



# A.I.R. Virtual Instruments Plug-Ins Guide

Version 10.0

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# Part I: Introduction





# Chapter 1: Introduction

Welcome to the A.I.R. (Advanced Instrument Research) Virtual Instruments RTAS® (Real Time AudioSuite) plug-ins for Pro Tools® systems. These plug-ins provide versatile and powerful virtual instruments and effects for creating music and sound design in Pro Tools.

The Pro Tools Instrument Expansion Pack includes all of these plug-ins in one easy to install bundle, and also includes an extensive library (32 GB) of high-quality professional sample content.

## A.I.R. Virtual Instrument Plug-Ins

- Hybrid high-definition synthesizer
- Strike virtual drummer
- Structure professional sampler workstation
- Transfuser real-time loop, phrase, and groove creation workstation
- Velvet vintage electric pianos

## Sample Rate and Channel Format Support

A.I.R. Virtual Instrument plug-ins support 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, and 192 kHz sample rates depending on the capabilities of your Pro Tools system.

## Control Surface Support

A.I.R. Virtual Instrument plug-ins support MIDI controller mapping and can be operated from the following control surfaces:

- 003®
- Command|8®
- C|24™
- D-Command®
- D-Control™
- Digi 002™
- EUCON™
- M-Audio® Axiom® Pro
- Mackie HUI™—compatible controllers

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## System Requirements and Compatibility

To use A.I.R. Virtual Instrument plug-ins, you need the following:

- An iLok USB Smart Key (not included)
- An iLok.com account for managing iLok licenses
- A qualified Pro Tools system (version 7.4 and higher)
- DVD drive for Installation disc (boxed version of plug-in only)
- Internet access for software activation and registration purposes

Avid can only assure compatibility and provide support for hardware and software it has tested and approved.

For complete system requirements and a list of qualified computers, operating systems, hard drives, and third-party devices, visit [www.avid.com/compatibility](http://www.avid.com/compatibility).

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## Registering Your Plug-Ins

Your plug-in purchase is automatically registered when you activate your iLok license (see “Authorizing Plug-Ins” on page 9).

Registered users receive periodic software update and upgrade notices.

For information on technical support, visit [www.avid.com](http://www.avid.com).

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## Working with Plug-Ins

See the *Pro Tools Reference Guide* for general information on working with plug-ins, including:

- Inserting plug-ins on tracks
- Using clip indicators
- Navigating the Plug-In window
- Adjusting plug-in controls
- Automating plug-ins
- Using plug-in presets
- Monitoring and recording audio from instrument plug-ins
- Routing MIDI to Instrument plug-ins

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# Conventions Used in This Guide

All of our guides use the following conventions to indicate menu choices and key commands:

Convention	Action
File > Save	Choose Save from the File menu
Control+N	Hold down the Control key and press the N key
Control-click	Hold down the Control key and click the mouse button
Right-click	Click with the right mouse button

The names of Commands, Options, and Settings that appear on-screen are in a different font.

The following symbols are used to highlight important information:

-  *User Tips are helpful hints for getting the most from your system.*
-  *Important Notices include information that could affect your data or the performance of your system.*
-  *Shortcuts show you useful keyboard or mouse shortcuts.*
-  *Cross References point to related sections in this guide and other Pro Tools guides.*

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# About [www.avid.com](http://www.avid.com)

The Avid website ([www.avid.com](http://www.avid.com)) is your best online source for information to help you get the most out of your Pro Tools system. The following are just a few of the services and features available.

**Product Registration** Register your purchase online.

**Support and Downloads** Contact Avid Customer Success (technical support); download software updates and the latest online manuals; browse the Compatibility documents for system requirements; search the online Knowledge Base or join the worldwide Pro Tools community on the User Conference.

**Training and Education** Study on your own using courses available online or find out how you can learn in a classroom setting at a certified Pro Tools training center.

**Products and Developers** Learn about Avid products; download demo software or learn about our Development Partners and their plug-ins, applications, and hardware.

**News and Events** Get the latest news from Avid or sign up for a Pro Tools demo.



# Chapter 2: Installation and Authorization

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## Installing A.I.R. Virtual Instrument Plug-Ins

The Pro Tools Instrument Expansion Pack (which includes all of the A.I.R. Virtual Instrument plug-ins and associated content) is available for purchase both as a boxed version and online. You can also purchase individual plug-ins separately online. Instructions for installing each type follow.

### Installing the Boxed Version of the Pro Tools Instrument Expansion Pack

#### To install the A.I.R. Virtual Instrument plug-ins:

**1** Insert the Pro Tools Instrument Expansion Pack Install Disc 1 into your computer.

**2** Double-click the Installer application:

**Mac** Pro Tools Instrument Expansion Pack.mpkg

**Windows** Pro Tools Instrument Expansion Pack.exe

**3** Follow the on-screen instructions to complete the installation of the plug-ins, patch files, and content.

**4** When installation is complete, click Close (Mac) or Finish (Windows).

## Downloading and Installing Plug-Ins and Content from the Web

If you purchase the Pro Tools Instrument Expansion Pack online, be sure to download all of the plug-in installers and associated content. If you purchase only a single instrument plug-in online, you only need to download the installer and associated content for that plug-in.

#### To download and install the A.I.R. Virtual Instrument plug-ins and associated content:

**1** Purchase and download the plug-in installer *and* associated content from the DigiStore website:

- On Mac:
  - Install Hybrid.dmg
  - Install Strike Disc 1.dmg  
(Contains Install Strike.mpkg, Content & all PDFs)
  - Install Strike Disc 2.dmg
  - Install Strike Disc 3.dmg
  - Install Strike Disc 4.dmg
  - Install Structure Disc 1.dmg  
(Contains Install Structure.mpkg, Content & all PDFs)
  - Install Structure Disc 2.dmg
  - Install Structure Disc 3.dmg
  - Install Structure Disc 4.dmg

- Install Structure Disc 5.dmg
- Install Transfuser.dmg (also contains Transfuser Content)
- Install Velvet.dmg (also contains Velvet Content)
- On Windows:
  - Hybrid Setup.zip
  - Strike.zip (Contains Strike Setup.exe & all PDFs)
  - Strike Content 1.zip
  - Strike Content 2.zip
  - Strike Content 3.zip
  - Structure.zip (Contains Structure Setup.exe & all PDFs)
  - Structure Content 1.zip
  - Structure Content 2.zip
  - Structure Content 3.zip
  - Structure Content 4.zip
  - Structure Content 5.zip
  - Transfuser Setup.zip (also contains Transfuser Content)
  - Velvet Setup.zip (also contains Velvet Content)

**2** After downloading, make sure the installer is uncompressed (.dmg on Mac or .ZIP on Windows). Do the one following:

- On Mac, open the disc images of the installer *and* content folders for each individual plug-in, and then run the installer applications for each plug-in:
  - Install Hybrid.mpkg
  - Install Strike.mpkg
  - Install Structure.mpkg
  - Install Transfuser.mpkg
  - Install Velvet.mpkg
- or –
- On Windows, unzip the installer *and* content folders for each individual plug-in, and then run the installer applications for each plug-in:
  - Hybrid Setup.exe
  - Strike Setup.exe
  - Structure Setup.exe
  - Transfuser Setup.exe
  - Velvet Setup.exe

**3** Follow the on-screen instructions to complete the installation of the plug-ins, patch files, and content.

**4** When installation is complete, click Close (Mac) or Finish (Windows).

## Location of Plug-Ins and Content

The Installer copies the plug-ins files to the following location:

**Mac** Library/Application Support/Digidesign/Plug-Ins

**Windows** Program Files\Common Files\  
Digidesign\DAE\Plug-Ins

By default, the Installer copies the plug-in content to the following location:

**Mac** /Applications/Digidesign/

**Windows** Program Files\Digidesign\



*You can specify where you want to install content during the installation process.*

---

## Authorizing Plug-Ins

Software is authorized using the iLok USB Smart Key (iLok), manufactured by PACE Anti-Piracy.



*iLok USB Smart Key*

An iLok can hold hundreds of licenses for all of your iLok-enabled software. Once a license for a given piece of software is placed on an iLok, you can use the iLok to authorize that software on any computer.



*An iLok USB Smart Key is not supplied with plug-ins or software options. You can use the iLok included with certain Pro Tools systems (such as Pro Tools|HD-series systems), or purchase one separately.*

## Authorizing Downloaded Software

If you downloaded software from the Avid Store (<http://shop.avid.com>), you authorize it by downloading a license from iLok.com to an iLok.



*For more information, visit the iLok website ([www.iLok.com](http://www.iLok.com)).*

## Authorizing Boxed Versions of Software

If you purchased a boxed version of software, it comes with an Activation Code (on the included Activation Card).

### To authorize software using an Activation Code:

**1** If you do not have an iLok.com account, visit [www.iLok.com](http://www.iLok.com) and sign up for an account.


**2** Transfer the license for your software to your iLok.com account by doing the following:

- Visit [www.avid.com/activation](http://www.avid.com/activation).
- and –

- Input your Activation Code (listed on your Activation Card) and your iLok.com User ID. Your iLok.com User ID is the name you create for your iLok.com account.

**3** Transfer the licenses from your iLok.com account to your iLok USB Smart Key by doing the following:

- Insert the iLok into an available USB port on your computer.
- Go to [www.iLok.com](http://www.iLok.com) and log in.
- Follow the on-screen instructions for transferring your licences to your iLok.

 For more information, visit the iLok website ([www.iLok.com](http://www.iLok.com)).

**4** Launch Pro Tools.

**5** If you have any unauthorized software installed, you are prompted to authorize it. Follow the on-screen instructions to complete the authorization process.

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## Managing Content

### (Strike, Structure, Transfuser, and Velvet Only)

Several A.I.R. Virtual Instrument plug-ins include a significant amount of content (samples). Because of this, you may want to keep this content on a drive other than your system drive. The plug-in installer will prompt you to specify where you want to install the content during installation. However, if you want to move any, or all, of the content after installation, you will need to set the new content location for each plug-in.

The following A.I.R. Virtual Instrument plug-ins include content:

**Strike** See “Content Location” on page 102.

**Structure** See “Content Settings” on page 218.

**Transfuser** See “Content Location” on page 298.

**Velvet** See “Content Location” on page 446.

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## Removing Plug-Ins

If you need to remove a plug-in from your system, follow the instructions below for your computer platform.

### Mac OS X

On Mac, individual plug-ins and any associated content need to be removed manually.

#### To remove a plug-in:

**1** Locate and open the Plug-Ins folder on your Startup drive (Library/Application Support /Digidesign/Plug-Ins).

**2** Do one of the following:

- Drag the plug-in to the Trash and empty the Trash.
- or –
- Drag the plug-in to the Plug-Ins (Unused) folder.

#### To remove plug-in content:

**1** Locate the Plug-In Content folder on your system (this could be on your system drive or another drive). The Content folder for each plug-in is named after the plug-in (for example, the Content folder for Strike is named “Strike”).

**2** Drag the Plug-In Content folder to the Trash.

**3** Empty the Trash.

### Windows

#### To remove a plug-in and any associated content:

**1** Choose Start > Control Panel.

**2** Under Programs, click Uninstall a program.

**3** Select the plug-in from the list of installed applications.

**4** Click Uninstall.

**5** Follow the on-screen instructions to remove the plug-in.



## Part II: Hybrid



# Chapter 3: Hybrid Overview

Hybrid is an RTAS synthesizer plug-in that uses a combination of classic subtractive and digital wavetable synthesis.



*Hybrid is not multi-timbral—one instance is assigned to one MIDI channel and consists of two complete sound generation units (or parts). Each part has individual Mix, Arpeggiator, and Modulation settings.*

---

## Synthesis Overview

### Subtractive Synthesis

Dating back to the first hardware analog synthesizers, subtractive synthesis generates sound with one or more oscillators producing electronic waveforms with rich harmonic content. Successive modules (such as filters and amplifiers) shape this sound by varying the harmonic content and level.

Complex sounds that vary over time can be made by controlling the oscillator, filter, and amplifier with additional modules, including Envelope Generators and low frequency oscillators (LFOs). This is called *modulation*.

This process of generating and shaping sound is called *subtractive synthesis* because it deals mainly with removing frequencies from highly harmonic enhanced waveforms.

### Wavetable Synthesis

Wavetable synthesis became popular with the first digitally controlled synthesizers. A *wavetable* is a file that consists of 64 different single cycle waveforms. A digital oscillator runs through these waveforms to create complex and vivid sounds. Wavetable synthesis is usually combined with subtractive synthesis for additional sound shaping.

---

## Hybrid Overview

### Parts and Presets

Hybrid provides two synthesizer elements per instance, Part A and Part B. Each part is a complex sound generating unit, following the principles of subtractive synthesis. You can save single parts on the Presets page. The two parts can be used as velocity layers, keyboard splits, or spread across the stereo field to add width, depth, and complexity to a sound.

All settings of Hybrid can be saved as a single plug-in setting file, or preset.



*Refer to the Pro Tools Reference Guide for information on working with plug-in settings files.*

Part A and Part B

Each Hybrid part generates sound and gives detailed access to sound parameters like pitch, waveform, tone color, and volume. Each part has a step sequencer and two insert effects.

Common Page

The Common page provides controls for the overall pitch and voice management of a patch.

Effects Page

The Effects page contains two insert effects per part and the Master Effects section where you can add global effects. The Master Effects section provides controls for three effects: chorus, delay, and reverb.

Synthesis Architecture

Figure 1 below shows Hybrid's signal flow and modulation architecture.

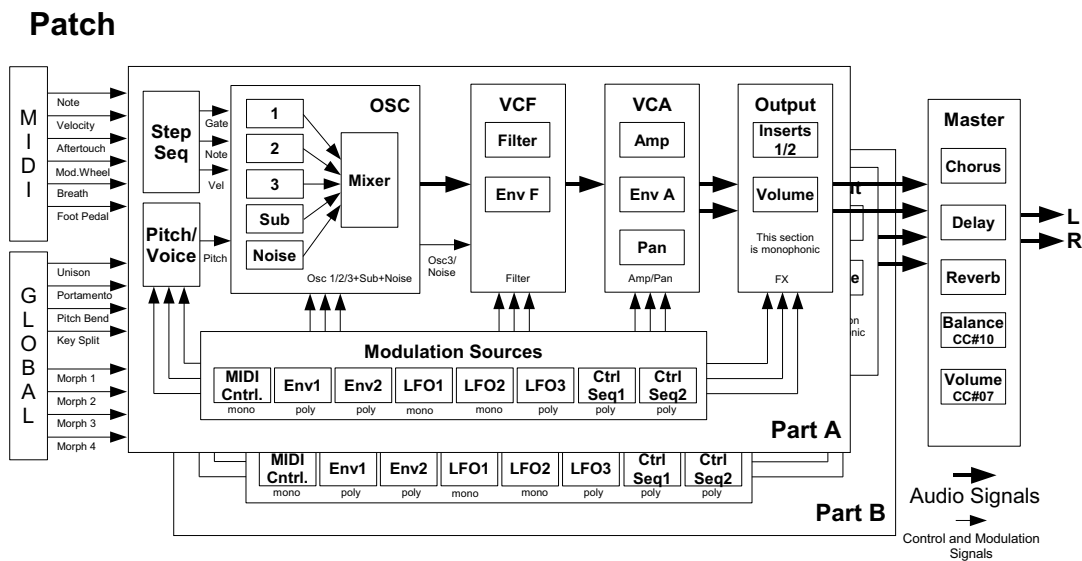


Figure 1. Hybrid signal flow and modulation architecture

**Oscillator Section** Oscillators are the basic source of pitch and harmonic content. Hybrid features three oscillators, as follows:

- Oscillators 1 and 2 feature eight different types: Saw Synchronized, Saw Cross Modulated, Multi-Wave Saw, Multi-Wave Square, Square Synchronized, Square Cross Modulated, Square Pulse Width Modulation, and wavetable.
- Oscillator 3 offers the classic Sawtooth, Square, and Triangle waveforms, Sub Oscillator, and Noise Generator.

All audio signals from the Oscillator section are mixed before they are sent to the filter stage.

**Filter Section** Gives control over the tone color by removing or accenting frequencies or harmonics.

Filters have a stop band and a pass band delineated by the cutoff frequency. The frequencies in the stop band are attenuated or removed, while the frequencies in the pass band are left untouched. The pass band is specified by the filter *type*. For example, a low-pass filter removes high frequencies and passes lower frequencies. Other typical filter types are high-pass, band-pass, band reject (notch filter) and all-pass (phase shift).

The number of filter *poles* determines the attenuation in the stop band: The higher the number, the more frequencies are removed. This feature can also be specified in decibels per octave. An attenuation of 6 dB/oct equals a pole. Because an attenuation of 6 dB/oct equals a pole, a two-pole low pass filter has an attenuation of 12 dB per octave above the cutoff frequency.

The Resonance parameter accents the frequencies around the cutoff, which at extreme settings can lead to *self-oscillation*: The filter produces an additional audio signal at the frequency of the cutoff. Modulating the filter cutoff, while the filter is self-oscillating, produces atonal electronic spectra. This is analog filter frequency modulation. In this guide, it is referred to as *filter FM*.

Hybrid offers an envelope-controlled analog multimode filter with 23 different filter types, all with resonance and self-oscillation. The different types include low-pass, high-pass, band-pass, band reject, and all-pass filters with various poles, and the combinations of more than one type.

A dedicated saturation parameter adjusts the amount and characteristic of the filter distortion.

A blend of Oscillator 3 and the Noise Generator can be used as an audio modulation source for filter FM.

**Amplifier Section** Controls the loudness and position of the output sound in combination with envelope generators and LFOs.

**Envelope Sections** Give shape to the sound. The shape of an envelope is specified by a number of segments, forming a graph of level against time. By playing a note, the envelope runs through its segments. Most segments have at least an assignable time or level, and modulation envelopes typically have both.

Hybrid has four envelopes: two main envelopes (one for the filter and one for the amplifier) and two assignable modulation envelopes. All Hybrid's envelopes have for segments: attack, decay, sustain, and release (commonly abbreviated as ADSR). In addition to the ADSR segments, the main envelopes have an extra decay segment

with control over time and level. A delay time, an additional decay, and adjustable levels for each segment add to the modulation envelopes. Concisely, Hybrid provides:

- Two ADDSR envelopes
- Two DADDSR envelopes with free adjustable levels

**LFOs (Low Frequency Oscillators)** Generate cyclic modulation signals at a very slow rate. By modulating pitch or loudness, they imitate vibrato or tremolo effects. Modulating the cutoff produces electronic sweeps. Hybrid provides three LFOs:

- Two monophonic LFOs, where monophonic refers to one modulation distributed to all voices.
- One polyphonic LFO, where polyphonic refers to a separate LFO for each voice.

All LFOs have multiple waveforms and several tempo-syncing options.

**Modulation Matrix** Connects modulation sources with modulation destinations. These modulations work in addition to the fixed assigned ones, like the filter and amplitude envelope or cutoff key tracking. A modulation source can be routed to multiple destinations with adjustable intensities. Unlike other synthesizers, Hybrid needs no overly complex modulation page. Instead, the modulation routing works in the background. Following the typical workflow, modulations are assigned at the destination module, such as an oscillator or a filter.

The Modulation matrix provides:

- 16 freely assignable modulation sources
- Over 20 modulation destinations
- Multiple assignments of sources and destinations with adjustable intensities

**Step Sequencers** Deliver musical phrases and stepped modulation signals. The steps advance at the rate of the selected note length and automatically synchronize to the Pro Tools session tempo. Hybrid provides:

- One note sequence with velocity, for musical phrases
- Two control sequences for modulation purposes
- Arpeggios and MIDI phrases accessed through additional modes of the step sequencer

**Effects Inserts** Operate after all synthesis modules but before the master effects. With its two effects inserts for each part and an assortment of over 40 effect algorithms, Hybrid allows for building complex multi-effect settings.

---

## Adjusting Controls

You can adjust most controls by using the computer mouse to drag a control or using the keyboard to type in a value.

Some controls are adjusted by a value from a pop-up menu or by activating a button.

In addition, envelopes, LFOs, and step sequencers are edited using dedicated graphic controls.

## 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%, but the internal resolution of all continuous controls is much higher than 100 steps. Hybrid's parameter smoothing avoids stepping for a true analog feel of controls.


## Using a Mouse

You can adjust controls by dragging the control's slider or knob, or by moving over it 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.



*Dragging a knob*

 The behavior of knobs can be customized, see “Knob Mode” on page 49 for more information.

## Keyboard Shortcuts

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

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

## Typing in Values


Most controls do not have a text box of their own. Instead, there is one text box for a control section (functional group of controls). This text box displays the last edited control of its section. You can edit the value with your computer keyboard.



*Text box*

### To edit a control with a text box:

- 1 Click the control you want to adjust.
- 2 Click the text box and type in a value. Bipolar controls also accept negative values (type a minus sign before the value).
- 3 Do one of the following:
  - Press Enter on the numeric keyboard to input the value and remain in keyboard editing mode.
  - or –
  - Press Return (Mac) or Enter on the alpha keyboard (Windows) to input the value and leave keyboard editing mode.

 To move forward through the different parameters, press the Tab key. To move backward, press Shift+Tab. However, because of Hybrid's modular architecture, you can only Tab between parameters in the same section (for example, only within the Filter section).



*Editing a text box*

## Displaying Values

Parameter values can be displayed without editing them.

### To display the value of a control:

- Click the control without dragging it.

## Using Pop-up Menus

Oscillator and Filter types, as well as Modulation sources and destinations, have selectors for accessing their pop-up menus.

### 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.



*Choosing waveform settings from a pop-up menu*

## Enabling Buttons

Some controls have activate/deactivate buttons.

### To activate a button:

- Click on the button. Click again to disable it.



*Enabling a button*

## Scroll Wheel on Knobs, Faders, and Menus

A very convenient way to change values is to use the scroll wheel.

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

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

## Graphic Controls

Graphic controls are provided for adjusting parameters such as envelopes (see “Graphic Editing of Envelopes” on page 33), LFOs (see “Graphic Editing of LFOs” on page 37), and step sequencers (see “Editing of Sequencer Lines” on page 41).



# Chapter 4: Hybrid Controls

## Viewing Pages

The Hybrid Plug-In window has seven tabs for accessing different control pages for editing Hybrid.

**To view a Hybrid control page:**

- Click one of the Page tabs to display the respective page.



*Selecting a page*

### Hybrid Control Pages

**Part A Page** Provides controls for all sound generating parameters of Part A, including settings for its oscillators, filters, amplifiers, envelopes, and LFOs.

**Seq A Page** Provides controls for the sequencer of Part A. The settings include the sequencer lines for Note, Velocity, Control 1 and Control 2, and additional Playback modes (such as arpeggios and MIDI phrases).



*Part A Page tabs*


**Part B Page** Provides controls for all sound generating parameters of Part B, including settings for its oscillators, filters, amplifiers, envelopes, and LFOs.

**Seq B Page** Provides controls for the sequencer of Part B. The settings include the sequencer lines for Note, Velocity, Control 1 and Control 2, and additional Playback modes (such as arpeggios and MIDI phrases).



*Part B Page tabs*

**!** *Part A and B are identical and provide the same set of controls.*

 *To learn more about working with parts, see “Accessing Parts” on page 20.*

**Common Page** Provides controls for adjusting the overall pitch and voice management of a patch. In addition, there are settings for the Morph controllers and general plug-in settings.

**Effects Page** Provides controls for the effects Inserts of Part A and B and the master effects applied to the whole patch.

**Presets Page** Provides controls for loading and saving presets of Part A and B and gives access to the most commonly edited synthesizer parameters.



*The Presets page offers a fast and simple way for creating new patches: Just browse the presets of Part A and B to make new combinations. Use the supplied controls to modify sounds. Save the patch with the Settings Librarian.*



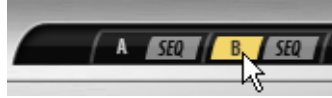
*To learn more about the part preset functionality see “Presets Page” on page 55.*

## Accessing Parts

A Hybrid patch consists of up to two synthesizer elements, Part A and Part B. Use the Page tabs at the top of the window for accessing the synthesis and sequencer parameters of a specific part. Use the Part On buttons at the bottom of the window to activate or deactivate a part. Whenever sound editing requires muting of a part or the final sound only needs one of the parts, use these buttons.

### To access the parameters of a specific part:

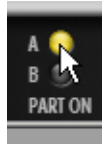
- Click the Part or Sequencer tab. The highlighted Page tab indicates the Part page or Sequencer page that is displayed.



*Selecting a part for editing*

### To activate or deactivate a specific part:


- Click the Part On A or B button. A lit button indicates the part is active.



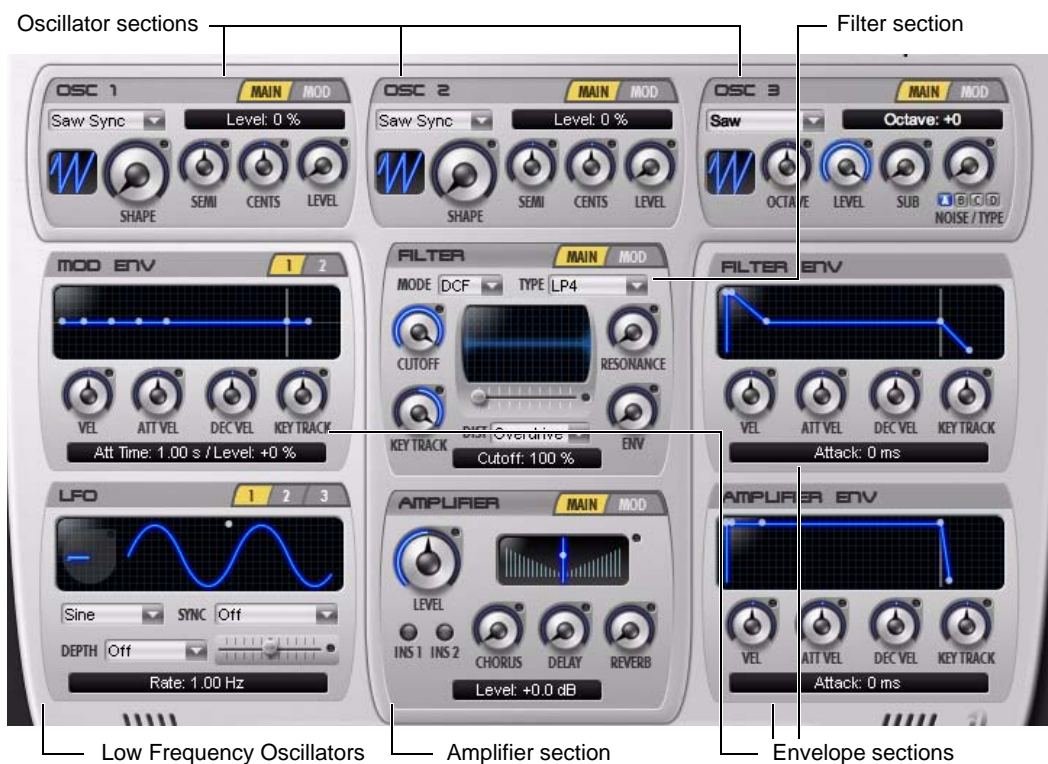
*Activating a part*

## Part Pages

Part A and B pages give detailed access to all sound generating parameters of Hybrid. The two pages provide the same set of controls. For this reason, the following description applies to both Part A and Part B.

 For information on choosing a page, see “Accessing Parts” on page 20.

The Part page has several functional sections. The order of these relatively follows Hybrid’s signal flow. The oscillators stretch across the upper area, followed by the Filter section in the center of the panel. The Amplifier section is located below the filter (at the end of the signal flow). The Filter and Amplifier envelopes are located on the right and the freely assignable Modulation envelopes and LFOs are on the left of the page.



Hybrid Part page

## Oscillators

Hybrid has three Oscillator sections, which provide control over five sound generating elements: Two main oscillators and a third oscillator, which includes a Sub oscillator and Noise generator.

Each oscillator provides a Main page to access tuning, wave shape and mix parameters and a Mod page with three sets of modulation source and destination controls to modulate these parameters by a selectable source and level.

### To access the Main page of an oscillator:

- Click the Show Main Page tab in the Oscillator section you want to adjust.

### To access the Mod page of an oscillator:

- Click the Show Mod Page tab in the Oscillator section you want to adjust.

## Oscillator Overview

The two main oscillators, Oscillator 1 and 2, provide tuning controls calibrated in semitones and cents. They offer various waveforms based on different algorithms. Each algorithm is unique in its function and sound. The Oscillator Type pop-up menu selects the basic waveform of the oscillator, and the Wave Shape control provides further control over the waveform's tone color.

The third oscillator mainly supports Oscillator 1 and 2; it transposes in octave steps and provides classic waveforms like sawtooth, square, and triangle as well as Sub oscillator and Noise generator. The Sub oscillator has a square waveform and follows the pitch of Oscillator 3 minus one octave. The Noise generator provides white noise.



*A blend of Oscillator 3 with noise also serves as a Modulation source for the filter.*

## Adjusting Oscillators

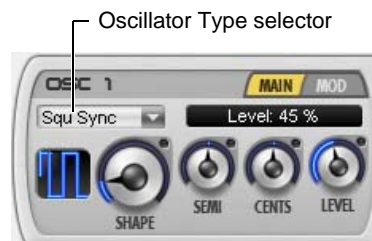
To adjust the value of an oscillator, do one of the following:

- Use the rotary controls of the Oscillator section you want to adjust.
  - or –
- Enter a value in the text box at the upper right corner of the Oscillator section you want to adjust.

## Oscillator Sections

### Osc 1 and Osc 2 Main Page

Oscillators 1 and 2 have an identical architecture. They have the same controls, as follows:



*Hybrid Oscillator 1 and 2 Main page*

**Oscillator Type** This selector displays the current oscillator type (the basic waveform and algorithm of the oscillator), and can be clicked to access a pop-up menu for selecting a different type. The first part of the name of a type describes the basic waveform. The second part of the name describes the underlying algorithm. The Wavetable type does not have an underlying algorithm.

**Wave Shape** The Shape control selects its tone color. The control range is from 0% to 100%. For some oscillator types, higher settings of this control can result in radical sonic effects. A setting of 0% is neutral and has no effect on the sound. Depending on the oscillator type, the Shape control changes other controls, as follows:

- The pitch ratio between master and slave of a sync oscillator (Saw Sync and Squ Sync types)
- The pitch ratio between carrier and modulator of a cross modulation oscillator (Saw CM and Squ CM)
- The amount of detuning between the waves of a multi oscillator (Multi-Wave Saw and Multi-Wave Squ)
- The pulse width of a square wave (Squ PWM)
- The wave index of a wavetable oscillator (wavetable)

**Semi** Transposes the pitch of the oscillator up or down by semitones. The control range is from -24 to +24 semitones (two octaves down or up). Use this feature to tune the oscillator to an interval such as a perfect fifth for interesting tonal effects.

**Cents** Sets the pitch of the oscillator in hundredths of a semitone. The control range is from -50 to +50 cents. Use this control to detune an oscillator relative to the other oscillators. Detuned oscillators animate and thicken the sound.

**Level** Sets the volume of the oscillator. The control range is from 0% to 100%.

## Oscillator Types

Oscillator 1 and 2 offer the following types:

**Saw Sync** Produces classic hard-sync sounds from a sawtooth waveform (slave oscillator). Sync is short for synchronize. The slave oscillator synchronizes to the pitch of the master oscillator, which means that the wave cycle of the slave oscillator abruptly resets whenever the master oscillator completes a full wave cycle. Only the slave oscillator is sent to the output, producing sharp sounds when shifted up in pitch. The Shape control shifts the pitch of the slave oscillator by a maximum of six octaves. Use an envelope or LFO to modulate it.

**Saw CM** Cross modulates (CM) the pitch of a saw wave (carrier) with the output of a triangle wave (modulator). Only the carrier is audible. With Saw CM, the Shape control shifts the pitch of the carrier by a maximum of six octaves, which produces sonic inter-modulation or sidebands in the output spectrum. Try using an envelope to modulate the Shape control.

**Multi-Wave** Generates a stack of seven saw or square waves that play in unison. Use the waveform selector to choose either Saw or Squ (Square). The Shape parameter sets the amount of detuning between the saw or square waves to animate and fatten the sound. This parameter usually needs no modulation.

**Squ Sync** Produces classic hard-sync sounds from a square waveform (slave oscillator). Sync is short for synchronize. The slave oscillator synchronizes to the pitch of the master oscillator, which means that the wave cycle of the slave oscillator abruptly resets whenever the master oscillator completes a full wave cycle. Only the slave oscillator is sent to the output, producing sharp sounds when shifted up in pitch. The Shape control shifts the pitch of the slave oscillator by a maximum of six octaves. Use an envelope or LFO to modulate it.

**Squ CM** Cross modulates (CM) the pitch of a square wave (carrier) with the output of a triangle wave (modulator). Only the carrier is audible. With Squ CM, the Shape control shifts the pitch of the carrier by a maximum of six octaves, which produces sonic inter-modulation or sidebands in the output spectrum. Try using an envelope to modulate the Shape control.

**Squ PWM** Produces a classic pulse width modulated square wave. One cycle of a square wave consists of a high level that switches at half way of the cycle abruptly to its low level. The Shape control lets you modulate the square wave's pulse width. This is perceived as a pitch deviation that thickens the sound. Typically, the pulse width is modulated by an LFO.

**Wavetable** Consists of 64 single cycle waveforms with varying harmonic content. Use the Waveform selector to select from the 100 available waveforms. The Shape control modulates the oscillator's playback position in the wavetable, which changes the output spectra according to the harmonic information contained in the selected waveform. The position in a wavetable is also called a wave index. Try using a Modulation envelope to modulate it.

**⚠** In Wavetable mode (when Oscillator Type is set to Wavetable), an individual wavetable must be selected. Choose one of the 100 wavetables from the menu.

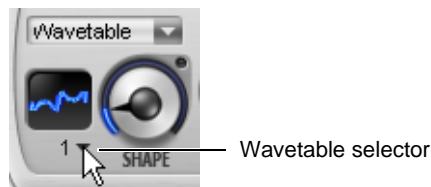
## Selecting Oscillator Types

### To select an oscillator type:

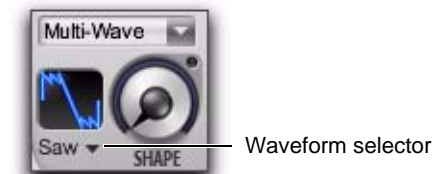
- Click the Oscillator Type selector and select a type from the pop-up menu.

### To select a waveform or wavetable:

- 1 Click the Oscillator Type selector and select Wavetable or Multi-Wave from the pop-up menu.
- 2 Click the Wavetable (Wavetable) or Waveform (Multi-Wave) selector and select a wavetable (Wavetable) or waveform (Multi-Wave) from the pop-up menu.



Selecting a wavetable in Wavetable mode



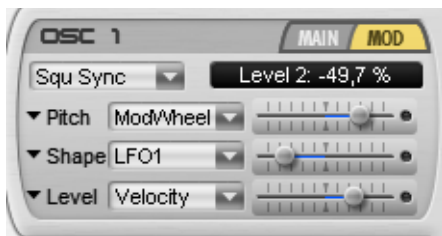
Selecting a waveform in Multi-Wave mode

**⚠** The additional pop-up menu for selecting the wavetable or waveform is only visible in Multi-Wave or Wavetable modes.

For a complete list of the provided wavetable banks, see “Hybrid Wavetables” on page 63.

### Osc 1 and Osc 2 Mod Page

Oscillator 1 and 2 provide up to three modulation destinations for Pitch, Shape, and Level modulation of an oscillator. Each of these destinations can be addressed multiple times by different Modulation sources.



Hybrid Oscillator 1 and 2 Mod page

#### To set up modulation for Osc 1 and 2:

- 1 Click a Destination selector and select Pitch, Shape, or Level as the modulation destination.
- 2 Select a modulation source, which for example can be an envelope, an LFO, or one of the MIDI controllers, from the center menu.
- 3 Use the Modulation Level fader to adjust the level of the modulation. The control range is from -100% on the left to +100% on the right.

### Osc 3 Main Page

The Oscillator 3 Main page provides controls for Oscillator 3, the Sub oscillator, and the Noise generator.



Hybrid Oscillator 3 Main page

Oscillator 3 produces waveforms that can serve as a Modulation source for Filter FM. It features the classic sawtooth, square, and triangle waveforms. In general, its pitch follows that of the part. There is an Octave control for transposing it two octaves up or down. Use the Level control to adjust the volume.

The Sub oscillator generates a square wave that follows the pitch of Oscillator 3 minus one octave. The Sub Oscillator Level control is the only parameter of the Sub oscillator and adjusts its volume.

**Oscillator Type** Selects the wave shape of Oscillator 3. From the pop-up menu, select Sawtooth, Square, or Triangle.

**Octave** Transposes the pitch of the oscillator up or down in octaves. The control range is from -2 to +2 octaves.

**Level** Sets the volume of Oscillator 3. The control range is from 0% to 100%.

**Sub Oscillator Level** Sets the volume of the Sub oscillator. The control range is from 0% to 100%.

**Noise Level** Sets the volume of the Noise generator. The control range is from 0% to 100%.

### Noise Type

The Noise generator provides four different colors of noise:

**A (White Noise)** Is a combination of equal amounts of all audio frequencies. In general, white noise delivers a bright hiss with no pitch information, and can be used to synthesize non-pitched sounds (such as drums or wind effects).

**B (Blue Noise)** Is filtered white noise that is brighter, and sounds thinner and cleaner.

**C (Mod)** Is white noise with amplitude modulation by Oscillator 3 for a pulsing, grating sound.

**D (Crackle)** Provides sparse noise, like a dusty vinyl record. You can use Crackle to add a vintage character to the sound.


### Wave Shapes of Osc 3

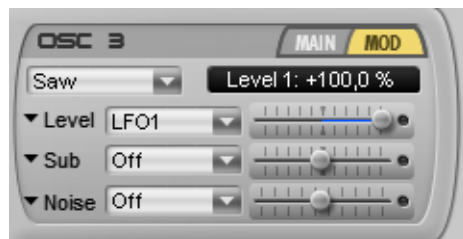
Oscillator 3 combines the following sound sources:

- Oscillator 3
- Sub oscillator
- Noise generator

### Osc 3 Mod Page

This page has three destination controls for modulating Oscillator 3, Sub oscillator, and Noise generator. The destinations can be addressed multiple times. Since Oscillator 3 follows the part's pitch, no pitch modulation is possible. You can use the Pitch modulation of the part instead.

 *To learn more about modulating the pitch of a part, see “Pitch/Voice A and Pitch/Voice B” on page 46.*



*Hybrid Oscillator 3 Mod page*

#### To set up modulation for Osc 3:


- 1 Click a Destination selector and select Pitch, Shape, or Level as the modulation destination.
- 2 Select a modulation source, which for example can be an envelope, an LFO, or one of the MIDI controllers, from the center menu.
- 3 Use the Modulation Level fader to adjust the level of the modulation. The control range is from -100% on the left to +100% on the right.



## Filter Section

Hybrid's analog modeling filter provides 23 different Filter types ranging from classic 4-pole low-pass to completely new and unique types.

All Filter types include Cutoff and Resonance controls. The Saturation control adds the characteristic grit of an overdriven filter to the sound. By default, cutoff can be modulated from a dedicated Filter envelope. The Envelope control adjusts the depth of this modulation. The Key Track control allows for modulation of the cutoff frequency by MIDI note number.

 To learn more about the Filter envelope see “Envelope Sections” on page 32.

In the Filter section, the Main page includes controls for cutoff, resonance, saturation, amount of Filter envelope, and key tracking. The Mod page provides controls for Filter FM and three sets of modulation source and destination.

### Filter Main Page

**To access the Main page of the filter:**

- Click the Show Main Page tab in the Filter section.

### Main Page Controls



Hybrid Filter section

**Mode** Displays and selects the Filter mode, either DCF or VCF. DCF mode (Digitally Controlled Filter) emulates a sharp and precise-sounding digital filter. VCF mode (Voltage Controlled Filter) emulates the warm, analog sound of the filters in classic analog synthesizers.

**Type** Displays and selects the Filter type and structure. Capital letters describe the Filter type, for example, “LP” stands for “low-pass.” The number indicates the attenuation by number of poles (one pole equals an attenuation of 6 dB/oct). If a mode combines more than one Filter type, they are both listed, separated by a plus (+) sign.

**Cutoff** Adjusts the cutoff frequency. Depending on the Filter type, frequencies above, below, above and below, or around the cutoff frequency are attenuated or completely removed. The control range is from 0% to 100%.

**Resonance** Emphasizes the frequencies around the cutoff. The control range is from 0% to 100%. With increasing values, the tonal color changes from an open neutral sound, to a nasal sound, to a ringing tone, caused by self-oscillation of the filter. Values above 90% usually drive the filter into self-oscillation.

**Dist (Distortion)** Adds color to the filtered sound by using the integral distortion of the filter. The sonic effects range from slight overdrive of the oscillators to hard-distorted sounds with sub-harmonics. The control range is from 0% to 100%. Higher values introduce more extreme effects. In addition, the graphic display in the middle of the Filter section indicates the amount of saturation that is used.



*Adjusting the Filter Saturation*

There are 7 Distortion modes, each with a distinct tonal character. The Dist pop-up menu provides access to the Distortion modes.



*Selecting a Saturation mode*

#### *Descriptions of the Filter Distortion Modes*

Mode	Description
Overdrive	Creates a soft, tube-like clipping.
Distort	Creates a harder, brighter clipping.
Hard Clip	Creates a very hard, bright, transistor-like clipping.
Rectify	Creates a gentle distortion which retains the character of the input.
Bit Crush	Reduces the bit depth, creating deliberate aliasing.
Resample	Reduces the sample rate, creating deliberate aliasing

**Env (Envelope)** Controls the cutoff modulation from the Filter envelope. The control range is from 0% to 100%. Higher settings of this control cause the filter to open wider.

**Key Track** Allows for cutoff modulation by MIDI note number. The control range is from -100% to +100%. With a low-pass filter and no key tracking applied, higher notes sound darker as the pitch moves beyond the cutoff. When key tracking is set to +100% the pitch of the played MIDI note modifies the Filter cutoff in the same direction. Higher notes increase cutoff frequency and thus avoid tonal changes over the entire keyboard range. Settings in between result in varying degrees of tonal change.

#### Filter Types

The Filter section supports the following Filter types:

**LP4** Four-pole low-pass, frequencies above the cutoff are attenuated at 24 dB/oct.

**LP3** Three-pole low-pass, frequencies above the cutoff are attenuated at 18 dB/oct.

**LP2** Two-pole low-pass, frequencies above the cutoff are attenuated at 12 dB/oct.

**LP1** One-pole low-pass, frequencies above the cutoff are attenuated at 6 dB/oct.

**BP2** Two-pole band-pass, 6 dB/oct high-pass and 6 dB/oct low-pass in series. Frequencies below and above the cutoff are attenuated at 6 dB/oct.

**BP4** Four-pole band-pass, 12 dB/oct high-pass and 12 dB/oct low-pass in series. Frequencies below and above the cutoff are attenuated at 12 dB/oct.

**HP2+LP1** Combination that forms a three-pole asymmetric band-pass. Frequencies below and above the cutoff are attenuated. With a 12 dB/oct high-pass and a 6 dB/oct low-pass in series, low frequencies are faster attenuated than high frequencies.

**HP3+LP1** Combination that forms a four-pole asymmetric band-pass. Frequencies below and above the cutoff are attenuated. With an 18 dB/oct high-pass and a 6 dB/oct low-pass in series, low frequencies are faster attenuated than high frequencies.

**HP4** Four-pole high-pass, frequencies below the cutoff are attenuated at 24 dB/oct.

**HP3** Three-pole high-pass, frequencies below the cutoff are attenuated at 18 dB/oct.

**HP2** Two-pole high-pass, frequencies below the cutoff are attenuated at 12 dB/oct.

**HP1** One-pole high-pass, frequencies below the cutoff are attenuated at 6 dB/oct.

**BR2** Two-pole band reject, 6 dB/oct low-pass and 6 dB/oct high-pass in parallel. Frequencies around the cutoff are attenuated at 6 dB/oct.

**BR4** Four-pole band reject, 12 dB/oct low-pass and 12 dB/oct high-pass in parallel. Frequencies around the cutoff are attenuated at 12 dB/oct.

**BR2+LP1** Combination that forms a three-pole asymmetric band reject. Frequencies around and above the cutoff are attenuated. With a two-pole band reject and a 6 dB/oct low-pass in series, high frequencies obtain more attenuation than mid frequencies.

**BR2+LP2** Combination that forms a four-pole asymmetric band reject. Frequencies around and above the cutoff are attenuated. With a two-pole band reject and a 12 dB/oct low-pass in series, high frequencies obtain more attenuation than mid frequencies.

**HP1+BR2** Combination that forms a three-pole asymmetric band reject. Frequencies below and around the cutoff are attenuated. With a 6 dB/oct high-pass and a two-pole band reject in series, low frequencies obtain more attenuation than mid frequencies.

**BP2+BR2** Combination that is sometimes called a four-pole *tooth filter* because the frequency plot of the filter forms the shape of a tooth. Frequencies below, around, and above the cutoff are attenuated.

**HP1+LP2** Combination that forms a three-pole asymmetric band-pass. Frequencies below and above the cutoff are attenuated. With a 6 dB/oct high-pass and a 12 dB/oct low-pass in series, high frequencies are faster attenuated than low frequencies.

**HP1+LP3** Filter that forms a four-pole asymmetric band-pass. Frequencies below and above the cutoff are attenuated. With a 6 dB/oct high-pass and an 18 dB/oct low-pass in series, high frequencies are faster attenuated than low frequencies.

**AP3** Phase shifter, using three poles of the filter for phasing effects.

**AP3+LP1** Phase shifter with a one-pole low-pass in series. In addition to the phasing effect, high frequencies are attenuated at 6 dB/oct.

**AP3+HP1** Phase shifter with a one-pole high-pass in series. In addition to the phasing effect, low frequencies are attenuated at 6 dB/oct.

#### To select a Filter type:

- Click the Filter type selector and select a type from the pop-up menu.

## Filter Mod Page

### To access the Mod page of the filter:

- Click the Show Mod Page tab in the Filter section.

This page provides the controls for Filter FM and three sets of modulation source and destination. Each destination can be set to Cutoff, Resonance, and FM depth.



*Hybrid Filter Mod page*

Modulating the cutoff at the audio rate produces Filter FM. Frequency modulation has the reputation of being hard to use. However, if you keep the following rules in mind, this feature is as easy to use as any other in Hybrid.

### To create Filter FM:

- 1 Filter FM is used best, when the filter is self-oscillating. Therefore, please make sure the Resonance control on the Main page is turned fully clockwise.
- 2 The higher the frequency of the modulating oscillator, the richer the sidebands. Use the Octave control of Oscillator 3 to raise the pitch. Turn the levels of Oscillator 3 and the Sub oscillator all the way down to make them inaudible.
- 3 Without moving the Cutoff, you will produce a static sound. Modulate the cutoff with the Filter envelope to sweep through the sidebands.

**FM Mix** Blends the modulation signal between Oscillator 3 and the Noise generator. The control range is from 0% to 100%. A setting of 0% sends only Oscillator 3 to the cutoff. A setting of 100% sends only noise to the cutoff. Use Oscillator 3 for a more regular modulation. Noise generates a random modulation with no pitch information.

**FM Depth** Sets the amount of Filter FM. The control range is from 0% to 100%. The sonic effect depends on the modulation signal, which is specified using the FM Mix control and the wave shape of Oscillator 3. The amount of Filter FM can also be modulated with the filter's modulation source and destination.

### To assign a modulation destination:

- Click the Mod Destination selector and select a destination (Cutoff, Resonance, or FM) from the pop-up menu.

### To select a modulation source:

- Click the Mod Source selector and select a source from the pop-up menu.

### To adjust the modulation level:

- 1 Click the Modulation Level fader for the modulation destination and source you want to adjust.

#### 2 Change the value.

- To increase the modulation, move the Modulation Level fader to the right. For example, cutoff modulated by an envelope opens the filter.
- or –
- To decrease the modulation, move the Modulation Level fader to the left. For example, Cutoff modulated by an envelope closes the filter.


## Amplifier Section

The Amplifier section gives control over the loudness of a part and its position in the stereo field. In addition, it has activation buttons for the effects Inserts and sends for the Master Effects section.



Hybrid Amplifier section

The amplifier is hard-wired to the Amplifier envelope, which shapes the sound dynamically. Hard-wired means the envelope affects the amplifier always at full intensity. Additional modulations, such as tremolo or panorama modulations from LFO, can be selected on the Mod page.

 To learn more about the Amplifier envelope see “Envelope Sections” on page 32.

### Amplifier Main Page

On its Main page, the amplifier provides the controls for level and position, the two activation buttons for the effects Inserts, and the three sends for the master effects. The controls for Pan key tracking and random modulation and the three modulation sources and destinations are set on the Amplifier’s Mod page.

**To access the Main page of the Amplifier section:**

- Click the Show Main Page tab in the Amplifier section.

### Amplifier Controls

The Amplifier section provides the following controls:

**Level** Controls the volume of the part. The control range is from  $-\infty$  dB to +12 dB.

**Pan (Panorama)** The graphic control at the upper right of the section displays and sets the output signal’s position in the stereo field. The control range is from L64 to R64. A value of L64 specifies a position hard left. A value of R64 specifies a position hard right. A value of <C> specifies a center position.

**To adjust the part’s position in the stereo field:**

- Drag the line inside the graphic control horizontally with your mouse. To specify a position to the left, drag the line to the left. To specify a position to the right, drag the line to the right.


**Ins 1 (Insert 1)** Activates and deactivates the first effects insert of the part. The insert is active when its button is lit. The insert is inactive (bypassed) when the button is not lit.

**Ins 2 (Insert 2)** Activates and deactivates the second effects insert of the part. The insert is active when its button is lit. The insert is inactive (bypassed) when the button is not lit.

**Chorus** Adjusts the amount of chorus that mixes with the part. The control range is from 0% to 100%.

**Delay** Adjusts the amount of delay that mixes with the part. The control range is from 0% to 100%.

**Reverb** Adjusts the amount of reverb that mixes with the part. The control range is from 0% to 100%.

 To learn more about effects Inserts and the Master Effects section, see “Effects Page” on page 50.

## Amplifier Mod Page

This page provides controls for two pre-assigned stereo field modulations, and three sets of modulation destinations and sources. Each modulation destination can be set for Volume or Pan.

### To access the Mod page of the amplifier:


- Click the Show Mod Page tab in the Amplifier section.



Hybrid Amplifier Mod page

**Key Track Pan** Changes the part’s position in the stereo field with MIDI note number. The control range is from –100% to +100%. The center point is in the keyboard center (middle C) and marks the center position in the stereo field. Specify a positive value to move the sound left as you play low notes and right as you play higher notes. Specify a negative value to move the sound right as you play low notes and left as you play higher notes.

**Random Pan** Use this control to offset the sound in the stereo field randomly each time you play a note. The control range is from 0% to 100%. Higher values produce greater offsets to the left and right.

 Use the Pan control to reset the stereo balance after applying modulation, if necessary.

### To assign a modulation destination:

- Click the Mod Destination selector and select a destination (Volume or Pan) from the pop-up menu.

### To select a modulation source:

- Click the Mod Source selector and select a source from the pop-up menu.

### To adjust the modulation level:

- 1 Click the Modulation Level fader for the modulation destination and source you want to adjust.
- 2 Change the value.
  - To increase the modulation, move the Modulation Level fader to the right.
  - or –
  - To decrease the modulation, move the Modulation Level fader to the left.

## Envelope Sections

Each part includes four envelopes.

**Filter Env** The Filter Envelope is unipolar, meaning it modulates in one direction only. It provides five segments: Attack, Decay1, Decay2, Sustain, and Release. The shape of the envelope is modeled after classic analog synthesizers with logarithmic attack and exponential decay and

release. In general, it modulates the Filter cutoff by the amount set by the envelope parameter of the Filter section. The modulation matrix allows for additional uses of this envelope.



*Hybrid Filter envelope*

**Amp Env** The Amplifier envelope is located to the right of the Amplifier section. The envelope is unipolar, meaning it modulates in one direction only. It provides five segments: Attack, Decay1, Decay2, Sustain, and Release. The shape of the envelope is modeled after classic analog synthesizers with logarithmic attack and exponential decay and release. The Amplifier envelope is hard-wired to the amplifier to give shape to the loudness of a sound. However, the modulation matrix allows for additional uses of this envelope.

**Mod Env 1/2** The two Modulation envelopes are located to the left of the Filter section. They share one section on the surface. Their signals are bipolar allowing for modulations in both directions, positive and negative. They provide six segments: Delay, Attack, Decay1, Decay2, Sustain, and Release. The shape is linear for all segments. By default, the Modulation envelopes are not assigned. Modulation envelopes can be used as a modulation source on all Mod pages.

#### To access a Modulation envelope:

- In the Mod Env section, click the Show Mod Env selector of the Modulation envelope you want to edit. The number highlighted in color indicates the envelope that is currently being edited.



*Hybrid Modulation envelope*

#### Graphic Editing of Envelopes

The blue lines in the control graph illustrate times and levels of the envelope. The Modulation envelopes are bipolar, and have freely adjustable levels. To support these features their graphic controls are slightly different. Basic editing of times and levels is the same for all envelopes. The start or end of a segment, or the joint between two segments, can be dragged: horizontally to adjust times and vertically to adjust levels.

#### To adjust the time of an envelope segment:

- Drag the start or end of a segment or the joint between two segments horizontally with the mouse. To decrease the segment time, drag the control to the left. To increase the segment time, drag the control to the right.

### To adjust the level of an envelope segment:

- Drag the start or end of a segment or the joint between two segments vertically with the mouse. To lower a level, drag the control down. To raise a level, drag the control up.



*On the Modulation envelopes, use Option-click (Mac) or Alt-click (Windows) to reset the level of a segment.*

### To type in a value from keyboard:

- The last edited time and level (if available) displays in the text box of the Envelope section. Type in a value in the text box for the time or level you want to adjust.

## Filter Env and Amp Env

The envelopes for filter and amplifier have five segments with the following parameters and functionality:

**Attack Time** Specifies the time needed for the attack segment to rise from zero to full amplitude. Use shorter times for an immediate start of the sound or modulation. Longer times cause the sound or modulation to fade in. The control range is from 0 ms to 32 s.

**Decay1 Time** Specifies the time for the first decay segment to fall from full amplitude to the level set by Decay1 Level. When the level is set to maximum, Decay1 Time acts like a hold time. The control range is from 0 ms to 32 s.

**Decay1 Level** Adjusts the end level for the first decay segment. Levels lower than the maximum cause the sound or modulation to fade out. The control range is from 0% to 100%.

**Decay2 Time** Specifies the time for the second decay to reach the sustain level. Depending on the sustain level and the level of the prior first decay, the envelope rises or falls during this segment. Therefore, the sound or modulation fades back in or fades further out. The control range is from 0 ms to 32 s.

**Sustain Level** Adjusts the level of the sustain segment. The envelope's signal remains on this level as long as the note is held. The control range is from 0% to 100%.

**Release Time** Specifies the time for the release segment to fall to zero when the note (key) is let off. Use shorter times for an immediate stop of the sound or modulation. Longer times cause the sound or modulation to fade out. The control range is from 0 ms to 32 s.



## Mod Env 1 and Mod Env 2

The Modulation envelopes have six segments with the following parameters and functionality:

**Delay Time** Specifies the time that elapses before the envelope starts. The control range is from 0 ms to 32 s.

**Delay Level** Specifies the initial level the envelope starts with. The envelope holds this level for the time it is delayed. This behavior is similar to a hold segment at the beginning of the envelope. The control range is from -100% to 100%.

**Attack Time** Specifies the time for the attack segment to reach its level. The control range is from 0 ms to 32 s.

**Attack Level** Adjusts the level for the attack segment. Depending on the attack level and the prior delay level, the envelope rises or falls during this segment. The control range is from -100% to 100%.

**Decay1 Time** Specifies the time for the first decay segment to reach its level. The control range is from 0 ms to 32 s.

**Decay1 Level** Adjusts the level for the first decay segment. Depending on the level of the first decay and the prior attack level, the envelope rises or falls during this segment. The control range is from -100% to 100%.

**Decay2 Time** Specifies the time for the second decay segment to reach the sustain level. Depending on the sustain level and the level of the prior first decay, the envelope rises or falls during this segment. The control range is from 0 ms to 32 s.

**Sustain Level** Adjusts the level of the sustain segment. The envelope remains on this level as long as the note is played. The control range is from -100% to 100%.

**Release Time** Specifies the time for the release segment to reach the release level when the note (key) is let off. The control range is from 0 ms to 32 s.

**Release Level** Adjusts the level of the release segment. The envelope fades to and stays on this level after the note has been released. The control range is from -100% to 100%.

## Envelope Level and Time Modulation

Each Envelope section has rotary controls, which provide access to level and time modulations from MIDI velocity or MIDI note number.

**Vel (Velocity)** Modifies the amplitude of the envelope by MIDI velocity. The control range is from -100% to +100%. With positive values the loudness of a sound or the intensity of a modulation increases the harder you hit the note. With negative values the loudness of a sound or the intensity of a modulation decreases the harder you hit the note. Use this feature to add expressiveness to your performance.

**Att Vel (Attack Velocity)** Modifies the response of the attack segment by MIDI velocity. The control range is from -100% to +100%. With positive values, the attack time increases the harder you hit the note, the envelope responds slower. With negative values, the attack time decreases the harder you hit the note, the envelope responds faster. Use this feature to mimic the attack behavior of acoustic instruments.

**Dec Vel (Decay Velocity)** Modifies the response of the decay and release segments by MIDI velocity. The control range is from -100% to +100%. With positive values, the decay and release times increase the harder you hit the note,

the envelope decays slower. With negative values, the decay and release times decrease the harder you hit the note, the envelope decays faster. Use this feature to mimic the decay behavior of acoustic instruments that decay slower the harder you play them.

**Key Track** Modifies all times of an envelope by MIDI note number. The control range is from -100% to +100%. The center point of the key tracking is at the center of the keyboard scale. With positive values, notes above the bias point are longer and notes below the bias point are shorter. With negative values, notes above the bias point are shorter and notes below the bias point are longer. Use this feature to mimic acoustic instruments that decay faster with higher notes.

## LFO Section

Hybrid features three LFO (Low Frequency Oscillator) sections per part. The LFO section is located to the left of the Amplifier section. Because the three LFOs share this section on the surface with an identical set of controls, their editing is the same for all three LFOs.

### To access an LFO for editing:

- In the LFO section, click the number of the LFO you want to adjust. The number highlighted in color indicates the LFO that is edited.

**LFOs 1 and 2** Are strictly monophonic, meaning each LFO produces one modulation signal that is distributed to all voices of a part, which is ideal for vibrato or tremolo.

**LFO 3** Is polyphonic, meaning it produces one modulation signal per voice of a part to diversify the modulation for a richer sound. The rate or speed of LFO 3 can be modulated.



Hybrid LFO3

The Wave of an LFO describes the shape of the modulation it produces. Rate specifies the speed of the modulation. The phase of the LFO describes the start point of the wave or modulation. Sync has to be active for this parameter to have an effect. To activate the phase parameter and LFO synchronization, you must choose a Sync mode. The different modes include synchronization from keyboard and tempo. Without a Sync mode set, the LFO runs freely. The amplitude of an LFO can be modulated through a selectable Modulation source with adjustable level. In addition, LFO3 offers rate modulation.

By default, the LFOs are not assigned to a Modulation destination. You can use all LFOs as modulation sources on all Mod pages. All LFOs produce bipolar modulations, modulating the destination parameter above and below its current value.

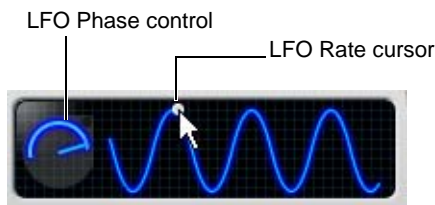
**⚠** Due to its polyphonic architecture, LFO3 offers only three synchronization modes: Each Note, Step Seq, and Note+Tempo.

## Graphic Editing of LFOs

The LFO section provides two graphic controls in its display for changing LFO Phase and LFO Rate.

**To adjust the LFO Rate, do one of the following:**

- Drag the LFO Rate cursor above the waveform display left to increase the rate. The increasing numbers of displayed wave cycles indicate the higher speed of the LFO.
  - or –
- Drag the LFO Rate cursor above the waveform display right to decrease the rate. The decreasing numbers of displayed wave cycles indicate the lower speed of the LFO.



*Adjusting LFO rate*

**To adjust the phase of the LFO:**

- 1 Select a mode from the Sync mode pop-up menu to activate LFO synchronization.
- 2 Adjust the LFO phase by dragging the LFO Phase control horizontally or vertically. The LFO Phase control indicates the starting angle of the LFO.



*Adjusting LFO phase*

## LFO Synchronization

The LFOs have six different Synchronization modes to determine how rate and phase respond to your play on the keyboard, the tempo of the song, or the internal step sequencer. This way the modulation can be matched to an envelope sweep, the beat of the song or a sequencer phrase.

When the Sync mode is set to Off, the LFO is freely running. Choose a mode from the pop-up list to activate LFO synchronization and bring Sync mode and the Phase control into effect.

Depending on the mode, the rate display switches from values in Hertz (Hz) when freely running to values in note length or multiples of step sequencer steps when running synchronized. The six modes work as follows:

**Off** The LFO is freely running with the frequency set by the Rate control. Values display in units of Hertz or seconds.

**First Note** The LFO restarts when a note is played while no other notes are held. The rate parameter indicates values in units of Hertz or seconds. Use this method to synchronize the modulation to an envelope sweep.

**Each Note** The LFO restarts whenever a note is played. The rate parameter indicates values in units of Hertz or seconds. Use this method to synchronize the modulation to an envelope sweep.

**Step Seq** The LFO restarts with Hybrid's step sequencer. The LFO rate specifies in multiples of step sequencer steps. Use this method to produce sweeps that match the length of a sequencer phrase.

**Note+Tempo** The LFO rate is specified in fractions of a beat (note length) and restarts whenever a note is played. Use it to match the modulation to the tempo of a song with a specific note length.

**Beat+Tempo** The LFO rate is specified in fractions of a beat (note length) and synchronizes to the bars and beats of the song while the transport is running. Use this to match the modulation to the tempo and meter of a song.

## LFO Parameters

The three LFOs have the following parameters and functionality:

**Wave** Selects the shape of the modulation the LFO produces. Choose one of the following wave shapes from the Wave pop-up menu:

- Sine—Smooth modulation shape curving up and down.
- Triangle—Soft modulation shape ramping up and down. The turning points at the maximum amplitude of the signal have an edge.
- Sawtooth—Downward ramp modulation shape. The signal abruptly starts with an edge at maximum positive amplitude and descends with a line forming the shape of a downward ramp.
- Square—Alternating modulation shape trilling up and down.
- S&H—Randomly stepped modulation for classic sample and hold effects.
- S&H Alternate—Randomly stepped modulation like sample and hold that always alternates between high and low steps.
- Random—Smooth random modulation.
- Drift—Quasi-analog modulation shape that compares well to variations from electronic components.

**Rate** Specifies the speed of the modulation. The control range is from 0.03 Hz to 30.00 Hz. Depending on the Sync mode rate determines the speed in fractions of a beat or multiples of step sequencer steps.

**Phase** Adjusts the starting angle of the LFO. You must choose a Sync mode to bring this parameter into effect. The control range is from 0° to 359° plus a Random setting. Choose Random for a varying starting angle with each restart of the LFO.

## LFO Depth Modulation

Each LFO can be modulated in depth (amplitude) to allow for fade-ins and fade-outs of a modulation from the LFO. For example, use one of the Modulation envelopes to shape the LFO dynamically whenever you play a note. Alternatively, you can use the modulation wheel for control over the LFO Modulation depth.

### To select a modulation source for the LFO depth

- Click the Depth Mod Source selector and select a source from the pop-up menu.

### To adjust the modulation depth:

- 1 Click the Modulation Level fader.
- 2 Change the value.
  - To increase the modulation, move the fader to the right.
  - or –
  - To decrease the modulation, move the fader to the left.

## LFO 3 Rate Modulation

In addition to depth modulation, LFO 3 allows for rate modulation. For example, use key track as Modulation source to make the Modulation rate of LFO 3 track the keyboard.

### To assign rate modulation on LFO3:

**1** Click the Mod Destination selector and select Rate or Depth from the pop-up menu.


**2** Click the Depth Mod Source selector and select a source from the pop-up menu.

**3** Change the value.

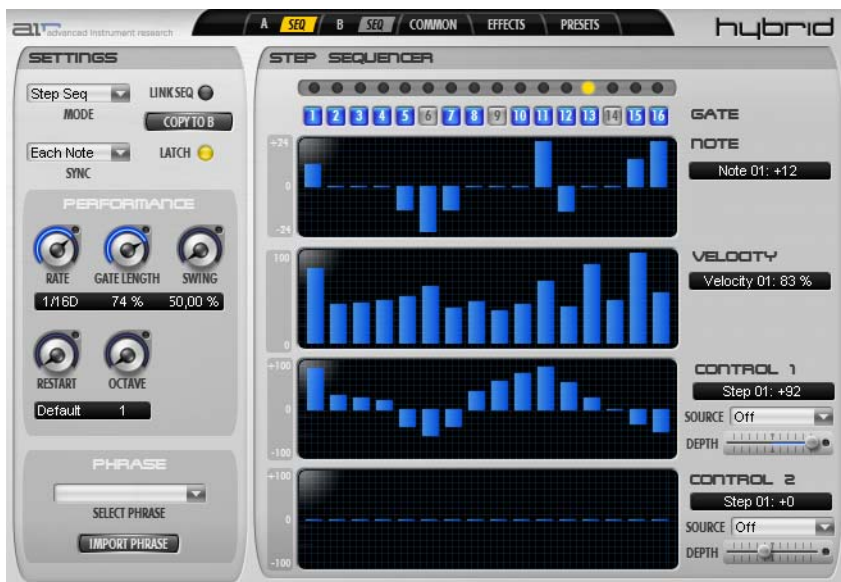
- To increase the modulation, move the fader to the right.

– or –

- To decrease the modulation, move the fader to the left.

 *The monophonic design of LFO 1 and LFO 2 does not allow for rate modulation. Therefore, depth is the only destination for LFO 1 and LFO 2.*

## Sequencer Pages



Hybrid Sequencer page

### Sequencer Overview

Hybrid features two independent step sequencers; one for Part A and one for Part B. Step sequencers play an important role in creating modern sounding patches. Both offer nine different Playback modes ranging from classic step sequences to a vast selection of arpeggios and MIDI phrases. Depending on the mode, the step sequencers can deliver both stepped modulation signals and musical phrases. The two Sequencer pages offer the same set of controls. For this reason, the following discussed controls apply to both Part A and B.

#### To access the Sequencer page:

- Click the Show Sequencer Page tab for the part you want to edit.

#### To play the sequencer or arpeggiator:

- 1 Select a sequencer or arpeggio mode from the Mode pop-up menu in the Settings section of the Sequencer page.
- 2 Play a note on the keyboard.



*Sequencer A is always assigned to Part A and Sequencer B is always assigned to Part B. For your convenience, you can link the editing of the sequencers and copy their settings from one part to the other. For more information, see “Transferring Sequencer Settings” on page 44.*

## Sequencers Lines

In the Step Sequencer section there are four different displays with sequencer lines. These lines carry values for note, velocity, and modulation. The four sequences have 16 steps each, and their timing is always synchronized. The blue vertical bars in each line illustrate the values of the steps. The Step Position LED above the sequences indicates the position of the sequence while it is playing. The steps of the sequence advance at adjustable note lengths and synchronize to the Pro Tools session tempo.

**Gate, Note, and Velocity** Below the Step Position LED, there are 16 gate buttons to play or mute each step of the note and velocity sequences. Note and velocity modulations are pre-assigned. To use them, choose the Step Sequencer mode and set the gate, note, and velocity values accordingly.

**Control** The two control sequences at the lower right are always active no matter which Playback mode you use. They appear as Seq1 and Seq2 in the sources and destinations of the Mod pages. For example, select Seq1 as a modulation source for Filter cutoff. Each control sequence has a Source selector and a Depth fader for modulating the sequences' depth with MIDI controllers. The modulation signals from the control sequences are bipolar.

### To select a modulation source for the Control Sequence's depth:

- Click the Mod Source selector and select a source from the pop-up menu.

### To adjust the modulation level:

- Use the Modulation Level fader to specify the modulation level for the control sequence's depth. The control range is from -100% to 100%.

## Editing of Sequencer Lines

You can edit a single step or draw a sequence of steps with the mouse. Additionally, use the text box to the right of each step sequencer to type in a step value.

### To edit a single step, do any of the following:

- Drag the bar of the step you want to adjust vertically. Drag up to increase the step value, drag down to decrease the step value.



*Adjust Sequencer Step*

### To draw a sequence of steps, do one of the following:

- Use Shift-click and run the mouse horizontally over the steps you want to edit.
  - or –
- Drag single bars up and down, to increase or decrease the step values.

### To type in a step value:

- 1 Click on the step you want to edit.
- 2 Click on the sequence's text box, and type in a value. For negative values, type a minus sign before the value.

## Step Sequencer Settings

In the Settings section of the Step Sequencer page, you can choose the Sequencer Playback mode and adjust the playing performance. The Settings section includes the following controls:

**Sequencer Mode** Specifies a Sequencer Playback mode or pattern to determine how the step sequencer triggers the notes from the keyboard. For more information on Sequencer Playback modes please see “Sequencer Playback Modes” on page 43.

**Link Seq** Links the behavior of the step sequencers of Part A and B. See “Transferring Sequencer Settings” on page 44 for more information.

**Copy to A/ Copy to B** Applies the settings of one step sequencer to the other. See “Transferring Sequencer Settings” on page 44 for more information.

**Sync** specifies when the sequencer or arpeggio pattern starts and when rescans of the keyboard happen whenever you hit a note. A rescan of the keyboard transmits the notes you play to the step sequencer and alters the playback of the pattern, as follows:

- **First Note**—The pattern starts with the first note you play. Playing new notes rescans the keyboard and alternates the pattern without restarting it.
- **Each Note**—The pattern starts by playing a note. Hitting new notes causes a rescan of the keyboard and restart of the pattern.
- **Beat**—When you hit a note, the pattern waits for the next beat to start the pattern or rescan the keyboard. This mode is often referred to as input quantization.

**Latch** In Latch mode, the pattern continues playing even when you release the notes on the keyboard. Hitting new notes causes a rescan of the pattern. The button is lit when Latch mode is active.



*With Latch deactivated, use the sustain pedal to temporarily put the sequencer into Latch mode.*

**Rate** chooses a note length to set the speed at which the pattern advances. In general, the note length equals the length of a step.

**Gate** Sets the gate length for all steps of the pattern. The control range is from 0% to 100%. The full gate length of 100% equals the note length set by rate.

**Swing** Delays every second step and plays it off beat. It adds swung feel to a pattern. The control range is from 0% to 100%.

**Restart** Forces the pattern to restart after the specified number of steps. The control range is 1 to 16, or Off. The parameter is especially useful with arpeggio. For example, an arpeggio with five notes running at a rate of 1/8th usually does not fit into a 4/4 beat. The pattern repeats off beat. By choosing restart after 8 steps, it restarts every first bar, after 16 steps it restarts every second bar.

**Octave** Sets the number of octaves over which the arpeggio plays. The control range is from 1 to 4.



*The octave parameter only affects the arpeggios' Playback modes.*



## Sequencer Playback Modes

The Step Sequencer features nine Playback modes. These modes determine how the input notes from the keyboard trigger through the sequencer. Depending on its mode, the step sequencer can also function as an arpeggiator or a MIDI phrase player.



*The Playback mode can be set individually per part and sequencer.*

**Off** The Sequencers including Control 1 and 2 are switched off. Notes can only be triggered from a keyboard.

**Step Seq** This mode provides a classic step sequencer behavior. Incoming MIDI notes are re-triggered by the gate steps and transposed by each step of the note sequencer. Use the gate buttons to mute steps of the sequence. This does not affect the control sequences, which always transmit their values. The steps of the velocity sequence transmit along, use higher velocity values to accent certain steps.

**Random Seq** This mode is similar to the Step Seq mode, but the steps play randomly.

**Ctrl Seq** In this mode, only the two control sequences play. The gate, note, and velocity sequencers do not transmit anything; they have no influence on the sound and notes from the keyboard trigger the way you play them. To control a synthesizer parameter through the control sequences select Seq1 or Seq2 as the modulation source within a part's modulation matrix.

**Up** This mode plays arpeggio notes in an upward direction. Notes from the keyboard trigger repeatedly in ascending order over one or more octaves. Each note plays with its original velocity. Note and velocity sequences do not transmit anything. Control sequences play along with the arpeggio. Control sequences reset to step one whenever the arpeggio restarts.

**Down** This mode plays arpeggio notes in a downward direction. Notes from keyboard trigger repeatedly in descending order over one or more octaves. Note play with their original velocity. Note and velocity sequences do not transmit anything. Control sequences play along with the arpeggio. Control sequences reset to step one whenever the arpeggio restarts.

**Up+Down** This mode plays arpeggio notes in an upwards, then downwards direction. Notes from keyboard trigger repeatedly, first in ascending then in descending order over one or more octaves. Each note plays with its original velocity. Note and velocity sequences do not transmit anything in this mode. Control sequences play along with the arpeggio. Control sequences reset to step one whenever the arpeggio restarts.

**As Played** This mode plays arpeggio notes as they are played or triggered, with their original velocity. Note and velocity sequences do not transmit anything. Control sequences play along with the arpeggio. Control sequences reset to step one whenever the arpeggio restarts.

**Random** This mode plays arpeggio notes in a random order, with their original velocity. Note and velocity sequences do not transmit anything. Control sequences play along with the arpeggio. Control sequences reset to step one whenever the arpeggio restarts.

**Phrase** This mode plays whole MIDI Phrases triggered by single or multiple notes you play. The featured phrases offer a wide range of typical playing styles in music. A note from the keyboard transposes the phrase, and triggers additional notes according to its style. Note and velocity sequences and control sequences do not transmit anything in this mode.

## MIDI Phrases

MIDI phrases can be triggered to play back when playing a note on your keyboard. Hybrid comes with over 150 factory MIDI phrases or you can load your own short MIDI files.

### To play a MIDI phrase:

- 1 Select Phrase mode in the Settings section.
- 2 In the Phrase section, click the text field or down arrow next to it and select a phrase from the pop-up menu.
- 3 Play a note on the keyboard.

### To import a MIDI phrase:

- 1 Click the Import Phrase button to open the file browser of your system.
- 2 Choose a Standard MIDI file from the file browser.

## Transferring Sequencer Settings

You can link the editing of the sequencers or copy their settings from one part to the other. This includes all settings and sequencer lines. The direction for copying is always from the source sequencer to the destination sequencer.

With link activated, the sequencer controls are linked. Any new settings on one sequencer will be applied to the both sequencers. When unlinked, the selected sequencer can be edited separately without affecting the other sequencer.

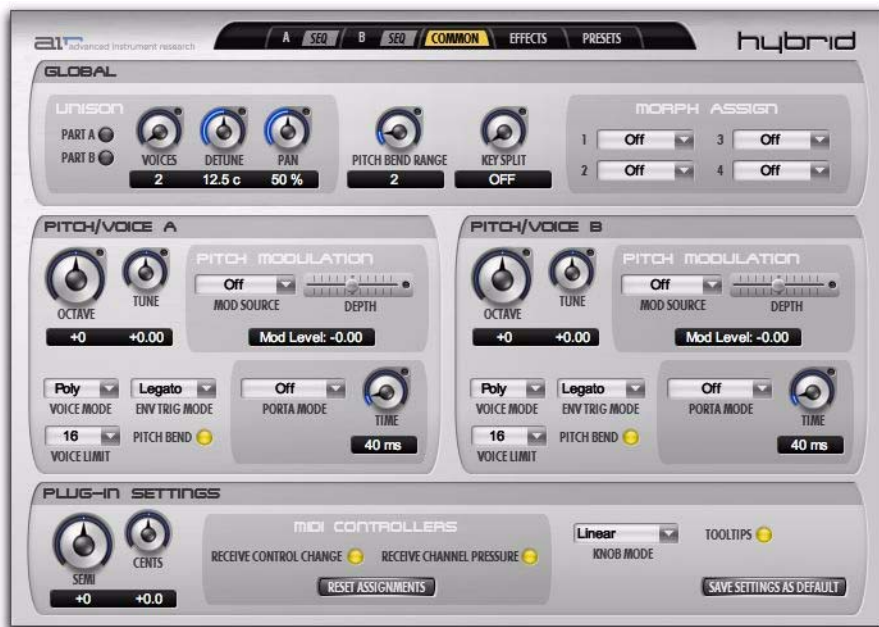
### To link Sequencer settings:

- 1 Click a Sequencer tab (Seq A or B).
- 2 In the Sequencer page, click the Link Seq button to link the Sequencer settings of Part A and B. The button is highlighted when activated.

### To copy sequencer settings, do one of the following:

- From the Seq A page, click the Copy to B button.
- or –
- From the Seq B page, click the Copy to A button.

## Common Page



### Hybrid Common page


The Common page provides additional controls that influence the overall playing behavior and general performance of Hybrid. The Common page includes the following control sections:

**Global Section** This section gives access to playing and performance oriented settings, which include Morph controls, unison, pitch bend, and key split.

⚠ *Morph controls are discussed separately in this guide. See “Morph Groups” on page 58.*

**Pitch/Voice A and Pitch/Voice B Section** These sections provide additional sound settings for Part A and B. They affect the general tuning and pitch modulation of the parts. You can limit Hybrid’s CPU demand with the Voice Limit parameter in this section. The other settings affect the voice, envelope trigger, and portamento settings for each part.

**Plug-In Settings Section** These settings provide for the basic setup of the plug-in. The plug-in settings save with the session, not with a patch. For example, you can adjust the Master Tuning of the synthesizer. The other settings affect the operation of the plug-in both from surface and by MIDI controller.

 *Global and Pitch/Voice settings save and restore with a patch through the Settings Librarian. Plug-In settings save with the session or through the “Save Settings as Default” function of the plug-in. The latter has an effect on the initialization of each new instance of the plug-in. The plug-in recalls the last saved default settings with each new instance.*

## Global Section

The Global section of the Sequencer page includes the following:

**Unison Part A/B** Unison plays the sound monophonically with multiple voices. The number of voices determines through the Unison Voices control. Use the controls to route the unison settings to a part. The switch highlighted in color indicates unison is active for a part.

**Unison Voices** Specifies the number of simultaneously played voices when unison is active. The control range is from 2 to 8 voices.

**Unison Detune** Adjusts the amount of pitch deviation between the unison voices to thicken and animate the sound. The control range is from 0.0 to 100.0 cents.

**Unison Pan** Determines the deviation of the unison voices across the stereo panorama. The control range is from 0% to 100%. Specify a medium control value to spread the voices equally across the stereo panorama. A control value of 100% plays half of the voices hard left and half of the voices hard right.

**Pitch Bend Range** Adjusts the pitch bend range from the MIDI pitch bend controller. The control range is from 0 to 24 semitones. Each part can have its pitch bend response activated or deactivated.

- 12Q—Bends the pitch one octave up and down quantized to the nearest semitone.
- Harm—Bends the pitch through harmonics 1, 2, 3, 4, 5, and 6 with the 3rd harmonic in center.

**Key Split** Sets and activates a split point by MIDI note number. Keys below the split point play Part A, while keys above the split point play Part B. Turn the control fully stop counter clockwise to deactivate the key split.

**Morph Assign Controls** For information on the Morph controls, see “Morph Groups” on page 58.


## Pitch/Voice A and Pitch/Voice B

The Pitch/Voice A and Pitch/Voice B sections provide additional sound settings for Part A and B. They affect the general tuning and pitch modulation of the parts with the following controls:

**Octave** Sets the tuning of the part in octave steps. The control range is from -2 to +2 octaves.

**Tune** Adjusts the coarse and fine tune of the part simultaneously. The control allows for steps in semitones and cents. The control range is from -7.00 to +7.00 semitones.

**Pitch Modulation** Allows for pitch modulation of a part so that all oscillators are modulated at the same time. This includes Oscillator 3 and the Sub oscillator, which have no individual pitch modulation.

 *To apply classic vibrato to a part, assign LFO1 or LFO2. Use the depth modulation of the assigned LFO to control the vibrato with the modulation wheel.*

**To select a modulation source:**

- Click the Mod Source selector and select a source from the pop-up menu.

**To adjust the modulation depth:**


- 1 Click the Modulation Level fader.
- 2 Change the value.
  - To increase the modulation, move the fader to the right.
  - or –
  - To decrease the modulation, move the fader to the left.

**Voice Mode** Sets playback to polyphonic or monophonic, as follows:


- Mono—Plays the part with one voice. Depending on the Envelope Trigger mode, overlapping notes play legato or restart.
- Poly—Plays the part polyphonic. Voice stealing does not occur unless the played notes exceed the maximum number of voices set by Voice Limit.

**Envelope Trigger Mode** The envelopes of a “stolen” note can restart from zero or they can be “picked up” just from where they are located, as follows:


- Legato—Envelopes resume from where they are located, stolen notes sound slightly different.
- Restart—Envelopes restart from zero, and every note sounds the same.

 *Legato mode mimics the behavior of vintage analog envelopes.*

**Voice Limit** Limits the maximum number of voices to the specified amount. When this parameter is set to Off, Hybrid voice limits are computer-dependent. By setting an upper voice limit, Hybrid’s CPU demand can be tailored to suit the current session. The provided settings are 2, 4, 8, 16, 32, and Off. For example, use a setting of 2 or 4 voices for a bass sound. Voice stealing happens more often with a setting this low, but this is usually okay for a bass sound.

 *Voice Limit also has a creative use: Set voice limit to a few voices. Set the Envelope Trigger Mode to Legato. Adjust the envelopes for longer times of attack and release. Play a fast step sequencer pattern and listen how the envelopes smoothly react like envelope followers.*

**Pitch Bend** Switches MIDI pitch bend on and off. A switch highlighted in color indicates MIDI pitch bend is active for the part.

 *You can adjust the pitch bend range for both parts in the Global section.*

**Portamento Mode** Portamento sounds do not reach their pitch immediately; they glide with a smooth transition from one note to another. This effect is commonly used for monophonic lead sounds. You can choose from the following modes:

- **Off**—Portamento is off. The played notes reach their pitch immediately.
- **Legato**—Portamento only applies to overlapping notes (legato). Notes with a pause in between reach their pitch immediately. Legato played notes experience a smooth transition from one pitch to the other. The transition time specifies through the portamento time.
- **On**—Portamento applies to all notes. All notes experience a smooth transition from one pitch to the other. The transition time specifies through the portamento time.

**Portamento Time** Adjusts the time for the pitch to glide between notes. The control range is from 0.00 s to 32.00 s. Higher values produce longer transitions.



*Portamento works in monophonic and polyphonic Voice mode. However, it comes best into effect with monophonic lead sounds. Therefore, set the Voice Mode control to mono.*

## Plug-In Settings

This section adjusts settings for the master tuning and the MIDI controllers of the plug-in. Additional settings let you activate or deactivate Tool Tips for plug-in controls and adjust the behavior of rotary controls. The plug-in settings are not saved with a patch. Instead, they are saved with the session.



*In a Pro Tools session, you can adjust plug-in settings that are different for each instance of the Hybrid plug-in. The session saves and restores each of these.*

**Master Tune** Changes the global tuning of the synthesizer. Use the Semi and Cents controls to correct for variations from the standard tuning of A-440 Hz.

- **Semi**—Allows for steps in semitones. The control range is from -12 to +12.
- **Cents**—Allows for steps in hundreds of a semitone. The control range is from -100 to +100.


**Control Change** Activates or deactivates the reception of MIDI continuous controllers. When the Control Change button is lit, continuous controllers are received. When the button is unlit, the plug-in ignores continuous controller messages.



*Control Change does not affect continuous controllers for modulation wheel, breath, and foot pedal, these are always received, as they are part of Hybrid's synthesis structure and modulation matrix.*

**Channel Pressure** Activates or deactivates the reception of MIDI channel after touch. When the Channel Pressure button is lit, the plug-in receives channel after touch messages. When the button is unlit, the plug-in ignores these.


**Reset Assignments** Restores the factory MIDI controller mapping.

 *For more information, see “MIDI Controller Mapping” on page 61.*


**Tool Tips** Activates or deactivates Tool Tips. A Tool Tip is a small window that shows some descriptive text for a specific control. It appears next to the cursor for the time moving the cursor over a control.

**Knob Mode** Adjusts the behavior of all rotary controls on the plug-in surface. Choose one of the following operational modes:

- **Linear**—The rotary controls are adjusted by dragging the control horizontally or vertically with the mouse.
- **Circular Absolute**—The rotary controls on the surface are adjusted by clicking the control and drawing a circle with the mouse. The control immediately jumps to the position where you click it. Draw the circle clockwise to increase values. Draw the circle counter clockwise to decrease values.
- **Circular Relative**—Same as the Circular Absolute mode, but the control adjusts relative to the position where you click it. Use this mode to avoid jumping to values when you click the control.

 *For finer adjustments in Circular Absolute and Circular Relative modes simply drag in bigger circles with the mouse, or Command-drag circle (Mac) or Control-drag circle (Windows) the control.*

**Save Settings as Default** Saves the plug-in settings and the current MIDI controller mapping as the plug-in’s default setting for your Pro Tools system. Each subsequent insert of Hybrid recalls the last saved default settings.

 *In general, plug-in settings are saved with the session. This lets you save different default settings for different sessions (or types of sessions). Additionally, this guarantees that the plug-in settings of the current plug-in and session transfer to other systems.*


## Effects Page




Hybrid Effects page

### Effects Architecture

Hybrid features two effects Inserts, connected in series, per part. They intimately integrate with the sound of the associated part. Looking at the architecture, the effects operate after all synthesis modules but before the master effects.

 For a complete list of the provided effects, see “Hybrid Part A and B Insert Effects” on page 66.

The Effects page includes two effects Inserts for each part, and a single Master Effects section for applying effects to Hybrid parts. The effects Inserts operate after all synthesis modules, but before the Master Effects.

 Effects Inserts settings can be saved and restored with the part presets or Settings Librarian. Master Effects are saved and restored with the Settings Librarian only.



## Effects Inserts


The Effects Inserts of Part A are located to the left and the effects Inserts of Part B are located to the right of the Effects page. The basic editing of the four insert effects is the same. Below the title bar of an effect Insert, there is a pop-up menu for selecting an algorithm and a button to activate tempo synchronization if applicable.

### To select and activate an effect Insert:

- Click the Insert selector and select an effect. The Insert On/Off button lights automatically to indicate the effect is active.

### To activate tempo synchronization:

- At the upper mid of the effect Insert, click the Sync button to activate it. For example, delay times or LFO rates of an effect display in fractions of a beat.


 *Not all of the available effect algorithms provide tempo synchronization. The sync option is only available when supported by the effect.*

### To deactivate the current insert temporarily:

- Click the Insert On/Off button so that the button is unlit.

### To clear the insert of any effects:

- Click the Insert selector and select None from the pop-up menu. The On button of the effect updates automatically.


 *The state of an effect is also shown on the Ins1 and Ins2 buttons in the Amplifier section of the respective part.*

## Editing Effects

Each effect algorithm is of varying complexity and unique in its sound and function. For this reason, the different effects have a varying number of valid controls. The maximum number of controls for each effects Insert is twelve. Unavailable controls are grayed out.

### To adjust a value of an effects Insert:

- Use the rotary controls of the Effect section you want to adjust.

 *Depending on the algorithm, unused controls are grayed.*



*Adjust an effects Insert*

## Master Effects



### Hybrid Master Effects section

The Master Effects section lets you apply a single effect to all parts. You can select from three effects types: chorus, delay, or reverb. Each part has a separate send level control for setting the amount of signal sent to the effect.

#### To edit chorus, delay, or reverb:

- 1 Adjust the part's send level in the Amplifier section.
- 2 In the Master Effects section of the Effects page, click the tab of the effect you want to edit. The set of controls in the section below changes accordingly.
- 3 Use the rotary knobs, pop-up menus, and text boxes to adjust values.

### Chorus

Chorus simulates the effect of multiple instruments playing together in unison. Typically, two instruments of the same kind played in unison never sound the same. The sound animates by detuning effects and usually spreads out over the stereo panorama. A similar effect is achieved by modulating the times of two delay lines and mixing them together with the original sound.

The Chorus effect also includes a Flanger mode for applying flanging effects. Flangers use smaller delays and add a feedback path to the delay lines to create electronic jet-like sounds.

**Mode** Selects the basic sound character of the effect. Select one of the following modes:

- Chorus—Applies a short modulated delay to give depth and space to the audio signal.
  - or –
- Flanger—Applies a shorter modulated delay to the audio signal, with an edgier sound.


**Rate** Adjusts the speed of the pitch modulation. The faster the more motion you have in the sound. The control range is from 0.05 Hz to 20.00 Hz.

**Depth** Adjusts the amount of pitch modulation. The control range is from 0% to 100%.

**Phase** Spreads the pitch modulation across the stereo field. The control range is from 0° to 180° and describes the phase between the left and right modulation.

**Feedback** First adds a jet-like, then a ringing tone to the effect. The control range is from -100% to +100%.

**Wet Mix** Adjusts the amount of chorus that mixes with the original sound. The control range is from 0% to 100%.

 *If you want a chorus on one part only, add a chorus to one of the part's effects Inserts, instead of to the Master Effects section.*

**On** Activates and deactivates (bypasses) the effect.

## Delay

This master effect offers classic echo effects with a twist. Typically, there is one delay for the left and right channel. The Time controls adjust the time to elapse before the input sound echoes. The feedback level sets the number of echoes or repeats. A Hi Damp control in the feedback path allows for typical dub-sound effects.

In addition to these common parameters, Hybrid's delay includes a Character control to adjust its sound quality from digital to vintage. In fact, the effect of the Character control compares well to a tape delay.

**Mode** Selects the basic layout of the feedback path for the left and right delay line. Choose one of the following modes:

- **Dual**—The feedback paths of the left and right delay lines are in parallel, meaning the left and right channels feed their outputs to their respective inputs.
- **Cross**—The feedback paths of the left and right delay lines are crossed, meaning the left channel feeds its output to the input of the right channel and the right channel feeds its output to the input of the left channel.

**Sync Button** When the Sync button is active (lit), the delay times are adjusted in fractions of a beat. When Sync is disabled (unlit), the delay times are adjusted in seconds.

**Time Left** Sets the time to elapse before the left channel repeats the input sound.

**FB Left (Feedback Left)** Adjusts the feedback level of the left channel. The control range is from 0% to 100%. The higher the value the more echoes will repeat on that channel.

**Time Right** Sets the time to elapse before the right channel repeats the input sound.

**FB Right (Feedback Right)** Adjusts the feedback level of the right channel. The control range is from 0% to 100%. The higher the value the more echoes will repeat on that channel.

**Hi Damp** Adjusts the high frequency loss of repeated echoes. This simulates the regeneration loss from analog tape echoes. The control range is from 0% to 100%. Use higher values for darker echoes.

**Character** Adjusts the basic sound quality of the delay effect from digital to vintage. The control range is from 0% to 100%. Use higher values to age the sound of the delay.

**Wet Mix** Adjust the amount of delay that mixes with the original sound. The control range is from 0% to 100%.



*If you want a delay on one part only, add a delay to one of the part's effects Inserts, instead of to the Master Effects section.*

**On** Activates and deactivates (bypasses) the effect.

## Reverb

This master effect provides a studio quality reverb. Use this effect to add spaciousness to your sounds. It offers the common reverb parameters to design a room.

**Mode** Selects one of three basic timbres or tonal qualities of the room. Choose one of the following modes:

- **Bright**—For brilliant, clear sounding spaces.
- **Natural**—Produces open, natural sounding spaces.
- **Dark**—With this type, high frequencies in the reverb tail decay faster.

**Pre-Delay** The time elapsing between the direct sound and the arrival of the first reflection is called pre-delay. The Pre-Delay control adjusts the time in milliseconds and ranges from 0 ms to 250 ms.

**Time** Adjusts the reverb time, hence the decay of the reverb tail. The control range is from 0 s to 30 s.

**Size** Adjusts the dimensions of the room. The perceived width and depth is changing. The control range is from 0% to 100%. Use smaller values for smaller spaces.

**Ambience** Puts the sound source deeper into the room. The effect is comparable to bringing up the level of ambient or overhead microphones during the mix. The control range is from 0% to 100%.

**Hi Cut** Fine adjusts the timbre or tonal quality of the reverb tail from dark to bright. The control range is from 1000 Hz to 20.000 Hz

**Wet Mix** Adjusts the amount of reverb that mixes with the original sound. The control range is from 0% to 100%.



*If you want a reverb on one Part only, add a reverb to one of the part's effects Inserts, instead of to the Master Effects section.*

**On** Activates and deactivates (bypasses) the effect.

## Presets Page



*Hybrid Presets page*

This page provides controls for the preset management of the parts and gives access to their most commonly edited synthesizer parameters.

The page splits in two halves: To the left you find the preset browser and synthesizer parameters of Part A. To the right you find an identical set of controls for Part B.

The part presets are organized with the Preset browser. As with Settings from the Librarian, there is an option for viewing the part presets from the root or session folder.

💡 *Use this feature to keep the factory part presets in the root folder and to manage your own set of part presets with each session separately in the session folder.*

You can create new patches simply by browsing the presets of Part A and B. Use the controls below the browsers to match sounds. To save a single part preset, use the save function of Hybrid's preset browser. To save a whole patch, use the Settings Librarian.

💡 *The Presets page helps you manage presets for single parts. To save a whole patch including all of Hybrids settings always use the Librarian. Refer to the Pro Tools Reference Guide for information on working with RTAS plug-ins.*

## Preset Root and Session Folders

The pop-up menu to the upper right corner of each browser lets you choose if you see the part presets of the root or the session folder. With a new session, only the root folder shows folders and presets. The session folder is empty by default. You can stay within the root folder or you can change to the session folder to save and manage your own set of presets.

### To change the folder view:

- 1 Click the Show Root/Sessions Folder selector.
- 2 Choose one of the following:
  - Root—Shows all part presets of the root folder of your Pro Tools system. This is the default folder, when you start the plug-in. The root folder contains the factory presets. You can save your own set of presets along with these.
  - or –
  - Session—Use this option to manage your own set of presets with each session separately. By default, the session folder is empty with each new session.

---

## Browsing and Loading Presets

Hybrid part presets are organized in categorized folders and can be loaded from the Presets page's browser.

### To open a folder:

- Double-click the name of the folder.

### To close a folder:

- 1 Scroll to the top of the preset list to see the first entry.
- 2 Double-click the arrow icon, to move up in the hierarchy.

### To load a preset:

- 1 Browse to locate the preset you want to load.
- 2 Double-click the name of the preset to load it.

## Preset Operations

You can save (or overwrite), delete, and rename part presets by using the Preset buttons.

### To save or overwrite a preset:

- 1 Browse to the location where you want to save the preset.
- 2 Click the Save button to open the save dialog.
- 3 Enter a name for the preset. If you use an existing name, you will be prompted to overwrite the original or cancel the save operation.
- 4 Click OK to save the preset and exit the dialog. Click Cancel to exit the dialog without saving the preset.

### To delete a preset:

- 1 Use the browser to locate the preset you want to delete.
- 2 Click the name of the preset to select it.
- 3 Click the Delete button to open the delete dialog.
- 4 Click OK to delete the preset and exit the dialog. Click Cancel to exit the dialog without deleting the preset.

### To rename a preset:

- 1 Use the browser to locate the preset you want to rename.
- 2 Click the name of the preset to select it.
- 3 Click the Rename button and type in a name for the preset.

4 Click OK to rename the preset and exit the dialog. Click Cancel to exit the dialog without renaming the preset.

## Folder Operations

You can create, delete, and rename folders by using the buttons above the browser.

### To create a folder:

- 1 Browse to the location where you want to create a folder.
- 2 Click the New Folder button to open the new folder dialog.
- 3 Enter a name that is different than an existing folder name.
- 4 Click OK to create the folder and exit the dialog. Click Cancel to exit the dialog without creating a folder.

### To delete a folder:

- 1 Use the browser to locate the folder you want to delete.
- 2 Click the name of the folder to select it.
- 3 Click the Delete button to open the delete dialog.
- 4 Click OK to delete the folder and exit the dialog. Click Cancel to exit the dialog without deleting the folder.

### To rename a folder:

- 1 Use the browser to locate the folder you want to rename.
- 2 Click the name of the folder to select it.
- 3 Click the Rename button and type in a name for the folder.

4 Click OK to rename the folder and exit the dialog. Click Cancel to exit the dialog without renaming the folder.

## Transferring Presets between Sessions

Hybrid saves all part presets in a single file next to the TFX files of the Settings Librarian. This file automatically transfers between sessions when you do a Save Copy In. See the *Pro Tools Reference Guide* for more information

Additionally, the part presets are imported with the session data from the Settings Librarian of the Hybrid plug-in. The browser indicates by its folder icon if there is more than one version of the part preset file, after Settings from the Librarian have been imported. You can access these additional versions in the same way as you browse the existing presets.

## Matching Sounds

The Synthesis controls of the Presets page offer the most commonly used parameters of Part A and B. The layout of the controls compares well to that of classic analog synthesizers. Use these to quickly edit a part after loading a preset. In addition, you can copy all settings from one part to the other.

### To copy part settings, do one of the following:

- To copy the settings of Part A to Part B, click Copy Part A to B.  
– or –
- To copy the settings of Part B to Part A, click Copy Part B to A.

## Oscillator

**Octave** Sets the tuning of the part in octave steps. The control range is from -2 to +2 octaves.

**Tune** Adjusts the coarse and fine tune of the part simultaneously. The control allows for steps in semitones and cents. The control range is from -7.00 to +7.00 semitones.

## Filter

**Cutoff** Adjusts the cutoff frequency.

**Resonance** Adds character by emphasizing the frequencies around the cutoff.

**Attack** Sets the time for the attack segment of the Filter envelope.

**Release** Sets the time for the release segment of the Filter envelope.

## Amp

**Level** Adjusts the volume of the part.

**Pan** Sets the position of the part in the stereo panorama.

**Ins 1 (Insert1)** Activates and deactivates the first insert effect of the part.

**Ins 2 (Insert2)** Activates and deactivates the second insert effect of the part.

**Attack** Sets the time for the attack segment of the Amplifier envelope.

**Release** Sets the time for the release segment of the Amplifier envelope.

---

## Morph Groups

You can assign any rotary control or fader on the plug-in surface to one of the Morph controls. Also, graphic controls such as the envelopes or LFOs can be assigned. Multiple controls assigned to one Morph control make up a Morph group. This comes in handy to control all parameters that are assigned to one single Morph control simultaneously. To allow for predictable results, each Hybrid control has an adjustable morph range. The Morph section provides the following controls:



*Hybrid Morph controls*

**Morph Controls** The main controls for the Morph groups, multiple Hybrid parameters can be assigned to one of these.

**Edit Morph Buttons** These buttons activate the editing and displaying of assigned parameters of a Morph group.

**Clear Button** A clear button allows for deleting all assignments of the edited Morph group.

All Morph group assignments and settings are saved and restored with the patch.

## Morph Group Assignment

**To assign a control:**


- 1 Choose a Morph group by clicking the according Edit Morph button.
- 2 Shift-click the control you want to assign, such as Filter cutoff.
- 3 Set the morph range by Shift-dragging the control.



#### 4 Set the control's morph range.

- To specify a morph positive in direction, Shift-drag the control, as you would to increase its value.
- To specify a morph negative in direction, Shift-drag the control, as you would to decrease its value.
- The pin on a rotary control or the knob of a fader marks the start value of the morph. The yellow corona of the rotary control or the yellow line of a fader indicates the morph range and direction.
- You can make adjustments and assignments as long as you are in Edit mode.

#### 5 Deactivate the Edit Morph button of the according Morph group to finish editing.

 *A Hybrid control can only be assigned to one Morph group at a time.*

#### To assign a graphic control:

##### 1 Choose a Morph group by clicking the according Edit Morph button.

##### 2 Shift-click the graphic control you want to assign.

##### 3 Set the morph range by Shift-dragging the control.


- With envelopes, the yellow envelope represents the values the envelope morphs to. The blue colored envelope in the background represents the original envelope. Use Shift-drag to change the yellow envelope to achieve a morph. Dragging without Shift key adjusts the blue colored envelope.

– or –

- With LFOs, Shift-click the rate cursor and drag left to increase the rate or drag right to decrease the rate through morphing. A yellow bar represents the morph range and direction.

#### 4 Deactivate the Edit Morph button of the according Morph group to finish editing.

You can make adjustments and assignments as long as you are in Edit mode.

 *Graphic controls like envelopes can only be assigned to one Morph group at a time.*

#### To view morph ranges:

##### 1 Click the edit button of the Morph group you want to view. The assigned morphs display on the active plug-in page.

##### 2 Select the page to view the control.

#### To edit morph ranges:

##### 1 Click the edit button of the Morph group you want to edit. The assigned morphs display on the active plug-in page.

##### 2 Select the page to view the control you want to edit.

##### 3 Change the morph range.

- To change the end value, Shift-drag the control.
- To change the position of the morph range (start and end value), Shift+Option-drag (Mac) or Shift+Alt-drag (Windows) the control.
- Dragging without an option key, changes the start value of the morph range.
- You can make adjustments and assignments as long as you are in Edit mode.

##### 4 Deactivate the Edit Morph button of the according Morph group to finish editing.


### To unassign a control from a Morph group:

- Option-click (Mac) or Alt-click (Windows) the rotary control, fader, or graphic control you want to unassign.

- or –

- Do the following:

- Control-click (Mac) or Right-click (Windows) the rotary control, fader, or graphic control you want to unassign.
  - From the pop-up menu, select Forget Morph.

 *Envelopes can only be unassigned through Control-click (Mac) or Right-click (Windows) mouse action.*

### To clear all morph assignments of a group:

1 Click the edit button of the according Morph group.

2 Click the clear button next to the morph edit buttons to clear all assignments of the selected group.

## Morph Group Controller

MIDI controllers give even better control over Hybrid's Morph groups. For example, use the Modulation Wheel or Aftertouch from your MIDI keyboard to have immediate control over morphs.

### To assign a MIDI controller to a Morph group:

1 Select the Hybrid Common page.

2 Make one of the following settings in the Morph Assign section for each Morph group separately:

- Off—Uses only the morph rotary control on the plug-in surface.
- Mod Wheel—Uses the modulation wheel to control the morph (CC# 01).
- Aftertouch—Uses channel pressure to control the morph.
- Pitch Bend—Uses pitch bend to control the morph.
- Foot—Uses the MIDI pedal to control the morph (CC# 04).
- Breath—Uses the breath controller to control the morph (CC# 02).




*You can also assign a continuous controller to the morph rotary controller with the MIDI controller mapping. The difference is the settings above save with the patch and the MIDI controller mapping saves only with the session.*

---


## MIDI Controller Mapping

Hybrid lets you assign standard MIDI controllers to virtually any parameter so that you can control Hybrid from a MIDI keyboard or controller.

 *Morph assignments and MIDI controller assignments do not exclude each other.*


### **To assign a MIDI controller to a parameter:**

- 1 Control-click (Mac) or Right-click (Windows) a rotary control or fader.
- 2 From the pop-up menu, select the MIDI controller you want the control to be assigned to.

 *On graphic controls like envelopes, you first select the parameter you want to assign to a MIDI controller, then proceed with the steps above.*


### **To unassign a MIDI controller:**

- 1 Control-click (Mac) or Right-click (Windows) a rotary control or fader.
- 2 From the pop-up menu, select Forget.

 *On graphic controls like envelopes, first select the parameter you want to unassign, then proceed with the steps above.*

### **To restore the factory MIDI controller assignments:**

- 1 Select the Common page of the plug-in.
- 2 Under Plug-In Settings, MIDI Controllers, click Reset Assignments.
- 3 On the pop-up window, click Yes to reset the assignments or No to cancel.

 *Clicking “Yes” cannot be undone. Any previously made MIDI controller assignments are lost.*



# Chapter 5: Hybrid Wavetables, Effects, and Default MIDI Controller Mappings

## Hybrid Wavetables

1	Liquid Nitrogen	Electronic wave sequence with random bell tones in background
2	SilverBlue	Electronic wave sequence with five wave forms and the wave forms have no root key
3	Hollow Deck	Hollow sounding wave sequence with three wave forms
4	Glass House	Bright and shiny wave sequence with three wave forms
5	Root Ride	Digital sine wave sweeping through harmonics
6	Edgy Sine	Digital sine wave that gets more and more down sampled
7	Thinned Metal	Thin and metallic sounding wave sequence with three wave forms
8	Metal Menu	Harsh and metallic sounding wave sequence with seven wave forms, three of them repeat symmetrically
9	Syncrotronic 1	Digital sync saw wave
10	Syncrotronic 2	Digital sync square wave

11	Shining Star	Shiny wave sequence with three wave forms
12	North Star	Rich metallic wave sequence with three wave forms
13	FM Harmonics	Different FM spectra sweeping through different FM ratios
14	Odd FM Sweep	Nine different FM spectra in sequence
15	Fifth Element	Two wave forms, one with missing root
16	Riddles	Four digital sine waves cross-fading between harmonics
17	Root(h)less	Two wave forms with no root
18	Reso Ride1	Digital saw wave with resonant sweep
19	Reso Ride2	Digital square wave with resonant sweep
20	Harmonic Ride	Wave sequence sweeping and cross-fading between resonant saw and square waves
21	Talkbox	Five wave forms with talk box formants
22	Vowels	Five wave forms with vowel formants

23	Male Vox	Three wave forms with male formants
24	Hollow Man	Two wave forms with odd harmonics and male formants
25	Wave Vector1	Wave Sequence with five wave forms
26	Wave Vector2	Wave Sequence with four wave forms
27	Quadra	Metallic sounding wave sequence with four wave forms
28	Evolving	Thin sounding wave sequence with high harmonics being added
29	Marky Waves	Wave Sequence with four wave forms
30	Close2The Edge	Sharp sounding wave sequence
31	Icy Lane	Cold sounding wave sequence with three waveforms
32	Too Sharp	Harsh sounding wave sequence with three wave forms
33	Ping	Wave sequence fading from hollow to bright
34	Shiny	Symmetric wave sequence with three wave forms
35	Cymbolic	Wave sequence with three metallic textures
36	Pulse Train	Four wave forms from pulse train synthesis
37	X-Ray	Wave sequence with thin digital sounding textures
38	Wave Glimpse	Three wave forms from additive synthesis

39	No Ground	Two wave forms, one with no root
40	Glacier	Two cold sounding wave forms
41	Sharp Sweep	Two wave forms fading from dark to bright
42	Mixed Feelings	Wave sequence with three waveforms
43	Shimmering	Shiny wave forms fading from dark to bright
44	Two Harsh	Two sharp sounding wave forms, one with no root
45	Detuned Saw	Mimics the sound of two detuned saw waves
46	Detuned Squ	Mimics the sound of two detuned square waves
47	Digital Saw	A digital saw wave and down sampled versions of it
48	Sine PWM	A wrapped around sine wave mimicking the sound of pulse width modulation
49	Soft Clip1	A sine wave fading to square wave through soft clipping
50	Soft Clip2	A saw wave fading to square wave through soft clipping
51	Clipotron	Digital wave form being soft clipped
52	TB Waves	Squelchy sounding square and saw waves
53	Reso Sweep	Resonant filter sweep with a saw wave
54	Pulsive Sync	Digital wave form sync sound
55	Pulsive Saw	High-pass filtered saw wave

56	Saw to Squ	Cross-fade between saw and square wave
57	Genuine Bell	Natural bell spectra, works best when modulated through an envelope
58	Bright Bell	Electronic bell spectra, works best when modulated through an envelope
59	Shiny Bell	Electronic spectra of a tiny bell, works best when modulated through an envelope
60	FM Bell	Classic FM spectra for bell sounds, works best when modulated through an envelope
61	Bellissimo	Electronic bell spectra, works best when modulated through an envelope
62	Pulsive Bell	High-pass filtered bell
63	Vector Bell	Wave sequence for bell sounds, works best when modulated through an envelope
64	Bell Tone	Wave sequence for bell sounds
65	Clang Bell	Wave sequence for bell sounds with three wave forms
66	Big Ben	Wave sequence for bell sounds with four wave forms
67	Trash Cymbal	Metallic spectrum fading out
68	Metal Grains	64 different metallic spectra
69	Grainy Bell	64 different electronic spectra for bell sounds
70	Digimania	A digital wave form and 64 down sampled versions of it

71	Grainmania	A metallic sounding wave form and 64 digitally wrapped versions of it
72	Wrapped Around	A thin sounding wave form and 64 digitally wrapped versions of it
73	Dense Matter	Thin metallic sounding wave sequence
74	Digi Formant	A digital wave form and 64 down sampled versions of it
75	Add All	Additive wave form fading from sine to saw wave
76	Add Even	Additive wave form fading from sine to all even harmonics
77	Add Odd	Additive wave form fading from sine to saw wave
78	Sweep 1 to 8	Two sine waves, one fades through the first eight harmonics.
79	Sweep 1 to 16	Two sine waves, one fades through the first 16 harmonics
80	Sweep 1 to 32	Two sine waves, one fades through the first 32 harmonics
81	Drawbars	Five different drawbar registrations
82	Octaves	Different drawbar registrations, octaves only
83	Electro Arp 1	Melodic wave sequence, works best when modulated through a saw wave LFO
84	Electro Arp 2	Melodic wave sequence, works best when modulated through a saw wave LFO
85	Robot Bells	Random bell tones
86	Silly Bells	Random bell tones

87	Three Echoes	Three decaying saw waves, works best when modulated through an envelope
88	12345	Electronic voice counting from one to five, works best when modulated through an envelope
89	Ethnic	An ethnic pluck sequence, works best when modulated through an envelope
90	Piano	Spectra from a grand piano, works best when modulated through an envelope
91	Suitcase	Spectra from a suitcase piano, works best when modulated through an envelope
92	Clavinet	Spectra from a clavinet, works best when modulated through an envelope
93	Perc Organ	Spectra from an organ with percussion and key click, works best when modulated through an envelope
94	Steel String	Spectra from a steel string guitar, works best when modulated through an envelope
95	Nylon String	Spectra from a nylon string guitar, works best when modulated through an envelope
96	Nylon Pluck	Spectra from a plucked nylon string guitar, works best when modulated through an envelope

97	Fretless	Spectra from a fretless bass, works best when modulated through an envelope
98	Pick Bass	Spectra from an electric bass, works best when modulated through an envelope
99	Sax	Spectra from a saxophone, works best when modulated through an envelope
100	Trumpet	Spectra from a trumpet, works best when modulated through an envelope

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## Hybrid Part A and B Insert Effects

**Reverb** A simple low-CPU reverb with a wide, spacious sound

Mix	Wet/dry mix
Time	Length of reverb tail
Lo EQ	Low-cut EQ
Hi EQ	High-cut EQ

**Hall Reverb** A reverb with more character and adjustable pre-delay and damping

Mix	Wet/dry mix
Time	Length of reverb tail
Pre Del	Pre-delay time, delays the wet signal to simulate larger acoustic spaces or as a slapback effect
HF Damp	Progressive damping of high frequencies to simulate a room with less reflective surfaces
Lo EQ	Low-cut EQ
Hi EQ	High-cut EQ



**Plate Reverb**

Mix	Wet/dry mix
Time	Reverb time
PreDel	Pre-delay time
Damping	High frequency damping (0% = bright 100% = dark)
Low Cut	High-pass filter frequency
High Cut	Low-pass filter frequency
Size	“Room size”—smaller settings sound like a bathroom, longer settings like a large hall
Shape	Adjusts early reflection distribution from “fast” to “slow”

**Room Reverb**

Mix	Wet/dry mix
Time	Reverb time
PreDel	Pre-delay time
Damping	High frequency damping (0% = bright 100% = dark)
Low Cut	High-pass filter frequency
High Cut	Low-pass filter frequency
Size	“Room size”—smaller settings sound like a bathroom, longer settings like a large hall
Shape	Adjusts early reflection distribution from “fast” to “slow”

**Reverse Reverb**

Mix	Wet/dry mix
Time	Reverb time
Diffusion	Affects shape and density of reverb build-up
Wet Mix	Level of reverb signal
Dry Mix	Level of dry signal at the end of the reverb signal

**Non-Linear Reverb** A “gated” reverb with a sharp cut-off

Mix	Wet/dry mix
Time	Length of reverb tail, changes the sound from dense early reflections to a trashy, grainy 80’s reverb
Lo EQ	Low-cut EQ
Hi EQ	High-cut EQ

**Early Reflections** Short, dense reverb for simulating small acoustic spaces and to thicken or blur sounds

Mix	Wet/dry mix
Time	Length of reverb tail, changes the sound from dense early reflections to a trashy, grainy 80’s reverb
Lo EQ	Low-cut EQ
Hi EQ	High-cut EQ

**Delay** Simple mono-input stereo-output delay

Mix	Wet/dry mix
Delay	Delay time (optional tempo sync)
Feedback	Feedback amount
Balance	Ratio of left delay time to right delay time
HF Damp	High-cut filter to soften delay repeats

**Stereo Delay** Stereo-input stereo-output delay

Mix	Wet/dry mix
Delay	Delay time (optional tempo sync)
Feedback	Feedback amount (optional “cross delay” where left output feeds back into right input and vice versa)
Balance	Ratio of left delay time to right delay time
HF Damp	High-cut filter to soften delay repeats

**Long Delay** Same as Delay, but with increased maximum delay time of 4 seconds

Mix	Wet/dry mix
Delay	Delay time (optional tempo sync)
Feedback	Feedback amount
Balance	Ratio of left delay time to right delay time
HF Damp	High-cut filter to soften delay repeats

**Tape Delay** Simulation of a vintage 4-head analog tape delay

Mix	Wet/dry mix
Delay	Delay time (optional tempo sync)
Feedback	Feedback amount
Vintage	Amount of vintage “color” and tape flutter
Head1	Delay time 1 (output is panned left)
Head2	Delay Time 2 (output is panned right)
Head3	Delay Time 3
Head4	Delay Time 4
Pan 3+4	Varies the panning of delays 3 & 4 from center to hard left/right
Vol 3+4	Varies the volume of delay outputs 3 & 4

**Ducking Delay** Same as Delay effect except these additional parameters:

Depth	Positive depths produce a ducking effect, where the delayed signal is attenuated while the input signal is loud, and comes up in level to fill gaps in the input signal. Negative depths produce a gating effect, where the delay signal is attenuated when the input signal is quiet.
Threshold	Gate/duck effect is triggered when the input signal level crosses this threshold. The minimum setting (“Auto”) is normally the best setting, and adapts to the incoming level.
Attack	Envelope attack time
Release	Envelope release time

**Grain Delay** A chaotic granular delay

Mix	Wet/dry mix
Delay	Delay time (optional tempo sync)
Feedback	Feedback amount
Grain	Grain size (minimum setting “Keytrack” marks the grain size track incoming MIDI notes)
Pitch	Playback speed for each grain (100% = normal speed, -200% = double speed reverse)
PMod1	Playback speed modulation, either a random or alternating up/down amount
PMod2	Playback speed modulation, either from the input signal envelope or a sine wave LFO
PM2 Rate	LFO rate or envelope tracking rate, depending on the PMod2 setting
Del Mod	Random or alternating up/down modulation of the delay time for each grain
Pan Mod	Random or alternating up/down modulation of the output pan position for each grain

**Diffuser Delay** A delay with an early reflection stage in the feedback loop to smear out each repeat

Mix	Wet/dry mix
Delay	Delay time (optional tempo sync)
Feedback	Feedback amount
Balance	Ratio of left delay time to right delay time
High Damp	High-cut filter to soften delay repeats
Diffusion	Amount of diffusion. High settings produce a random wash of delays.

**Chorus + Reverb** Efficient chorus and reverb effects in series. See the parameters for “Chorus” and “Reverb,” plus one more:

Cho<>Re v	Sets the output balance of the chorus and reverb effects
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**Chorus** Simple chorus. Can be used to “thicken” sounds

Mix	Wet/dry mix
Rate	Modulation rate (increase for more obvious pitch modulation)
Depth	Modulation depth (amount of pitch modulation)
Pre Del	Initial delay, to vary the “tightness” of the chorused voices to the dry signal

**Quad Chorus** Chorus with four independent voices for a smooth sound with no unwanted pitch modulation

Mix	Wet/dry mix
Rate	Modulation rate (increase for more obvious pitch modulation)
Depth	Modulation depth (amount of pitch modulation)
Pre Del	Initial delay, to vary the “tightness” of the chorused voices to the dry signal
Tone	High-pass/low-pass filter to adjust the color of the chorused signal
Feedback	Feedback amount for more thickness and “swirliness”

**Space Chorus** Chorus with inverted feedback above a crossover frequency for a wide sound

Mix	Wet/dry mix
Rate	Modulation rate (increase for more obvious pitch modulation)
Depth	Modulation depth (amount of pitch modulation)
Pre Del	Initial delay, to vary the “tightness” of the chorused voices to the dry signal
Crossover	Adjust the crossover frequency to stop unwanted modulation of bass frequencies.

**Ensemble** Chorus with complex modulation waveform for a more lively thickening effect

Mix	Wet/dry mix
Rate	Modulation rate (increase for more obvious pitch modulation)
Depth	Modulation depth (amount of pitch modulation)
Shimmer	Introduces faster modulation
Width	Stereo width adjustment

**Flanger** Simple flanger

Mix	Wet/dry mix
Rate	Sweep rate
Depth	Sweep depth (reduce for more swooshiness)
Feedback	Feedback amount
Pre Del	Initial delay, adjusts the minimum delay time or maximum flange frequency.

**Step Flanger** Same as Flanger, but with additional parameters

Mix	Wet/dry mix
Step Rate	Rate of an “S&H” LFO, used as a source for the Step Depth parameter.
Depth	Controls the mix between the smooth and stepped LFOs. If the rate is low and the step Rate is high, this produces an arpeggio-like effect. If the Rate is high and the Step Rate is low, a random step effect is achieved.

**Phaser** 4-pole phaser, for gentle phase shift effect

Mix	Wet/dry mix
Rate	Modulation rate
Depth	Modulation depth
Feedback	Feedback amount
Stereo	Offset between left and right modulation
Centre	Set the phase shift around which the modulation occurs, to bias the effect to higher or lower frequencies.

**Deep Phaser** 12-pole phaser for strong “talking” phase effects

Mix	Wet/dry mix
Rate	Modulation rate
Depth	Modulation Depth
Feedback	Feedback amount
Centre	Phase shift around which the modulation occurs to bias the effect to higher or lower frequencies
Env Mod	Amount of phase modulation caused by the input signal level
Env Rate	Sets how quickly/tightly the input signal level is followed.

**Bi-Phaser** Same as Phaser effect, but two phasers in series for deeper notches

**Pan/Tremolo** Autopan and Tremolo effect based on vintage electric pianos

Mix	Wet/dry mix
Rate	Modulation rate
Phase	Relative phase of left and right channel amplitude modulation to vary from tremolo to autopan
Shape	Shape of modulation from thin pulse, through sine, to fat pulse

**Stereo Width** Four-mode stereo width enhancer

Output	Output level trim
Delay	Delay time (not used in Adjust and Swap modes)
Width	Overall width adjustment
Low	Low frequency width
Mid	Mid frequency width
High	High frequency width
Mode	Adjust: Adjust existing width of stereo signal Swap: As adjust, but swaps left and right channels Comb: Synthesizes stereo with using a comb filter Haas: Synthesizes stereo width by delaying one channel

**Stereo Enhancer** Shifts the relative phase of the left and right channels

Width	Sets the overall phase difference
Stage 1	Center frequency for phase shifter stage 1
Stage 2	Center frequency for phase shifter stage 2
Stage 3	Center frequency for phase shifter stage 3
Stages	Number of active stages (1, 2, or 3)
Pan Trim	This parameter can be used to compensate for a psychoacoustic effect where the sound seems biased to one side of the stereo field because of the relative phases.

### Scanner Vibrato

Mode	Chorus 1, 2, 3 or Vibrato 1, 2, 3 (light to heavy)
Rate	Rate adjustment, relative to the original electro-mechanical effect
Depth	Pitch modulation depth adjustment
Grit	Roughness of the transition between each scanner pickup position
Amp Mod	Amount of amplitude modulation (caused by loss in the transmission line)

### Rotary Speaker

Mix	Wet/dry mix
Rate	Switches between Slow, Stop, and Fast
Drive	Input level, adding a warm overdrive as the level is increased
Lo/Hi Mix	Balance between the low frequency rotor and high frequency horn
Width	Stereo width adjustment
Freq Mod	Amount of frequency modulation (to exaggerate the “chorus” effect)
Fast Spd	Fine adjustment of the fast rotor and horn speeds
Slow Spd	Fine adjustment of the slow rotor and horn speeds
Crossover	Crossover frequency between the horn and rotor
Horn Reso	Adjust the resonance of the horn for a more colored sound

**Pitch Shift** Classic 1980’s low-budget pitch shifter. Useful for sound effects

Mix	Wet/dry mix
Left	Pitch shift amount left channel, $\pm 12$ semitones
Right	Pitch shift amount right channel, $\pm 12$ semitones
Delay	Delay time, increase for a smoother detune but more obvious “slapback” on dynamic signals.

**Detune** Classic detune effect for a smoother detune than chorusing

Mix	Wet/dry mix
Detune	Detune amount in cents. Left channel is detuned down, right channel up
Delay	Delay time, increase for a smoother detune but more obvious “slapback” on dynamic signals.

### Vintage Filter

Mix	Wet/dry mix
Cutoff	Adjusts the frequency at which the signal is attenuated.
Reso-nance	Adds a peak around the cutoff frequency, high settings make the filter self-oscillate.
Mode	Filter type: Low-pass 6/12/18/24 dB/oct, band-pass, and high-pass
LFO Rate	Adjusts the modulation speed.
LFO Depth	Depth of cutoff modulation by a sine wave or sample & hold LFO
Env Depth	Depth of cutoff modulation by the input signal level
Env Mode	Envelope mode: Follow—Tracks the input signal level A-R—MIDI triggering of a decaying envelope A-S-R—MIDI triggering of a sustaining envelope LFO Rate—input signal level modulates LFO rate LFO + Env—combination of “Follow” and “LFO Rate” modes
Attack	Envelope attack time
Release	Envelope release time
Mode	Switch between mono and stereo operation

### Wah Pedal Wah-wah pedal effect

Mix	Wet/dry mix
Rate	Modulation rate (optional tempo sync)
Depth	Modulation depth
Pedal	Pedal position, adjusts filter frequency.
Mode	Auto: Envelope modulation Pedal: No modulation, use pedal Mod: LFO modulation
Reso	Filter resonance
Tracking	Adjusts envelope tracking speed in Auto mode, envelope rate modulation in Mod mode.

### Talkbox Modulated vowel formant filter

Mix	Wet/dry mix
Rate	LFO modulation rate (optional tempo sync)
Depth	LFO modulation depth
Vowel	Center setting: vowel produced when there is no modulation
Env Mod	Amount of modulation of vowel by input signal level
Env Att	Rate of response to a rising input signal level
Env Rel	Rate of response to a falling input signal level

**Shelf EQ** Simple tone control

Output	Output level trim
Bass	Low frequency cut/boost
Treble	High frequency cut/boost

**Parametric EQ** Two-band equalizer

Output	Output level trim
Gain 1	Cut/boost amount
Freq 1	Cut/boost frequency
Width 1	Cut/boost width
Gain 2	Cut/boost amount (second band)
Freq 2	Cut/boost frequency (second band)
Width 2	Cut/boost width (second band)

**Enhancer** Psychoacoustic spectrum shaping

Hi Depth	High frequency boost, combined with mid cut
Hi Tune	High/mid tune
Lo Depth	Low frequency boost
Lo Tune	Low frequency tune

**Distortion** Hard clipping distortion

Mix	Wet/dry mix
Drive	Distortion amount
Bias	Distortion character, adjusts the balance between even and odd harmonics.
Out	Output level trim
Tone	Distortion tone

**Overdrive** Softer distortion with a gradual onset

Mix	Wet/dry mix
Drive	Overdrive amount
Bias	Overdrive character, adjusts the balance between even and odd harmonics.
Out	Output level trim

**Bit Reduction** Digital “Lo Fi” quality degradation

Mix	Wet/dry mix
Rate	Simulated sample rate
Depth	Sample bit depth
Slew Rate	Maximum rate of change of output waveform, for a soft, woolly frequency-dependant distortion
Mode	Linear or companding, sets if the bit depth is fixed or depends on the signal level.



### Amp Simulator

Mix	Wet/dry mix
Model	Selects an amplifier model, drastically changes the tone character.
Drive	Distortion drive amount
Feedback	Feedback amount (result depends on input signal)
Treble	Treble boost—optionally in or out of phase for different tones
Mode	Mono/Stereo operation, Mono saves CPU and in some cases sounds more solid.

### Tube Drive

Mix	Wet/dry mix
Drive	Adjust input gain and amount of overdrive
Clip	Select hard or soft clipping
Bias	Add a DC offset so negative peaks clip earlier than positive peaks, emphasizing 2nd-harmonic distortion
High Cut	Low-pass filter to reduce harshness
Low Cut	High-pass filter to allow low frequencies through without overdrive
Mode	Switch between mono and stereo operation

### Limiter Hard level limiting

Output	Output level trim
Drive	Input signal drive (increase for more limiting)
Attack	Attack time
Release	Release time

### Compressor Level compressor

Output	Output level trim
Thresh	Compression threshold
Ratio	Compression amount
Attack	Attack time
Release	Release time

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## Hybrid Default MIDI Controller Mappings

Part	Section	Parameter	Controller	MIDI Specification
Part A	Pitch/Voice	Octave	3	undefined
		Tune	9	undefined
		Glide Mode	65	Glide Mode
		Glide Time	5	Glide Time
	Oscillator1	Type	15	undefined
		Shape	20	undefined
		Semi	21	undefined
		Cent	22	undefined
		Level	23	undefined
	Oscillator2	Type	24	undefined
		Shape	25	undefined
		Semi	26	undefined
		Cent	27	undefined
		Level	28	undefined
	Oscillator3	Type	29	undefined
		Octave	30	undefined
		Level	31	undefined
		Sub Osc	33	undefined
		Noise	34	undefined

Part	Section	Parameter	Controller	MIDI Specification
	Filter	Type	35	undefined
		Cutoff	36	undefined
		Resonance	37	undefined
		Env	38	undefined
		Key Track	39	undefined
		Saturation	40	undefined
		Attack	41	undefined
		Decay1	42	undefined
		Level 1	43	undefined
		Decay2	44	undefined
		Sustain	45	undefined
		Release	46	undefined
	Amp	Volume	47	undefined
		Pan	8	Balance
		Ins1	48	undefined
		Ins2	49	undefined
		Chorus	12	Effect Ctrl1
		Delay	13	Effect Ctrl2
		Reverb	14	undefined
		Attack	50	undefined
		Decay1	51	undefined
		Level1	52	undefined
		Decay2	53	undefined
		Sustain	54	undefined
		Release	55	undefined
	LFO1	Rate	56	undefined
	LFO2	Rate	57	undefined
	LFO3	Rate	58	undefined

Part	Section	Parameter	Controller	MIDI Specification
	Sequencer	SSeq Mode	59	undefined
		SSeq Latch	60	undefined
Part B	Pitch/Voice	Octave	61	undefined
		Tune	62	undefined
		Glide Mode	63	undefined
		Glide Time	67	Softpedal
	Oscillator1	Type	68	Legato Switch
		Shape	69	Hold2
		Semi	70	Sound Controller #1
		Cent	71	Sound Controller #2
		Level	72	Sound Controller #3
	Oscillator2	Type	73	Sound Controller #4
		Shape	74	Sound Controller #5
		Semi	75	Sound Controller #6
		Cent	76	Sound Controller #7
		Level	77	Sound Controller #8
	Oscillator3	Type	78	Sound Controller #9
		Octave	79	Sound Controller #10
		Level	80	General Purpose 5
		Sub Osc	81	General Purpose 6
		Noise	82	General Purpose 7

Part	Section	Parameter	Controller	MIDI Specification
	Filter	Mode	83	General Purpose 8
		Cutoff	85	undefined
		Resonance	86	undefined
		Env	87	undefined
		Key Track	88	undefined
		Saturation	89	undefined
		Attack	90	undefined
		Decay1	102	undefined
		Level1	103	undefined
		Decay2	104	undefined
		Sustain	105	undefined
		Release	106	undefined
	Amp	Volume	107	undefined
		Pan	108	undefined
		Ins1	91	Effect1 Depth
		Ins2	92	Effect2 Depth
		Chorus	93	Effect3 Depth
		Delay	94	Effect4 Depth
		Reverb	95	Effect5 Depth
		Attack	109	undefined
		Decay1	110	undefined
		Level1	111	undefined
		Decay2	112	undefined
		Sustain	113	undefined
		Release	114	undefined
	LFO1	Rate	115	undefined
	LFO2	Rate	116	undefined
	LFO3	Rate	117	undefined

Part	Section	Parameter	Controller	MIDI Specification
	Sequencer	SSeq Mode	118	undefined
		SSeq Latch	119	undefined
	Morph1		16	General Purpose 1
	Morph2		17	General Purpose 2
	Morph3		18	General Purpose 3
	Morph3		19	General Purpose 4

# Chapter 6: Hybrid Patch List

The following Pro Tools plug-in presets (plug-in settings files) are installed with Hybrid:

## 01 Soft Pads

- 01 Under Water
- 02 Big Sur
- 03 Blue Bell Pad
- 04 Anna Sweep
- 05 Supersmooth Pad
- 06 Slow String Pad
- 07 Calm Finally
- 08 Relaxation
- 09 Soft Square Pad
- 10 Choiresque Pad
- 11 Dual Saw Pad
- 12 Fluffy
- 13 Mystic Choir
- 14 Digital Stars
- 15 Eternal Moan
- 16 Soft Trance Pad
- 17 Liquid Nitrogen Pad
- 18 Nice 5 Pad
- 19 Other World
- 20 Soft Sine Pad
- 21 Thin Pad
- 22 Heaven Calling
- 23 Warm Waves
- 24 Phaserwaves
- 25 Piano Support
- 26 Warm String Pad

- 27 High Lander
- 28 Nice Octave Strings
- 29 Noisy Crackles
- 30 Monastery Choir
- 31 Horn Section Pad
- 32 Rich PWM Pad
- 33 Darko
- 34 Stereo Pad
- 35 Super Warm Pad
- 36 Simple Trance Pad
- 37 Rich String Pad
- 38 Warm Square Pad
- 39 Warm Digi Pad
- 40 Cosy Square Pad
- 41 Slow PWM Pad
- 42 Vintage Horns
- 43 Warm Chamber Strings
- 44 Soft BP Sweeper
- 45 Vintage Power
- 46 Warm Phaser Pad
- 47 Phasing Stringz
- 48 Soft Swell
- 49 Dual Square Pad
- 50 Bi-Phase Pad
- 51 Hollow Pad
- 52 Soft Warm Pad

## **02 Bright Pads**

- 01 Band Rejector Pad
- 02 Rich Waves
- 03 Beez Pad
- 04 Shooting Star
- 05 Nice Saw Pad
- 06 Epic Pad
- 07 Into The Blue
- 08 Free Wheely
- 09 Rich Digi Pad
- 10 Big PWM Pad
- 11 Jetstream
- 12 Fuzzy
- 13 Garden Of Glass
- 14 Soundtrack Pad
- 15 Metal Flange
- 16 Open Up
- 17 Bright Bubbler
- 18 Bright Strings
- 19 Direct Now
- 20 Give Me A Second
- 21 Hi Pass Sweeper
- 22 Shining Star
- 23 Crispy Wave
- 24 Like A Nanotron
- 25 Trance Pad
- 26 70s String Ensemble
- 27 Bridemaker
- 28 Massive Trance Pad
- 29 Pipedpad
- 30 Paddy
- 31 Vintage Strings
- 32 Saw Multi Sweep
- 33 PWM Strings
- 34 Hybrid Strings
- 35 Symphonic Pad

- 36 Power Strings

- 37 Eighties Pad

- 38 Level 40 Pad

## **03 Moving Pads**

- 01 Sidechain Pad

- 02 Superswell

- 03 Propulsion

- 04 Constant Move

- 05 Digital Shimmering

- 06 Filter Pad

- 07 Fat Fantasy

- 08 Up

- 09 Golden Gate Cruise

- 10 Never Stand Still

- 11 Merlins Vision

- 12 Release Defined Additive

- 13 Star Glow

- 14 Stereo Pad

- 15 Fat Fantasy

- 16 Bubbling Metal

- 17 Sid Pad

- 18 Angel Voices

- 19 Repeater Sweeper Pad

- 20 Casiopeia

- 21 Distant Mover

- 22 Organic Silence

- 23 Hybrid Windchimes

- 24 Meditation Sweep

- 25 Pulser Pad

- 26 Swoosh Pad

- 27 Space Pad

- 28 Deep Phase

- 29 Space Organ

- 30 Electron Pad

- 31 Flanged Dreams

- 32 Razor Blade Pad



33 Phaser Waves  
34 Strange World  
35 Scattering Bell Pad  
36 Deep Under  
37 Sad Motion Pad  
38 Vintage Thrill  
39 Synchro Sweep  
40 Flanged Dreams  
41 Glamour Pad  
42 Highpass Dream Sweep  
43 Broken Pad  
44 My Favourite Noise  
45 Squared CM  
46 Soft Wonderland  
47 X-Ray Pad  
48 Classic SH Pad  
49 Power Sweep  
50 Galaxy Noise Pad  
51 Digi Motion Pad  
52 Whale Padwaves  
53 Sidharthas Dream

#### **04 Action Pads**

01 8th Auto Pluck Poly  
02 Chaser Pad  
03 Belly Arp Pad  
04 Pure Joy  
05 Gater Paradise  
06 New Worlds  
07 Pushing Beat  
08 Psychedelic  
09 Tension Pad  
10 Bali Nights  
11 Lovely  
12 Wonderland  
13 Break  
14 Out Of Groove

15 Red Balloon  
16 Sad Pad  
17 Sky Chef  
18 Gater Split  
19 Bombasto Split  
20 Dig Dug  
21 Galaxy Organ  
22 Endless 1  
23 Groovepad 01  
24 Sounds Like What  
25 Auto Trance  
26 Wahzap  
27 Groovepad 02  
28 Stepper  
29 Endless 2  
30 TheMatic  
31 Hybrid Gater  
32 Solar Ocean  
33 Blue Snapper  
34 Trance Master  
35 German Wonder Boys  
36 Space Clock  
37 Choppy Pad  
38 Arpy Atmos  
39 Operator Waiting

#### **05 Arpeggios**

01 Glass Arp  
02 Acid Arpeggio  
03 Kraftwerk Bass  
04 Star Glitter  
05 Clean Beauty  
06 Tee Bee Fill  
07 Thin To Thick Modwheel  
08 Trance Overdrive Rhythm  
09 303 Like  
10 Filter Sine Arp

11 Nice And Strong  
12 Quite Funny  
13 Go To Sleep  
14 Arpsichord  
15 Classic Squ Arp  
16 Saws Gone Wild  
17 Spring Time  
18 Trance Arp  
19 Big Waving Arp  
20 Peaceful  
21 Bright Arp  
22 On And On And On  
23 Walking  
24 Glasses  
25 Pseudo Arp  
26 Rocking Monk  
27 Soft Arp  
28 Squ CM Arp  
29 Dreamy Saw Arp  
30 Illusions Arp  
31 Fast And Furious  
32 Madness  
33 Metal Arp  
34 Synchron Arp  
35 Bubble Bobble  
36 MW Arpeggio  
37 Zapping Saw Arp  
38 Vintage Echo Arp

## **06 Sequenced**

001 Auto Boost Seq  
002 Burning Acid  
003 Crushed on U  
004 Chase Me If You Can  
005 E-Groove  
006 Kidz R Fooled  
007 Simple But Nice

008 Miami Action Bass  
009 Polyrhythmic  
010 Acidizer  
011 Military Rhythm  
012 Drum Sings Melody  
013 Tough Guy  
014 Auto Sync Bass  
015 Heart Lead  
016 Wind Beat  
017 AutoBassPhrase  
018 Beat Me  
019 Funky Thing  
020 Movie Bass Sandal  
021 Bass To Dub Seq Modwheel  
022 Cheap Acid 1  
023 Extreme Flexible  
024 Groovy Lead  
025 Oldschool School  
026 Harmonic HiHat  
027 Red Bass  
028 Red Beat  
029 Ride In The Night  
030 Arcade Toms  
031 Autogroove  
032 Digger  
033 Itching and Scratching  
034 Majestic  
035 Simply Green  
036 Something Groovy  
037 Tension Bells  
038 Minimi Bass  
039 Mystic Theme  
040 Depe Che  
041 Movie Bass Action  
042 Optimum  
043 Deep Bassline

044 Drummer In My Room  
045 Happy Arcade  
046 Heavy Load  
047 Jungle Fever  
048 Nervous Groove  
049 Phasing Away  
050 Deep Neuro Crisis  
051 Pluck Melody  
052 Chorst  
053 Random Chorder  
054 Soft Phraze  
055 Battle Scratch  
056 Clic Clac  
057 E-C-D-C  
058 Little Phatty  
059 Spiral Sweeps  
060 Trancebahn  
061 Animalic  
062 Beat Monster  
063 Beauty Fill  
064 Dual TeeBee  
065 Beat Deluxe  
066 Early Birds Groove  
067 House Chordstack  
068 Prophecy Groove  
069 Escape NY  
070 One Finger Groove  
071 Say That You Want Me  
072 Glassy Artefacts Seq  
073 Run Baby Run  
074 Noiced Trance Seq  
075 Right Nyder  
076 Quirky Bass  
077 Cheap Acid 2  
078 Quirky Bass Seq  
079 Reso Rain

080 Reso Whip  
081 Rollercoaster  
082 Cheap Chip  
083 Contrapuntal Bass Seq  
084 Hard One  
085 Eight-Bit Groove  
086 FM Groove  
087 Belly Grooves  
088 Electronix Beat  
089 Crazy Thing  
090 Groove Theatre  
091 Noise Groove  
092 Reactor Tilt  
093 Slim  
094 Vintage Groove  
095 Allpass Chordstack  
096 Modern 2 Vintage  
097 Dubby  
098 Stomp!  
099 Forward Back  
100 SH Auto Action  
101 Shake Monster  
102 Synth Pluck

## **07 Poly Synths**

01 Bombastic Wave Theme  
02 Brassy  
03 Dance Poly  
04 Euro Express  
05 Hi Carb Poly  
06 Hybrid FM Keys  
07 Metal Wave Poly  
08 Morphys Law  
09 Perky Sync  
10 Prophetic Poly  
11 Clavinet on Steroids  
12 Piunnnguin

- |                          |                        |
|--------------------------|------------------------|
| 13 Pulsing 5ths          | 49 70s Smack           |
| 14 Time Bomb Poly        | 50 Overdriven Underdog |
| 15 Chord Master          | 51 Digi Stack Keys     |
| 16 Trance Stabs          | 52 Positivityvity      |
| 17 Always Loud And Clear | 53 Hybrid Brass Poly   |
| 18 Wave Stack Keys       | 54 Lush PWM Poly       |
| 19 Nice Glass            | 55 Multi Saw Brass     |
| 20 Rotarier              | 56 Nice PWM Keys       |
| 21 Peeling               | 57 Poly Funk           |
| 22 Rubber Cage           | 58 PWM Decay Sweep     |
| 23 South                 | 59 Power Stabs         |
| 24 Synthetic Harp        | 60 Tinitus Killer      |
| 25 Trance Stabs Modwheel | 61 80s Brass           |
| 26 Candle In The Wind    | 62 80s Saw Swell       |
| 27 Supercleaner          | 63 Rich Poly Keys      |
| 28 Vowel Keys            | 64 Say Yes             |
| 29 Westcoast Chords      | 65 Brassy Poly         |
| 30 Danger Boy            | 66 CM Brass            |
| 31 Synth Orchestra       | 67 Crossmod Keys       |
| 32 Wideboy Poly          | 68 Ever Been To Japan  |
| 33 11bit Classic         | 69 Detuned Saws        |
| 34 Modern Keys           | 70 Dual PWM Poly       |
| 35 Poly Chords           | 71 Dual Saw Poly       |
| 36 Sky High              | 72 Funky Reso Brass    |
| 37 West Wave             | 73 Harsh Echo Pluck    |
| 38 PWM Pluck Poly        | 74 Pling Keys          |
| 39 Synthetic Horns       | 75 Above The Clouds    |
| 40 Shiver Bell           | 76 PWM Poly            |
| 41 Multi Saw Decay Keys  | 77 Modern Poly         |
| 42 Biting BP             | 78 Bellish Keys        |
| 43 Skyline               | 79 Orbit               |
| 44 Quack Poly            | 80 Rock Poly           |
| 45 Bitty Noiz            | 81 Grinding Saws       |
| 46 Spitting Brass        | 82 Thick Squ Swell     |
| 47 Thick Saws            | 83 Quick Brass         |
| 48 Woody Poly            | 84 Classic Brass       |

## **08 Keyboards**

- 01 Ballad EP
- 02 70s Stage Ballade
- 03 70s Stage Tremolo
- 04 80s Stage Ballade
- 05 B5493
- 06 Magnetiq
- 07 Phaser Stage Piano
- 08 Those Were The Days
- 09 Tribute To Jimmy
- 10 Amped EP
- 11 Analog Clav
- 12 Reso Piano
- 13 Direct Wurlizer
- 14 This One Has Soul

## **09 Bells**

- 01 Bells Pad
- 02 Hybrid Wave Bells
- 03 Ancient Bell
- 04 Clear Bells
- 05 Metallic Bell
- 06 Discrete
- 07 FM Bells
- 08 Quadra Bell
- 09 Big Ben Bell
- 10 Electric Yogi Bell
- 11 Prophecy Synth
- 12 Simple Bell
- 13 Freedom Bells
- 14 Nippon Bell
- 15 Wind Game
- 16 So Damn Clean

## **10 Percussive**

- 01 Sonar
- 02 Tuned Noise Perc
- 03 Dynamic Sync Pluck
- 04 Mallet Maker
- 05 Pop Plop
- 06 Sub Boom Tom
- 07 Tape Echo Bell
- 08 FM Percussion
- 09 Poly Toms
- 10 Harmonyx
- 11 Metal Perk
- 12 Lush
- 13 Metal Pluck
- 14 Hardcore
- 15 Noise Toms
- 16 Snap Control Kick
- 17 Multi Saw Keys
- 18 Plucked WaveHarp
- 19 Simple PWM Pluck
- 20 Clock Drum
- 21 Dark Bell
- 22 Hard Kick
- 23 Metal Tom
- 24 Crash Boom Bang
- 25 Kick Killer
- 26 Shorty Saws
- 27 Soft Pulse Keys

## **11 Basic Basses**

- 01 Analog Bass Straight
- 02 Analog Pluck Bass
- 03 Basic Disco Bass
- 04 Big Kick Bass
- 05 Bass 106
- 06 Blunt Squ Bass
- 07 Bones Bass
- 08 Deep PWM Bass
- 09 Deep Tekkno
- 10 Fat 90s Bass
- 11 Knocking PWM Bass
- 12 Low Saw Bass
- 13 Noise Bass
- 14 Pulsing Bass
- 15 PW Bass Straight
- 16 PW Mini Bass
- 17 Rigid Bass
- 18 Thump Bass

## **12 Soft Basses**

- 01 Flappy Bass
- 02 Jupe Bass
- 03 Moog Bass Chorus
- 04 MW Transformer Bass
- 05 Robins House Bass
- 06 Trance Bass
- 07 70s Smack Bass
- 08 BMan Begins Bass
- 09 Fat Sync Bass
- 10 Hollow Sequencer Bass
- 11 Wormble
- 12 Pink Pick Funk
- 13 Sinoid DnB Bass
- 14 Multimoog PWM Bass
- 15 Multisaw Moog Bass
- 16 Ned Flangers

- 17 Noir Squares
- 18 Wave Rider
- 19 Katchua
- 20 Platitude Reso Bass
- 21 Frogger
- 22 New Wave
- 23 Soft Smack Bass
- 24 Super Zap Bass
- 25 Moving Bass
- 26 UniBass
- 27 Very Stereo
- 28 80s Sequencer Bass
- 29 Creamy Bass
- 30 Fingered Nile Rogers
- 31 Fretless Like
- 32 Giant Soft Bass
- 33 Pure Funk
- 34 Noise Tone Bass
- 35 Soft Detuned Saw Bass
- 36 Trash Square Sub Bass
- 37 Unisaw Bass
- 38 Werewoof Bass
- 39 Platitude Oct Saw Bass
- 40 Soft Soul Bass
- 41 Clicky Sub Bass
- 42 Deep Dark Saws
- 43 House Organ Bass
- 44 Phat PWM Bass
- 45 Sluggish Pulse Bass
- 46 Transistor Bass Saw
- 47 Transistor Bass Squ
- 48 Deep Soft Bass
- 49 Soft CM Bass
- 50 Soft Multi Bass
- 51 Soft Reso Bass
- 52 Solid Dark Bass

### **13 Hard Bases**

- 01 Fuzz Face Bass
- 02 Hollow Zapper
- 03 Knocknoise Bass
- 04 Mountain Mover
- 05 Natural Born Raver
- 06 Transistor Bass Hardcore
- 07 UniFuzz Bass
- 08 Woodpecker Bass
- 09 Collapsing Sine Bass
- 10 Cave Base
- 11 Deep DnB Bass
- 12 Blue Disto Bass
- 13 Low Battery
- 14 Fat MKS80 Bass
- 15 Huge Saw Bass
- 16 Down Under
- 17 Monster Town Bass
- 18 Eight Bit Acid
- 19 Oversight
- 20 Scorpio Bass
- 21 Smack Attack Bass
- 22 Muugy
- 23 TeeBee
- 24 Tyrannosaurus Bass
- 25 Hardly Distorted
- 26 Zapping
- 27 Berlin Bass
- 28 Big Bottomed Sync
- 29 Talk To Me
- 30 Deep BP
- 31 Keep Rollin
- 32 Dynamic Bass
- 33 Famous Dx Bass
- 34 FM Like Bass
- 35 Monster Bass

- 36 Phaseraver
- 37 Plucked Woody Bass
- 38 Spike FM Bass
- 39 Sub Sync Bass
- 40 Wired Bass
- 41 Bad Temper Bass
- 42 Famous Bass 1
- 43 Famous Bass 2
- 44 FFM Bass
- 45 Frying Bacon Bass
- 46 Noiced Bass
- 47 Criss Cross Bass
- 48 Crooked Squ Mix
- 49 Disto Sweep Bass
- 50 SM
- 51 Mean Bass
- 52 PWM Buzz Bass
- 53 Reso Bass
- 54 Robot Bass
- 55 Saturated Mini Bass
- 56 Square Gnarz 1
- 57 Square Gnarz 2
- 58 Super Analog Bass
- 59 Sweeping PWM Bass
- 60 Ultra CM Bass
- 61 Video Game Bass
- 62 Big Pulse Bass
- 63 Phatsonic Bass
- 64 Reverse Sync Bass
- 65 Spitting Sequencer Bass
- 66 Staccato Bass
- 67 Vintage Drift Bass
- 68 Classic Funk Bass
- 69 Biting Pulse Bass
- 70 Gnarz Bass 1
- 71 Growling Bear Bass

72 Octave Saw Bass  
73 Ouw Bass  
74 Rich PWM Bass  
75 Da Bomb Sync  
76 Gnarz Bass 2  
77 Buzz Bass  
78 LoFi Squ Bass

#### **14 Drones**

01 Pitch Drift Drone  
02 Earthquake Drone  
03 Dark Sweep Drone  
04 Huge Drone  
05 Noise Swell Bass  
06 So Damn Nice  
07 Animated Drone  
08 Moog Bass Drone  
09 Grinch Bass  
10 Membrane Killer Sub

#### **15 Soft Leads**

01 Sineish Lead  
02 Square Bubbley Lead  
03 Synth Horn Lead  
04 Uni Square Lead  
05 Vintage Saw Lead  
06 Blade Lead  
07 Asian Pipe Dream  
08 Analog Square Lead  
09 Liquid Nitrogen Lead  
10 Classic 70s Lead  
11 Modwheel Hero  
12 Whistling In The Wind  
13 Oxygene  
14 Super Electro  
15 Monorgan  
16 Perc Mix Lead

17 Soft Square Lead  
18 Soprano Lead  
19 Funk Me Babe  
20 Talking Phase Lead  
21 Theremin Vox  
22 Thin Analog Lead  
23 Clean Saw Lead  
24 Spirituality  
25 Alpha Leader  
26 Dirt Cream Lead  
27 Sky Lead  
28 Hangar Melancholy  
29 Mercury Flow  
30 Multimoog Lead  
31 Parliment Lead  
32 Sad Filter Lead  
33 Tri Flute Lead  
34 Dreamy Flute  
35 Comm On Dore  
36 Drifting Horn Synth  
37 PPGed  
38 High Up Lead  
39 Perc Square Lead  
40 Platitude Trump Lead  
41 Pulsing Lead  
42 Quintage Solo  
43 Without Hope  
44 Singing Filter Lead  
45 Singing Saw Lead  
46 Soft Pulse Lead  
47 Tri Pulse Lead  
48 Velo Pulse Lead  
49 Dual Saw Lead  
50 Dual Saw Soft Lead  
51 Nice And Simple  
52 Fat Square Lead



53 Filter FM Fat Lead  
54 MonoPoly-Whine  
55 Organic  
56 Real High Solo  
57 Softish Lead  
58 Tape Flute Lead  
59 Throaty Lead  
60 Fanfare Solo  
61 Profound Lead  
62 PWM Solo  
63 Singing Lead  
64 Soft Square Solo  
65 Analog Viola  
66 Analog Violin Lead  
67 Clean Square Lead  
68 Pulsive Perc Solo  
69 Ancient Flute Lead  
70 Bass Flute

#### **16 Hard Leads**

01 Gangsta Riff  
02 Bandpass Sync  
03 Majestic Modular  
04 Bronx Lead  
05 Choking Sync Lead  
06 Fast Lane  
07 Fat Amped Mini Lead  
08 Fat Power Lead  
09 Funk Sync  
10 Nasty Wavetable  
11 Crying Freeman 1  
12 Little Sync Lead  
13 Rattler  
14 Cutthru Lead  
15 Flattering  
16 Moogish Lead  
17 Accelerator

18 Mouthbox Lead  
19 Tekkno Sync  
20 Clean Killer  
21 Dominator  
22 Knock Out  
23 Toothpick Lead  
24 Transistor Square Lead  
25 Always In Front  
26 Tyrannosaurus Lead  
27 Majestic Lead  
28 Sud Lead  
29 Undefined Lead  
30 Hector  
31 The Funk  
32 Unison Smack Lead  
33 Be Different  
34 Sandy  
35 Sucker  
36 CM Zap Solo  
37 Detroit Lead  
38 Dirty Solo  
39 Eeow Solo  
40 Harsh Digital Solo  
41 Noise Poison  
42 Hybrid Overkill  
43 Mind Destroyer  
44 Acid Proof  
45 Mini FB Loop Lead  
46 Spike Lead  
47 Direct Out  
48 Spikey Funk Lead  
49 Wah Wah Wah  
50 Sync Decay Sweep  
51 Guitiola  
52 Thrilling CM Lead  
53 U Robot

54 Expressor  
55 Virtua Flange Lead  
56 Chainsaw Lead  
57 Fifth Reso Clav  
58 Bathroom Singer  
59 Clipotron Lead  
60 FM Whipper  
61 Play It Loud  
62 Going Nuts Lead  
63 Hard Softy  
64 Nemo Lead  
65 Pulse Reso Lead  
66 Bad One  
67 Scratching Lead  
68 Spitty Lead  
69 FM Zap  
70 Sweepy Funk Lead  
71 Syncish Lead  
72 Cool Sync Lead  
73 Crying Freeman 2  
74 Cutting BP  
75 Cutting Edge  
76 Cutty Squ Lead  
77 It's a Syn(c)  
78 Screamer  
79 Talking Sync Lead  
80 Minor  
81 Reso Saw Lead  
82 Ziiiiiiing  
83 Smacky Pulse Lead  
84 Classic Sync Solo  
85 Saw CM Solo

## **17 Ambiences**

01 Mariana Trench  
02 Reversing Arp Atmo  
03 Cast Away In Space  
04 Steamy  
05 Ghost Shiver  
06 Nebula Cluster  
07 Not From This World  
08 Swinging Cable  
09 Alien Voices  
10 Space Snow  
11 Thrilling  
12 Frequency Collector  
13 Spooky City  
14 Space Zaps  
15 Dark Breath Atmo  
16 Bad Bad Room  
17 Experimental Mood  
18 Unearthly Breath  
19 F-B-Eye  
20 Wide Noise  
21 Calling Them  
22 Ghost

## **18 FX**

01 Chaos Theory  
02 Filter FM!  
03 Industrial Siren  
04 Staccato Syncer  
05 Styrofoam Staccato  
06 Trance Swoosh  
07 Crossmod Fall 01  
08 Crossmod Fall 02  
09 Metallic Drops  
10 Destroya  
11 Noise Atmos  
12 Cry Louder  
13 Ultra FM  
14 We scare 4U  
15 Decent Horror  
16 Halling Down  
17 Ring Fall 01  
18 Ring Fall 02  
19 Damaged  
20 Magic  
21 Wobbling Distortion  
22 Mars Lander  
23 Computronic Saws  
24 Short Racer  
25 Talking Aliens  
26 Extremely Disturbing  
27 From Outer Space  
28 Mirror Bells  
29 Hells Mermaid  
30 Unknown Origin  
31 Backspin  
32 Broken Synth  
33 Falling Stars  
34 Pseudo Scratch  
35 Bell Madness

## **36 Disharmonic Pleasure**

37 Nuke Wheeler  
38 Computer Talk  
39 Trance O Tron  
40 Hey Beauty  
41 Long Kick  
42 One Up  
43 Reso Bird 1  
44 Reso Bird 2  
45 Dawn Of Sync  
46 FM Tom  
47 Poly Polly  
48 Random Melody  
49 Syntax Error  
50 Ultimate Racing



# Part III: Strike



## Chapter 7: Strike Overview

Strike is an RTAS plug-in instrument that can be used to add realistic drum tracks to any Pro Tools session. Using proprietary technology, Strike goes beyond the boundaries of conventional MIDI and sampling when it comes to computer-based playing, arranging, and mixing of drums.

Strike provides a “professionally-skilled drummer” and a number of drum kits set up in a professional recording studio. Each instrument was recorded with up to three close, two overhead, and two room microphones. Strike also provides a complete mixing console with built-in effects.

Strike puts you in the producer’s chair, providing quick and easy global control, as well as access to all the nuanced details that influence a drum track and make it come alive. Use Strike to play a perfect seamless crescendo, switch the mix from ballad to crushed punk, or just tweak the tuning of the snare drum.

# Structural Overview



Strike Main page



## Control Section

The Control section provides five Control pages for creating, editing, and manipulating the drum performance. Each page provides controls that correspond to a certain stage or aspect of drum track production in a real studio situation.

**Main Page** Provides controls that influence the overall behavior of the drum performance from a producer's point of view. Select a musical style—for example, Rhythm and Blues, and tell Strike how to play it in terms of overall timing, intensity, and complexity. For more information, see “Main Page” on page 118.

**Style Page** Provides controls for changing the performance of single Instruments from the drummer's point of view. For example, whether the kick's timing should be tight or loose. For more information, see “Style Page” on page 124.

**Kit Page** Provides controls that affect the sound of the individual Instruments. You can fine-tune Strike Kits on the Kit page—for example, tune the Kick down or adjust the decay of the cymbals. For more information, see “Kit Page” on page 127.

**Mix Page** Provides a built-in mixing desk, with two insert effects and a three-band equalizer for each Instrument channel. Like in a real drum recording situation, the channels can be balanced, routed, and processed using equalizer and effects on the Mix page. For more information, see “Mix Page” on page 131.

**Style Editor** Provides features for in-depth editing of Styles and the creation of your own Patterns and Parts. You can add or delete events and change their timing and playing style using the Style editor. For more information, see “Style Editor” on page 136.

## Navigating Pages



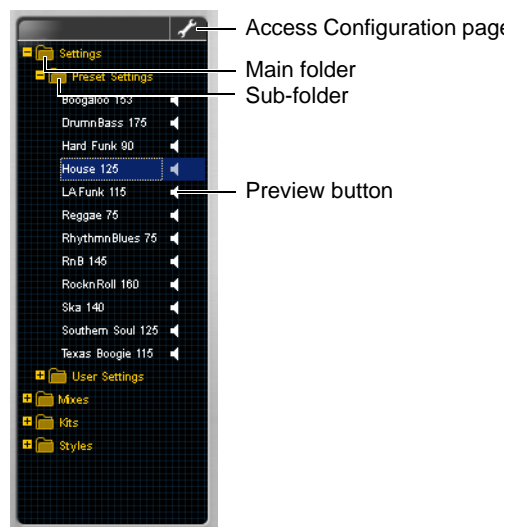
### Accessing a page

The Strike Plug-In window has a Navigator section with four buttons for accessing different Control pages Main, Style, Kit, and Mix for editing.

### To view a Strike control page:

- Click one of the Page tabs to display the corresponding page.

## Browser Section



Strike offers a broad range of parameters and controls on four Control pages representing all stages of drum track production. From the Strike Browser with its four main Folders, you can load and save four different types of data which correspond to these stages.

## Strike File Types

**Setting** Saves all Strike parameters including Style, Kit, and Mix, and their corresponding Main page parameters.

**Style** Saves Patterns, Fills, Parts, and Style section parameters from the Style and Main page.

**Kit** Saves Instruments and Kit section parameters from the Kit and the Main page.

**Mix** Saves Mix page parameter settings and Mix section parameters from the Main page.

## Using Folders

The Browser provides four main Folders for different data types, each of these include two sub-folders: Preset and User. Preset is used for factory files, and User is for custom files, which can include Settings, Styles, Kits, and Mixes.

**To open a (Sub-)Folder (Setting, Style, Kit, Mix):**

- Click the plus icon (+) next to the folder.

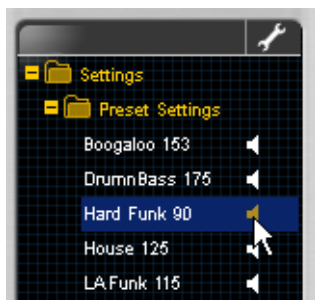
**To close a (Sub-)Folder (Setting, Style, Kit, Mix):**

- Click the minus icon (–) next to the folder.

**To load a file:**

- Double-click the file in the Browser.

## Previewing a Setting



Preview button

In the Browser, you can quickly preview Preset Settings without having to load them. Clicking the Preview button plays a short audio example of the Setting while the mouse button is held.


## Keyboard Section



### Keyboard section

The Keyboard section provides 72 keys for playing Strike, a Keyboard Layout switch, a Latch switch, and an information display. The Keyboard section is always available, regardless of which Control page is currently displayed.

You can control Strike by clicking the keys, using MIDI input from a MIDI keyboard, or from MIDI data in an Instrument or MIDI track in Pro Tools.


 For more information about the Keyboard section, see “Keyboard Section” on page 115.

---

## Strike Glossary

### Setting

A Setting stores the complete state of the Strike plug-in. A Setting can be loaded and saved from the Browser on the Main page or by using the Plug-In Settings menu.

 Setting is another name for the plug-in settings. Refer to the Pro Tools Reference Guide for information on working with RTAS plug-ins.

## Style

A Style is a musical playing style, like Samba, Rock, or Ballad. Strike comes with a range of preset Styles that cover the most common musical genres. Style related parameters can be edited, loaded, and saved on the Style page. See “Style Page” on page 124.

## Pattern

Patterns are varieties of the drum performance within a Style assigned to MIDI notes. There are six types of Patterns for arrangement purposes: Verse, Bridge, Chorus, Intro, Fills, and Outro. A Style consists of 35 Patterns. Patterns can be played in real-time using MIDI. See “Keyboard Section” on page 115.

## Part

A Part is the smallest selectable unit within a Style. A Part is what one single Instrument plays within a Pattern. You can create, edit, and assemble Parts using the Style Editor. See “Style Editor” on page 136.

## Kit

A Kit is the complete collection of Strike Instruments and their settings. You can play the same Style using different Kits. Strike comes with preset Kits but you can also create, edit, and save your own Kits on the Kit page. See “Kit Page” on page 127.

## Instrument

An Instrument is the smallest part of a drum Kit. There are different kinds of Instruments in Strike, including such standards as kicks, snares, and hi-hats. There are also exotic Instruments, such as darbuka or trash-ride. You can load, edit, and save your own Instruments in Strike with Kits (see “Sample Import” on page 128 and “Loading and Saving Kits” on page 130).

## Mix

A Mix is a setup for the built-in Strike mixing console, including Equalizer (EQ) and Effect insert settings. You can load, edit, and save Mix presets on the Mix page. See “Mix Page” on page 131.

---

## Content Location

If you move Strike content to a different location or hard drive from where it was originally installed, you will need to set the Strike Content location. Otherwise, Strike will not be able to locate the content (and thus will not be able to load any Kits).

### To set the Strike Content location:

- 1 Locate and open the Strike folder where the Strike content is stored on your computer.
- 2 Launch the Set Strike Content Location application that resides in this folder.
- 3 Click OK.

The Set Strike Content Location application sets the path where Strike looks for its content on your computer and then quits automatically. Strike will now be able to find the Strike Content.

---

## Adjusting Controls

You can adjust all controls by using the computer mouse to drag a control.

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.



*Dragging a knob*

## Activating Buttons

Some controls are enabled or disabled using buttons.

### To enable a button:

- Click the button. Click again to disable it.



*Enabling a button*

## Keyboard Shortcuts

- ◆ For finer adjustments, hold down Command (Mac) or Control (Windows) while moving the control.
- ◆ To return a control to its default value, Option-click (Mac) or Alt-click (Windows) the control.

## Displaying Values

Parameter values can be displayed without editing them.

### To display the value of a control:

- 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.



*Choosing the Jam density settings from a pop-up menu*

## Scroll Wheel on Knobs, Faders, and Menus

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




# Chapter 8: Strike Quick Start

This chapter helps you to explore Strike's basic concepts with a hands-on approach. You will touch the most important functions, understand the basic concepts and hear a lot of drums. This chapter is only about experiencing Strike. Refer to the corresponding parts of the plug-in guide when you need technical information.

## Getting Started

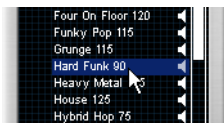
1 Create or open a Pro Tools session.

2 Create a new stereo instrument track and insert the Strike plug-in.

 *For more information on creating sessions, creating tracks and working with plug-ins, see the Pro Tools Reference Guide.*

3 If you have a MIDI keyboard available and prefer to use it, route it to Strike's MIDI input, and assign it to MIDI channel 1.

4 In the Browser on the Main page, in the Settings folder, double-click the Setting "Hard Funk 90" and wait until the Loading message in the Display beneath the Keyboard disappears.



Loading a Setting

5 Set Pro Tools to 90 bpm. The number in the Setting's name shows the recommended tempo.

6 Click the white key next to the red key in Strike's Keyboard section or hit the corresponding D1 key on a MIDI keyboard to make Strike start playing.

7 Stop playback with the red key (C1).



Stop playing



*By right-clicking on the red key, you can also assign or learn a MIDI CC number to control it.*

## Using the Keyboard

1 Click (or play) some keys. Notice that white keys play looped Verse, Bridge, and Chorus Patterns, while black keys play one-shot Intros, Fills, or Outros. The display shows the names of the Patterns assigned to keys.

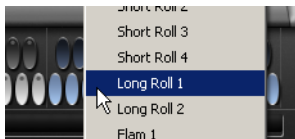
2 While a looped Pattern is playing, click the yellow key labeled "1" on the keyboard (C0). This pauses the playback of the Kick drum. Click again to bring it back to the playback.



Pausing an Instrument

**3** Click on arbitrary Trigger keys in the two blue octaves (C4–B5) to trigger individual Instrument hits that can be added to Pattern playback playing Strike like a drum module using MIDI input.

**4** Right-click a Trigger key to open a list of instruments you can assign to the key. This way you can assemble your own keyboard layout.



*Assigning an Instrument to a Trigger key*

**5** Now click the Kit button beneath the yellow keys. The left four octaves of the keyboard switch to a complete General MIDI Kit. Assign your MIDI keyboard to Strike on MIDI channel 2 to trigger Strike in Kit mode. You can always use channel 1 (Patterns) and 2 (individual hits) simultaneously.

## Conducting Strike

**1** Click the Chorus A key (C3) and let the latched Pattern play. On the Main page, notice that the stylized drum kit accurately reflects the instruments being hit.



*Symbolized drum kit*

**2** Move the Intensity slider slowly up and down (on the MIDI keyboard, move the mod wheel). This controls how hard Strike actually plays the instruments. Unlike in conventional drum samplers, you will not hear sample switching. The Intensity control allows for subtle or drastic dynamic changes adding an unprecedented range of articulation.



*Changing Intensity and Complexity*

**3** Move Intensity back to maximum.

**4** Now move the Complexity slider down (on the MIDI keyboard, pull down the pitch wheel). You will notice that Strike plays less notes. Move it all the way up to play more. Try that with different Patterns.

## Global Style Controls

The Style section controls on the Main page adjust Strike's timing, dynamic behavior, and groove globally.

**1** From the Browser, load "Boogaloo 153" and set Pro Tools to 153 bpm.



**2** Play a latched Pattern. Turn the Feel control to the right and Strike will play with a laid back feel, or turn it to the left and Strike plays slightly ahead of the beat.



*Setting the Feel control*

**3** Turn the Hit Var knob fully to the left and Timing fully to the right. This eliminates all dynamic sample playback and hard-quantizes the timing. Set both knobs to center position afterwards.

**4** No real drummer would loop the same bars over and over again. Instead, the playing would always vary a bit. Click the Jam button at the bottom of the Style section and set the density to 5. Strike now subtly varies playback for you.



*Setting the Jam factor*

The Style parameters can be changed individually for every instrument on the Style page. See “Style Page” on page 124.

## Global Drum Kit Controls

The Kit section controls globally affect the drum kit and how Strike plays it.

**1** Play a latched Pattern.

**2** Turn the Timbre Shift control to the right, so that Strike will sound harder without becoming louder. Turn it to the left and Strike almost brushes the Kit, but the volume stays the same. Set Timbre Shift to default afterwards.



*Timbre Shift and Snare control*

**3** Turn the Snare control to the left and Strike plays the Snare towards the center. Turn it clockwise, so that Strike plays closer to the rim.

Each Instrument’s Kit parameters can be changed individually on the Kit page. See “Kit Page” on page 127.

## Global Mix Controls

**1** Have a Pattern playing, and move the controls named Close Mics, Overheads, Room, and Talkback to adjust the volume of the corresponding microphone groups. Every microphone on every instrument can be set individually on the Mix page. See “Mix Page” on page 131.

**2** Turn all knobs down and turn each of them up one after another to find out how they contribute to the sound and how you can completely change Strike’s sound character with these.



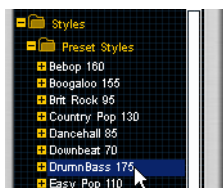
*The Main page’s Mix section*

## Combining Styles, Kits and Mixes

In the Browser, not only can you load complete Settings (a Setting always includes Style, Kit and Mix), but you can also load Styles, Kits and Mixes separately, even for each individual instrument.

**1** Load the Setting “RnB 75,” set Pro Tools to 75 bpm, and play a latched Pattern.

**2** To change only the Style, open the Preset Styles folder and double click “Drum’n’Bass 175.” Now Strike plays the new Style with the old Kit and Mix. Try that with other Styles as well.



*Loading another Style*

**3** Open the Preset Kits folder in the Browser and double-click “Vintage Kit.” Wait a few seconds until the Kit is loaded. Strike plays the same Style and Mix on another Kit.

**4** While a Pattern is running, open the Preset Mixes folder and double-click your way through the entries to load other Mixes. This will change the overall volume relations, EQ settings, and effect processing of the Kits.

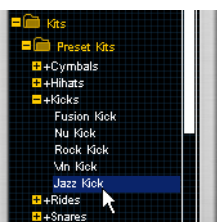
## Exchanging Instruments

**1** To replace single Instruments, open the Kit page by clicking the corresponding tab underneath the Browser.



*Selecting the kit page*

**2** Go to Preset Kits in the Browser and click the “+” icon next to a Kit to reveal its individual Instruments. Double-click Instruments to load them into the current Kit. Strike automatically assigns instruments to the right channel.



*Loading a new kick*

**3** Now drag an Instrument from the Browser onto any channel in the Kit page—for example, a HiHat onto a kick channel. The HiHat will replace the kick in the Kit.

## Replacing Channel Mixes

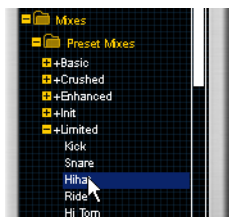
**1** Play a latched Pattern.

**2** Open the Mix page by clicking the corresponding tab underneath the Browser.



*Selecting the Mix page*

3 While Strike is playing, go to Preset Mixes and click the “+” icon next to a Mix to make the individual channels visible. Double-click entries or drag them onto channels to load them into the current Mix. Strike automatically assigns channel Mixes to the corresponding Instruments when double-clicking.

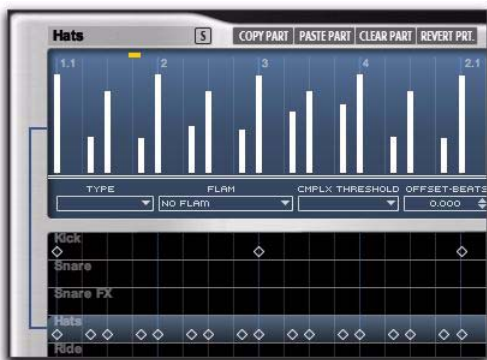


*Loading a single channel's Mix*

## Using The Style Editor

1 Load the Setting “Hard Funk 90.”

2 Click the Edit Style button underneath the Browser on the Style page to open an event editor where you can edit Strike's Patterns in detail. What you see from top to bottom is an editor view showing the selected Instrument's Part, and a vertical list of the instrument channels with instrument names and a representation of the events.

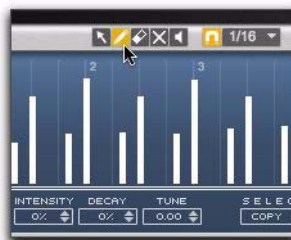


*Style Editor*

3 Play a Pattern on the keyboard to select it for editing.

4 Click on an Instrument's vertical line to show its events in the editor view.

5 Select the pencil tool and draw in the Editor window to add events. Use the eraser tool to delete events.



*Selecting the Pencil tool*

## Creating a Mix

1 Load the Setting “Heavy Metal 135,” set Pro Tools to 135 bpm, and open the Mix page.

2 The right half of the page is overlaid by the Master section. Click the little yellow triangle at the left edge of the Master section to hide it, and click again to bring it back.



*Hiding the Master section*

3 Select the Master channel by clicking it. The top of the Mix page is always occupied by the Equalizer and two insert effects of the selected channel. In the Master channel, the second insert effect is hard-wired to the Dynamics 3 compressor, and its Attack and Drive parameters are reflected on the Main page.



*Main page controls of the Master channel's compressor*

4 Change the parameters of the Distortion effect in the first insert.

5 Click the Save Mix button underneath the Mix page tab.



*Saving your Mix*

6 In the following dialog, name your Mix and save it.

7 Locate your Mix in the folder User Mixes in the Browser.



*The User Mix folder in the Browser*

## Mixing and Recording Strike in Pro Tools

With Strike, you can take advantage of the vast capabilities of Pro Tools as a powerful recording, editing, and mixing environment with one or even multiple instances of Strike.

### Bus Recording Strike in Pro Tools

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

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

1 If you haven't already done so, insert Strike 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 Strike is inserted to a bus (such as Bus 11–12).

4 Select the same bus (such as Bus 11–12) as the Input of the stereo audio track for recording (see Figure 2 on page 111).



Figure 2. Bus recording the output of Strike in Pro Tools

## Bussing Strike Instruments to Multiple Pro Tools Tracks

A more sophisticated way to work with Strike is to assign different Instruments in Strike to different Outputs in the Mix page. You can then route the Outputs from Strike to the Inputs of multiple tracks in your Pro Tools session for further multitrack mixing, processing, and recording.

### To bus Strike Outputs to multiple Pro Tools tracks:

- 1 On the Mix page in Strike, assign the Kick to Out 1, the Snare to Out 2, the Hihats to Out 3, and so on.



Figure 3. Assigning different Instruments to different Outputs in the Mix page

💡 You can also assign the Overheads, Room, and Talkback mics to different Outputs in Strike

- 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 Outputs used in Strike.

💡 The Outputs from Strike are stereo, so if you want to mix each Instrument to a mono track in Pro Tools, assign pairs of Instruments to the same Output (for example, assign both the Kick and the Snare to Out 1). Then for each pair, pan one of the Instruments hard left and the other hard right. You can then select the left or right channel of a single Strike Output as the Input of a mono track in Pro Tools.




3 Select the corresponding Strike Output Bus from each Pro Tools track Input selector.



Figure 4. Selecting Strike Out 1 as the input for an Auxiliary Input track in Pro Tools

You can now record, mix, and process multiple Strike Outputs independently in your Pro Tools session.

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



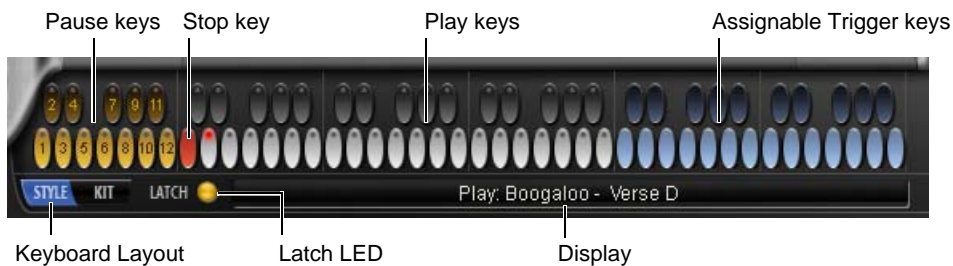


# Chapter 9: Strike Controls

## Keyboard Section

In the Keyboard section there are 72 keys, the Keyboard Layout switch, a Latch switch, and an information display. The Keyboard section is always available, regardless of which Control page is currently displayed.

The 72 keys in the Keyboard section represent the keys of a MIDI keyboard and their corresponding MIDI notes starting from C0 on the left to B5 on the right. You can control Strike by clicking the keys, using MIDI input from a MIDI keyboard, or from MIDI data in an Instrument or MIDI track in Pro Tools.



*Style mode Keyboard layout*

### Latch

In Latch mode, Strike continues playing (even when you release the notes on the keyboard) until you hit the Stop key or deactivate Latch mode. Click the Latch LED to enable or disable Latch mode.



*With Latch disabled, use sustain pedal to temporarily enable Latch mode.*

### Display

The display in the Keyboard section is a context-sensitive text display. When you load something from the browser, it displays descriptive text. When editing controls, it displays the parameter name and value.

#### **To display a control's current value:**

- Click the control without moving the mouse.

## Playing Strike

There are two MIDI Trigger modes and corresponding Keyboard layouts when using Strike: Style mode and Kit mode.

### Style Mode

In Style mode, input on MIDI channel 1 controls Strike playback. In Style mode there are three functional keyboard zones, marked by color:

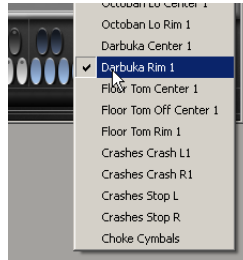
**Pause Zone** The yellow Pause keys, ranging from C0 to B0, pause an Instrument's playback. Click a key to pause the Instrument, click again to resume playback. The number on the Pause key indicates the channel of the paused Instrument. A red LED indicates that an Instrument is paused. There are two additional Pause modes—Held and Released. Please see “Configuration Window” on page 140 for more Information on Pause modes.

**Play Zone** The black and white Play keys, ranging from C1 to B3, play the Patterns of the currently selected Style. A special key in this zone is the red Stop button, it immediately stops the playback until another Play key is pressed.

**Assignable Trigger Zone** The blue Trigger keys, ranging from C4 to B5, trigger single Instrument hits, letting you use Strike like a drum module. Instruments used in the currently selected Kit can be freely assigned to Trigger keys.

### To assign an Instrument to a Trigger key:

- 1 Right-click (Mac or Windows) or Control-click (Mac) the key.
- 2 Select an Instrument from the pop-up menu.



*Selecting an Instrument from the pop-up menu*

## Pattern Types

Patterns are variations of the drum performance within a Style. A Pattern is the Strike counterpart to a drum loop (a repeating phrase played on multiple Instruments) but not limited to a loop's typical static behavior. There are six types of Patterns in the Play zone serving different purposes in an arrangement:

**Intro** Located on the black keys from C#1 to A#1.

**Verse** Located on the white keys from D1 to B1.

**Fill** Located on the black keys from C#2 to A#2.

**Bridge** Located on the white keys from C2 to B2.

**Chorus** Located on the white keys from C3 to B3.

**Outro** Located on the black keys from C#3 to A#3.



*Intros, Fills, and Outros behave differently, depending on the Fill Triggering settings in the Configuration window. Please see “Configuration Window” on page 140 for more information.*

## Kit Mode

In Kit mode, input on MIDI channel 2 plays Strike Instruments similar to a velocity sensitive drum module. The Instruments are laid out across the keyboard. Clicking the top of the key plays at a lower velocity, clicking the bottom of the key plays at a higher velocity. There are two functional keyboard zones, marked by color (see Figure 5 below):

### To activate Kit mode:

- Click Kit on the Keyboard Layout switch.

**Fixed Trigger Zone** The black and white Trigger keys from C0 to B3 trigger individual Instruments from the currently selected Kit. The key assignment in the Fixed Trigger zone follows the General MIDI conventions where applicable.

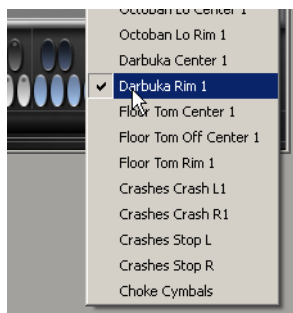
**Assignable Trigger Zone** The blue Trigger keys, ranging from C4 to B5, trigger single Instrument hits, letting you use Strike like a drum module. Instruments used in the currently selected Kit can be freely assigned to Trigger keys.



*Switching the keyboard layout to Kit mode, stops Pattern playback. Nevertheless you can use input on MIDI channel 2 while playing Strike in Style mode to trigger single Kit mode Instrument hits—for example, to add individual hits to the Pattern currently playing.*

### To assign an Instrument to a Trigger key:

- 1 Right-click (Mac or Windows) or Control-click (Mac) the key.
- 2 Select an Instrument from the pop-up menu.



*Assigning an Instrument from the pop-up menu*



*Figure 5. Kit mode Keyboard layout*

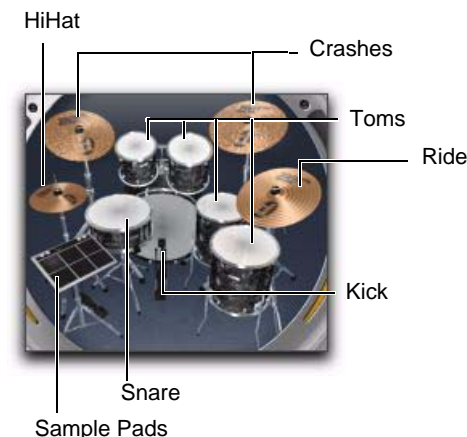
## Main Page

The Main page provides easy access to the most useful Strike timing and sound parameters. The parameters in the Style and Kit section of the Main page are general controls that affect all Instruments. You can edit these parameters per Instrument on the other Control pages: Style, Kit, and Mix.



## Kit Display

The Kit display provides a graphic representation of a drum set showing the Instruments used in a Style. The Instrument graphics also dynamically indicate hits, including the intensity (velocity) of each hit.



*Kit display*

## Play Display

The Play display shows which Pattern is currently playing.



*Play display*

## Style Section Controls

The Style section parameters can be used to adjust the overall Strike playing dynamics and timing behavior.

**Grid** Quantizes the Strike timing globally by reducing the number of played Instrument hits. For example, select 1/4 and Strike only plays Instrument hits that fall on quarter notes.

**Speed** Adjusts the Strike tempo relative to the tempo of your Pro Tools session. For example, select Half and Strike plays at half of the session tempo.

**Intensity** Adjusts the general strength of the drumming seamlessly. Move the Mod wheel up for harder and down for softer playing. Use the Intensity Range handle to adjust the maximum Intensity.



*Kit display*

**To adjust the playing Intensity in real-time:**

- Move your MIDI keyboard's Mod wheel down for a higher and up for a lower Intensity.

**To adjust the maximum Intensity:**

- Move the Intensity handle up to increase or down to decrease the maximum Intensity achievable with the Mod wheel.

**Complexity** Adjusts the general playing density by changing the number of individual Instrument hits used in the Pattern. Move the control up to increase and down to decrease Complexity. Complexity is assigned to MIDI pitch bend by default.

**Playing Dynamics** Adjusts the general dynamic range of the playing. Moving the control to the right increases the dynamic range, and Instruments hits are played with varying strength. Moving the control to the left limits the dynamic range, and Instrument hits are played at the same strength.

**Hit Var (Hit Variance)** Adjusts the variety of different Instrument hits used. Move the control to the right to increase the variety of sounds used for certain Instrument hits during performance. This makes the performance sound more natural and versatile. Move the control to the left to limit the variety of sounds, this makes the performance sound less natural, and more like a drum machine. To affect only certain notes, select a note value from the Hit Variance pop-up menu. For example, select “1, 2, 3, and 4” to affect only the corresponding four quarter-note beats.

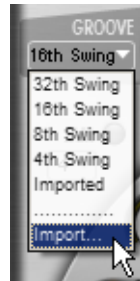
**Timing** Adjusts the general precision of single drum hits in the Pattern from natural to tight. To affect only certain notes, select a note value from the pop-up menu. For example select “1 and 3” to affect only the first and third beat.

**Feel** Adjusts Strike’s overall timing in relation to the session tempo. Ahead makes Strike play slightly ahead of the beat, while Fat produces a more laid back, behind the beat feel.

**Groove** Adjusts the shuffle, or swing feel of Strike. Moving the control to the right moves the offbeat drum hits slightly later, creating a swung feel. Strike plays triplets with this parameter set to 100%. Select a Groove from the Groove Template pop-up menu to determine which notes the Groove parameter affects. You can also import a Groove template.

#### To import a Pro Tools Groove template:

- 1 Select Import from the Groove Template pop-up menu.
- 2 Select a Groove template in the Import Groove file dialog and click Open.



*Importing a Groove template*

- 3 Set the Groove Template pop-up menu to Imported.

**Jam** The Jam function automatically adds variation to “humanize” the performance by subtly varying playback with each repetition of a Pattern. Adjust the intensity of the Jam function by selecting a value (1–5) from the Jam Density pop-up menu, higher values increase the Jam factor.



*Setting the Jam factor*

## Kit Section Controls

The Kit section parameters influence the sound of the current Kit and its Instruments.

**Tuning** Adjusts the tuning of the whole drum Kit by a maximum of five semitones up or down. Move the control to the right to raise, or to the left to lower the tuning.

**Timbre Shift** Influences the Kit's sound character by simultaneously changing Instrument timbres and volume levels. Using Timbre Shift, you can easily change the character of the Kit's sound without having to rebalance Instrument levels. Move the control to the right for a harder timbre and lower volume, move to the left for a softer timbre and higher volume.

**Snare** Adjusts the playing style of the snare drum by moving the drum stick towards the center or the rim (edge) of the snare drum. Move the control to the right to play closer to the rim, move to the left to play closer to the center.

**HiHat** Adjusts the playing style of the HiHat. Move the control to the right for an open, or to the left for a closed HiHat sound.

**Ride** Adjusts the sound of the ride by moving the drum stick towards the edge or the bell of the ride cymbal. Move the control to the right for a percussive bell, or to the left for a smoother edge sound.

## Mix Section Controls

All controls in the Mix section provide the same Channel controls as the Mix page. For more information, see “Mix Page” on page 131.

**EQ (Equalizer)** Provides Gain controls for the low and high band of the Master channel's equalizer. Activate the EQ by clicking the LED. For more information, see “EQ (Equalizer)” on page 134.

**Close Mics (Microphones)** Adjusts the level of all Close microphones.

**Overhead Mics (Microphones)** Adjusts the level of the Overhead microphones channel.

**Room Mics (Microphones)** Adjusts the level of the Room microphones channel.

**Talkback Mic (Microphone)** Adjusts the level of the Talkback microphone channel.

**Master** Adjusts the level of the Master channel, this is the Strike output volume.

**Dynamics** Provides controls for the Drive and Attack parameters of the Master channel's compressor found on the Mix page. Activate the effect Insert by clicking the LED. For more information, see “Effects Inserts” on page 134.

## Exporting MIDI

Using the Export MIDI function, you can export any series of Strike Patterns between the start and stop of playback—called a Performance in the following section—as a sequence of individual MIDI notes in your Pro Tools session.



*Export MIDI button and LED*

These MIDI notes can be used to trigger individual Strike Instrument hits, rebuilding the exported Performance as accurately as possible. You can use this function to create completely new or additional playing, editing individual MIDI notes on Pro Tools MIDI tracks. You can even trigger other plug-ins or external MIDI devices using the MIDI data exported from Strike.

### To export a Strike Performance to Pro Tools MIDI tracks:

- 1 Click the Export MIDI LED to enable recording. The LED flashes.
- 2 Play a Performance in Strike. Strike starts recording with the first MIDI note on and the LED lights solid. (Note that Pro Tools must not be playing.) For example, use the on-screen keyboard or a MIDI keyboard to trigger a Verse pattern, then a Fill pattern, and then a Chorus pattern.

### 3 Do one of the following:

- Click the Export MIDI LED again to stop recording.
- or –
- Stop playback in Strike and recording stops automatically.

### 4 Drag the Export MIDI button to the Track List, to a MIDI or Instrument track, or to the Timeline in the Pro Tools Edit window.



*Dragging MIDI from Strike to Pro Tools*



**5** In the resulting Import MIDI Settings dialog, click OK.



#### *Import MIDI settings*

**6** If you dragged to the Track List or to the Timeline, Strike automatically creates and names a new Pro Tools MIDI track.

**7** Assign the MIDI track output to Strike MIDI channel 15.



#### *Assigning MIDI channel*

**8** Start playback in Pro Tools to play the Strike kit.



*You can also use MIDI exported from Strike to play other virtual instruments, such as Boom (though you may need to transpose notes to play the desired sounds).*

## Style Page

The Style page provides up to twelve Instrument channels, corresponding to the Instruments used in the current Setting—for example, Kick, Snare, HiHat, and Ride. The dynamics and timing behavior for each Instrument can be adjusted using the Style section parameters. For convenience, basic controls from the Mix page are included in the Fader section.



*Strike Style page*

## Style Section Controls

The Style section influences the behavior of all Parts played by an Instrument in the current Style.

**Intensity** Adjusts the dynamics of the Instrument by making it play softer or harder. Move the control to the right to increase and to the left to decrease Intensity.

**Complexity** Adjusts the overall density by changing the number of individual hits used during playback. Move the control to the right to increase and to the left to decrease complexity.

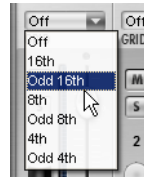
**Playing Dynamics** Adjusts the dynamic range of the Instrument. Moving the control to the right increases the dynamic range, Instrument hits are played with varying strength. Moving the control to the left limits the dynamic range, Instrument hits are always played with the same strength.

**Hit Var (Hit Variance)** Adjusts the variety of drum hits used in the playing. For a natural sound, move the control to the right to increase the variety of sounds used for a certain Instrument hit. Move the control to the left to limit the variety, making the playing sound more like a drum machine and less natural.

**Offset** Adjusts the timing offset of the Instrument hits played in a Part. Move the control to the right to for earlier and to the left for later hits.

**Timing** Adjusts the timing accuracy of the playing. Move the control to the right for a tight and to the left for a loose feel.

**Grid** Quantizes the Instrument's timing. For example, select 1/4 and Strike will only play the quarter notes of the current Part, removing all hits not matching the selected grid.



*Selecting a Grid value*

## Fader Section Controls

The Fader section provides the most common Mix controls, which are also available on the Mix page. See “Mix Page” on page 131.

**Mute** Mutes the channel.

**Solo** Solos the channel.

**Fader** Adjusts the Channel volume.

**Instrument Symbol** Triggers the Instrument when clicked.

## Loading and Saving Styles

You can load Styles from the Browser and save edited Styles.

### To load a Style:

- 1 Open the Style folder and one of its sub-folders Preset or User in the Browser.
- 2 Double-click a Style name from the subfolder to load a Style and replace the current Style.

### To save a Style:

- 1 Go to the Style page and click the Save Style button in the Navigator section.
- 2 Name the Style in the Save Style dialog and click Save.

The saved Style's name appears in the User Style folder in Strike's Browser.

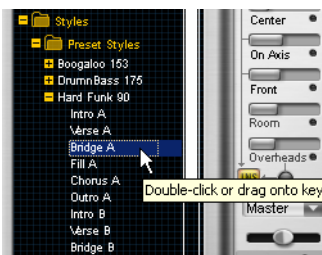


*You can assemble and edit your own Styles using the Style editor. See "Style Editor" on page 136.*

## Assigning Patterns to Play Keys

### To assign a Pattern to a Play key:

- 1 Open the Style folder and one of its sub-folders (Preset or User) in the Browser.
- 2 Click the plus icon next to a Style name to show the list of included Patterns.
- 3 Do one of the following:
  - Double-click a Pattern in the list to assign it to the selected Play key.
  - or –
  - Drag it onto the Play key.



Loading a single Instrument



*The selected Play key is indicated by a red LED.*

## Kit Page

The Kit page provides up to twelve Instrument channels corresponding to the single Instruments used in the current Style, for example, Kick, Snare, HiHat, and Ride. Adjust the sound of each Instrument using the controls in the Kit section. For convenience, basic controls from the Mix page are included in the Fader section.



*Strike Kit page*

## Kit Section Controls

The Kit section influences the sound of Instruments used in the current Kit.

### Instrument Load Size

Use this control to adjust the amount of waveform data loaded into your computer's RAM for each Instrument.



*Instrument Load Size selector*

**Eco** Is the smallest possible Instrument load size. Eco uses fewer system resources for the Instrument, but also limits the range of expression available.

**Mid** Is the Strike default Instrument load size. Mid provides a good balance between system load and range of expression available.

**XXL** Is the largest possible Instrument load size. XXL provides the maximum range of expression available, but also places the greatest demands on system resources.

## Sample Import

Strike lets you import your own samples to create new Instruments in a Kit using the Sample Import button. You can mix the direct signal from the loaded sample using the Close Mics control in the Mix Page. Strike emulates the Room, Overhead, and Talkback Mics for imported samples as well.

You can save any changes you make with the Kit (see “Loading and Saving Kits” on page 130).



Sample Import button

*Sample Import button*

**To import a sample for an Instrument in the current Kit:**

- 1 On the Kit page, click the Sample Import button for the instrument you want.
- 2 In the resulting dialog, navigate to and select the audio file you want to import (AIFF or WAV).
- 3 Click Open.

The selected file is imported and the Instrument channel strip updates to show an audio file icon and the name of the file, and the Instrument Load Size and Timbre Shift controls grey out.

If the loaded sample resides in a directory that contains other audio files, you can click the Previous File and Next File buttons to cycle through the other files in that directory in alphanumeric order.



*Instrument Load Size selector*

## Tune

The Tune control adjusts the tuning of the Instrument. The maximum tuning deviation is five semitones up or down. Move the control to the right to raise and to the left lower the tuning.

## Start Point

The Start Point control changes the attack sound of Instrument hits by moving their sample start points later. Move the control to the right to trim the attacks of Instrument hits without delaying them.

## Attack

The Attack control 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 needed for the attack to rise to full amplitude.

## Decay

The Decay control shortens the played instrument hits by applying an amplitude envelope to the end of each Instrument hit. Move the control to the left to decrease the time needed for the decay to fall from full amplitude to zero.

## Decay Shape

The Decay Shape control fades the shape of the decay between exponential, linear, and anti-exponential curves. Set the control all the way to the left for an exponential curve, to the middle for a linear curve, or all the way to the right for an anti-exponential curve. Typically, you'll want an exponential curve, which sounds like a more natural decay. However, when working with electronic drum sounds you may want an anti-exponential curve, which sustains and then suddenly cuts off the end of the sound.

## Timbre Shift

The Timbre Shift control influences the Instrument's sound character by changing timbre and volume level. Using Timbre Shift, you can change the Instrument's character without having to rebalance levels. Move the control to the right for harder timbre at lower volume, move to the left for a softer timbre at higher volume.

## Fader Section Controls

The Fader section provides the most common Mix controls, which are also available on the Mix page. See “Mix Page” on page 131.

**Mute** Mutes the channel.

**Solo** Solos the channel.

**Fader** Adjusts the Channel volume.

**Instrument Symbol** Click the Instrument symbol to trigger the Instrument.

## Loading and Saving Kits

You can load Kits from the Browser and save edited Kits.

### To load a Kit:

- 1 Open the Kit folder and one of its sub-folders in the Browser (Preset or User).
- 2 Double-click a Kit name from the subfolder to load a whole Kit and replace the currently used Kit.



*You may want to load the mixer settings that were saved with the Kit as well. For more information, see “Load Mix with Kit” on page 143.*



*When loading Kits or Instruments, up to several hundred MB of content may be loaded into RAM. This may take some time depending on the system resources. It is recommended that you stop playback while loading an entire Kit.*

### To save a Kit:

- 1 Click the Save Kit button in the Navigator section.
- 2 Choose a name for the Kit from the file browser and save.

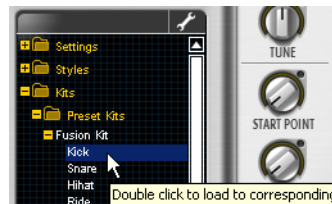
The name of the saved Kit appears in the User Kit folder in the Browser.

## Loading a Single Instrument

You can load single Instruments from Kits in the Browser. You can also load custom samples to Instruments in the Kit (see “Sample Import” on page 128). This lets you use any Kit or Instrument with any other Style or Mix.

### To load a single Instrument:

- 1 Open the Kit folder and one of its sub-folders: (Preset or User) in the Browser.
- 2 Click the plus icon next to the Kit’s name to show the list of single Instruments used in the Kit.

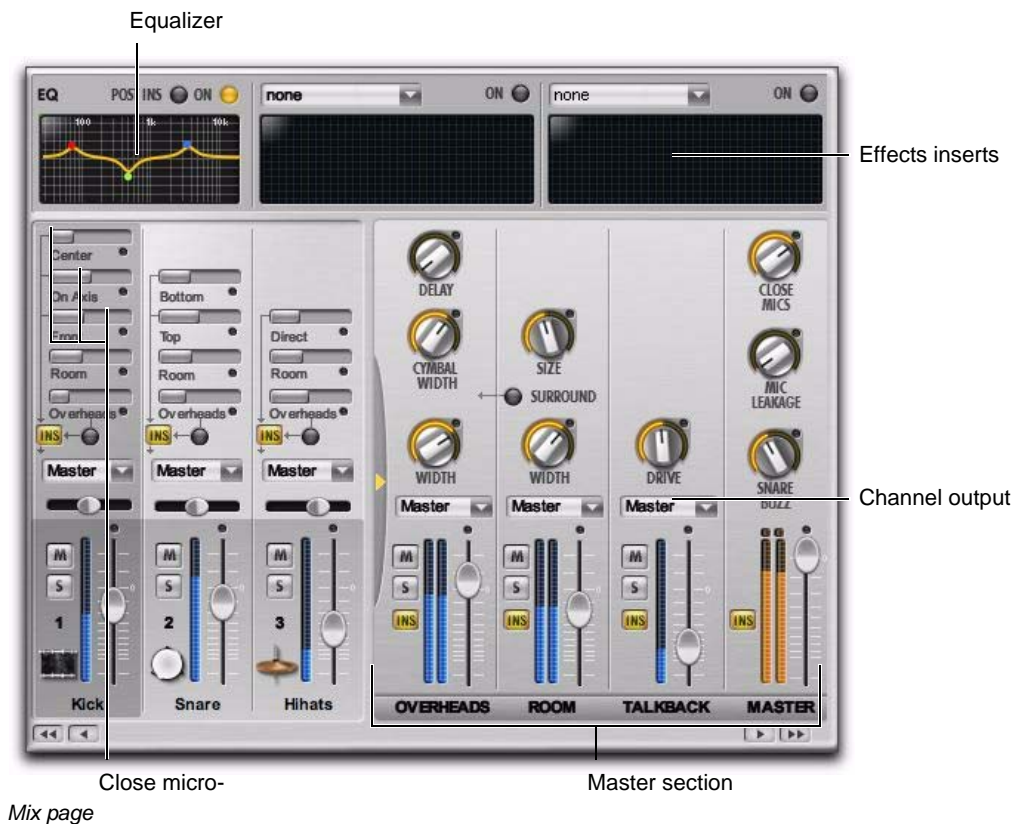


Loading a single Instrument

- 3 Do one of the following:
  - Double-click an Instrument from the list to load the Instrument into the corresponding channel.
  - or –
  - Drag an Instrument onto a Channel to replace the current Instrument.



## Mix Page



Mix page

The Mix page provides a fully featured mixing desk for Strike. It includes two effects Inserts and a three-band equalizer for each channel. Each channel can be mixed to the Master output or routed to a separate output.

💡 See “Strike Mix Page Signal Flow” on page 145 for a schematic diagram of the Mix page architecture.

## Instrument Channels

In the Instrument channel section there are twelve channels for the Instruments used in the current Setting. Use the controls in the Microphone section to adjust the levels of the different microphones available for each Instrument.


## Microphone Section

In the Microphone section you can adjust the levels of Close, Overhead, and Room microphones.

**Close Microphones** Adjusts the levels of up to three Close microphones per channel. The Close microphones are named after their position towards the Instrument. Adjust their levels using the grey horizontal faders. The Close microphones are sent through the inserts to the Master channel.

**Room** Adjusts the amount of Instrument signal going to the Room microphone channel.

**Overheads** Adjusts the amount of Instrument signal going to the Overhead microphone channel.

 *Unlike a real recording situation, in Strike you can adjust how much of an individual Instrument's signal is going to the Room and Overhead microphones using the Room and Overhead faders on Instrument channels.*

**Downmix Button** Routes the Instrument's Overhead signals through the Inserts to the individual channel output, instead of the Overheads channel.

**Insert Button (INS)** Activates and deactivates the channel Equalizer and Effects inserts. The Insert button is lit when activated.

## Fader Section Controls

The Fader section provides the most common Mix controls.

**Pan Slider** Sets the Instrument channel's position in the stereo field.

**Mute** Mutes the channel.

**Solo** Solos the channel.

**Fader** Adjusts the Channel volume.

**Instrument Symbol** Indicates the Instrument assigned to the channel. Click the Instrument symbol to trigger the Instrument.

## Master Section Channels

The Master section provides four special channels: Overhead, Room, Talkback, and Master. The Master section can be shown or hidden by clicking the small yellow triangle to the left of the Overheads channel.



Master Mix section

### Overheads

The Overheads are a pair of stereo microphones positioned above the Drum Kit capturing a spatial sound containing signals from all Instruments. Unlike a real studio recording, you can adjust the amount each Instrument contributes to the Overhead channel using the Overhead slider in each Instrument channel.

**Delay** Delays the Overhead signal by up to 20 ms to simulate different overhead microphone distances.

**Cymbal Width** Adjusts the stereo width of all cymbals in the Kit.

**Width (Overhead Width)** Adjusts the stereo width of the overhead microphones.

## Room

The Room microphones are stereo microphones similar to Overheads, but are positioned further away in the room and capture a more diffuse sound. Unlike a real studio recording, you can adjust the amount each Instrument contributes to the Room channel using the Room slider in each Instrument channel.

**Size** Adjusts the decay of the Room signal to simulate smaller or larger recording spaces.

**Width** Adjusts the stereo width of the Room signal.

**Surround** Sends an additional two channels of room ambience into the Overhead channel, so a total of four channels are available which can be panned to the front and rear for a surround effect. The surround signal passes through the Overhead EQ, inserts and fader, and to the audio output selected for the Overhead channel. The Surround LED is lit when activated.

## Talkback

The Talkback channel is a mono microphone, originally placed in the recording room near to the drummer and heavily compressed to hear what he is saying, but later utilized as an effect. The Talkback microphone captures a sound similar to Overhead and Room microphones, but produces a very hard, compressed, and slightly dirty sound.

**Drive** Adjusts the gain of the Talkback channel compression. Increased Drive makes the Talkback signal more dense and slightly distorted.

## Master

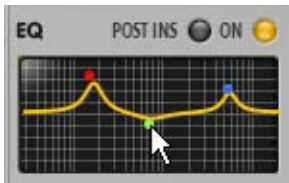
The Master channel is Strike's main output. All channels are mixed down to this channel by default, and then output to the Pro Tools Instrument or Auxiliary Input track on which Strike is inserted.

**Close Mics** Adjusts the overall level of the Close microphones routed to the Master channel.

**Mic Leakage** Adjusts the level of “bleed” across the different microphones. When recording drums in a studio environment, each microphone picks up some signal of all of the instruments in the drum kit. At the minimum setting, each microphone only captures the sound from one Instrument.

**Snare Buzz** Adjusts the amount of sympathetic resonance of the snare drum when the kick drum and toms are played. In a real drum kit the snares of the snare drum rattle whenever another nearby drum is hit, particularly the kick drum. In Strike, the level is variable so you can choose between an ultra-clean kick drum sound at a lower setting, or a “live” sounding kit at a higher setting.

## EQ (Equalizer)



Strike provides a three-band equalizer for each track. Each of the three colored dots represents and controls an equalizer band. Click a channel to select it, and display its Equalizer and Effects inserts.

### To change the gain of an equalizer band:

- Drag one of the three colored dots up to boost, or drag down to attenuate the band's gain.

### To change the frequency of an Equalizer band:

- Click the corresponding dot and drag left or right.

### To change the Q-value of an equalizer band:


- Right-click (Mac or Windows) or Control-click (Mac) the dot, drag up to increase, or drag down to decrease the Q-value.

All three bands have a bell shape, but at the minimum Q-value setting switch to:

- Red: Low shelf
- Green: High-pass filter
- Blue: High shelf

## Effects Inserts

Strike provides two Effects inserts connected in series per channel. Select a channel to display its Equalizer and Effects settings. Strike includes a broad range of Insert effects.

 For a complete list of the provided effects and their parameters, see “Strike Insert Effects” on page 146.

### To select and activate an effect Insert:

- Click the Insert selector and select an effect from the pop-up menu. The Insert On/Off button lights automatically to indicate the effect is enabled.

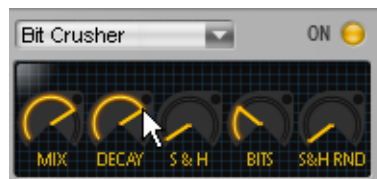
### To temporarily deactivate the current insert:

- Click the Insert On button so that the button is not lit.

### To clear the insert of any effects:

- Click the Insert selector and select “none” from the pop-up menu.

## Editing Effects



Each effect provides its own set of controls. The maximum number of controls per effect is five.

### To adjust a value of an effects Insert:

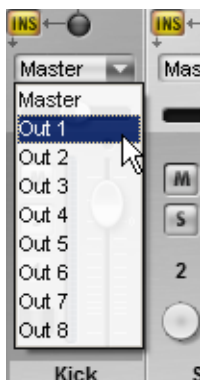
- Drag the rotary controls to change the value of the parameter. The value of the parameter being adjusted is displayed in the Information display below Strike's keyboard.

## Assigning Individual Channel Outputs

In addition to the Master Output, you can assign the Strike channels to one of eight individual outputs. These can be used as inputs for Pro Tools Auxiliary Input tracks for further mixing and processing.

**To assign a Strike channel to an individual output:**

- 1 Select an output for the channel from the Output pop-up menu in the Routing section.



- 2 Create an Auxiliary Input track in your Pro Tools session.
- 3 Select the Strike output as an input for the Auxiliary Input Track.



*Individual output assignments do not get saved with Mixes.*

## Mono/Stereo Output

The Individual outputs in Strike are stereo, this allows you to feed a total number of eight stereo or sixteen mono Auxiliary Input tracks with single Strike channels.

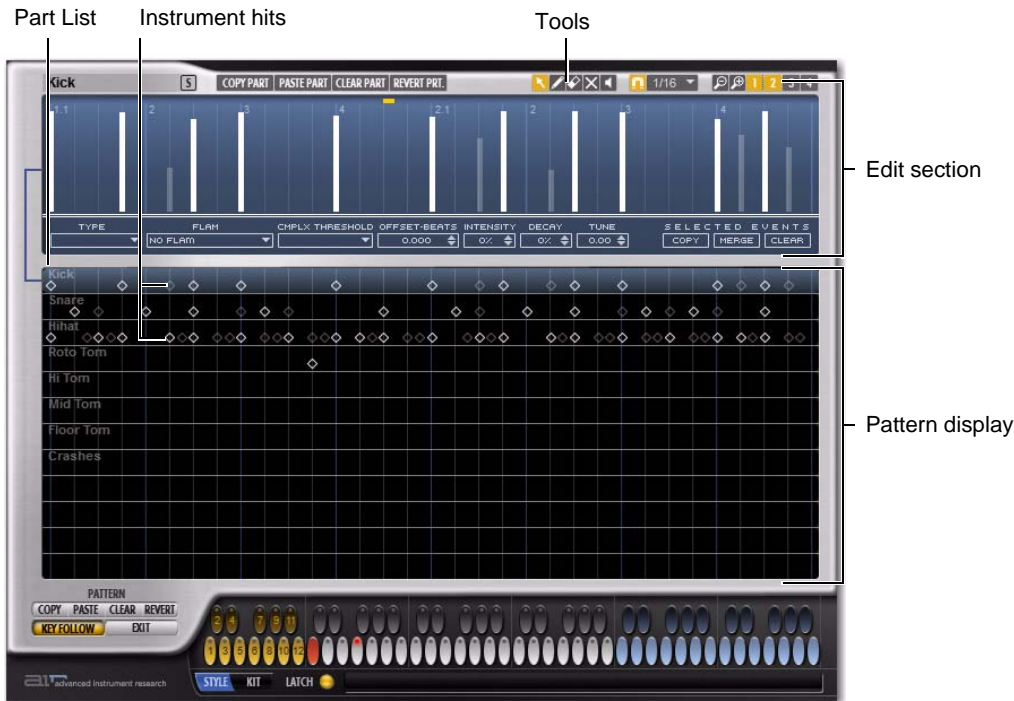
**To assign two channels to two Auxiliary Input tracks using one Output:**

- 1 Select the same output for two channels from the Output pop-up menu in the Routing section—for example, Out 1 for Kick and Snare.
- 2 Change the position of the channels in the stereo field, one fully to the right, the other fully to the left.
- 3 Create two mono Auxiliary Input tracks in your Pro Tools session.
- 4 Select the Strike output Out1.L as an Input for the first, and Out 1.R for the second Auxiliary Input track.



## Style Editor

The Style editor provides features for editing Patterns and Parts. Click the Edit Style button in the Navigator section to access the Style editor. There are two main sections:



Style editor

**Edit Section** Displays the Instrument hits of the currently selected Part as horizontally ordered events. Just like in any MIDI editor, you can change, move, and add events to alter or otherwise create your own Patterns.

**Pattern Display** Displays the entire Pattern and the rhythmic structure of its events as diamonds in vertically stacked lines, one for each Instrument. Clicking a line selects that Instrument's Part for editing, showing the individual events in the Edit section.

## General Controls

### Key Follow

When the Key Follow button is enabled the Style Editor automatically changes to always show the currently playing Pattern. Disable Key Follow if you don't want the display to change when you select other Patterns.



*The selected Pattern is indicated by a red LED on the Strike keyboard.*

## Copy Part

The Copy Part button copies the Part to the clipboard.

## Paste Part

The Paste Part button pastes the Part from the Clipboard, replacing all Instrument hits in the current Part.

## Clear Part

The Clear Part button deletes all Instrument hits from the current Part.

## Revert Part

The Revert Part button reverts to the last loaded Style or Setting, restoring the Part to its original state.

## Copy Pattern

The Copy Pattern button copies the entire Pattern to the clipboard.

## Paste Pattern

The Paste Pattern button pastes the Pattern from the clipboard, replacing all Parts.

## Clear Pattern

The Clear Pattern button clears the entire Pattern.

## Revert Pattern

The Revert Pattern button reverts to the last saved version of the Pattern.

## Exit Button

To leave the Style editor, click the Exit button.

## Edit Section Controls

The Edit section shows the currently selected Pattern superimposed on a bar|beat grid. Each vertical bar in the blue area represents an Instrument hit.

Depending on the current Complexity level set on the Main page, some events in a Part may not be played. Events that are not played appear grayed out in the Edit section. Muted events are shown as an outline only. The selected event is colored yellow.

## Solo

Click the Solo button to Solo the Part selected in the Edit section.

## Tools

There are seven tools for editing the events in the Edit section. The selected tools appear yellow.



*Selecting a tool for editing*

**Pointer** Selects events. To move events, drag bars to the left or right. To change intensity, drag bars up or down.

**Pencil** Adds events. Click in the blue area of the Edit section to add an event.


**Eraser** Removes events. Click an event to remove it.

**Mute** Mutes events. Click an event to mute it.

**Listen** Plays events. Click an event to play it.

**Zoom In/Zoom Out** Click the Zoom tool to change the Edit section's view. Click to zoom in, and click again to zoom out.


**Snap To Grid** If Snap to Grid is active, the time position of events in the Edit window can only be modified in eighth note steps. To move events to any time position, deactivate Snap to Grid.

 *Small time offsets are retained when moving events with Snap to Grid active. For example, a slightly late snare hit will stay slightly late at the new position to help preserve the feel of the Style.*

**Bar Numbers** Show which bars (1, 2, 3, 4) are currently viewed in the Editor. Click any bar number to show that bar in the Edit section. Drag left or right to scroll through which bars are viewed in the Edit section.

#### To add an event:

- 1 Select the Pencil tool.
- 2 Click in the Edit section where you want to add an event.

 *With the Pointer tool selected, press the Command key (Mac) or the Control key (Windows) to get the Pencil tool.*

#### To remove an event, do one of the following:

- Click it with the Eraser tool.
- Double-click it with the Pointer or Pencil tool.

#### To mute an event:

- 1 Select the Mute tool.
- 2 Click the event you want to mute.




*Muting an event in the Edit section*

#### To select an event for editing:

- 1 Select the Pointer tool.
- 2 Click the event you want to select.
- 3 Adjust the Event attributes.


#### To select multiple events for editing:

- 1 Select the Pointer tool.
- 2 Drag to select multiple contiguous events.
- 3 Adjust the Event attributes.

 *With the Pointer tool, Shift-click to select multiple noncontiguous events.*

#### To move an event:


- 1 Select the Pointer tool.
- 2 Drag an event to a new location.

 *With the Pointer tool selected, Option-drag (Mac) or Alt-drag (Windows) to copy and move an event (or multiple selected events).*



### To adjust the intensity of an event:

- 1 Select the Pointer tool.
- 2 Drag an event up or down to increase or decrease the Intensity.


 *With the Pointer tool selected, Command-drag (Mac) or Control-drag (Windows) to inversely increase and decrease selected events according to the Event Complexity Threshold setting.*

### Copy Selected Events

Click the Copy Selected Events button to copy the selected events to the clipboard.

### Merge Selected Events

Click the Merge Selected Events button to merge any events that are copied to the clipboard with the currently selected events.

 *Command-click (Mac) or Control-click (Windows) to intelligently merge only those events that do not overwrite an existing event.*

### Clear Selected Events

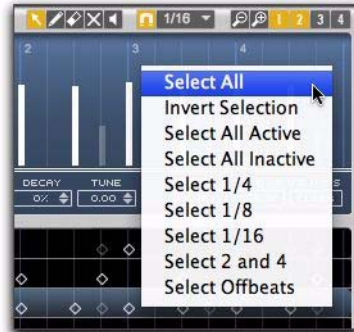
Click the Clear Selected Events button to clear selected events.

### Right-Click Commands

You can select events for editing using Right-click commands.

### To choose which events are selected:

- Right-click anywhere in the Edit section for the Style Right-Click menu and choose an option.



*Style Right-Click menu*

**Select All** Selects all events for the instrument shown in the Edit section.

**Invert Selection** Deselects the currently selected events and selects the unselected events.

**Select All Active** Selects all active events shown in the Edit section.

**Select All Inactive** Selects all inactive events shown in the Edit section.

**Select 1/4** Selects all events falling on the quarter-note grid.

**Select 1/8** Selects all events falling on the eighth-note grid.

**Select 1/16** Selects all events falling on the sixteenth-note grid.

**Select 2 and 4** Selects all events falling on beats 2 and 4.

**Select Offbeats** Selects all events falling on off-beats.

## Event Attributes

### Type

All Instruments consist of several types of hits—for example, center, rim, and sidestick for the snare drum. Choose a Type for the currently selected event from the pop-up menu.

### Flam

Use the Flam selector to add a Flam to the selected event. This creates a new event for the Flam and may reposition the originally selected event (depending on the type of Flam chosen).

### Offset-Beats

In a real drum performance, small timing offsets between Instrument hits contribute to the overall feel of the groove. Drag this control to fine-tune the position of the currently selected event. Values are shown as a fractional beat position where 0.125 beats is equivalent to one 32nd note.

### Complexity Threshold

Depending on the current Complexity level set on the Main page, not all events in a Part are played. Increase an event's Complexity Threshold level if you want it to play only at high Complexity levels. Decreasing the event Complexity Threshold level lets it play even at low Complexity levels. Setting the Complexity Threshold to Play Always ignores the Complexity level and always plays the event.

### Intensity

Use the Intensity control to increase or decrease the Intensity of selected events (0–100%). You can also drag up or down in the Event Intensity bar graph.

### Decay

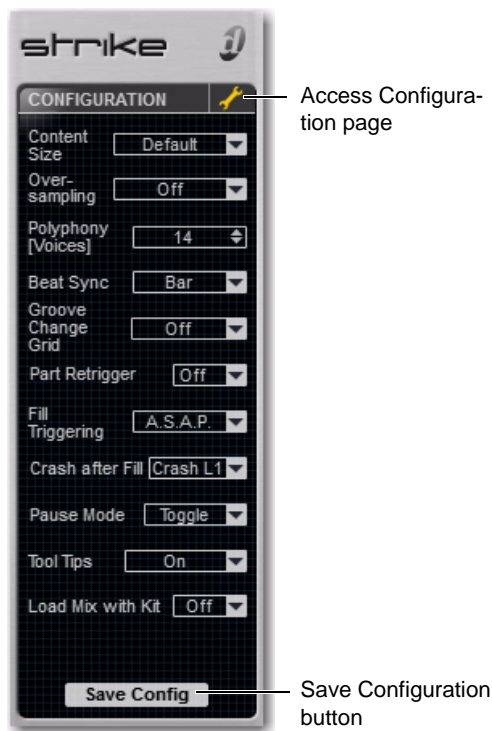
Use the Decay control to shorten the decay of selected events (0–100%).

### Tune

Use the Tune control to adjust the pitch of selected events (+/–6.00 semitones).

---

## Configuration Window



## Content Size

The Content Size configuration option defines how much waveform content Strike loads into RAM by default. To adjust the RAM usage, select a value from the menu that best fits your computer's system resources. Because lower values limit the range of expressive nuance in Strike, it is recommended that you use higher Content Size values, if possible.

## Oversampling

Using Oversampling can help avoid aliasing noise when adjusting the tuning of Instruments like crash cymbals, which can be rich in overtone content. Oversampling increases the plugin's internal sampling rate to achieve higher quality at the expense of slightly higher CPU load.

## Polyphony (Voices)

Configure the maximum number of voices (Instrument hits played at a time) that you want to reserve for Strike, using the Polyphony setting. Strike intelligently manages the number voices to suit the current Setting's requirements. If you experience problems with system resources such as audio drop-outs, decrease the number of voices.

## Beat Sync

The Beat Synchronization setting defines how Strike synchronizes to the Pro Tools session. There are three settings:

**Off** Synchronizes Strike to the Pro Tools session tempo, but not to the bar|beat position. When a Pattern is triggered, it synchronizes to the currently playing Pattern, that means—for example, when you play Strike in latched mode, every successive played Pattern will synchronize to the previously played. If no Pattern is already playing, Strike immediately starts playing the newly triggered Pattern from its beginning. In this mode, Strike beats will not automatically lock to Pro Tools bars and beats. For example, if you trigger a Pattern in the middle between two Pro Tools timeline quarter note beats, Strike will play synchronized but with a steady eighth-note time offset. This is the default setting.

**Beat** Synchronizes Strike to the Pro Tools session tempo and to the nearest beat. This means a Pattern that is triggered will start from its beginning at the next available quarter-note beat in the Pro Tools Timeline. Strike locks to beats but not to their position in the bar. For example, a Pattern can be started on the third beat of a Pro Tools timeline bar, but not between two quarter note beats.

**Bar** Synchronizes to the Pro Tools session tempo and to the current bar position. This means a Pattern that is triggered in the last quarter of a bar in the Pro Tools timeline will not play from its beginning but from the corresponding position in the Pattern, and will start in the next bar synchronized to the Pro Tools Timeline. In this mode, it is not possible to play the 1 of a Strike Pattern on the 3 of the current Pro Tools bar—Strike will always play the third beat of its Pattern on the third beat of a Pro Tools bar.

## Groove Change Grid

The Groove Change Grid option sets the position in the bar where Strike changes from the current Pattern to the next. For example, if this parameter is set to half notes (1/2), the Pattern change only occurs when the next half note in the bar is reached, regardless of when the Pattern is actually triggered.

## Part Retrigger

If Part Retrigger is set to On, each time a new Pattern is triggered, it immediately replaces the Pattern that is currently playing. If Pattern Retrigger is set to Off, the new Pattern is not played immediately, but only after the current Pattern finishes playing, based on the time set in Groove Change Grid.

## Fill Triggering

The Fill Triggering setting defines how Fills are triggered. There are three options:

**Next** Triggers the Fill at the next allowed position defined by the Pattern Change Grid setting, plays the whole Fill, and then changes back to the previously selected Pattern.

**A.S.A.P.** Triggers the Fill at the next musically sensible position for the time the key is held—changes back to the previously selected Pattern after the key is released.

**While Held** Triggers the Fill immediately, and plays it for the entire time the key is held. Changes back to the previously selected Pattern immediately after releasing the key.

## Crash After Fill

When one of the Crash After Fill options is selected, Strike plays a crash cymbal hit on the first Kick hit of the next bar after a Fill is played. If no Kick hit is present, the crash cymbal hit will correspond with the first hit of any other instrument played. The available options include Crash L1 (left), Crash R2 (right), and Alternate. Select Off for no crash hit after a Fill is played.

## Pause Mode

This configuration defines how the Pause keys work. There are three options:

**Toggle** Pauses Instrument playback when a Pause key is triggered. Playback resumes only when the Pause key is triggered again. This is the default setting.

**Held** Pauses Instrument playback as long as the Pause key is held.

**Released** Pauses all Instruments by default, single Instruments are resumed as long as their Pause keys are held.

## Tool Tips

Activates or deactivates Tool Tips for the Strike plug-in. 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.

## Load Mix with Kit

When the Load Mix with Kit is set to On, the Mixer settings stored with the Kit are loaded. When it is set to Off, the Mixer settings remain unchanged when you load a new Kit.

## Save Configuration

Saves the plug-in settings and the current MIDI controller mapping as the plug-in's default setting for your Pro Tools system. This only applies to the initialization of new instances of the plug-in.



*In general, plug-in settings are saved with the session, letting you save different default settings for different sessions (or types of sessions). Additionally, this guarantees that the plug-in settings of the current plug-in and session transfer to other systems.*

---

## MIDI Controller Mapping

Strike lets you assign standard MIDI controllers to virtually any parameter so that you can control Strike from a MIDI controller in real-time.

### To assign a MIDI controller to a parameter:

- 1 Right-click (Mac or Windows) or Control-click (Mac) a rotary control or fader.
- 2 Do one of the following:
  - Select a MIDI controller from the Assign pop-up menu.
  - or –
  - Click **Learn**, and move a control on your MIDI controller. The parameter is automatically assigned to that control.



*Assigning a MIDI controller*

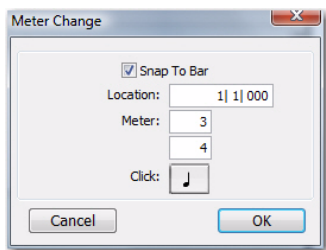
### To un-assign a MIDI controller:

- 1 Right-click (Mac or Windows) or Control-click (Mac) a rotary control or fader.
- 2 From the pop-up menu, select **Forget**.

---

## Changing Time Signatures

Strike intelligently follows time signature changes in Pro Tools. Set the time signature in Pro Tools and the engine will automatically recalculate every pattern played in real time, matching the new time signature.



*Changing the Meter in Pro Tools*

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## About Box

The About Box shows Strike's version number and the names of the people behind Strike.

### To bring up the About Box:

- Click the Strike logo above the Browser.



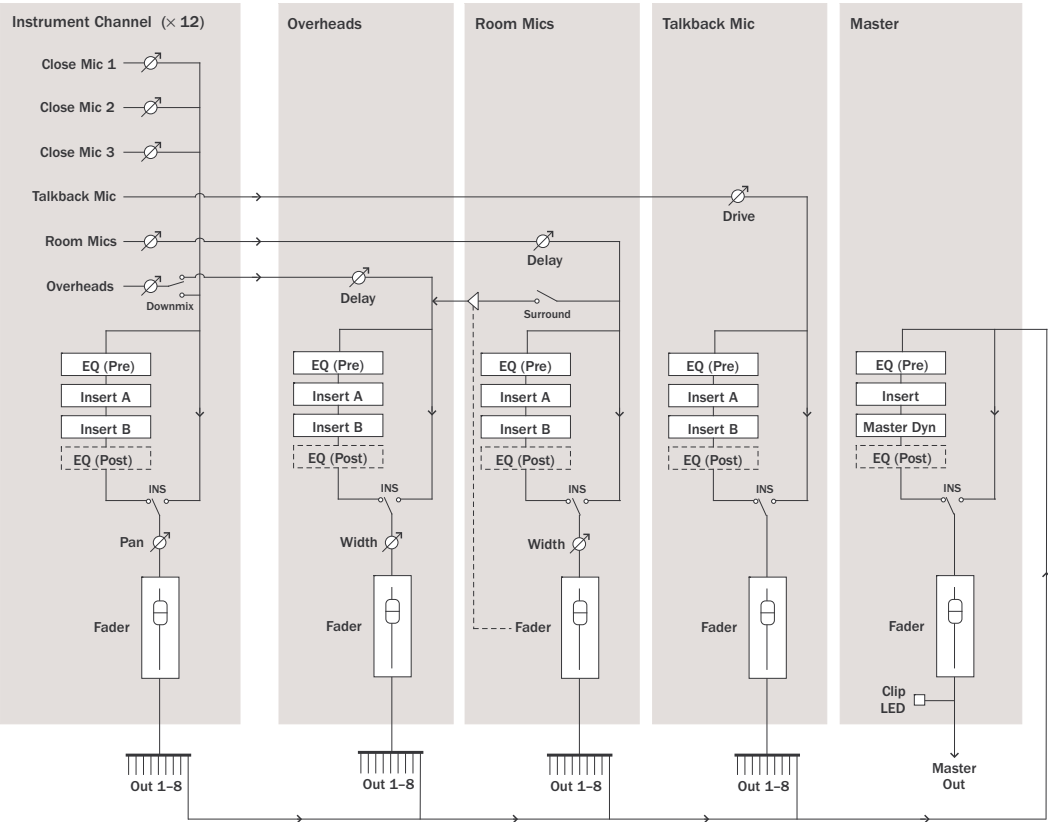
*Bringing up the About Box*

### To hide the About Box:

- Click the Strike logo again.

# Chapter 10: Strike Signal Flow and Effects

## Strike Mix Page Signal Flow



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# Strike Insert Effects

<b>Dynamics 3 Compressor</b> Standard Pro Tools compressor	
	Drive
	Ratio
	Output
	Attack
	Release
<b>Opto Compressor</b> Vintage-style compressor with feedback sidechain	
	Drive
	Attack
	Release
	Output
<b>Eco Compressor</b> Basic compressor, uses fewer system resources	
	Drive
	Ratio
	Attack3
	Release
	Output
<b>Brickwall Limiter</b> Hard-knee, high ratio compressor	
	Drive
	Attack
	Release
	Output

<b>Gate</b> Classic noise gate	
	Threshold
	Attack
	Hold
	Release
	Depth
<b>Envelope</b> Triggered envelope shaper	
	Attack
	Level
	Decay
	End Level
<b>Pumper</b> Rhythmic amplitude modulation that emulates the behavior of a pumping compressor	
	Speed
	Shift
	Depth
	Time
	Shape
<b>Dynamic EQ</b> Triggered equalizer, only affecting attacks	
	Freq
	Gain
	Q
	Start
	Length



<b>Tube Saturation</b> Warm tape-like overdrive	
	Drive
	Bias
	Saturation
	Tone
	Mix
<b>Distortion</b> Fuzz-like overdrive	
	Drive
	Mix
	Output
<b>Bit Crusher</b> Reduces bit depth and sample rate of the signal	
	Mix
	Decay
	Rate
	Bits
	Rand
<b>Enhancer</b> Adds artificial brightness to the signal	
	Tune
	Depth
	Drive

<b>Mic Modeler</b> A range of microphone and speaker simulations	
	Classic Cap
	Vintage Cap
	Large Cap
	Small Cap
	Standard Dyn
	Vocal Dyn
	Snare Dyn
	Tom Dyn
	Kick Dyn
	Egg Dyn
	Boundary
	Ribbon
	Radio
	Speaker (Used as a microphone)
<b>Vari Filter</b> Triggered multi-mode filter for “auto wah” effects	
	Mode
	Cutoff
	Resonance
	Decay Rate
	Mix

<b>Ring Modulator</b> Adds sum and difference frequencies to the signal	
	Mix
	Freq
	Env
	LFO
	Rate
<b>Frequency Shift</b> Enharmonic shifter, useful for tuning drums	
	Coarse
	Fine
<b>Delay</b> Adds echoes, adjustable in milliseconds or beats	
	Mix
	Time
	Feedback
	Balance
	Tone
<b>Dub Delay</b> Adds a dub-style delay	
	Mix
	Time
	Feedback
	High Pass Filter
	Low Pass Filter

<b>Reverb</b> Dense 80s style reverb	
	Shape
	Time
	Damp
	Width
	Mix
<b>Phaser</b> A sweeping notch filter effect	
	Mix
	Rate
	Depth
	Feedback
	Width
<b>Chorus</b> Adds stereo width and detuning	
	On
	Mix
	Attack
	Rate
	Depth
<b>Oscillator</b> Triggered sine wave or noise to mix with or replace drum hits	
	Mix
	Freq
	Sweep
	Tone
	Decay

# Chapter 11: Strike Styles

The following Styles (including all necessary sample content and patterns) are installed with Strike:

12-8 Ballad 051

12-8 Rock 128

4 On Floor 130

6-8 Ballad 031

Ac Woods 098

Acid Jazz 120

Acoustic Folk 124

Adult Rock 098

Afro Beat 090

Alt Rock 180

Alternative 155

American Funk 090

Art Rock 130

Bebop 160

Beguine 095

Blues 070

Blues Pop 098

Blues Shuffle 130

Bolero 110

Boogaloo 155

Bossa Nova 145

Bounce 175

Bounce Rock 130

Brit Indie Fast 120

Brit Indie Slow 078

Brit Pop 105

Brit Rock 095

Cajun Blues 176

Cha Cha Cha 132

Classic RnB 120

Clean Funk 105

Country Pop 130

Country Train 168

Dancehall 085

Dirty Funk 105

Distortion Punk 120

Doowop 065

Double Timer 119

Downbeat 070

DrumBass 175

Dry Rock 112

Dub 075

Dull Beat 140

E+Ambient 090

E+Chem Beats 095

E+Culture Beatz 090

E+Dance1 124

E+Dance2 125

E+Delay Dancer 120

E+Delay Drums 110

E+Dirty Drums 095

E+Dry Beat 115

E+Dubstep 070

E+El Ballad 085

E+Electric Echo 118

E+Electro 120

E+Electro 125	E+Straight Hop 085
E+Electronica 125	E+Super Swing 100
E+Hard Hop 098	E+Synth Pop1 125
E+Hard House 128	E+Synth Pop2 128
E+Hip Hop1 090	E+TechHouse 130
E+Hip Hop2 095	E+Techno 145
E+Hip Hop3 070	E+Trance135
E+Hip Hop4 080	E+Trash Hop 075
E+Hip Hop5 085	E+Triplet Trip 105
E+Hip Hop6 093	E+Urban Beatz 100
E+HipBeatz 100	E+Weird 130
E+Hybrid Beat 100	E+World Pop 100
E+Hybrid Dub 080	Easy Pop 110
E+Hybrid Funky 100	Easy Swing 124
E+Hybrid Hop 075	Ethno Beat 098
E+Hybrid House 122	Euro Punk 165
E+Hybrid Weird 085	Female Ballad 075
E+Latin Pop 100	Folk 096
E+Minimal 120	Folk2 115
E+Mississippi 090	Four On Floor 120
E+Mixed Ballad 072	Funk Ballad 070
E+Mod Mambo 102	Funk Vintage 100
E+Modern Rock 160	Funky Pop 115
E+Offbeat 126	Gospel 098
E+Perc Beatz1 090	Groove Pop 105
E+Perc Beatz2 103	Grunge 115
E+Perc Beatz3 103	Half Dble Time 077
E+Pop Shuffle 086	Happy Beat 105
E+Prog House 125	Hard Funk 090
E+Ragga 098	Heavy Metal 135
E+Rap 090	Heavy Shuffle 130
E+RnB2 095	House 125
E+RnB3 100	Indie Beat 125
E+RnB4 110	Indie Pop 135
E+RnB5 140	Indie Rock 140
E+Slip Hop 090	Jazz Bossa 100

Jazz Pop Ballad 063	Psy Rock 075
Jazz Samba 110	Punk 180
LA Funk 115	Punk Rock 120
LA Pop 110	Reggae1 075
LA Shuffle 095	Reggae2 065
Laid Back 075	Reggae3 070
Latin Pop 120	RhythmnBlues 075
Light Pop 095	RnB1 075
Lite Country 082	RnB6 080
Lite Shuffle 150	RnB7 086
Live Pop 115	Rock Ballad 065
London Soul 075	Rock Funk 095
Mambo 140	RocknRoll 160
Metal Ballad 060	Shuffle 097
Metal1 090	Shuffle 4 Floor 120
Metal2 130	Shuffle Pop 120
Metal3 140	Ska 140
Modern Rock1 120	Slow Blues 055
Modern Rock2 140	Songo Fusion 120
Modern Rock3 145	Soul Ballad 085
Modern Rock4 150	Soul Funk 090
Modern Rock5 165	Southern Soul 125
Modern Rock6 175	Speed Rock 195
Nu Jazz 125	Straight Funk 127
Nu Metal 110	Straight Reggae 090
Percussion 120	Straight Rock 140
Pop Ballad 070	Straight Rock2 115
Pop Bossa 140	Straight Rock3 150
Pop Reggae 095	Swamp Funk 095
Pop Rock 085	Tango 120
Pop Rock 090	Teen Rock 150
Pop Samba 118	Terapop 130
Pop Simple 103	Texas Boogie 115
Power Ballad 068	Triple Rock 150
Prog Metal 130	Triplet Ballad 052
Prog Rock 090	Vin RocknRoll 170

Vintage Rock 145  
W Coast Funk 095  
Walker 105  
White Soul 100  
World 100

# Part IV: Structure





# Chapter 12: Structure Overview

Structure is an RTAS plug-in that adds the flexibility and power of a professional sampling workstation to any Pro Tools system. Using proprietary technology and a musically intuitive design, Structure takes sampling within Pro Tools to a new level.

## Main Sections



Structure Main page

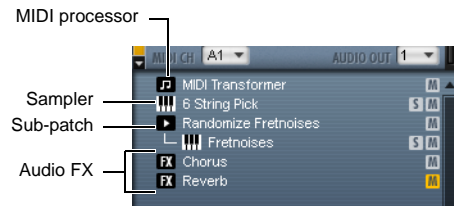
## Patch List

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 “Patch List” on page 186.

## 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 “Part List” on page 191 for more information.

## The Different Types of Parts



### *Parts within a Patch shown*

**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. Sub-patches 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 “Sub-Patch” on page 194 for more information on using Sub-patches.

**Audio FX** Contains an Insert effect with its parameter and output settings.

## Keyboard/Smart Knob Section



*Keyboard 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” on page 183 for more information.

## Smart Knobs



*Smart knob*

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.

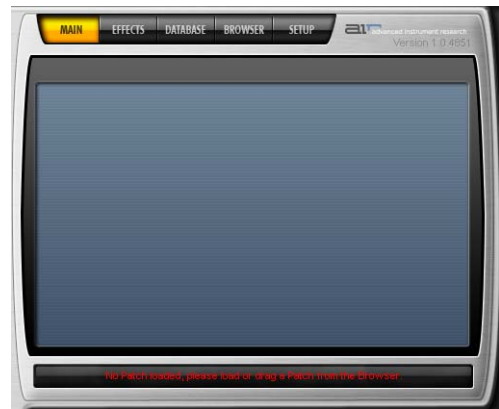
## Master (Output Volume)



*Adjusting the Master control*

The Master control on the right adjusts Structure’s Main volume for all outputs.

## Parameter Panel

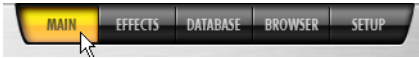


*Empty Parameter panel*

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.



*Accessing a Control page*

**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.



*Displaying the Output sub-page*

## 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*

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 “Main Page” on page 196.

## Effects (Global Send Effects)

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

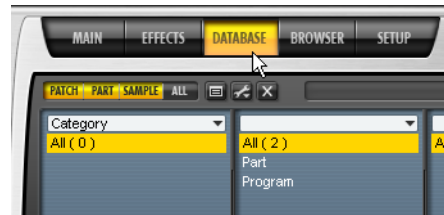


*Effects page*

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. The handling of effects within the inserts works in the same way as in the Pro Tools Mix window. To learn more about the Effects page, see “Effects Page” on page 209.

## Database

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



*Accessing the Database*

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 “Database Page” on page 212.

## Browser

- Click the Browser tab to access the Browser page.



Accessing 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 “Browser Page” on page 214.

## Setup Page

- Click the Setup tab to access the Setup page.



Accessing 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 Pro Tools integration. To learn more about the Setup page, see “Setup Page” on page 216.

## 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.

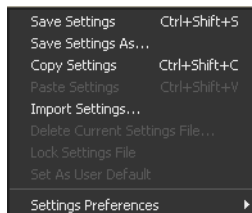
**Part** A part can be a multisample, an insert effect, a Sub-patch, or a MIDI processor.

## 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



### Saving Settings

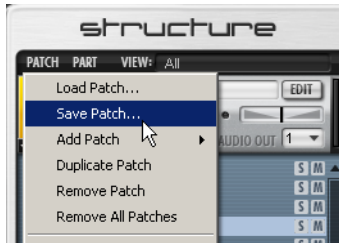
- 2 In the following dialog, enter a name and location for the setting and click Save.

## Patch

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

### To save a patch:

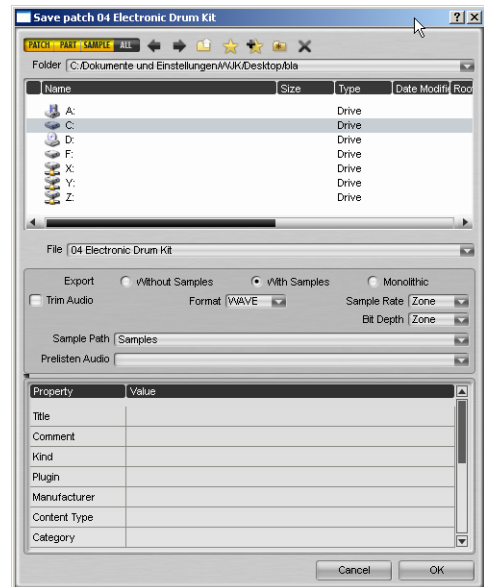
- 1 Select the patch in the Patch list.
- 2 Select Save Patch from the Patch menu.



### *Saving a patch*

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.



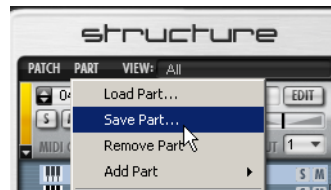
### *Save Dialog*

## 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.



### *Saving a part*


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.

 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” on page 189.

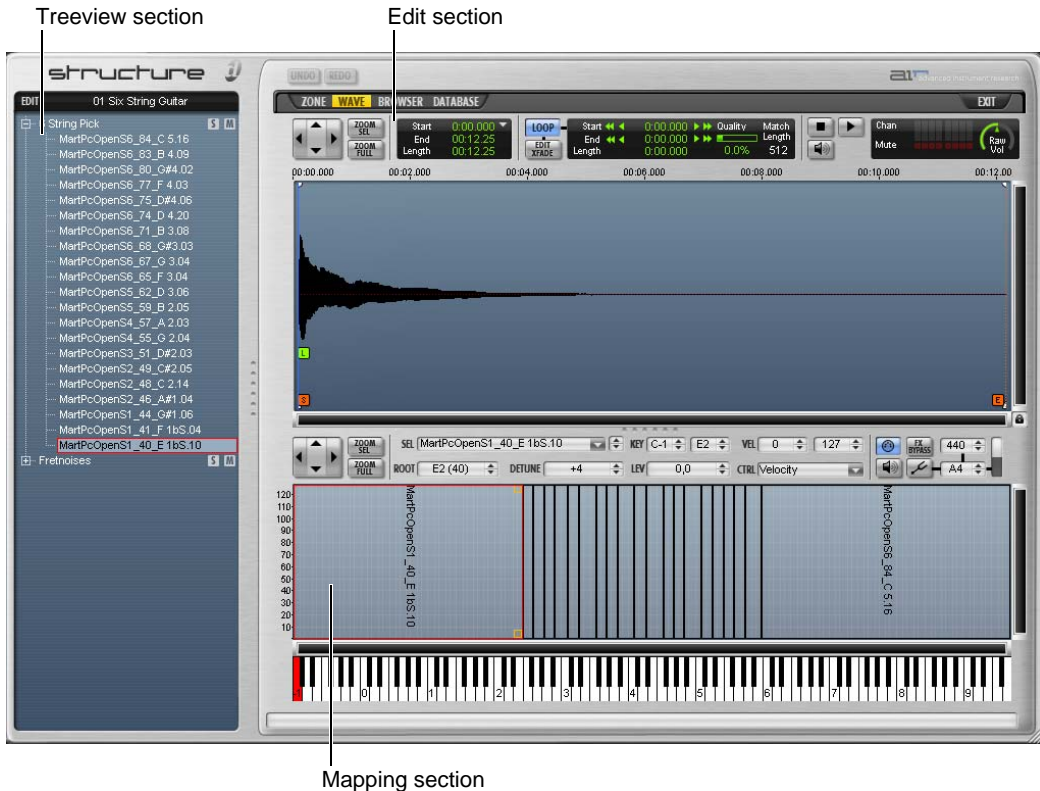
 When importing Gigasampler Patch files, the sample files are copied to your local computer and a Structure Patch is created. You can specify the directory where Structure will copy the new files on the Setup page using Copy Samples to Local Drive Settings (Content > Copy Samples To Local Drive Options).

 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.



Structure Editor window

 To learn more about the Editor window, see "Editor Window" on page 219.

**To access the Editor window for a patch:**

- Click the Edit button on a patch module.



Accessing the Editor window

## Treeview Section



*The Treeview*

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*

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*

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

### To access the sub-pages:

- Click the corresponding sub-page tabs.



*Accessing the Zone parameters*

**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 “Browser Page” on page 214.

**Database** Provides a powerful set of integrated tools for tracking, organizing and managing your Structure patches, parts, and samples. For more information, see “Database Page” on page 212.

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## 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.



*Assigning a MIDI CC*

### 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.



*Deleting a MIDI controller assignment*

---

## Adjusting Controls

You can adjust all controls by using the computer mouse. Some controls are adjusted by 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.



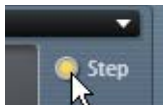
*Dragging a knob*

## Activating Buttons

Some controls are enabled or disabled using buttons.

### To enable a button:

- Click the button. Click again to disable it.



*Enabling a button*

### 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)



*Buttons in Zone mode*

### 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:

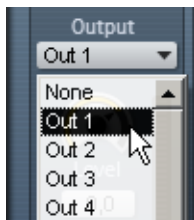
- Click the control without dragging it.

## 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.



*Selecting a value from a 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:

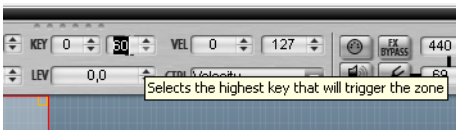
- 1 Move the cursor over a rotary knob or fader.
- 2 Scroll the wheel up to increase values. Scroll the wheel down to decrease values.

## 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.



*Adjusting the zone's key range using MIDI input*



See “MIDI Learn” on page 165 for information on Structure’s MIDI Learn functionality.



# Chapter 13: Structure Quick Start

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

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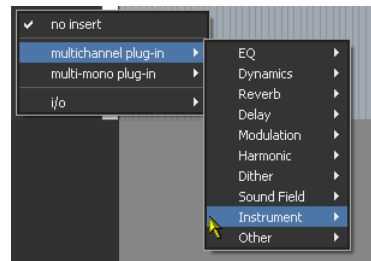
## Inserting Structure On a Pro Tools Instrument Track

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.



*Inserting Structure on a stereo Instrument track*

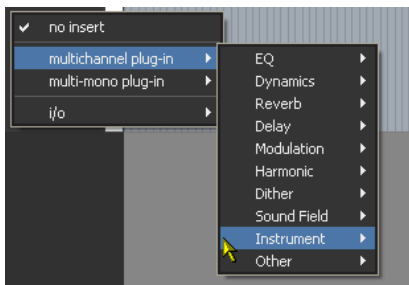
### To remove the plug-in:

- 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.



*Inserting Structure on a stereo Instrument track*

### 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.



*The default Sine Wave Patch*

### Loading a Patch

- 1 Click the Browser tab in the Parameter panel to display the Browser page.



*Browsing for Patches*

- 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:

#### Mac OS X

/Applications/Digidesign/Structure/Structure QuickStart

#### Windows

Program Files\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.



*Adjusting the Patch volume*

## Finding Missing Samples

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



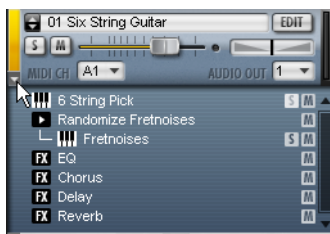
*Missing samples*

**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.



*Revealing 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 sub-page. Set the attack time to 200 ms by moving the upper left handle in the envelope.



*Accessing the Amp sub-page*

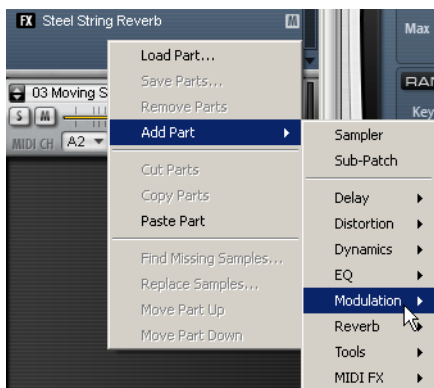
- 5 Use the attack fader (fader A) to set it back to 0.
- 6 Now grab the top half of the Attack fader and set it to 20% for creating a velocity sensitive attack behavior for the guitar part.

## 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.



*Adding an Effect part*

## 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.



*Loading a patch from the Patch menu*

- 2 Load Moving Synth Pad.patch from the Quick-Start 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.



*Assigning a Patch to MIDI channel 1*

- 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

- 1 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. 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%.

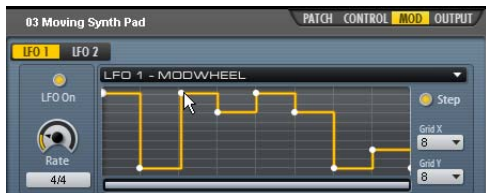
- 5 Set the Smart Knob for Release to 75%.



*A Smart Knob*

## Modulating Amplitude by LFO

- 1 Select the synth patch and click the Mod sub-page 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.



*Adjusting LFO 1*

## 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.



*Sending a Patch into Global effects*

- 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.



*Inserting a global effect*

- 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.




*Key Switches*

- 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.

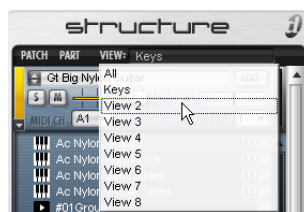
- 1 Drag the REX file 05\_4 On The Floor Loop.rx2 from the QuickStart folder into the Patch list.
- 2 Structure automatically creates a new Patch module with two parts: a Rex Player and a sampler part.
- 3 Assign the patch to MIDI channel 1.
- 4 Solo the patch.
- 5 Play notes between C0 and B0 to trigger single slices of the loop.
- 6 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 “Rex Player” on page 251.

## Using Viewgroups

1 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 us put the guitar and the synth patch into one viewgroup called Keys and the drum and the loop patch in a viewgroup called Drums.

- 2 Click on the View menu on top of the Patch list.
- 3 Select View 1.
- 4 Double-click View 1 and type Keys to rename it.



*Selecting a viewgroup*

- 5 Accordingly select View 2 and rename it to Drums.
- 6 Select View All to show all patches.
- 7 Right-click the 04 Electronic Drum Kit patch to open the Patch menu.
- 8 Select Show In View > Drums
- 9 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.
- 10 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.

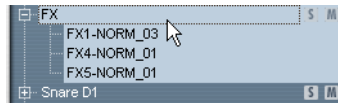


*Zooming in*

- 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.

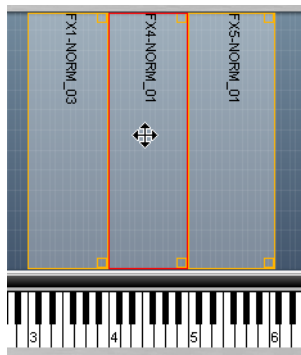
## Moving Sample Zones

- 1 Select the FX part in the treeview. Its sample zones are selected in the Mapping section.



*Selecting a part*

- 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.



*Moving selected Zones*

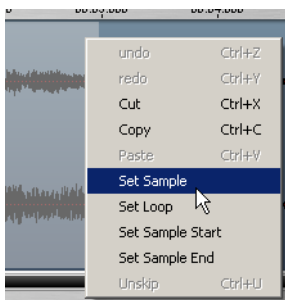
## Undoing the Last Step

- 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 (Control-click on Mac) into the selection to show the context menu. Choose Set Sample to set the sample start and end points to your selection.



*Setting sample start and end points*

- 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 Treeview 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.



*Changing Zone parameters*

---

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

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 Figure 6 below).



Figure 6. Bus recording the output of Structure in Pro Tools

### Routing Multiple Pro Tools 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.



Assigning different Parts to different MIDI Port and Channel Inputs



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.



Figure 7. Assigning different Parts to different MIDI Port and Channel Inputs

## Routing Structure Audio Out 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.



Figure 8. Assigning different Parts to different Audio Outs in the Part list in Structure

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.



*The Audio Out 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.




Figure 9. Selecting Structure Audio Out 3 as the Input for an Auxiliary Input track

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



Figure 10. Using multiple MIDI tracks to play separate Parts in Structure, and separately monitor each Part on Auxiliary Input tracks

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

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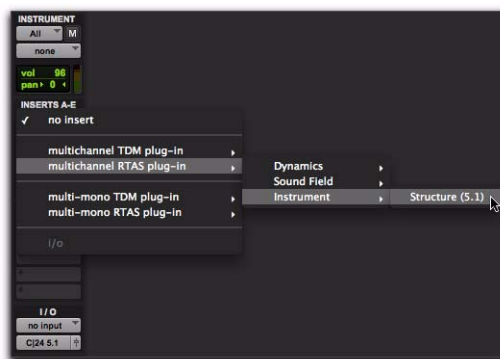
## Using Structure on Multichannel (Greater-Than-Stereo) Tracks

### (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.

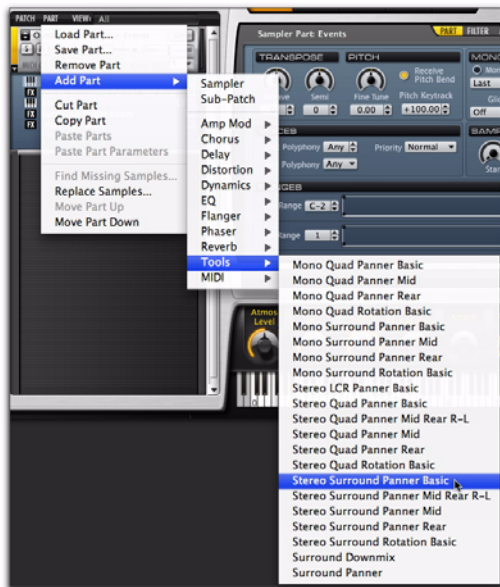


*Inserting Structure (5.1) on a 5.1 Instrument track*


- 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.



*Adding a Surround Panner FX Part*

 For more information about Surround Panning controls, see “Tools (for Surround)” on page 246.

# Chapter 14: Structure 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.



*Keyboard section*

## Smart Knobs

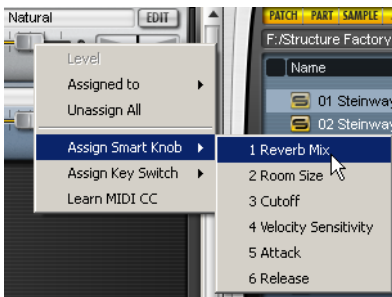


*Smart knob*

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.



*Assigning a Smart knob*

### 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.



*Removing a Smart knob 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.

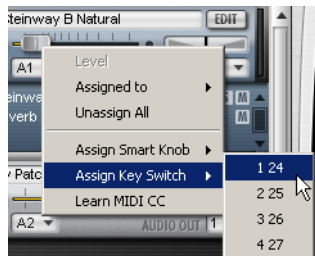
### To assign a parameter to a Key switch:



*Key Switches*

- 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.

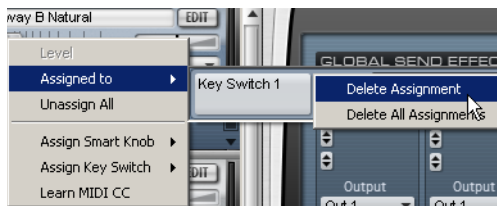


*Assigning a Key switch*

**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.



*Removing a Key switch assignment*



*You can edit the Key switch, and Smart knob assignments in detail on the Control sub-page of the patch. If you want to learn more, see “Using the Control Line” on page 198.*

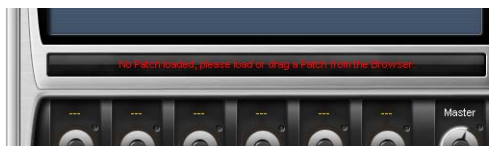
## Master (Output Volume)



*Adjusting the Master output control*

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



*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.

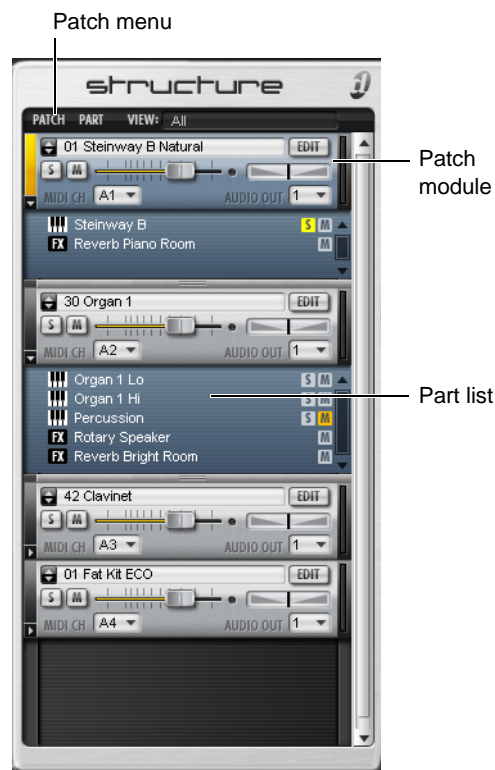


Editing the Patch description



*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



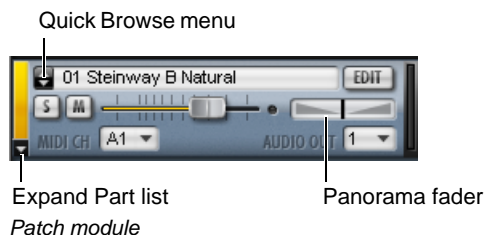
Patch list

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 sub-pages.

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 “Browser Page” on page 214 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 “Editor Window” on page 219.

## Patch Menu



*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 “Save Dialog Controls” on page 189 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 “Viewgroups” on page 190.

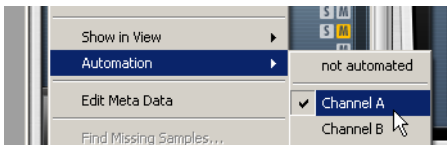
## Automation Channel

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 sub-menu.

### 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.



*Assigning an Automation channel*

## 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 "Database Page" on page 212 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" on page 194.

## 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" on page 190.

## 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" on page 218 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.

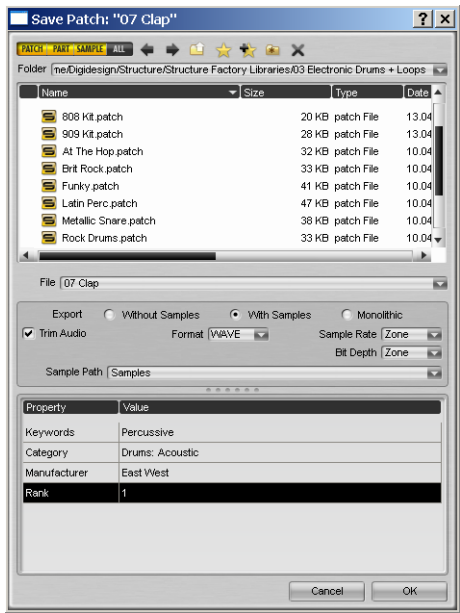
### To load a patch from the browser:

- 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



*Saving a patch*

**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.

 *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.

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

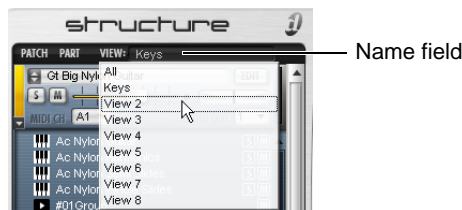
### To assign a patch to a viewgroup:

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.



Selecting 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.



*Applying sample unload*

## 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:

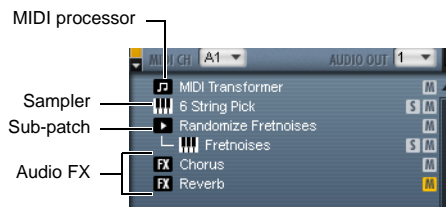
- Click the small triangle on the left of the patch.



*Revealing 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.

## The Different Types of Parts



*Parts within a Patch shown*

**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. For a list of available audio effects and controls, see Chapter 16, “Structure MIDI Processors”).

**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. Sub-patches 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 “Sub-Patch” on page 194.

**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. For a list of available audio effects and controls, see Chapter 15, “Structure Audio Effects.”

## Part Parameters

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

**Solo Button** Solos the part.

## Part Menu



*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 “Finding Missing Samples” on page 194.

### 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.

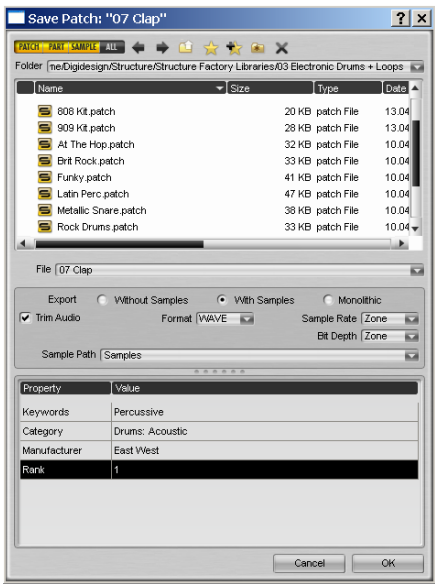
### To load a part from the browser:

- 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



Save dialog

**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.

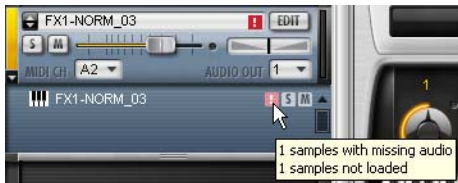
**Format** Selects a file format the exported samples are saved in (AIFF or WAVE).

**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.



*Missing samples*

**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.



*Sub-patch controls*

**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 holding a Sampler part*

## 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.

---

## Main Page

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.



*A Patch's Play parameters on Main page*

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

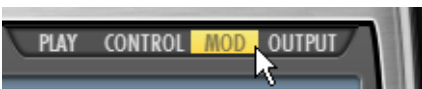
- 1 Go to the Main page.
- 2 Click a patch in the Patch list. The selected patch appears blue.

### 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.



Selecting the Modulation sub-page

---

## 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.



*Each sample zone in each Sampler part that is 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.



*Control sub-page*

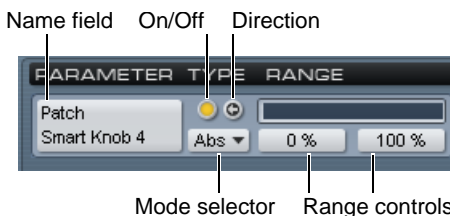
**SMART (Smart knob assignments)** Shows all Smart knob assignments of the patch. You can create, edit, and delete assignments in this section. Select a source Smart knob in the Name column on the left to show its destinations in the column on the right.

**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 “Key Switches” on page 184 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.



*Control line*

**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.

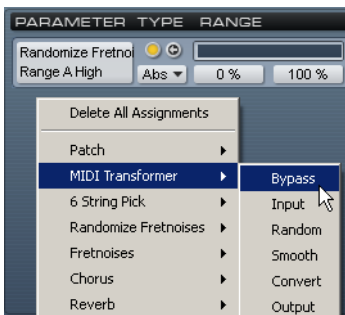
**Mode Selector** Selects an operational mode for the assignment: Absolute, Switch, or Relative.

- 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.



*Creating a new assignment in the Control sub-page*

– or –

- Right-click (Windows or Mac) or Control-click (Mac) a control and choose an assignment.



*Learning a MIDI CC for a control*

### 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.



*Accessing the control's assignments*

## 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 After-touch.



*Mod page*

**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.



*Output 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.

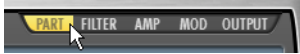
**Enable Part Sends** Activates effect sends from within parts in the patch.

**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.



Selecting the Part sub-page

### Part Sub-Page



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.

 Each sample zone in each Sampler part that is 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



Filter sub-page

 For detailed information about the Envelope (AHDSR) controls, see “Envelope Controls” on page 206.

**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.

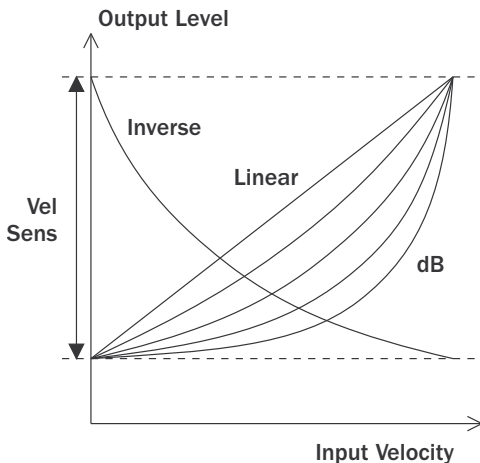
**Decay** Sets the time the Filter envelope takes to fall from hold level to sustain level.

**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).



Velocity curves

**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



Amp sub-page

 For detailed information about the Envelope (AHDSR) controls, see “Envelope Controls” on page 206.

**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” on page 223), 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.

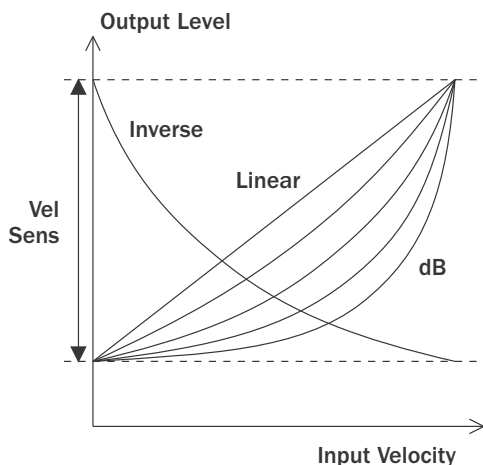
**Decay** Shortens the played instrument hits by applying an amplitude Decay after the Hold time.

**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).



*Velocity curves*

**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



*Modulation matrix on Mod 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

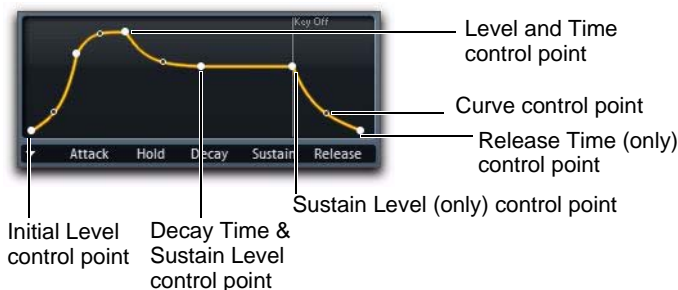
Both the Filter Sub-page and the Amp Sub-page provide common controls for an Envelope generator. The Envelope can control how the Filter or Amplitude evolves over time (from MIDI note on to MIDI note off). You can adjust the parameters of the Envelope using the Envelope graph, Fader controls (in Fader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



*Envelope section*

### 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.



*Envelope section*

**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.
- or –
- 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:**

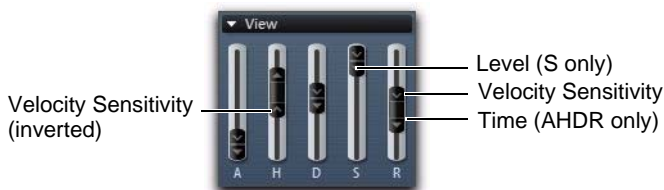
- In Fader view, drag the corresponding Velocity Offset fader up or down.
  - or –
- In Text view, enter a Velocity Sensitivity (Vel) value (–100% to +100%).

## 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.



*AHDSR controls in Fader View*

## 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.



### Selecting Text View

**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).

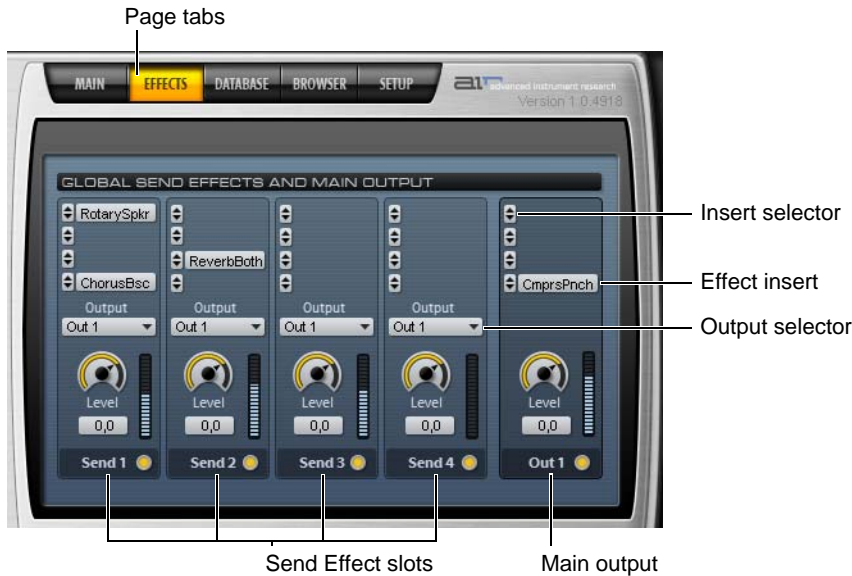
**Vel Sens (Velocity Sensitivity)** Adjusts the envelope velocity sensitivity (range in dB between lowest and highest velocity).

**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 handling of Insert effects within the slots works in the same way as in the Pro Tools Mix window.



*Effects 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.

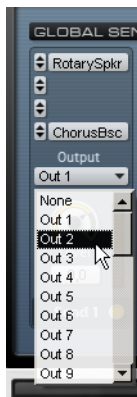
**Send On/Off** Activates or deactivates the Main output's Insert effects. When activated the LED is lit.

## Assigning Individual Channel Outputs

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

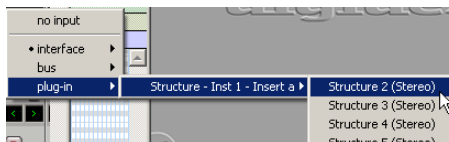
### To assign an individual output:

**1** Select an output for the channel from the Output pop-up menu.



**2** Create an Auxiliary Input track in your Pro Tools session.

**3** Select the Structure output as an input for the Auxiliary Input Track.





## Editing Effects

### To insert an effect:

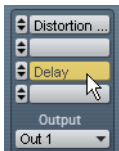
- Click the Insert selector and select an effect from the pop-up menu.



Inserting an effect

### To bring up the Parameter page of an effect:

- Click the effect insert.



Clicking an insert

### To return to the Effect slots:

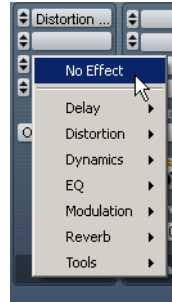
- Click the Back button on the Parameter page.



Returning to the Effect slots

### To remove an effect:

- Click the Insert selector and choose No Effect from the pop-up menu.



Removing an effect

### 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.



Sending a part to a global Send Effect slot 1

### 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.



Database page

**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.



Searching only patches

**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.

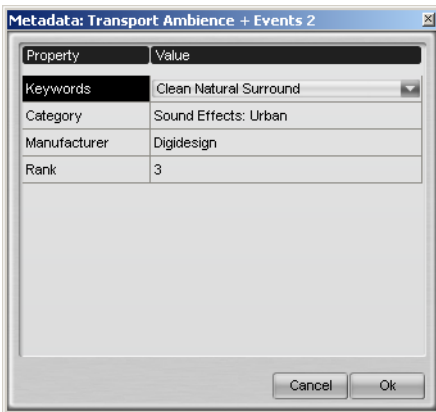
**Sample** Activates the displaying of only samples.

**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.



*Editing a patch's metadata*

**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!

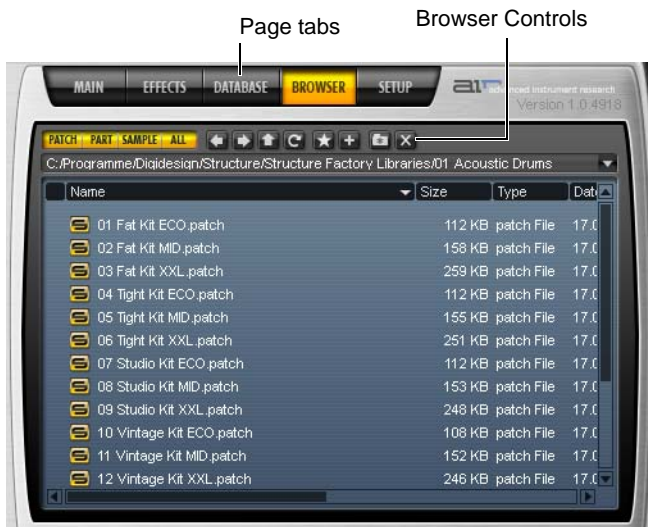
**⚠** *The Rebuild Database command will clear the metadata for all files that are not Structure format patches or parts, and also all Structure format Patches and Parts that are located in folders not listed under Edit Content Locations.*

**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

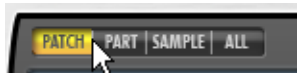
The Browser lets you search and display the local file system. Files like patches, parts, and samples can comfortably be loaded from here using drag and drop. The Browser is not supposed to be a file manager. Modifying operations like copying, moving, or deleting are not available.



*Browser page*

### 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.



*Searching only patches*

- 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.

### 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.

## Previewing Samples

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

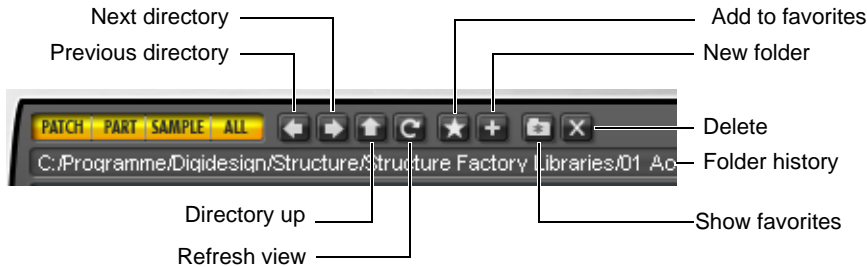
### To preview samples before loading:

- Click the speaker icon in the left browser column. Click again to stop playback.



*Previewing a sample*

## Browser Controls



*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 Pro Tools integration. There are four sub-pages giving access to settings for different purposes:



*Accessing the Engine sub-page*

**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



*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 Chapter 17, "Structure Key Commands."*

## 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 Pro Tools will play back many audio tracks it is recommended to set this value towards Audio Tracks to enable direct Structure integration with the Pro Tools audio engine (disk scheduler). When fewer Pro Tools audio tracks are playing back in parallel with Structure, set the parameter towards Sampler Voices for a higher polyphony and more voices.

💡 *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



### 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 pre-load 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.

💡 *This setting has most effect on bright sounding samples, and at session sample rates of 44.1 kHz and 48 kHz.*

## Instrument Settings



Instrument settings

### General

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

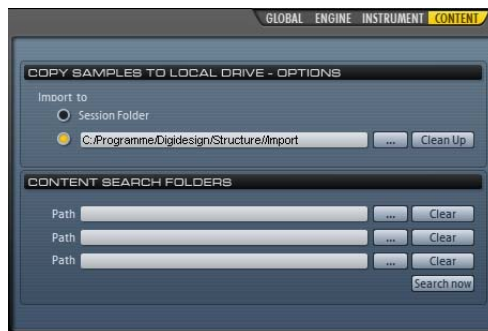
**Fine Tune** Fine tunes all patches in cents.

### 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



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" on page 188 for more information.

💡 *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

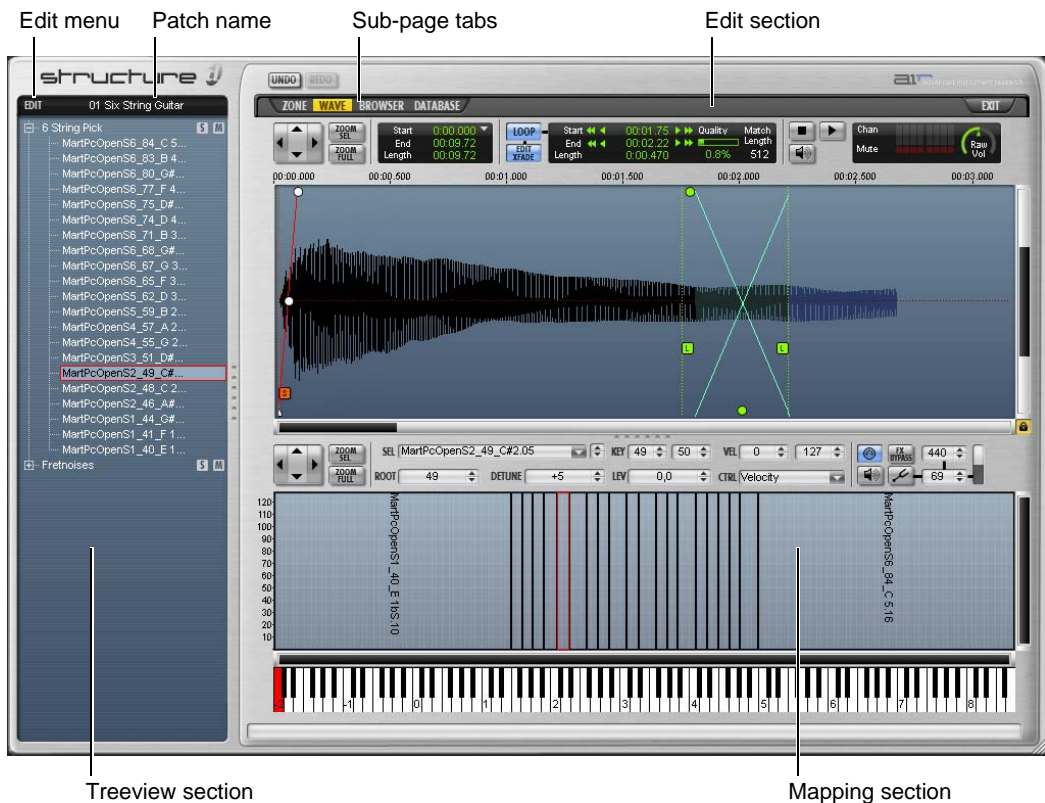
If patches can not find their samples because directories have been renamed or moved, Structure will automatically search for missing samples in the specified Content Search Folders, pointing the patches to the new file location.

## 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.



Editor window

## Resizing the Editor Window

The whole Editor window and its three areas can be resized.

### To resize the Editor window:

- Click the handle in the lower right of the window and drag to resize the window.



*Resizing the Editor windows*

### To resize an Editor section:

- Click the corresponding handle and drag to resize the section.



*Resizing a section*

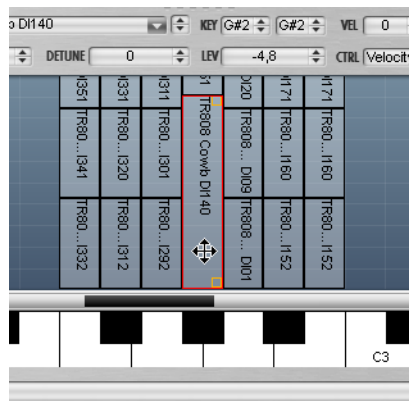
### To leave the Editor:

- Click the EXIT button on the top right of the Edit section.



*Leaving the Editor window*

## Samples and Zones



*Selecting a zone in the Mapping section*

A zone is a loaded sample including all the relevant information of keyboard assignment and play parameters within Structure. You could see it as a container for one sample, and its complete set of parameters for modifying that sample, including its loop settings, root key, keyboard mapping, and playback parameters. One Zone can consist of and play back several separate mono files when you load multi-channel samples. If you select a Zone in the Mapping section or Treeview, it is automatically selected in all other sections of the Editor window.

---

## 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 “Finding Missing Samples” on page 194 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” on page 218 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

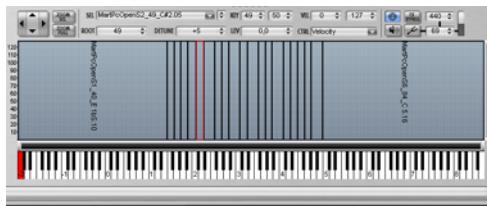
To load one or more samples do one of the following:

- Drag clips from Pro Tools 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 “Samples and Zones” on page 220.



Mapping 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.



*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.



*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.

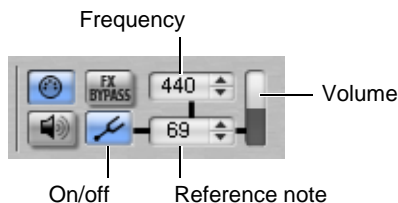
**Control** Selects an alternative MIDI controller for the selection of velocity layers. Two of the options that merit special attention are Velocity+MW and MW at Note-On. When Velocity+MW is selected, the position of the Modulation Wheel offsets the incoming velocity up or down. This is useful for playing 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



### 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.



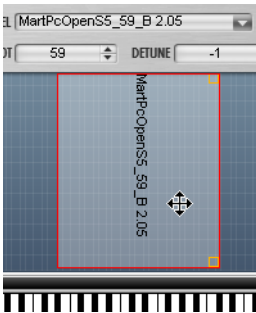
Activating selection by MIDI input

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

- Drag clips from Pro Tools 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 Finder (Mac), or the Explorer (Windows) directly into the Mapping section.

**To move a zone within the Mapping section:**

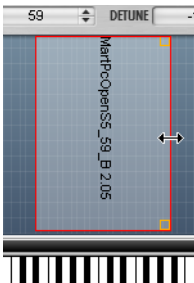
- Click in the zone and drag it to a new location.



*Moving a zone*

**To adjust a zone's border in the Mapping section:**

- Click the zone's border and drag it to a new location.

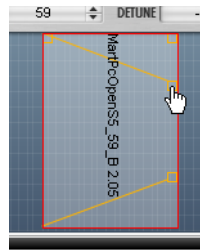


*Adjusting the zone borders*

**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.**

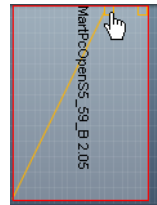


*Adjusting the Velocity Range fades*

**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.**



*Adjusting the Key Range fades*

**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.



*Accessing the Wave parameters*

## 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.

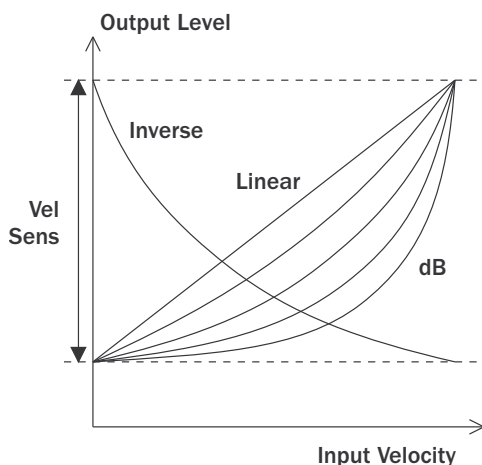
**Decay Time** Adjusts the decay time of the filter envelope.



**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).



*Velocity curves*

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

**Sync to Tempo** Scale 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.

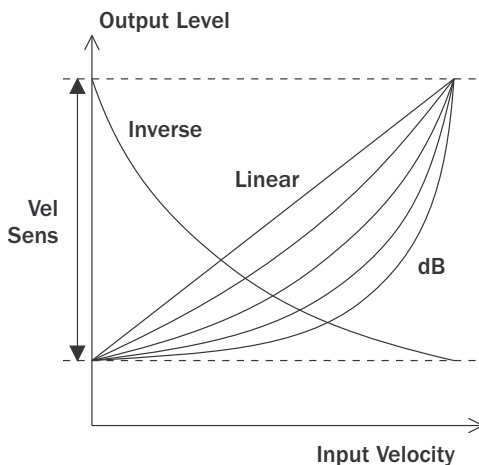
**Hold Level** Adjusts the end level of the hold phase.

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

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

**Release Key Track** Scale 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).



Velocity curves

**Sync to Tempo** Scale 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)

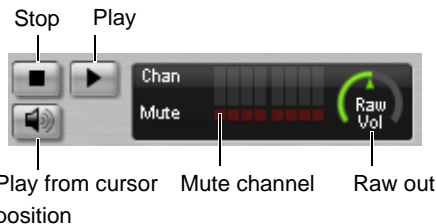
The Wave editor consists of a graphical waveform display showing the sample waveform of the selected zone and a transport and control section above. You can use the Wave editor for the wave editing and (crossfade-) looping of samples.

### 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.



Playback controls

**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.

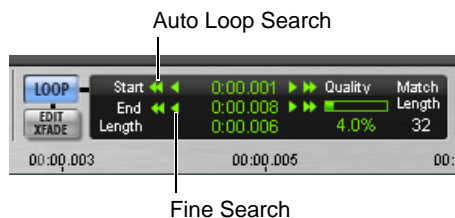
**Mute Channel** Mutes channel of multi channel audio files.

**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 controls

**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.

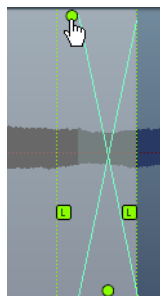
**Quality** Displays the quality of the amplitude match for the current loop points in percent.

**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:**

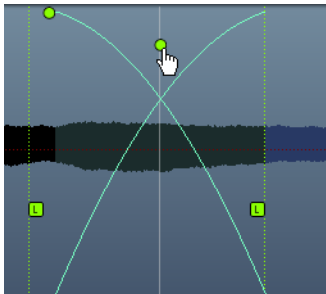
- Drag the green Crossfade handles.



*Adjusting the crossfade length*

**To adjust the curve between a linear and equal-power crossfade:**

- Drag the Curve handle.

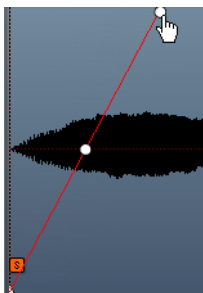


*Adjusting the crossfade curve*

**Adjusting Volume Fades**

**To adjust a volume fade for the sample:**

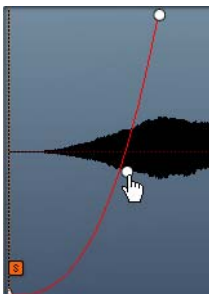
- Drag the white Fade handle.



*Adjusting Volume fades*

**To adjust the Volume fade curve:**

- Drag the curve handle.

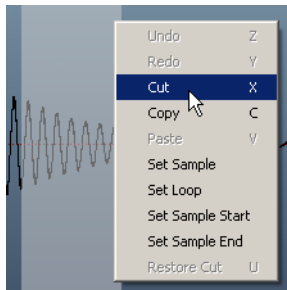


*Adjusting the Volume fade curve*

**Adjusting Cuts**

**To create a cut:**

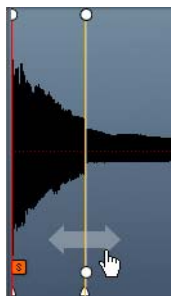
- Make a selection and select Cut from the right-click menu.



*Creating a cut*

**To adjust the cut length:**

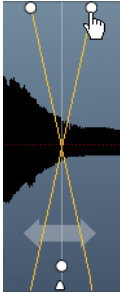
- Drag the Arrow handles.



*Adjusting the cut length*

**To adjust a cut's crossfade length:**

- Drag the Crossfade handles.



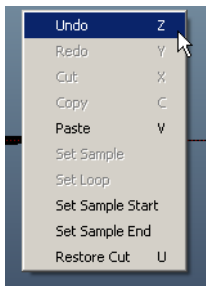
*Adjusting the cut's crossfade length*



*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) into the waveform to access the Wave editor context menu.



*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.

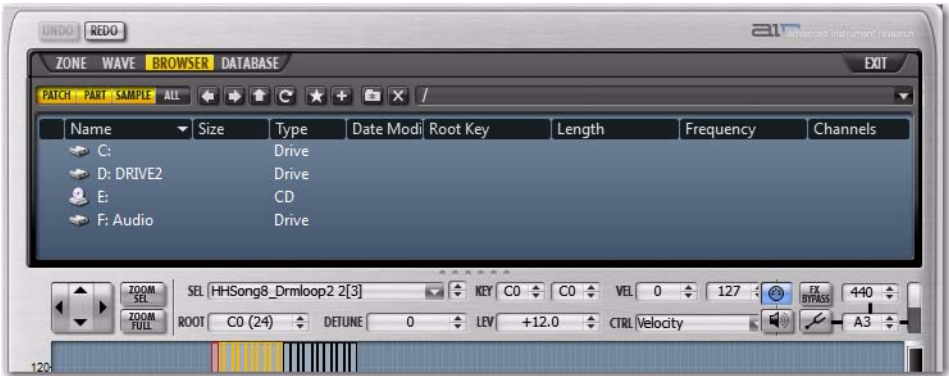
**Set Sample Start** Sets the sample start point to the current selection.

**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 “Browser Page” on page 214 for more information.



Browser

# 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 “Database Page” on page 212.



Database





# Chapter 15: Structure Audio Effects

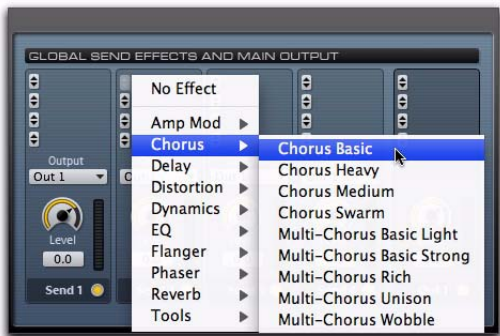
Structure provides the following types of audio effects:

- Amp Mod
- Chorus
- Delay
- Distortion
- Dynamics
- EQ
- Flanger
- Phaser
- Reverb
- Tools (for Surround)

Audio effects can be added as Inserts in the Effects page, or as Audio FX Parts in the Parts list.

**To add an audio effect as an Insert:**

- In the Effects page, choose the effect you want from the Insert selector.



Selecting an Insert Effect

**To view the controls for an audio effect insert:**

- In the Effects page, click an Insert effect.

**To remove an audio effect insert:**

- In the Effects page, choose No Effect from the Insert selector.

**To add an Audio FX Part:**

- 1 In the Patch list, select the Patch to which you want to add the part.
- 2 Choose Part > Add Part > and select the type of effect you want.



Adding an Audio FX Part

**To view the controls for an Audio FX Part:**

- In the Part list, click an Audio FX Part. Its controls appear in the Main Page.

---

## Amp Mod Effects

Structure provides the following Amp Mod (amplitude modulation) audio effects:

- Tremolo/Autopan
- Rotary Speaker

### Tremolo/Autopan

Tremolo/Autopan delivers cyclic amplitude (tremolo) or pan modulation with two different wave shapes at various speeds.



**Mode** Switches between amplitude (Trem) and panorama (Pan) modulation.

**LFO Wave** Selects the shape of the modulation waveform (Sine or Square).

**Sync** Enables (or disables) synchronization of the Rate control to the Pro Tools session tempo.

**Rate** Adjusts the modulation speed in Hertz or fractions of beats.

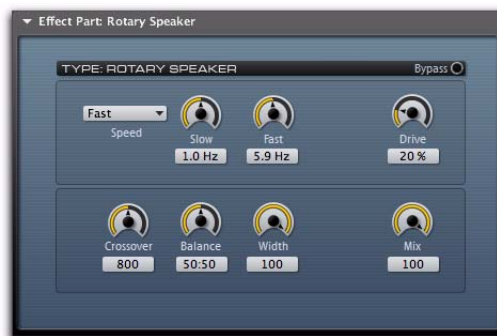
**Depth** Adjusts the strength of modulation (0 to 100%).

**Sync Phase** Changes the start phase of the modulation wave when tempo synchronization is activated, to align the modulation to on-beats or off-beats.

**Bypass** Bypasses the effect.

### Rotary Speaker

Rotary Speaker simulates a rotating speaker cabinet often used with organs. The signal is split into low and high frequency ranges which are sent into separate rotating speakers.



**Speed** Switches between Off, Slow, and Fast rotation.

**Slow** Sets the value for the slow rotation speed. (0.7–2.1 Hz).

**Fast** Sets the value for the fast rotation speed. (3.0–9.0 Hz).

**Drive** Adjusts the saturation level of the built-in amplifier.

**Crossover** Sets the split frequency between low and high speaker. (400–1600 Hz).

**Balance** Adjusts the level balance between the low and high frequency speakers.

**Width** Adjust the stereo width of the signal.

---

## Chorus Effects

Structure provides the following chorus audio effects:

- Chorus
- Multi-Chorus

### Chorus

Stereo Chorus provides control over Rate, Depth, and Phase to emulate the voice doubling of two instruments played in unison. Rate and Depth add richness by controlling the amount of detuning.



**LFO Wave** Selects static (Triangle) or cyclic (Sine) Pitch modulation.

**Rate** Adjusts speed of modulation (0.01 Hz to 10.00 Hz).

**Depth** Adjusts amount of modulation.

**Feedback** Adjusts amount of signal feedback.

**Pre-Delay** Adjusts Pre-Delay time for adding spatial depth.

**Mix** Adjusts the amount of effect signal.

**Bypass** Bypasses the effect.

### Multi Chorus

Use the stereo multi-voice chorus to emulate the voice doubling of three, four, or six instruments played in unison (ensemble effect). Use the Voices setting to specify the number of voices for the ensemble effect. Rate and Depth add richness by controlling the amount of detuning. The Pre-Delay allows for adding spatial depth.



**LFO Wave** Chooses between static (Triangle) or cyclic (Sine) pitch modulation.

**Voices** Selects the number of chorus voices (3, 4, 6).

**Delay** Adjusts pre-delay for adding spatial depth (0.0 to 24.0 ms).

**Rate** Adjusts the modulation speed (0.01 Hz to 10.00 Hz).

**Depth** Adjusts the amount of modulation (0 to 100%).

**Low Cut** Reduces modulation of low frequencies (20 Hz to 1.0 kHz).

**Width** Adjusts the stereo width (0 to 100%).

**Mix** Adjusts the amount of effect signal.

**Bypass** Bypasses the effect.

---

## Delay Effects

Structure provides the following delay audio effects:

- Delay
- Multi-Tap Delay

### Delay

Delay repeats the source signal for an adjustable period of time, creating a repeating echo.



**Mode** Selects delay type: Mono (mono input, stereo output), Stereo (stereo input, stereo output), or Cross (stereo input, stereo output with crossed feedback paths).

**Sync** Enables (or disables) synchronization of the Delay time to the Pro Tools session tempo.

**Delay** Adjusts the delay time in milliseconds/seconds or fractions of beats.

**Feedback** Adjusts the feedback amount (delay pattern repetitions).

**Ratio** Adjusts the ratio between left and right delay time relative to the displayed delay time (50:100 to 100:50).

**Low Cut** Changes the delay character. Attenuates frequencies below this value (20 Hz to 1.00 kHz).

**High Cut** Changes the delay character. Attenuates frequencies above this value (1.00 kHz to 20.0 kHz).

**Width** Adjusts the stereo width (0 to 100%).

**Mix** Adjusts the amount of effect signal.

**Bypass** Bypasses the effect.

### Multi-Tap Delay

Multi-Tap Delay has five delay taps with a selectable feedback path allowing for manifold rhythmic patterns. “From” chooses the source and “To” the destination of the feedback. Both parameters describe positions in time on the delay line. The times of From and To follow that of the selected tap. Please note that feedback is not possible if the time of the From-tap is equal to or smaller than the To-tap. The two parameters display in red when this is the case. The Multi-Tap Delay has a mono input. It uses the mix of the stereo input channels as input signal. The outputs of the delays are fed into a stereo mixer with control over level and pan. Tempo synchronization may be used to control the delay times.



**Pattern** Selects a pattern for the multi-tap delay.

**Sync** Enables (or disables) synchronization of the Delay time to the Pro Tools session tempo.

**Delay** Sets the overall delay time in milliseconds and seconds or fractions of 16th (0 ms to 4.000 s/0 to 16.00).

**Feedback** Amount of feedback (0 to 100%). The higher the feedback the more times the delay pattern repeats.

**From** Sets the source (position in the Delay timeline) of the feedback signal (Tap 1, Tap 2, Tap 3, Tap 4, Tap 5).

**To** Sets the destination (position in the Delay timeline) of the feedback signal (Input, Tap1, Tap2, Tap 3, Tap 4, Tap 5).

**Low Cut** Changes the characteristic of the delay from fat to thin. Frequencies below this setting get attenuated (20 Hz to 1.00 kHz).

**High Cut** Adjusts the color of the delay from dark to bright. Frequencies above this setting get attenuated (1.00 kHz to 20.0 kHz).

**Mix** Adjusts the amount of effect signal.

**Bypass** Bypasses the effect.

---

## Distortion Effects

Structure provides a single distortion effect.

### Distortion

Distortion provides classic distortion and over-drive effects.



**Distortion Mode** Selects the distortion character: Distortion (hard clipping) and Overdrive (soft clipping).

**Pre-Shape** Adjusts the signal tone before being sent to the distortion.

**Drive** Adjusts the amount of amplification and distortion.

**Edge** Creates special asymmetrical clipping for a tube-like sound at low Drive levels.

**High Cut** Adjusts the color of the distortion from dark to bright.

**Stereo Mode** Activates full stereo processing, instead of summed mono.

**Headroom** Moves the clipping threshold without changing the level of the unclipped signal.

**Output** Adjusts the peak output level in dBFS.

**Mix** Adjusts the amount of effect signal.

**Bypass** Bypasses the effect.

---

## Dynamics Effects

Structure provides a single dynamics effect.

### Compressor

Compressor is a compressor/limiter that provides control over Threshold, Ratio, Attack time, Release time, and Gain. Signals above the Threshold get attenuated by the amount set by the Ratio. Attack and Release tell the compressor how fast to react to signals that are above the threshold.



**Threshold** Sets the level above which the signal is attenuated (-60.0 dB to 0.0 dB).

**Ratio** Adjusts the strength of compression applied to signals above the threshold level.

**Attack** Adjusts the time for the compressor to react.

**Release** Adjusts the time for the compressor to recover.

**Mode** Selects basic behavior: Peak (hard), RMS, Opto (soft).

**Sensitivity Low** Equalizes the internal sidechain by adjusting the sensitivity to low frequencies.

**Sensitivity** Equalizes the internal sidechain. Adjusts the sensitivity to high frequencies.

**Output** Adjusts the output volume. (-20 dB to +20.0 dB).

**Bypass** Bypasses the effect.

---

## EQ Effects

Structure provides the following equalization audio effects:

- Enhancer
- Parametric EQ (Stereo and Surround)

### Enhancer

Enhancer provides specialized filters for sound enhancement. The filters can be tuned in two frequency bands with adjustable gain and synthesized high frequency harmonics can be added.



**High Gain** Boosts the high band (0.0 dB to 12.0 dB).

**High Freq** Adjusts the frequency of the high band (1.00 kHz to 10.0 kHz).

**Invert** Phase-inverts the generated harmonics changing the sound color.

**Harmonics** Adjusts the amount of synthesized harmonics (0.0 dB to 12 dB).

**Low Gain** Boosts the low band.

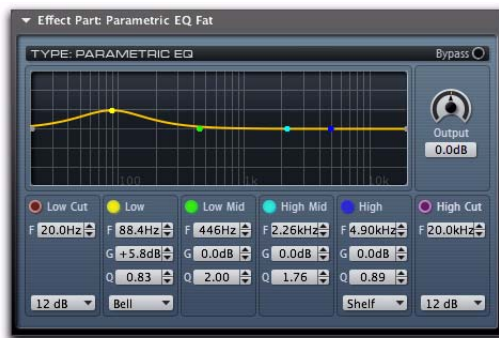
**Low Freq** Adjusts the frequency of the low band (40.0 Hz to 640 Hz).

**Output** Adjusts the overall output gain (–INF to 0.0 dB).

**Bypass** Bypasses the effect.

## Parametric EQ (Stereo and Surround)

Parametric EQ is a 4-band parametric equalizer with two additional cut filters. All bands can be activated separately. The bands of the parametric part offer control over frequency, gain and Q-factor in different ranges. The two mid bands have a bell characteristic. The low and high bands have selectable characteristics: Shelf or Bell. The cut filters have an adjustable frequency and the attenuation can be set in decibels per octave. The surround version of this equalizer offers the same set of parameters over five linked channels. The LFE channel passes through unprocessed.



**Low Cut In** Activates the low cut filter.

**Low Cut Freq** Attenuates frequencies below this value. (20 Hz to 8.00 kHz).

**Low Cut Type** Amount of attenuation indicated by decibels per octave (6dB/oct, 12dB/oct, 18dB/oct, 24dB/oct).

**Low In** Activates the low band.

**Low Freq** Adjusts the frequency of the low band (20.0 Hz to 1.00 kHz).

**Low Gain** Cuts or boosts the low band, the maximum amount depends on the low band type (–12 dB to +12 dB/ –18 dB to + 18 dB).

**Low Q** Adjusts the Q-factor or width of the low band, the maximum amount depends on the low band type (0.40 to 2.00/0.40 to 10.00).

**Low Type** Chooses shelf or bell characteristic.

**Low Mid In** Activates the low mid band.

**Low Mid Freq** Adjusts the frequency of the low mid band (40.0 Hz to 8.00 kHz).

**Low Mid Gain** Cuts or boosts the low mid band (–18.0 dB to + 18.0 dB).

**Low Mid Q** Adjusts the Q-factor or width of the low mid band (0.40 to 10.00).



**High Mid In** Activates the high mid band.

**High Mid Freq** Adjusts the frequency of the high mid band (120 Hz to 16.0 kHz).

**High Mid Gain** Cuts or boosts the high mid band (−18.0 dB to +18.0 dB).

**High Mid Q** Adjusts the Q-factor or width of the high mid band (0.40 to 10.00).

**High In** Activates the high band.

**High Freq** Adjusts the frequency of the high band (1.20 kHz to 20.0 kHz).

**High Gain** Cuts or boosts the high band, the maximum amount depends on the low band type (−12 dB to +12 dB/ −18 dB to + 18 dB).

**High Q** Adjusts the Q-factor or width of the high band, the maximum amount depends on the low band type (0.40 to 2.00/0.40 to 10.00).

**High Type** Chooses shelf or bell characteristic.

**High Cut In** Activates the high cut filter.

**High Cut Freq** Attenuates frequencies above this value (120 Hz to 20.0 kHz).

**High Cut Type** Amount of attenuation indicated by decibels per octave (6dB/oct, 12dB/oct, 18dB/oct, 24dB/oct).

**Output** Overall output gain (−20.0 dB to +20.0 dB).

**Bypass** Bypasses the effect.

## Flanger Effects

Structure provides a single flanger effect.

### Flanger

Flanger produces jet-like effects by modulating a delay line and mixing with the original signal. Feedback and Depth both have influence on the amount and color of this jet-effect. Rate and Depth add richness by controlling the amount of detuning.



**LFO Wave** Adjusts modulation from triangle to sine waveform. A setting of 50% gives a parabola wave.

**Delay** Creates an initial delay to adjust the highest notch frequency (0 to 12 ms).

**Sync** Enables (or disables) synchronization of the Rate control to the Pro Tools session tempo.

**Rate** Adjusts the modulation speed (0.01 Hz to 10.00 Hz, or 8/4 to 1/16 beats).

**Depth** Adjusts the amount of modulation (0 to 12 ms).

**Feedback** Adjusts the amount of feedback (−100% to +100%).

**Low Cut** Adds a high pass filter to reduce flanging of low frequencies (20 Hz to 1 kHz).



**Offset** Adjusts the phase offset between left and right modulation ( $-180^\circ$  to  $+180^\circ$ ).

**Mix** Adjusts the amount of effect signal.

**Bypass** Bypasses the effect.

---

## Phaser Effects

Structure provides a single phaser effect.

### Phaser

Phaser produces a swoosh effect by modulating a chain of allpass filters. The basic character of this effect can be selected by choosing the number of poles that produce a notch in the frequency response. Depth, Center and Feedback have influence on the amount and color of the swoosh effect.



**LFO Wave** Adjusts the shape of the modulation waveform.

**Poles** Selects the number of poles (2, 4, 6, 8).

**Sync** Enables (or disables) synchronization of the Rate control to the Pro Tools session tempo.

**Rate** Adjusts the modulation speed in Hertz or fractions of beats.

**Depth** Adjusts the range of modulation.

**Feedback** Adjusts the amount of feedback.

**Low Cut** Reduces modulation of low frequencies.

**Center** Shifts the center frequency around (100 Hz to 10.0 kHz).

**Offset** Adjusts the phase offset between left and right modulation ( $-180^\circ$  to  $+180^\circ$ ).

**Mix** Adjusts the amount of effect signal.

**Bypass** Bypasses the effect.

---

## Reverb Effects

Structure provides the following reverb audio effects:

- Convolution Reverb
- Surround Convolution Reverb
- Non-linear Reverb
- Stereo Reverb
- Surround Reverb

## Convolution Reverb

Convolution Reverb loads mono or stereo impulse responses from any supported audio file.



**Sum Inputs** Combines the left and right channel before adding reverb. Set to 100 for a mono input signal, or for independent left and right channels (of a stereo signal).

**Pre-Delay** Adjusts the pre-delay of the wet signal (0 to 250 ms).

**Fade In** Adjusts the fade in time of the wet signal.

**Fade Out** Adjusts the fade out time of the wet signal.

**Length** Adjusts the length of the reverb tail.

**Level Trim** Adjusts the level of the reverb tail.

**Reverse** Reverses the reverb tail.

**Mix** Adjusts the amount of effect signal.

**Bypass** Bypasses the effect.

## Surround Convolution Reverb (Pro Tools HD and Pro Tools with Complete Production Toolkit Only)

Surround Convolution Reverb loads 4.0 or 5.0 impulse responses from any supported audio file.



**Sum Inputs** Combines all channels before adding reverb. Set to 100 for a mono input signal.

**Pre-Delay** Adjusts the pre-delay of the wet signal (0 to 250 ms).

**Fade In** Adjusts the fade in time of the wet signal.

**Fade Out** Adjusts the fade out time of the wet signal.

**Length** Adjusts the length of the reverb tail.

**Level Trim** Adjusts the level of the reverb tail.

**Reverse** Reverses the reverb tail.

**Mix** Adjusts the amount of effect signal.

**Bypass** Bypasses the effect.

## Non-linear Reverb

Non-linear Reverb is an algorithmic reverb with two non-linear shapes.



**Pre-Delay** Adjusts the pre-delay of the wet signal (0 to 250 ms).

**Dry Delay** Delays the dry signal (0 to 1500 ms).

**Time** Sets the maximum reverb time (0 to 1000 ms).

**Diffusion** Adjusts the reverb density (0 to 100%).

**Shape** Selects the reverb type: Gated (builds up fast and stops abruptly after the period set by Time), Reverse (builds up slowly and ends suddenly after the period specified by Time).

**Low Cut** Changes the reverb character. Attenuates frequencies below this value (20 Hz to 1.00 kHz).

**High Cut** Changes the reverb character. Attenuates frequencies above this value (1.00 kHz to 20.0 kHz).

**Width** Adjusts the stereo width (0 to 100%).

**Mix** Adjusts the amount of effect signal.

**Bypass** Bypasses the effect.

## Stereo Reverb

Stereo Reverb is a true stereo reverb. The character of the reverb is defined by the selected Room Type.



**Pre-Delay** Adjusts the pre-delay of the wet signal (0 to 250 ms).

**Room Type** Selects the Room preset.

**ER/Tail** Adjusts the balance between early reflections and reverb tail.

**Room Size** Adjusts the size of the simulated room.

**Rev Time** Sets the reverb time (0.5 s to INF).

**Rev Time High** Adjusts the reverb time of high frequencies relative to the main reverb time.

**Rev Freq High** Selects a high frequency range to adjust (2.00 kHz to 20.0 kHz).

**High Cut** Changes the reverb character. Attenuates frequencies above this value (1.00 kHz to 20.0 kHz).

**Mix** Adjusts the amount of effect signal.

**Bypass** Bypasses the effect.

## Surround Reverb

(Pro Tools HD and Pro Tools with Complete Production Toolkit Only)

Surround Reverb is a true surround reverb (5.1 input/5.1 output). The character of the reverb is defined by the selected Room Type.



**Pre-Delay** Adjusts the pre-delay of the wet signal (0 to 250 ms).

**Room Type** Selects the Room preset.

**ER/Tail** Adjusts the balance between early reflections and reverb tail.

**Room Size** Adjusts the size of the simulated room.

**Rev Time** Sets the reverb time (0.5 s to INF).

**Rev Time High** Adjusts the reverb time of high frequencies relative to the main reverb time.

**Rev Freq High** Selects a high frequency range to adjust (2.00 kHz to 20.0 kHz).

**High Cut** Changes the reverb character. Attenuates frequencies above this value (1.00 kHz to 20.0 kHz).

**Mix** Adjusts the amount of effect signal.

**Bypass** Bypasses the effect.

## Tools (for Surround)

(Pro Tools HD and Pro Tools with Complete Production Toolkit Only)

### Mono or Stereo Surround Panner

The Mono and Stereo Surround Panners let you pan a mono or stereo source to any of the following surround formats:

- LCR
- Quad
- Surround (5.1)



**Input Width** Adjusts the stereo spread of the mono or stereo input to the Surround Panner. Generally, you will want to use 0 for mono input and 100 for stereo input.

**Front/Rear Pos** Adjusts the front to rear position of the incoming signal.

**Left/Right Pos** Adjusts the left to right position of the incoming signal.

**Center Level** Adjusts the level of the incoming signal routed to the Center output channel.

**LFE Level** Adjusts the level of the incoming signal routed to the LFE output channel.

**Rear Order** Exchanges the Rear Left and Rear Right channels so that you can pan from Front Left/Rear Right to Front Right/Rear Left.

**Rotate** Rotates the entire stereo image clockwise or counterclockwise.

**Auto** Applies automatic rotation of the stereo image at the speed of the Rate setting, rather than maintaining a fixed angle of rotation.

**Sync** Enables (or disables) synchronization of the Rate control to the Pro Tools session tempo.

**Rate** Adjusts the rotation speed in Hertz or fractions of beats.

**Bypass** Bypasses the effect.

## Surround Panner

Surround Panner lets you mix and pan a surround source (5.1) to a surround output (5.1).



**L/R/C Mix** Mixes the Front Left and Front Right to the Center channel (0% equals all in the Center channel).

**Front** Controls the divergence of the Front Left, Center, and Front Right channels (at 0% the same signal is routed to all three channels).

**Rear** Controls the divergence of the Rear Left and Rear Right channels (at 0% the same signal is routed to both channels).

**Front/Rear** Controls the divergence of the Front and Rear Left channels and the Front and Rear Right channels (at 0% the same signal is routed equally to the Front and Rear Left channels, and to the Front and Rear Right channels).

**Center Level** Controls the level of the Center channel (at 0%, Center channel audio is panned equally to the Front Left and Right channels, and not to the Center channel output).

**Divergence** Controls the divergence between all channels (at 0% all channels output the same signal).

**LFE Level** Controls the level of the Front Left and Right channels sent to the LFE channel.

**Rear Order** Exchanges the Rear Left and Rear Right channels so that you can pan from Front Left/Rear Right to Front Right/Rear Left.

**Rotate** Rotates the entire stereo image clockwise or counterclockwise.

**Auto** Applies automatic rotation of the stereo image at the speed of the Rate setting, rather than maintaining a fixed angle of rotation.

**Sync** Enables (or disables) synchronization of the Rate control to the Pro Tools session tempo.

**Rate** Adjusts the rotation speed in Hertz or fractions of beats (for example, 1 Hz equals 360 degrees and when Sync is enabled, 4 equals 360 degrees per quarter note).

## Surround Downmix

Surround Downmix is a downmixer tool from 5.1 channels to stereo channels. Before the channels are fed into the downmix stage each of them can be attenuated to adjust the composition of the resulting downmix.



**Front Left** Attenuates the signal of the front left channel (-INF to 0.0 dB).

**Front Right** Attenuates the signal of the front right channel (-INF to 0.0 dB).

**Front Width** Mixes the left to the right channel and vice versa to reduce the stereo width.

**Output** Adjusts the stereo output level (-INF to 0.0 dB).

**Rear Left** Attenuates the signal of the left surround channel (-INF to 0.0 dB).

**Rear Right** Attenuates the signal of the right surround channel (-INF to 0.0 dB).

**Rear Width** Mixes the rear left to the rear right channel and vice versa to reduce the stereo width on the rear channels.

**Rear Downmix** Enables (or disables) rear channel downmix to the Front Left and Right channels.

**Center Level** Attenuates the signal of the center channel (-INF to 0.0 dB).

**Center Downmix** Enables (or disables) center channel downmix to the Front Left and Right channels.

**LFE Level** Attenuates the signal of the LFE channel (-INF to 0.0 dB).

**LFE Downmix** Enables (or disables) LFE channel downmix to the Front Left and Right channels.

**Bypass** Bypasses the effect.

## Surround Mapper

Surround Mapper lets you remap individual channels from any multichannel source (with presets for DTS and SMPTE) to 5.1 output from Structure.



**Left** Maps selected source channel to the front Left output.

**Center** Maps selected source channel to the Center output.

**Right** Maps selected source channel to the front Right output.

**LFE** Maps selected source channel to the LFE output.

**Left (Rear)** Maps selected source channel to the rear Left (Ls) output.

**Right (Rear)** Maps selected source channel to the rear Right (Rs) output.





# Chapter 16: 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
- 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 program-mable 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 an event type to output.

**Random** Adds a random offset to the event value.

**Smooth** Smooths output values.

**Bypass** Bypasses the effect.

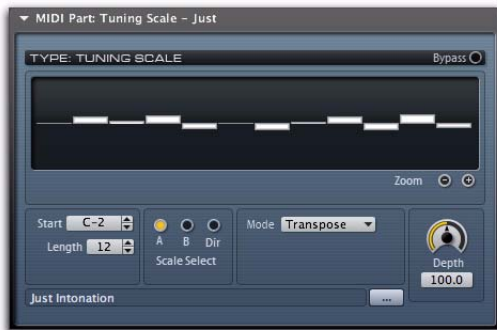
---

## 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.

# Chapter 17: 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:

Treeview	
Rename	F2
Mapping Section	
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

Wave Editor	
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
Global	
Delete	Delete
Undo	Z
Redo	Y



# Chapter 18: Structure Patch List

The following Structure Patches and all associated content are installed with Structure:

## **01 Acoustic Drums**

- 01 Fat Kit ECO
- 02 Fat Kit MID
- 03 Fat Kit XXL
- 04 Tight Kit ECO
- 05 Tight Kit MID
- 06 Tight Kit XXL
- 07 Studio Kit ECO
- 08 Studio Kit MID
- 09 Studio Kit XXL
- 10 Vintage Kit ECO
- 11 Vintage Kit MID
- 12 Vintage Kit XXL
- 13 Heavy Kit ECO
- 14 Heavy Kit MID
- 15 Heavy Kit XXL
- 16 Rock Kit GM Soft
- 17 Rock Kit GM Hard
- 18 Rock Kit Large
- 19 Pop Kit GM Soft
- 20 Pop Kit GM Hard
- 21 Pop Kit Large

## **02 Acoustic Percussion**

- 01 Latin Percussion Kit
- 02 Afrocuban Percussion Kit
- 03 GM Percussion Kit
- 04 Congas
- 05 Bongos
- 06 Surdo
- 07 Timbales
- 08 Tambourines
- 09 Cowbells
- 10 Claves
- 11 Wood Blocks
- 12 Triangles
- 13 Shakers
- 14 Cabasas
- 15 Maracas

## **03 Electronic Drums + Loops**

- 01 80s Kit
- 02 90s Kit
- 03 Wack Kit
- 04 Electronic Percussion Kit
- 05 Four On The Floor El Loop
- 06 Big One El Loop
- 07 Old Style El Loop
- 08 House El Loop
- 09 Hip Hop Loop 01
- 10 Hip Hop Loop 02
- 11 Hip Hop Loop 03
- 12 Hip Hop Loop 04

13 Hip Hop Loop 05  
14 Hip Hop Loop 06  
15 Hip Hop Loop 07  
16 Hip Hop Loop 08  
17 Hip Hop Loop 09  
18 Hip Hop Loop 10  
19 Hip Hop Loop 11  
20 Hip Hop Loop 12  
21 RNB Loop 1  
22 RNB Loop 2  
23 RNB Loop 3  
24 RNB Loop 4  
25 RNB Loop 5  
26 RNB Loop 6  
27 RNB Loop 7  
28 RNB Loop 8  
29 RNB Loop 9  
30 Brit Rock Ac Loop  
31 Funk Ac Loop  
32 Funky Ac Loop  
33 Heavy Funk Ac Loop  
34 Loose Ac Loop  
35 Metallic Snare Ac Loop  
36 Rock Drums Ac Loop  
37 Sidestick Ac Loop  
38 Skip Ac Loop  
39 Straight Ac Loop  
40 The Hop Ac Loop  
41 Vintage Ac Loop  
42 Latin Perc Loop  
43 Wild Latin Perc Loop  
44 Scratch Perc Loop  
45 Shekere Perc Loop

#### **04 Orchestral Elements**

01 Strings Sect Legato Vel  
02 Strings Sect Legato MW  
03 Strings Sect Legato MW+Vel  
04 Strings Sect Stacc Dn+Up Vel  
05 Strings Staccato Dn+Up MW  
06 Strings Section Tremolo Vel  
07 Strings Section Tremolo MW  
08 Strings Section Pizzicato Vel  
09 Violins Legato Vel  
10 Violins Legato MW  
11 Violins Legato MW+Vel  
12 Violins Staccato Dn+Up Vel  
13 Violins Staccato Dn+Up MW  
14 Violins Tremolo Vel  
15 Violins Tremolo MW  
16 Violins Pizzicato Vel  
17 Violas Legato Vel  
18 Violas Legato MW  
19 Violas Legato MW+Vel  
20 Violas Staccato Dn+Up Vel  
21 Violas Staccato Dn+Up MW  
22 Violas Tremolo Vel  
23 Violas Tremolo MW  
24 Violas Pizzicato  
25 Celli Legato Vel  
26 Celli Legato MW  
27 Celli Legato MW+Vel  
28 Celli Staccato Dn+Up Vel  
29 Celli Staccato Dn+Up MW  
30 Celli Tremolo Vel  
31 Celli Tremolo MW  
32 Celli Pizzicato  
33 Basses Legato Vel  
34 Basses Legato MW  
35 Basses Legato MW+Vel



36 Basses Staccato Dn+Up Vel  
37 Basses Staccato Dn+Up MW  
38 Basses Tremolo Vel  
39 Basses Tremolo MW  
40 Basses Pizzicato  
41 Horns Sect Legato Vel  
42 Horns Sect Legato MW  
43 Horn Solo Legato Vel  
44 Horn Solo Legato MW  
45 Trombones Legato Vel  
46 Trombones Legato MW  
47 Trumpets Legato Vel  
48 Trumpets Legato MW  
49 Trumpet Solo Legato Vel  
50 Trumpet Solo Legato MW  
51 Clarinet Legato Vel  
52 Clarinet Legato MW  
53 Clarinet Staccato Vel  
54 Clarinet Staccato MW  
55 Oboe Legato Vel  
56 Oboe Legato MW  
57 Oboe Staccato Vel  
58 Oboe Staccato MW  
59 Bassoon Legato Vel  
60 Bassoon Legato MW  
61 Bassoon Staccato Vel  
62 Bassoon Staccato MW  
63 Flute Legato Vel  
64 Flute Legato MW  
65 Flute Staccato Vel  
66 Flute Staccato MW  
67 Harp  
68 Timpani Hit + Roll  
69 Gran Cassa  
70 Snare  
71 Piatti

72 Cymbal Hit+Rolls

## **05 Keyboards**

01 Steinway B Natural  
02 Steinway B Hard  
03 Steinway B Soft  
04 Steinway B Concert Hall  
05 Ambient Piano  
06 Fosterizm  
07 Mark 2 Electric Piano  
08 Mark 2 Tremolo  
09 Mark 2 Chorus  
10 Mark 2 With The Lot  
11 Mark 2 Classic Amped  
12 Mark 2 Classic Tremolo  
13 Mark 2 Classic Chorus  
14 Mark 2 Phaser 1  
15 Mark 2 Phaser 2  
16 Mark 2 Echo  
17 A200 Electric Piano  
18 A200 Vibrato  
19 A200 Chorus  
20 A200 With The Lot  
21 A200 Classic Amped  
22 A200 Classic Vibrato  
23 A200 Phaser 1  
24 A200 Phaser 2  
25 A200 Echo  
26 MelloT Vintage Violins  
27 MelloT Modern Violins  
28 MelloT Vintage Flute  
29 MelloT Modern Flute  
30 MelloT Vintage Choir  
31 MelloT Modern Choir  
32 Soft B  
33 Medium B  
34 Blues B

- 35 Percy Jazz B
- 36 Gospel B
- 37 Perc Lower Manual
- 38 Rock B
- 39 Scanner Jazz
- 40 Lower Manual 8
- 41 Soft Scanner
- 42 Clavinet
- 43 Amped Clavinet

## **06 Pitched Percussion**

- 01 Vibraphone XXL
- 02 Vibraphone MID
- 03 Vibraphone ECO
- 04 Marimba XXL
- 05 Marimba MID
- 06 Marimba ECO
- 07 Kalimba XXL
- 08 Kalimba MID
- 09 Kalimba ECO
- 10 Xylophone XXL
- 11 Xylophone MID
- 12 Xylophone ECO
- 13 Glockenspiel XXL
- 14 Glockenspiel MID
- 15 Glockenspiel ECO

## **07 Choral**

- 01 Female Aah Choir
- 02 Female Ooh Choir
- 03 Female Ambient Choir
- 04 Female Ooh-Aah Crossfade
- 05 Female Aah + Ooh Choir
- 06 Male Ooh Choir
- 07 Male Ambient Choir
- 08 Male Ooh-Aah Crossfade
- 09 Male Aah + Ooh Choir

- 10 Basic Hybrid Choir
- 11 Ambient Hybrid Choir
- 12 Hollow Choir
- 13 Bright Hybrid Choir
- 14 Cloudy Choir
- 15 Smooth Hybrid
- 16 E Voices
- 17 Ambient E Voices
- 18 80s Choir
- 19 MelloT Vintage Choir
- 20 MelloT Modern Choir

## **08 Guitars**

- 01 Big 6 String Acoustic
- 02 Basic 6 String Acoustic
- 03 6 String Acoustic+FX
- 04 Big 12 String Acoustic
- 05 Basic 12 String Acoustic
- 06 12 String Acoustic+FX
- 07 Big Nylon Guitar
- 08 Basic Nylon Guitar
- 09 Nylon Guitar + FX
- 10 Strat Open + Harm
- 11 Strat Muted + Harm

## **09 Basses**

- 01 Basic Finger Bass Pos 1
- 02 Basic Finger Bass Pos 2
- 03 Big Finger Bass
- 04 Basic Pick Bass Position 1
- 05 Basic Pick Bass Position 2
- 06 Basic Open Pick Bass
- 07 Basic Muted Pick Bass
- 08 Big Pick Bass
- 09 Basic Fretless Bass
- 10 Big Fretless Bass
- 11 Contrabass

## **10 Synth Basses**

- 01 Mini Thump Bass
- 02 Mini Soft Thump Bass
- 03 Mini 2 Osc Detuned
- 04 Mini Short Fat Reso Bass
- 05 Mini PWM Bass
- 06 Mini Saw Reso Bass
- 07 Mini Soft Reso Bass
- 08 Analog Bass
- 09 Plucked + Woody
- 10 Jupe Bass
- 11 Buzz Res Bass
- 12 Thump Bass 1
- 13 Moog Bass
- 14 Dirt Bass
- 15 Flap Bass
- 16 Octave Bass
- 17 Reso Bass 1
- 18 Thump Bass 2
- 19 Octa ResSweep Bass
- 20 Ultra Fuzz Attack
- 21 Deep D
- 22 Metallic Fuzz Bass
- 23 Pulse Thumper
- 24 Rave Saw + Sync Bass
- 25 Octa Saw Bass

## **11 Synth Pads\Bright Pads**

- 01 Swirly Pad
- 02 Soft String Pad
- 03 A Supersmooth
- 04 Bright Sync Sweep
- 05 Majestic Bright
- 06 Sparkle
- 07 Classic 5th Sweeper

- 08 Wide Lands
- 09 Bright n Smooth
- 10 Steamy Square
- 11 Heavy Chimes

## **11 Synth Pads\Soft Pads**

- 01 Wild Seas Pad
- 02 Freeze Frame
- 03 Dry N Warm
- 04 Big Sweep Pad
- 05 Epic Pad
- 06 Soft Pad
- 07 Digi Pad
- 08 Soft Noiseband
- 09 String Pad
- 10 Warmth Pad
- 11 Square Pad
- 12 Basic Soft Pad
- 13 Majestic Soft
- 14 Simple Sine
- 15 Epic Pad

## **12 Synth Polys\Bells**

- 01 Big FM Bells
- 02 Light Bells
- 03 Digital Buzz Bells
- 04 Tubular Bells
- 05 And More
- 06 Glockenspiel

## **12 Synth Polys\Percussive**

- 01 Percussive
- 02 Percussive Sine
- 03 FM Percussive
- 04 Music Box

## **12 Synth Polys\Polysynths**

- 01 Wideboy
- 02 Metallic
- 03 Rich Poly Keys
- 04 Light Metal
- 05 Soft Strings
- 06 Digi Poly
- 07 Jupiter Chords
- 08 Westcoast
- 09 Wave Stack
- 10 D Something 1
- 11 Techno Stadium
- 12 Bright Zapper
- 13 Porta Bend
- 14 Sync Attack
- 15 Clear E
- 16 Sparkling
- 17 Strings
- 18 Wallace
- 19 Caroussel
- 20 Artificially Enhanced
- 21 Smooth Metal
- 22 Pretty FM

## **12 Synth Polys\Synth Brass**

- 01 Bright n Bendy
- 02 Bigger Section
- 03 Soft Horns
- 04 Standard Bend Poly
- 05 OB-80s
- 06 Full Horn
- 07 Brite n Trite
- 08 Attack Brass

## **13 Synth Leads\Hard**

- 01 Metalworks Lead
- 02 Funky Sync Lead
- 03 Spike Lead
- 04 Soft Sync
- 05 Nice Wave
- 06 Fuzzy Pulse

## **13 Synth Leads\Soft**

- 01 Nice Saw
- 02 Fat Square Lead
- 03 Resonating Lead
- 04 Bend Saw
- 05 Singing Synth
- 06 Smooth Square
- 07 Retro Lead

## **14 Big Surround**

- 01 Pad + Loop Surround
- 02 Techno Stadium Surround
- 03 Moving Chimes Pad Surround
- 04 Soft Steamy Pad Surround
- 05 Gentle 5th Layer Surround
- 06 Swirly Pad Surround
- 07 Percussive Poly Surround
- 08 Sync Sweep Pad Surround
- 09 Simple Soft & Surround
- 10 Fem Ooh-Aah X-Fade Surround
- 11 Male Ooh-Aah X-Fade Surround
- 12 Nylon Guitar + Pad Surround
- 13 Legato Orchestra Surround MW
- 14 Light Metals Surround
- 15 Fat Kit Surround

- 16 Percussive Sines Pad Surround
- 17 Rhythmic PP Surround
- 18 Polysynth Surround
- 19 Vintage & FM EP Surround
- 20 Steinway B Concert Surround

## **15 Surround Atmospheres**

- 01 Outdoor Ambience + Events
- 02 Indoor Ambience + Events
- 03 Transport Ambience + Events
- 04 Airport Ambience + Events



# Part V: Transfuser





# Chapter 19: Transfuser Overview

Transfuser is an RTAS instrument plug-in for slicing, dicing, shuffling, triggering, rephrasing, and resequencing audio loops and phrases to come up with exciting new beats, loops, and phrases for sequencing and performing music in Pro Tools.

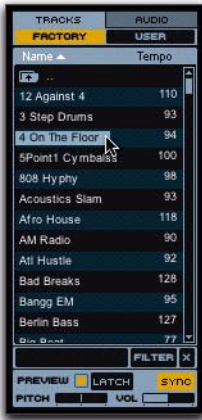
To quickly grasp the exciting possibilities of this beat-munging monster, this chapter introduces you to Transfuser's layout and basic concepts.



Transfuser plug-in window, main panes and sections

---

## Browser Pane



The Browser pane lets you access both Factory and user-created Tracks, and Factory audio files as well as any other audio files on your computer. Using the Browser pane, you can quickly and easily find the Transfuser Tracks or audio files you want, preview them, and drag them into the Tracks pane.

---

## Info Pane

The Info Pane provides context sensitive help for the different sections and controls in Transfuser. It also provides information on audio files selected in the Browser, such as Bit Depth, number of channels, Sample Rate, Duration, and BPM (if available).

---

## Tracks Pane

The Tracks pane is where Transfuser Tracks are created, edited, managed, and mixed. Tracks consist of modules that let you automate, sequence, play back, process, and mix imported audio and audio input signals.

When you first insert Transfuser on a Pro Tools track, the Transfuser Tracks pane is empty (“Drag Track Or Audio Files Here”). Drag Transfuser Track files or audio files from the Transfuser Browser to add or create Transfuser Tracks. (You can also drag audio files and clips from Pro Tools audio tracks, the Clip List, DigiBase Browsers, or even from the Desktop.)

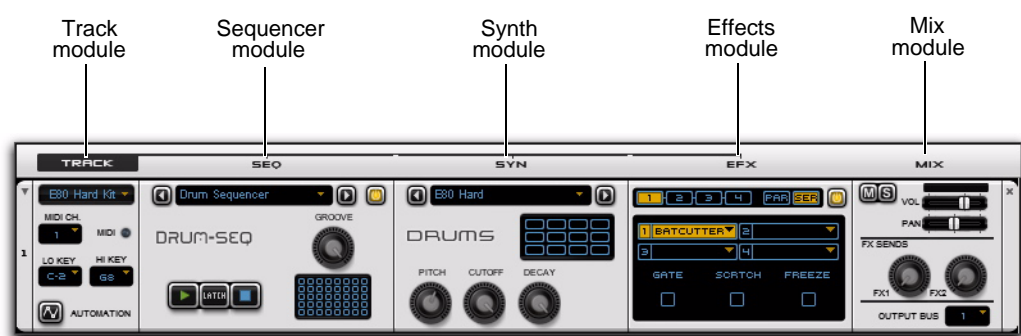


Figure 11. A Transfuser Track with Drum Sequencer and Drums Synth modules in the Tracks Pane

## Editor Pane

The Editor pane provides access to all of the controls for the selected module or effect, and also the Transfuser Preferences. For example, if a Drum Sequencer module is selected, its sequencer pattern editor and controls are displayed in the Editor pane. If a Phrase Synth module is selected, its Waveform display and controls are displayed in the Editor pane.



Figure 12. Editor pane: Drum Sequencer Editor shown

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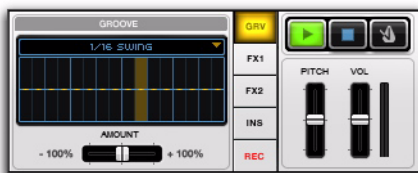
## Controller Section



The Controller section provides performance controls for Transfuser. You can easily map a MIDI controller (such as an M-Audio Axiom 49) to any number of Transfuser controls. The Controller section provides six Smart knobs, eight Trigger Pads, a four-octave keyboard for selecting patterns, triggering and transposing sounds, and a fader for crossfading between Transfuser Output Busses 1 and 2. The Controller section also displays the MIDI Input channel for any selected Transfuser Track.

---

## Master Section



The Master section provides access to the Master Groove, Effects Sends 1 and 2, Main Effects Inserts, and Recorder. It also provides controls for the Master Transport and Click, as well as Pitch and Volume of the main output.

# Chapter 20: Transfuser Quick Start

This chapter helps you explore Transfuser's basic concepts and controls with several hands-on examples. You will touch some of the most important functions, understand the basic concepts, and make the first guided steps toward getting your groove on with Transfuser.

But, first things first:

- Make sure that Transfuser is correctly installed and authorized (see F).
- Launch Pro Tools.
- Create a new Pro Tools session or open an existing session.

2 Click the Pro Tools Track Insert selector and select Transfuser.



## Inserting Transfuser on a Pro Tools Instrument Track

To use Transfuser to its best advantage, insert it on a stereo Instrument track in your Pro Tools session.

### To insert Transfuser on an Instrument track:

1 Create a new stereo Instrument track (recommended) in your Pro Tools session:

- Choose Track > New.
- Select 1 new Stereo Instrument track in Ticks.
- Click Create.

### *Inserting Transfuser on a stereo Instrument track*

When you first insert Transfuser on a Pro Tools Instrument track, the Tracks pane in the Transfuser Plug-In window is empty. Import factory or custom Transfuser Tracks, or import audio to create new Transfuser Tracks, by dragging from the Transfuser Browser pane (or even from Pro Tools or the Desktop). Until you have Tracks in Transfuser, there is nothing for Transfuser to play.

## Test Drive Transfuser

Before reading any further, insert Transfuser on a stereo Instrument track and play around with it for awhile, just to see what you can do!

- 1 Drag an audio file or clip into the Tracks pane (“Drag Track Or Audio Files Here”).
- 2 Choose how you want to import and convert the audio (such as Drum Kit and Drum Sequence).
- 3 Click Play on the Transfuser Master Transport.
- 4 Click any module in the Track and explore what comes up in the Editor section.
- 5 Don’t forget to play around with the Effects module!



Figure 13. Playing Transfuser

## Basic Operation

First, let's look at what Transfuser can do with an audio loop.

### “Transfusing” Your First Loop:

- 1 Click the Audio tab at the top of the Transfuser Browser, then click the Factory tab.
- 2 Open any folder by double-clicking it (such as one of the “Loops” folders).



Preview enable button

- 3 Click the Preview button at the bottom of the browser to enable Preview (it is lit when enabled). Now you can listen to a loop by just clicking its name in the list. Preview lasts as long as you hold down the mouse (or, if Latch is enabled, for the duration of the audio file).
- 4 Locate an audio file and drag it into the empty Tracks pane (or even over an existing Track if you've already created one).

5 In the resulting dialog, select what you want to do with the loop. For now, click OK for “Sliced Audio and Sliced Sequence.” The loop is automatically sliced up and sequenced to create a new Track.

6 Start playback in Transfuser to hear the sliced up loop.

### To play back Transfuser Tracks, do any of the following:

- Click the Play button in the Slicer Sequencer Track module. If the Latch button is lit (enabled), the Sequencer keeps playing until you click Stop. If Latch is disabled, playback stops as soon as you release the mouse. Use the Sequencer Module Transport controls to start and stop playback independently of other Transfuser Tracks.
- Click the Play button on the Transfuser Master Transport. This starts and latches playback for all Transfuser Tracks. Click the Stop button to Stop playback for all Transfuser Tracks.
- Either click a key on the GUI keyboard or play a note on your external MIDI keyboard. Any Transfuser Track set to the corresponding MIDI Input Channel plays back. If Latch is disabled, it plays back for as long as you hold down the key and stops as soon as you release the key. If Latch is enabled, playback continues even after you release the key.



*Note that stopping the Pro Tools Transport also stops the Transfuser Main Transport.*



*Starting the Pro Tools Transport does not necessarily start playback Transfuser. You need to send MIDI notes to Transfuser from (or thru) Pro Tools Instrument and MIDI tracks.*

### Explore the Sequencer Editor:

- 1 Click the Sequencer module on the Track and take a look at its editor in the Editor pane.
- 2 Start playback and adjust the various controls in the Editor to explore the possibilities.



*Slice Sequencer Editor*

### Explore the Synth Editor:

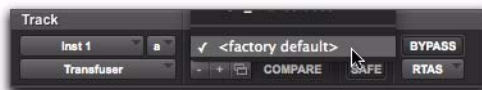
- 1 Click the Synth module on the Track and take a look at its editor in the Editor pane.
- 2 With Transfuser still playing back, adjust the various controls and explore the possibilities.



*Slicer Synth Editor*

### Loading and Editing a Drum Groove:

- 1 Select <Factory Default> from the Librarian pop-up menu. This way you can start from scratch.



- 2 Click the Tracks tab at the top of the Transfuser Browser, then click the Factory tab.



- 3 Locate a Factory Drum Track (such as “4 On The Floor”) and drag it into the Tracks pane.
- 4 Click the Sequencer module on the Track and take a look at its Editor in the Editor pane.



5 Start playback and adjust the various controls in the Editor to explore the possibilities.



*Drum:Seq Editor*

6 Click the Synth module on the Track and take a look at its editor in the Editor pane.

7 With Transfuser still playing back, adjust the various controls and explore the possibilities.



*Drums Editor*

You can also click individual Drum Pads in the Drums Editor to play back individual samples. Better yet, play the corresponding notes on your MIDI controller to play the Drums Synth directly.

## Digging Deeper

Now that you have scratched the surface, let's dig a little deeper into what you can do with Transfuser.

### Using Multiple Transfuser Tracks

By combining multiple Transfuser Tracks and tweaking a few controls, you can build your own unique custom loops.

1 Select <Factory Default> from the Librarian pop-up menu.

2 Drag in a factory Track or an audio file from the Browser section.



*You can also drag audio clips from audio tracks or the Clip List in your Pro Tools session to create new Transfuser Tracks.*

3 Drag in another Track or some audio.

4 Set both Transfuser Tracks to the same MIDI input channel (so you can play them together from the keyboard).

5 Also, switch off Latch in the transports of each Track Sequencer module. When Latch is enabled, the sequencer keeps playing even after you release the key.



Selecting the MIDI Channel Input for a Transfuser Track

Now that you can play both Tracks at the same time, edit them to create a new groove.

*Not only can you create multiple Tracks in a single instance of Transfuser (each of which can be soloed, muted, or otherwise mixed within that instance of Transfuser), you can have multiple instances of Transfuser in your Pro Tools session. For more information, see Chapter 22, “Using Transfuser in Pro Tools.”*

## Recording in Transfuser

When you have created that loop that you absolutely love, or even if you’ve just created something you want to use in another Transfuser Track, you can record the results right in Transfuser.

*You can also bus record Transfuser to Pro Tools audio tracks to capture longer performances for further editing, mixing, and processing (see “Mixing and Recording Transfuser in Pro Tools” on page 302).*

### To record in Transfuser:

1 Click the REC button (next to the Master Transport) to show the Recorder pane.



### Recorder

2 Play your loop by playing back the Sequencers (with Latch enabled on each Track) or by holding down a MIDI key. Observe the resulting waveform in the Recorder pane.

3 Set the Record Length to 1, 2, or 4 Bars.



### Selecting the Record Length


4 Use the Recorder Transport to Stop, Play, or Record.

5 At any time, drag the waveform in the Recorder window to an existing Transfuser Track Synth module (replacing it) or into the blank area of the Tracks section to create a new Track with the audio you just recorded.



Dragging a waveform to a Synth module

6 The Recorder can keep recording, or you can click Stop. After you stop recording, the recorded audio remains available.

 You can also drag the waveform to a Pro Tools audio track or to the Clip List for further editing, arranging, and mixing in your Pro Tools session.

## Creating New Patterns with M.A.R.I.O.!

M.A.R.I.O. (Musical Advanced Random Intelligent Operations) is a musical randomization algorithm that lets you create variations of your sequencer patterns simply by clicking a single button.

1 Select <Factory Default> from the Librarian pop-up menu.

2 Click the Tracks tab at the top of the Transfuser Browser, and then click the Factory tab.

3 Locate a Factory Drum Track (such as “4 On The Floor”) and drag it into the empty Tracks section. This loads a Drum Sequencer and Drums Synth module.


4 Select the Drum Sequencer module.

5 Select the first pattern by clicking the corresponding key on the on-screen keyboard, or by playing C1 on your MIDI keyboard controller.



Clicking C1 on-screen to play Pattern 1

6 From the Select menu, choose Select All. This way M.A.R.I.O. can be applied to the whole pattern.

 In the Drum Sequencer, M.A.R.I.O. is only applied to selected Note Events. This is great for M.A.R.I.O.-izing just one bar of the pattern, or even only one instrument in the kit, like just the high-hat.

7 Start playback in the Sequencer so you can hear the changes you’ll make with M.A.R.I.O. as you apply them.

**8** In the Drum Sequencer Editor pane, locate the M.A.R.I.O. Apply button.



*M.A.R.I.O. in the Drum Sequencer Editor*

**9** With the pattern playing back, click the M.A.R.I.O. Apply button. Notice the changes to the pattern playing back.

**10** Click it several more times. Each time, M.A.R.I.O. creates a musically interesting variation of the original pattern.

**11** Click the arrow buttons to the left and right of the M.A.R.I.O. Apply button to go back or forward through the history of applied M.A.R.I.O. variations. This way, you can select the most musically appropriate version for your purposes.



*M.A.R.I.O. history buttons*

**12** Drag the Depth dial right or left to increase or decrease the amount of M.A.R.I.O. variation to be applied.



*M.A.R.I.O. Depth dial*

**13** You can also expand the reach of M.A.R.I.O. to many other musical parameters. Select any parameters you want to affect from the Target pop-up menu.



*M.A.R.I.O. Target pop-up menu*

## Editing and Storing Patterns

Transfuser lets you edit and store up to twelve patterns per Sequencer module. Each pattern is key-mapped (MIDI note numbers 36–47) so you can trigger it from the on-screen keyboard, or from an external MIDI keyboard controller. Initially, each key triggers the same pattern.


## To edit any pattern:

- 1 Select the key for the pattern you want to edit.



Selecting Pattern 6 (MIDI note number 41 shown)

- 2 In the Pattern Editor, edit the pattern to your heart's desire (let M.A.R.I.O. show you some love!).
- 3 The freshly edited pattern can be called up any time you play that key (MIDI note number).

 You can also import and export Sequencer Pattern as MIDI clips (or files) by drag and drop (for more information, see "Sequencer Patterns" on page 362).

## Building Drum Patterns

You can build your own patterns from scratch, using a Factory pattern, or start from an existing pattern and edit it as you please.

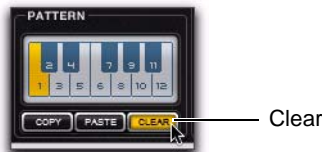
## To build your own Drum Pattern:

- 1 In the Drum Sequencer Editor, select a Pattern (1–12).

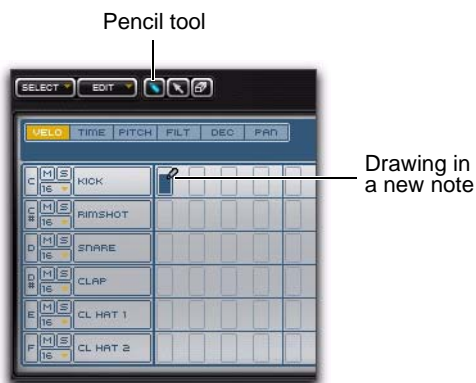


Drum Sequencer, Pattern 1 selected

- 2 Click the Clear button in the Pattern section to clear the currently stored pattern.



- 3 Select the Pencil tool in the editor and click in the pattern editor to draw in a new note for any step in the sequencer. While clicking and holding, move the Pencil up or down to increase or decrease the Velocity for the note.



- 4 Go ahead and draw in the rest of the pattern as you like.

## An Alternate Approach to Creating Drum Patterns

Instead of creating a pattern from scratch, you can also use some of the common rhythmic patterns available in the Transfuser Drum Sequencer.

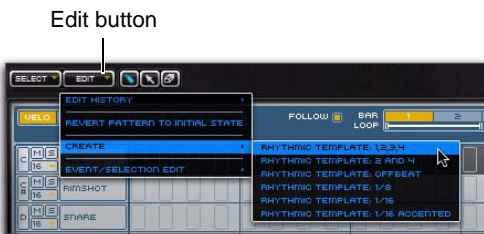
### To create a Drum Pattern from a Template:

- 1 Again, select the Pattern you want (1–12) and click the Clear button.
- 2 Now, click the “Kick” row in the sequencer to select it.



*Drum Sequencer, “Kick” row selected*

- 3 Click the Edit button and choose Create > Rhythmic Template 1,2,3,4.



Notice that Transfuser has created notes on each downbeat of the Kick row.



- 4 Select other rows (like the Snare) and select other Rhythmic Templates (like “Offbeat”).

## Chop It Up with Beatcutter

The Beatcutter effect provides a quick and easy way to chop up and shuffle your beats.

- 1 Set up a Transfuser Track with a loop playing back.
- 2 In the Effects module, from the first Effect insert, click and choose Load > Beatcutter.





3 Controls for Beatcutter appear in the Editor pane.



4 Click any of the Force buttons to immediately apply the corresponding effect for as long as you hold down the mouse:

**Repeat** Repeats playback of the currently sounding slice.

**Reorder** Randomly reorders the playback of slices.

**Gate** Truncates the length of the slice for a really choppy sound.

**Scratch** Applies a varispeed effect that dynamically affects the pitch and duration slices like “scratching” on a turntable.

**Freeze** Freezes playback of the audio at that moment in time by repeating a short buffer of samples.



5 Click on any note in the Beatcutter 16-step pattern sequencer and drag up or down to adjust its effect probability. The Probability value determines the likelihood of whether or not Beatcutter manipulates a certain note in the pattern.



*Adjusting the Probability value for a note in Beatcutter*

6 You can also change the Speed of the probability pattern. Select one of the following from the Speed pop-up menu:

- 1/8th note
- 1/16th note
- 1/8 note triplet
- 1/16 note triplet



*Changing the Note Speed in Beatcutter*

💡 *Feed Signal Generator into Beatcutter (try using a square wave or pink noise) to find out what it really does to the signal! Be sure to watch the levels on the Signal Generator though—you don’t want to blow out your speakers (or your ears)!*

💡 *Don’t restrict yourself to cutting up beats—try a vocal phrase and see what Beatcutter can do!*

## Chop Up External Audio from Another Pro Tools Track or Input

You can process audio from a Pro Tools audio track or live input on your audio interface with Transfuser—and not just with Beatcutter, but with any Transfuser Effects.

**1** Set up an audio bus for the signal you want to feed into Transfuser. For example, assign the audio Output path of a pre-recorded audio track to Bus 1–2.

**2** Insert Transfuser on a new stereo Instrument track.

**3** Set that Instrument Track's audio Input path to receive the same bus that your source track's Output is assigned (such as Bus1–2).



*Bussing audio track Output to the Transfuser Input*



4 In Transfuser, drag the “Default Audio Input” Track preset from the Browser to the Tracks pane.



Figure 14. Default Audio Input through Beatcutter

5 Start playback in Pro Tools.

💡 Or play an external source through the track's Input (such as a guitar or vocals).


6 Play a key on your MIDI keyboard or click a key on Transfuser's on-screen keyboard to pass audio through Transfuser. You can also use the Thru control.


7 In the Effects module, load Beatcutter on any insert and have fun!



# Chapter 21: Configuring Transfuser for Performance

Transfuser can easily be played live from an external MIDI controller or as a thoroughly arranged multitrack virtual instrument. Whether you choose to play Transfuser loose, off the cuff, and on-the-fly, or if you're a control freak and want to sequence everything in Pro Tools (or maybe a happy medium somewhere in between), Transfuser lets you quickly and easily assign MIDI notes and MIDI continuous controllers (MIDI CC) to virtually any pattern trigger or control available.

 *In Pro Tools, you can record your performance as both MIDI and audio. This gives you the opportunity to further refine your performance using the myriad editing and mixing possibilities in Pro Tools.*

 *For information on routing MIDI to Transfuser from (or through) Pro Tools, see “Routing MIDI to Transfuser” on page 299.*

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## Assigning MIDI Control

Transfuser makes it easy to assign MIDI control to any of its performance controls. This lets you play Transfuser from Pro Tools MIDI tracks, or in real-time through Pro Tools using an external MIDI controller (such as an M-Audio Axiom 49). Using sensibly-mapped MIDI controllers, you set up Transfuser as a profoundly compelling and expressive instrument for performance and arranging.

**To assign (learn) a MIDI controller to any Transfuser control:**

**1** Right-click the control you want to assign (such as the Cutoff frequency control in a Drums module).

Right-click to assign MIDI CC



**2** Select Learn CC.

**3** On your MIDI controller, move the knob, fader, button, or other controller (such as mod wheel, foot switch, or volume pedal).

**To unassign (forget) a MIDI controller assignment for any Transfuser controls:**

- 1 Right-click the control you want to unassign (such as the Force Repeat control in Beatcutter).
- 2 Select Unlearn CC.



## Omni Mode for Assigned MIDI CC

MIDI CC assignments in Transfuser work in Omni mode. That is, they are received by Transfuser Tracks on all MIDI input channels. This lets you use a single controller for common controls on different Transfuser Tracks, even if the Tracks are assigned to different MIDI input channels. You can still use different MIDI input channels to trigger and play various Sequencer and Synth modules independently using MIDI notes.

## Default MIDI Assignments

To facilitate the ease of playing Transfuser, several standard MIDI continuous controllers (CC) are set as the following default assignments:

**CC 1 (Mod Wheel)** X-Fade (Bus 1 and 2)

**CC 7 (Volume)** Master Level

**CC 23** Stop All

**CC 24** Play All



*Aftertouch is treated as a generic MIDI CC and it can be learned by any control just like any other MIDI CC number.*



*Pitchbend is not uniquely assignable and always controls Master Pitch.*

## Controller Section




The Controller section provides performance controls for Transfuser. You can easily map a MIDI controller (such as the M-Audio Axiom series) to any number of Transfuser controls. The Controller section provides six Smart knobs, eight Trigger Pads, a four-octave keyboard for selecting patterns and triggering sounds, and a fader for crossfading between Transfuser Output Busses 1 and 2. The Controller section also displays the input MIDI channel for any selected Track.


## Smart Knobs



Transfuser provides six Smart knobs, each of which can be assigned to control multiple other controls in Transfuser. For example, you can assign a single Smart knob to control the Cutoff Filter in multiple Synth modules on separate Transfuser Tracks.

Smart knobs apply to the assigned controls regardless of whether or not those controls are on Tracks set to received different MIDI channels. This is especially useful if you are using different MIDI channels to control different Tracks, but you want certain controls on those Tracks to have a master control.

 *Assign MIDI CCs (continuous controllers) on your external MIDI controller (such as the knobs on any of the M-Audio Axiom series keyboard controllers) to any of the six Transfuser Smart knobs.*

 *For information on assigning and using Smart knobs, see “Configuring the Smart Knobs” on page 288.*

## Pattern Switch Keys



The Pattern Switch keys map to the corresponding Pattern keys in the Sequencer Editors. Clicking a Pattern Switch key (C1–B1) in the Controller section, select the corresponding Sequencer Pattern (see “Sequencer Patterns” on page 362).

The Pattern Switch keys only affect those Tracks assigned to the same MIDI Input Channel as displayed in the Channel indicator (see “Channel” on page 288).


When playing the Transfuser Pattern Switch Keys from an external MIDI keyboard or from another Pro Tools MIDI track, be sure to select the corresponding MIDI channel for the “Transfuser *n*” port from the Pro Tools MIDI track Output selector (where *n* is the numbered instance of a specific Transfuser insert). To play a Synth module directly, select the corresponding MIDI channel for the “Transfuser *n* Synth” port.

## Note Range Keys




The Note Range keys can be used to play the Sequencer modules on Tracks. How the different Sequencer modules respond to the Note Range keys depends the option selected in the Note Range selector in each Sequencer Editor.

The Note Range keys only affect those Tracks assigned to the same MIDI Input Channel as displayed in the Channel indicator (see “Channel” on page 288).

 *Set different Tracks Lo Key and Hi Key settings to different octave ranges for each Track. This way you can control multiple Tracks independently based on what octave range you play in on the Note Range keys (as well as when using an external MIDI keyboard).*

When playing the Transfuser Note Range Keys from an external MIDI keyboard or from another Pro Tools MIDI track, be sure to select the corresponding MIDI channel for the “Transfuser  $n$ ” port from the Pro Tools MIDI track Output selector (where  $n$  is the number of the MIDI node for a specific Transfuser insert). To play a Synth module directly, select the corresponding MIDI channel for the “Transfuser  $n$  Synth” port.

 For information on using the Note Range keys, see “Configuring Note Range Control” on page 290.

## Channel


The Channel indicator displays the MIDI Input Channel for the current (or last) selected Track. The on-screen Keyboard and Trigger Pads only affect those Tracks assigned to the MIDI Input Channel displayed in the Channel indicator. To change the MIDI channel, select a Track assigned to the MIDI Input Channel you want.

## Trigger Pads



Transfuser provides eight Trigger Pads, each of which can be assigned to trigger Sequencer Patterns in specific Sequencer modules, and also to send MIDI notes (assignable between 48–71) to Sequencer and Synth modules. A single Trigger Pad can be assigned to multiple target modules.


You can also set the default MIDI input channel and octave range for the Trigger Pads in the Transfuser Preferences (see “Transfuser Preferences” on page 296).

 For information on using the Trigger Pads, see “Configuring the Trigger Pads” on page 292.

## X-Fade



The X-Fade slider lets you crossfade between all Tracks set to Output Bus 1 and all Tracks set to Output Bus 2, much like a DJ mixer.

 For information on crossfading between Output Bus 1 and 2, see “Crossfading Between Bus 1 and Bus 2” on page 294.

## Configuring the Smart Knobs

Smart knobs provide easy access to significant performance controls while playing Transfuser. Transfuser provides six *Smart* knobs that can be assigned to virtually any control, and a single Smart knob can be assigned to more than one control. Smart knobs can be controlled by Pro Tools plug-in automation. Smart knobs can also be controlled by any assigned MIDI CC.



*Smart knobs*

### To assign a Smart knob:

1 Right-click the control you want to assign.

For example, you may want to assign the Pitch control for the Slicer module to Smart knob 1.



*Assigning a Slicer Synth Pitch Control to Smart knob 1*

2 From the pop-up menu, select Assign To Smartknob > 1 to have Smart knob 1 mapped to the current control.

3 If you have other controls you also want to control with Smart knob 1, assign them in the same way.

For example, if you have multiple Tracks, you can have the Pitch controls of all the Synth modules assigned to Smart knob 1.



*Assign Smart knob 1 to affect Pitch controls of Synth modules on multiple Tracks*

4 Go ahead and assign other controls to the other Smart knobs as you like.

5 For the final touch, assign the Smart knobs to knobs on your external MIDI keyboard controller, such as an M-Audio Oxygen 8 (see “Assigning MIDI Control” on page 285).

### To name a Smart knob:

1 Click the text above the Smart knob you want to change.



*Naming a Smart knob*

2 Type the text you want (for example, type “Track Pitch”).

3 Press Enter (Windows) or Return (Mac).

**To show an assigned control in the Editor section:**

- 1 Right-click the Smart knob.
- 2 From the pop-up menu, select the assigned control and choose Target from its submenu.



*Targeting a control assigned to Smart knob 1*

If the targeted control is in a Sequencer, Synth, or Effects module, the Editor for that module is shown in the Editor section.

**To forget (unassign) an assigned control from a Smart knob:**

- 1 Right-click the Smart knob.
- 2 From the pop-up menu, select the assigned control and choose Unassign from its submenu.



*Unassigning an assigned control from Smart knob 1*

**To forget (unassign) a Smart knob assignment from an assigned control:**

- 1 Right-click the control you want to unassign.
- 2 From the pop-up menu, select Unassign Smart Knob 1, or whichever Smart knob is assigned (1–6).



*Unassigning Smart knob 1 from a Slicer Synth Pitch Control*

## Configuring Note Range Control

When using Sequencer modules, there are different modes that determine how the sequencer responds when playing keys in the Note Range area of the on-screen keyboard (as well as any external MIDI controller).



*Keyboard Note Range keyboard*

There are up to three different modes in each sequencer. Switch between different modes using the Note Range selector beneath the sequencer name in the Editor pane.



## Drum Sequencer



*Note Range selector, Drum Sequencer*

**Trigger Pattern** Keys in the note range trigger the patterns (1–12) stored for the Drum Sequencer.

**Transpose Pattern** Keys in the Note Range trigger the selected pattern and transpose it according to the note played (or clicked). The original pitch transposition of the loop is mapped to C3. Notes below C3 transpose the loop down and notes above transpose it up.

**Play Pads** Keys in the note range play the individual pads (1–12) in the Drums Synth.

## Phrase Sequencer



*Note Range selector, Phrase Sequencer*

**Trigger Phrase** Keys in the Note Range trigger and re-trigger the Phrase Pattern.

**Transpose Phrase** Keys in the Note Range and re-trigger the Phrase Pattern and transpose it chromatically. C3 is the original pitch.

**Play Notes** Keys in the Note Range get passed through so they play the module directly without triggering the Pattern. This way you can play whole new melodies.

## Slice Sequencer




*Note Range selector, Slice Sequencer*

**Trigger Loop** Keys in the Note Range trigger the sliced loop at its original pitch. All keys in the Note Range have exactly the same function.

**Transpose Loop** Keys in the Note Range trigger the loop and transpose it according to the note played (or clicked). The original pitch transposition of the loop is mapped to C3. Notes below C3 transpose the loop down and notes above transpose it up.

**Play Slices** Keys in the Note Range play the individual slices of the loop. Slices are mapped to keys in order from left to right. The first slice in the loop is triggered by C2, the second by C#2, the third by D2, and so on. C5 is the top of the on-screen keyboard range, so any slices beyond C5 (the 37th slice) will be out of range. However, you can play any number of slices—well, any

number beyond 36 and up to 79 (MIDI note number 127)—by using an external MIDI keyboard controller or MIDI notes from Pro Tools MIDI and Instrument tracks.

 *Try using C1 through B1 to trigger stored Slicer Sequencer Patterns (1–12) and set the Note Range to Play Slices (C2–C5+) to intersect individual slices.*

## Configuring the Trigger Pads

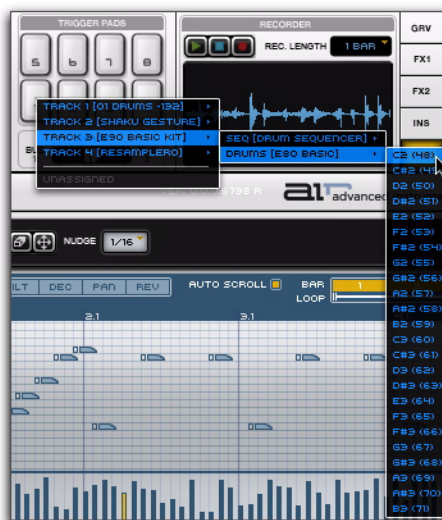
Transfuser provides eight Trigger Pads that can be used to trigger playback of Sequencer Patterns in specific Sequencer modules, and also to send MIDI notes to Sequencer and Synth modules.

A single Trigger Pad can also be assigned to multiple target modules. This way a single Trigger Pad can be used to trigger different patterns in different modules simultaneously, or even just to play sampled Drum Pads in Drums Synth modules on different Tracks.

If you are using an external MIDI controller with Transfuser, the Trigger Pads map to MIDI notes: 1 = C, 2 = C#, 3 = D, 4 = D#, 5 = E, 6 = F, 7 = F#, and 8 = G. If your controller has trigger pads (like the M-Audio Axiom series keyboard), be sure to assign them to the corresponding notes. Set the default MIDI input channel and octave range for the Trigger Pads in the Transfuser Preferences (see “Transfuser Preferences” on page 296).

### To assign a Trigger Pad:

- 1 Right-click the Trigger Pad you want to assign.
- 2 From the pop-up menu, choose the Track and the Module you want (such as Track 3 > Drums) and select the Pattern or MIDI note you want to trigger—such as C2 (48) to trigger a Kick Drum sound.



*Assigning a Trigger Pad to play a Kick Drum sound*

- 3 You can assign the same Trigger Pad to trigger another pattern or MIDI note in other Track modules as well. This is especially useful if you want to trigger different patterns in different Track Sequencer modules simultaneously.
- 4 Repeat the preceding steps for other Trigger Pads.

### To unassign a Trigger Pad:

- 1 Right-click the Trigger Pad you want to unassign.
- 2 Choose the Track, Module, and Pattern or Note and select Unassign.



Unassigning a Trigger Pad

- 3 Repeat the preceding steps for other Tracks assigned to the same Trigger Pad.
- 4 Repeat the preceding steps for other Trigger Pads.

---


## Bussing and Mixing in Transfuser

Transfuser lets you mix each Track output independently using each Track Mix module. You can also assign each Track Output to one of up to eight stereo busses, as well as an additional Cue Bus for auditioning. Transfuser also provides a crossfade control to crossfade between Tracks assigned to Bus 1 and Tracks assigned to Bus 2.

Each Track provides Mute, Solo, Volume, Pan, two Effect Sends, and an Output Bus selector in the Mix module.



Any of these Mix controls can be assigned to a MIDI CC or Smart knob (or Track Automation).

 *To audition Tracks before bringing them into the mix, set up a Pro Tools Auxiliary Input track for cueing Transfuser Tracks set to the Cue Bus.*

When playing back multiple Transfuser Tracks, mute and solo Tracks on downbeats or at the beginnings of phrases, slowly pan a Track over a bar, and otherwise have a blast mixing right within Transfuser.


## Assigning a Track to an Output Bus

### To assign a Track to an Output Bus:

- 1 Click the Track Output Bus selector.
- 2 Select any of the following:

**Off** Effectively mutes the Track Output. The Tracks is assigned to no audio Output Bus. However, the signal can still pass through the Effects Sends.

**1–8** Can be selected as Inputs on other Pro Tools audio, Auxiliary Input, and Instrument tracks for further mixing, processing, and recording in your Pro Tools session. All Output Busses (1–8 and Cue) are routed to the Transfuser Main Output unless they are selected as a Track Input in Pro Tools.

 *Use X-Fade control to crossfade between Transfuser Tracks assigned to Output Busses 1 and 2.*

**Cue** Is a dedicated bus for auditioning a Transfuser Track before assigning it to another Output Bus and bringing it into the mix. Set up a dedicated Auxiliary Input track in your Pro Tools session for monitoring the Cue Bus from Transfuser. Route the output of the Pro Tools Auxiliary Input track to your Pro Tools headphone mix.



Selecting the Output Bus for a Transfuser Track

## Crossfading Between Bus 1 and Bus 2

Assign two (or more!) different Tracks to Output Busses 1 and 2 respectively. Transfuser lets you crossfade between these two Output Busses much like a DJ mixer. This way you can set up one groove on Output Bus 1, and a different groove in Output Bus 2, and then fade one in while the other fades out (and then cue up the next groove to fade in), or just fly in Output Bus 2 to punctuate Output Bus 1, or... well, you get the idea.

### To crossfade between Output Busses 1 and 2:

- Drag the X-Fade control left for more of Output Bus 1 and right for more of Output Bus 2.



*Assign the X-Fade control to a MIDI CC to control it from a knob or fader on your MIDI controller. It is assigned to MIDI CC 1 (mod wheel) by default.*

## Showing and Hiding Panes in Transfuser

Since the Transfuser plug-in can take up a lot of screen space with multiple Tracks, you may want to hide the Browser or Editor panes after you have set up and configured your Tracks for performance.

### To show the Browser pane in Transfuser:

- Click the Show Browser Pane button.

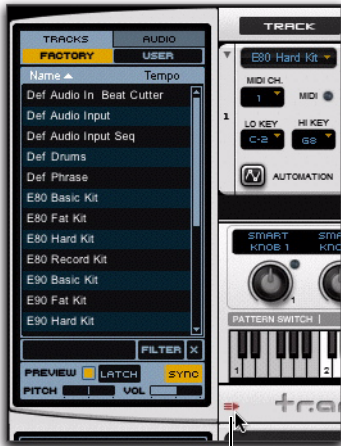


Show

Show Browser pane

To hide the Browser pane in Transfuser:

- Click the Hide Browser Pane button.

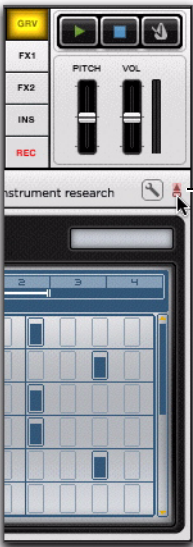


Hide

*Hide Browser pane*

To hide the Editor pane in Transfuser:

- Click the Hide Editor Pane button.



Hide

*Hide Editor pane*

To show the Editor pane in Transfuser:

- Click the Show Editor Pane button.



Show

*Show Editor pane*

---

## Adjusting the Transfuser Plug-in Window Height

Since Transfuser lets you create multiple Tracks, you may want to adjust the height of the plug-in window to see more or fewer Tracks. Simply click the middle of the plug-in window and drag up or down to increase or decrease the height of the plug-in window.



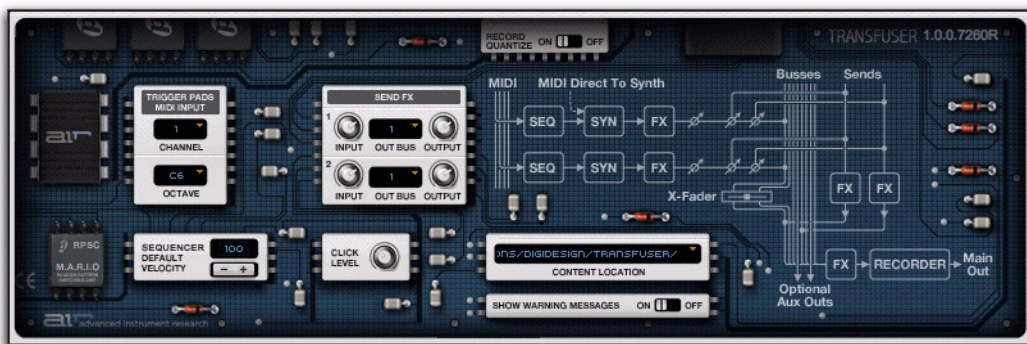
Window  
height

*Adjusting the plug-in window height*

---

## Transfuser Preferences

As part of getting Transfuser set up for use in your Pro Tools sessions, you may want check the Transfuser Preferences to make sure everything works the way you want.



*Transfuser Preferences*

To show the Transfuser Preferences in the Editor pane:

- Click the Show Preferences button. The Transfuser Preferences appear in the Editor pane.



Show Preferences

Show Transfuser Preferences

## Record Quantize

The Record Quantize preference lets you turn record quantize On or Off for the real-time pattern recording function in the Drum Sequencer module.

## Trigger Pads MIDI Input



Trigger Pads MIDI Input

**Channel** Lets you set the MIDI input channel for the Transfuser Trigger Pads.

**Octave** Lets you set the octave range for MIDI note control of the Transfuser Trigger Pads.

## Send FX



Send FX Preferences

**Input** Adjusts the default Input Gain for FX1 or FX2 respectively.

**Out Bus** Selects the Output Bus Channel for FX1 or FX2 respectively.

**Output** Adjusts the default Output Gain for FX1 or FX2 respectively.

## Sequencer Default Velocity



Sequencer Default Velocity

The Sequencer Default Velocity preference lets you set the default velocity for automatically created Events in the Sequencer modules.

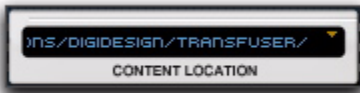
## Click Level



Click Level

The Click Level preference lets you set the volume level for the click in the Transfuser Metro-nome.

## Content Location



### *Transfuser Content Location Preference*

Double-click the Content Location preference to set the directory location for Transfuser Content (Track and audio files). This is only necessary if you have installed the Transfuser Content to another location than the default.

## Show Warning Messages

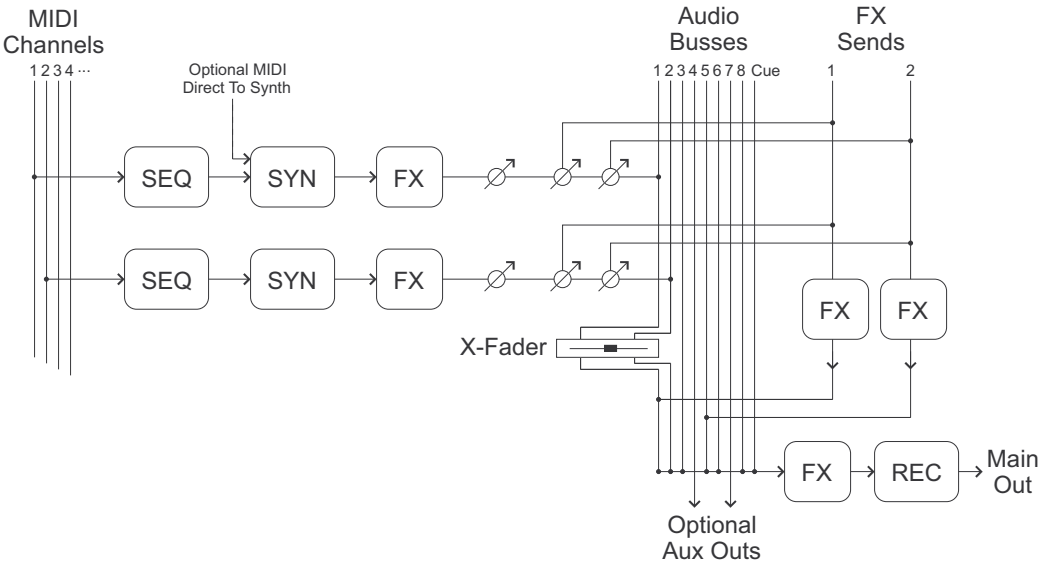


### *Show Warning Messages setting*

The Show Warning Messages preference can be set to On or Off. When performing destructive edits, this setting determines whether or not Transfuser warns you before committing to the edit.

## Transfuser MIDI and Audio Signal Flow

The Transfuser Preferences pane also displays MIDI signal and Audio signal flow for Transfuser.







# Chapter 22: Using Transfuser in Pro Tools


Using Transfuser in conjunction with Pro Tools provides you with some very powerful and sophisticated arrangement tools. Certainly, you can use Transfuser as a self-contained arranging and mixing environment, but when you combine it with all of the power of Pro Tools MIDI sequencing and audio mixing, processing, and recording capabilities, the possibilities are truly staggering.

Once you have created Transfuser Tracks, you can assign each Track a unique MIDI input channel (1–16). You can then send MIDI from multiple Pro Tools tracks on discrete MIDI channels to Transfuser Tracks for triggering Transfuser Sequencer Patterns and for playing Transfuser Synth modules directly.

 *For information on assigning MIDI input channels for Transfuser Tracks, see “Assigning MIDI Input Channels” on page 314.*

 *For more than 16 independently controlled Transfuser Tracks, insert additional instances of Transfuser on additional Pro Tools Instrument tracks.*

You can also assign the audio output of Transfuser Tracks to separate audio Output Busses (1–8) that can be independently routed to multiple Pro Tools Auxiliary Input and audio tracks for further mixing, processing, and recording.

 *Use the Pro Tools Plug-In Librarian to save complete Transfuser configurations with multiple Transfuser Tracks. For information on using the Pro Tools Plug-In Librarian, see the Pro Tools Reference Guide.*

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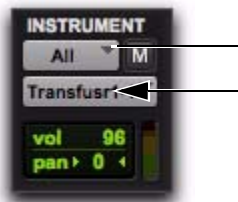
## Routing MIDI to Transfuser

There are several ways you can work with MIDI routing to control Transfuser through Pro Tools. Probably the most immediately gratifying way is to route an external MIDI keyboard controller through a Pro Tools Instrument or MIDI track to Transfuser.

### Using a Single Instrument Track

You can easily control Transfuser with MIDI when it is inserted on an Instrument track. The MIDI Output of the Pro Tools Instrument track is automatically routed to Transfuser on MIDI channel 1. By default, the Instrument track is set

to receive MIDI from all MIDI Input Devices, so if you have a MIDI controller already connected and configured, you can start playing Transfuser right away.



*Instrument track MIDI Output automatically routed to Transfuser on MIDI channel 1*



*Depending on the setting for the Default Thru Instrument preference, you may need to Record enable the Instrument or MIDI track to pass MIDI from the track Input to its Output. Also, check to make sure that Options > MIDI Thru is enabled.*

## Assigning MIDI Tracks to Transfuser Sequencer Modules

You can assign multiple Pro Tools MIDI and Instrument tracks to Transfuser Sequencer modules on different MIDI channels. This lets you trigger individual Sequencer modules from external MIDI controllers or from sequences on Pro Tools MIDI tracks.

### To assign Pro Tools MIDI tracks to control Transfuser Sequencer modules:

- Select the corresponding MIDI channel for the “Transfuser *n*” port from the Pro Tools MIDI track Output selector (where *n* is the number of the MIDI node for a specific Transfuser insert).



*Assigning a Pro Tools MIDI track output to control Transfuser Tracks and Sequencer modules on MIDI channel 2*

## Assigning MIDI Tracks to Transfuser Synth Modules

You can assign multiple Pro Tools MIDI and Instrument tracks to bypass the Sequencer module and control Transfuser Synth modules directly on different MIDI channels. This lets you control individual Synth modules from external MIDI controllers or from sequences on Pro Tools MIDI tracks.

### To assign Pro Tools MIDI tracks to control Transfuser Synth modules:

- Select the corresponding MIDI channel for the “Transfuser *n* Synth” port.



*Assigning a Pro Tools MIDI track output to control Transfuser Synth modules on MIDI channel 1*

## Using Multiple MIDI and Instrument Tracks

You can arrange MIDI notes and continuous controller data on multiple Pro Tools tracks to control multiple Transfuser Tracks independently. This technique lets you create extremely detailed, nuanced, and carefully controlled arrangements (perfect for the control freak in all of us).

Use some MIDI tracks to trigger different Transfuser Sequencer Patterns at different times for multiple Transfuser Tracks set to different MIDI channel inputs. At the same time, use other MIDI tracks to play Transfuser Synth modules directly using longer, more involved MIDI sequences straight from Pro Tools tracks (or from your external MIDI controller through Pro Tools tracks—don't forget to record your MIDI performance in Pro Tools!).

### To configure Pro Tools to control multiple Transfuser Sequencer and Synth modules:

- 1 Set each Transfuser Track to receive MIDI on different MIDI channels (see “Assigning MIDI Input Channels” on page 314).
- 2 Create as many MIDI tracks as you need.
- 3 Assign some MIDI track Outputs to Transfuser Sequencer modules on unique MIDI channels.
- 4 Assign other MIDI track Outputs to Transfuser Synth modules on unique MIDI channels.
- 5 Create your MIDI arrangement for Transfuser in the Pro Tools MIDI tracks.

If you have more than one external MIDI controller that you want to use to play Transfuser, set up the corresponding additional number of MIDI tracks and set each MIDI track Input to a specific device (including the Instrument track on which Transfuser is inserted).

---

## Mixing and Recording Transfuser in Pro Tools

With Transfuser, you can take advantage of the vast capabilities of Pro Tools as a powerful recording, editing, and mixing environment with one or even multiple instances of Transfuser.

### Bus Recording Transfuser in Pro Tools

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

#### **To bus record Transfuser in Pro Tools:**

- 1** If you haven't already done so, insert Transfuser 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 Transfuser is inserted to a bus (such as Bus 1–2).
- 4** Select the same bus (such as Bus 1–2) as the Input of the stereo audio track for recording (see Figure 15 on page 303).



Figure 15. Bus recording the output of Transfuser in Pro Tools

## Bussing Transfuser Tracks to Multiple Pro Tools Tracks

A more sophisticated way to work with Transfuser is to assign different Tracks in Transfuser to multiple tracks in your Pro Tools session for further multitrack mixing, processing, and recording.

### **To bus Transfuser Tracks to multiple Pro Tools tracks:**

- 1** Configure any number of Transfuser Tracks. Strive for a nice mix of different drum sequences, sliced-up loops, and phrases.
- 2** Assign the different Transfuser Tracks to different Output Busses (see “Assigning a Track to an Output Bus” on page 293).
- 3** In your Pro Tools session, create enough new stereo audio tracks for each Output Bus from Transfuser.
- 4** Select the corresponding Transfuser Output Bus from each audio track Input selector.

Note that all of the Transfuser Output Bus assignments play through the Transfuser Main Outputs (which play through the Pro Tools track on which Transfuser is inserted) until they are selected as the Input to a Pro Tools Auxiliary Input or audio track.

You can now record, mix, and process your Transfuser Tracks independently in your Pro Tools session.



Figure 16. Selecting Transfuser Bus 2 as the input for an audio track in Pro Tools

## Monitoring the Transfuser Cue Bus in Pro Tools


Assign Transfuser Tracks to the Cue Output Bus for auditioning in your headphone mix. Then select the Transfuser Cue Output Bus as the Input for an Auxiliary Input track. Assign the Output of the Auxiliary Input track to your headphone monitoring path (not the main output).



Using an Auxiliary Input track to monitor the Transfuser Cue Output Bus

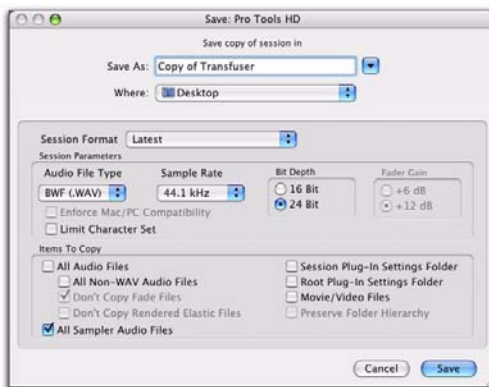
## Pro Tools File Management with Transfuser

Pro Tools provides integrated file management for Transfuser. When saving a session copy, you can choose to copy all sampler audio files (audio files loaded into Transfuser). Pro Tools also tries to find and relink to missing Transfuser files.

 *Pro Tools 8.0 and higher automatically saves any sampler audio files with the session.*

### Save Session Copy In (Pro Tools 7.3 and 7.4 Only)

When saving a session copy in Pro Tools, the All Sampler Audio Files option is available if Transfuser is installed on your system. When this option is selected, Transfuser samples are copied to the new location, and session references are updated to point to the copied files.



Save Session Copy In, All Sampler Audio Files selected


### Find and Relink

When opening a Pro Tools session that is missing audio files used by Transfuser, those files are automatically found and relinked when possible. You can also manually find and relink missing files.



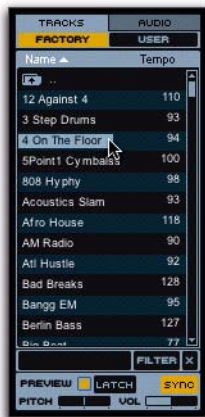
# Chapter 23: Transfuser Tracks and Modules

This chapter describes working with Transfuser Tracks and Modules.

 *For an overview of Transfuser's layout, see Chapter 19, "Transfuser Overview."*

## Browser

The Transfuser Browser provides easy access to factory-created Tracks and audio, as well as to any of your own custom Tracks and audio loops and samples. The Browser also provides controls for auditioning and filtering stored Tracks and audio.



*The Transfuser Browser viewing Factory Tracks*

## Navigating the Browser

The Transfuser Browser lets you view both Factory and user-created Tracks. You can also view Factory audio loops and samples, and three different user definable directories let you configure Transfuser to quickly and easily access your favorite audio loop and sample libraries.

### To view Factory Tracks:

- 1 Click the Tracks tab at the top of the Browser.
- 2 Click the Factory tab.
- 3 Select any Track in the list for preview and import.

### To view User-created Tracks:

- 1 Click the Tracks tab at the top of the Browser.
- 2 Click the User tab.
- 3 Select any Track in the list for preview and import.

### To view Factory audio:

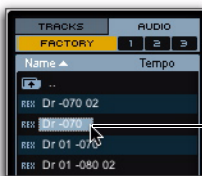
- 1 Click the Audio tab at the top of the Browser.
- 2 Click the Factory tab.

**3** In the Browser list, double-click the folder whose content you want to view.



*Factory Audio content folders*

**4** In the Browser list, select the Factory Audio you want to preview and import.

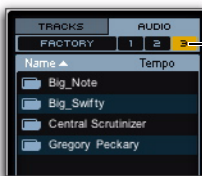


selected file

*Selecting Factory audio for previewing and import*

**To navigate to other directories on your computer:**

- 1** Click the Audio tab in the Browser.
- 2** Click tabs 1, 2, or 3.



selected tab

*User Audio tab 3 showing hard drives on the computer*

**3** Double-click the folder whose contents you want to view.

**4** Select the audio file you want to preview and import.



*Audio file selected in a folder on a computer's drive*



*The User Audio tabs 1, 2, and 3 are “sticky.” That way you can navigate to three different locations of your favorite audio for easy access in every Transfuser instance in all of your Pro Tools sessions.*

**To navigate back up through directories on your computer:**

- Double-click the Move Up One Directory Level icon at the top of the Browser list.



Move Up One Directory Level icon

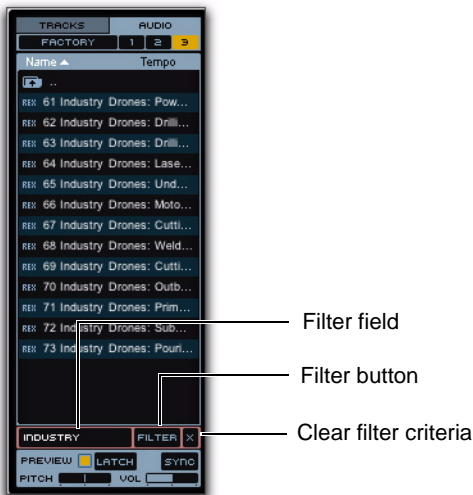
*Navigating up one directory level*

## Filtering Tracks and Audio in the Browser List

Transfuser lets you filter items in the Browser list by alphanumeric characters. This way you can quickly find the Track or sample you want.

### To filter the Browser list:

- 1 Type the alphanumeric characters in the Filter field to show all items in the list containing those characters.



*Filter by the letters "Industry"*

- 2 Click the Filter button.
- 3 To clear the filter criteria, click the X button.

## Previewing Tracks and Audio in the Browser

Transfuser lets you preview Tracks and audio from its Browser. The audio path for previewing is the main Transfuser audio output to the Pro Tools track on which it is inserted.

### To audition a Track or audio from the Transfuser Browser:

- 1 Enable Preview in the Browser.
- 2 Enable or adjust the other Browser Preview controls:

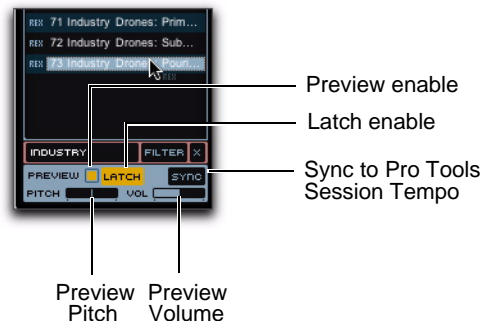
**Latch Enable** Latches preview of the selected file.

**Sync Enable** Synchronizes preview to the Pro Tools session tempo.

**Pitch** Adjusts the pitch transposition of the previewed Track or audio file.

**Volume** Adjusts the preview volume.

- 3 Click the Track or audio file you want to audition in the Browser list. The item plays back for as long as you hold down the mouse. If Latch is enabled, then the entire Track or file plays back and loops with a single click.




### Browser Preview controls

Once you have found the Track or audio file you want, drag it into the Transfuser Tracks pane.

---

## Transfuser Tracks

Transfuser lets you create multiple Tracks of paired Sequencer and Synth modules. You can play and mix multiple Tracks in a single instance of Transfuser simultaneously. In this way you can perform simple grooves to complex arrangements, triggered by MIDI sequences in Pro Tools or even in real-time using Transfuser's on-screen interface or an external MIDI controller.

 *For more than 16 independently controlled Transfuser Tracks, insert additional instances of Transfuser on additional Pro Tools Instrument tracks.*

Transfuser Tracks are made up of a series of modules in a serial control and signal path:

Track Sequencer → Synth → Effects → Mix

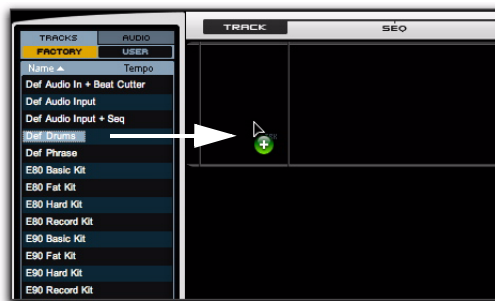
The Track module provides controls for managing Tracks, assigning the MIDI control input channel, assigning the Low and High MIDI note range (this way you can assign different octaves to control different Tracks), and up to 12 lanes of Track automation.

## Creating Tracks in Transfuser

In Transfuser, you can create Tracks. These Tracks consist of modules for Track automation, sequencing and triggering, generating sound, effects processing, and mixing. Each Track you create can be played back and mixed individually. You can cue Tracks for playback and cross-fade between Tracks much like a DJ mixer.

### To load a factory Track into Transfuser:

- Drag a Factory Track from the Transfuser Browser to the Tracks pane.



Loading a factory Track in Transfuser

### To create new Tracks in Transfuser:

1 Drag audio files (REX, ACID, AIFF, or WAV) or audio clips to the Tracks pane from any of the following:

- Transfuser Browser pane
- Pro Tools audio tracks
- Pro Tools Clip List
- DigiBase browsers
- The Desktop



Drag audio to create a Track in Transfuser

2 In the resulting Import As dialog, select the type of Track you want.



*Import As dialog*

There are four basic types of Tracks in Transfuser:

**Sliced Audio and Slice Sequence** Converts the dropped audio to a slice sequencer that plays back the sliced audio.

#### **Time-Stretched Audio and Trigger Sequence**

Converts the dropped audio to triggered (by mapped MIDI notes), beat-matched audio.

**Drum Kit and Drum Sequence** Converts the dropped audio to a drum pattern (sequence) and plays back a sampled drum kit. Transfuser extracts the drum samples from the dropped audio as well as possible.

**Bass Synth and Phrase Sequence** Is not available for imported audio, but a bass track can be added by dragging a factory bass track (or you can create your own).

3 To create another Track, repeat the previous steps.

💡 *You can also have a Thru Sequencer and Input Synth. However, this configuration is not available in the Import As dialog.*

#### **Sampler Files Folder**

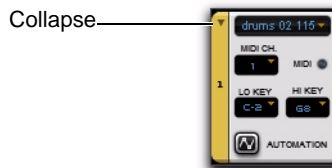
When you import non-Factory audio into Transfuser, a “Sample Files” folder is created in the Pro Tools session folder. This keeps all imported audio conveniently with the session.

#### **Expanding and Collapsing Tracks in Transfuser**

Since you can have multiple Tracks in Transfuser, you may want to minimize the height of some Tracks to save screen space. Likewise you may want to maximize the height of other Tracks to access Track controls on-screen.

##### **To minimize (collapse) a Track in Transfuser:**

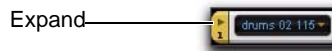
- Click the Track Collapse button.



*Collapsing a Track*

##### **To maximize (expand) a Track in Transfuser:**

- Click the Track Expand button.



*Expanding a Track*

⌘ Shift-click the Track Expand/Collapse button to expand or collapse all Transfuser Tracks.

## Cut or Copy and Paste Tracks

If you want to use a Track that you constructed as the basis of another Track, you can cut or copy it, and paste it to another Track.

### To Copy and Paste one Track to another:

1 From the Track menu of the Track you want to copy, select Copy (or Cut if you want to remove the source Track).



*Copying a Track*

2 From the Track menu of the Track you want to replace, select Paste.



*Pasting a Track*

💡 You can drag one Track over another to replace it, just like Cut and Paste, by dragging the Track module. You can Alt-drag (Windows) or Option-drag (Mac) one Track to another to copy and replace as well.

## Saving Tracks

Once you have set your own custom Transfuser Tracks, you probably will want to save some of them for later use. You can save each of your Tracks individually.

💡 Use the Pro Tools Plug-In Librarian to save complete Transfuser configurations with multiple Transfuser Tracks. For information on using the Pro Tools Plug-In Librarian, see the Pro Tools Reference Guide.

### To save a Transfuser Track:

1 From the Track menu, choose Save. To save the Track with any imported sample content, choose Save With Samples.



*Saving a Track*


💡 You can also drag the Track module from the Tracks pane to the Browser to save with samples.

2 In the Save dialog, specify Path, Name, and BPM.



*Save dialog*

You can save your Tracks with samples to any directory location, but you probably want to keep them in the default location so that they are available in the Transfuser Browser > Tracks > User directory.

 You can set default Transfuser Content Location in the Transfuser Preferences (see “Transfuser Preferences” on page 296).

## Moving Tracks


To move a Track, drag it to the location you want between (or before or after) other Tracks.



*Moving a Track to between two other Tracks*



*Result*

 If you drag one Track on top of another, you will replace that Track.

## Removing Tracks

To remove a Track in Transfuser, do one of the following:

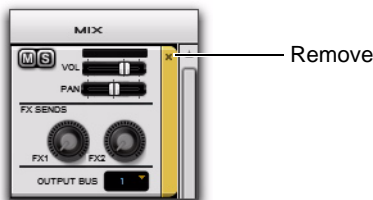
- Choose Remove from the Track module menu.



*Removing a Track*

– OR –


- Click the Remove button for the Track you want to delete, and then click Yes to confirm that you want to delete the Track (or click No to cancel).



*Removing a Track*

## Assigning MIDI Input Channels

Any Transfuser Track can be independently assigned to receive MIDI on any MIDI channel (1–16). This lets you assign multiple Pro Tools MIDI tracks to independently play multiple corresponding Transfuser Tracks (see “Routing MIDI to Transfuser” on page 299).

 *MIDI CC assignments work in Omni mode. Transfuser Tracks on all MIDI input channels. This lets you use a single controller for common controls on different Transfuser Tracks, even if the Tracks are assigned to different MIDI input channels.*

**To assign the MIDI channel input for MIDI control of a Track:**

- From the Transfuser Track MIDI Channel Input selector, select the MIDI channel for MIDI control of the Track.



*Selecting the MIDI channel input for controlling a Track*

## Assigning the Track Low Key and High Key Range

Transfuser lets you assign different MIDI note low and high key ranges for each Track. This lets you play Synth modules and trigger sequencer patterns for different Tracks from different note ranges of your external MIDI keyboard controller or from MIDI and Instrument tracks in your Pro Tools session. MIDI note numbers below or above the assigned note key range have no effect on the Track.

**To assign the Low Key Note for a Track:**

- Select the MIDI note and octave from the Lo Key pop-up menu.



*Selecting the Low Key range for a Track*

**To assign the High Key Note for a Track:**

- Select the MIDI note and octave from the Hi Key pop-up menu.



*Selecting the High Key range for a Track*

## Transfuser Track Automation

Each Transfuser Track provides up to 12 lanes of automation that can be assigned to any control in any module in the Track. For detailed information on Transfuser Track Automation, see Chapter 24, “Transfuser Track Automation.”



---

## Creating, Saving, and Loading Modules

### (Sequencer and Synth Modules Only)

Transfuser lets you individually change the Sequencer and Synth modules. This way you can keep an existing Track, with any existing Track Automation and Effects, but change the type of Sequencer, Synth, or both. For example, you might even want to play a Drums Synth using a Phrase Sequencer.

### Creating a New Sequencer Module



*Selecting New ThruSeq from the Sequencer menu*

**To create a new Sequencer module in an existing Transfuser Track:**

- From the Sequencer menu, select one of the following:

**New DrumSeq** Creates a new Drum Sequencer module.

**New PhraseSeq** Creates a new Phrase Sequencer module.

**New SliceSeq** Creates a new Slice Sequencer module.

**New ThruSeq** Creates a new Thru module (which effectively means no sequencer).

### Creating a New Synth Module



*Selecting New Audio Input from the Synth menu*

**To create a new Synth module in an existing Transfuser Track:**

- From the Synth menu, select one of the following:

**New Audio Input** Creates a new Audio Input module. The Audio Input module passes audio from the audio Input Path of the Pro Tools track on which Transfuser is inserted (which can be live or from disk).

**New Drums** Creates a new Drums Synth module.

**New Phrase** Creates a new Phrase Synth module.

**New Bass** Creates a new Bass Synth module.

**New Slice** Creates a new Slicer Synth module.

### Saving Modules

If you have a particularly good Sequencer or Synth module configuration, you can save it for use in other Transfuser Tracks, instances of Transfuser, and Pro Tools sessions.

### To save a Sequencer or Synth module:

1 From the Sequencer or Synth module menu, choose Save.




Saving a custom Synth module


2 In the Save Preset dialog, enter the name you want for the module preset.



Save Preset dialog

3 Click Save to save the module preset (or click Cancel).

 You can also drag the module to the Browser.

 For information on saving Tracks, see “Saving Tracks” on page 312.

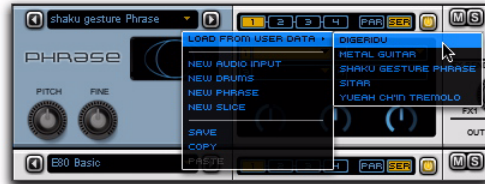
## Loading Saved Modules

Custom-saved Sequencer and Synth modules can be loaded into any current Transfuser Track.

You can only load the same type and kind of custom module as the one you want to replace. For example, you can only load saved Phrase Synth modules into a Phrase Synth module, and you cannot load a stored Slice Sequence into a Drum Sequence module, let alone a stored slice Sequence into a Phrase Synth module.

### To load a Sequencer or Synth module:

■ From the Sequencer or Synth module menu, choose Load from User Data and select the Sequencer or Synth module you want.



Loading a custom Phrase Synth module

---


## Copying and Pasting Track Modules

If you have a particularly good sequence that you want to use to play another Sequencer module, or you have a particularly good Synth module configuration that you want to use with another sequencer, you can Copy and Paste from a module in one Track to the same type of module in another Track.

### To copy and paste a module from one Track to another:

1 From the source Sequencer or Synth module menu, choose Copy.

2 From the destination Sequencer or Synth module menu, choose Paste.

 You can also drag one module over another to replace it, just like Copy and Paste. In fact, this is the only way to copy and paste Effects modules from one Track to another.

---

## Enabling/Disabling Modules

Each Sequencer and Effects module provides an Enable/Disable button. Click this button to either enable or disable the individual module. Disabling a module effectively bypasses its function in the Transfuser Track.

This can be useful if you want to bypass a Track Effects module, or if you want to bypass the Track Sequencer (maybe to trigger individual events in the Synth module using MIDI control).



Enable/Disable

*Slice Sequencer module Enable/Disable button (enabled)*



*Also, the Effects Sends 1 and 2, and the Main Effects Inserts each provide an Enable/Disable button.*

---

## Sequencer Modules

Sequencer modules play back the audio loaded into Synth modules using Sequencer Patterns.



*For information on creating, saving, and loading custom Sequencer modules, see “Creating, Saving, and Loading Modules” on page 315.*

Transfuser provides four different types of Sequencer modules:

**Drum Sequencer** Provides a 12-note step sequencer for playing the Drums Synth module.

**Phrase Sequencer** Provides a monophonic MIDI sequencer for playing the Phrase Synth module.

**Slice Sequencer** Provides a slice sequencer for playing the Slicer Synth module.

**Thru Module** Provides no sequencing controls whatsoever and any MIDI input plays the Track Synth module directly.



*In addition to creating and editing Sequencer Patterns in Transfuser, you can drag MIDI files and clips from Pro Tools into Transfuser Sequencer modules to replace the current Sequencer Pattern.*



*For detailed information on the Sequencer Editors, see Chapter 25, “Transfuser Sequencer Editors.”*

## Drum Sequencer

The Drum Sequencer module lets you configure a 12-note step sequencer to play a Drums Synth module on the same Track.

### Drum Sequencer Track Module



In the Tracks pane, the Drum Sequencer module provides the following high level controls:

**Sequencer Menu** Lets you replace the current Sequencer module with another Sequencer module. It also lets you load custom saved Sequencer modules (of the same type), and Copy and Paste Sequencer modules.

**Module Enable** Lets you enable or disable the module, effectively bypassing its function.

**Module Transport** Provides Play, Latch, and Stop controls for the sequencer module.

**Groove** Lets you apply 0–100% of Groove microtiming as set in the Sequencer Editor.

### Drum Sequencer Editor

When you select the Drum Sequencer module on a Track, its Editor is available in the Editor pane. The Drum Sequencer editor provides the same high level controls as the Drum Sequencer Track module, a 12-note step sequencer, and other detailed sequencer controls and options.

## Phrase Sequencer

The Phrase Sequencer lets you configure a monophonic MIDI sequencer to play a Phrase Synth module on the same Track.

### Phrase Sequencer Track Module



In the Tracks pane, the Phrase Sequencer module provides the following high level controls:

**Sequencer Menu** Lets you replace the current Sequencer module with another Sequencer module. It also lets you load custom saved Sequencer modules (of the same type), and Copy and Paste Sequencer modules.

**Module Enable** Lets you enable or disable the module, effectively bypassing its function.

**Module Transport** Provides Play, Latch, and Stop controls for the sequencer module.

**Groove** Lets you apply 0–100% of Groove microtiming as set in the Sequencer Editor.

### Phrase Sequencer Editor

When you select the Phrase Sequencer module on a Track, its Editor is available in the Editor pane. The Phrase Sequencer editor provides the same high level controls as the Phrase Sequencer Track module, a monophonic MIDI sequencer, and other detailed sequencer controls and options.

## Slice Sequencer

The Slice Sequencer lets you configure a slice sequencer to play a Slicer Synth module on the same Track.

### Slice Sequencer Track Module



In the Tracks pane, the Slice Sequencer module provides the following high level controls:

**Sequencer Menu** Lets you replace the current Sequencer module with another Sequencer module. It also lets you load custom saved Sequencer modules (of the same type), and Copy and Paste Sequencer modules.

**Module Enable** Lets you enable or disable the module, effectively bypassing its function.

**Module Transport** Provides Play, Latch, and Stop controls for the sequencer module.

**Groove** Lets you apply 0–100% of Groove microtiming as set in the Sequencer Editor.


### Slice Sequencer Editor

When you select the Slice Sequencer module on a Track, its Editor is available in the Editor pane. The Slice Sequencer editor provides the same high level controls as the Slice Sequencer Track module, a slice sequencer, and other detailed sequencer controls and options.

## Thru Module

Besides the Sequencer menu and the module Enable/Disable button, the Thru module provides no controls and no Editor. Thru simply bypasses the Sequencer module and any MIDI input plays the Track Synth module directly.





 Use the Thru Sequencer module to play Synth modules directly, such as the Bass Synth, from Pro Tools MIDI tracks or with a MIDI controller.

---

## Synth Modules

Synth modules generate sound using imported audio files. Audio files and clips can be dragged into Transfuser from the Transfuser Browser, Pro Tools tracks or the Clip List in Pro Tools, from DigiBase browsers, or from the Desktop (Mac Finder or Windows Explorer). Synth modules are played back by corresponding Sequencer modules.

 You can drag audio files and clips into existing Synth modules to replace any currently loaded audio.

 For information on creating, saving, and loading custom Synth modules, see “Creating, Saving, and Loading Modules” on page 315.

Transfuser provides five different types of Synth modules:


**Drums** Provides a sophisticated 12-pad drum sampler. Using the Drum Sequencer or MIDI input, you can play back simple to intricate drum patterns.

**Phrase** Converts imported audio to beat-matched, time compressed/expanded (TCE) audio. Using the Phrase Sequencer or MIDI input, you can play back the Phrase Synth module at different transpositions, times, and durations.

**Slicer** Converts imported audio into individual “slices” based on a sophisticated, automatic transient-detection algorithm. That is to say, it automatically chops up your audio into individual events that can be played back at any tempo, in any order, and with all kinds of processing, by the Slice Sequencer module or MIDI input.

**Bass** Provides a monophonic Bass-line synthesizer. Using the Phrase Sequencer, you can play the Bass Synth with 1–4 bar bassline sequences, or using the Thru Sequencer you can play Bass directly from MIDI sequences on Pro Tools MIDI tracks or using a MIDI controller.

**Audio Input** Passes audio from disk or the audio Input of the track on which Transfuser is inserted. This lets you directly process Pro Tools audio in Transfuser without having to import it.

 For detailed information on the Synth Editors, see Chapter 26, “Transfuser Synth Editors.”

## Drums Synth

The Drums Synth module is a sample-based drum machine that can be played back by the Drum Sequencer module. It provides twelve sample pads to which you can drag samples or choose from a number of factory samples.

### Drums Synth Track Module



**Synth Menu** Lets you replace the current Synth module with another Synth module. It also lets you load custom saved Synth modules (of the same type), and Copy and Paste Synth modules.

**Pitch** Lets you raise or lower the pitch of the Drums in semitones and cents.

**Cutoff** Lets you adjust the Cutoff Frequency applied to the Drums.

**Decay** Lets you adjust the amount of Decay applied to the Drums. Lower settings result in shorter decays and higher settings result in longer decays for the Drums.

### Drums Synth Editor

When you select the Drums Synth module on a Track, its Editor is available in the Editor pane. The Drums Synth editor provides the same high level controls as the Drums Synth Track module, twelve sampled drum pads, and other detailed controls and options.

## Phrase Synth

The Phrase Synth module takes any imported audio and automatically beat matches it to the current tempo using very sophisticated Time Compression and Expansion algorithms. You can then apply further processing and filtering to the audio within the module and trigger playback using the Phrase Sequencer module.



**Synth Menu** Lets you replace the current Synth module with another Synth module. It also lets you load custom saved Synth modules (of the same type), and Copy and Paste Synth modules.

**Pitch** Lets you raise or lower the pitch of the audio in the Phrase Synth in semitones.

**Fine** Lets you adjust the fine tuning of the pitch of the audio in the Phrase Synth in cents.

### Phrase Synth Editor

When you select the Phrase Synth module on a Track, its Editor is available in the Editor pane. The Phrase Synth editor provides the same high level controls as the Phrase Synth Track module, and other detailed controls and options.

## Slicer Synth

The Slicer Synth module takes any imported audio and slices it up at the *transients*. Transients are the peaks in the audio waveform. With drum loops, transients are the individual hits on each drum. With a bass or guitar loop, transients occur at the attack of each note or chord played. Once the audio is sliced up, the individual slices can be played back by the Slice Sequencer.

### Slicer Synth Track Module



**Synth Menu** Lets you replace the current Synth module with another Synth module. It also lets you load custom saved Synth modules (of the same type), and Copy and Paste Synth modules.

**Pitch** Lets you raise or lower the pitch of the audio slices in the Slicer Synth in semitones.

**Decay** Lets you adjust the amount of Decay applied to the audio slices. Lower settings result in shorter decays and higher settings result in longer decays for each of the audio slices.

**Cutoff** Lets you adjust the Cutoff frequency of the Filter applied to the audio slices.

**Reso** Lets you adjust the Resonance of the Filter.

### Slicer Synth Editor

When you select the Slicer Synth module on a Track, its Editor is available in the Editor pane. The Slicer Synth editor provides the same high level controls as the Slicer Synth Track module, and other detailed controls and options.

## Bass Synth

The Bass Synth module provides a bassline synthesizer with a single adjustable oscillator, filter, and amplitude controls. You can play the Bass Synth module with a Phrase Sequencer or Thru Sequencer (using MIDI sequences from Pro Tools MIDI tracks or playing directly with a MIDI keyboard).



**Synth Menu** Lets you replace the current Synth module with another Synth module. It also lets you load custom saved Synth modules (of the same type), and Copy and Paste Synth modules.

**Cutoff** Lets you adjust the Cutoff frequency for the Filter of the Bass Synth.

**Reso** Lets you adjust the Resonance (or “Q”) of the Filter of the Bass.

**Env Mod** Lets you control the amount of Envelope Modulation applied to the Bass.

**Drive** Lets you control the amount of Drive applied to the Bass.

### Bass Synth Editor

When you select the Bass Synth module on a Track, its Editor is available in the Editor pane. The Bass Synth editor provides the same high level controls as the Bass Synth Track module, as well as controls for the oscillator and other detailed controls and options.

## Input

The Input Synth module passes audio from the Input of the Pro Tools track on which Transfuser is inserted. When Transfuser is inserted on an audio track, it can process any audio played back on that track as well.



**Synth Menu** Lets you replace the current Synth module with another Synth module. It also lets you load custom saved Synth modules (of the same type), and Copy and Paste Synth modules.

**Attack** Lets you adjust the Attack time of the envelope for audio input.

**Release** Lets you adjust the Release time of the envelope for audio input.

**Thru** Lets you directly adjust the through level for the audio input.

### Input Synth Editor

When you select the Input Synth module on a Track, its Editor is available in the Editor pane. The Input Synth editor provides the same high level controls as the Input Synth Track module, as well as a few other detailed controls and options.




---

## Effects Module



The Effects module provides up to four different effect inserts, parallel or in series, on each Track.


 *For detailed information on the Effects Editors, see Chapter 27, “Transfuser Effects Editors.”*

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## Mix Module



The Mix module provides Mute, Solo, Volume, and Panning controls for the Track. It also provides two effects sends for additional processing and lets you assign the Track Output Bus. You can select any of the Transfuser Output Busses as the input for audio and Auxiliary Input tracks in Pro Tools for further mixing and processing.

 *Also see “Bussing and Mixing in Transfuser” on page 293.*

### Mute

Click the Mute button to mute and unmute the Track. When muted, the Mute button is lit.

### Solo

Click the Solo button to solo and unsolo the Track. When soloed, the Solo button is lit. All unsoloed Tracks are automatically muted.

### Meters

The Track Meters show the output level for the Track.

### Volume

The Volume slider lets you increase or decrease the output volume of the Track. Move the slider right to boost the output and left to attenuate the output.

### Pan

The Pan slider lets you adjust the panning of the Track in the stereo field. Move the slider right to pan right and left to pan left.

### FX Sends 1 and 2



The Effect Sends 1 and 2 controls let you send signal from the Track to Send Effects 1 and 2 (in the Master section). Drag the control right (or up) to increase the amount of signal sent to the Effect Send and left (or down) to decrease the amount of signal sent to the Effect Send. Also see “Effects Sends 1 and 2” on page 326.

### Output Bus

The Output Bus selector lets you select any of the nine stereo Transfuser Output Busses.

**Output Busses 1–8** Can be selected for discrete mixing in your Pro Tools session. Select the Output Busses for your Tracks in Transfuser, and then select the corresponding Output Busses in the audio Input Path selector on Pro Tools Auxiliary Input and audio tracks. For more information, see “Mixing and Recording Transfuser in Pro Tools” on page 302.

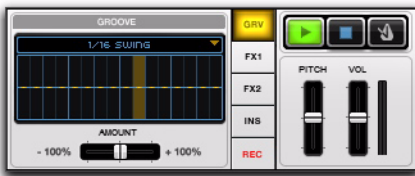
All Output Busses (1–8 and Cue) are routed to the Main Output unless they are selected as a Track Input in the Pro Tools.

Output Busses 1 and 2 can be used in conjunction with the X-Fade control in the Controller section to cross-fade between different Tracks set to Output Busses 1 and 2 respectively.

**Cue Output Bus** Can be used to audition Tracks before switching them to one of the main Output Busses. Set up an Auxiliary Input track in your Pro Tools session to monitor the Cue Output Bus from Transfuser and route it to the Headphone outputs on your Pro Tools or M-Audio audio interface. See “Monitoring the Transfuser Cue Bus in Pro Tools” on page 306.

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## Master Section



The Master section provides access to the Master Groove, Effects Sends 1 and 2, Main Effects Inserts, and Recorder. It also provides controls for the Master Transport and Click, and Pitch and Volume.

## Master Transport

The Master Transport provides Play, Stop, Metronome, Pitch, and Volume controls for Transfuser.

### Play

Click the Play button in the Master Transport to start play back in Transfuser regardless of whether or not the Pro Tools Transport is engaged.

### Stop

Click the Stop button in the Master Transport to stop play back in Transfuser regardless of whether or not the Pro Tools Transport is engaged.

### Metronome

When you want to play or record with the Drum Sequencer on-the-fly, without any other Transfuser Tracks or the Pro Tools Transport running, you can use the Metronome in the Master section to keep the beat.

The Transfuser Metronome always synchronizes to the Pro Tools session tempo.

**⚠** *Audio from the Metronome is not recorded in Transfuser. However, it can be recorded to Pro Tools audio tracks.*

**📄** *The level of the click for the Metronome can be set in the Transfuser Preferences. See “Transfuser Preferences” on page 296.*

### To activate the Metronome

- Click the Metronome button in the Master Transport section. Click it again to turn off the Metronome.



### Pitch

The Main Pitch slider lets you transpose the pitch of the main Transfuser audio output. Raise the slider to transpose the pitch up and lower the slider to transpose the pitch down.

### Volume

The Main Volume slider lets you raise or lower the volume for the main Transfuser audio output. Raise the slider to boost the volume and lower the slider to attenuate the volume.

### Meters

The Main Meters show the levels for the main Transfuser audio output.

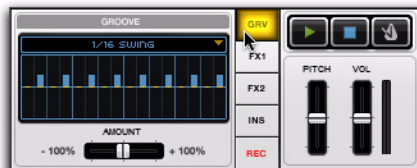
## Master Groove

All of the Transfuser Sequencer modules let you apply varying degrees of “groove” as configured in the Transfuser Master Groove. In Transfuser Sequencers, each step is normally locked to a strict grid. Applying Groove lets you modify the microtiming of each step. Each sequencer can be set locally to use the Master Groove or another local Groove preset.

The Master Groove editor provides 16-step timing adjustment. The Groove matches a single bar in the sequencer module.

### To access the Master Groove editor:

- Click Grv to the left of the Master Transport.



*Viewing the Groove editor*

### To adjust the timing of a step in the Groove:

- In the Groove section, click on the step whose timing you want to adjust. Draw up to adjust the timing after the grid (beat). Draw down to adjust the timing before the grid (beat).



*Adjusting the timing of a step in the Groove section*

## Groove Presets

You can also select one of the preset Grooves, or even import a Pro Tools Groove Template.

### To select a Groove preset:

- From the Groove menu, select one of the following:

**1/16 Swing** Applies a sixteenth-note swing pattern.


**1/8 Swing** Applies an eighth-note swing pattern.

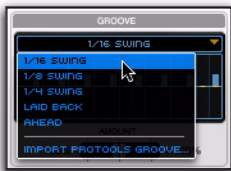
**1/4 Swing** Applies a quarter-note swing pattern.

**Laid Back** Applies a laid back groove pattern that is a little bit behind the beat.

**Ahead** Applies a pushing Groove pattern that is a little bit ahead of the beat.

**Import Pro Tools Groove** Lets you select a Pro Tools Groove Template.

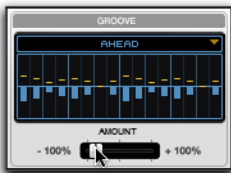
 For information on Groove Templates, see the Pro Tools Reference Guide.



Selecting a Groove preset

## Groove Amount

Use the Groove Amount control in the Groove section to adjust or invert the amount of groove microtiming available to Tracks and certain effects (such as Beatcutter or Gater).



Applying a negative amount of Groove

## Applying Groove in a Sequence

Use the Sequencer Module Groove control to apply the Groove to the sequence pattern. Each sequencer module provides its own Groove control. However, note that though the Thru module provides no controls the Master Groove does pass through it and affects any groove-savvy effects on the Track (such as Beatcutter or Gater).


You can adjust the amount of groove applied to the sequence from the Track module or in the Sequencer Editor.



Applying Groove to a Slice Sequencer module

## Effects Sends 1 and 2

Transfuser provides two separate Effects Sends for Tracks. Each Send Effects module provides four effects inserts, which can be routed serially or in parallel. Choose from the same effects that are available in the Effects module (see Chapter 27, “Transfuser Effects Editors”).

 The returns for Effects Sends 1 and 2 can each be routed to any available Output Buses as set in the Transfuser Preferences (see “Send FX” on page 297).

**To access the controls for Send Effects 1 or 2:**

- Click either FX1 or FX2 to the left of the Master Transport.



Viewing Send Effects 1

**To send audio from a Track to Send Effects 1 or 2:**

- Adjust the Track FX1 or FX2 control.



Sending audio from a Track to Send Effects 1

💡 Use the Track Effects Sends for more CPU intensive processing that you want to apply to more than one Track, such as Reverb or Delay.

## Main Effects Inserts

Transfuser also provides effect inserts on the Main Output. Four effects inserts are available, which can be routed serially or in parallel, just like in the Effects module and Send Effects modules. Choose from the same effects that are available in the Effects module (see Chapter 27, “Transfuser Effects Editors”).

**To access the controls for Main Effects Inserts:**

- Click Ins to the left of the Master Transport.



Viewing the Main Effects Inserts

💡 Use the Main Effects Inserts to process the main audio Output from Transfuser. You might want to use it for dynamics type effects, such as Compressor or Maximizer.

## Recorder

Transfuser provides its own recorder that lets you capture 1, 2, or 4 bar recordings of Transfuser playback from the main Transfuser audio output.

💡 You can also bus record Transfuser to Pro Tools audio tracks to capture specific Output Busses and longer performances for further editing, mixing, and processing.

**To record in Transfuser:**

- 1 Click REC (left of the Master Transport) to show the Recorder pane.



Recorder

2 Set the Record Length to 1, 2, or 4 Bars.



*Selecting the Record Length*

3 Play back Transfuser. Observe the resulting waveform in the Recorder pane.

4 Use the Recorder Transport to Stop, Play, or Record.

5 At any time, drag the waveform in the Recorder window to an existing Transfuser Track Synth module (replacing it) or into the blank area of the Tracks section to create a new Track.



*Dragging a waveform to a Synth module*

💡 You can also drag the waveform to the Desktop or to a Pro Tools audio track or to the Clip List for further editing, arranging, and mixing in your Pro Tools session.

## Chapter 24: Transfuser Track Automation

Transfuser Track Automation provides a whole other layer of precision control over Transfuser Tracks. Each Track has up to 12 lanes of automation that can be assigned to any control in any module in the Track. Each automation lane provides 32-step sequencing for automation. Steps can be measured in 1/4-note to 1/32-note subdivisions of the beat (including triplets). Each sequence can play straight through, first to last and then repeat, or forward then backward. Also, each can be discreetly step automated or interpolated on a curve (curve automation is good for continuous controls).

### To assign a control Track Automation:

- 1 Right-click the control you want to assign.
- 2 From the pop-up menu, choose Assign Automation Lane and select the number for the Track Automation Lane you want assigned (1–12).



*Assigning Automation Lane 1 to Slicer Synth Cutoff control*

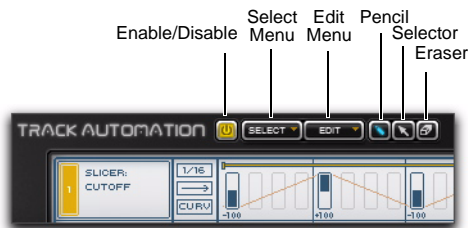
### To unassign a control Track Automation:

- 1 Right-click the control you want to unassign.
- 2 From the pop-up menu, select Unassign Automation Lane.

---

## Track Automation Controls

The Track Automation Editor provides several controls for selecting, creating, and editing Transfuser Track Automation.



*Track Automation controls*

### Enable/Disable

Click the Enable/Disable button to enable or disable Track Automation.

### Select Menu

**Select All** Selects all Track automation.

**Invert Selection** Inverts the selection so that what was selected is unselected and what wasn't is.

**Deselect** Clears the current selection.

### Edit Menu

**Undo History** Lets you regressively undo any Track Automation edits.

**Revert Automation to Initial State** Lets you revert the Track automation to its initial state (which will be the state of Track automation the last time you saved your Pro Tools session).

### Event/Selection Edit

The Event/Selection Edit commands only apply to existing automation. If you haven't drawn in any automation in a selection, these commands won't do anything.

**Set All Steps to Default** Sets all steps in the selection to their default setting of 0.

**Randomize Step Values** Randomizes the values for all steps in the selection.

**Increase Dynamic Range** Increases the value (in the positive or negative direction) of all steps in the selection proportionally.

**Decrease Dynamic Range** Decreases the value (in the positive or negative direction) of all steps in the selection proportionally.

**Create Crescendo** Sets all steps in the selection to a ramp shape, progressively increasing from the initial event value of -100 to a final event value of +100.

**Create Decrescendo** Sets all steps in the selection to a ramp shape, progressively decreasing from the initial event value of +100 to a final event value of -100.

## Edit Tools

### Pencil Tool

Use the Pencil tool to draw and edit Transfuser Track Automation events. The Pencil tool is a "smart tool" that lets you:

- Draw automation events and adjust their values when the cursor shows the pencil.
- Set or add a selection when the cursor shows the arrow.
- Move or copy events when the cursor shows the hand.
- Set the Loop Range for each Automation Lane when the cursor shows the horizontal arrows.



## Selector Tool

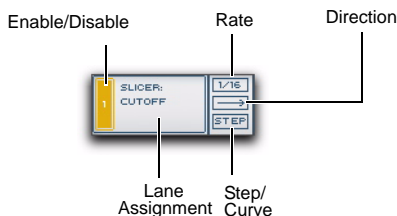
Use the Selector tool to make selections in the Track Automation Editor. Selected events can be edited using the Event/Selection Edit commands.

## Eraser Tool

Use the Eraser tool to delete individual events or all events in a selection.

## Track Automation Lane Controls

Each Track Automation Lane provides controls for determining how the Track automation plays back.



*Track Automation Lane controls*

**Enable/Disable** Enables or disables the Track Automation Lane. When enabled, the Enable/Disable button is highlighted.

**Lane Assignment** Displays the name of the control to which the Track Automation Lane is assigned. You can Right-click the Lane Assignment and select Unassign to unassign the Track Automation Lane. You can also Right-click the Lane Assignment and select Target to view the module containing the assigned control in the Editor pane.

**Rate** Sets the rate (as a subdivision of the beat) at which Track Automation events play back. Select from the following note values:

- 1/32
- 1/32 Triplet
- 1/16
- 1/16 Triplet
- 1/8
- 1/8 Triplet
- 1/4

**Direction** Sets the playback direction for the Track Automation Lane. Click to toggle between Forward (—>) and Forward/Backward (<—>).

**Step/Curve** Toggles between Step and Curve. When set to Step, the Track Automation Lane sends discrete control values for each event. When set to Curve, the Track Automation Lane sends continuous control data, interpolating between the values for each event.

---

## Automation Events

Automation Events change the setting of targeted controls by the specified percentage (plus or minus) at that step in time. Automation Events can be created and editing using the Track Automation Edit Tools. Additionally, you can edit Automation Events within a selection using commands in the Edit menu.

### To create an Automation Event:

- 1 Select the Pencil tool.


2 Click a Step in an Automation Lane where you want to create an event. Drag up or down to set the value of the event.




#### *Creating an Automation Event*

#### **To change the value for an Automation Event:**

- With the Pencil tool, drag up or down to increase or decrease the value of the event.

 *Alt-click (Windows) or Option-click (Mac) an event to set its value to 0.*

 *Hold down the Shift key and drag up or down to adjust the values for all events in the Automation Lane.*

#### **To delete an Automation Event, do one of the following:**


- With the Pencil tool, single-click the event you want to delete.
  - or –
- With the Eraser tool, click the event you want to delete. You can also click a selection to delete all events within the selection.

## Editing Selected Automation Events

Selected events can be moved or copied, and the values for selected events can be changed simultaneously. Commands from the Edit menu apply to selected events.

#### **To select Automation Events:**

- 1 Select the Selector tool.
- 2 Drag across one or more Automation Events on one or more Automation Lanes.

 *Shift-click to extend or contract the selection.*

#### **To clear the selection:**

- With the Selector tool, double-click in the selection.

#### **To move selected events:**

- 1 With the Selector tool, make the selection you want.
- 2 Select the Pencil tool.
- 3 Move the cursor over near the top of the selection. The cursor changes to a hand.
- 4 Drag the selection from the current location to the location to where you want to move the selected events.

## Configuring Automation Lanes

Once you have assigned an Automation Lane to a control in Transfuser, you will want to configure automation for that control.

### To configure automation for a control:

1 Click the Track module. The Track Automation editor appears in the Editor pane.



*Selecting the Track module to show the Track Automation editor*

2 Assign Lane 1 to the Slicer Cutoff filter by Right-clicking the Cutoff control and select Assign To Automation Lane > 1.

3 In the Track Automation Editor, change the automation from steps to a curve. Click Step to change it to Curve. This provides a continuous change between the specified automation settings.



*Click Step to change it to Curve*

4 Decide if you want the rate of change (each step) to remain at the default setting of 1/16th notes, or if you want another rate. To change the rate, click 1/16 and select the new rate from the pop-up menu.



*Selecting the Step Rate*

5 Also, decide if you want the automation to start from the beginning, play to the end, and then repeat; or if you want it to repeat playing forward then backward. Click the arrow to toggle between the two.



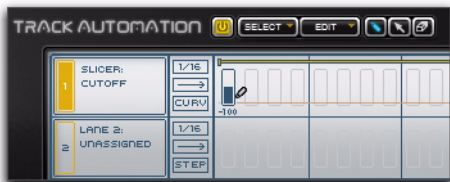
*Selecting the direction for automation playback*

6 Now you are ready to draw in the automation. Click the Pencil tool to draw the automation.



*Selecting the Pencil tool for drawing automation*

**7** Click in the first step where you want to draw automation. Drag up or down to increase or decrease the value. The range is from -100% to +100% of the current setting of the assigned control.



*Drawing automation with the Pencil tool*

The control value offset due to Track Automation is displayed in the assigned control's yellow corona. This shows the actual deviation from the controls original value and its current absolute state.



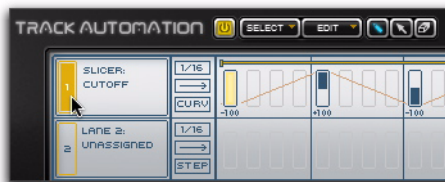
**8** Draw in any other automation.

**9** Adjust the duration of the automation loop by clicking and dragging the beginning or ending of Loop Range indicator left or right. Different Automation Lanes can have different durations.



*Adjusting the duration of the automation loop*

**10** Be sure to enable the Track Automation Lane by clicking its number. The number is highlighted when automation is enabled. Otherwise, any automation on that lane has no effect.



*Enable the Automation Lane*

**11** Play back the Transfuser Track to hear what you have done so far.

**12** Go ahead assign other Automation Lanes to other controls and explore what you can do. Also explore some of the “automatic” automation tools in the Edit pop-up menu (such as Randomize Step Values, Create Crescendo, and Create Decrescendo). Note that these only apply to any currently drawn automation events.



# Chapter 25: Transfuser Sequencer Editors

Transfuser provides four different types of Sequencer modules:

**Drum Sequencer** Provides a 12-note step sequencer.

**Phrase Sequencer** Provides a monophonic sequencer.

**Slice Sequencer** Provides a slice sequencer.

**Thru Module** Provides no sequencing controls whatsoever.



*Use the Thru module on Tracks where you want to play the Synth module directly using MIDI (without triggering Sequencer Patterns).*



*Typically, you will use corresponding Sequencer and Synth modules (such as playing a Drums synth with a Drum Sequencer). However, you may sometimes want to mix and match Sequencer and Synth modules (such as playing a Phrase synth with a Drum Sequencer).*



*For information on Sequencer module Track controls, see “Sequencer Modules” on page 317.*

**To access the Sequencer Editor for any Sequencer module on any Track:**

- Click the Sequencer module in the Track you want.

The Editor for the selected Sequencer module appears in the Editor pane.

## Drum Sequencer Editor

When you select the Drum Sequencer module on a Track, its Editor is available in the Editor pane. The Drum Sequencer editor provides the same high level controls as the Drum Sequencer Track module, as well as a 12-note step sequencer, and other detailed sequencer controls and options.



Figure 17. Drum Sequencer editor

## Master Controls




Drum Sequencer Master Controls

**Sequencer Menu** Lets you save your custom Sequencer arrangements, load custom saved Sequencers (of the same type), and Copy and Paste Sequencer modules. This functionality is also available in the Sequencer Track module menu.


**Module Enable** Lets you enable or disable the module, effectively bypassing its function.

**Module Transport** Provides Play, Latch, Stop, and Record controls for the Sequencer module.

 Use the Sequencer Record function to record your MIDI performances in the sequencer.

### Note Range

The Note Range setting determines how the sequencer plays back the corresponding Synth module on the Track.

 See “Configuring Note Range Control” on page 290

**Trigger Pattern** Keys in the note range trigger the patterns (1–12) stored for the Drum Sequencer.

**Play Pads** Keys in the note range play the individual pads (1–12) in the Drums Synth.

## Speed



### Selecting the Speed value

The Speed setting lets you set the speed of the Sequencer as a ratio to the Pro Tools Tempo. Select from the following values:

**1/1 Note** Sets the Sequencer speed to four times the Pro Tools Tempo (the whole-note gets the beat).

**1/2 Note** Sets the Sequencer speed to twice the Pro Tools Tempo (the half-note gets the beat).

**1/4 Note** Sets the Sequencer speed to equal the Pro Tools Tempo (the quarter-note gets the beat).

**1/8 Note** Sets the Sequencer speed to half of the Pro Tools Tempo (the eighth-note gets the beat).

**1/16 Note** Sets the Sequencer speed to a quarter of the Pro Tools Tempo (the sixteenth-note gets the beat).

## Sync



### Selecting the Sync

The Sync setting lets you select at what point in the Sequencer Pattern the Sequence module starts playback when triggered in relation to the Pro Tools Timeline and other Transfuser Tracks.

- ◆ If the Pro Tools Transport is engaged, the Sequencer aligns with the Bar|Beat grid in the Pro Tools Timeline.

- ◆ If the Pro Tools Transport is not playing back, but other Transfuser Tracks are playing back, the Sequencer starts playback of the Sequencer Pattern in relation to other Transfuser Tracks playing back.

- ◆ If the Pro Tools Transport is not playing back, and Transfuser is not yet playing back, the Sequencer starts playback from the beginning of the Sequencer Pattern.

The following Sync options are available:

**Bar** The sequencer pattern starts playing back (when triggered) at the same Bar|Beat location as in the Pro Tools Timeline or other Transfuser Tracks. For example, if a two-bar Slice Sequence is triggered and a Drum Sequencer is already playing back at Bar 2|Beat 3, the sliced loop also starts playback at its Bar 2|Beat 3. This is generally the best option for triggering Sequencer Patterns using the on-screen keyboard, as well as when playing Transfuser “live” with an external MIDI keyboard.

**Beat** The sequencer pattern starts playing back (when triggered) at the same Beat location as in the Pro Tools Timeline or other Transfuser Tracks. For example, if a two-bar Slice Sequence is triggered and a Drum Sequencer is already playing back at Bar 2|Beat 3, the sliced loop starts playback at its Bar 1|Beat 3.

**1/16** The sequencer pattern starts playing back (when triggered) at the same sixteenth-note location as in the Pro Tools Timeline or other Transfuser Tracks. For example, if a two-bar Slice Sequence is triggered and a Drum Sequencer is already playing back at Bar 2|Beat 3|2nd sixteenth note, the sliced loop starts playback at its Bar 1|Beat 1|2nd sixteenth note.

**Off** The sequencer does not synchronize to any grid and can start and stop freely against the Pro Tools Timeline. When the Sync is set to Off, the Sequencer always starts from the beginning of the Sequencer Pattern.

Setting Sync to Beat, 1/16, or Off provides more detailed control over when and where Sequencer Patterns start playback when sequencing and arranging in with MIDI notes in your Pro Tools session. Bar is generally the best setting for playing Transfuser “live” from an external MIDI controller.

## Groove

The Groove control lets you apply 0–100% of Groove microtiming as specified in the Groove setting. You can use the Transfuser Master Groove or another local Groove option. Each Sequencer can be individually set to different grooves.



Selecting the Groove

**Master** Uses the Master Groove (see “Master Groove” on page 325).

**1/32 SW** Uses a thirty-second-note swing groove locally.

**1/16 SW** Uses a sixteenth-note swing groove locally.

**1/8 SW** Uses a eighth-note swing groove locally.

**1/4 SW** Uses a quarter-note swing groove locally.

**Laid Back** Uses a laid back groove locally that is just a little bit behind the beat.

**Ahead** Applies pushing groove locally that is a little bit ahead of the beat.

**Random** Uses a random groove locally.

## Simplify

The Simplify control lets you gradually simplify any Drum Pattern by thinning out the number of notes playing. In the sequencer, notes that are thinned out (muted) gray out.



thinned out notes

Simplifying a Drum sequence



You can overwrite the Drum Pattern with the current “simplified” version using the *Edit > Event/Selection Edit > Fix Pattern As Current Simplify Value* command.



## M.A.R.I.O.

M.A.R.I.O. (Musical Advanced Random Intelligent Operations) is a musical randomization algorithm that lets you create variations of your Sequencer Patterns simply by clicking a single button.

In the Drum Sequencer Editor, M.A.R.I.O. can be applied to selected Note Events; or, if no Note Events are selected, M.A.R.I.O. is applied to the entire bar of the pattern that is currently visible. This can be useful for applying M.A.R.I.O. to just one part of the Pattern, such as one bar, or for applying M.A.R.I.O. to only one instrument in the kit, such as just the high-hat.



*For information, see “Using M.A.R.I.O.” on page 361.*

The Drum Sequencer lets you apply M.A.R.I.O. to the following Target parameters for selected Note Events:

- Rhythm
- Level
- Timing
- Pitch
- Filter
- Decay
- Pan

## Patterns

The Pattern section lets you create and recall up to twelve different Sequencer Patterns.



*For more information, see “Sequencer Patterns” on page 362.*

## Drum Pattern Editor

The Drum Pattern editor lets you create and edit a 12-note step sequencer.

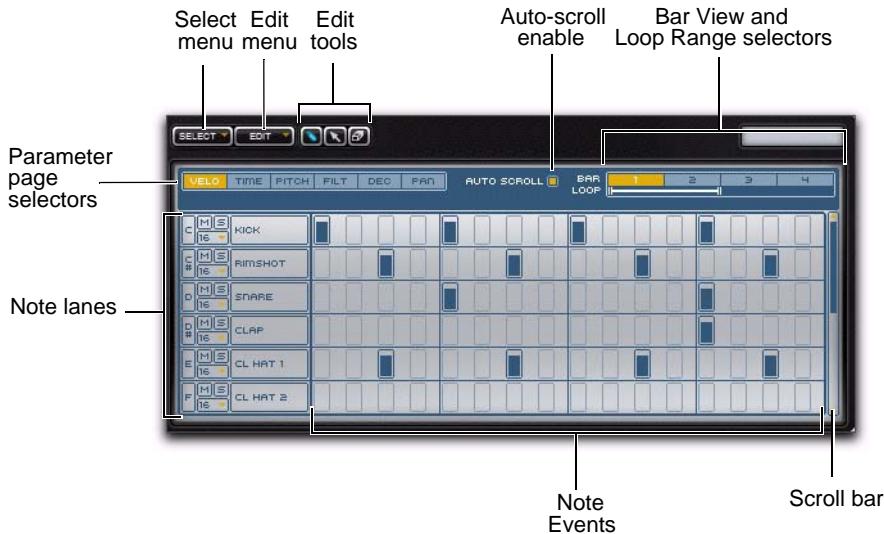


Figure 18. Drum Pattern editor

### Select Menu

The Select menu provides the following commands for changing the Note Event selection.

#### Select All

This command selects all Note Events in all Bars across all Lanes.

#### Select Bar

This command selects all Note Events across all Lanes in the currently viewed Bar (1, 2, 3, or 4) only.

#### Invert Selection

This command deselects the current selection and selects all other unselected Note Events in all Bars across all Lanes.

### Deselect

This command clears the current selection.

### Rhythmify Selection


This command changes the selection to noncontiguous Note Event selections in any of the following rhythmic patterns:

**1, 2, 3, 4** Changes the current selection to only the Note Events on beats 1, 2, 3, and 4.

**2 and 4** Changes the current selection to only the Note Events on beats 2 and 4.

**Offbeat** Changes the current selection to only the Note Events on the “and” of each beat (the third of every four sixteenths).

**Odd 1/16** Changes the current selection to only the Note Events on every other sixteenth (the second and fourth of every four sixteenths).

 To select and entire Note Lane, click the Lane Name (such as “Kick”). Then Rhythmify the selection on the Lane.

## Edit Menu

The Edit menu provides the following commands that can be applied to the Sequencer Pattern.

### Undo History

The Undo History submenu provides a list of all undo-able edits to the current Sequencer Pattern. Select any item in the Undo History submenu to return to that state.

### Revert Pattern to Initial State

This command reverts the entire current Sequencer Pattern to its initial state (effectively an “Undo All”), or to the state of the Sequencer Pattern when it was loaded.

### Create Rhythmic Template

Select any of the following rhythmic patterns to create Note Events at the Default Velocity, as set in the Transfuser Preferences (see “Sequencer Default Velocity” on page 297), within the current selection:

**1, 2, 3, 4** Creates Note Events in the current selection on beats 1, 2, 3, and 4.


**2 and 4** Creates Note Events in the current selection on beats 2 and 4.

**Offbeat** Creates Note Events in the current selection on the “and” of each beat (the third of every four sixteenths).

**Odd 1/16** Creates Note Events in the current selection on every other sixteenth (the second and fourth of every four sixteenths).



*Creating Note Events using the selected template*

 To select and entire Note Lane, click the Lane Name (such as “Kick”). Then create Note Events on that Lane according to the Rhythmic Template.

### Event/Selection Edit

The Event/Selection Edit submenu provides a number of commands for modifying selected Note Events and their parameters.



*Event/Selection Edit options*

**Clear Current Bar** Clears all Note Events in the current, viewed bar.

**Copy Current Bar** Copies all Note Events in the current, viewed bar.

**Paste Current Bar** Pastes copied Note Events in the current, viewed bar.

**Set all Event Parameters To Default** Sets all Note Event parameters (such as Velocity and Pitch) to their default setting.

**Increase Dynamic Range** Increases the Velocities of selected Note Events proportionally.

**Decrease Dynamic Range** Decreases the Velocities of selected Note Events proportionally.

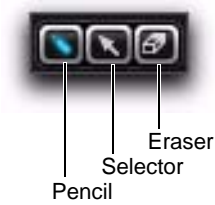
**Create Crescendo** Ramps the Velocities of selected Note Events sequentially, from lowest to highest.

**Create Decrescendo** Ramps the Velocities of selected Note Events sequentially, from highest to lowest.

**Fix Pattern As Current Simplify Value** Deletes any Note Events that are muted due to the current Simplify setting from the Drum Pattern.

## Edit Tools

The Edit tools let you create, edit, select, and erase Note Events and their various parameters in the Sequencer Pattern Editor.




Edit tools

## Pencil

The Pencil tool is a “smart tool” that lets you:

- Draw Note Events and adjust their parameter values when the cursor shows the pencil.
- Set a selection of events when the cursor shows the arrow.
- Move or copy selected events when the cursor shows the hand.

 For more information on creating and editing Note Events, see “Note Events” on page 343.

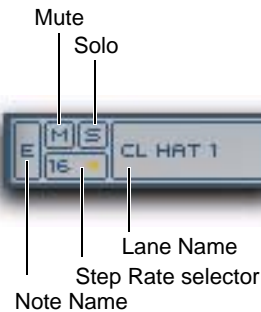
## Selector

The Selector tool lets you drag to make contiguous selections of Note Events (within a single Lane or across multiple Lanes).

## Eraser

The Eraser tool lets you drag to erase individual notes or all notes in a selection.

## Lane Controls



Lane controls

Each of the twelve Note Lanes provide the following common controls and indicators:

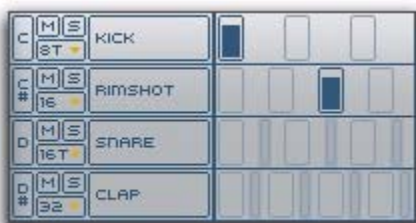
**Note Name** Displays the Note Name of the lane, such as “E.”

**Mute** Mutes and unmutes the lane.

**Solo** Solos and unsolos the lane

**Step Rate** Lets you select the resolution of steps for possible Note Events in the lane. The number of available steps changes depending on the selected Step Rate. Select from the following:

- 1/8 Triplet
- 1/16
- 1/16 Triplet
- 1/32



4 Note Lanes, each set to different Step Rates

**Lane Name** Displays, quite simply, the name of the Note Lane (such as “SNARE”). Click the Lane Name to select the entire lane (all Note Events in the lane). Double-click the Lane Name to enter a new name.

## Note Events

Note Events in the Drum Pattern are MIDI notes (C2–B2) that trigger sampled drums in the Drums Synth.

The selected Drum Pattern can be triggered by any of the following:

- Play on the Drum Sequencer Transport
- Play on the Master Transport
- MIDI notes from the Note Range Keyboard, a Pro Tools MIDI or Instrument track, or an external MIDI keyboard controller (if Note Range is set to Trigger Pattern).

## To create a Note Event:

- 1 Select the Pencil tool.
- 2 Click the Step in the Sequencer Pattern Editor where you want to create the Note Event.
- 3 Depending on the current Parameter page (see “Parameter Pages” on page 352) drag up or down, or right or left, to increase or decrease the parameter value.

## To record a Drum Pattern:

- 1 Configure the MIDI routing in Pro Tools and Transfuser as necessary.
- 2 Click the Record button in the Drum Sequencer Editor Transport.
- 3 Play your external MIDI controller.

**⚠** Recording overwrites any existing Note Events.

While recording in the Drum Sequencer, MIDI note below C2 are not recorded. Instead, they erase corresponding Note Events in the current Sequencer Pattern during playback. This can be very useful for altering the Sequencer Pattern during playback.

## To mute a Note Event:

- 1 Select the Mute tool.
- 2 Click the Note Event you want to mute. Click it again to unmute it.

## To delete a Note Event, do one of the following:


- With the Eraser tool, click the Note Event you want to delete.  
– or –
- With the Pencil tool, click the Note Event you want to delete.


## Editing Selected Note Events

Selected Note Events can be moved or copied, and the parameter values for selected events can be changed simultaneously. Commands from the Edit menu apply to selected events.

### To select Note Events:

- 1 Select the Selector tool.
- 2 Drag across one or more Note Events on one or more Lanes.

 *Shift-click to extend or contract the selection.*

 *Shift-click to edit all notes in a lane simultaneously. Alt-Shift-click (Windows) or Option-Shift-click (Mac) to edit all notes in a column simultaneously.*

### To clear the selection:


- With the Selector tool, double-click in the selection.

### To move selected events:

- 1 With the Selector tool, make the selection you want.
- 2 Select the Pencil tool.
- 3 Move the cursor over near the top of the selection. The cursor changes to a hand.
- 4 Drag the selection from the current location to the location to where you want to move the selected events.

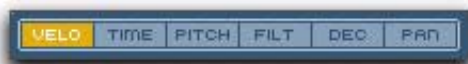
## Parameter Pages

The Drum Pattern Editor lets you create and delete Note Events in any of its Parameter pages. However, you can only edit the parameter value for Note Events in the corresponding page.

 *M.A.R.I.O. can “target” the individual (or all!) parameters in the Drum Sequencer Pattern Editor.*

### To view a particular parameter page in the Drum Pattern Editor:

- Click the corresponding option in the Parameter Page selector.



*Drum Sequencer Parameter Page selector*

The Drum Sequencer lets you edit the following parameters each on their own page:

### Velocity

The Velocity page lets you create and delete Note Events, and edit their velocities.

### To increase (or decrease) Note Event velocity:

- Click the Note Event and drag up (or down).



*Editing Note Velocity in the Drum Sequence Editor*

## Time

The Time page lets you create and delete Note Events, and edit their microtiming (placement time in relation to the Step grid).

**To adjust the microtiming of a Note Event later (or earlier) in time:**

- Click the Note Event and drag to the right (or left).



*Editing Note Timing in the Drum Sequence Editor*

## Pitch

The Pitch page lets you create and delete Note Events, and edit their pitch transposition.

**To transpose a Note Event up (or down):**

- Click the Note Event and drag up (or down).



*Editing Note Transposition in the Drum Sequence Editor*

## Filter

The Filter page lets you create and delete Note Events, and edit their Filter control values.

**To increase (or decrease) the Filter value for a Note Event:**

- Click the Note Event and drag up (or down).



*Editing Note Filter in the Drum Sequence Editor*

## Decay

The Decay page lets you create and delete Note Events, and edit their Decay times.

**To increase (or decrease) the Decay time for a Note Event:**

- Click the Note Event and drag up (or down).



*Editing Note Decay in the Drum Sequence Editor*

## Pan

The Pan page lets you create and delete Note Events, and edit their Pan control values.

### To pan a Note Event right:

- Click the Note Event and drag up.



*Editing Note Pan in the Drum Sequence Editor*

### To pan a Note Event left:

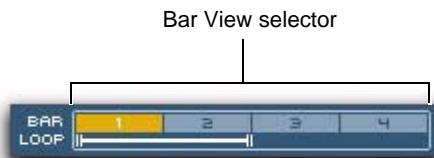
- Click the Note Event and drag down.

## Auto Scroll

The Sequencer Pattern Editor can only display one bar (out of four). When the Auto Scroll option is enabled, the Sequencer Pattern Editor view scrolls bar by bar during playback for the selected Loop duration. When it is disabled, the Sequencer Pattern Editor view shows only the currently selected Bar View.

## Bar View

The Sequencer Pattern Editor only has room to display one bar at a time, so the Bar View selector lets you select the Bar you want to view. The currently viewed bar is lit in the Bar View selector.



*Bar View selector*

### To view a specific bar in the Sequencer Pattern Editor:

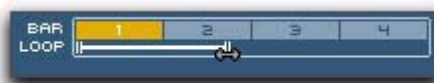
- Click the Bar number in the Bar View selector.

## Loop Range

The Loop Range selector lets you set the loop points for the Sequencer Pattern. You can adjust both the beginning and ending of the Loop Range selector in quarter-note increments. You can measure the loop length and start and end point locations against the Bar View selector.

### To adjust the Loop Range start or end points:

- Click the start or end point of the Loop Range selector and drag left or right.



*Adjusting the Loop Range end point*



## Phrase Sequencer Editor

When you select the Phrase Sequencer module on a Track, its Editor is available in the Editor pane. The Phrase Sequencer Editor provides the same high level controls as the Phrase Sequencer Track module, as well as a monophonic sequencer, and other detailed sequencer controls and options.



Figure 19. Phrase Sequencer Editor

## Phrase Sequencer Master Controls



Phrase Sequencer Master Controls

**Sequencer Menu** Lets you save your custom Sequencer arrangements, load custom saved Sequencers (of the same type), and Copy and Paste Sequencer modules. This functionality is also available in the Sequencer Track module menu.

**Module Enable** Lets you enable or disable the module, effectively bypassing its function.

**Module Transport** Provides Play, Latch, Stop, and Record controls for the Sequencer module.

💡 Use the Sequencer Record function to record your MIDI performances in the MIDI sequencer.

### Note Range

The Note Range setting determines how the sequencer plays back the corresponding Synth module on the Track.

📖 See “Configuring Note Range Control” on page 290

**Trigger Phrase** Keys in the note range trigger phrases subsequently

**Transpose Phrase** Keys in the note range trigger the current phrase subsequently (chromatically) pitched. C3 is the original pitch.

**Play Notes** Keys in the note range get passed through so they play the module directly. This way you can play whole new melodies.

## Speed

The Speed setting functions exactly the same as in the Drum Sequence Editor, see “Speed” on page 337.

## Sync

The Sync setting functions exactly the same as in the Drum Sequence Editor, see “Sync” on page 337.

## Groove

The Groove control functions exactly the same as in the Drum Sequence Editor, see “Groove” on page 338.

## Force Notes to Scale

The Force Notes to Scale setting restricts the MIDI notes allowed in the Phrase Pattern. This assures that any notes in the Sequencer Pattern will be limited to a single diatonic scale.

Notes that do not match the scale remain visible in the Pattern Editor, but they do not play. The nearest notes that match the scale are played instead. These appear as grayed-out notes in the Pattern Editor.

### To constrain all notes to any major or minor scale:

- From the Force Notes To Scale pop-up menu, select any of the 12 diatonic major and minor modes.

Select Off to disable this option.

## M.A.R.I.O.

M.A.R.I.O. (Musical Advanced Random Intelligent Operations) is a musical randomization algorithm that lets you create variations of your sequencer patterns simply by clicking a single button.



*For information, see “Using M.A.R.I.O.” on page 361.*

The Phrase Sequencer lets you apply M.A.R.I.O. to the following Target parameters:

- Phrase (Affects the note number, duration, and Velocity of notes in the Phrase Sequencer Pattern)
- Level
- Cutoff
- Decay
- Pan
- Glide

## Patterns

The Pattern section lets you create and recall up to twelve different Sequencer Patterns.



*For more information, see “Sequencer Patterns” on page 362.*

## Phrase Pattern Editor

The Phrase Pattern Editor lets you create and edit monophonic MIDI sequences.

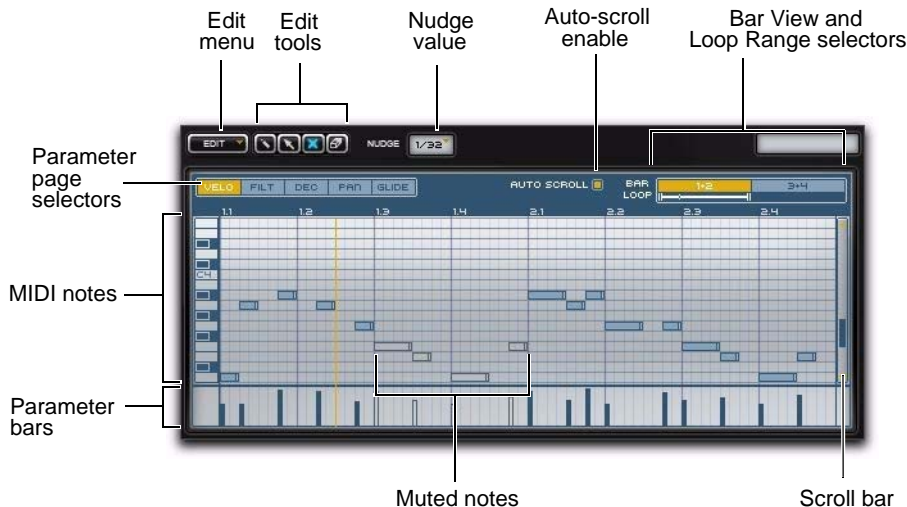


Figure 20. Phrase Pattern Editor

### Edit Menu

The Edit menu provides the following commands:

#### Undo History

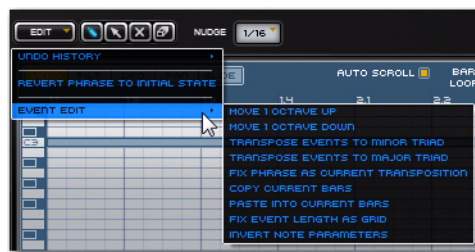
The Undo History submenu provides a list of all undo-able edits to the current MIDI Sequence. Select any item in the Undo History submenu to return to that state.

#### Revert All

This command reverts the entire current MIDI Sequence to its initial state (effectively an “Undo All”), or to the state of the MIDI Sequence at the last time you saved your Pro Tools session.

### Event/Selection Edit

The Event/Selection Edit submenu provides commands for modifying MIDI notes in the sequence.



Event/Selection Edit commands

**Move 1 Octave Up** Transposes all MIDI notes up one octave.

**Move 1 Octave Down** Transposes all MIDI notes down one octave.

**Transpose Events To Minor Triad** Transposes all MIDI notes to the nearest notes of minor triad where the lowest note of the sequence is the root of the chord.

**Transpose Events To Major Triad** Transposes all MIDI notes to the nearest notes of major triad where the lowest note of the sequence is the root of the chord.

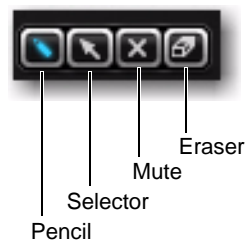
**Copy Current Bars** Copies the MIDI notes from the currently viewed bars. This is useful for copying Bars 1–2 to paste into 3–4 (or visa versa).

**Paste Into Current Bars** Pastes the copied MIDI notes into the currently viewed bars. This is useful for pasting the copied notes from Bars 1–2 into 3–4 (or visa-versa).

**Fix Event Length As Grid** Changes the durations of all MIDI notes to the current Grid values as set with the Nudge setting (see “Nudge” on page 351).

## Edit Tools

The Edit tools let you create, edit, mute, and delete Note Events and their various parameters in the Sequencer Pattern Editor.



Edit tools

## Pencil

The Pencil tool is a “smart tool” that lets you:

- Draw notes and adjust their parameter values when the cursor shows the pencil.
- Change the note length when the cursor shows the horizontal arrow.
- Move notes when the cursor shows the hand.

With the Pencil tool selected, hold down the Shift key and it changes to a brush in the Pattern Editor. The Brush tool lets you draw more than one event in a single drag. The selected Nudge setting determines note durations when using the Brush tool.



*Shift-click to edit the parameter values (below the Pattern Editor) for all notes simultaneously.*



*For more information on creating and editing Note Events, see “Note Events” on page 351.*

## Selector

The Selector tool lets you select one or more Note Events for editing. You can also use the Selector tool to move selected Note Events.



*Option-click (Mac) or Alt-Click (Windows) to copy and move selected Note Events.*

## Mute

The Mute tool lets you mute and unmute individual Note Events. Muted Note Events remain muted until you click them a second time.

## Eraser

The Eraser tool lets you click to delete individual Note Events.

## Nudge

The Nudge setting determines the minimum subdivision of the beat for MIDI notes. The selected option provides the rhythmic “grid” for creating and moving notes. Choose from the following:

- 1/32—thirty-second note
- 1/16T—sixteenth-note triplet
- 1/16—sixteenth note
- 1/8T—eighth-note triplet

## Note Events

Note Events in the Phrase Pattern are MIDI notes (C2–G8) that play the audio in the Phrase Synth.

When creating Note Events in Transfuser, the MIDI note number in the Phrase Pattern Editor (vertical axis) determines the sounding pitch and the horizontal location determines when in time that note plays.

The selected Phrase Pattern can be triggered by any of the following:

- Play on the Phrase Sequencer Transport
- Play on the Master Transport
- MIDI notes from the Note Range Keyboard, a Pro Tools MIDI or Instrument track, or an external MIDI keyboard controller (if Note Range is set to either Trigger Phrase or Transpose Phrase).

### To create a Note Event:

- 1 Select the Pencil tool.
- 2 Click the in the Sequence MIDI Editor where you want to create the Note Event. Use the keyboard on the left of the Editor to identify the pitch. The initial duration of the note is determined by the Nudge setting (see “Nudge” on page 351).

### To change the duration of a Note Event:

- 1 Select the Pencil tool.
- 2 Click at the right end of the Note Event and drag right to increase the duration of the note and left to decrease the duration of the note. The duration of the note increments or decrements based on the selected Nudge setting. For example, if Nudge is set to 1/16, durations will be multiples of a sixteenth-note.



*Changing the duration of a Note Event*

### To move a Note Event:

- 1 Select the Pencil tool.
- 2 Click the middle of the Note Event and drag to a new pitch and time location.




*Moving a Note Event*

### To mute a Note Event:

- 1 Select the Mute tool.
- 2 Click the Note Event you want to mute. Click it again to unmute it.

### To record a MIDI sequence:

- 1 Configure the MIDI routing in Pro Tools and Transfuser as necessary.
- 2 Click the Record button in the Phrase Sequencer Editor Transport.
- 3 Play your external MIDI keyboard.

 *Recording MIDI overwrites any existing MIDI notes.*


While recording in the Phrase Sequencer, MIDI notes below C2 are not recorded. Instead, they erase corresponding notes in the current Sequencer Pattern during playback. This can be very useful for altering the Sequencer Pattern during playback.

### To delete a Note Event, do one of the following:

- With the Eraser tool, click the Note Event you want to delete.
  - or –
- With the Pencil tool, Alt-click (Windows) or Option-click (Mac) the Note Event you want to delete.

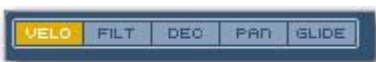
## Parameter Pages

The Phrase MIDI Sequencer lets you create and delete Note Events in any of its Parameter pages. However, you can only edit the parameter value for Note Events in the corresponding page.

 *M.A.R.I.O. can “target” the individual (or all!) parameters in the Phrase MIDI Sequencer Editor.*

### To view a particular parameter page in the Phrase MIDI Sequencer Editor:

- Click the corresponding option in the Parameter Page selector.



*Phrase MIDI Sequencer Parameter Page selector*

The Phrase MIDI Sequencer lets you edit the following parameters each on their own page:

### Velocity

The Velocity page lets you create and delete Note Events, and edit their velocities.

### To increase (or decrease) Note Event velocity:

- 1 Select the Velocity Parameter page.
- 2 With the Pencil tool, click the Velocity bar in the Parameter lane under the MIDI note and drag up (or down).



*Editing Note Velocity in the MIDI Sequence Editor*

## Filter

The Filter page lets you create and delete Note Events, and edit their Filter control values.

### To increase (or decrease) the Filter value for a Note Event:

- 1 Select the Filter Parameter page.
- 2 With the Pencil tool, click the Filter bar in the Parameter lane under the MIDI note and drag up (or down).

## Decay

The Decay page lets you create and delete Note Events, and edit their Decay control values.

### To increase (or decrease) the Decay value for a Note Event:

- 1 Select the Decay Parameter page.
- 2 With the Pencil tool, click the Decay bar in the Parameter lane under the MIDI note and drag up (or down).

## Pan

The Pan page lets you create and delete Note Events, and edit their Pan control values.

### To pan a Note Event right:

- 1 Select the Pan Parameter page.
- 2 With the Pencil tool, click the Pan bar in the Parameter lane under the MIDI note and drag up.

### To pan a Note Event left:

- 1 Select the Pan Parameter page.
- 2 With the Pencil tool, click the Pan bar in the Parameter lane under the MIDI note and drag down.

## Glide (Bass Synth Only)

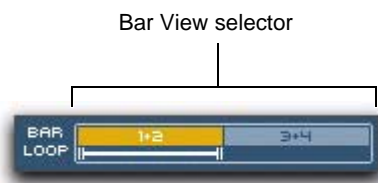
The Glide page lets you adjust the Glide setting for each note when playing the Bass Synth (see “Bass Synth Editor” on page 390).

## Auto Scroll

The Sequencer MIDI Editor can only display two bars (out of four). When the Auto Scroll option is enabled, the Sequence MIDI Editor view scrolls by two bars during playback. When it is disabled, the Sequencer Pattern Editor view shows only the currently selected two bars.

## Bar View

The Phrase Sequencer MIDI Editor only has room to display two bars at a time, so the Bar View selector lets you select which two bars you want to view. The currently viewed bars are lit in the Bar View selector.



*Bar View selector*

### To view bars 1–2 or 3–4 in the Sequencer MIDI Editor:

- Click Bars 1–2 or 3–4 in the Bar View selector.

## Loop Range

The Loop Range selector lets you set the loop points for the MIDI Sequence. You can adjust both the beginning and ending of the Loop Range selector in quarter-note increments. You can measure the loop length and start and end point locations against the Bar View selector.



*Adjusting the Loop Range end point*

**To adjust the Loop Range start or end points:**

- Click the start or end point of the Loop Range selector and drag left or right.

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## Slice Sequencer Editor

When you select the Slice Sequencer module on a Track, its Editor is available in the Editor pane. The Slice Sequencer editor provides the same high level controls as the Slice Sequencer Track module, as well as a slice sequencer, and other detailed sequencer controls and options.



*Figure 21. Slice Sequencer editor*



## Slice Sequencer Master Controls



*Slice Sequencer Master Controls*


**Sequencer Menu** Lets you save your custom Sequencer arrangements, load custom saved Sequencers (of the same type), and Copy and Paste Sequencer modules. This functionality is also available in the Sequencer Track module menu.

**Module Enable** Lets you enable or disable the module, effectively bypassing its function.

**Module Transport** Provides Play, Latch, and Stop controls for the Sequencer module.

### Note Range


The Note Range setting determines how the sequencer plays back the corresponding Synth module on the Track.

 See “Configuring Note Range Control” on page 290

**Trigger Loop** Keys in the Note Range trigger the sliced loop at its original pitch. All keys in the Note Range have exactly the same function.

**Transpose Loop** Keys in the Note Range trigger the loop and transpose it according to the note played (or clicked). The original pitch transposition of the loop is mapped to C3. Notes below C3 transpose the loop down and notes above C3 transpose it up.

**Play Slices** Keys in the Note Range play the individual slices of the loop. Slices are mapped to keys in order from left to right. The first slice in the loop is triggered by C2, the second by C#2, the third by D2, and so on. C5 is the top of the on-screen keyboard range, so any slices beyond the 37th will be out of range. However, you can play any number of slices—well, any number beyond 36 and up to 79 (MIDI note number 127)—by using an external MIDI keyboard controller or MIDI notes from Pro Tools MIDI and Instrument tracks.

 Try using C1 through B1 to trigger stored Slicer Sequencer Patterns (1–12) and set the Note Range to Play Slices (C2–C5+) to interject individual slices.

### Speed

The Speed setting functions exactly the same as in the Drum Sequence Editor, see “Speed” on page 337.

### Sync

The Sync setting functions exactly the same as in the Drum Sequence Editor, see “Sync” on page 337.

### Groove

The Groove control functions exactly the same as in the Drum Sequence Editor, see “Groove” on page 338.

## Quantize

The Quantize control lets you apply a variable amount of quantization to the timing of slices in the Slice Pattern.



### *Selecting the Quantize value*

Select one of the following quantize values:

- 1/32—thirty-second note
- 1/16T—sixteenth-note triplet
- 1/16—sixteenth note
- 1/8T—eighth-note triplet

## M.A.R.I.O.

M.A.R.I.O. (Musical Advanced Random Intelligent Operations) is a musical randomization algorithm that lets you create variations of your sequencer patterns simply by clicking a single button.



*For information, see “Using M.A.R.I.O.” on page 361.*

The Slice Sequencer lets you apply M.A.R.I.O. to the following Target parameters:

- Reorder
- Level
- Pitch
- Filter
- Decay
- Pan
- Reverse

## Patterns

The Pattern section lets you create and recall up to twelve different Sequencer Patterns.



*For more information, see “Sequencer Patterns” on page 362.*

## Slice Pattern Editor

The Slice Pattern Editor lets you create and edit Slice Events for triggering Slices in the Slicer Synth.

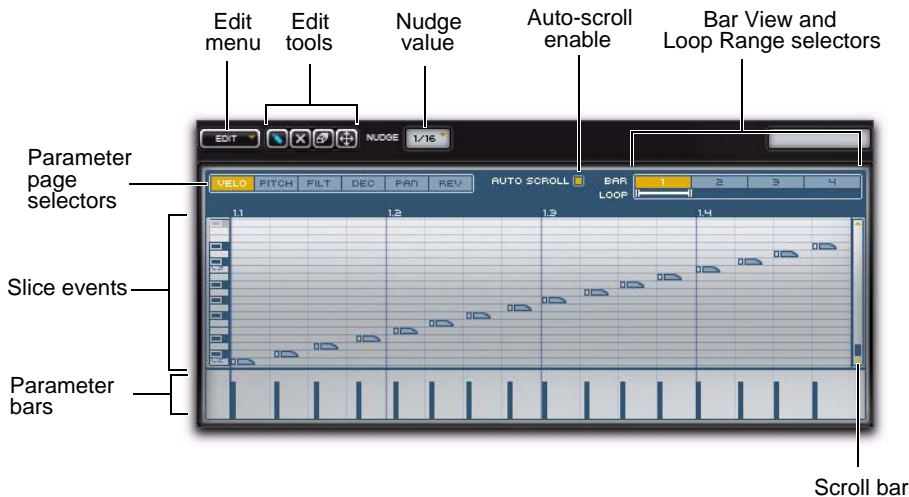


Figure 22. Slice Pattern Editor

### Edit Menu

The Edit menu provides the following commands:

#### Undo History

The Undo History submenu provides a list of all undo-able edits to the current Slice Sequence. Select any item in the Undo History submenu to return to that state.

#### Revert Pattern to Initial State

This command reverts the entire current Slice Sequence to its initial state (effectively an “Undo All”), or to the state of the MIDI Sequence at the last time you saved your Pro Tools session.

### Event Edit

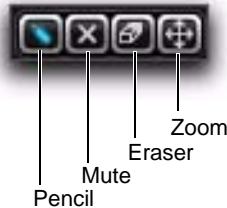
The Event Edit submenu provides commands for modifying Slice Events in the sequence.

**Set All Steps Parameters To Default** Sets all Parameter values for all Slice Events to their default value.

**Double Number Of Events** Doubles the current total number of Slice Events. This is useful if you want to duplicate the pattern from one bar to fill two bars, or from two bars to fill four bars.

## Edit Tools

The Edit tools let you create, edit, mute, and delete Note Events and their various parameters in the Sequencer Pattern Editor.



Edit tools

### Pencil

The Pencil tool is a “smart tool” that lets you:

- Draw Slice Events and adjust their parameter values when the cursor shows the pencil.
- Move slice markers when the cursor shows the hand.

With the Pencil tool selected, hold down the Shift key and it changes to a brush in the Pattern Editor. The Brush tool lets you draw more than one event in a single drag. The selected Nudge setting determines note durations when using the Brush tool.



*Shift-click to edit the parameter values (below the Pattern Editor) for all notes simultaneously.*



*For more information on creating and editing Slice Events, see “Slice Events” on page 358.*

### Mute

The Mute tool lets you mute and unmute individual Slice Events. Muted Slice Events remain muted until you click them a second time.

## Eraser

The Eraser tool lets you click to delete individual Slice Events.

## Zoom

The Zoom tool lets you adjust the horizontal zoom of the Slice Pattern Editor. Click in the Slice Pattern Editor and drag down to zoom in or drag up to zoom out. You can also drag left to scroll left or drag right to scroll right.

## Nudge

The Nudge setting determines the rhythmic grid for Slice Events. Choose from the following:

- Off—no grid
- 1/64—sixty-fourth note
- 1/32T—thirty-second note triplet
- 1/32—thirty-second note
- 1/16T—sixteenth-note triplet
- 1/16—sixteenth note
- 1/8T—eighth-note triplet

## Slice Events

Slice Events in the Slice Pattern are used to trigger Slices in the Slicer Synth. Each Slice in the Slicer Synth is assigned a MIDI note number in order: the first Slice is always assigned to MIDI note number C2, the second to C#2, the third to D2, and so on.

When creating Slice Events in Transfuser, the MIDI note number in the Slice Pattern Editor (vertical axis) determines which Slice is played, and the horizontal location determines when in time that Slice is played.

The selected Slice Pattern can be triggered by any of the following:

- Play on the Slice Sequencer Transport
- Play on the Master Transport
- MIDI notes from the Note Range Keyboard, a Pro Tools MIDI or Instrument track, or an external MIDI keyboard controller (if Note Range is set to Trigger Loop or Transpose Loop).

#### To create a Slice Event:

- 1 Select the Pencil tool.
- 2 Click the in the Slice Pattern Editor where you want to create the Slice Event. Use the keyboard on the left of the Editor to identify which Slice you want to play.

#### To move a Slice Event:

- 1 Select the Pencil tool.
- 2 Click the Slice Event and drag it to a new location.

Moving a Slice Event up or down changes which Slice is played. Moving a Slice Event left or right determines when it is played.



*Moving a Slice Event*

#### To mute a Slice Event:

- 1 Select the Mute tool.
- 2 Click the Slice Event you want to mute. Click it again to unmute it.

#### To delete a Slice Event, do one of the following:

- With the Eraser tool, click the Slice Event you want to delete.
  - or –
- With the Pencil tool, Alt-click (Windows) or Option-click (Mac) the Slice Event you want to delete.

#### Parameter Pages

The Slice Pattern Editor lets you create and delete Slice Events in any of its Parameter pages. However, you can only edit the parameter value for Slice Events in the corresponding page.



*M.A.R.I.O. can “target” the individual (or all!) parameters in the Slice Pattern Editor.*

#### To view a particular parameter page in the Slice Pattern Editor:

- Click the corresponding option in the Parameter Page selector.



*Slice Pattern Parameter Page selector*

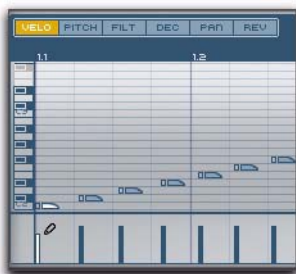
The Slice Pattern Editor lets you edit the following parameters each on their own page:

#### Velocity

The Velocity page lets you create and delete Slice Events, and edit their velocities.

#### To increase (or decrease) Slice Event velocity:

- 1 Select the Velocity Parameter page.
- 2 With the Pencil tool, click the Velocity bar in the Parameter lane under the Slice Event and drag up (or down).



*Editing the Velocity of a Slice Event*

## Pitch

The Pitch page lets you create and delete Slice Events, and edit their pitch transpositions.

### To transpose a Slice Event up (or down):

- 1 Select the Pitch Parameter page.
- 2 With the Pencil tool, click the Pitch bar in the Parameter lane under the Slice Event and drag up (or down).

## Filter

The Filter page lets you create and delete Slice Events, and edit their Filter values.

### To increase (or decrease) the Filter value for a Slice Event:

- 1 Select the Filter Parameter page.
- 2 With the Pencil tool, click the Filter bar in the Parameter lane under the Slice Event and drag up (or down).

## Decay

The Decay page lets you create and delete Slice Events, and edit their Decay times.

### To increase (or decrease) the Decay time for a Slice Event:

- 1 Select the Decay Parameter page.

- 2 With the Pencil tool, click the Decay bar in the Parameter lane under the Slice Event and drag up (or down).

## Reverse

The Reverse page lets you create and delete Slice Events, and set whether a Slice plays forward or backward.

### To reverse a Slice Event:

- 1 Select the Reverse Parameter page.
- 2 With the Pencil tool, click the Reverse bar in the Parameter lane under the Slice Event and drag up.

When the bar is all the way down, the Slice plays forward. When the bar is all the way up, it plays in reverse.

## Auto Scroll

The Slice Pattern Editor can display up to four bars depending on the Zoom level. When the Auto Scroll option is enabled, the Slice Sequence Editor view scrolls during playback.

## Bar View

If the Slice Pattern Editor Zoom level is such that not all bars are displayed, use the Bar View selector to view bars that are currently off-screen. The range of currently viewed bars is highlighted in the Bar View selector.



*Bar View selector*

### To change which bars are viewed in the Slice Sequencer Pattern Editor:

- Click in the Bar View selector.

## Loop Range

The Loop Range selector lets you set the loop points for the Slice Pattern. You can adjust both the beginning and ending of the Loop Range selector in quarter-note increments. You can measure the loop length and start and end point locations against the Bar View selector.



*Adjusting the Loop Range end point*

**To adjust the Loop Range start or end points:**

- Click the start or end point of the Loop Range selector and drag left or right.

---

## Using M.A.R.I.O.

M.A.R.I.O. (Musical Advanced Random Intelligent Operations) is a musical randomization algorithm that lets you create variations of your sequencer patterns simply by clicking a single button. M.A.R.I.O. uses customized algorithms for each of the sequencers, the randomization is tailored to deliver best possible, musically intelligent results.



*In the Drum Sequencer, M.A.R.I.O. is only applied to selected Note Events. This is useful for applying M.A.R.I.O. to just one part of the pattern, such as one bar, or even to only one instrument in the kit, such as the high-hat.*

- ◆ Click the Apply button to apply M.A.R.I.O. to the current Sequencer Pattern.

- ◆ Adjust the Depth dial right or left to increase or decrease the amount of M.A.R.I.O. variation to be applied.



*M.A.R.I.O. Depth dial*

- ◆ Click the arrow buttons to the left and right of the M.A.R.I.O. Apply button to go back or forward through the history of applied M.A.R.I.O. variations. To get back to the original, pre-M.A.R.I.O. version, click the Back button until you can go back no more.



*M.A.R.I.O. history buttons*

- ◆ Select any parameters you want to affect from the Target menu.



*M.A.R.I.O. Target pop-up menu (Drum Sequencer shown)*

---

## Sequencer Patterns

The Pattern section in Sequence Editors lets you create, edit, and recall up to twelve different Sequencer Patterns.



*Pattern Section*

### To create a Sequencer Pattern:

- 1 Click the Pattern Key where you want to create your Sequencer Pattern.
- 2 Create the Sequence in the Sequencer Pattern editor.

Transfuser dynamically updates the Sequencer Pattern stored with the selected Pattern Key.

### To copy and paste a Sequencer Pattern:

- 1 Click the Pattern Key for the stored Sequencer Pattern you want to copy.
- 2 Click the Copy button.
- 3 Click the Pattern Key where you want to paste the copied Sequencer Pattern.
- 4 Click the Paste button.

### To clear a Sequencer Pattern:

- 1 Click the Pattern Key for the Sequencer Pattern you want to clear.
- 2 Click the Clear button.

**To recall a Sequencer Pattern, do one of the following:**

- In the Sequencer Editor, click the Pattern Key for the Sequencer Pattern you want to recall.



*Selecting a Sequencer Pattern in a Sequencer Editor*

- Click one of the Pattern Switch keys in the Controller section. This changes all Sequencer modules on all Tracks that are set to the same MIDI input channel.



Pattern Switch  
keys

*Selecting a Sequencer Pattern in the Controller section*

- Play the corresponding MIDI note on your external MIDI keyboard controller or from a Pro Tools Instrument or MIDI track (C1–B1). This changes all Sequencer modules on all Tracks that are set to the same MIDI input channel.

Depending on the Note Range setting for the sequencer, the keys on the Note Range keyboard can also trigger Sequencer Patterns.



## Exporting Sequencer Patterns to Pro Tools

You can export Sequencer Patterns from Transfuser to Pro Tools MIDI and Instrument tracks, the Clip List, or the Tracks List (see Figure 23 on page 364). This lets you further develop Sequencer Patterns on Pro Tools tracks to control Transfuser Synth modules directly.

You can also drag Sequencer Patterns to the Desktop for later use in other Pro Tools sessions. You can even drag Sequencer Patterns from one Sequencer module to another. When dragging from one Sequencer module to another, the pattern is simply copied if the Sequencers are of the same type, or it is converted when dragging to a different type of Sequencer (such as from a Drum Sequencer to a Phrase Sequencer).

**To export a Sequencer Pattern to your Pro Tools session as a MIDI clip:**

- 1 Identify the Sequencer Pattern you want on the Sequencer Editor Pattern keys.
- 2 Click the key and drag to one of the following in your Pro Tools session:
  - MIDI track
  - Instrument track
  - Timeline
  - Tracks List
  - Clip List




Figure 23. Dragging a Transfuser Drum Sequencer Pattern to the Pro Tools Tracks List

Importing Sequencer Patterns from Pro Tools

### (Pro Tools 8.0 Only)

You can import MIDI clips and clip groups to Transfuser Sequencer modules from Pro Tools MIDI and Instrument tracks, the Clip List, Digibase Browsers, or the Desktop (see Figure 24 below). This lets you quickly and easily import and use MIDI clips (sequences) in Transfuser that were created in Pro Tools.

 You might even want to use M.A.R.I.O in Transfuser to transform an imported MIDI sequence and then export it back into your Pro Tools session.

**To import a MIDI clip (sequence) or clip group into Transfuser:**

- 1 Identify the MIDI clip or clip group (or MIDI file) you want to import.
- 2 Drag the MIDI clip or clip group (or MIDI file) to one of the following in Transfuser:
  - Sequencer module in the tracks pane
  - or –
  - Pattern Editor in the Editor pane



Figure 24. Dragging a MIDI clip from a Pro Tools MIDI track to a Transfuser Drum Sequencer



# Chapter 26: Transfuser Synth Editors

Transfuser provides four different types of Synth modules:

**Drums** Converts imported audio to individual drum samples mapped to a sophisticated 12-pad drum sampler. Using the Drum Sequencer or MIDI input, the Drums Synth module can play back simple to very intricate drum patterns.

**Phrase** Converts imported audio to beat-matched audio using very sophisticated time compression and expansion (TCE) algorithms. Using the Phrase Sequencer or MIDI input, you can play back the Phrase Synth module at different transpositions, times, and durations.

**Slicer** Converts imported audio into individual “slices” based on a sophisticated, automatic transient-detection algorithm. That is to say, it automatically chops up your audio into individual events that can be played back in any order, and with all kinds of processing, by the Slice Sequencer module or MIDI input.

**Bass** Provides a monophonic Bass-line synthesizer. Using the Phrase Sequencer, you can play the Bass Synth with 1–4 bar bassline sequences, or using the Thru Sequencer you can play Bass directly from MIDI sequences on Pro Tools MIDI tracks or using a MIDI controller.

**Audio Input** Passes audio from disk or the audio Input of the track on which Transfuser is inserted. This lets you directly process Pro Tools audio in Transfuser without having to import it.



*For information on Synth module Track controls, see “Synth Modules” on page 319.*

## Drums Synth Editor

The Drums Synth module is a sample-based drum machine that can be played back by the Drum Sequencer module. When you select the Drum Synth module on a Track, its Editor is available in the Editor pane. The Drum Synth Editor provides twelve sample pads to which you can drag samples or choose from a number of factory samples.



Figure 25. Drums Synth editor

## Drums Synth Master Controls

### Synth Menu



In the Editor, the Synth menu lets you save custom Synth module configurations, load custom saved Synth modules (of the same type), and Copy and Paste Synth modules. The Synth menu is also available in the Drums Synth Track module.

### Pitch

The Pitch control lets you raise or lower the pitch of the Drums in semitones and cents. The Pitch control is also available in the Drums Synth Track module.

### Cutoff

The Cutoff control lets you adjust the Cutoff frequency of the Filter applied to the Drums. The Cutoff control is also available in the Drums Synth Track module.

## Decay

The Decay control lets you adjust the amount of Decay applied to the Drums. Lower settings result in shorter decays and higher settings result in longer decays for each of the Drum Samples. The Decay control is also available in the Drums Synth Track module.

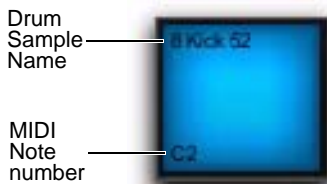
## Drum Pads

Each of the twelve Drum Pads lets you load factory or custom samples for playback by the Drum Sequencer.



Drum Pad menu

Click a Pad to select it. Clicking a Pad also triggers the Drum Sample (if one is loaded). The Pad lights when selected. The Pads also light when played by the Drum Sequencer Pattern or MIDI.



### To load a Drum Sample, do one of the following:

- Drag an audio file or clip from any of the following:
  - Transfuser Browser
  - Pro Tools Timeline (a clip on an audio track)
  - Pro Tools Clip List
  - DigiBase browser
  - Windows Explorer or Mac Finder
  - With the Grabber tool from a Slice in the Slicer Synth Editor.

– or –

- Load a factory Drum Sample by doing the following:
  - Select the Pad you want.
  - From the Drum Pad menu, choose the type of drum sound you want (such as Kicks) and select any of the available factory Drum Samples.

The Sample loads into Sample A or Sample B (whichever is currently selected) for the selected Pad.

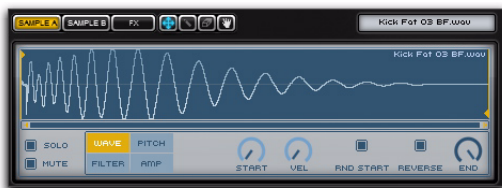


Selecting a Factory Drum Sample for a Pad

💡 You can also drag an audio slice from the Slicer Synth to any Drum Pad using the Slicer Synth Grabber tool (see “Slicer Synth Editor” on page 383).

## Drum Pad Editor

The Drum Pad Editor lets you change the start and end points for samples loaded into the selected Drum Pad (Sample A or B). It also provides multiple controls for sculpting the sound.

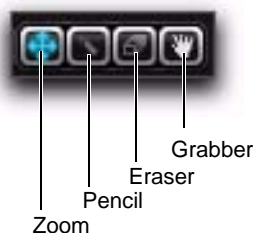


*Drum Pad Editor*

### Sample A and Sample B

Transfuser provides two layers of samples for each Drum Pad: Sample A and Sample B. It plays both samples when triggered. This lets you layer samples to create more complex Drum sounds. Select either Sample A or Sample B for loading samples to a Drum Pad and for editing. You can mix Sample A and B by adjusting the Level controls on their respective Amp pages. In fact, you can filter and re-pitch Sample A and B independently as well.

## Edit Tools



*Drums Synth Edit tools (in Wave Page view, the Pencil and Eraser are unavailable)*

**Zoom** Lets you adjust the horizontal zoom of the Drum Pad Editor. Click in the Drum Pad Editor and drag down to zoom in or drag up to zoom out.

**Pencil** Lets you draw control breakpoints in the Pitch, Filter, and Amp Page views. The Pencil tool is not available in the Wave Page view.

**Eraser** Lets you delete control breakpoints in the Pitch, Filter, and Amp Page views. The Eraser tool is not available in the Wave Page view.

**Grabber** Lets you drag samples from a Drums Synth to any other Synth module. You can also drag samples from the Drums Synth to the Pro Tools Clip List, Tracks List, or Timeline, or to the Desktop.

### Solo

The Solo button is available in all Page views and simply solos (or unsolos) the selected Drum Pad (both Samples A and B).

### Mute

The Mute button is available in all Page views and simply mutes (or unmutes) the selected Drum Pad (both Samples A and B).



## Sample Parameter Pages

Each Sample (A and B) for each Pad provides four different Parameter pages.

**To view a specific parameter page for a Drum Pad Sample (A or B):**

- 1 Select the Drum Pad you want to edit.
- 2 Select Sample A or Sample B.
- 3 Select a Parameter Page.

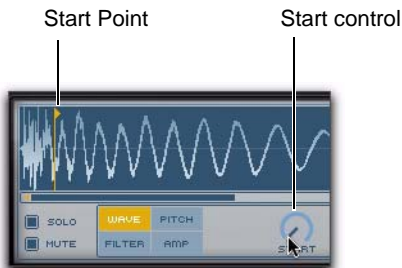


*Selecting the Pitch Page for Sample B*

### Wave Page

The Wave Page lets you set the start and end points for the loaded sample.

**Start** Lets you adjust the Start setting to determine where in the sample playback starts triggered. The Start Flag identifies the start point against the Waveform display.



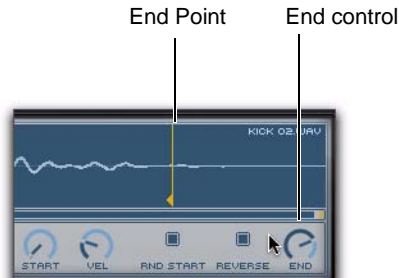
*Adjusting the start point for a drum sample*

**Velocity** Lets you adjust how much the incoming MIDI velocity affects the start point.

**Random Start** Randomizes the start point. When enabled, adjust the Velocity control to determine how much randomization is applied.

**Reverse** When enabled, plays the sample in reverse.

**End** Lets you determine where in the sample playback ends in the sample. The End Flag identifies the end point against the Waveform display.



*Adjusting the end point for a drum sample*

### Pitch Page

The Pitch Page lets you create a Pitch Envelope for the selected Drum Pad sample.

**To create breakpoints for the Pitch Envelope:**

- 1 Select the Drum Pad you want.
- 2 Select Sample A or Sample B.
- 3 Select the Pitch Page.
- 4 Select the Pencil tool.
- 5 Click in the Pitch Envelope Editor to create a breakpoint.

6 Drag the breakpoint to a pitch and time location.



*Creating a breakpoint in the Pitch Envelope*

7 Repeat the preceding steps to create more breakpoints in the Pitch Envelope.

**To delete breakpoints from the Pitch Envelope:**

- 1 Select the Drum Pad you want.
- 2 Select Sample A or Sample B.
- 3 Select the Pitch Page.
- 4 Select the Eraser tool.
- 5 Click an existing breakpoint in the Pitch Envelope Editor to delete it.

**Pitch** Lets you transpose the base pitch level for the sample up or down.

**Envelope Depth** Lets you adjust how much the Pitch Envelope affects the sample.

**Velocity** Lets you adjust the velocity sensitivity of the Pitch Envelope. This can be useful at higher settings for affecting the pitch of the sample when it is played hard.

**Filter Page**

The Filter Page lets you create a Filter Envelope for the selected Drum Pad sample.

**To create breakpoints for the Filter Envelope:**

- 1 Select the Drum Pad you want.
- 2 Select Sample A or Sample B.
- 3 Select the Filter Page.
- 4 Select the Pencil tool.
- 5 Click in the Filter Envelope Editor to create a breakpoint.
- 6 Drag the breakpoint to a Filter value and time location.
- 7 Repeat the preceding steps to create more breakpoints in the Filter Envelope.

**To delete breakpoints from the Filter Envelope:**

- 1 Select the Drum Pad you want.
- 2 Select Sample A or Sample B.
- 3 Select the Filter Page.
- 4 Select the Eraser tool.
- 5 Click an existing breakpoint in the Filter Envelope Editor to delete it.

**Filter** Lets you enable or disable the Filter, and also lets you select one of the following types of Filters:

- LP (Low Pass Filter)
- BP (Band Pass Filter)
- HP (High Pass Filter)
- EQ (Equalizer)

**Cutoff** Adjusts the Cutoff Frequency.

**Envelope Depth** Lets you adjust how much the Filter Envelope affects the sample.

**Velocity** Lets you adjust how much incoming MIDI velocities affect the Filter Envelope.

## Amp Page

The Amp Page lets you create an Amplitude Envelope for the selected Drum Pad sample.

### To create breakpoints for the Amplitude Envelope:

- 1 Select the Drum Pad you want.
- 2 Select Sample A or Sample B.
- 3 Select the Amp Page.
- 4 Select the Pencil tool.
- 5 Click in the Amplitude Envelope Editor to create a breakpoint.
- 6 Drag the breakpoint to a Level and time location.
- 7 Repeat the preceding steps to create more breakpoints in the amplitude envelope.

### To delete breakpoints from the Amplitude Envelope:

- 1 Select the Drum Pad you want.
- 2 Select Sample A or Sample B.
- 3 Select the Filter Page.
- 4 Select the Eraser tool.
- 5 Click an existing breakpoint in the Amplitude Envelope Editor to delete it.

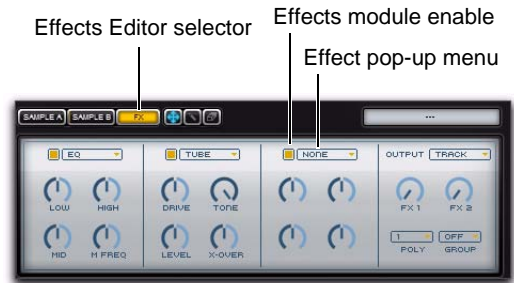
**Level** Lets you adjust the overall Amplitude Level for the selected Drum Sample.

**Velocity** Lets you adjust the velocity sensitivity for the Amplitude Envelope. When centered, velocity does not affect the level of the sound. Increase it so that higher velocities increase the level. Decrease it so that higher velocities decrease the level. This can be useful for layering and crossfading Samples A and B at different velocities.

## Drum Pad Effects

Each Drum Pad (both Samples A and B) provides individual Effects. You can have up to three different effects modules in series on any Drum Pad. These Effects modules are unique from the Track, Effects Sends 1 and 2, and Master Insert Effects modules.

The final module in the Drum Pad Editor determines the routing of the Output signal from the Drum Pad (through the effects).



### Drum Sample Effects

#### To apply an effect to the selected Drum Pad:

- 1 Select the Drum Pad you want.
- 2 Select FX to view the Drum Pad Effects Editor.
- 3 From the any of the three Effect pop-up menus, select an effect.



Selecting Ring Modulation for Drum Pad Effect 1

4 Ensure that the Effect Enable button is selected.

Available Effects include:

- EQ
- Parametric EQ
- Filter
- Limiter
- Compressor
- Gate
- AutoPan
- Phaser
- Clip
- Tube
- Crush
- Ring Modulation

### Effect Controls

Each available Effect provides four controls appropriate to the individual Effect. For example, the Ring Modulator provides controls for Frequency, Frequency Modulation, Noise, and Mix.

### Output Module



The Output module lets you select the Output Bus for the Drum Pad and provides controls for routing the signal to Effects Sends 1 and 2. You can also set the Polyphony for the Drum Pad Samples and assign the Drum Pad to a Group.

**Output** Lets you set the audio output to the selected Track Output Bus or any other available Output Bus. Setting different Drum Pads to different Output Busses lets you mix and process individual Drum Pads independently in Pro Tools.

**FX 1 and FX 2** Each lets you send signal from the Drum Pad audio output to Effects Sends 1 and 2 in Transfuser.

**Poly** Lets you set the Polyphony for the selected Drum Pad between 1 and 8 voices. If a Drum Pad is likely to be frequently re-triggered before the end of the sample has been reached, higher settings keep consecutive Drum Samples from being cut off. Higher settings are definitely better for sounds like ride cymbal samples that sound better overlapping rather than cutting each other off. Set Poly to 1 for vintage drum machine sounds; subsequent notes cut off the sounding note.

**Group** Lets you assign the selected Drum Pad to one of four possible Groups (A–D). Select Off to leave the Drum Pad unassigned to a Group.

Pads in the same Group cut off the sound of other pads in the same group. For example, assign open and closed hi-hat samples to the same group so that they cut each other off.

## Sample Controls

The Sample controls apply equally to both Samples A and B for the selected Drum Pad.



Each Sample for each Pad provides its own set of controls for the following:

**Pitch** Adjust to transpose the pitch of the Drum Pad samples up or down.

**Cutoff** Adjust to increase or decrease the Cutoff Frequency for the Drum Pad samples.

**Resonance** Adjust to increase or decrease the amount of Resonance for the Cutoff Frequency for the Drum Pad samples.

**Hold** Adjust to increase or decrease the duration of Hold for Drum Pad samples.

**Release** Adjust to increase or decrease the duration of the Release for Drum Pad samples.

**Velocity** Adjust to increase or decrease how much MIDI velocity affects release time of the selected Drum Pad Samples.

**Pan** Adjust to pan the audio output of the selected Drum Pad Samples left or right in the stereo field.

**Level** Adjust to increase (boost) or decrease (attenuate) the amount of gain for the selected Drum Pad Samples.

## Phrase Synth Editor

The Phrase Synth module is a sample-based synthesizer that can be played back by the Phrase Sequencer module. When you select the Phrase Synth module on a Track, its Editor is available in the Editor pane. The Phrase Synth Editor provides a Waveform view editor for setting start, end, and loop points. You can also change the pitch, cutoff frequency, and Filter and Amplitude Envelopes for the loaded sample.



Figure 26. Phrase Synth editor

## Phrase Synth Master Controls

### Synth Menu



In the Editor, the Synth menu lets you save custom Synth module configurations, load custom saved Synth modules (of the same type), and Copy and Paste Synth modules. The Synth menu is also available in the Phrase Synth Track module.

### Mode

The Mode setting determines how Transfuser analyzes and processes audio for beat matching (time compression and expansion). Select from the following options:

**Solo/Vocal** Select this option for monophonic vocal or solo instrumental material (such as a flute).

**Mix/Chords** Select this option for polyphonic harmonic material, such as a guitar chords, piano comping, or even full mixes.

**Drum/Perc** Select this option for non-pitched rhythmic material, such as drum loops.

**Vocodize** Select this option for vocoding-type time compression and expansion where the pitch of the audio is forced to match the MIDI notes you play. Vocodize works best on solo material, otherwise the pitch mapping can be obscured.

**Lo-Fi** Select this option for low fidelity re-sampling for “grainy” sounding time compression and expansion. Lo-Fi uses granular synthesis for TCE.

**Sampler** Select this option to simply play back the audio without time compression and expansion processing.

### Original BPM

The Original BPM setting represents the analyzed original tempo of the audio file. This setting is only available if the Tempo Sync option is enabled (see “Sync” on page 378).



*Original BPM controls available when Sync is enabled*

You can enter an alternate Original BPM value than the analyzed value for the audio file if necessary; for example, if the audio doesn’t have a clearly defined pulse.

Sometimes, the analyzed Original BPM setting can be off by a factor of two. To correct this, click one of the following:

**/2** If the currently analyzed Original BPM is double-time of the actual tempo, click this option.

**\*2** If the currently analyzed Original BPM is half-time of the actual tempo, click this option.

### Formant

Adjust the Formant control to shift formants up or down. The Formant control is only available in Solo/Vocals or Vocodize mode.

### Key Track

Adjust the Key Track control to increase or decrease how much the triggering MIDI note number (higher or lower) affects Formant correction. The Key Track control is only available in Solo/Vocals or Vocodize mode.

### Grain Size

Adjust the Grain Size control to increase or decrease the size of the grains used for the granular synthesis time stretching. The Grain Size control is only available in Lo-Fi mode.

### Random

Adjust the Random control to increase or decrease the amount of randomization of the Grain Size. The Random control is only available in Lo-Fi mode.

### Speed

Adjust the Speed control to increase or decrease the rate at which Transfuser plays through the sample. When Sync is disabled, the Speed control is available in all modes. However, when Sync is enabled, the Speed control is only available in Sampler mode.

## Tempo

The Tempo section lets you synchronize the audio with the Pro Tools session tempo (or not) and set whether or not the audio plays once through or loops.

### Sync

When Sync is enabled, the Phrase Synth module synchronizes (beat matches) to the Pro Tools session tempo. When disabled, a continuously variable Speed control becomes available in place of the Original BPM settings.

### Speed

When Sync is disabled, the Speed control becomes available in place of the Original BPM settings. Increase or decrease the Speed control to change the rate at which the Phrase Synth plays through the loaded audio file.



*Speed control available when Sync is disabled*

### Play Mode

The Play Mode setting determines whether or not the Phrase Synth loops the loaded audio on playback.

**One Shot** Plays once through the audio loaded into the Phrase Synth without looping.

**Looped** Plays through the audio loaded into the Phrase Synth and loops playback according to the loop markers set in the Waveform view.

## Pitch

Lets you raise or lower the pitch of the Phrase sample in semitones. The Pitch control is also available in the Phrase Synth Track module.

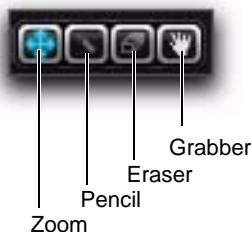
## Fine

Lets you raise or lower the pitch of the Phrase sample in cents. The Fine control is also available in the Phrase Synth Track module.

## Waveform Display

The Phrase Synth Editor lets you set the Start and Loop points for the loaded audio against a Waveform display. The Phrase Synth Editor also provides breakpoint editing against the Waveform display for Levels and Panning. Additionally, you can adjust the Filter and Amplitude Envelopes for the loaded audio.

## Edit Tools



*Phrase Synth Edit tools (in Loop Page view, the Pencil and Eraser are unavailable)*

**Zoom** Lets you adjust the horizontal zoom of the Waveform display. Click in the Waveform display and drag down to zoom in or drag up to zoom out.



**Pencil** Lets you draw control breakpoints in the Level and Pan Page views. The Pencil tool is not available in the Loop Page view.

**Eraser** Lets you delete control breakpoints in the Level and Pan Page views. The Eraser tool is not available in the Loop Page view.

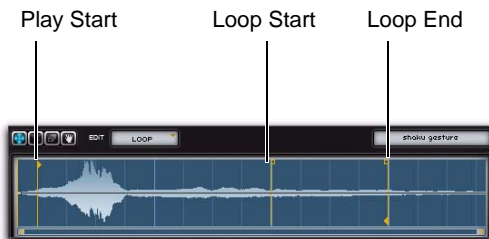
**Grabber** Lets you drag samples from a Phrase Synth to any other Synth module. You can also drag samples from the Phrase Synth to the Pro Tools Clip List, Tracks List, or Timeline, or to the Desktop.

## Edit Menu

The Edit menu lets you select which parameters are available for editing against the Waveform display.

## Loop

Select Loop view to edit the Play Start point as well as the Loop Start and End points.



*Editing Play Start, and Loop Start and End markers*

**Play Start** Drag the Play Start marker left or right to set the playback start location in the audio file.

**Loop Start** Drag the Loop Start marker left or right to set the Loop Start point in the audio file. When the Loop option is the selected Play Mode setting, playback loops starting from this point.

**Loop End** Drag the Loop End marker left or right to set the loop end point in the audio file. When the Loop option is the selected Play Mode setting, playback loops ends at this point and loops back to the Loop Start point.

## Level

Select Level view for breakpoint editing of the playback level against the Waveform display.

Creating a Level breakpoint    Level breakpoint



*Editing Level breakpoints*

### To create a Level breakpoint:

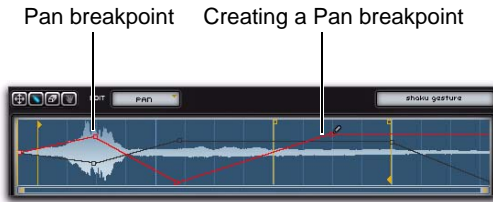
- 1 From the Edit menu, select Level.
- 2 Select the Pencil Tool.
- 3 Click at the location in the Waveform display where you want to create a Level breakpoint.
- 4 Drag the breakpoint up to increase the level or drag down to decrease the level.

### To delete a Level breakpoint:

- 1 From the Edit menu, select Level.
- 2 Select the Eraser Tool.
- 3 Click the Level breakpoint you want to delete.

## Pan

Select Pan view for breakpoint editing of the panning (left/right) against the Waveform display.



### *Editing Pan breakpoints*

#### **To create a Pan breakpoint:**

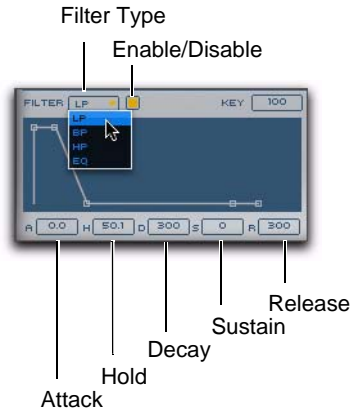
- 1 From the Edit menu, select Pan.
- 2 Select the Pencil Tool.
- 3 Click at the location in the Waveform display where you want to create a Pan breakpoint.
- 4 Drag the breakpoint up to pan right or drag down to pan left.

#### **To delete a Pan breakpoint:**

- 1 From the Edit menu, select Pan.
- 2 Select the Eraser Tool.
- 3 Click the Pan breakpoint you want to delete.

## Filter

The Phrase Synth Filter controls are available regardless of which Edit view is selected.



### *Phrase Synth Filter Envelope*

#### **Type**

Select one of the following types of Filters:

- LP—Low Pass Filter
- BP—Band Pass Filter
- HP—High Pass Filter
- EQ—Equalizer

#### **Enable**

Select or deselect the Enable button to engage or bypass the Filter. The Enable button is lit when selected.

## Key

The Key setting lets you adjust how much the Cutoff Filter tracks the keyboard (MIDI notes) from 0% (no tracking) to 100% (full tracking). Keyboard tracking is usefully for playing melodies with synth sounds (like a synth lead or bass sound).

## Key Pan

The Key Pan setting determines how the automatic panning (if any) of the Phrase Synth works when it receives a MIDI note (such as when you play a key on the Note Range keyboard or on your external MIDI keyboard).

**0** Sets Key Pan to off so there is no automatic panning.

**1–10** Make panning track the keyboard (MIDI notes), so low notes are panned left and high notes right, relative to middle C (MIDI note number 60). Lower settings provide less panning variation and higher settings provide the most panning variation.

**Alt** Alternates panning between left and right with each note.

**Rnd** Randomly pans between left and right with each note.

## Envelope

The Phrase Synth Editor provides a five point envelope for the Filter.

**Attack** Lets you set the duration of the Attack portion of the Envelope.

**Hold** Lets you set the duration of the Hold portion of the Envelope.

**Decay** Lets you set the duration of the Decay portion of the Envelope.

**Sustain** Lets you set the level of the Sustain portion of the Envelope between 0–100%.

**Release** Lets you set the duration of the Release portion of the Envelope.

## Cutoff

Drag left to decrease or drag right to increase the Cutoff Frequency.

## Envelope Depth

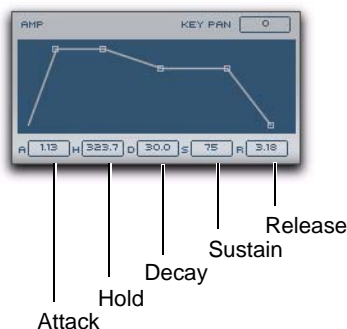
Drag left to decrease and right to increase how much the Filter Envelope affects the Filter Cutoff.

## Velocity

The Velocity control lets you set how much MIDI velocity affects the Filter Envelope.

## Amp

The Phrase Synth Editor provides a five point Amplitude envelope.



### *Phrase Synth Amplitude Envelope*

**Attack** Lets you set the duration of the Attack portion of the Envelope.

**Hold** Lets you set the duration of the Hold portion of the Envelope.

**Decay** Lets you set the duration of the Decay portion of the Envelope.

**Sustain** Lets you set the level of the Sustain portion of the Envelope between 0–100%.

**Release** Lets you set the duration of the Release portion of the Envelope.

## Level

The Level control lets you adjust the master volume for playback from the Phrase Synth module. Drag up to increase or drag down to decrease the playback level for Phrase Synth.

## Velocity

The Velocity control lets you adjust how much incoming MIDI velocities affect the output level of the Phrase Synth module.

## Slicer Synth Editor

The Slicer Synth module is a sample-based synthesizer that can be played back by the Slice Sequencer module. When you select the Slicer Synth module on a Track, its Editor is available in the Editor pane. When you import audio into a Slicer Synth, it automatically sets Slice markers at transient peaks in the audio. Each slice can be played back individually or in any order. You can even reverse and process individual slices. The Slicer Synth Editor provides a Waveform view editor for setting the location of the slices. You can also change the Pitch, Cutoff, and Filter and Amplitude Envelopes for the loaded audio.



Figure 27. Slicer Synth editor

## Slicer Synth Controls

### Synth Menu



In the Editor, the Synth menu lets you save custom Synth module configurations, load custom saved Synth modules (of the same type), and Copy and Paste Synth modules. The Synth menu is also available in the Slicer Synth Track module.

### Pitch

The Pitch control lets you raise or lower the pitch of slices in semitones. The Pitch control is also available in the Slicer Synth Track module.

### Fine

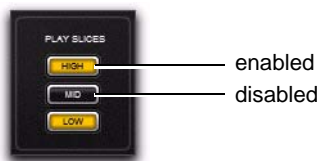
The Fine control lets you raise or lower the pitch of slices in cents.

## Envelope Depth

Adjust the Envelope Depth control to change how much the Filter and Amplitude Envelopes affect the individual slices.

## Play Slices

The Play Slices options pass certain slices by frequency band (High, Middle, Low) when enabled and filter out certain slices by frequency band when disabled. The Play Slices options are enabled when lit.



**High** When disabled, filters out High-range slices (like high-hat sounds).

**Mid** When disabled, filters out Mid-range frequency slices (like snare drum or guitar chord sounds).

**Low** When disabled, filters out Low-range slices (like kick drum or bass sounds).

## Start

Adjust the Start control to set where in each individual slice playback starts as a percentage of the total duration of the slice. Higher settings will start playback after the initial attack portion of the slice.

## Length

Adjust the Length control to increase or decrease the total length of each individual slice. Lower settings cutoff the release portion of the slice for a detached or even *staccato*-like effect.

Higher settings allow slices to overlap slightly for an elided, *legato*-like effect. This can also help fill in gaps when playback is slower than the original tempo.

## Original Tempo

The Original Tempo setting represents the analyzed original tempo of the imported audio file. You can also enter an alternate Original Tempo value than the analyzed value for the audio file if necessary; for example, if the audio doesn't have a clearly defined pulse.

Sometimes, the analyzed Original Tempo setting can be off by a factor of two. To correct this, click one of the following:

**/2** If the currently analyzed Original Tempo is double-time of the actual tempo, click this option.

**\*2** If the currently analyzed Original Tempo is half-time of the actual tempo, click this option.

## Waveform Display

The Slicer Synth Editor lets you edit the Slice points for the loaded audio against a Waveform display. The Slicer Synth Editor lets you edit the Level and Frequency Range Flag (High, Mid, or Low) for each slice against the Waveform display. Additionally, you can adjust the Filter and Amplitude Envelopes for the loaded audio.

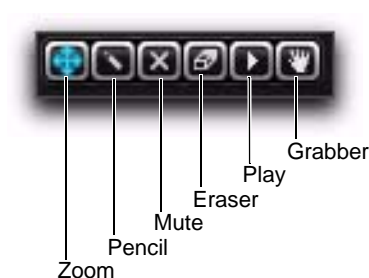
## Update Seq

The Update Sequence button is only available after there have been changes to the number or location of Slice markers. If you have made any changes to the number or location of Slice markers, click this button so that the Slice Sequencer module can accurately play the Slice Synth module.

## Reset

Click the Reset button to reset any and all changes to the Slicer Synth to the original slice analysis (in terms of Slice marker locations, slice Levels, and High, Mid, and Low frequency band identification).

## Edit Tools



### *Slicer Edit tools*

**Zoom** Lets you adjust the horizontal zoom of the Waveform display. Click in the Waveform display and drag down to zoom in or drag up to zoom out.

The Zoom tool for the Slicer Synth Editor also lets you relocate slice markers, adjust the Level for individual slices, and Flag individual slices as being in the High, Mid, or Low range for slice playback (see “Play Slices” on page 384).

**Pencil** Lets you create new Slice markers in any Edit view (Slice, Level, or Flag).

**Eraser** Lets you delete Slice markers in any Edit view (Slice, Level, or Flag).

**Play** Lets you play a single slice.

**Grabber** Lets you drag samples from a Slicer Synth to any other Synth module. You can also drag samples from the Slicer Synth to the Pro Tools Clip List, Tracks List, or Timeline, or to the Desktop.

## Nudge

The Nudge setting determines the rhythmic grid for Slice markers. When creating or moving Slice markers, they will snap to the selected grid (if any). Choose from the following:

- Off—no grid
- 4—quarter-note grid
- 8—eight-note grid
- 16—sixteenth note grid
- 32—thirty-second note grid

## Edit Menu

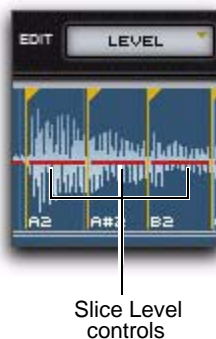
The Edit menu lets you select which parameters are available for editing against the Waveform display.

## Slice

Slice view shows the individual Slice markers against the Waveform display. For more information, see “Slices” on page 386.

## Level

Level view shows the individual slices, each with an independent level control.



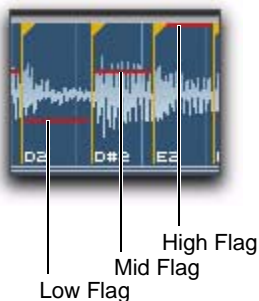
*Level view*

### To increase (or decrease) the Level for a Slice:

- 1 Select Level view.
- 2 With the Zoom tool selected, click the Slice Level control and drag up (or down).

### Flag

Flag view shows the individual slices, each with a High, Mid, or Low Range Flag. These Flags indicate the detected (or user-defined) frequency range of the slice. Disable any of the Play Slices options to filter out any slices flagged in that frequency range.



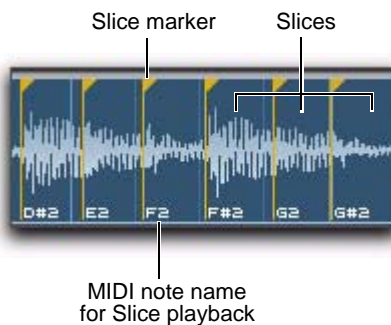
Flag view

### To change a Flag:

- 1 Select Flag view.
- 2 With the Zoom tool selected, click the Range Flag for a slice and drag up or down to change its setting to High, Middle, or Low.

### Slices

Slice markers indicate the start time for playback of individual slices of audio. Each slice is assigned a unique MIDI note for individual slice playback (from the Slice Sequencer or from MIDI).



You can add, delete, mute, and play individual Slices in any Edit view.

### To move a Slice marker:

- 1 Select Slice view.
- 2 With the Zoom tool selected, click the flag at the top of the Slice marker and drag it left (earlier) or right (later).

You can zoom in on the Waveform for more accurate marker placement.

When moving a Slice marker, it will snap to the selected grid if Nudge is set anything other than Off.



**To add a Slice, do one of the following:**

- With the Pencil tool selected, click on the Waveform display where you want to add a new Slice marker.
- or –
- With the Zoom tool selected, double-click on the Waveform display where you want to add a new Slice marker.

When adding a Slice marker, it will snap to the selected grid if Nudge is set anything other than Off.

**To mute a Slice:**

- With the Mute tool selected, click the Slice you want to mute. The slice grays out.

**To delete a Slice marker, do one of the following:**

- With the Eraser tool selected, click the Slice for the marker you want to delete.
- or –
- With the Zoom tool selected, double-click the Slice marker you want to delete.

The preceding Slice now includes the audio of the deleted Slice marker. Note that you cannot delete the first Slice.

**To play (audition) an individual Slice:**

- With the Play tool selected, click the Slice for the marker you want to audition.



*Audition individual slices to find one you might want to use for a Drum Pad in a Drums Synth module.*

**To drag an audio slice from the Slicer Synth to a Drum Pad in a Drums Synth:**

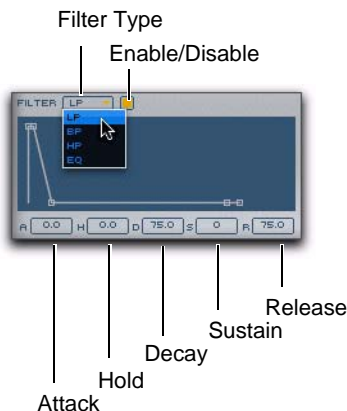
- 1 With the Grabber tool selected, click the Slice you want and drag it to a Drums Synth module in the Tracks pane.
- 2 When the Drums Synth Editor appears in the Editor pane, drop the Slice on the Drum Pad you want.



*Dragging a waveform to a Synth module*

## Filter

The Slicer Synth Filter controls are available regardless of which Edit view is selected.



*Slicer Synth Filter Envelope*

### Type

Select one of the following types of Filters:

- LP—Low Pass Filter
- BP—Band Pass Filter
- HP—High Pass Filter
- EQ—Equalizer

### Enable

Select or deselect the Enable button to engage or bypass the Filter. The Enable button is lit when selected.

## Envelope

The Slicer Synth Editor provides a five point envelope for the Filter.

**Attack** Lets you set the duration of the Attack portion of the Envelope.

**Hold** Lets you set the duration of the Hold portion of the Envelope.

**Decay** Lets you set the duration of the Decay portion of the Envelope.

**Sustain** Lets you set the level of the Sustain portion of the Envelope between 0–100%.

**Release** Lets you set the duration of the Release portion of the Envelope.

### Cutoff

Drag left to decrease and right to increase the Cutoff Frequency.

### Envelope Depth

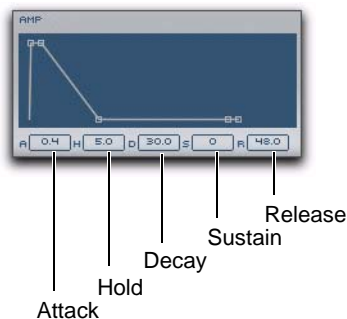
Drag left to decrease and right to increase how much the Filter Envelope affects the Filter Cutoff.

### Velocity

The Velocity control lets you set how much MIDI velocity affects the Filter Envelope.

## Amp

The Slicer Synth Editor provides a five point Amplitude envelope.



### *Slicer Synth Amplitude Envelope*

**Attack** Lets you set the duration of the Attack portion of the Envelope.

**Hold** Lets you set the duration of the Hold portion of the Envelope.

**Decay** Lets you set the duration of the Decay portion of the Envelope.

**Sustain** Lets you set the level of the Sustain portion of the Envelope between 0–100%.

**Release** Lets you set the duration of the Release portion of the Envelope.

## Level

The Level control lets you adjust the master volume for playback from the Slicer Synth module. Drag up to increase and drag down to decrease the playback level for Slicer Synth.

## Velocity

The Velocity control lets you adjust how much incoming MIDI velocities affect the output level of the Slicer Synth module.

## Bass Synth Editor

The Bass Synth module provides a monophonic Bass-line synthesizer. When you select the Bass Synth module on a Track, its Editor is available in the Editor pane. Using the Phrase Sequencer, you can play the Bass Synth with 1–4 bar bassline sequences, or using the Thru Sequencer you can play Bass directly from MIDI sequences on Pro Tools MIDI tracks or using a MIDI controller.



Figure 28. Bass Synth editor

## Bass Synth Controls

### Synth Menu



In the Editor, the Synth menu lets you save custom Synth module configurations, load custom, saved Synth modules (of the same type), and Copy and Paste Synth modules. The Synth menu is also available in the Input Synth Track module.

### Oscillator

Bass provides an adjustable single Oscillator for monophonic MIDI playback.

**Wave** Lets you change the waveform shape from Octave-Saws to a Saw (center position) to a Square wave.

**Sub-Octave** Lets you adjust the level of a square wave that is one octave below the oscillator frequency.

**Glide** Lets you increase or decrease the Glide time between notes (from 10 ms to 2.00 seconds) when played legato, or when played with a Phrase Sequencer using the Glide settings for each Note Event.

## Filter

Bass provides an 18 dB/octave resonant low-pass filter after the Oscillator with adjustable Cutoff frequency and Resonance.

**Cutoff** Lets you adjust the Cutoff frequency for the Filter.

**Reso** Lets you adjust the Resonance (or “Q”) of the Filter.

## Env (Envelope)

Bass provides an envelope generator to shape the attack and decay of the sound.

**Invert** When enabled, the Invert option inverts the envelope. Enable the Invert option for softer, “squishier” attacks. The Decay control will function more like an Attack control in an ADSR-type envelope—the attack will ramp up to the sustain level of the signal. When enabled, the Invert button is lit.

**Env Mod** Determines the amount of envelope modulation of the Filter Cutoff. At 0%, the envelope has no effect on the signal.

**Decay** Determines the length of the decay after the initial attack (note on). At 0%, the signal drops to silence right after the attack. At 100%, the signal decays over a period of time after the attack.

## Accent

The Accent controls affect the Filter according to the velocity played. When playing with higher velocities the Accent effect is more pronounced. The Accent effect is most noticeable with higher Resonance settings.

**Decay** Adjusts the Envelope Decay when an accented note is triggered (above a certain velocity threshold). When set to 100%, the accent is quite pronounced. At –100%, the Accent is much more muted.

**Level** Determines how much the Accent affects the amplitude at note on.

## Distortion

Use Distortion to color the audio signal with distortion.

**Bright** When enabled, the Bright option provides a bright, clean distortion. When enabled, the Bright button is lit.

**Drive** Lets you increase the amount of drive (input volume) of the signal.

**Level** Controls the output Level of the Distortion.

## Input Synth Editor

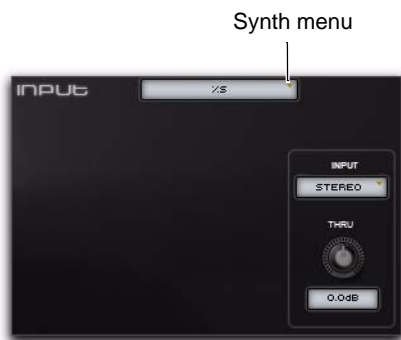
The Input Synth module passes audio from the audio input of the track on which Transfuser is inserted. This lets you use Transfuser to process Pro Tools audio just like any other effects plug-in, without having to import the audio into Transfuser. When you select the Input Synth module on a Track, its Editor is available in the Editor pane. The Input Synth Editor provides only a few controls for selecting the Input, adjusting the Thru control, and editing the Envelope Trigger.



Figure 29. Input Synth editor

## Input Synth Controls

### Synth Menu



In the Editor, the Synth menu lets you save custom Synth module configurations, load custom, saved Synth modules (of the same type), and Copy and Paste Synth modules. The Synth menu is also available in the Bass module.

### Input

The Input setting lets you select any of the following options for audio input:

**Stereo** Passes the stereo signal from the Pro Tools track.

**Left** Passes only signal from the left channel of the Pro Tools track.

**Right** Passes only signal from the right channel of the Pro Tools track.

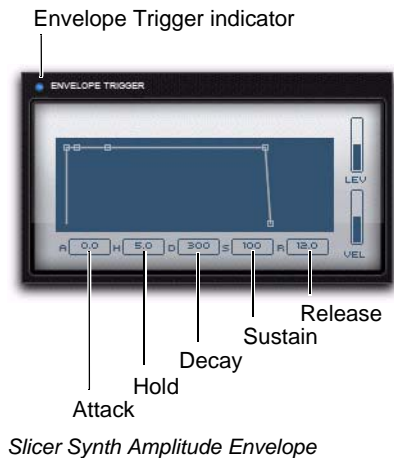
**Noise** Generates white noise. This is useful for testing the Input Synth, and any sequence that might be triggering it, in the absence of an audio input.

## Thru

The Thru control lets you adjust the audio throughput regardless of the Envelope Trigger. Increase or decrease the amount of audio Thru by clicking and dragging the control right or left (or up or down). The range for the Thru control is from  $-\infty$  to +12.0 dB.

## Envelope Trigger

When you send a MIDI note to the Input Synth module, it opens the gate to pass audio from the selected Input. The Envelope Trigger provides an amplitude envelope for passing audio when triggered by MIDI.



*Slicer Synth Amplitude Envelope*

**Envelope Trigger Indicator** Lights when a MIDI is received.

**Attack** Lets you set the duration of the Attack portion of the Envelope.

**Hold** Lets you set the duration of the Hold portion of the Envelope.

**Decay** Lets you set the duration of the Decay portion of the Envelope.

**Sustain** Lets you set the level of the Sustain portion of the Envelope between 0–100%.

**Release** Lets you set the duration of the Release portion of the Envelope.

## Level

The Level control lets you adjust the master volume for playback from the Input Synth module. Drag up to increase or drag down to decrease the output level for Input Synth.

## Velocity

The Velocity control lets you adjust how much incoming MIDI velocities affect the Envelope Trigger of the Input Synth module.

## Output Meter

The Output meter displays the audio output level as it passes through the Input Synth module.





# Chapter 27: Transfuser Effects Editors

The Effects modules, Effects Sends 1 and 2, and the Main Effects Inserts all provide up to four different Effects Inserts. This chapter describes the controls for each Effect available in Transfuser:

- Beatcutter
- Chorus
- Compressor
- Delay
- Distortion
- Enhancer
- Filter
- Flanger
- Gater
- Kill EQ
- Lo-Fi
- Maximizer
- Multi Delay
- Parametric EQ
- Phaser
- Pumper
- Reverb
- Spring Reverb
- Tape Delay
- Tube Drive
- Vinyl

## Inserting Effects

The Track Effects modules, Send Effects 1 and 2, and Main Effects Inserts all provide the same number of Effects Inserts and controls—each provides four Effects Inserts.

### To insert an effect:

- From the Effects Insert pop-up menu, choose Load and select the effect you want.



*Selecting the Beatcutter effect for the first Effects Insert in the Main Effects Inserts*

### To remove an effect:

- From the Effects Insert pop-up menu, choose Remove.

### To move an effect:

- Drag the Effect from one Effects Insert to another.

**To copy and paste an Effects module from one Track to another:**


- Drag the Effects module from one Track to another.

## Cutting, Copying, and Pasting Effects Inserts

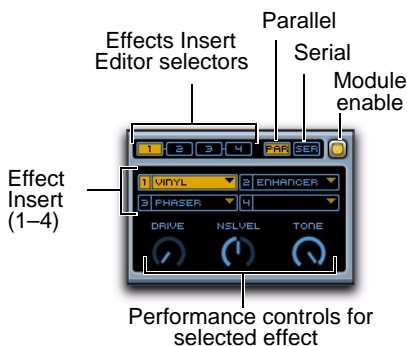
You can cut or copy an Effect (with all its current settings) from one Insert and paste it to another Insert in the same module or even in a different module.

**To cut or copy an effect from one Insert and paste it to another Insert:**

- 1 From the source Effects Insert pop-up menu, choose Cut or Copy.
- 2 From the destination Effects Insert pop-up menu, choose Paste.

 *Alt-click (Windows) or Option-click (Mac) and drag to copy and paste an effect from one insert to another.*

## Effects Module Controls



*Selecting the Beatcutter effect for the first Effects Insert in the Main Effects Inserts*

Each Effects module (Tracks, Send Effects 1 and 2, and Main Inserts) provides the same high level controls.

**Effects Insert (1-4)** Lets you select any of the Transfuser Effects as an Effects Insert. The selected Effects Editor appears in the Editor pane. Also, the selected Effects performance controls appear in the Effects module below the Effects Inserts.

**Effects Insert Editor Selectors** Lets you select any one of the four Effects Inserts in the module. The Effect Editor (if any) for the selected Insert appears in the Editor pane. Also, the Effect performance controls (if any) for the selected Insert appear in the Effects module below the Effects Inserts.

**Parallel** When selected, the audio signal is routed through Effects Inserts 1 and 2 in series, parallel to 3 and 4 in series.

**Serial** When selected, the audio signal is routed through all the Effects Inserts serially in order (1-4).

**Module Enable** Lets you enable or disable the module, effectively bypassing its function.

**Performance Controls** Provides access to a few critical effects controls for performance. This provides easy access to musically useful controls during performance right in the Effects module, without having to access the Effect Editor, and they can be assigned to MIDI CC. The available controls vary depending on the selected Effect. For example, the Compressor effect provides Threshold, Attack, and Output controls.

## Viewing an Effects Editor

**To view an Effects Editor:**

- Click either the Effects Insert or the Effects Insert Editor selector.

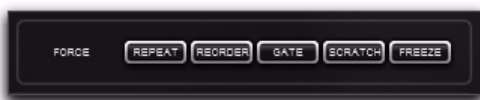
## Beatcutter

Use the Beatcutter effect as a quick and easy way to chop up and shuffle your beats. Of course you don't have to limit yourself to just cutting up beats, try feeding it vocals, or instrumental melodies, riffs, or chords.



Figure 30. Beatcutter Editor

### Force Buttons



Beatcutter Force buttons

Click the Beatcutter Force buttons to apply 100% any of the following effects:

**Repeat** Repeats playback of the currently sounding slice.

**Reorder** Randomly reorders the playback of slices.

**Gate** Truncates the length of the slice for a really choppy sound.

**Scratch** Applies a varispeed effect that dynamically affects the pitch and duration slices like “scratching” on a turntable.

**Freeze** Freezes playback of the audio at that moment in time by repeating a short buffer of samples.

### Probability

The Probability step sequencer lets you adjust the likelihood that any Beatcutter effects will be applied at a given step. For example, with Step 1 set to 100%, Beatcutter effects will be applied 100% of the time. If it is set to 0%, Beatcutter effects will never be applied at that step.

**To adjust a Probability Step value:**

- Click the vertical bar in the step you want to adjust and drag up or down.



Adjusting the probability of whether or not Step 1 applies Beatcutter effects

## Speed

Depending on the Speed setting, there are 16 or 12 probability steps.



*Selecting a Speed for the Probability step sequencer*

Select one of the following options:

- 1/8 Note** Plays 16 steps over 8 beats.
- 1/16 Note** Plays 16 steps over 4 beats.
- 1/4 Triplet** Plays 12 steps over 4 beats.
- 1/8 Triplet** Plays 12 steps over 2 beats.

## Beatcutter Effect Controls

The likelihood that each individual effect will be applied at anytime is determined by the probability setting for that effect. Any of the following Beatcutter effects can be force applied using its corresponding Force button (“Force Buttons” on page 397).

### Repeat

The Repeat control lets you adjust the probability (0–100%) of any step repeating playback of the previously played slice.

### Reorder

The Repeat control lets you adjust the probability (0–100%) of any step actually playing back a different slice than the current one in sequence.

### Gate

The Gate control lets you adjust the probability (0–100%) of any step gating playback of the current slice. How the slice is gated is determined by the following additional controls:

**Gate Time** Lets you adjust the duration of the slice as a percentage of its original length.

**Auto Pan** Lets you adjust the rate at which Beatcutter pans across consecutive slices. High settings result in instant hard left and right alternating panning. Low settings result in gradual panning across several slices.

## Scratch

The Scratch control lets you adjust the probability (0–100%) of “scratching” any step of the current played back slice. At 100% every slice is “scratched” on playback. Scratch is a varispeed effect that dynamically affects the pitch and duration slices like “scratching” on a turntable.

### Type

How the slice is scratched is determined by the Type setting. Select any of the following options:

- 1** Applies varispeed down and up (like touching a record to pause playback and then letting go) every step.
- 2** Applies varispeed down (like slowing down a record) every step.
- 3** Applies varispeed up (like starting up a record) every step.
- 4** Applies varispeed down (like slowing down a record) every other step.
- 5** Applies varispeed up (like starting up a record) every other step.
- 6** Applies varispeed down (like slowing down a record) over four steps.

**Random** Randomly applies varispeed options 1–6.

**Octave Up** Plays each slice double speed.

**Octave Down** Plays each slice half speed.

## Freeze

The Freeze control lets you adjust the probability (0–100%) of any step (set to 100%) “freezing” playback of the currently sounding slice.

How the slice is “frozen” is determined by the following additional controls:

**Rate** Determines the length of the sample buffer from the frozen slice. Use higher settings for shorter buffers and lower settings for longer buffers.

**Random Rate** Applies a variable amount of randomness to the length of the sample buffer.

**Sweep** Applies a filter sweep from 0 to –12.00 semitones or from 0 to +12.00 semitones (basically +/- 1 octave).

**Random Sweep** Applies a variable amount of randomness to the range of the sweep.

---

## Chorus

Use the Chorus effect to apply a short modulated delay to give depth and space to the audio signal.



Figure 31. Chorus Editor

### Pre-Delay

Set the Pre-Delay in milliseconds (0.00–24.00 ms).

### LFO

The Low Frequency Oscillator lets you select the waveform, rate, and depth of modulation.

#### Sine/Tri

Select either a Sine wave or a Triangle wave for the LFO.

#### Rate

Set the rate for the oscillation of the LFO in Hertz (0.01–10.0 Hz).

#### Depth

Set the depth of LFO modulation of the audio signal in milliseconds (0.00–24.00 ms).

### Voices

Select the number of voices (3, 4, or 6). For a thicker sound, use more voices.

### Low Cut

The Low Cut control lets you adjust the frequency of the Low Cut Filter (20.0 Hz–1.00 kHz). The Low-Cut filter is applied to the wet signal only. This is useful for reducing excessive pitch modulation of bass sounds.

### Width

The Width control lets you adjust the stereo width of the LFO (0–100%). Higher settings provide a wider chorusing effect and lower settings a narrower chorusing effect.

### Mix

The Mix control lets you adjust the Mix between the “wet” (effected) and “dry” (un-effected) signal. 0% is all dry, and 100% is all wet, while 50% is an equal mix of both.

---

# Compressor

Use the Compressor effect to squash (compress) the audio signal.



Figure 32. Compressor Editor

## Threshold

Compression reduces the dynamic range of signals that exceed a chosen threshold. The Threshold control sets the level (-40.0 to 0.0 dB) that the signal must exceed to trigger compression.

## Mode

The Mode setting lets you select any of the following compression modes:

### Peak

In Peak mode, the gain control responds more accurately to brief signal peaks than in the RMS mode. This ensures peaks are more accurately controlled, however broadband audio may be unacceptably squashed whenever a loud, short transient sound occurs. Use Peak compression when treating individual drum and percussion sounds.

### RMS

In RMS mode (Root Mean Square), compression works by detecting the average level of a signal. In RMS mode the compression will sound natural, but loud, short transients may pass through at a higher level than you want. If you're trying to raise the apparent volume of the audio signal, use RMS compression. However, if you're trying to stop peaks from distorting the signal, use Peak mode.

### Opto

In Opto mode, Transfuser emulates an optical compressor. Optical compressors use a light sensitive resistor (LDR) and a small lamp (LED or Electroluminescent panel) to create changes in signal gain. This can add smoother compression to the signal, because the response times of the light and the resistor soften the attack and release times.

## Ratio

The Ratio control sets the compression ratio, or the amount of compression applied as the input signal exceeds the threshold. For example, a 2:1 compression ratio means that a 2 dB increase of level above the threshold produces a 1 db increase in output.

This control ranges from 1.0:1 (no compression) to 100:1 (hard limiting). The graphic display updates to show changes to the Ratio control.

## Knee

The Knee control sets the shape of the slope of the compressor for it to reach full compression once the threshold has been exceeded. At 0%, “hard-knee” compression is applied. Values above 0% soften the knee.

As you increase this control (in the positive or negative direction), it goes from applying “hard-knee” compression to “soft-knee” compression:

- With hard-knee compression, compression begins when the input signal exceeds the threshold.
- With soft-knee compression, gentle compression begins and increases gradually as the input signal approaches the threshold, and reaches full compression after exceeding the threshold. This creates smoother compression.
- Values below 0% (negative values) go beyond “hard-knee” compression to non-linear compression responses emulating some vintage analog compressors.

The graphic display updates to show changes to the Knee control.

## Attack

The Attack control sets how quickly (10.5  $\mu$ s to 100 ms) to the compressor responds to the “front” of an audio signal once it crosses the selected threshold. Long settings let peaks through unaffected.

## Release

The Release control sets the amount of time (10.0 ms to 10.0 seconds) that it takes for the compressor gain to reduce when the input signal level drops below the selected threshold.

## Sensitivity

The Sensitivity controls tailor the compressor's sensitivity to high and low frequencies in the input signal.

**Low Freq** Adjusts the input sensitivity for low frequencies.

**High Freq** Adjusts the input sensitivity for high frequencies.

## Output

The Output control lets you boost overall output gain to compensate for heavily compressed signals.

This control ranges from -20.0 to +20.0, with the default value at 0 dB.



---

## Delay

Use the Delay effect for a single delay line that can synchronize to the Pro Tools session tempo.



Figure 33. Delay Editor

### Mode

Select one of the following options for the Delay Mode:

**Mono** Sums the incoming stereo signal to mono, then offers separate left and right delay output taps from that signal.

**Stereo** Processes the left and right channels of the incoming stereo signal independently and outputs the processed signal on the corresponding left and right channels.

**Cross** Processes the left and right channels of the incoming stereo signal independently, but outputs the processed signal on the on the opposite channel. For example, the dry signal coming in on the left channel is delayed and then output on the right channel.

### Sync

When Sync is enabled, the delay time synchronizes to the Pro Tools session tempo. When Sync is disabled, you can set the delay time in milliseconds independently of the Pro Tools session tempo. The Sync button is lit when it is enabled.

### Time

When Sync is enabled, the Delay control lets you select a rhythmic subdivision or multiple of the beat (based on the Pro Tools session tempo) for the delay time.

Select from the following rhythmic values:

- 16 (sixteenth note)
- 8T (eighth-note triplet)
- 16d (dotted sixteenth-note)
- 8 (eighth note)
- 4T (quarter-note triplet)
- 8D (dotted eighth-note)
- 4 (quarter note)
- 2T (half-note triplet)
- 4D (dotted quarter-note)
- 2 (half note)
- 1T (whole-note triplet)
- 3/4 (dotted half note)
- 4/4 (whole note)
- 5/4 (five tied quarter notes)
- 6/4 (dotted whole note)
- 7/4 (seven tied quarter notes)
- 8/4 (double whole note)

When Sync is disabled, the Time control lets you set the delay time in milliseconds and seconds (1 ms to 4.00 seconds).

### L/R Ratio

The Left/Right Ratio control lets you set the ratio of left to right delay times. Move the control all the way to the left (50:100) and the left channel delay time is half the right channel delay time. Move the control all the way to the right (100:50) the right channel delay time is half the left channel delay time.

### Feedback

The Feedback control lets you adjust the amount of delay feedback (0–100%). At 0% the delayed signal repeats only once. As you increase the feedback, the number of times the delay repeats increases. At 100%, the delay doesn't repeat indefinitely, but it does last a very long time!

Note that each Delay mode produces a different feedback pattern, especially when the L/R Ratio control is not centred.

### Low Cut

The Low Cut control lets you adjust the frequency for the Low Cut filter. For less bass, raise the frequency.

### High Cut

The High Cut control lets you adjust the frequency for the High Cut filter. For less treble, lower the frequency.

### Width

The Width control lets you adjust the width of the delay effect in the stereo field.

### Mix

The Mix control lets you balance the amount of dry signal with the amount of wet (delayed) signal. At 50%, there are equal amounts of dry and wet signal. At 0%, the output is all dry and at 100% it is all wet.

---

## Distortion

Use the Distortion effect to color the audio signal with various types and varying amounts of distortion.



Figure 34. Distortion Editor

### Mode

Select one of the following options for the Distortion Mode:

**Hard** Provides a sharp, immediate distortion of the signal.

**Soft** Provides a softer, more rounded distortion of the signal.

**Warp** Wraps the waveform back on itself for a complex distortion tone that changes quickly from soft to harsh.

### Stereo

When Stereo is enabled, the left and right channels of the incoming stereo signal are processed separately. When it is disabled, the incoming stereo signal is summed and processed as mono. The Stereo button is lit when it is enabled.

Set to 0%, the Pre-Shape control doesn't affect the tone at all. Higher settings provide a boost in the high end of the distorted signal (more treble distortion), while lower setting suppress the

### Drive

The Drive control lets you increase the drive (input volume) of the signal from 0 dB (no distortion) to 60 dB (way too much distortion!). Sometimes an increase or decrease of just 1 of 2 decibels can make a big difference on the amount and quality of distortion.

### Tone

The Tone controls let you shape the timbral quality of the distortion.

### Pre-Shape

The Pre-Shape control lets you increase or decrease a broad gain boost (or attenuation) of treble frequencies in the processed signal. Pre-Shape is essentially a pre-distortion tone control that makes the distortion bite at different frequencies.

high end, with some mid-range boost, for a darker less distorted tone.

## Edge

The Edge control lets you change clipping from being symmetrical to being asymmetrical, which makes it sound richer, and nastier at high settings. The difference is most noticeable at lower Drive settings.

## High Cut

The High Cut control lets you adjust the frequency for the High Cut filter. To cut the high-end of the processed signal, lower the frequency.

## Headroom

The Headroom control lets you adjust the headroom for the dynamic range of the distorted signal between  $-20.0$  dBFS and  $0.0$  dBFS. Rather than using the Drive to adjust the signal level relative to a fixed clipping level, use the Headroom control to adjust the clipping level without changing the signal level.

## Output

The Output control lets you lower the Output level of the distorted signal from 0–100%. At 0%, no distorted signal passes through the output. At 100%, the distorted signal passes through the output at full volume.

## Mix

The Mix control lets you balance the amount of dry signal with the amount of wet (distorted) signal. At 50%, there are equal amounts of dry and wet signal. At 0%, the output is all dry and at 100% it is all wet.

The Mix control can be used in conjunction with the Output control to find just the right balance of the distorted signal with the input (dry) signal. For example, with Mix set to 50%, equal amounts of the dry and wet signal pass to the output. You can then lower the Output control to decrease the amount of distorted signal being passed to the output until you get exactly the right mix between the two signals, and just the right overall level.

---

## Enhancer

Use the Enhancer effect to enhance the low and high broadband frequencies of the audio signal.



Figure 35. Enhancer Editor

### Low Frequency

The Low Frequency controls let you boost the amount of low frequencies in the signal, and to set the median frequency for enhancement.

#### Gain

Adjust the Gain control to boost the low end (0.0–12.0 dB).

#### Frequency

Adjust the Frequency control to set the median frequency for the bass boost (40.0–640 Hz).

### High Frequency

The High Frequency controls let you boost the amount of high frequencies in the signal, and to set the median frequency for enhancement. You can also generate extra harmonic content in the signal.

#### Gain

Adjust the Gain control to boost the high end (0.0–12.0 dB).

### Frequency

Adjust the Frequency control to set the median frequency for the treble boost (1.00–10.0 kHz).

#### Invert

The Invert button inverts the phase of the generated harmonics. The Invert button is lit when enabled.

#### Harmonics

Adjust the Harmonics control to generate addition high frequency harmonics in the signal (0.0–12.0 dB).

### Output

The Output control lets you lower the Output level from 0.0 dB to –INF dB.

---

## Filter

Use the Filter effect to apply a modulating, resonant filter to the audio signal. Have fun with filter sweeps or give your sounds that extra-resonant aura.



Figure 36. Filter Editor

### Mode

Select one of the following options for the type of filter:

**LP24** Provides a low pass filter with a 24 dB cut-off.

**LP18** Provides a low pass filter with a 18 dB cut-off.

**LP12** Provides a low pass filter with a 12 dB cut-off.

**BP** Provides a band pass filter.

**HP** Provides a high pass filter.

### Cutoff

The Cutoff control lets you adjust the Cutoff frequency (20.0 Hz to 20.0 kHz) of the filter.

### Resonance

The Resonance control lets you adjust the amount filter Resonance (0–100%). At 100%, the filter feeds back on itself.

### Fat

The Fat control lets you adjust the amount of overdrive in the resonant peak. At lower settings the signal gets quieter at high Resonance settings for clean distortion. At higher settings the signal is over-driven at high resonance settings.

## LFO

The Filter effect provides a sinusoidal Low Frequency Oscillator (LFO) for modulating the filter cutoff frequency.

### LFO Rate

Adjust the Rate control to increase or decrease the frequency (0.01–100.0 Hz) of the LFO.

Lower settings are slower and higher settings are faster.

### LFO Depth

Adjust the Depth control to increase (or decrease) the amount of modulation (0–100%) of the Cutoff frequency by the LFO. Lower settings create a slight vibrato (with the rate set high) and higher settings create a wide sweep of the Cutoff frequency range.

## Envelope

The Filter effect provides an Envelope follower for controlling the Cutoff frequency.

### Attack

Adjust the Attack control to set the time (10.0 ms to 10 seconds) it takes to respond to increases in the audio signal level.

### Release

Adjust the Release control to set the time (10.0 ms to 10 seconds) it takes to recover after the signal level falls.

### Envelope Depth

Adjust the Depth control to determine how much the Envelope follower affects the Cutoff frequency.

- ◆ At 0%, the Envelope follower has no effect on the Cutoff frequency.
- ◆ At +100%, the Attack ramps up to the Cutoff frequency setting; and the Release starts from the Cutoff frequency setting and ramps down.
- ◆ At –100%, the Attack starts from the Cutoff frequency setting and ramps down; and the Release ramps up to the Cutoff frequency setting.

## Output

The Output control lets you lower the Output level from 0.0 dB to –INF dB.

---

# Flanger

Use the Flanger effect to apply a short modulating delay to the audio signal.



Figure 37. Flanger Editor

## Modulation

The Modulation section provides controls for the Low Frequency Oscillator (LFO) used to modulate the Delay time.

### Trigger

Click the Trigger button to reset the LFO phase. This lets you manually start the filter sweep from that specific point in time (or under MIDI control, at a specific point in your arrangement). Clicking the Trigger button also forces the Mix control up if it is too low while the button is held; this ensures that the filter sweep is audible.

### Sync

When Sync is enabled, the Flanger Rate control synchronizes to the Pro Tools session tempo. When Sync is disabled, you can set the delay time in milliseconds independently of the Pro Tools session tempo. The Sync button is lit when it is enabled.

## Rate

When Sync is enabled, the Rate control lets you select a rhythmic subdivision or multiple of the beat for the Flanger Modulation Rate. Select from the following rhythmic values:

- 16 (sixteenth note)
- 8T (eighth-note triplet)
- 16d (dotted sixteenth-note)
- 8 (eighth note)
- 4T (quarter-note triplet)
- 8D (dotted eighth-note)
- 4 (quarter note)
- 2T (half-note triplet)
- 4D (dotted quarter-note)
- 2 (half note)
- 1T (whole-note triplet)
- 3/4 (dotted half note)
- 4/4 (whole note)
- 5/4 (five tied quarter notes)
- 6/4 (dotted whole note)
- 8/4 (double whole note)



When Sync is disabled, the Rate control lets you adjust the modulation rate independently of the Pro Tools session tempo (0.01–10.0 Hz).

### **Depth**

The Depth control lets you adjust the amount of modulation applied to the Delay time.

### **Wave**

The Wave control lets you interpolate between a triangle wave and a sine wave for the modulating LFO.

### **Offset**

The Offset control lets you adjust the phase offset ( $-180^\circ$  to  $+180^\circ$ ) for the LFO waveform applied to the left and right channels.

## **Delay**

The Delay controls let you adjust the delay time, frequency of the low cut filter, and amount of feedback for the Flanger.

### **Delay**

The Delay control lets you adjust the Delay time (0.00–12.00 ms) for the Flanger.

### **Low Cut**

The Low Cut control lets you adjust the Low Cut frequency (20.0 Hz–1.00 kHz) for the Flanger.

### **Feedback**

The Feedback control lets you adjust the amount of delay feedback for the Flanger. At 0%, the delay repeats only once. At  $\pm 100\%$ , the Flanger feeds back on itself.

### **Mix**

The Mix control lets you balance the amount of dry signal with the amount of wet (flanged) signal. At 50%, there are equal amounts of dry and wet signal. At 0%, the output is all dry and at 100% it is all wet.

---

## Gater

Use the Gater effect to chop up the audio signal into *staccato* rhythmic patterns with variable filtering, amplitude, and panning.



Figure 38. Gater Editor

### Gate

The Gate controls let you adjust the Attack, Hold, and Release amounts for the Gater step sequencer pattern. At the maximum settings, the gating provides a smooth morphing effect.

#### Attack

The Attack control lets you adjust the duration of the attack as a percentage of the step duration.

#### Hold

The Hold control lets you adjust the duration of the hold (or sustain) as a percentage of the step duration.

#### Release

The Release control lets you adjust the duration of the release as a percentage of the step duration.

### Filter

The Filter controls provide controls for the selected filter type.

#### Cutoff

The Cutoff control lets you adjust the Filter Cutoff frequency

#### Reso

The Reso control lets you adjust the Resonance at the Cutoff frequency.

#### Filter Mode

The Filter Mode selector lets you select the type of Filter.

**Off** Provides no filtering.

**LP** Provides a Low Pass filter.

**BP** Provides a Band Pass filter.

**HP** Provides a High Pass filter.

**Phaser** Provides a Phaser.

## LFO Wave

The LFO Wave selector lets you select the duration, or frequency of the Low Frequency Oscillator (LFO). The duration of one cycle of the LFO is measured in Steps.

**Random** Randomly changes the level of the LFO every step, for a “sample and hold” waveform.

**2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 16, 24, 32, 48, 64, 96, 128, 192, or 256 Steps** Sets the duration of one cycle of the LFO to the selected number of steps. Changes to the Step Rate consequently affect the durations of cycles of the LFO.

## LFO Mod

The LFO Mod control lets you adjust the amount of LFO modulation of the Cutoff frequency.

## Env Mod

The Env Mod control lets you adjust how much an Envelope Follower affects the Cutoff frequency. Note that the Cutoff is fixed for the duration of each step, so it will not respond to a peak in the envelope until the start of the next step.

## Mix

The Mix control lets you adjust the Mix between the “wet” (effected) and “dry” (un-effected) signal. 0% is all dry, and 100% is all wet, while 50% is an equal mix of both.

## Pattern Editor

The Gater Pattern Editor lets you edit a 32-step pattern sequencer of variable loop length for five Gater parameters. You can select and edit up to ten different patterns.

### Pattern (1–32)

From the Pattern selector, select any of the thirty-two available (1–32) Patterns for playback and editing.

### Rate

From the Rate selector, select any of the following rhythmic note values as the Step rate for all Patterns.

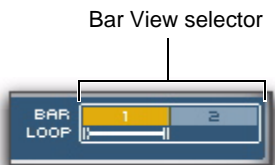
- 1/2 Dotted (dotted half note)
- 1/4 Dotted (dotted quarter note)
- 1/8 Dotted (dotted eighth note)
- 1/16 Dotted (dotted sixteenth note)
- 1/32 Dotted (dotted thirty-second note)
- 1/2 Note (half note)
- 1/4 Note (quarter note)
- 1/8 Note (eighth note)
- 1/16 Note (sixteenth note)
- 1/32 Note (thirty-second note)
- 1/2 Triplet (half-note triplet)
- 1/4 Triplet (quarter-note triplet)
- 1/8 Triplet (eighth-note triplet)
- 1/16 Triplet (sixteenth-note triplet)
- 1/32 Triplet (thirty-second note triplet)

## Auto Scroll

The Gater Pattern Editor can only display one bar (of two). When the Auto Scroll option is enabled, the Gater Pattern Editor view scrolls bar by bar during playback for the selected Loop duration. When it is disabled, the Gater Pattern Editor view shows only the currently selected Bar View.

## Bar View Selector

The Gater Pattern Editor only has room to display one bar at a time, so the Bar View selector lets you select the Bar you want to view. The currently viewed bar is lit in the Bar View selector.



*Bar View selector*

**To view a specific bar in the Gater Pattern Editor:**

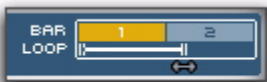
- Click the Bar number in the Bar View selector.

## Loop Range

The Loop Range selector lets you set the loop length for the Gater Pattern. You can measure the loop length end point location against the Bar View selector.

**To adjust the Loop Range end point:**

- Click the end point of the Loop Range selector and drag left or right.



*Adjusting the Loop Range end point*

## Pattern Step Events

The Gater Pattern Editor provides five lanes for five different Gater parameters. Each parameter can be set to different values on a Step by Step basis.

### Gate

The Gate parameter determines how much audio sounds through on any given step. At lower settings, Steps pass shorter durations of the incoming audio signal; at higher settings, Steps pass longer durations.

**To change the amount of gating for a step:**

- In the Gate lane, click the Step you want to adjust and drag up or down.



*Adjusting the amount of gating for a step*

### Cutoff

The Cutoff parameter lets you adjust the Cutoff frequency for a Step.

**To change the cutoff frequency of the filter for a step:**

- In the Cutoff lane, click the step you want to adjust and drag up or down.

### Reso

The Reso parameter lets you adjust the amount of filter resonance for a Step.

**To change the resonance of the filter for a step:**

- In the Reso lane, click the step you want to adjust and drag up or down.

## Amp

The Amp parameter lets you adjust the amount of amplification for a Step. Higher setting increase the level of the gated signal and lower settings decrease it.

### To change the amplitude (level) for a step:

- In the Amp lane, click the step you want to adjust and drag up or down.

## Pan

The Pan parameter lets you adjust the panning for a Step in the stereo field.

### To change the panning for a step:

- In the Pan lane, click the step you want to adjust and drag up to pan that step right or down to pan that step left.



*Adjusting the panning for a step*

---

## Kill EQ

Use the Kill EQ effect to zap out the Low, Mid, or High broadband frequency range from an audio signal. This is a popular effect with DJs and is commonly used in dance music production (especially in House music).



Figure 39. Kill EQ Editor

### Kill

The Kill buttons let you apply a broadband band pass for Low, Mid, and High frequencies.

#### Low

Click the Low button to kill the low-range frequencies. Click it again to pass the low-range frequencies. The button is lit when Kill is enabled.

#### Mid

Click the Mid button to kill the mid-range frequencies. Click it again to pass the mid-range frequencies. The button is lit when Kill is enabled.

#### High

Click the High button to kill the high-range frequencies. Click it again to pass the high-range frequencies. The button is lit when Kill is enabled.

### Gain

The Gain controls let you boost or attenuate the gain for the Low-, Mid-, and High-range frequencies that are passed (not “killed”).

#### Low

Adjust the Low control to boost or attenuate the gain for the low-range frequencies when Kill is not enabled.

#### Mid

Adjust the Mid control to boost or attenuate the gain for the mid-range frequencies when Kill is not enabled.

#### High

Adjust the High control to boost or attenuate the gain for the high-range frequencies when Kill is not enabled.

## Frequency Sweep

The Frequency Sweep controls let you “sweep” a band pass filter between the specified Low-Mid range frequency and the specified Mid-High range frequency.

### Low-Mid

The Low-Mid control lets you adjust the cross-over frequency between the low and mid bands.

## Sweep

The Sweep control lets you sweep the Low-Mid and Mid-High crossover frequencies together. This is useful when using the Kill EQ as a sweepable band-pass filter by “killing” the low and high frequency bands and sweep the mid band.

### Mid-High

The Mid-High control lets you adjust the cross-over frequency between the mid and high bands.

---

## Lo-Fi

Use the Lo-Fi effect to bit-crush, down-sample, clip, rectify, and otherwise mangle the input signal.



Figure 40. Lo-Fi Editor

### Bit Depth

The Bit Depth control lets you truncate the bit depth of the incoming signal from 16 bits all the way down to 1 bit.

### Clip

The Clip control lets you increase the gain (0.0–40.0 dB) of the audio signal so that it clips.

### Rectify

The Rectify control lets you adjust the amount of Rectification of the signal (making negative peaks positive) from 0–100%.

### Noise

The Noise control lets you adjust the amount of noise in the clipped signal from 0–100%.

## Sample Rate

The Sample Rate controls let you apply sample rate reduction to the audio signal with optional anti-alias filtering.

### Sample Rate

Adjust the Sample Rate control to resample the audio signal at another sample rate (500 Hz to 50.0 kHz).

### Anti-Alias

Enable anti-aliasing filters before and after downsampling to reduce aliasing in the resampled audio signal. For a much grittier sound, disable the Anti-Alias filter. The Anti-Alias button is lit when the filter is enabled.

### Pre Filter

Adjust the Pre Filter control to adjust the anti-aliasing filter cutoff applied to the audio signal before resampling. The filter is applied as a multiplier of the sample frequency ( $F_s$ ) between 0.12  $F_s$  and 2.00  $F_s$ .

### Post Filter

Adjust the Post Filter control to adjust the range of anti-aliasing filter cutoff applied to the audio signal after resampling. The filter is applied as a multiplier of the sample frequency ( $F_s$ ) between 0.12  $F_s$  and 2.00  $F_s$ .

## Mix

The Mix control lets you adjust the Mix between the “wet” (effected) and “dry” (un-effect-ed) signal. 0% is all dry, and 100% is all wet, while 50% is an equal mix of both.

## LFO

The LFO controls let you apply a Low Frequency Oscillator to modulate the Sample Rate.

### Wave

Select from the following waveforms for the LFO.

**Sine** Provides a sine wave.

**Tri** Provides a triangle wave.

**Saw** Provides a saw-tooth wave.

**Square** Provides a square wave.

**Morse** Provides a Morse code–like rhythmic effect.

**S&H** Provides Sample and Hold (S&H) modulation.

**Random** Provides random modulation.

### Sync

Enable Sync to synchronize the LFO Rate to the Pro Tools session tempo. When Sync is disabled, you can set the Rate time in milliseconds independently of the Pro Tools session tempo. The Sync button is lit when it is enabled.



## Rate

When Sync is enabled, the Rate control lets you select a rhythmic subdivision or multiple of the beat for the LFO Rate. Select from the following rhythmic values:

- 16 (sixteenth note)
- 8T (eighth-note triplet)
- 16d (dotted sixteenth-note)
- 8 (eighth note)
- 4T (quarter-note triplet)
- 8D (dotted eighth-note)
- 4 (quarter note)
- 2T (half-note triplet)
- 4D (dotted quarter-note)
- 2 (half note)
- 1T (whole-note triplet)
- 3/4 (dotted half note)
- 4/4 (whole note)
- 5/4 (five tied quarter notes)
- 6/4 (dotted whole note)
- 8/4 (double whole note)

When Sync is disabled, the Rate control lets you the modulation rate in independently of the Pro Tools session tempo (0.01–10.0 Hz).

## Depth

The Depth control lets you adjust the amount of modulation applied to the Sample Rate.

## Env

The Lo Fi effect provides an Envelope follower for controlling the Sample Rate. This is useful for accentuating and enhancing signal peaks (such as in drum loops) with artificially rectified high-frequencies.

### Attack

Adjust the Attack control to set the time (10.0 ms to 10 seconds) it takes to respond to increases in the audio signal level.

### Release

Adjust the Release control to set the time (10.0 ms to 10 seconds) it takes to recover after the signal level falls.

### Envelope Depth

Adjust the Depth control to determines how much the Envelope follower affects the Sample Rate.

◆ At 0%, the Envelope follower has no affect on the Sample Rate.

◆ At +100%, the Attack ramps up to the Sample Rate setting; and the Release starts from the Sample Rate setting and ramps down.

◆ At –100%, the Attack starts from the Sample Rate setting and ramps down; and the Release ramps up to the Sample Rate setting.

---

# Maximizer

Use the Maximizer effect to apply peak-limiting and sound maximizing to the audio signal.



Figure 41. Maximizer Editor

## Mode

The **Mode** setting lets you select any of the following compression modes for the Maximizer:

**Hard** Provides hard peak-limiting.

**Soft** Provides softer peak-limiting.

## Release

The **Release** control sets how long it takes for the Maximizer to ease off of its attenuation after the input signal drops below the threshold level. Since the Maximizer has an attack time of zero milliseconds, the **Release** control has a noticeable effect on the character of the limiting.

In general, if you are using heavy limiting, use proportionally longer release times in order to avoid pumping that may occur when the Maximizer is forced to jump back and forth between limited and unlimited signal levels.

## Level

The **Level** meter displays the input level of the audio signal.

## Threshold

The **Threshold** control sets the threshold level for limiting ( $-40.0$  dB to  $0.0$  dB). Signals that exceed this level will be limited. Signals below it will be unaffected. Limited signal peaks are attenuated to match the threshold level, so the value that you set here will determine the amount of reduction applied.

## Ceiling

The **Ceiling** control determines the maximum output level. After limiting is performed, use the **Ceiling** control to adjust the final output gain. This sets the absolute ceiling level for limited peaks.

## Gain Reduction

The **Gain Reduction** meter displays the amount of gain reduction being applied.

---

## Multi Delay

Use the Multi Delay effect to apply up to eight delay lines to the audio signal.



Figure 42. Multi Delay Editor

### Randomize

Click the Randomize button to randomize all of the control settings in the Multi Delay effect.

### Delay

When Sync is enabled, the Delay control lets you select a rhythmic subdivision or multiple of the beat (based on the Pro Tools session tempo) for the delay time.

Select from the following rhythmic values:

- 16 (sixteenth note)
- 8T (eighth-note triplet)
- 16d (dotted sixteenth-note)
- 8 (eighth note)
- 4T (quarter-note triplet)
- 8D (dotted eighth-note)
- 4 (quarter note)
- 2T (half-note triplet)
- 4D (dotted quarter-note)
- 2 (half note)
- 1T (whole-note triplet)
- 3/4 (dotted half note)
- 4/4 (whole note)
- 5/4 (five tied quarter notes)
- 6/4 (dotted whole note)
- 7/4 (seven tied quarter notes)
- 8/4 (double whole note)

When Sync is disabled, the Time control lets you the delay time in milliseconds and seconds (50.0 ms to 4.00 seconds).

## Sync

When Sync is enabled, the Delay time synchronizes to the Pro Tools session tempo. When Sync is disabled, you can set the delay time in milliseconds independently of the Pro Tools session tempo. The Sync button is lit when it is enabled.

## Feedback

The Feedback controls let you adjust the amount of feedback and an additional delay line that can be linked or unlinked to the main delay time.

## Amount

The Amount control lets you adjust the amount of delay feedback (0–100%). At 0% the delayed signal repeats only once. As you increase the feedback, the number of times the delay repeats increases. At 100%, the delay doesn't repeat indefinitely, but it does last a very long time!

## Delay

The Delay control can be linked to the main Delay control, or it can be adjusted independently. It provides the same time settings as the main Delay control and likewise can be synchronized (or not) to the Pro Tools session tempo.

## Mix

The Mix control lets you balance the amount of dry signal with the amount of wet (delayed) signal. At 50%, there are equal amounts of dry and wet signal. At 0%, the output is all dry and at 100% it is all wet.

## Low Cut

The Low Cut control lets you adjust the frequency for the Low Cut filter. For less bass, raise the frequency.

## High Cut

The High Cut control lets you adjust the frequency for the High Cut filter. For less treble, lower the frequency.

## Mod

The Mod controls let you modulate the main delay time.

## Mode

The Mode setting lets you select any of the following options for the modulating waveform.

**Off** Turns off modulation.

**Sine** Provides a sine wave for LFO modulation.

**Square** Provides a square wave for LFO modulation.

**S&H** Provides Sample and Hold modulation.

**Saw** Provides a sawtooth wave for LFO modulation.

**Pitch** Modulates the pitch of the delayed signal. You can set the Rate to 0 for a fixed pitch shift.

## Rate

Adjust the Rate control to determine the frequency (0.000–50.000 Hz) of the modulating waveform.

## Depth

Adjust the Depth control to set the amount of cutoff modulation of the main delay time.

## Filter

The Filter controls let you adjust the Cutoff frequency, Resonance, Rate of modulation of the Cutoff frequency, and how much the Filter affects the audio signal.

### Cutoff

The Cutoff control lets you adjust the Cutoff frequency of the filter.

### Resonance

The Resonance control lets you adjust the amount filter Resonance.

### Rate

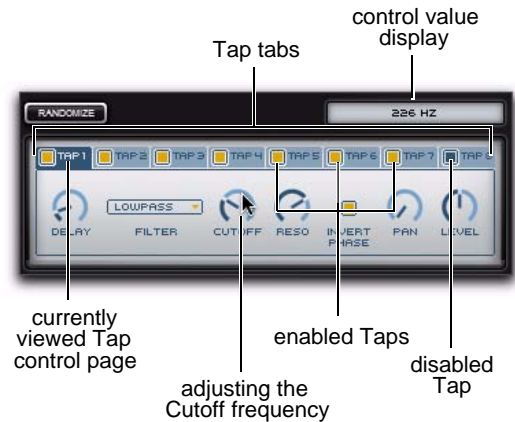
Adjust the Rate control to increase or decrease the frequency (0.01–10.0 Hz) of LFO modulation of the Cutoff frequency. Lower settings are slower and higher settings are faster.

### Depth

Adjust the Depth control to determine how much the Filter affects the delayed audio signal.

## Delay Taps

The Multi Delay provides eight Taps (delay lines). Each Tap provides the same set of controls. Controls for each Tap can be edited independently of the other Taps. The controls for each Tap are available on separate pages within the Multi Delay Tap pane. You can enable or disable (bypass) any of the eight available Taps.



*Control page for Tap 1*

**To view the any Tap control page:**

- Click the tab for the Tap page you want to view (for example, click the tab for Tap 1 to view its control page).

**To enable (or disable) any Tap:**

- Click the Tap enable/disable button for the Tap you want. The Tap enable/disable button is lit when enabled.

## Tap Controls

Each Tap page provides the following controls:

### Delay

Adjust the Delay control to set the length of delay for the tap, relative to the main Delay setting.

### Filter

Select from the following types of filters for the Tap.

**Off** Turns off the filter. When the Filter is set to Off, the Cutoff and Reso controls have no effect.

**Lowpass** Provides a low pass filter.

**Bandpass** Provides a band pass filter.

**Highpass** Provides a high pass filter.

### Cutoff

Adjust the Cutoff control to set the Cutoff frequency (40.0 Hz to 16.0 kHz) for the selected filter type.

### Reso

Adjust the Reso control to change the amount of Resonance for the selected filter type.

### Invert Phase

Enable Invert Phase to invert the phase of the selected filter. When enabled, the Invert Phase button is lit.

### Pan

Adjust the Pan control to pan the audio signal from the Tap left or right in the stereo field.

### Level

Adjust the Level control to change the output level (–INF to +12 dB) of the Tap.

## Para EQ

The Para EQ effect is a 6-band parametric EQ that you can use to help sculpt the sound by boosting or attenuating specific frequencies.



Figure 43. Para EQ Editor

### Volume

Adjust the Volume control to balance the level of the signal after adjusting the Gain settings of the various EQ bands.

### EQ Band Controls

#### Low Cut

Band enable/disable



**Band Enable/Disable** Select (or deselect) the Band enable button to enable the EQ Band.

**Frequency** Adjust the frequency (20 Hz–8.00 kHz) for the Low Cut.

**Decibel Menu** Select the depth of the Low Cut in decibels (6, 12, 18, or 24 dB).

#### Low



**Band Enable/Disable** Select (or deselect) the Band enable button to enable the EQ Band.

**Frequency** Adjust the frequency (20 Hz–1.00 kHz) for the Low Band.

**Gain** Adjust the gain (–/+18 dB) for the Low Band.

**Q** Adjust the Q (0.40–10.00) for the Low Band.

**EQ Type Menu** Select either Bell or Shelf for the EQ type.

## Low Mid



**Band Enable/Disable** Select (or deselect) the Band enable button to enable the EQ Band.

**Frequency** Adjust the frequency (40 Hz–8.00 kHz) for the Low Mid Band.

**Gain** Adjust the gain (–/+18 dB) for the Low Mid Band.

**Q** Adjust the Q (0.40–10.00) for the Low Mid Band.

## High Mid



**Band Enable/Disable** Select (or deselect) the Band enable button to enable the EQ Band.

**Frequency** Adjust the frequency (120 Hz–16.00 kHz) for the High Mid Band.

**Gain** Adjust the gain (–/+18 dB) for the High Mid Band.

**Q** Adjust the Q (0.40–10.00) for the High Mid Band.

## High



**Band Enable/Disable** Select (or deselect) the Band enable button to enable the EQ Band.

**Frequency** Adjust the frequency (1.20 kHz–20.00 kHz) for the High Band.

**Gain** Adjust the gain (–/+18 dB) for the High Band.

**Q** Adjust the Q (0.40–10.00) for the High Band.

**EQ Type Menu** Select either Bell or Shelf for the EQ type.

## High Cut



**Band Enable/Disable** Select (or deselect) the Band enable button to enable the EQ Band.

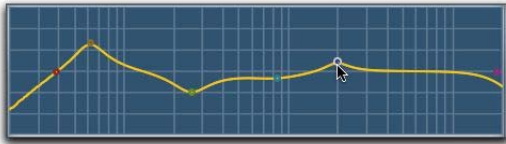
**Frequency** Adjust the frequency (120 Hz–20.0 kHz) for the High Cut.

**Decibel Menu** Select the depth of the High Cut in decibels (6, 12, 18, or 24 dB).



## Graphic Editor

Adjusting the Frequency, Gain, or Q controls of any of the EQ bands is represented in the Graphic Editor. You can also edit the Frequency and Gain of any of the EQ Bands by dragging in the Graphic Editor.



*Adjusting the Gain and Frequency of the High Band in the Graphic Editor*

---

## Phaser

Use the Phaser effect to apply a phaser to the audio signal for that wonderful “wooshy,” “squishy” sound.



*Figure 44. Phaser Editor*

### Poles

Select the number of phaser pole (stages): 2, 4, 6, or 8. The number of poles changes the character of the sound. The greater the number of poles, the thicker and squishier the sound.

### Sync

When Sync is enabled, the Phaser Rate control synchronizes to the Pro Tools session tempo. When Sync is disabled, you can set the Rate in milliseconds independently of the Pro Tools session tempo. The Sync button is lit when it is enabled.

## Rate

When Sync is enabled, the Rate control lets you select a rhythmic subdivision or multiple of the beat for the Phaser Modulation Rate. Select from the following rhythmic values:

- 16 (sixteenth note)
- 8T (eighth-note triplet)
- 16d (dotted sixteenth-note)
- 8 (eighth note)
- 4T (quarter-note triplet)
- 8D (dotted eighth-note)
- 4 (quarter note)
- 2T (half-note triplet)
- 4D (dotted quarter-note)
- 2 (half note)
- 1T (whole-note triplet)
- 3/4 (dotted half note)
- 4/4 (whole note)
- 5/4 (five tied quarter notes)
- 6/4 (dotted whole note)
- 8/4 (double whole note)

When Sync is disabled, the Rate control lets you the rate of the Phaser in independently of the Pro Tools session tempo (0.01–10.0 Hz).

## Depth

The Depth control lets you adjust the depth of modulation, which in turn affects the amount of phasing applied to the audio signal.

## Wave

The Wave control lets you interpolate between a triangle wave and a sine wave for modulating the Phaser.

## Center

The Center control lets you change the frequency center (100 Hz to 10.0 kHz) for the phaser poles.

## Offset

The Offset control lets you adjust the phase offset ( $-180^\circ$  to  $+180^\circ$ ) for the Phaser applied to the left and right channels.

## Feedback

The Feedback control feeds the output signal of Phaser back into the input, creating a resonant or singing tone in the phaser when set to its maximum.

## Low Cut

The Low Cut control lets you adjust the frequency of the Low Cut Filter (20.0 Hz–1.00 kHz), which can be useful for taming low frequency “thumping” at high feedback settings.

## Mix

The Mix control lets you adjust the Mix between the “wet” (effected) and “dry” (unaffected) signal. 0% is all dry, and 100% is all wet, while 50% is an equal mix of both.

---

# Pumper

Use the Pumper effect to overly compress the audio signal to simulate a compressor being triggered rhythmically by a sidechain.



Figure 45. Pumper Editor

## Automatic Trigger

Turn the Automatic Trigger On to trigger the Pumper at the selected Speed. When it is turned Off, the Pumper will only be trigger when you click the Manual Trigger button.

### Speed

The Speed setting synchronizes to the Pro Tools session tempo. Select one of the following rhythmic note values for the Automatic Trigger:

- Bar
- 1/2 (half note)
- 1/2T (half-note triplet)
- 1/4 (quarter note)
- 1/4T (quarter-note triplet)
- 1/8 (eighth note)
- 1/8T (eighth-note triplet)
- 1/16 (sixteenth note)
- 1/16T (sixteenth-note triplet)
- 1/32 (thirty-second note)
- 1/32 (thirty-second-note triplet)

## Trigger Offset

Adjust the Trigger Offset control to offset the Automatic Trigger by  $\pm 100.0$  ms.

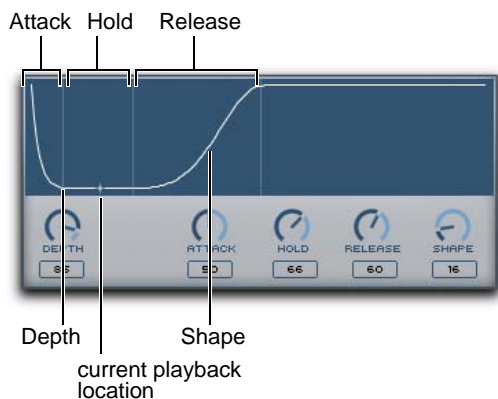
## Manual Trigger

Click the Manual Trigger button to immediately trigger the Pumper regardless of whether the Automatic Trigger is On or Off.

## Envelope

The Envelope displays the duration of the Attack, Hold, and Release times of the Pumper. It also displays the dynamic Depth of the Pumper and the Shape (slope) of the Release.

Additionally, the current playback location is indicated by a moving dot along the line of the Envelope display; it starts at the beginning of the Envelope with each trigger of the Pumper, and travels through the envelope at the rate of the selected Speed based on the Pro Tools session tempo.



*Pumper Envelope*

## Depth

Adjust the Depth control to set the depth of the Pumper. Higher values provide a greater amount of pumping and lower values less.

## Attack

Adjust the Attack control to increase or decrease the attack time of the Pumper.

## Hold

Adjust the Hold control to increase or decrease the hold time of the Pumper.

## Release

Adjust the Release control to increase or decrease the release time of the Pumper.

## Shape

Adjust the Shape control to change the slope of the Pumper on release.

---

## Reverb

Use the Reverb effect to apply Reverb to the audio signal, creating a sense of room or space. Typically, you'll want to use Reverb on one of the Effect Send inserts or Main Effects inserts. This way you can process audio from multiple Transfuser Tracks, giving them all a sense of being in the same space.



Figure 46. Reverb Editor

### Pre-Delay

The Pre-Delay control determines the amount of time that elapses between the original audio event and the onset of reverberation. Under natural conditions, the amount of pre-delay depends on the size and construction of the acoustic space, and the relative position of the sound source and the listener. Pre-Delay attempts to duplicate this phenomenon and is used to create a sense of distance and volume within an acoustic space. Long Pre-Delay settings place the reverberant field behind rather than on top of the original audio signal.

### Early Reflections

Different physical environments have different early reflection signatures that our ears and brain use to localize sound. These reflections affect our perception of the size of a space as well as where an audio source sits within it. Changing early reflection characteristics changes the perceived location of the reflecting surfaces surrounding the audio source.

Early reflections are simulated in Reverb by using multiple delay taps at different levels that occur in different positions in the stereo spectrum (through panning). Long reverberation generally occurs after early reflections dissipate.

### Type

The Transfuser Reverb provides the following Types of Early Reflection models:

**Booth** Simulates a vocal recording booth.

**Club** Simulates a small, clear, natural-sounding club ambience.

**Room** Simulates the center of a small room without many reflections.

**Small Chamber** Simulates a bright, small-sized room.

**Medium Chamber** Simulates a bright, medium-sized room.

**Large Chamber** Simulates a bright, large-sized room.

**Small Studio** Simulates a small, live, empty room.

**Large Studio** Simulates a large, live, empty room.

**Scoring Stage** Simulates a scoring stage in a medium-sized hall.

**Philharmonic** Simulates the space and ambience of a large, symphonic, concert hall.

**Concert Hall** Simulates the space and ambience of a large concert hall.

**Church** Simulates a medium-sized space with natural, clear-sounding reflections.

**Opera House** Simulates the space and ambience of an opera house.

**Vintage 1** Simulates a vintage digital reverb effect.

**Vintage 2** Simulates a vintage digital reverb effect.

### **ER/Tail Mix**

Adjust the ER/Tail Mix control to change the output level of the early reflections. Setting the Level control to 0% produces a reverb effect that is only the reverb tail.

### **Reverb Time**

Adjust the Reverb Time to change the rate at which the reverberation decays after the original direct signal stops. At its maximum value, infinite reverberation is produced.

### **Room Size**

Adjust the Room Size control to change the apparent size of the space.

## **High Frequency**

The High Frequency controls let you shape the tonal spectrum of the reverb by adjusting the decay times of higher frequencies.

### **Freq**

Adjust the Frequency control to set the frequency boundary between the mid- and high-range frequency bands.

### **Time**

Adjust the Time control to decrease or increase the decay time for mid- to high-range frequency bands. Higher settings provide longer decay times and lower settings provide shorter decay time. With lower settings, high frequencies decay more quickly than low frequencies, simulating the effect of air absorption in a hall.

### **High Cut**

The High Cut control lets you adjust the frequency for the High Cut filter (1.00–20.0 kHz). Adjusting the High Cut control changes the decay characteristics of the high frequency components of the Reverb. To cut the high-end of the processed signal, lower the frequency.

### **Mix**

The Mix control lets you adjust the Mix between the “wet” (effected) and “dry” (unaffected) signal. 0% is all dry, and 100% is all wet, while 50% is an equal mix of both.

---

## Spring Reverb

Use the Spring Reverb effect for that classic spring reverb sound. Just don't kick your computer trying to get the springs to rattle!



Figure 47. Spring Reverb Editor

The Transfuser Spring Reverb brilliantly models its analog namesake. The analog spring reverb is an electromechanical device much like the plate reverb. The signal to be reverberated is fed to a transducer at the end of a long suspended metal coil spring. The transducer causes the spring to vibrate with the result that the signal reflects from one end of the spring to the other. At the other end of the spring is another transducer that converts the motion of the spring back into an electrical signal, thus creating a delayed and reverberated version of the input signal.

### Pre-Delay

The Pre-Delay control determines the amount of time (0–250 ms) that elapses between the original audio event and the onset of reverberation.

### Reverb Time

Adjust the Reverb Time to change the reverberation decay time (1.0–10.0 seconds) after the original direct signal stops. Shorter times result in a tighter, more ringing and metallic reverb,

such as when walking down a narrow hall with hard floors and walls. Longer times result in a larger reverberant space, such as an empty, large, concrete cistern.

### Low Cut

The Low Cut control lets you adjust the frequency of the Low Cut Filter (20.0 Hz–1.00 kHz). Use the Low Cut filter to reduce some of the potential “boomy-ness” you can get with longer Reverb Times.

### Diffusion

Adjust the Diffusion control to change the rate at which the sound density of the reverb tail increases over time. Higher Diffusion settings create a smoother reverberated sound. Lower settings result in more fluttery echo.

## Width

Adjust the Width control to change the spread of the reverberated signal in the stereo field. A setting of 0% produces a mono reverb, but leaves the panning of the original source signal unaffected. A setting of 100% produces a open, panned stereo image.

## Mix

The Mix control lets you adjust the Mix between the “wet” (effected) and “dry” (uneffected) signal. 0% is all dry, and 100% is all wet, while 50% is an equal mix of both.

---

## Tape Delay

Use the Tape Delay effect to add classic variable speed analog tape delay to the audio signal. In addition to standard analog tape delay controls, the Transfuser Tape Delay provides four separate delay lines (Taps).



Figure 48. Tape Delay Editor



## Delay

The Delay control lets you specify the duration of the tape delay—effectively the distance between the recording and playback heads with the tape running at a certain speed, such as 15 inches per second (ips).

When Sync is disabled, the Delay control lets you set the tape length in milliseconds and seconds (50.0 ms to 4.00 seconds).

When Sync is enabled, the Delay control lets you select a rhythmic subdivision or multiple of the beat (based on the Pro Tools session tempo) for the tape length.

Select from the following rhythmic values:

- 16 (sixteenth note)
- 8T (eighth-note triplet)
- 16D (dotted sixteenth-note)
- 8 (eighth note)
- 4T (quarter-note triplet)
- 8D (dotted eighth-note)
- 4 (quarter note)
- 2T (half-note triplet)
- 4D (dotted quarter-note)
- 2 (half note)
- 1T (whole-note triplet)
- 3/4 (dotted half note)
- 4/4 (whole note)
- 5/4 (five tied quarter notes)
- 6/4 (dotted whole note)
- 7/4 (seven tied quarter notes)
- 8/4 (double whole note)

## Sync

When Sync is enabled, the Delay time synchronizes to the Pro Tools session tempo. When Sync is disabled, you can set the delay time in milliseconds independently of the Pro Tools session tempo. The Sync button is lit when it is enabled.

## Tape

The Tape controls let you set the Tape Speed, as well as Input and Output levels.

## Speed

The Speed control adjusts the tape speed in ips (inches per second). Tape speed affects the frequency response of the modeled tape machine as well as the delay time. Set Speed to lower settings for a lower resolution, dirtier sound with fewer high frequencies. Speed can also be useful as a performance control, letting you add really wild pitch sweeps to the delay repeats.

## Input

The Input control lets you adjust the Input level to the virtual tape machine between  $-INF$  and  $+12.0$  dB. Higher Input levels can result in an emulated tape saturation distortion.

## Output

The Output control lets you adjust the Output level from the virtual tape machine between  $-INF$  and  $+12.0$  dB.

## Feedback

The Feedback control lets you adjust the amount of feedback (0–100%) of the delayed signal back into the tape delay line. At 0% the delayed signal repeats only once. As you increase the feedback, the number of times the delay repeats increases. The repeating, delayed signal gradually fades and degrades over time.

## Low Cut

The Low Cut control lets you adjust the frequency for the Low Cut filter. For less bass, raise the frequency.

## High Cut

The High Cut control lets you adjust the frequency for the High Cut filter. For less treble, lower the frequency.

## Wow

The Wow controls let you adjust the Rate and Depth of the virtual tape machine's Wow modulation (a slow fluctuation in tape speed). Higher settings results in wider fluctuations in speed (and pitch).

### Rate

Adjust the Rate control to change the Rate (0.10–20.0 Hz) of Wow-like tape speed fluctuation.

### Depth

Adjust the Depth control to change the amount (0–100%) of Wow-like tape speed fluctuation.

## Flutter

The Flutter controls let you adjust the Rate and Depth of the virtual tape machine's Flutter modulation (a fast fluctuation in tape speed). Higher settings results in wider fluctuations in speed (and pitch).

### Rate

Adjust the Rate control to change the Rate (10 Hz–1.00 kHz) of Flutter-like tape speed fluctuation.

### Depth

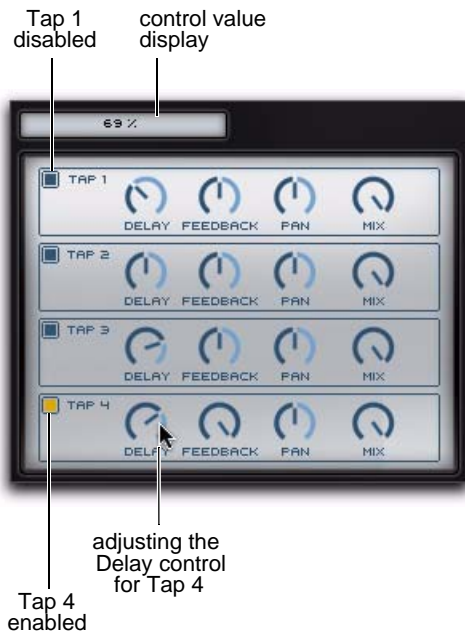
Adjust the Depth control to change the amount (0–100%) of Flutter-like tape speed fluctuation.

## Mix

The Mix control lets you balance the amount of dry signal with the amount of wet (delayed) signal. At 50%, there are equal amounts of dry and wet signal. At 0%, the output is all dry and at 100% it is all wet.

## Delay Taps

The Tape Delay provides four separate Taps (delay lines). Each Tap provides the same set of controls. The controls for each Tap can be edited independently of the other Taps. You can enable or disable (bypass) any of the four available Taps.



*Tape Delay Tap (1–4) controls*

### To enable (or disable) any Tap:

- Click the Tap enable/disable button for the Tap you want. The Tap enable/disable button is lit when enabled.

## Tap Controls

Each of the four Tape Delay Taps provide the following controls:

### Delay

Adjust the Delay control to set the amount of delay for the Tap.

### Feedback

Adjust the Feedback control to set the amount of Feedback for the Tap.

### Pan

Adjust the Pan control to pan the audio signal from the Tap left or right in the stereo field.

### Mix

Adjust the Mix control to lower (or raise) the output level of the Tap (delay line).

---

## Tube Drive

Use the Tube Drive effect to add over-driven, tube-saturated distortion to the audio signal.



Figure 49. Tube Drive Editor

### Drive

The Drive control lets you increase the amount of drive (input volume) of the signal.

### Headroom

The Headroom control lets you adjust the headroom for the headroom of the signal (between -30.0 dB and 0.0 dB) when the maximum Drive is being applied.

### Saturation

The Saturation control lets you adjust the amount of tube saturation.

### Output

The Output control lets you boost or attenuate the overall output gain of the tube driven signal. This control ranges from -20.0 to +20.0, with the default value at 0 dB.

---

# Vinyl

Use the Vinyl effect to make your Transfuser sound like your old vinyl records played on your dusty, old turntable (you know, the one that really needs a new needle). The Transfuser Vinyl effect is guaranteed to add an extra aura of faux authenticity to your Transfuser Tracks.



Figure 50. Vinyl Editor

## Distortion

### Drive

The Drive control lets you increase the amount of drive (input volume) of the signal. Increase the Drive to make it sound like you really need to get a new needle for your turntable.

### Wide

Enable the Wide button to get a broader spread of the Drive distortion in the stereo field. When enabled, the Wide button is lit.

### Frequency

The Frequency control lets you adjust the cutoff frequency (50 Hz–5.00 kHz) used to filter the distortion.

### Resonance

The Resonance control lets you adjust the amount of resonance of the cutoff frequency used to filter the distortion.

## Saturation

The Saturation control lets you adjust the amount of saturation in the distortion.

## Noise

The Noise controls let you adjust the Level, Density, and Tone of “scratchy record” noise in the audio signal.

### Level

Adjust the Level control to change the amount of “scratchy record” noise in the audio signal. When set to 0%, it sounds like you’re playing a brand-new record. When set to 100% (and with a higher Density setting), it sounds like you took your vinyl and scrubbed it with 20-grit sandpaper!

## **Density**

Adjust the Density control to change the relative density of noise components in the audio signal. For just some occasional pops and clicks, use a lower Density setting and a higher Level setting (adjusting the Noise Gate settings can help with this too). For that fuzzy needle sound, use a higher Density setting and a lower Level setting.

## **Tone**

Adjust the Tone control to change the bandwidth (3.5–14 kHz) of the added noise components.

## Noise Gate

The Noise Gate controls let you adjust the Hold and Release times for the Noise Gate. Use the Noise Gate if you want the vinyl noise to stop when the input signal is silent.

## **Hold**

Adjust the Hold setting to change the Hold time (10.0 ms–10.0 seconds) for the Noise Gate.

## **Release**

Adjust the Release setting to change the Release time (10.0 ms–10.0 seconds) for the Noise Gate.

## Part VI: Velvet





## Chapter 28: Velvet Overview

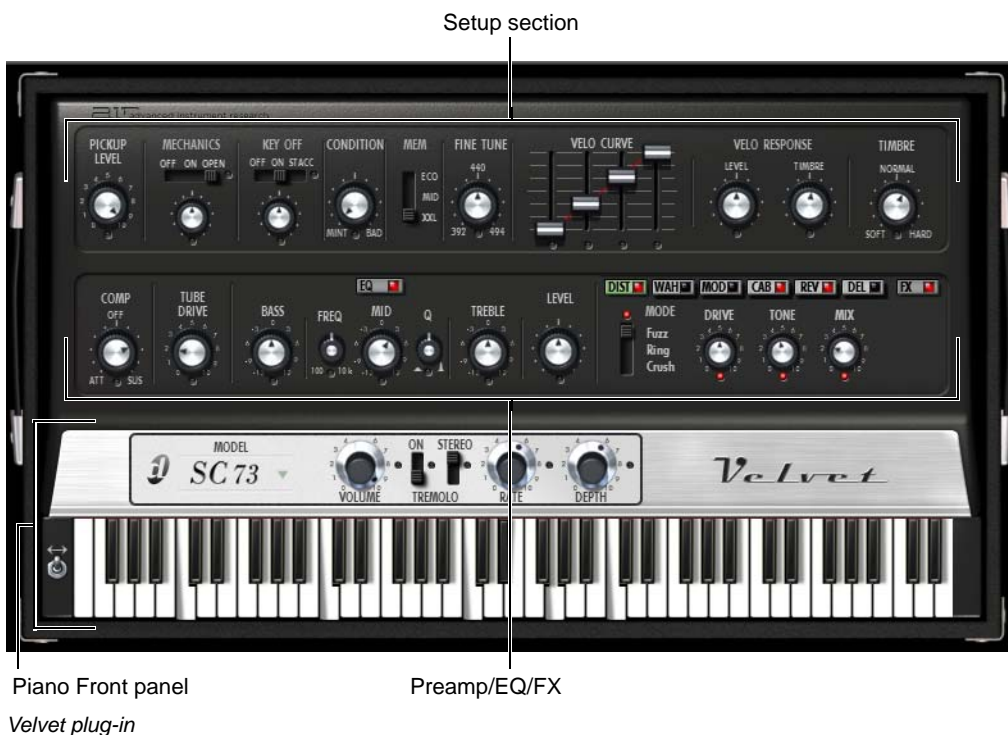
Velvet is an RTAS plug-in instrument that can be used to add the realistic sound of vintage electric pianos to any Pro Tools session.

Velvet provides four high-quality models of rare and legendary electric pianos. Velvet has been developed to deliver unprecedented realism in terms of sound quality and playability.

Using proprietary technology, Velvet provides all the nuanced details that influence the sound of a vintage electric piano.

A built-in pre-amp and custom equalizer, as well as a multi-effect section with sixteen effects make Velvet the perfect choice for reproducing all kinds of electric piano sounds of the past and present in your Pro Tools session.


## Structural Overview




### Control Sections

The Velvet interface provides three Control sections. Each section provides parameters that correspond to a certain aspect of creating an electric piano sound in a recording situation.


**Piano Front Panel** Provides a Piano Model selector, Master Volume control, and Tremolo/Auto-piano controls. You can play Velvet by using MIDI input from a MIDI keyboard, from MIDI data in an Instrument or MIDI track in Pro Tools, or by clicking the 73 keys.

 For more information about the Piano Front panel, see “Piano Front Panel” on page 449.

**Setup Section** Provides control over the basic sound and behavior of the selected electric piano model. You can manipulate and tune Velvet in the Setup section—for example, mix in mechanical noises, or adjust the velocity sensitivity.

 For more information, see “Setup Section” on page 451.

**Preamp/FX Section** Provides controls to adjust and shape the electric piano sound using a one-knob Compressor, Tube Drive, Equalizer, and a selection of stomp-box and studio effects.

 For more information, see “Preamp, EQ, and FX Section” on page 454.

## Velvet File Types

### Setting

A Setting stores the complete state of the Velvet plug-in. A Setting can be loaded and saved by using the Plug-In Settings menu. Velvet's MIDI controller assignments are saved with the Pro Tools session, not with the setting.



*Refer to the Pro Tools Reference Guide for information on working with plug-in settings.*

### Electric Piano Models

Velvet provides four models of legendary electromagnetic pianos. While Velvet offers a large range of options for changing and adjusting the sound, choosing the right piano model is the most important step to achieve the desired sound and feel. Each of the four models has been accurately replicated from selected originals that have been adjusted and modified to perfection. Sound character, playing feel, and behavior is all based on the models.



*Velvet is not connected with, or approved or endorsed by, the owners of the Fender Rhodes and Wurlitzer trademarks. These names are solely used to identify the electric pianos emulated by this product. References to artists and bands on the following pages are for informational purposes only and do not imply an endorsement or sponsorship of Velvet by such artists or bands.*



*The model names we used do not refer to the exact original pianos that were studied during the development of Velvet, but rather give you a hint to which kind of Rhodes or Wurlitzer sound is widely associated with the model.*

**SC73** Is a model that creates the typical sound of the Rhodes Suitcase 73. The tines are set a soft character with lots of body. This model is ideal for ballads and blends nicely with other instruments. For an accurate suitcase sound, use the Stereo Tremolo on the Piano Front panel (Suitcase tremolo effect) and the “Large” setting of the Cab effects (Suitcase amp/speakers).

#### Musical styles:

- Jazz, Pop Ballads

#### Songs famous for featuring this instrument:

- Stevie Wonder—You are the sunshine of my life
- Billy Joel—Just the way you are
- Miles Davis—In a silent way, Bitches brew (Album)
- Bill Withers—Just the two of us

**MK I** Is a model of a very dynamic, vintage-style reproduction of a Fender Rhodes piano usually associated with the Mark I. The tines were moved close to the pickup for a full, harmonically rich timbre and a very hard sound at high velocities. Use this model for rhythmic chords and soloing—especially when you want the piano to stick out of the mix or compete against other instruments.

#### Musical styles:

- Jazz Fusion, Jazz Rock

#### Songs famous for featuring this instrument:

- Herbie Hancock—Head Hunters (Album)
- Jamiroquai—Space Cowboy
- George Duke—From dusk till dawn
- Chick Corea—Spain

**MK II** Is a model of the bright Rhodes piano sound that became famous in the 80s, usually with a condenser upgrade/modification for a very bright sound accentuating the metallic attack of the tines, further improved by tines set close to the pickups. This sound is very often referred to as “Dyno Rhodes.” Used by keyboardists David Foster (often combined with Grand Piano) and Robbie Buchanan.

**Musical styles:**

- Westcoast, Fusion, Pop

**Songs famous for featuring this instrument:**

- Al Jarreau—I will be here for you
- Whitney Houston—Saving all my love for you
- Chicago—Bad advice
- Donald Fagen—Green Flower Street

**A200** Is a model of a Wurlitzer electric piano. The Wurlitzer was originally designed as a portable and cheap replacement for a real piano, but it’s aggressive, powerful sound character soon made it the only real competitor to the Rhodes pianos in pop and rock music. Many people refer to it as “the Supertramp” sound. The Wurlitzer can sound very nice and mellow in ballads, but it really excels in power accompaniment and rhythmic chords.

**Musical styles:**

- Blues, Pop, Rock.

**Songs famous for featuring this instrument:**

- Ray Charles—What’d I say
- Marvin Gaye—I heard it through the Grapevine
- Three Dog Night—Mama told me not to come
- Steely Dan—Pretzel Logic
- Pink Floyd—Money
- Supertramp—Dreamer
- Supertramp—Logical Song

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## Content Location

If you move Velvet content to a different location or hard drive from where it was originally installed, you will need to set the Velvet Content location. Otherwise, Velvet will not be able to locate the content (and thus will not be able to load any electric piano models).

**To set the Velvet Content location:**

- 1 Locate and open the Velvet folder where the Velvet content is stored on your computer.
- 2 Launch the Set Velvet Content Location application that resides in this folder.
- 3 Click OK.

The Set Velvet Content Location application quits automatically and Velvet will now be able to find the Velvet Content.

---

## Adjusting Parameters

You can adjust all controls by using the computer mouse to drag a control. Some controls are adjusted by 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%, or display corresponding values such as Hz or dB. 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.



*Dragging a knob*

## Activating Buttons

Some controls are enabled or disabled using buttons.

**To enable a button:**

- Click the button. Click again to disable it.



*Enabling a button*

## Using Switches

Some values or modes are selected using switches.

**To select a value using a switch:**

- Right-drag the Switch to a new position.
  - or –
- Right-click a position on the Switch.



*Using a switch*

### Keyboard Shortcuts

- ◆ For finer adjustments, hold down Control (Windows) or Command (Macintosh) while moving the control.
- ◆ To return a control to its default value, Alt-click (Windows) or Option-click (Macintosh) the control.

## Displaying Values

Parameter values can be displayed without editing them.

### **To display the value of a control:**

- Hover over the control with the cursor.

## Scroll Wheel on Knobs, Faders, and Menus

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

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

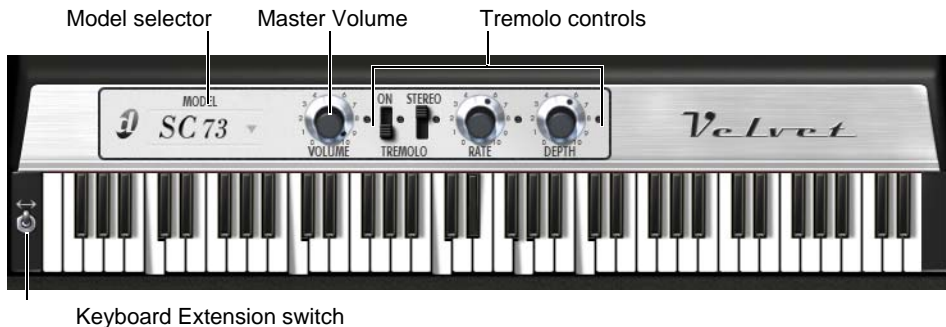
- 1 Move the cursor over a rotary knob or fader.
- 2 Scroll the wheel up to increase values. Scroll the wheel down to decrease values.

## Chapter 29: Velvet Controls

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### Piano Front Panel

The Piano front panel provides the Piano Model selector, a Master Volume control, Tremolo/Autopan controls, and a Keyboard Extension switch. The 73 keys in the Keyboard section correspond to the keys of a MIDI keyboard and their MIDI notes starting from E0 on the left to E6 on the right. You can play Velvet by clicking keys, using MIDI input from a MIDI keyboard, or from MIDI data in an Instrument or MIDI track in Pro Tools.



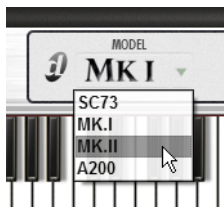
*Piano Front panel*

## Model Selector

Use the Model selector to load one of the four vintage electric piano models.

### To load an electric piano model:

- Click the Model selector and select a piano model from the pop-up menu.



**⚠** Loading a piano model may take several seconds. During the loading process Velvet and Pro Tools remain unresponsive.

## Volume

The Volume control on the Piano Front panel is Velvet's main output to the Pro Tools track on which Velvet is inserted.

## Tremolo

Tremolo is a typical vintage effect which was built into some electric pianos. Tremolo is a rhythmic variation in amplitude. Enabling its stereo mode applies a periodic variation of position in the stereo field. Velvet provides Tremolo effects for all models by reproducing the circuits of the Fender Rhodes Suitcase, and the Wurlitzer A200.

**On/Off Switch** Enables the Tremolo effect.

**Mono/Stereo Switch** Enables Mono or Stereo Tremolo mode.

**Rate** Adjusts the speed of the Tremolo effect.

**Depth** Adjusts the amount of Tremolo applied to the sound.

**To position the Tremolo before the FX section in the signal chain:**

- Right-click the Tremolo On/Off switch and select Tremolo Before FX from the pop-up menu.



*Tremolo before FX*

## Keyboard Extension Switch

The electric pianos in Velvet have the same key range as the original models (A0–C6 for the A200, E0–E6 for the others) to guarantee authenticity. Use the Key Extension switch to allow notes outside this range to be played.

**To extend the model's keyboard range:**

- Set the switch to the Up position.



---

## Setup Section

The Setup section provides controls for adjusting Velvet's basic setup and playing behavior—including adjustment of the Pickup level, mechanical noises, and Key release. You can also set the amount of waveform data loaded into RAM and Velvet's dynamic response.



*Velvet Setup section*

### Pickup Level

The Pickup Level control adjusts the volume of the line signal captured by the instrument's pickups. Usually a vintage electric piano is recorded by connecting the instrument's line out directly to an amp or mixer. The Pickup level control adjusts the amount of this signal. Turn the Pickup Level control to the right to increase the line signal's volume.

### Mechanics

The Mechanics controls adjust the type and amount of mechanical noises that occur when playing an electric piano—the sound of keys being pressed, as heard by the player. These sounds are not captured by the Pickups. Velvet is the first virtual electric piano that lets you add original mechanical noise to the sound for increased realism.


Velvet also provides several options for synthetic tines to create sounds that are reminiscent of digital electric pianos (such as FM1 or Square).

The following Mechanics modes are available.

- Off—Disables mechanical noises.
- On—Enables mechanical noises. Move the Mechanics knob to the right to increase the amount of mechanical noises.
- Open—Enables mechanical noise, modeling the sound of an electric piano with the lid removed. Move the Mechanics knob to the right to increase the amount of mechanical noise.
- FM1
- FM2
- FM3
- Bell
- Metal
- Perk 1
- Perk 2
- Square
- Compr—Is a processed version of mechanical noise that is more even across the keyboard than the On or Open options.

**To make the Mechanics signal bypass the FX section:**

- Right-click the Mechanics switch and select FX Bypass to send the Mechanics signal directly to Velvet's output, bypassing the FX section. In this mode only the Pickup signal passes through the FX section.

 *Set the Mechanics control to On, and turn the Pickup Level control all the way down to hear the sound of a switched-off vintage electric piano.*

## Key Off


The Key Off controls adjust the type and volume of noise that occurs when releasing keys. The Key Off selector provides three modes.

**Off** Disables key release noise.

**On** Enables key release noise. Use the Key Off knob to adjust the level of key release noise.

**Stacc (Staccato)** Enables key release noise with a special behavior when short notes are played. Playing staccato notes on a real electric piano keeps the dampers from cutting off the note as fast as normal, resulting in a different release sound.

**Key Off Level** Adjusts the amount of key release noise.

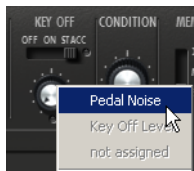
 *The Key Off level also depends on the settings of Pickup and Mechanics controls.*


## Pedal Noise

Velvet lets you add the noise of the sustain pedal captured by the Pickups and the mechanical noise of the pedal action audible for the player sitting at the piano.

**To enable pedal noise:**

- Right click the Key Off control and select Pedal Noise from the pop-up menu.



 *The volume of pedal noise is adjusted by the Pickup Level knob (amount of pedal noise captured by the pickups), and the Mechanics Level knob (amount of pedal noise heard by the player).*

## Condition

The Condition control artificially ages the selected electric piano model. Turning the control to the right, introduces note-to-note deviations in tuning and dynamic response, simulating an old electric piano in need of service.

## Mem (Memory Selector)

Use this control to adjust the amount of waveform data Velvet loads into your computer's RAM.

**Eco** Is the smallest possible load size. Eco uses fewer system resources, but also limits the range of expression available.

**Mid** Provides a good balance between system load and range of expression.

**XXL** Is the default load size. XXL, the largest possible load size, provides the maximum range of expression available, but also places the greatest demands on system resources.

## Fine Tune

The Fine Tune control adjusts the tuning of Velvet. The maximum tuning deviation is 2 semitones up or down. Move the control to the right to raise and to the left lower the tuning.



*Assign the Fine Tune control to your MIDI keyboard's Pitch bend wheel for pitch bend effects.*

## Velo Curve (Velocity Curve)

Use the Velo Curve sliders to adjust Velvet's velocity sensitivity. The four sliders from the left to the right represent Velvet's velocity response from low to high.

### For a wide dynamic range:

- Set the Velocity Sliders as follows.



### For no response to velocity:

- Set the Velocity Sliders as follows.



### For a normal response (default):

- Set the Velocity Sliders as follows.



## Velo Response (Velocity Response)

The Velocity Response controls adjust the range of volume and timbre available when playing at different velocities.

**Volume** Adjusts the range of volume available. Move the control to the left to reduce the variation in volume when playing from low to high velocities. Move the control to the right to increase the range.

**Timbre** Adjusts the range of timbre available. Move the control to the left to reduce the variation in timbre when playing from low to high velocities. Move the control to the right to increase the range.



*MIDI keyboards can have different velocity response behavior. Use these parameters to adjust Velvet to the maximum velocity output of your MIDI keyboard.*

## Timbre

The Timbre control changes the overall sound of the selected electric piano model. Turn the control to the left for a soft, mellow sound, turn it to the right for a hard, bright sound. Used in combination with the Velocity Response controls, you can achieve any range of timbral response.

## Preamp, EQ, and FX Section



### *Preamp, EQ, and FX section*

## Preamp Section Controls

In the Preamp section there are controls to adjust Velvet's sound using a compressor, tube overdrive, and a three-band equalizer with a parametric mid band. Velvet's signal passes through the Preamp section into the FX section.

### Comp (Compressor)

The Compressor control adjusts Velvet's dynamics using a soft-knee compressor. Turn the Compressor control to the left to accentuate the attacks, and to the right to boost the signal's sustain phase.

### Tube Drive

The Tube Drive control adds harmonics and compression to the signal, emulating the behavior of a tube preamp responding dynamically to the input level. Move the control to the right to increase the Tube Drive amount.

## Equalizer Section Controls

The three-band Equalizer provides a low band, a high band, and a parametric mid band for adjusting Velvet's tone.

### To enable/disable the Equalizer:

- Click the Equalizer button. The button is lit when enabled.



*Equalizer button*

### Bass

The Bass control adjusts the amount of low frequencies using a vintage shelf equalizer curve. Turn the control to the left to attenuate, and to the right to boost low frequencies.

## Parametric Mid Band

**Freq** Adjusts the center frequency of the mid band.

**Mid** Adjusts the level of frequencies around the center frequency. Turn the control to the left to attenuate, or to the right to boost the selected frequencies.

**Q Value** Adjusts the range of frequencies to be boosted or attenuated. Turn the control to the left for a wide bell shape. Turn it to the right for a narrow peak or notch.

## Treble

The Treble control adjusts the amount of high frequencies using a vintage shelf equalizer curve. Turn the control to the left to attenuate, and to the right to boost high frequencies.

## EQ Level

The EQ Level control rebalances the volume of Velvet's signal to compensate for level changes caused by the Equalizer. Turn the EQ Level control to the left to attenuate, and to the right to boost the signal before it is sent to the FX section.

---

## FX (Effects) Section

In the FX section, Velvet provides five categories of classic vintage effects. You can select one effect from each category at a time. Taking a look at Velvet's signal flow, the FX section is placed after Setup and Preamp/Equalizer section, passing the signal to the Master Output Volume on the Piano Front panel.



*FX section*

## FX Types

There are five Effect inserts corresponding to six effect categories each with up to four effects. Each Effect insert provides an Effect selector and a number of Parameter controls. The Parameter controls in one category always serve similar functions no matter which effect is selected.

### Dist (Distortion)

- Fuzz
- Overdrive
- Crush

### Wah

- LFO (Low Frequency Oscillator controlled)
- Env (Envelope)
- Env LP (Envelope Lowpass)

### Mod (Modulation)

- Chorus
- Flanger
- Phaser 1
- Phaser 2

### Cab (Cabinet)


- Small
- Large
- Amp

### Rev (Reverb)

- Spring
- Room
- Ambience

### Del (Delay)

- Mono
- Stereo
- Tape

 See “Default MIDI Controller Assignments” on page 466 for detailed information about the effects, their parameters and descriptions

## Using the FX Section

### To display an Effect insert and its controls:

- Click the Insert selector. If the Effect insert is already selected, clicking the Insert selector enables or disables the insert.



Selecting an Insert

### To select an Effect:

- Drag the Mode selector.



Selecting an Effect

### To enable/disable an Insert

- Click the Insert button. The Insert button is lit when enabled.



Enabling an Insert

**To globally enable/disable the FX section:**

- Click the FX button. The FX button is lit when the FX section is enabled.



*Bypassing the FX section*

**To position the Wah before the Fuzz effect in the signal chain:**

- Right-click the Wah Mode selector and select Wah Before Fuzz from the pop-up menu.



*Wah before Fuzz*

**To position the Tremolo before the FX section in the signal chain:**

- Right-click the Tremolo On/Off switch and select Tremolo Before FX from the pop-up menu.



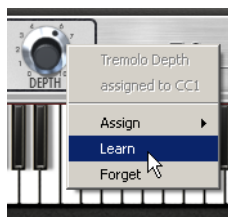
*Tremolo before FX*

## MIDI Controller Mapping

Velvet lets you assign standard MIDI controllers to virtually any parameter so that you can control Velvet from a MIDI controller in real-time.

**To assign a MIDI controller to a parameter:**


- 1 Right-click (Windows or Mac) or Control-click (Mac) a control.
- 2 Do one of the following:
  - Select a MIDI controller from the Assign submenu.
  - or –
  - Choose Learn, and move a control on your MIDI controller. The parameter is automatically assigned to that control.



*Assigning a MIDI controller*

**To un-assign a MIDI controller:**

- 1 Right-click (Windows or Mac) or Control-click (Mac) a rotary control or fader.
- 2 From the pop-up menu, choose Forget.

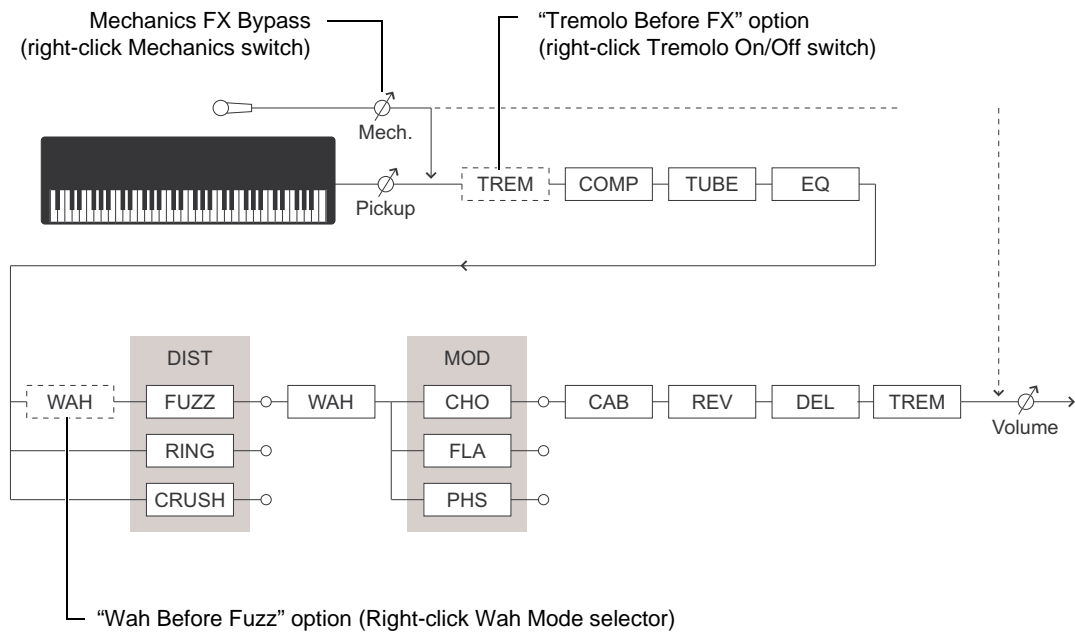
 For detailed information about preset MIDI controllers, see “Default MIDI Controller Assignments” on page 466.





# Chapter 30: Velvet Signal Flow, Effects, and MIDI Mappings

## Velvet Signal Flow



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# Velvet Insert Effects

Category	Effect	Effect Description	Controls	Control Description
Dist	Fuzz	Transistor distortion, adding odd harmonics		
			Drive	Drive amount
			Freq	Tone
			Mix	Effect mix
	Ring	Ring modulator with envelope-controlled frequency	Freq	Carrier frequency
			Depth	Envelope modulation of modulator frequency (center = none)
			Mix	Effect mix
	Crush	Bitcrusher, reducing bit depth and sample rate	Freq	Sample rate
			Depth	Reduce bit depth
			Mix	Effect mix

Category	Effect	Effect Description	Controls	Control Description
Wah	LFO	LFO controlled periodic modulation		
			Pedal	Wah pedal position
			Rate	Modulation rate
			Depth	Modulation depth (center = none)
			Mode	Switches between two Wah types, US (American) and Brit (British)
	Env	Envelope-modulated wah	Freq	Wah pedal position
			Rate	Envelope tracking speed
			Depth	Envelope modulation depth
			Mode	Switches between two Wah types, US (American) and Brit (British)
	Env LP	Envelope modulated low-pass filter	Freq	Wah pedal position
			Rate	Envelope tracking speed
			Depth	Envelope modulation depth
			Mode	Switches between two Filter types, US (American) and Brit (British)

Category	Effect	Effect Description	Controls	Control Description
Mod	Chorus	Stereo pitch modulation effect, softening sounds		
			Rate	Modulation rate
			Depth	Modulation depth
			Feedback	Feedback amount
			Mix	Effect mix
	Flanger	Sweeping phase-cancelling effect	Rate	Modulation rate
			Depth	Modulation depth
			Feedback	Feedback amount
			Mix	Effect mix
	Phaser 1	Gentle phase shifting effect	Rate	Modulation rate
			Stereo/ Mono	Activate to set the modulation waveform 180° out of phase on the left and right channels, to add stereo movement
			Depth	Modulation depth
			Feedback	Feedback amount
			Mix	Effect mix
	Phaser 2	Stronger phase shifting effect	Rate	Modulation rate
			Stereo/ Mono	Activate Stereo to set the modulation waveform 180° out of phase on the left and right channels, to add stereo movement
			Depth	Modulation depth
			Feedback	Feedback amount
			Mix	Effect mix

Category	Effect	Effect Description	Controls	Control Description
Cab	Small	Emulation of a small electric piano built-in speaker		
			Bass	Low frequency tone control
			Mid	Midrange tone control
			Treble	High frequency tone control
			Mix	Effect mix
	Large	Emulation of large electric piano built-in speakers	Bass	Low frequency tone control
			Mid	Midrange tone control
			Treble	High frequency tone control
			Mix	Effect mix
	Amp	Emulation of an open-backed guitar amp	Bass	Low frequency tone control
			Mid	Midrange tone control
			Treble	High frequency tone control
			Mix	Effect mix

Category	Effect	Effect Description	Controls	Control Description
Reverb		Reverb effects		
		Classic electromechanical spring reverb	Pre-Delay	Adds a short delay to separate the reverb from the dry sound
			Time	Length of the reverb tail
			Mix	Effect mix
	Room	High-quality, realistic, stereo room emulation	Pre-Delay	Adds a short delay to separate the reverb from the dry sound
			Time	Length of the reverb tail
			Mix	Effect mix
	Ambi- ence	Short reverb to add a sense of space	Pre-Delay	Adds a short delay to separate the reverb from the dry sound
			Time	Length of the reverb tail
			Mix	Effect mix

Category	Effect	Effect Description	Controls	Control Description
Delay	Mono	Simple mono echoes		
			Time	Delay time (in beats or milliseconds)
			Feedback	Number of repeats
			Tone	Progressively damps the high frequencies in each repeat
			Mix	Effect mix
			Sync	Synchronizes the delay repeats to the Session tempo
	Stereo	Alternating left/right echoes	Time	Delay time (in beats or milliseconds)
			Feedback	Number of repeats
			Tone	Progressively damps the high frequencies in each repeat
			Mix	Effect mix
			Sync	Synchronizes the delay repeats to the Session tempo
	Tape	Emulation of an analog tape echo machine	Time	Delay time (in beats or milliseconds)
			Feedback	Number of repeats, leading to self-oscillation at high settings
			Tone	Progressively damps the high frequencies in each repeat
			Mix	Input level to tape
			Sync	Synchronizes the delay repeats to the Session tempo

---

## Default MIDI Controller Assignments

Parameter	Controller	MIDI Standard
Tremolo Depth	1	Mod Wheel
Condition	2	Breath Control
Pickup Level	4	Foot Control
Fine Tune	5	Glide Time
Volume	7	Volume
Wah Pedal	11	Expression Pedal
Compression	12	Effect Control 1
Tube Drive	13	Effect Control 2
Delay Time	16	General Purpose 1
Delay Feedback	17	General Purpose 2
Delay Tone	18	General Purpose 3
Delay Mix	19	General Purpose 4
Mechanics Mode	20	
Mechanics Level	21	
EQ On/Off	25	
EQ Bass	26	
EQ Mid Frequency	27	
EQ Mid Gain	28	
EQ Mid Q	29	
EQ Treble	30	
EQ Level	31	
Ring Frequency	46	
Ring Depth	47	
Reverb On/Off	48	
Reverb Mode	49	
Reverb Pre-Delay	50	



Parameter	Controller	MIDI Standard
Reverb Time	51	
Ring Mix	52	
Crush Frequency	53	
Crush Depth	54	
Crush Mix	55	
Flanger Rate	56	
Flanger Depth	57	
Flanger Feedback	58	
Flanger Mix	59	
Phaser Rate	60	
Phaser Depth	61	
Phaser Feedback	62	
Phaser Stereo	63	
Velocity To Level	70	Sound Variation
Velocity To Timbre	71	Resonance
Key Off Level	72	Release Time
Key Off Mode	73	Attack Time
Tremolo On/Off	74	Cutoff
Tremolo Mode	75	Decay Time
Tremolo Rate	76	Vibrato Rate
Distortion On/Off	79	
Distortion Mode	80	
Fuzz Drive	81	
Fuzz Tone	82	
Fuzz Mix	83	
Wah On/Off	85	
Wah Mode	86	
Wah Rate	87	

Parameter	Controller	MIDI Standard
Wah Depth	88	
Wah Model	89	
Reverb Mix	91	Effect 1 Level (Reverb)
Cab Mix	92	Effect 2 Level
Chorus Mix	93	Effect 3 Level (Chorus)
Phaser Mix	95	Effect 5 Level (Phaser)
Mod On/Off	102	
Mod Mode	103	
Chorus Rate	104	
Chorus Depth	105	
Chorus Feedback	106	
Cab On/Off	107	
Cab Mode	108	
Cab Bass	109	
Cab Mid	110	
Cab Treble	111	
Delay On/Off	112	
Delay Mode	113	
Delay Sync	114	
Velocity Min	115	
Velocity Low Mid	116	
Velocity High Mid	117	
Velocity Max	118	
FX Global On/Off	119	
Timbre	Pitch bend	

# Chapter 31: Velvet Patch List

The following Pro Tools plug-in presets (plug-in settings files) are installed with Velvet.

## Mark 1

01 MKI Default  
02 MKI Tine Default  
03 MKI Tremolo  
04 MKI Tine Tremolo  
05 MKI Chorus  
06 MKI Tine Chorus  
07 MKI Belly Ambience  
08 MKI Studio Phaser  
09 MKI Roomy  
10 MKI Belly Phaser  
11 MKI Tape Delay  
12 MKI Tine Echo  
13 MKI Compressed  
14 MKI Trem-Mu-Plex  
15 MKI Clean Wah  
16 MKI Bad Condition  
17 MKI Belly  
18 MKI Soloist  
19 MKI Daves  
20 MKI Echo Trem  
21 MKI Metal Tine  
22 MKI Swirly Phaze  
23 MKI Vintage  
24 MKI Hard Chorus  
25 MKI Tine Chorus  
26 MKI Romance

27 MKI Soft FM  
28 MKI Dist Brit Wah  
29 MKI Dirty Tremolo  
30 MKI Mu Facer  
31 MKI Vin  
32 MKI 70s  
33 MKI Woody Tine  
34 MKI Hard Tine  
35 MKI Spring  
36 MKI VintageSoft  
37 MKI Tech Bass  
38 MKI Fast Tremolo  
39 MKI Dirt Mechanic  
40 MKI Distorted  
41 MKI Atmosphere  
42 MKI Lead  
43 MKI Phase  
44 MKI Rhythmic Phaze  
45 MKI Shimmer  
46 MKI Verdamp  
47 MKI Amplified Moods  
48 MKI Cut Thru Chords  
49 MKI Amped  
50 MKI Evolving  
51 MKI Gentle Phaser  
52 MKI Riddum Swirl  
53 MKI Hard Play  
54 MKI Hard Chords  
55 MKI Vintage Phaze

56 MKI Rock Dynamic  
57 MKI Slow Auto Wah  
58 MKI Soft Phase  
59 MKI Sweepy Flanger  
60 MKI Acid Tongue  
61 MKI Bright Fuzz  
62 MKI Erazor  
63 MKI Everlasting Tape  
64 MKI Leaded  
65 MKI Radiogram  
66 MKI Sustaining Fuzz  
67 MKI Tweety Wah  
68 MKI Ultra Fuzz  
69 MKI Wah Wah  
70 MKI Xplosive

## **Mark 2**

01 MKII Default  
02 MKII Tine Default  
03 MKII Tremolo  
04 MKII Tine Tremolo  
05 MKII Chorus  
06 MKII Tine Chorus  
07 MKII Dynamite  
08 MKII Emotions  
09 MKII Soft Tine Amb  
10 MKII Softly  
11 MKII Dyno  
12 MKII Tape Delay  
13 MKII Feedback Chorus  
14 MKII Jazzy Tine  
15 MKII Trem-Mu-Plex  
16 MKII Clean Wah  
17 MKII Compressed  
18 MKII Gospel  
19 MKII Sometime  
20 MKII Echo Trem

21 MKII Gentleman  
22 MKII Tine Compress  
23 MKII Wah Phase  
24 MKII Operator  
25 MKII Woody  
26 MKII Perc Clouds  
27 MKII Tine Pad  
28 MKII Dirt Devil  
29 MKII Dirty Tine  
30 MKII Phasing Ring Mix  
31 MKII Cabinet Tremolo  
32 MKII Funky  
33 MKII Hard Flange  
34 MKII Perk Tine  
35 MKII Riddum Swirl  
36 MKII Tine-o-sphere  
37 MKII Balladesque  
38 MKII Hard Chorus  
39 MKII Rock Hard  
40 MKII Perk  
41 MKII Rotary  
42 MKII Slow Motion  
43 MKII 2 High  
44 MKII Chorus  
45 MKII Majestic Flange  
46 MKII Deep Auto Wah  
47 MKII Warm Pad  
48 MKII Antique  
49 MKII Blues Amp  
50 MKII Soft Bell  
51 MKII Floating  
52 MKII The Duke  
53 MKII Green Flower  
54 MKII Psycho Phaze  
55 MKII Rainbow  
56 MKII Soft Swirl

57 MKII Vibrato Flanger  
58 MKII Fat Mechanic  
59 MKII Flanger Embedded  
60 MKII Just This One  
61 MKII Phase Wah  
62 MKII Slapback Ambience  
63 MKII Smooth Flange  
64 MKII Vintage Flavor  
65 MKII Confusion  
66 MKII HiFi Dynamic  
67 MKII Moon Base  
68 MKII Soft Auto Wah  
69 MKII Spooky Ring Mod  
70 MKII Straight Dynamic

### **SC73**

01 SC73 Default  
02 SC73 Tine Default  
03 SC73 Tremolo  
04 SC73 Tine Tremolo  
05 SC73 Chorus  
06 SC73 Tine Chorus  
07 SC73 Vintage Phase  
08 SC73 Early Harvest  
09 SC73 Tape Delay  
10 SC73 Foster Child  
11 SC73 Trem-Mu-Plex  
12 SC73 Clean Wah  
13 SC73 Ballad  
14 SC73 Compressed  
15 SC73 Echo Trem  
16 SC73 Slow Ambo  
17 SC73 Bright Radio  
18 SC73 Indoor  
19 SC73 Phase 1  
20 SC73 Soft  
21 SC73 Chorus T

22 SC73 Fosterized  
23 SC73 Jazz Vibrato  
24 SC73 Living Room  
25 SC73 Tack  
26 SC73 Ambo Tine  
27 SC73 Belly  
28 SC73 Intimator  
29 SC73 Riddum Swirl  
30 SC73 Flange  
31 SC73 Nachdenklich  
32 SC73 Soft Tremolo  
33 SC73 Snappy  
34 SC73 Dirty  
35 SC73 The Answer  
36 SC73 Big Chor  
37 SC73 Light Phase  
38 SC73 Sweet Chorus  
39 SC73 Woody  
40 SC73 60s  
41 SC73 Broken  
42 SC73 Gospel  
43 SC73 Slow Moan  
44 SC73 Enriched  
45 SC73 Perky  
46 SC73 Commode  
47 SC73 Dull Moment  
48 SC73 Jazz Fuzz Wah  
49 SC73 Jazz Solo Player  
50 SC73 Ring  
51 SC73 Jazz Studio  
52 SC73 Open For Repairs  
53 SC73 Psychadelic  
54 SC73 Psycho Vibes  
55 SC73 70s Echo  
56 SC73 Slapback Room  
57 SC73 Soft RnB

58 SC73 Knocking Mechanics  
59 SC73 Stratosphere  
60 SC73 Sunshine  
61 SC73 Tape Reverb  
62 SC73 Taped  
63 SC73 Tubulars  
64 SC73 Vibraphone  
65 SC73 Cold Turkey  
66 SC73 Determined  
67 SC73 Digital Flanger  
68 SC73 Digital Wah  
69 SC73 Fixed Wah Twang  
70 SC73 Frog Solo

## **A200**

01 A200 Default  
02 A200 Tine Default  
03 A200 Vibrato  
04 A200 Tine Vibrato  
05 A200 Chorus  
06 A200 Tine Chorus  
07 A200 Warm Phaze  
08 A200 Tine Phaze Echo  
09 A200 FM Tine  
10 A200 Tape Delay  
11 A200 Compressed  
12 A200 Rock n Roll  
13 A200 Blue  
14 A200 Vib-Mu-Plex  
15 A200 Clean Wah  
16 A200 Vintage Chorus  
17 A200 Day Dreamer  
18 A200 Warm  
19 A200 Amo Tine  
20 A200 Distorted  
21 A200 Echo Vibe  
22 A200 Hard

23 A200 The Bedroom  
24 A200 Grapevine  
25 A200 Slow Wah  
26 A200 Comp  
27 A200 Oh Mama  
28 A200 Soft Echo  
29 A200 Dirt  
30 A200 Riddum Swirl  
31 A200 Play Funky  
32 A200 No Power-Next door  
33 A200 Poly Synth  
34 A200 Bright Wet  
35 A200 Pre Amped  
36 A200 60s Amped  
37 A200 Arpeggio Buddy  
38 A200 Combo  
39 A200 Stereo Tremolo  
40 A200 Rock Theme  
41 A200 Room  
42 A200 Soft Phaser  
43 A200 Scuba  
44 A200 Slap Back  
45 A200 Super Dreamer  
46 A200 Thoughtful  
47 A200 Powerful  
48 A200 Wanderer  
49 A200 Super Logical  
50 A200 Tape Slapback  
51 A200 Wah Lord  
52 A200 Warm Flanger  
53 A200 Ampire  
54 A200 Clean  
55 A200 Dark Fuzz  
56 A200 Dub Fuzz Wah  
57 A200 With Love  
58 A200 Flanger Enriched

- 59 A200 Full Fuzzed
- 60 A200 Sunday
- 61 A200 Fuzzy Logic
- 62 A200 Hard Response
- 63 A200 Medium Vibrato
- 64 A200 Mellow Fuzz
- 65 A200 Psycho Warble
- 66 A200 Screamy Wah
- 67 A200 Sustained
- 68 A200 Talking Fuzz
- 69 A200 Twangy Fuzz Amp
- 70 A200 Wah Tape Dubber





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