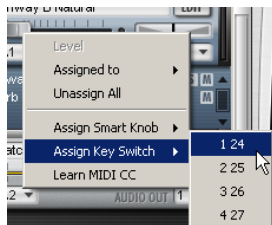
## Key Switches

Key Switches are special MIDI notes or keys that are assigned to controls and act as a switch. For example, they can switch between different Smart Knob settings for a patch or mute and solo parts within a patch.



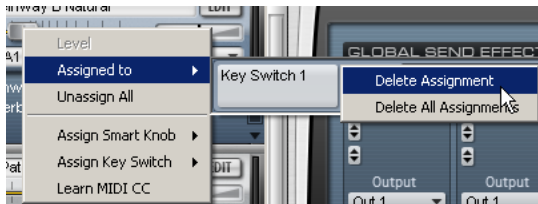
### To assign a parameter to a Key switch:

1. Right-click (Windows or Mac) or Control-click (Mac) a control.
2. Select a **Key** switch from the **Assign Key switch** pop-up menu.



### To remove a Key switch assignment:

1. Right-click (Windows or Mac) or Control-click (Mac) the control.
2. In the **Assigned to** pop-up menu, click the control name field and select **Delete Assignment**.



**Tip:** You can edit the Key switch and Smart knob assignments in detail on the **Control** subpage of the patch. If you want to learn more, see *Using the Control Line*.

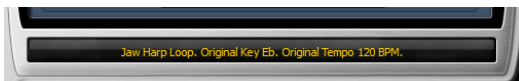
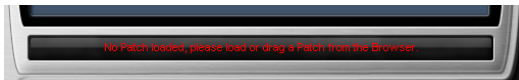
## Master (Output Volume)

The Master control adjusts Structure volume of all Structure outputs to Pro Tools. All patches are mixed down to the Main output by default, and then output to the Instrument or Auxiliary Input track on which Structure is inserted.



## Info Display

The Info display above the Keyboard section is a context-sensitive text display. When you load something into Structure, it displays a progress bar. When loading a commented patch, it displays the Patch comment. When editing controls, it displays parameter name and value.



**To display the control's current value**, click the control without moving the mouse.

### To edit the patch comment:

1. Select a patch.
2. Double-click into the **Info** display.
3. Type in your comment.
4. Press **Enter**.

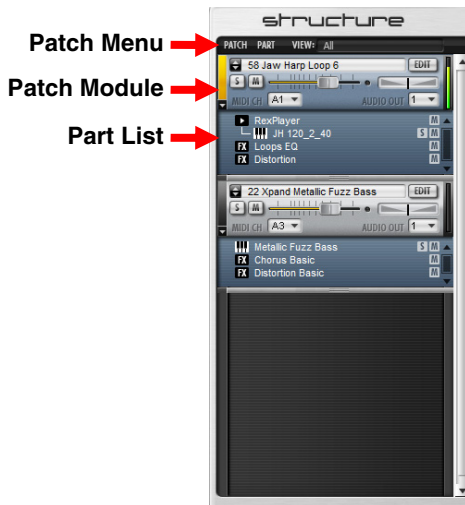
**Note:** The Display does not show parameter values of incoming automation, as multiple parameters in different patches could be changing simultaneously. Only values edited using the mouse are shown.

## Patch List

In the Patch list on the left side of Structure, you can create, select, mix, MIDI-assign, route, and group patches. A patch holds a virtually unlimited number of parts (a part can be a multisample, an insert effect, or a MIDI module) with a defined audio and MIDI routing.

Click a Patch module to select it for editing in the Parameter panel. The handle on the left of the selected patch is lit. When a patch is selected all of its parameters are displayed in the Parameter panel on the right and assorted into subpages.

You can create, edit and save patches using the Patch menu on top of the Patch list.



## Patch Module Controls



**Quick Browse Menu for Favorite Folders:** Gives quick access to the factory content folders and folders that have been added to the favorites. Click the double arrow to bring up the favorite folders menu from which you can directly select Structure Patches. See the ***Browser Page*** section for more information on how to add a folder to your favorites.

**Mute Button:** Mutes the patch.

**Solo Button:** Solos the patch.

**Volume Fader:** Adjusts the Patch volume.

**Panorama Fader:** Adjusts the patch's position in the stereo panorama.

**MIDI Channel Selector:** Selects the Port (A–H) and channel (1–16) on which the patch receives MIDI data.

**Audio Out Selector:** Selects the patch's individual audio output (Out 1–32). The Audio Out paths for Structure are stereo.

**Edit Button:** Brings up the Editor window of the Patch in which you can edit the mapping, wave, and zone settings of its sampler parts. To learn more about the Editor window please see the Editor Window section.

## Patch Menu

**Tip:** You can also Right-click on a Patch to access the Patch menu.

**Load Patch:** The Load Patch command brings up a dialog for selecting a patch that will be added below the currently selected patch in the Patch list.

**Save Patch:** The Save Patch command brings up a dialog for saving the selected patch to disk. See the *Save Dialog Controls* section for more information.

**Add Patch:** The Add Patch submenu lets you add a new empty patch to the end of the Patch list. Like the Quick Browse Menu, it provides access to your Favorite folders for loading patches.

**Duplicate Patch:** The Duplicate Patch command adds an exact copy of the selected patch below it in the Patch list.

**Remove Patch:** The Remove Patch command unloads the selected patch, removing it from the Patch list.

**Remove All Patches:** The Remove All Patches command clears the Patch list of all loaded patches. Click OK in the prompted security dialog if you really want to clear the whole Patch list.

**Cut Patch:** The Cut Patch command copies the selected patch to the clipboard and removes it from the Patch list.

**Copy Patch:** The Copy Patch command copies the selected patch to the clipboard.

**Paste Patch:** The Paste Patch command inserts the copied patch on the clipboard at the end of the Patch list.

**Paste Patch Parameter:** The Paste Patch Parameter command inserts only the parameter settings of the copied patch to the selected patch.

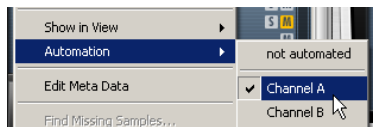
**Show in View:** The Show in View command assigns the patch to one of the eight viewgroups. If the patch is assigned to a viewgroup, it appears only in the Patch list when the corresponding viewgroup is activated. See the *Viewgroups* section for more information.

**Automation Channel:** Structure provides 16 automation channels, each of which provides automation for the most important Patch parameters like level, solo, mute, and Smart knobs. (Structure has so many available parameters that it is not possible to allow Pro Tools automation for all of them.)

Each automation channel (A, B, C, D, ...) can be assigned to one patch. In the Pro Tools plug-in automation dialog the automatable parameters for each channel are distinguishable by the corresponding letter. For example, A Level for the Volume fader of the patch assigned to automation channel A. Automation channels are assigned subsequent to the patches in the Patch list by default, but the assignment can be changed using the Automation Channel submenu.

**To assign a patch to an Automation channel:**

1. Select a patch.
2. Go to **Patch > Automation**, and select an **Automation channel** from the menu.



**Edit Metadata:** If you use the integrated Database, you can use the Edit Metadata dialog to edit a file's metadata tags. Metadata tags provide information which is used for improved searching in the Database. See the **Database Page** section for more information.

**Find Missing Samples:** If a loaded patch does not find its samples, you can use the Find Missing Samples dialog to point Structure to the location of the samples. For more information, see **Finding Missing Samples**.

**Unload Unused Samples:** The Unload Unused Samples command lets you remove all samples that are not used in the current part, patch, or Pro Tools session from your computer's RAM. You can use this function to lower Structure's RAM consumption. For more information, see **Removing Redundant Samples from RAM**.

**Reload Unused Samples:** The Reload Unused Samples loads previously removed samples back into RAM, either for the selected patch, all patches, or the whole Session.

**Copy Samples to Local Drive:** If you have loaded samples from removable media like a CD, DVD, or over the network into Structure, a yellow exclamation mark symbol indicates the affected patches and parts. Use the Copy Samples to Local Drive function to transfer the loaded samples to your computer's disk. On the Setup page, you can define a folder to which Structure will copy these files. After transferring the samples Structure can load the concerned patches and parts without requiring the source CD, DVD, or network folder. See ***Copy Samples to Local Drive Options*** for more information.

- **Selected Patch** copies the samples of the selected patch to disk.
- **All Patches** copies the samples of all patches of the Structure instance to disk.
- **Session** copies the samples of all patches of all Structure instances in your session to disk.

## Loading and Saving Patches

You can load and save patches using the Patch menu.

### To load a patch from the browser:

1. Go to the **Browser** page.
2. Navigate to a folder.
3. Drag the patch file into the **Patch** list.

### To save a patch:

1. Go to the **Patch** menu and click **Save Patch As**.
2. In the following file dialog, name the patch and select a location.
3. Click **OK**.

## Save Dialog Controls

**Export Without Samples:** Saves the patch without creating a new copy of the samples.

**Export With Samples:** Saves the patch file and a copy of all used samples. The exported samples are placed into a folder called Samples next to the saved Patch file.

**Export Monolithic:** Saves a monolithic Patch file that contains all used samples.

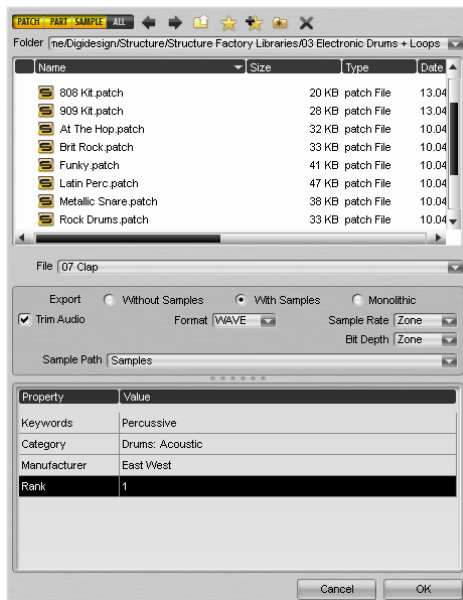
**Trim Audio:** Removes all audio data before the sample start and after the sample end marker from the exported samples.

**Format:** Selects a file format the exported samples are saved in (AIFF or WAVE).

**Sample Rate:** Selects a sample rate for the sample export. The Zone setting uses the same sample rate as the loaded sample.

**Bit Depth:** Selects a bit depth for the sample export.

**Important:** The iLok-protected Structure Factory Libraries and other protected or encrypted sample libraries can only be saved as patches not with samples or monolithic.





## Viewgroups

In complex setups with lots of patches, it can be helpful to organize patches in viewgroups for a better overview and patch handling. When a viewgroup is selected, only its assigned patches are shown in the Patch list. Structure provides eight renamable viewgroups.

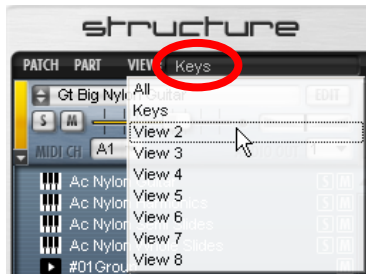
**Note:** Viewgroups do not affect the playback of Patches. They only affect the display of Patches.

### To assign a patch to a viewgroup:

1. Select a patch.
2. In the **Patch** menu, go to **Show In View**, and select a viewgroup from the submenu.

**To select a viewgroup**, click into the **Name** field and select a viewgroup.

**To rename a viewgroup**, double-click into the **Name** field and type in a name for the selected viewgroup.



## Removing Redundant Samples from RAM

The **Unload Unused Samples** command lets you remove samples that are not used in the current part, patch, or Pro Tools session from your computer's RAM. To find out which samples can be removed, Structure needs to analyze your session as described in the following procedure.

### To remove the unused samples from RAM:

1. Go to the **Patch** menu and select one of the following from the **Unload Unused Samples** submenu:
  - **Patch:** Removes unused samples only for the selected patch.
  - **All Patches:** Removes unused samples for all patches
  - **Session:** Removes unused samples for all instances of Structure in your session.
2. The **Info** display will show a message asking to start playback of the session for analysis. Start Pro Tools and play back the whole session.
3. After playback has been stopped click **Apply** in the **Info** display to remove all unused samples from RAM, or click **Cancel** if you want to keep the samples in RAM.



### Reload Unused Samples

The **Reload Unused Samples** command loads previously removed samples back into RAM, either for the selected patch, all patches, or all Structure instances in the whole Session.

## Part List

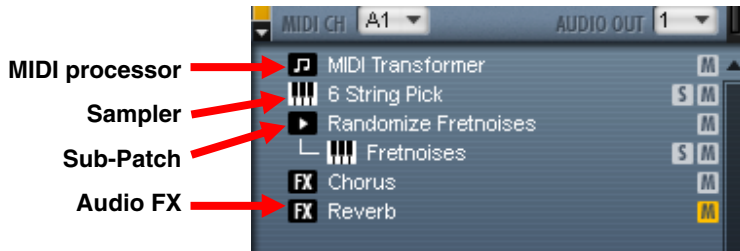
The Part list shows the parts that are contained in a patch. A part can be a multisample, an insert effect, a Sub-patch, or a MIDI processor. The Part list contains all parts within the selected patch and reflects their grouping as well as audio and MIDI routing. You can create, select, move, and edit parts in the Part list.

**To expand and collapse a patch's Part list,** click the small triangle on the left of the patch.

The vertical order of parts reflects the actual signal flow from top to bottom. This means that the audio output of a sampler part is fed through any Audio FX parts below it. The resulting signal at the bottom of the Part list is sent to the Patch output. You can change the position of parts within the routing using "drag and drop."



## The Different Types of Parts



**MIDI Processor:** Contains a MIDI processor with its settings (such as a tuning scale). MIDI processors are placed before Sampler parts and change the way a Sampler part is played.

**Sampler:** Contains a multisample, its mapping information, metadata, and several sound shaping options (such as filters, envelopes, and modulation).

**Sub-Patch:** Groups multiple Sampler parts, insert effects, or MIDI effect parts within a patch for applying combined playback conditions within a patch. For example, in a patch that holds piano and string Sampler parts, you might want to route only the piano through a reverb effect. In this case, you would group the piano part and an effect part using a Sub-patch. Subpatches can be dragged to the Patch list to become patches. Patches can be dragged into the Part list of another patch to become a Sub-patch. For more information on using Sub-patches, see the **Sub-Patch** section.

**Audio FX:** Contains an Insert effect with its parameter and output settings. Select an Audio FX Part in the Part list to show the Audio Effect controls in the Main page.

## Part Parameters

**Mute Button:** Mutes/bypasses the part.

**Solo Button:** Solos the part.

## Part Menu

**Tip:** You can also right-click on a Part to access the Part menu.

**Load Part:** The Load Part command brings up a file dialog for selecting a part that will be added below the last part in the Part list.

**Save Part:** The Save Part command brings up a dialog for saving the selected part to disk.

**Add Part:** The Add Part submenu lets you add a new part (Sampler, Sub-Patch, FX, or MIDI) to the selected patch.

**Remove Part:** The Remove Part command removes the selected part from the Part list.

**Duplicate Part:** The Duplicate Part command adds an exact copy of the selected part at the end of the Part list.

**Cut Part:** The Cut Part command copies the selected part to the clipboard and removes it from the Part list.

**Copy Part:** The Copy Part command copies the selected Part to the clipboard.

**Paste Part:** The Paste Part command inserts the copied Part from the clipboard at the end of the Part list.

**Paste Part Parameters:** The Paste Part Parameters command inserts only the parameter settings of the copied part to the selected part. This function can only be used with the same types of parts. Zones and Zone parameters are not pasted.

**Find Missing Samples:** If a loaded part does not find its samples, you can use the Find Missing Samples file dialog to point Structure to the location of the samples. For more information, see the *Finding Missing Samples* section.

**Replace Samples:** The Replace Samples function brings up a dialog to locate samples to replace the ones currently used in the part. The new samples must be named exactly as the ones to be replaced. You would commonly use this function to replace samples in a part with newer or processed versions.

**Move Part Up:** The Move Part Up command moves the selected part one level up in the routing.

**Move Part Down:** The Move Part Down command moves the selected part one level down in the routing.

## Loading and Saving Parts

You can load and save parts using the Part menu in the Patch list.

### To load a part from the Browser:

1. Go to the **Browser** page.
2. Navigate to a folder.
3. Drag the part file into the **Part** list.

### To save a part:

1. Go to the **Part** menu and click **Save Part As**.
2. Set the **Save Dialog** controls (see below), name the part, and select a location.
3. Click **OK**.

## Save Dialog Controls

**Export Without Samples:** Saves the part without creating a new copy of the samples.

**Export With Samples:** Saves the part file and a copy of all used samples. The exported samples are placed into a folder called Samples next to the saved Part file.

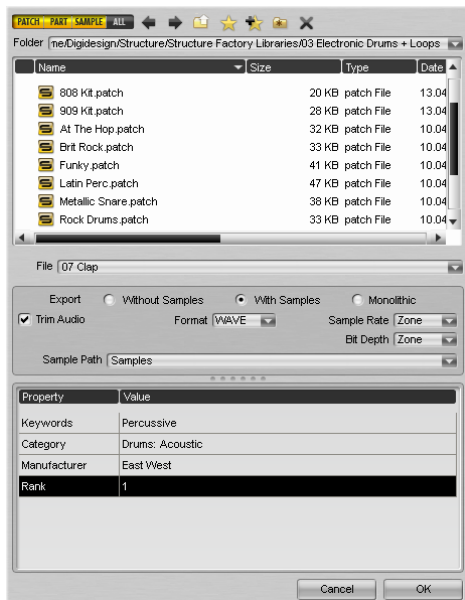
**Export Monolithic:** Saves a monolithic Part file that contains all used samples.

**Trim Audio:** Removes all audio data before the sample start and after the sample end marker from the exported samples.

**Format:** Selects a file format the exported samples are saved in (AIFF or WAVE).

**Sample Rate:** Selects a sample rate for the sample export.

**Bit Depth:** Selects a bit depth for the sample export.

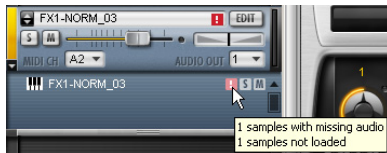


## Finding Missing Samples

If a loaded patch or part does not find its samples because folders have been renamed or moved to another location, you can use the **Find Missing Samples** file dialog to point Structure to the new location of the samples. Patches and parts which are missing samples are indicated by a red exclamation mark symbol.

### To find the missing samples for a patch or part:

1. Right-click (Windows or Mac) or Control-click (Mac) the concerned patch or part, and select **Find Missing Samples** from the menu.
2. In the following dialog navigate to the new sample location and click **OK**.



**Full Recursive Search:** Search for missing samples in the specified folder and all its subfolders.



## Sub-Patch

A Sub-patch is a special type of part. You can use a Sub-patch to group any combination of parts, and to control how they are played.

### Common uses for a Sub-patch:

- Grouping Sampler and FX parts. For example, FX parts in a Sub-patch only affect Sampler parts within the same Sub-patch.
- Setting playback conditions for parts. For example, setting a Sampler part to only play when keys are released (on MIDI note-off messages).



### Sub-Patch Controls

**Octave:** Transposes the incoming MIDI notes for the Sub-patch in octave steps.

**Semi:** Transposes the incoming MIDI notes for the Sub-patch in semitone steps.

**Fine:** Tune tunes the Sub-patch up and down by cents.

**Pitch Bend:** Activates the reception of MIDI Pitch Bend for the Sub-patch.

**Condition:** Selects up to three play conditions for the Sub-patch, selected from the following:

- **Key:** Key number of incoming note.
- **Velocity:** Velocity of incoming note.
- **Mod wheel:** Current CC1 value.
- **Sustain Pedal:** Current CC64 value.
- **Soft Pedal:** Current CC67 value.
- **Playing Speed:** Time since last note-on.
- **Legato Interval:** Distance on keyboard from last key played.
- **Held Notes:** Number of keys currently held.
- **Random Value:** Different random value for each note played.
- **Smart Knob:** Positions of Smart Knobs 1–6.
- **Key Switch:** Last Key switch pressed.

**Range:** Adjusts the range for the selected condition.

**Trigger On:** Sets when notes will be triggered in all Sampler parts contained the Sub-patch:

- **Note On:** Triggers the Sub-patch when a note is received.
- **Note Off:** Triggers the Sub-patch when a note is released, including notes released by lifting the sustain pedal.
- **Key Up:** Triggers the Sub-patch when a note is released, even if the sustain pedal is held.
- **Condition A True:** Triggers the Sub-patch when the value of the first condition enters the specified range. (For example, useful for piano sustain resonance that starts when the sustain pedal is pressed).

**Velocity Source:** Selects whether the velocity of notes sent to contained parts is taken from the note-on velocity or the note-off velocity of the incoming note, when Trigger On is set to Note Off or Key Up.

**Level Decay:** Reduces the amplitude of Note Off and Key Up triggers depending on how long the note has been held.

**Velocity Decay:** Reduces the velocity of Note Off and Key Up triggers depending on how long the note has been held. Velocity may then have an effect on amplitude as programmed in the Sampler part, but may also be used for sample selection.

**Decay Keytrack:** Makes Level Decay and Velocity Decay faster for higher notes on the keyboard. Emulates the behavior of pianos, guitars, and other similar instruments:

- **0:** No keytracking
- **100:** Each octave decays twice as fast as the octave below.

**To add a Sub-patch to the Part-list,** right-click (Windows or Mac) or Control-click (Mac) into the **Part** list, and choose **Add Part > Sub-Patch** from the pop-up menu.

#### To group a part in a Sub-patch:

1. Drag the part under the **Sub-patch** until a red line appears.
2. Release the mouse button. Parts grouped in a Sub-patch appear indented in the Part list.



## Sub-Patch Output Page

On the Output Sub-page, you can assign the Sub-patch to individual outputs, and adjust its output level and send amount to each of the four Send Effect slots on the Effects page.

**FX Send On:** Activates the Effect Send for the Sub-patch.

**FX Send Level:** Adjusts the level sent from the Sub-patch to the Effect send.

**Pre:** Sets the Effect send to pre-fader routing. When activated the Send level is only controlled by the Send fader, not the patch level or output level faders.

**Level Trim:** Adjusts the Sub-patch's output level.

**Output Bus:** Selects an individual Output bus for the Sub-patch. If an output is selected here, audio from the Sub-patch will not pass into the patch containing it, and will not be affected by the patch's output settings.

## Page Tabs

Patch Name



Sub-Page Tabs

After inserting Structure, the Main page is selected by default. Coming from another page, click the **Main** tab to access the parameters for patches and parts. The Main page provides easy access to all useful Patch and Part parameters like transposition, filter, and output on sub-pages. If a patch or part is selected, Structure switches automatically to the Main page.

### To show the Play parameters of a patch:

1. Go to the **Main** page.
2. Click a patch in the **Patch** list. The selected patch appears blue.

To show the play parameters of a part, click a part in the Part list. The selected part is shown with a light blue background.

To access the different Parameter sub-pages for patches and parts, click the sub-page tabs in the Parameter panel.



## Patch Parameter Sub-Pages

### Play Sub-Page

**Octave:** Transposes the incoming MIDI notes for the patch in octave steps.

**Semi:** Transposes the incoming MIDI notes for the patch in semitone steps.

**Fine Tune:** Tunes the patch up and down in cents.

**Pitch Bend Up:** Sets the upward pitch bend range for the patch in semitones.

**Pitch Bend Down:** Sets the downward pitch bend range for the patch in semitones.

**Max Polyphony:** Sets the maximum number of voices available for the patch.

**Note:** Each sample zone in each Sampler part triggered by a note-on uses one voice. For example, a patch containing two Sampler parts with one zone each per key will use two voices for each held note.

**Priority:** Sets the voice stealing priority for the patch. Voices in patches set to low priority will be stolen first.

**Key Range:** Sets the key range in which the patch plays. You can define the upper and lower borders and a transition.

**Vel (Velocity) Range:** Sets the velocity range in which the patch plays. You can define the upper and lower velocity limits and a transition.

## Control Sub-Page

On the Control sub-page, you can assign one or more parameters to each Smart knob, MIDI CC, and Key switch. In the **Name** column on the left the source controls are lined up. The destinations and their assignment settings are shown in the **Parameter** section on the right. There are three tabs for accessing the sub-pages of different source control types: **Smart knobs**, **MIDI CCs**, and **Key switches**.



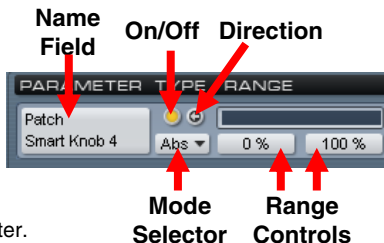
**SMART (Smart knob assignments):** Shows all Smart knob assignments of the patch. You can create, edit, and delete assignments in this section. Select a source Smart knob in the **Name** column on the left to show its destinations in the column on the right.

**MIDI (MIDI CC):** Shows all MIDI CC assignments of the patch. You can create, edit, and delete assignments in this section. Select a source MIDI CC number in the **Name** column on the left to show its destinations in the column on the right.

**KEY SW (Key Switches):** Shows all Key switch assignments in the patch. You can create, edit, and delete assignments in this section. Select a source Key switch in the **Name** column on the left to show its destinations in the column on the right. See the **Key Switches** section for more information on working with Key switches.

## Using the Control Line

The Control line adjusts the behavior and settings of control assignments of Smart knobs, MIDI CCs, and Key switches. The control line appears on the Control sub-page and in the context menus of assigned controls.



**Name field:** Shows the name of the assigned parameter.

**On/Off:** Enables or disables the assignment.

**Direction:** Adjusts the direction of the controller. Activate this control to invert incoming values.

**Mode Selector:** Selects an operational mode for the assignment: Absolute, Switch, or Relative.

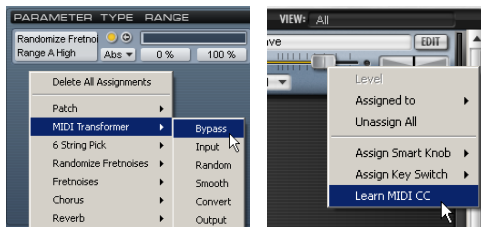
- **Absolute** sets the destination parameter to a value between the specified minimum and maximum.
- **Switch** sets the destination parameter to the specified minimum (if source value is < 64) or maximum (if source value is > 63).
- **Relative** adds an offset to the destination parameter without losing the currently set knob position. The minimum and maximum in this mode have a range from -100% to +100%. This mode is useful if you want two controls to both affect the same destination parameter.

**Range:** Sets the minimum (Switch = off) and maximum (Switch = on) values of the assigned destination parameter will be set to.



### To create a new assignment:

- Click in the **Parameter** section and select a destination parameter from the pop-up menu.
- Right-click (Windows or Mac) or Control-click (Mac) a control and choose an assignment.



To delete an assignment, click into the **Name** field and select **Delete Assignment**.

To delete all assignments, click into the **Parameter** section and select **Delete All Assignments** from the pop-up menu.

### To access a control's assignments:

1. Right-click (Windows or Mac) or Control-click (Mac) the control.
2. Go to the **Assigned to** pop-up menu.



## Mod (Modulation) Sub-Page

On the Modulation Sub-page there are two LFOs (low frequency oscillators) which can be used to modulate Structure parameters per patch. The modulation amount of LFO 1 can be controlled by the Mod wheel (MIDI CC 1). The modulation amount of LFO 2 can be controlled by Aftertouch.

**LFO On:** Activates the LFO. The LED is lit yellow when activated.

**Rate:** Adjusts the speed of the LFO in Hz.

**Step:** Switches the LFO to a stepped waveform, rather than a smooth line between each point.

**Grid X:** Activates a horizontal tempo grid for editing the LFO waveform.

**Grid Y:** Activates a vertical amplitude grid for editing the LFO waveform.

**Key Trig (Key Trigger):** Selects a restart condition for the LFO, or **OFF** for free-running. **1st Note** restarts the waveform when the first note of a chord is played. **Note** restarts the LFO each time a key is pressed.

**Sync:** Synchronizes the LFO speed to the session tempo.

**Delay:** Adjusts a delay time after pressing a note before the modulation starts.

**Fade:** Adjusts the time taken for the modulation to fade in.

**Random Start:** Sets a random start phase for the LFO waveform.

**Random Rate:** Adjusts the amount of random LFO rate variation.

**Random Depth:** Adjusts the amount of random LFO amplitude variation (e.g. for Sample & Hold waveforms).



**Source:** Fades the modulation source between LFO only (left), LFO scaled by Mod wheel (center), and Mod wheel only (right).

**Destination:** Selects a destination parameter to be modulated: Pitch, Filter cutoff, Filter resonance, Amp level, Stereo position (Pan).

**Depth:** Adjusts the intensity of the applied modulation.

## Output Sub-Page

On the Output Sub-page you can assign the patch an individual outputs, and adjust its output level and send amount to each of the four Send Effect slots on the Effects page.

**FX Send On:** Activates the Effect Send for the patch.

**FX Send Level:** Adjusts the level sent from the patch to the Effect Send.

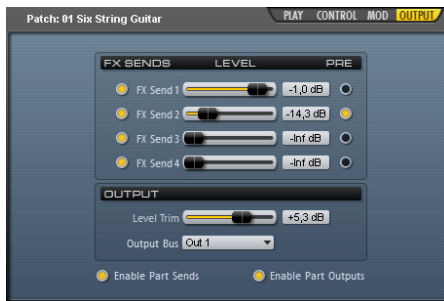
**Pre:** Sets the Effect Send to pre-fader routing. When activated the Send level is only controlled by the Send fader, not the patch level or output level faders.

**Level Trim:** Adjusts the patch's output level.

**Output Bus:** Selects an individual Output bus for the patch.

**Enable Part Sends:** Activates effect sends from within parts in the patch.

**Enable Part Outputs:** Activates individual outputs for parts in the patch.



## Sampler Part Parameter Sub-Pages

To access the sub-pages for Sampler parts:

1. Select a **Sampler** part in the **Part** list.
2. Click the sub-page tabs in the **Parameter** panel.



### Part Sub-Page

**Octave:** Transposes the incoming MIDI notes for the patch in octave steps.

**Semi:** Transposes the incoming MIDI notes for the patch in semitone steps.

**Fine Tune:** tunes the patch up and down in cents.

**Receive Pitch Bend:** Activates the reception of MIDI Pitch Bend for the part.

**Pitch Key Track:** Adjusts the depth of transposition of the sample over the keyboard.

**Mono:** Limits the part to monophonic playback.

**Legato:** Activates Legato mode. If **Mono** mode is on, samples are not retriggered from the start when playing overlapping notes.

**Mono Mode:** Selects which note is played when several keys are held in monophonic playback mode.

**Glide:** Selects a glide mode. **Off** disables pitch glide. **Legato** glides only between legato played notes. **On** glides all the time.



**Glide Time:** Sets the time needed to glide from one note to the other.

**Max Polyphony:** Sets the maximum number of voices available for the part.

**Note:** Each sample zone in each Sampler part triggered by a note-on uses one voice. For example, a patch containing two Sampler parts with one zone each per key will use two voices for each held note.

**Key Polyphony:** Adjusts the maximum number of voices that each key can play. Default value is **Any** which means unlimited. **Priority** Sets the voice stealing priority. Voices in parts set to low priority will be stolen first.

**Sample Start Point:** Changes the attack sound of zones by moving their sample start points later.

**Key Range:** Sets the key range in which the part plays. You can define the upper and lower borders and a transition.

**Vel Range (Velocity Range):** Sets the velocity range in which the part plays. You can define the upper and lower velocity limits and a transition.

## Filter Sub-Page

**Tip:** For detailed information about the Envelope (AHDSR) controls, see the *Envelope Controls* section.

**Filter Type:** Selects a filter type.

**Cutoff:** Adjusts the filter cutoff frequency.

**Envelope On:** Activates enveloping of the cutoff frequency.

**Envelope Inv (Inversion):** Inverts the polarity of the filter envelope.

**Envelope Level:** Adjusts how strongly the filter envelope modulates filter cutoff.

**Keytrack:** Adjusts the cutoff frequency across the keyboard.

**Vel (Velocity):** Adjusts how strongly the incoming velocity affects filter cutoff.

**Attack:** Sets the time it takes for the filter envelope to reach its maximum value.

**Hold:** Adjusts the length of the Filter envelope Hold time.

**Decay:** Sets the time the Filter envelope takes to fall from hold level to sustain level.

**Sustain:** Adjusts the level of the Sustain segment. The Filter remains at this level as long as the note is held.

**Release:** Sets the time it takes for the Filter envelope Release segment to fall to zero when the note is released. Use shorter times for an immediate closing of the filter. Longer times cause the filter cutoff to decay slowly.



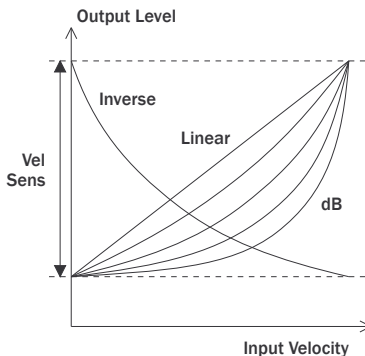
**Sync:** Scales the envelope times with the session tempo.

**Envelope Velocity Curve Selector:** Sets the curve for translating incoming velocity values to envelope level (**Inverse**, **Linear**, **Normal**, **Squared**, **Cubed**, **dB**, **Zone**).

**Vel Sens (Velocity Sensitivity):** Adjusts the envelope velocity sensitivity (range in dB between lowest and highest velocity).

**Env Key (Envelope Key Scaling):** Scales Envelope Attack, Hold and Decay times across the keyboard (positive values make high notes faster).

**Rel Key (Release Key Scale):** Scales the Envelope Release time across the keyboard (positive values make high notes decay faster).



## Amp Sub-Page

**Tip:** For detailed information about the Envelope (AHDSR) controls, see the *Envelope Controls* section.

**Level:** Adjusts the part's amplifier level.

**Pan:** Adjusts the part's stereo panorama position.

**One Shot Envelope:** Activates one shot mode, ignoring note-off and skipping the envelope sustain phase. In this mode, the Decay fader sets a gate time for the note.

**Equal Power Mapping Fades:** Activates equal power crossfades between sample zones. This makes crossfades between sample zones slightly louder at the midpoint. This, in conjunction with editing Velocity and Key Range Fades in the Mapping editor (see *Mapping Section*), can improve the smoothness of crossfades for ensemble sounds.

**Keytrack:** Adjusts amplifier keytracking. At zero the amp level is the same for all keys. Positive values make the level increase as you play up the keyboard.

**Voice Fade:** Adjusts an alternative fast release time, used when a note is cut off by an Exclusive Group setting, Polyphony limit, or mono mode.

**Attack:** Softens the Attack phase of Instruments by applying an amplitude envelope to the start of each Instrument hit. Move the control to the right to increase the time it takes for the attack to rise to full amplitude.

**Hold:** Adjusts the length of the Amp envelope's Hold time at the end of the attack phase.

**Decay:** Shortens the played instrument hits by applying an amplitude Decay after the Hold time.





**Sustain:** Adjusts the level of the Sustain segment. The signal remains at this level as long as the note is held.

**Release:** Sets the time it takes for the Release segment to fall to zero when the note is released. Use shorter times for an immediate stop of the sound. Longer times cause the sound to fade out gradually.

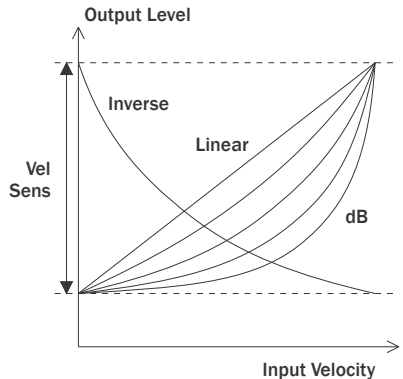
**Sync:** Scales the envelope times with the session tempo.

**Envelope Velocity Curve Selector:** Sets the curve for translating incoming velocity values to envelope level (**Inverse**, **Linear**, **Normal**, **Squared**, **Cubed**, **dB**, **Zone**).

**Vel Sens (Velocity Sensitivity):** Adjusts the envelope velocity sensitivity (range in dB between lowest and highest velocity).

**Env Key (Envelope Key Scaling):** Scales Envelope Attack, Hold and Decay times across the keyboard (positive values make high notes faster).

**Rel Key (Release Key Scale):** Scales Envelope Release time across the keyboard (positive values make high notes decay faster).



## Mod (Modulation) Sub-Page



### Matrix (Modulation Matrix)

**Ignore MIDI Performance Controls:** Selects whether the Sampler Part Always ignores MIDI performance controls, ignores MIDI performance controls only after notes have been released (Release), or does not ignore MIDI performance controls (Off).

**Source:** Selects a modulation source.

**Modifier:** Selects an optional modifier to apply to the source value.

**Modifier Depth:** Adjusts how strongly the modifier applies to the source.

**Destination:** Selects a destination parameter to be modulated by the source.

**Depth:** Adjusts the general modulation depth.

## LFO 3/LFO 4

The two LFOs (low frequency oscillators) can be used to modulate Structure parameters per part.

**LFO On:** Turns the LFO on and off. The LED is lit yellow when activated.

**Rate:** Adjusts the speed of the LFO in Hz.

**Step:** Switches to a stepped waveform, rather than a smooth line between points.

**Grid X:** Activates a horizontal tempo grid for editing the LFO waveform.

**Grid Y:** Activates a vertical amplitude grid for editing the LFO waveform.

**Key Trig (Key Trigger):** Selects a restart condition for the LFO, or **OFF** for free-running. **1st Note** restarts the waveform when the first note of a chord is played. **Note** restarts the LFO each time a key is pressed.

**Sync:** Synchronizes the LFO speed to the session tempo.

**Delay:** Adjusts a delay time after pressing a note before the modulation starts.

**Fade:** Adjusts the time taken for the modulation to fade in.

**Random Start:** Sets a random start phase for the LFO waveform.

**Random Rate:** Adjusts the amount of random LFO rate variation.

**Random Depth:** Adjusts the amount of random LFO amplitude variation (e.g. for Sample & Hold waveforms).

**Source:** Fades the modulation source between LFO only (left), LFO scaled by Mod wheel (center), and Mod wheel only (right).

**Destination:** Selects a destination parameter to be modulated.

**Depth:** Adjusts the intensity of the applied modulation.

## Output Sub-Page

On the Output Sub-page, you can assign the part to individual outputs, and adjust its output level and send amount to each of the four Effect slots on the Effects page.

**FX Send On:** Activates the Effect Send for the part.

**FX Send Level:** Adjusts the level sent from the part to the Effect Send.

**Pre:** Sets the Effect Send to pre-fader routing. When activated the Send level is only controlled by the Send fader, not the patch level or output level faders.

**Level Trim:** Adjusts the part's output level.

**Output Bus:** Selects an individual Output bus for the part.

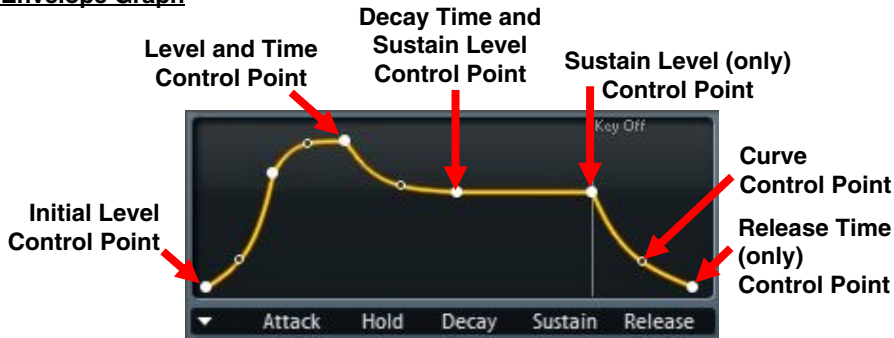
**Preload Buffer:** Adjusts the amount of sample data that is preloaded into RAM. This parameter depends on the Pro Tools Plug-In Streaming Buffer setting under **Setup > Playback Engine**. Higher settings for both parameters allow for more sample data to be preloaded. This can be useful when using extreme transposition, or when modulating the sample start point, but should be set to lower values to minimize RAM usage. Set this value to maximum to load samples completely into RAM.

## Envelope Controls

Both the Filter Sub-page and the Amp Sub-page provide common controls for an Envelope generator. The Envelope can control how the Filter or Amplitude evolves over time (from MIDI note on to MIDI note off). You can adjust the parameters of the Envelope using the Envelope graph, Fader controls (in Fader view), or text fields (in Text view).



## Envelope Graph



The Envelope graph provides a visual representation of the envelope and it also lets you edit the Time, Curve, and Level parameters of different stages of the Envelope.

**To adjust the Level (in dB) of the Initial Level, Attack, Hold, or Sustain portions of the Envelope, do one of the following:**

- Click the corresponding solid-white control point, and move it up or down.
- In **Fader** view (Sustain only), drag the corresponding **Level** fader up or down.
- In **Text** view, enter a **Level** value.

**To adjust the Time of the Attack, Hold, Decay, or Release portions of the Envelope, do one of the following:**

- Click the corresponding solid-white control point, and move it left or right.
- In **Fader** view, drag the corresponding **Time** fader up or down.
- In **Text** view, enter a **Time** value.

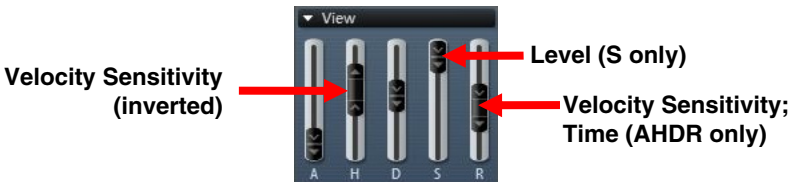
To adjust the **Curve of the Attack, Hold, Decay, or Release** portions of the Envelope, do one of the following:

- Click the corresponding hollow-white control point, and move it up or down.
- In **Text** view, enter a **Curve** value.

To adjust the **Velocity Sensitivity of the Attack, Hold, Decay, Sustain, or Release** portions of the Envelope, do one of the following:

- In **Fader** view, drag the corresponding **Velocity Offset** fader up or down.
- In **Text** view, enter a **Velocity Sensitivity (Vel)** value (–100% to +100%).

### Fader View Controls



In Fader view, you can use Faders to adjust the Time (AHDR), Level (S), and Velocity Offset values. You can also double-click the **Velocity** control to invert it.

To select **Fader view**, from the **View** menu, select **Fader**.

## Text View Controls

In Text view, you can enter values for all of the variable parameters of the envelope.

To select Text view, from the **View** menu, select **Text**.



**Time:** Adjusts the Time of the Attack, Hold, Decay, or Release segments of the envelope (from 0 ms to 100 seconds).

**Vel:** Adjusts the Velocity Sensitivity of the Attack, Hold, Decay, Sustain, or Release segments of the envelope (from -100% to +100%).

**Curve:** Adjusts the slope of the Attack, Hold, Decay, or Release segments of the envelope (from -100 to +100).

**Level:** Adjusts the Level of the Attack, Hold, or Sustain segments of the envelope (from -INF dB to 0.0 dB).

**Sync:** Scales the envelope times with the session tempo.

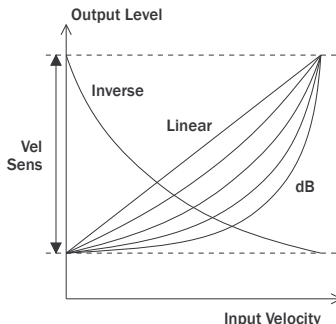
**Init Level:** Adjusts the initial level (from -INF dB to 0.0 dB) at MIDI Note On before the onset of the Attack segment of the envelope.

**Envelope Velocity Curve Selector:** Curve for translating incoming velocity values to envelope level (**Inverse**, **Linear**, **Normal**, **Squared**, **Cubed**, **dB**, **Zone**).

**Vel Sens (Velocity Sensitivity):** Adjusts the envelope velocity sensitivity (range in dB between lowest and highest velocity).

**Env Key (Envelope Key Scaling):** Scales Envelope Attack, Hold and Decay times across the keyboard (positive values make high notes faster).

**Rel Key (Release Key Scale):** Scales Envelope Release time across the keyboard (positive values make high notes decay faster).





## Effects Page

The Effects page provides four global Send Effect slots (Send 1–4) and the Main output, each of which provides four effects Inserts. Signals from each patch, part, or zone can be sent individually to the Send Effect slots using its Output sub-page.



The Effects page in the Parameter panel is divided into two sub-pages:

**Global Send Effects and Main Output Page:** Provides five effects send slots. Each slot can hold 4 inserts, which allows for complex multi-effects processing. The outputs of the slots are by default sent to Structure's Main output, but they can also be routed to individual outputs. An effect slot provides the following controls:

- Insert 1–4
- Output selector
- Level control
- On/Off switch

**Effect Parameter Page:** Provides controls for editing the selected effect algorithm. To access the Effect parameter page, click the **Effect** insert button.

## Send 1–4

**Insert Selector:** Selects an insert effect.

**Output Selector:** Selects an individual Output bus for the Send Effect slot.

**Level:** Adjusts the Send Effect slot's output volume.

**Send On/Off:** Activates or deactivates the Insert effects.

## Out 1 (Main Output)

**Insert Selector:** Selects an insert effect.

**Level:** Adjusts Structure's output volume.

**Send On/Off:** Activates or deactivates the Main output's Insert effects. When activated the LED is lit.

## Assigning Individual Channel Outputs

You can assign Send 1–4 and Out 1 to individual outputs. These can be used as inputs for Auxiliary Input tracks for further mixing and processing.

### To assign an individual output:

1. Select an output for the channel from the **Output** pop-up menu.
2. Create an Auxiliary Input track in your software session.
3. Select the **Structure** output as an input for the Auxiliary Input Track.



## Editing Effects

To insert an effect, click the **Insert** selector and select an effect from the pop-up menu.

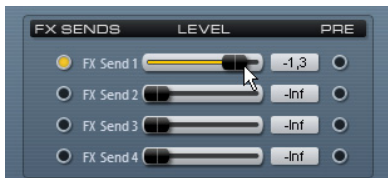
To bring up the **Parameter** page of an effect, click the effect insert.

To return to the **Effect slots**, click the **Back** button on the **Parameter** page.

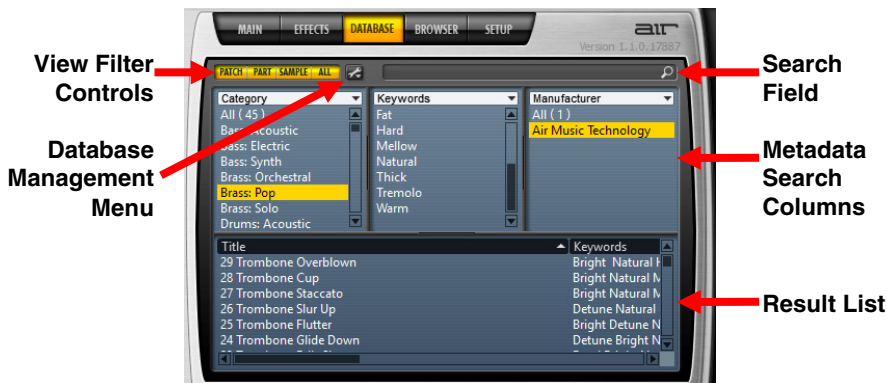
To remove an effect, click the **Insert** selector and choose **No Effect** from the pop-up menu.

To send a patch, part, or zone signal to a **global Send Effect slot**, on the **Output** sub-page, activate the corresponding **FX Send** and adjust the **Level** fader.

To bypass an **Effect insert**, control-click the **Effect** insert. A bypassed Effect insert appears greyed out.



## Database Page



The Database provides tools for key word based searching of patches, parts and samples (audio files) on the local file system. Files can be registered to the database and metadata tagged with information like manufacturer or category. Three columns of selectable metadata tags enable you to find the files you need. Files on your computer matching the requirements are instantly displayed in the Result list and can be loaded directly by dragging them into the Patch or Part list.

**To display only certain file types in the database,** click a file type button (one or more) in the menu so that it is highlighted.



**To find all files that contain a certain text string in their name or metadata,** type the words you are searching for into the **Search** field and press **Enter**, or click the **Looking Glass** button. The **Result** list displays all matching files.

**To load a patch, part, or sample from the result list,** drag the file from the **Result** list to the **Patch** or **Part** list.

## View Filter Controls

**Patch:** Activates the displaying of only patches.

**Parts:** Activates the displaying of only parts.

**Sample:** Activates the displaying of only samples.

**All:** Activates the displaying of all file types.

## Database Management Menu Commands

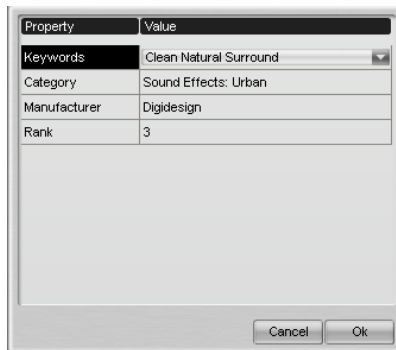
**Scan Directory:** Opens a dialog that lets you choose a directory to scan. Select the directory you want to scan and click Choose to scan the directory for Patches, Parts, and Samples. Any Patches, Parts, or Samples that are found will be added to the Database.

**Open Metadata Editor:** Brings up a dialog to edit the selected file's metadata tags. Any changes to the metadata are saved to the original patch file when you click OK.

**Unregister from Database:** Removes the selected entry from the Database.

**Remove Missing Files:** Removes all entries from the Database that reference missing files (files that have been deleted or moved).

**Get Metadata from Registered Files:** Refreshes the database entries of all selected files. This is useful to update the database information for patches, parts, or samples that have been previously tagged by other users.



**Rebuild Database:** Clears all entries from the database, rescans all directories that have been registered with Structure (using the Edit Content Locations command), and rebuilds the Database. This may take awhile!

**Important:** The Rebuild Database command will clear the metadata for all files that are not Structure format patches or parts, and also all Structure format Patches and Parts that are located in folders not listed under Edit Content Locations.

**Edit Content Locations:** Opens the Content Locations dialog where you can see which directories are registered with Structure. You can edit, add, and remove the directory paths used for locating Structure Content.

## Browser Page



The Browser lets you search and display the local file system. Files like patches, parts, and samples can comfortably be loaded from here using drag and drop. The Browser is not supposed to be a file manager. Modifying operations like copying, moving, or deleting are not available.

**To display only certain file types in the browser**, click a file type button (one or more) in the menu so that it is highlighted.





## Common Operations in the Browser

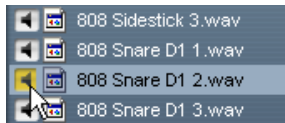
The following are common tasks using the Browser:

- Drag a patch into the **Patch** list to load it.
- Drag a patch onto another in the **Patch** list to replace it at the same position using the previous settings for **MIDI input**, **Individual** output, and **Automation** channel.
- Drag a part into a **Part** list to load it.
- Drag an audio file onto a **Patch** module or into a **Part** list to load it. If no sampler part is selected, a new one is created at the end of the Part list. If no patch is selected, a new patch with a sampler part is created.

## Previewing Samples

In the browser and all file dialogs, you can preview all types of supported audio files.

**To preview samples before loading**, click the **speaker icon** in the left browser column. Click again to stop playback.



## Browser Controls



**Patch:** Activates the displaying of only patches.

**Parts:** Activates the displaying of only parts.

**Sample:** Activates the displaying of only samples.

**Show All:** Activates the displaying of all file types.

**Previous Directory:** Navigates to the previous folder.

**Next Directory:** Navigates to the next folder.

**Directory Up:** Navigates one folder level up.

**Show Favorites:** Shows your Favorite folders.

**Add to Favorites:** Adds the selected folder to your Favorite folders (accessible through the up and down arrows in the patch module).

**New Folder:** Creates a new folder.

**Delete:** Deletes the selected file or folder.

**Folder History:** Shows the 20 last selected folders.

## Setup Page

The Setup page contains controls for adjusting Structure's basic configuration and behavior. There are settings for improving system performance and software integration. There are four sub-pages giving access to settings for different purposes:



**Global:** Shows global settings and preferences. For example, for activating/deactivating these tool tips.

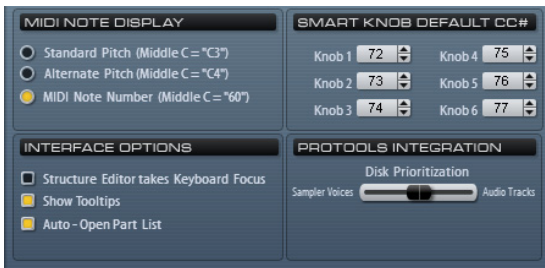
**Engine:** Shows disk streaming and performance settings.

**Instrument:** Shows instrument-related settings.

**Content:** Shows settings for importing and handling audio files.



## Global Settings



### MIDI Note Display

The MIDI Note Display selector defines how incoming MIDI note values are interpreted by Structure and displayed in the Keyboard section.

- Middle C = C3
- Middle C = C4
- Middle C = 60 (MIDI note number)

### Interface Options

**Auto Open Part List:** Expands the part list of the selected patch automatically.

**Show Tooltips:** Activates or deactivates the displaying of tool tips. A tool tip is a small window that displays descriptive text for a specific control. It appears next to the cursor when holding the cursor over a control for longer than one second.

**Structure Editor;** Takes Keyboard Focus Enables keyboard focus for key commands in the Editor window. Works only for key commands not using combinations with the Alt and Control keys (Windows), or the Option and Command keys (Mac).

For more information on key commands, see the **Structure Key Commands** section.

## Pro Tools Integration

**Disk Prioritization:** Adjusts between reliable playback of audio tracks and Structure voices, or playback of a potentially higher number of Structure voices. When audio tracks and samples are stored on separate disks, or when the software will play back many audio tracks it is recommended to set this value towards Audio Tracks to enable direct Structure integration with the software audio engine (disk scheduler). When fewer audio tracks are playing back in parallel with Structure, set the parameter towards Sampler Voices for a higher polyphony and more voices.

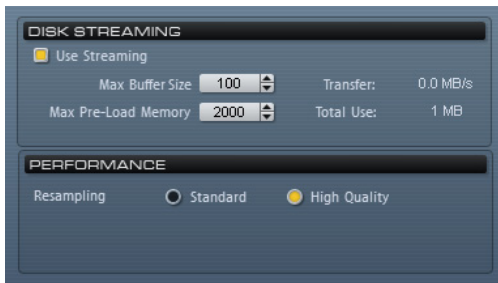
### **Important:**

- Structure must be newly instantiated (loaded) for Disk Prioritization changes to take effect.
- The Disk Prioritization feature works only with Pro Tools 7.3 or higher.

## Smart Knob Default CC Number

**MIDI Controller Number:** Selects the default MIDI controller number assigned to each Smart knob when a new patch is loaded.

## Engine Settings



### Disk Streaming

**Use Streaming:** Activates or deactivates disk streaming. When activated, Structure reads samples that do not fit into RAM from your computer's disk. When deactivated, all samples are loaded fully into RAM.

**Maximum Buffer Size:** Adjusts the maximum RAM used for audio disk streaming buffers in MB. Increase this value if audio drop-outs are occurring or if Structure is streaming samples from multiple disks.

**Maximum Pre-Load Memory:** Adjusts the maximum amount of RAM Structure will use to preload sample data in MB. Reduce this value if high RAM usage in Structure conflicts with other applications. Increase the value if you are unable to load patches due to insufficient RAM.

### Performance

**Resampling Standard:** Selects standard quality conversion when transposing samples to minimize CPU usage.

**Resampling High Quality:** Selects high quality conversion when transposing samples, using more CPU performance per voice.

## Instrument Settings



### General

**Transpose:** Transposes all patches in semitone steps.

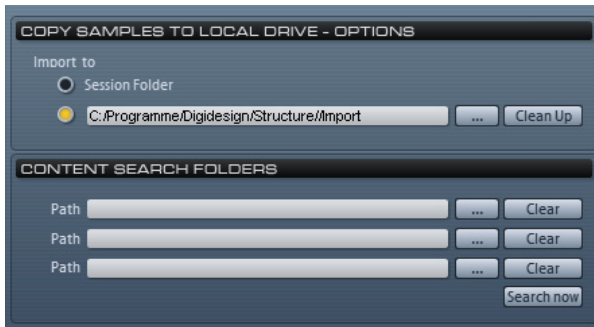
**Fine Tune:** Fine tunes all patches in cents.

### Performance

**Max Polyphony:** Adjusts the maximum number of voices that will be played by the whole plug-in instance.

**Max CPU:** Adjusts the limit of Structure's maximal CPU usage. If this limit is exceeded, polyphony will temporarily be reduced to lower the CPU usage.

## Content Settings



### Copy Samples to Local Drive Options

If samples or patches are loaded from volumes like CDs, DVDs, or over a network, Structure will load the audio files into RAM by default. This can lead to sample playback performance issues because of the slow data transfer between media, or limited RAM. Using the **Copy Samples to Local Drive** command, you can transfer all used audio files to your computer's disk. After transferring Structure can load the concerned patches and parts without requiring the source CD, DVD, or network folder. See **Copy Samples to Local Drive** for more information.

**Note:** REX files are automatically transferred to disk (into the session folder) when loading from external media.

**Import to:** Selects whether files will be copied to a user-defined folder or to the Pro Tools session folder.

**Path:** Selects a user defined folder to which the audio files will be copied.

**Clean Up:** Deletes all transferred files located in the user-defined folder.



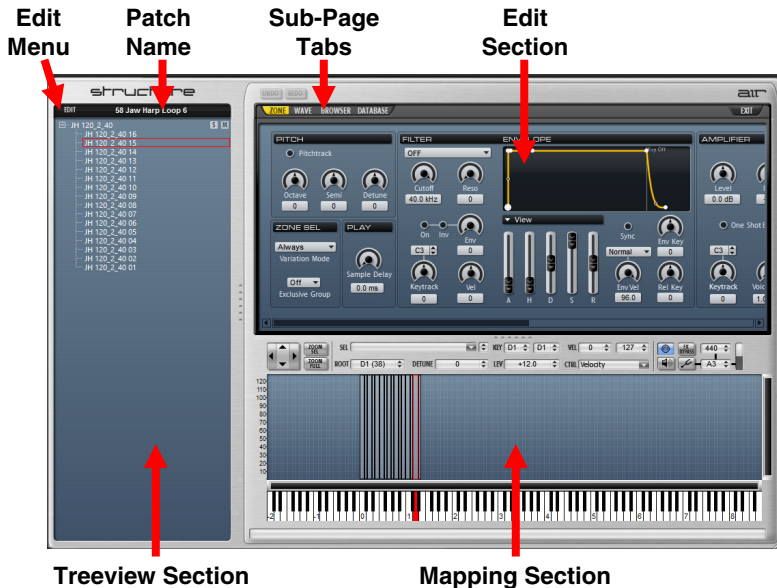
## **Content Search Folders**

If patches can not find their samples because directories have been renamed or moved, Structure will automatically search for missing samples in the specified Content Search Folders, pointing the patches to the new file location.

### **To point Structure to a new sample location:**

1. In the section **Content Search Folders**, type in the new path of the Structure Factory Libraries folder, or select a folder using the file dialog.
2. Click **Search Now**.

Editor Window



In the Editor window, you can display and modify the samples within the sampler parts of a patch. You can wave-edit and loop samples, create and modify sample mappings, and adjust individual playback, filter, and amp settings per sample zone.



## Treeview Section

The Treeview section lists all Sampler parts of the current Patch and the samples contained in these Parts. You have to click a part in the treeview to select it for further editing in the Mapping and Edit section on the right.

### Treeview Controls

**Mute Button:** Mutes/bypasses the part.

**Solo Button:** Solos the part.

### Edit Menu

The Edit menu in the Treeview section provides commands for editing and organizing parts and zones.

**New Folder:** Creates a new folder for organizing zones.

**New Part:** Creates a new empty part.

**Load:** Brings up a file dialog for selecting a part that will be loaded into the patch.

**Save:** Brings up a dialog for saving the selected part to disk.

**Replace Samples:** Brings up a dialog to locate samples to replace the ones currently selected in the part. You would commonly use this function to exchange samples in a part.

**Find Missing Samples:** Opens the Find Missing Samples dialog pointing Structure to the location of the samples, if a part does not find its samples. See the ***Finding Missing Samples*** section for more information.

**Import Samples:** Opens a dialog to import samples to the part.

**Undo:** Undoes the last operation in the Editor page, allowing you to return to a previous editing state.

**Redo:** Redoes the last operation in the Editor page, which moves back through the Undo history by one step.

**Cut:** Cuts the selected parts and zones and copies them to the clipboard.

**Copy:** Copies the selected parts and zones to the clipboard.

**Paste:** Pastes the selected parts and zones from the clipboard.

**Paste to New Folder:** Creates a new folder and pastes the selected parts and zones from the clipboard into the new folder.

**Paste to New Part:** Creates a new part and pastes the selected parts and zones from the clipboard into the part.

**Remove:** Removes the selected zone or part.

**Select All:** Selects all zones and parts.

**Deselect All:** Deselects all zones and parts.

**Invert Selection:** Inverts the current selection.

**Expand All:** Opens all parts and folders.

**Collapse All:** Closes all parts and folders.

**Follow Selection:** Links selection of zones in the Treeview, Mapping, and Edit section.

## **Sort By**

The **Sort by** function sorts the zones in the Treeview according to the following attributes.

**Key (Low to High):** Sorts the zones by assigned key, starting with the lowest.

**Key (High to Low):** Sorts the zones by assigned key, starting with the highest.

**Name (A to Z):** Arranges the zones alphabetically.

**Name (Z to A):** Arranges the zones in a reverse alphabetical order.

## Mapping

Use the Mapping functions to arrange (map) the selected samples in the Mapping editor according to the following methods.

**Root Key Only:** Maps the samples according to their root key

**Root Key Centered:** Maps samples according to their root key. The key ranges of the resulting zones are enlarged equally to the left and right to fill gaps.

**Root Key Up:** Maps samples according to their root key. The key ranges of the resulting zones are enlarged to the right to fill gaps.

**Root Key Down:** Maps samples according to their root key. The key ranges of the resulting zones are enlarged to the left to fill eventual gaps.

**Vertical at Root Key:** Maps samples according to their root key. Samples sharing the same root key are evenly spaced over the full velocity range.

**Chromatic Up:** Maps samples chromatically according to the Treeview sorting, starting upwards at the highlighted red and regardless of root key.

**Black Keys Up:** Maps samples to black keys according to the Treeview sorting, starting upwards at the highlighted red key and regardless of their root key.

**White Keys Up:** Maps samples to white keys according to the Treeview sorting, starting upwards at the highlighted red key and regardless of their root key.

**Vertical:** All selected samples will be mapped over the velocity range at the highlighted red key, regardless of root key or key range.

## **Root Key**

The Root Key command sets the zone root keys according to the following behaviors.

**Set Root Key to Zone Center:** Sets the root key depending on the zone's center in the mapping.

**Set Root Key to Zone Bottom:** Sets the root key depending on the zone's left border in the mapping.

**Set Root Key to Zone Top:** Sets the root key depending on the zone's right border in the mapping.

**Move Root Key With Zone:** Adjusts the sample's root key depending on the current position in the mapping to keep it within the key range when editing the mapping.

## **Refresh**

The Refresh function is commonly used to update changes made to the raw audio files, for example, after they have been trimmed, looped, or processed in an external editor.

**Loop and Length:** Updates the loop and length information for the selected zones from the actual audio files.

**Root Key and Tuning:** Updates the root key and tuning information for the selected zones from the actual audio files.

**All:** Updates the loop, length, root key, and tuning information for the selected zones from the actual audio files.

## Copy Samples to Local Drive

If you have loaded samples from removable media like a CD, DVD, or over the network into Structure, a yellow exclamation mark symbol indicates the affected patches and parts. Use the Copy Samples to Local Drive function to transfer the loaded samples to your computer's hard disk. On the Setup page, you can define a folder to which Structure will copy these files. After transferring the samples Structure can load the concerned patches and parts without requiring the source CD, DVD, or network folder. See *Copy Samples to Local Drive Options* for more information.

**Selected Patch** copies the samples of the selected patch to disk.

**All Patches** copies the samples of all patches to disk.

**Session** copies the samples of all patches of all Structure instances in your session to disk.

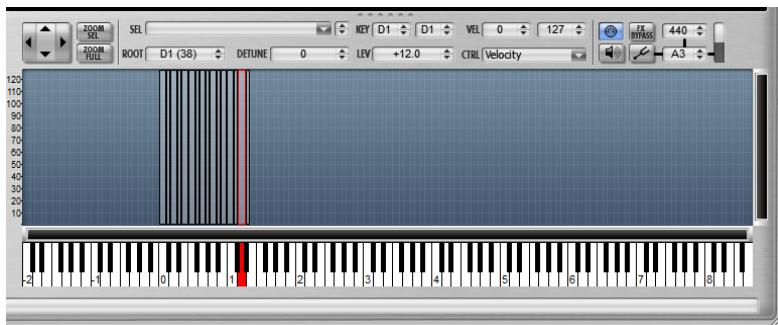
## Common Operations in the Treeview

**To load one ore more samples**, do one of the following:

- Drag clips from software tracks or the **Clip** list into the **Treeview**.
- Drag wave files from the **Structure Browser** or **Database** into the **Treeview**.
- Drag wave files from the **Explorer** (Windows) or the **Finder** (Mac) directly into the **Treeview**.



## Mapping Section



The Mapping section reflects the keyboard assignment of the selected part's samples as rectangular zones on a 2-dimensional field. A zone is a loaded sample including all the relevant information of keyboard assignment, and play parameters within Structure. Zones can be moved, modified, copied or deleted in the Mapping section. The selection of zones in the Mapping section is by default mirrored in the Treeview, Wave, and Zone parameters within the Editor window. If you want to learn more about Zones, please see the ***Samples and Zones*** section.

## Mapping Section Controls

**Zoom Tool:** Zooms horizontally and vertically into the Mapping section.

**Zoom to Selection:** Automatically zooms into the selected zones. You can also double-click a zone to zoom in.

**Zoom to Full:** Zooms out to show the full key and velocity range.

**Root Key:** Sets the root key for the selected zone.

**Note:** The Root Key can be entered by clicking a key on the on-screen keyboard, or by playing a key on your MIDI keyboard.

**Detune:** Detunes the selected zone in cents.

**Level:** Adjusts the volume level of the selected zone.

**Key Min:** Sets the lowest key that will trigger the zone.

**Key Max:** Selects the highest key that will trigger the zone.

**Note:** The Key Min and Key Max values can be entered by clicking a key on the on-screen keyboard, or by playing a key on your MIDI keyboard.

**Vel Min:** Sets the lowest velocity that will trigger the zone.

**Vel Max:** Sets the highest velocity that will trigger the zone.

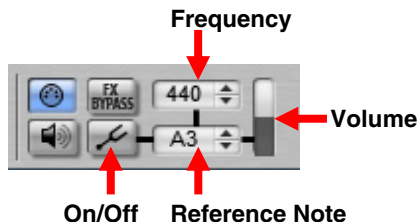
**Control:** Selects an alternative MIDI controller for the selection of velocity layers. Two of the options that merit special attention are Velocity+MW and MW at Note-On. When Velocity+MW is selected, the position of the Modulation Wheel offsets the incoming velocity up or down. This is useful for playing swells, such as with brass or string samples. When MW at Note-On is selected, the position of the Modulation Wheel at note on determines which velocity is used. This is useful if you want to use the Modulation Wheel to control velocity, but you don't want it to affect the sound after the note is played. You can use this option with short samples, such as pizzicato strings.

**Select Zone by Midi:** Enables the selection of zones by incoming MIDI notes.

**FX Bypass:** Temporarily bypasses all Effect parts and Send effects. All effects are automatically switched back on when leaving the Editor window.

**Play Zone Tool:** Activates the play-by-click mode. Click and hold a zone in the mapping section to hear it.

## Tuning Reference



The Tuning reference helps when manually tuning zones by playing back a reference tone that is adjustable in Hertz.

**Tuning Reference On/Off:** Activates or deactivates the reference tone.

**Frequency:** Adjusts the reference frequency for the A above middle C. The default value is 440 Hz.

**Reference Note:** Selects the current reference note (MIDI note number).

**Volume:** Adjusts the volume of the reference note.

## Additional Context Menu Entries in the Mapping Section

**Show Key Range Fades:** Activates the display of Key range fades for all zones in the Mapping section.

**Show Velocity Fades:** Activates the display of Velocity range fades for all zones in the Mapping section.

**Set Fades From Overlaps:** Adjusts the Key Range and Velocity Fades to match the overlap between zones for all zones in the selected part. This saves you the trouble of having to manually edit Key Range and Velocity Fades after adjusting zone borders.

**Show Sample Names:** Activates the display of sample names on each zone in the Mapping section.

## Common Operations in the Mapping Section

**To activate the selection of zones by MIDI input,** click the **Select by MIDI** button.



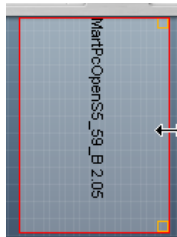
**To load one or more samples into the part,** do one of the following:

- Drag clips from tracks or the **Clip** list into the **Mapping** section.
- Drag wave files from the **Structure Browser** or **Database** into the **Mapping** section.
- Drag wave files from the **Explorer** (Windows) or the **Finder** (Mac) directly into the **Mapping** section.

**To move a zone within the Mapping section,** click in the zone and drag it to a new location.

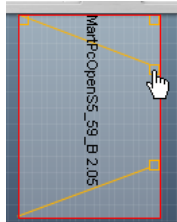


To adjust a zone's border in the Mapping section, click the zone's border and drag it to a new location.



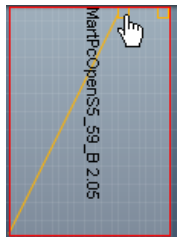
To adjust a velocity fade for the zone:

1. In the **context** menu, make sure that **Show Velocity Range Fades** is enabled.
2. Drag the **Velocity Range Handles**.



To adjust a key range fade for the zone:

1. In the **context** menu, make sure that **Show Key Range Fades** is enabled.
2. Drag the **Key Range Handles**.



To select all vertical zones on one or more keys, Ctrl-drag over the keys.

## Edit Section

The Edit section consists of four sub-pages.

To access a sub-page, click the corresponding sub-page tab.



### Zone (Zone Parameters)

Provides controls for all available playback parameters of a Zone, for example, Transpose, Modulation, or Output assignment.

### PITCH

**Pitch Track:** Enables transposition of the sample over the keyboard.

**Octave:** Transposes the pitch in octave steps.

**Semitone:** Transposes the pitch in semitone steps.

**Detune:** Adjusts the pitch in cents.

### PLAY

**Sample Delay:** Adds a time delay between pressing the key and the note playing.

## ZONE SEL

**Variation Mode:** Selects if the zone will play every time, or should alternate with other overlapping zones.

- Select **Always** to make the zone play every time the corresponding note is played.
- Select **Per-Key R.R.** (per key Round Robin) to play alternating zones, like Round Robin, but maintain an alternation count independently for each key on the keyboard. This can help avoid repeating patterns of alternations where the number of played notes in a phrase is the same or a multiple of the number of available alternating zones.
- Select **Round Robin** to play alternating through the available zones.
- Select **Random** to randomly select one overlapping zone to play on each note-on.
- Select **Random Excl.** (Random Exclusive) to randomly select one overlapping zone to play on each note-on and to not repeat the same zone two times in a row (if there are more than two zones).
- Select **Never** to keep the zone from playing at all.

**Exclusive Group:** Other zones in the same group will be cut off when this zone plays.

## FILTER

**Filter Type:** Selects a filter type.

**Filter Cutoff:** Adjusts the filter cutoff frequency.

**Filter Resonance:** Adjusts the filter resonance amount.

**Inv (Invert Envelope):** Inverts the polarity of the filter envelope.

**Envelope Depth:** Adjusts how strongly the filter envelope modulates filter cutoff.

**Vel (Velocity Depth):** Adjusts how strongly the incoming velocity affects filter cutoff.

**Key Track Root Key:** Selects a note around which the filter keytracking pivots.

**Key Track Depth:** Adjusts keytracking of filter cutoff. At zero the filter cutoff is the same for all keys. At +100% the cutoff follows the pitch exactly.

**Display Mode Selector:** Switches between fader and text view for the envelope settings.

**Attack Time:** Adjusts the attack time of the filter envelope.

**Hold Time:** Adjusts the hold time of the filter envelope.

**Decay Time:** Adjusts the decay time of the filter envelope.

**Sustain Level:** Adjusts the sustain level of the filter envelope.

**Release Time:** Adjusts the release time of the filter envelope.

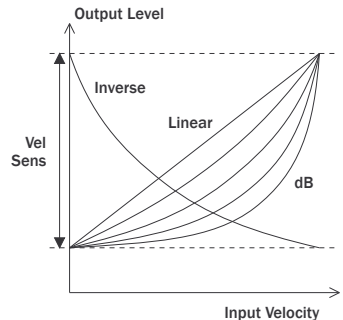
**Velocity Curve Selector:** Curve for translating incoming velocity values to level (**Inverse**, **Linear**, **Normal**, **Squared**, **Cubed**, **dB**).

**Vel Sens (Velocity Sensitivity):** Adjusts the envelope velocity sensitivity (range from quietest to loudest note in dB).

**Sync to Tempo:** Scales envelope times with the tempo.

**Env Key (Envelope Key Track):** Scales Envelope Attack, Hold and Decay times across the keyboard (positive values make high notes faster).

**Release Key Track:** Scales Envelope Release time across the keyboard (positive values make high notes decay faster).





## AMPLIFIER

**Level:** Adjusts the amplifier volume level.

**Pan:** Adjusts the zone's position in the stereo panorama.

**One Shot Envelope:** Activates one shot mode, ignoring note off MIDI messages and skipping the envelope sustain phase.

**Select Display Mode:** Switches between fader and text view.

**Attack Time:** Adjusts the attack time of the amp envelope.

**Hold Time:** Adjusts the hold time of the amp envelope.

**Sustain Level:** Adjusts the sustain level of the amp envelope.

**Decay Time:** Adjusts the decay time of the amp envelope.

**Release Time:** Adjusts the release time of the amp envelope.

**Attack Velocity:** Adjusts the attack time offset at minimum velocity

**Hold Velocity:** Adjusts the hold time offset at minimum velocity

**Decay Velocity:** Adjusts the decay time offset at minimum velocity

**Sustain Velocity:** Adjusts the sustain level offset at minimum velocity

**Release Velocity:** Adjusts the release time offset at minimum velocity

**Attack Curve:** Adjusts the shape of the attack phase.

**Hold Curve:** Adjusts the shape of the hold phase.

**Decay Curve:** Adjusts the shape of the decay phase.

**Release Curve:** Adjusts the shape of the release phase.

**Init Level:** Adjusts the starting level when the envelope is triggered.

**Attack Level:** Adjusts the end level of the attack phase.

**Hold Level:** Adjusts the end level of the hold phase.

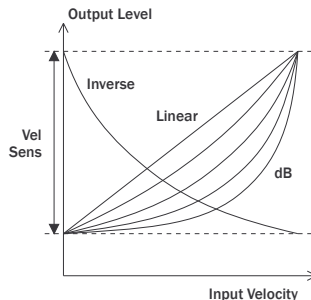
**Vel Sens (Velocity Sensitivity):** Adjusts the envelope velocity sensitivity (range from quietest to loudest note in dB).

**Envelope Key Track:** Scales Envelope Attack, Hold and Decay times across the keyboard (positive values make high notes faster).

**Release Key Track:** Scales Envelope Release time across the keyboard (positive values make high notes decay faster).

**Velocity Curve:** Curve for translating incoming velocity values to level (**Inverse**, **Linear**, **Normal**, **Squared**, **Cubed**, **dB**).

**Sync to Tempo:** Scales envelope times with the tempo.



## FX SENDS

**FX Send On:** Activates the Effect Send.

**FX Send Level:** Adjusts the level sent from the zone to global Effect Send.

**Pre:** Sets the Effect send to pre-fader routing. When activated, the Send level is only controlled by the Send fader, not the patch level or output level faders.

## OUTPUT

**Output Bus:** Selects an individual audio output bus for the zone.

**Output Level:** Adjusts the zone output level.

## Wave (Wave Editor)

The Wave editor consists of a graphical waveform display showing the sample waveform of the selected zone and a transport and control section above. You can use the Wave editor for the wave editing and (crossfade-) looping of samples.

### WAVE EDITOR CONTROLS

**Zoom to Selection:** Zooms into the selection.

**Zoom to Full:** Zooms out to show the whole waveform.

**Zoom Lock:** Locks the zoom factor. When activated the zoom factor stays the same when another sample is selected.



**Play:** Plays back the raw waveform unaffected by effects or patch and part settings. Right-click the Play button to toggle loop playback on and off.

**Stop:** Stops raw sample playback.

**Play from Cursor Position:** When this button is activated, clicking in the waveform display plays the sample from mouse position

**Show Channel:** Activates displaying of the channel in the waveform display.

**Mute Channel:** Mutes channel of multi channel audio files.

**Show Summed Waveform:** Shows a summed waveform of all channels in the waveform display.

**Raw Out:** Adjusts the playback volume when playing back the waveform using the play button (raw).

## WAVE EDITOR LOOP CONTROLS



The Loop section of the Wave editor provides tools for the creation and playback of sample loops.

**Loop:** Activates looped playback for the sample and displays loop start and end markers in the waveform display.

**Edit XFade (Crossfade):** Activates loop crossfading and displays Crossfade handles in the waveform display. Adjust the crossfade with the green crossfade handles in the waveform display.

**Auto Loop Search:** Searches automatically for the next good loop point.

**Fine Search:** Moves the loop markers by one sample position (frame).

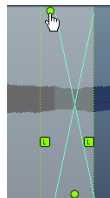
**Length:** Displays the current loop length.

**Quality:** Displays the quality of the amplitude match for the current loop points in percent.

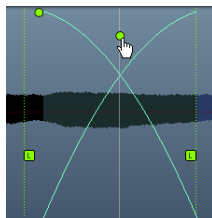
**Match Length:** Sets the length for auto loop searching. The higher this value, the better the loop quality but searches take longer. Only powers of two can be entered here.

## ADJUSTING CROSSFADES

To adjust a loop's **crossfade length**, drag the green **Crossfade** handles.

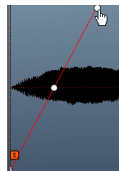


To adjust the curve between a linear and equal-power crossfade, drag the **Curve** handle.

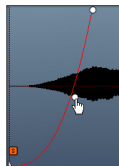


## ADJUSTING VOLUME FADES

To adjust a volume fade for the **sample**, drag the white **Fade** handle.

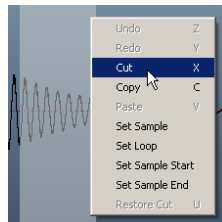


To adjust the **Volume fade curve**, drag the **Curve** handle.

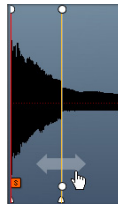


## ADJUSTING CUTS

To create a cut, make a selection and select **Cut** from the right-click menu.

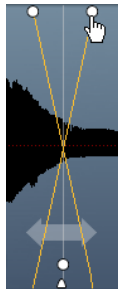


To adjust the cut length, drag the **Arrow** handles.



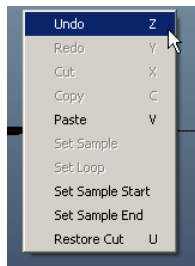
To adjust a cut's crossfade length, drag the **Crossfade** handles.

**Note:** Waveform edits are only written when saving samples. The originals of the loaded samples will not be affected by edits in the Wave editor.



## WAVE EDITOR CONTEXT MENU

Right-click (Windows or Mac) or Control-click (Mac) in the waveform to access the Wave editor context menu.



**Undo:** Undoes the last operation in the Wave editor, allowing you to return to a previous editing state. You can perform an unlimited number of undo steps.

**Redo:** Redoes the last operation in the Wave editor, moving back through the Undo history by one step.

**Cut:** Cuts and copies the selection to the clipboard.

**Copy:** Copies the selection to the clipboard.

**Paste:** Pastes the selection from the clipboard into the waveform.

**Set Sample:** Sets the sample start and end points to the current selection.

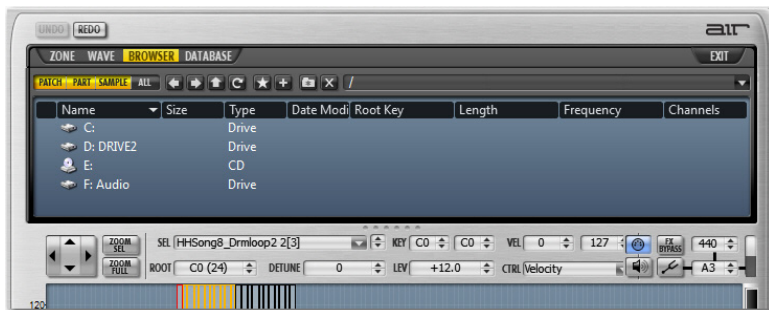
**Set Loop:** Sets the loop start and end points to the current selection.

**Set Sample Start:** Sets the sample start point to the current selection.

**Set Sample End:** Sets the sample end point to the current selection.

**Restore Cut:** Removes the selected cut.

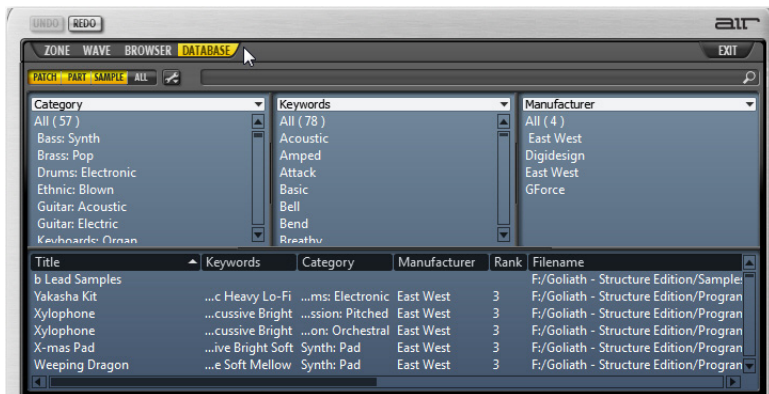
## Browser



The Browser window allows for displaying and browsing the local file system. Files like Patches, Parts, and samples can be loaded from here using drag and drop. See the **Browser Page** section for more information.



## Database



The database allows for quick searching of files like patches, parts, and samples that previously have been metadata tagged and registered in the database. For more information, see the **Database Page** section.

## Structure MIDI Processors

Structure provides the following types of MIDI Processors, which can be added as Parts to Patches: **Rex Player**, **Alternation Control**, **Controller to Note**, **MIDI Transformer**, and **Tuning Scale**.

### Rex Player

Rex Player triggers rhythmic playback of slices in a loaded REX file.

**To add a Rex Player as a new Part**, import a REX file into Structure.

- **Current Variation:** Selects one of four programmable variations of the loop.
- **Copy:** Copies the current variation to the clipboard.
- **Paste:** Pastes over the current variation from the clipboard.
- **Revert:** Reverts any changes to the current variation to the last saved version.
- **Randomize:** Randomizes the current variation.
- **Latch On/Off:** Activates/deactivates Latched playback. When activated, playback continues after notes have been released.
- **Retrigger:** Restarts loop on each note-on.
- **Host Sync:** Enables (or disables) synchronization to the Pro Tools session tempo.
- **Split Mode:** Sets a split point on the keyboard that divides looped playback and individual slice keys.
- **Speed:** Adjusts the playback speed (half time, normal, double time).



- **Max Length:** Limits the loop length to 1, 2, or 4 bars.
- **Keytrack:** Adjusts how much the loop is chromatically transposed when played across the keyboard.
- **Swing:** Adjusts the amount of swing.
- **Swing Mode:** Selects which notes swing is applied to.
- **Quantize Depth:** Quantizes the loop relatively to the selected Quantize grid.
- **Quantize Grid:** Selects the timing grid.
- **Beat:** Light on and off to indicates the beat during playback.

## Alternation Control

Alternation Control determines the selection between multiple Sampler parts or layered zones within a Sampler part.

### To add an Alternation Control Part to a Patch:

1. Select a Patch in the **Patch** list.
  2. Choose **Part > Add Part > MIDI > Alternation Control**.
- **First Alternate:** Selects which alternation plays first.
  - **Reset After:** Resets to the first alternation after the specified number of steps.
  - **Min Time:** Notes played within this time will trigger the same alternation.
  - **Max Time:** Sets the time out for reverting to first alternation.
  - **Destination:** Alternates between layered zones in a Sampler part, or between whole parts.



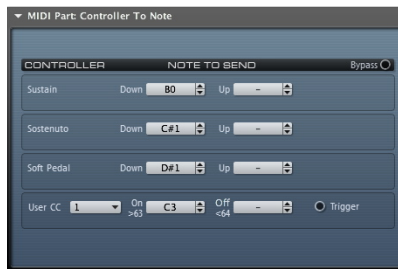
- **Reset:** Manually resets to the first alternation. Available for assignment to a Key switch or MIDI controller.
- **Low Key Range:** Sets the low key for Alternation Control.
- **High Key Range:** Sets the high key for Alternation Control.
- **Bypass:** Bypasses the effect.

## Controller To Note

Controller To Note generates note-on and note-off messages from incoming MIDI controller values. This can be useful for such effects as adding pedal noises to a piano patch.

### To add a Controller To Note Part to a Patch:

1. Select a Patch in the **Patch** list.
2. Choose **Part > Add Part > MIDI > Controller To Note**.



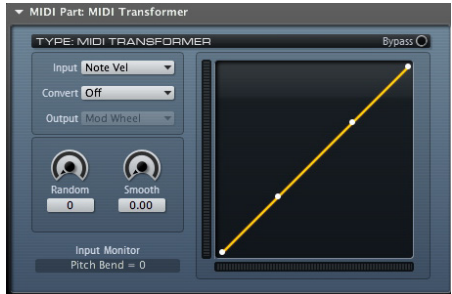
- **Sustain Down:** Selects a note to be triggered when the Sustain pedal is pressed.
- **Sustain Up:** Selects a note to be triggered when the Sustain pedal is released.
- **Sostenuto Down:** Selects a note to be triggered when the Sostenuto pedal is pressed.
- **Sostenuto Up:** Selects a note to be triggered when the Sostenuto pedal is released.
- **Soft Pedal Down:** Selects a note to be triggered when the Soft pedal is pressed.
- **Soft Pedal Up:** Selects a note to be triggered when the Soft pedal is released.
- **User CC:** Selects a MIDI CC to be converted to note triggers.
- **User On >63:** Note triggered when value of specified MIDI CC increases above 63.
- **User Off <64:** Note triggered when value of specified MIDI decreases below 64.
- **User Trigger:** Triggers the any user-defined notes.
- **Bypass:** Bypasses the effect.

## MIDI Transformer

MIDI Transformer adjusts a selected type of MIDI data, with the option of converting it to a different type.

### To add a MIDI Transformer Part to a Patch:

1. Select a Patch in the **Patch** list.
2. Choose **Part > Add Part > MIDI > MIDI Transformer**.



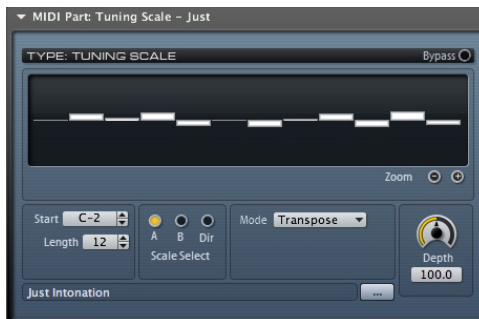
- **Input:** Selects a type of event to transform.
- **Convert:** Determines how MIDI events are transformed:
  - **Off:** The value of the selected Input event type is modified (for example, apply a velocity curve).
  - **On:** The selected input event is converted to the Output event type (for example, convert mod wheel to expression).
  - **Replace:** The selected Output event gets its value replaced by the last Input event value (for example, use the mod wheel to set note velocity).
  - **Offset:** The last input event value is added to the value of the selected output event (for example, use the mod wheel to increase note velocity).
- **Output:** Selects a event type to output.
- **Random:** Adds a random offset to the event value.
- **Smooth:** Smooths output values.
- **Bypass:** Bypasses the effect.

## Tuning Scale

Tuning Scale applies a different fine tuning to each note in the scale.

### To add a Tuning Scale Part to a Patch:

1. Select a Patch in the **Patch** list.
2. Choose **Part > Add Part > MIDI > Tuning Scale**.



- **Start:** Shifts the scale left or right to change the root note.
- **Length:** Sets the number of notes in the scale (up to 128 for whole-keyboard scales such as stretch tunings)
- **Select Scale:** There are two scale memories. At any time, one of these is the active scale applied to incoming notes. The scales can be selected automatically depending on if you play higher or lower than the previous note (some arabic scales are different when playing up or down the keyboard).
- **Mode:** Determines whether the Tuning Scale transposes or re-pitches the incoming MIDI data:
  - **Transpose:** If after applying the tuning scale, the resulting pitch is nearer to a different MIDI note than the one played, the nearest MIDI note is played.
  - **Re-Pitch:** This is useful with drum samples, where you have a different drum sound on each key and you want the tuning scale to adjust the pitch of each drum, not trigger a different drum sample from an adjacent key (MIDI note).
- **Depth:** Increases/decreases the detuning depth of the whole scale.
- **Bypass:** Bypasses the effect.

## Structure Key Commands

If you enable the **Structure Editor Takes Keyboard Focus** function on the **Setup** page, you can use the following key commands in the different sections of the Structure Editor window:

	Command	Key(s)
<b>Treewiew</b>	Rename	F2
<b>Mapping Section</b>	Zoom In X	T
	Zoom Out X	R
	Zoom In Y	Ctrl+Shift+[
	Zoom Out Y	Ctrl+Shift+]
	Zoom Full	F
	Zoom Selection	S
	Toggle Play On Click	P
	Option-drag (Mac) or Alt-drag (Windows)	Copy zones
	Command-click (Mac) or Control-click (Windows)	Select multiple zones
<b>Wave Editor</b>	Play/Stop	Space
	Cut	X
	Copy	C
	Paste	V
	Unskip	U
	Toggle Loop Play	L
	Toggle Loop XFade Edit	B
	Toggle Play on Click	P
	Zoom in X	T
	Zoom Out X	R
	Zoom In Y	Ctrl+Shift+[
	Zoom Out Y	Ctrl+Shift+]
	Zoom Full	F
	Zoom Selection	S
<b>Global</b>	Delete	Delete
	Undo	Z
	Redo	Y

## Support

For technical support, please contact us through the Support page of our website: [www.airmusictech.com/support](http://www.airmusictech.com/support).

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Manual Version 1.0