

Geist2

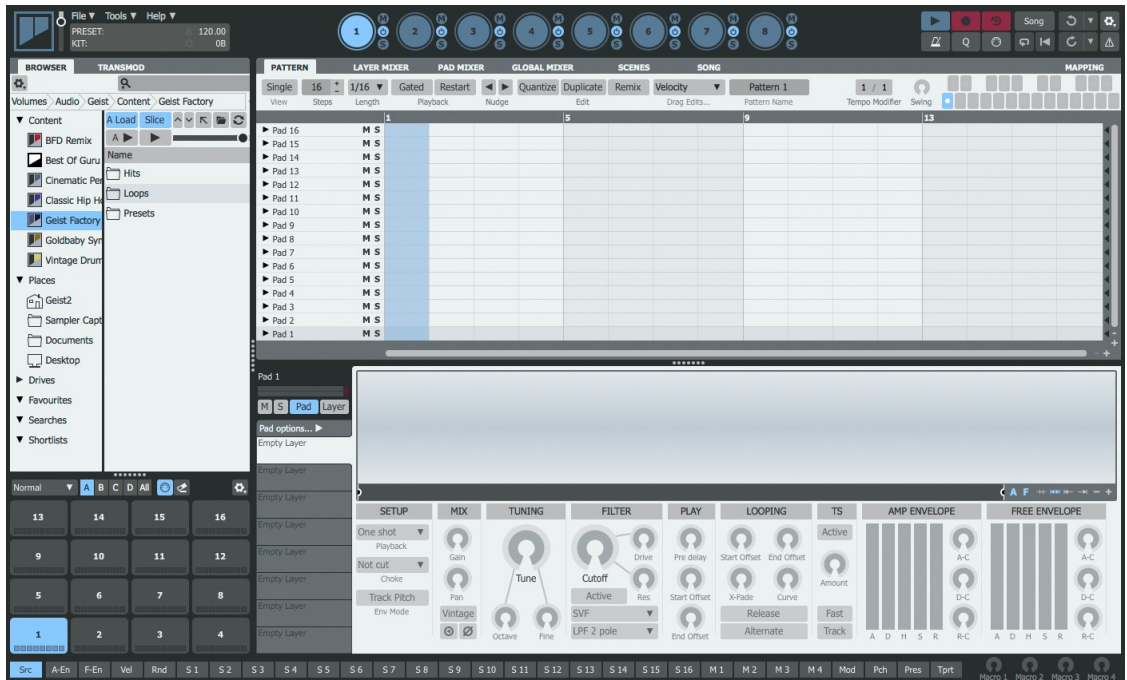
OPERATION MANUAL

Operation Manual

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1 Introduction to Geist2



Geist2 is an advanced step-sequencer and sample-based drum machine realised in software. It is intended to be an ergonomic way to effortlessly build grooves and beats although it can be used for all kinds of musical material.

1.1 Geist2 Architecture and Interface

Geist2 architecture

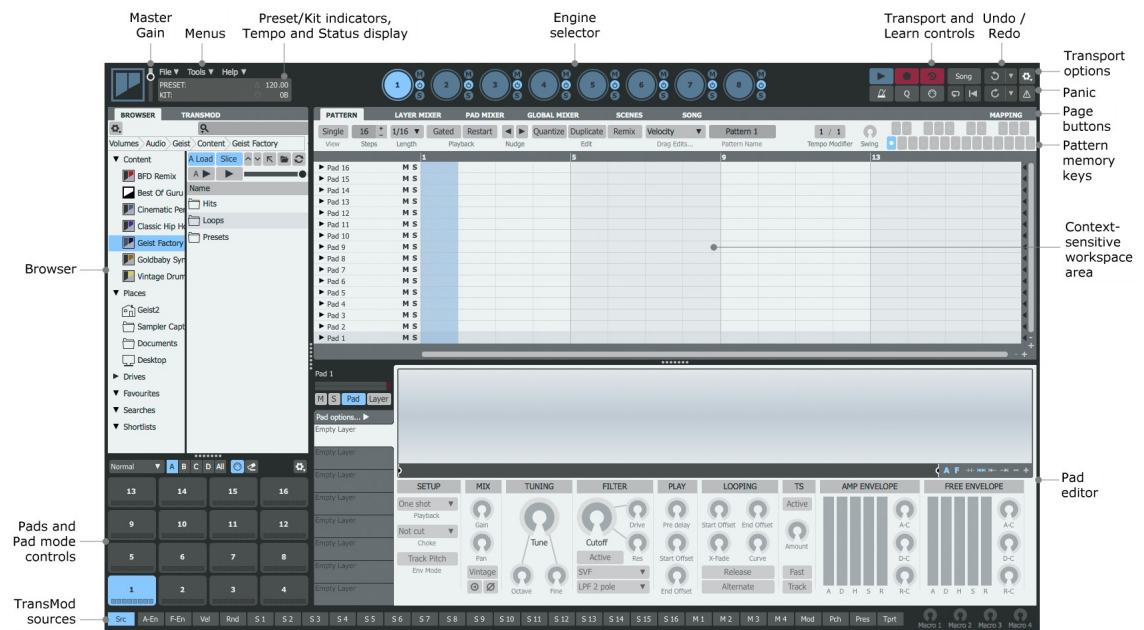
- The basic elements in Geist2 are as follows:

Layers	The basic 'slots' for loading samples in Geist2. There are 8 layers on each pad.
Pads	There are 64 pads in each engine: 4 banks with 16 pads visible at any one time. Each pad contains 8 layers.
Patterns	Each pattern features 64 tracks – one for each pad in the engine. There are 24 patterns in each engine.
Engines	There are 8 engines in total: each engine features 64 pads, and 24 patterns.

- As well as the above elements, Geist2 also has the following features for arranging patterns:

Scenes	Performance snapshots of the currently playing patterns in all engines
Song	A timeline-based arrangement of pattern references with a track for each engine

Geist2 interface



Browser

The [Browser](#) is the main method of loading sounds into Geist2. It is also used for selecting sounds to [slice](#) into smaller sections before loading these sections to the pads.

Geist2 allows the following types of files to be loaded from the Browser:

Samples	Individual WAV/AIFF files to load onto pad layers
Loops	Loops can be loaded into Geist2's Slicer for non-destructive 'chopping'
Pad presets	Presets for all 8 layers of a pad including samples and additional pad/layer settings
Kit presets	Presets for all pads within an engine
Engine presets	Presets for the entire engine, including engine effects
Full Geist2 presets	These are also known simply as 'presets' and store the entire state of Geist2.

Pads and Pad mode controls

The on-screen [pads](#) represent the pads in the current engine. Each pad has a corresponding MIDI note.

Pattern memory keys

The [pattern memory keys](#), or pattern keys, represent and select the 24 patterns in the current engine. Each pattern memory key also has a corresponding MIDI note.

Engine selector

The [Engine selector](#) buttons select one of the 8 engines for editing.

Pad Editor

The [Pad Editor](#) section provides editing controls for the current pad and its 8 layers.

Context-sensitive workspace area

The contents of the workspace are dictated by the Page buttons. The default page shown in this area is the Pattern page, representing the currently selected pattern in the current engine.

Page buttons

The **Pattern**, **Global Mixer**, **Pad Mixer**, **Layer Mixer**, **Scenes**, **Song** and **Mapping** buttons control which page is shown in the workspace area.

Transport

The [Transport controls](#) are vital to sequencing within Geist2 – the transport must be running to play and perform with patterns.

Learn

The **Learn** button is used for [mapping](#) Geist2 controls to MIDI or host automation.

Undo/Redo

Geist2 features a powerful multiple-level **Undo/Redo** system which even applies to almost all Browser load actions. Since it is possible to load sounds and kits with a single click, the **Undo** function can be very useful if existing sounds are replaced accidentally.

Tempo

Geist2's tempo is locked to the host while it runs as a plugin. In the standalone application, click and drag the **Tempo** control up/down or double-click it to type a new tempo. Alternatively, it can be set via the Tap Tempo function: ALT-click the **Tempo** control 4 or more times.

Menus

The **File** menu is used for saving/loading files, the **Tools** menu provides several additional utility functions including the [Preferences](#) panel and the **Help** menu provides access to documentation / support resources.

Preset/Kit indicator

This indicator displays the name of the last loaded Geist2 preset and/or kit.

Status display

The [Status display](#) section contains indicators for the amount of memory (RAM) used by samples in Geist2, for MIDI/Audio engine status and whenever voice stealing occurs.

Master Gain

The **Master gain** control adjusts the gain of the Master channel - this is an identical control to the Master channel's **Gain** fader in the [Global Mixer](#) page. Since all Geist2 elements are routed to the Master channel by default, the control effectively adjusts the level of the default audio destination for all elements in Geist2.

If any elements are routed to one of the 32 sub-outputs, they will not exist within the Master channel signal and therefore are not affected by this control.

Geist2 interface concepts

Many of Geist2's editing functions are selection-dependent and shown on its main workspace or Pad Editor areas.

Selecting elements for editing

One of the main concepts used in Geist2 is selecting an element for editing.

Selecting an engine

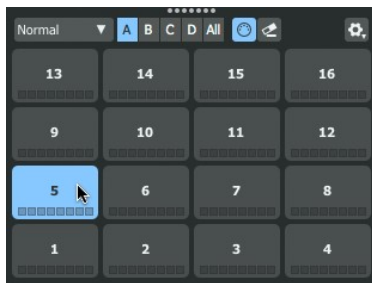
Only one of the 8 engines can be visible for editing at any one time. The other engines are still active and can play patterns or be triggered via MIDI.



Select the engine to edit by clicking one of the 8 buttons in the Engine selector at the top of the Geist2 interface (engine 1 is selected when Geist2 is initialized).

The [Global Mixer](#) page can also be used to select engines by clicking an engine channel.

Selecting a pad



The concept of the 'selected pad' is used in many situations in Geist2, such as when using single/double-click processes in the Browser to load samples from the Browser and when using the [Pad Editor](#), [Layer Mixer](#) and [Pad Mixer](#).

- Click a pad to select it and play its layers
- ALT-click a pad to select it without playing its layers

If the **Pad selection follows MIDI** button is activated, pads are also selected by playing their [corresponding MIDI notes](#).

One of 4 Banks of 16 pads are usually visible. To view all pads, click the **All** button.

Selecting a layer

In the [Pad Editor](#) and [Layer Mixer](#), a layer must be selected for editing its sound design and effects parameters.

Selecting a pattern

Each of the 8 engines contains 24 patterns, each represented by a [pattern memory key](#). Select a pattern using either of the following methods:

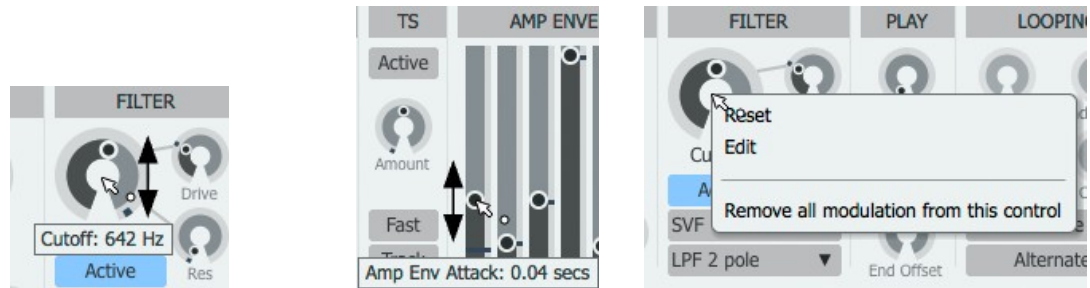


- Click the pattern memory key
- Play the pattern memory key's [corresponding MIDI note](#)

What actually happens when a pattern is selected depends on the pattern's [Playback mode](#) settings – for example, **Gated** mode requires the pattern's memory key or its MIDI note to be held down to be heard for the required duration.

Control conventions

Adjusting rotary/slider controls



- Rotary and slider controls are adjusted by clicking as indicated above and dragging up/down.
- Alternatively, use the mousewheel/trackpad scrolling function.
- In order to achieve fine control over a parameter, hold down the **SHIFT** key while making the adjustment.

Right-click a control to display the control context menu, allowing access to these functions:

- **Reset** the control to its default value (alternatively, double-click the control)
- Directly **Edit** the value with the computer keyboard

Many rotary/slider controls in Geist2 can be modulated with the [TransMod modulation system](#).

Numeric values



Numeric values can be manipulated in the following ways:

- Click the numerical display to type a value manually
- Click the + and - buttons to increase and decrease the value by 1
- Click while holding down the SHIFT key to adjust the value by +/- 8
- Click while holding down the ALT key to double or halve the value

Drop-down menus



Drop-down menus are used extensively throughout Geist2 for selecting between a number of settings for a function. They are often referred to within this manual simply as 'menus'.

Context menus

As shown for the control context menu above, Geist2 includes many additional functions on context menus, displayed by **right-clicking** on the relevant area of the interface. The various context menus are documented in full throughout this manual.

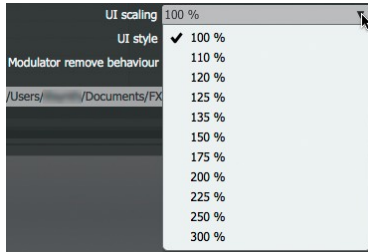
When using a single-button mouse, **CTRL-click** in order to display context menus.

Tooltips

As shown in the screenshots above, tooltips are used for showing parameter values and other useful information in Geist2. Hover over a control to display a tooltip containing information about the control's current value. Tooltips are shown while adjusting a control, with values updated in real time.

User Interface scaling, size and panel reconfiguration

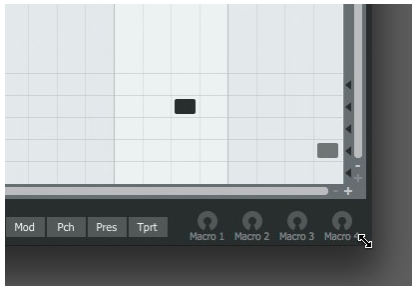
Geist2's interface is vector-based and can be scaled and resized. Additionally, the various panels within it can be reconfigured using the dividers between them.



UI scaling

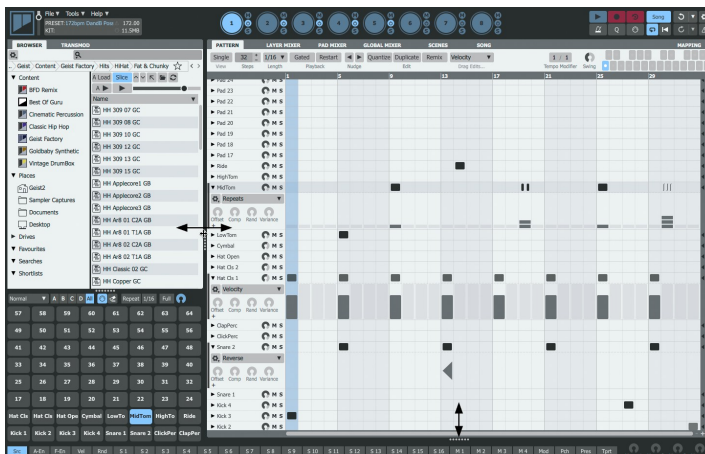
This menu in the [Preferences](#) (use the **Preferences** function in the Tools menu) adjusts the scaling of the user interface. The default setting is *100%*.

The setting can be changed between *100%* and *300%* - higher settings are recommended for Retina/4k or higher resolution screens.



UI window resize

Click/drag the edges of the Geist2 window to resize it as required.



Panel reconfiguration

The dividers between panel areas can be adjusted by clicking and dragging or double-clicking to toggle visibility.

In this example, the divider between the Browser and the rest of the interface is being resized.

The divider between the context-sensitive editing area and the Pad Editor has been dragged to the bottom of the interface for a much larger pattern editing area.

Panels within the [Browser](#) area can also be reconfigured in this way.

1.2 Loading sounds for the first time

The Browser is the most immediate method of loading sounds into Geist2. It is used for loading kits, samples and other files. This section includes an introduction to loading sounds in the Browser. More advanced functions are covered in [section 1.5](#).

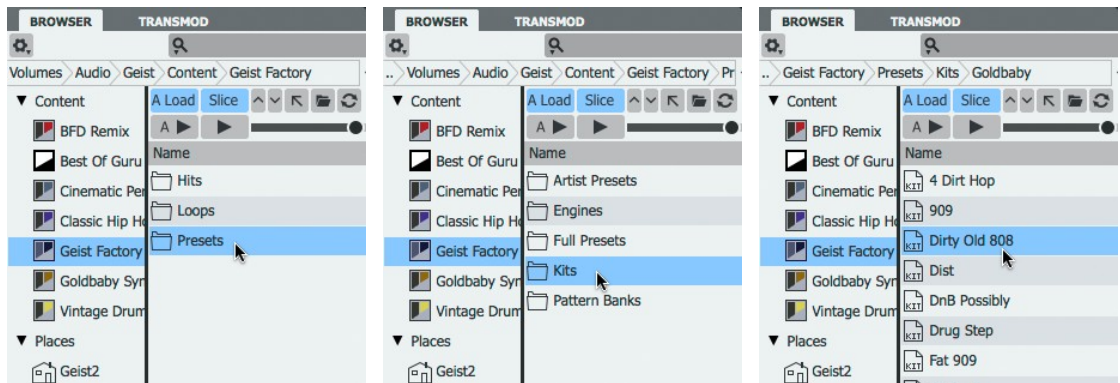
For a full reference guide to the Browser's functionality, see [chapter 2](#).

Working in Auto load mode



This section shows how to use the Browser in Auto load mode – with the **Auto Load** button (labelled **A Load** on the interface) activated. In this mode, click a file in the Browser to load it to the selected pad or engine.

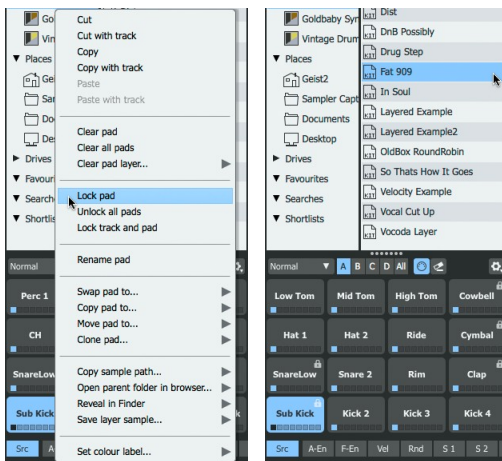
Loading a kit



1. Click a Factory item in the Browser sidebar, then double-click the *Presets* folder.
2. Double-click the *Kits* folder.
3. Double-click any sub-folder within Kits and then click a kit file to load it.

- The kit is loaded to the current engine. Click the pads to hear the sounds!

Locking pads and loading another kit

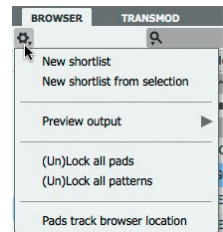


1. Right-click a pad and use the **Lock pad** function in the context menu. Lock a few more pads.
2. Click another kit in the Browser.

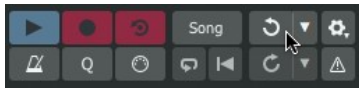
- When the new kit is loaded, the locked pads are not affected – only unlocked pads can be replaced with sounds from the new kit.

Each pad, pattern and layer features its own Lock function, available via right-click context menus.

- The **Browser options** menu contains functions to Lock/Unlock all pads or all patterns in the current engine.

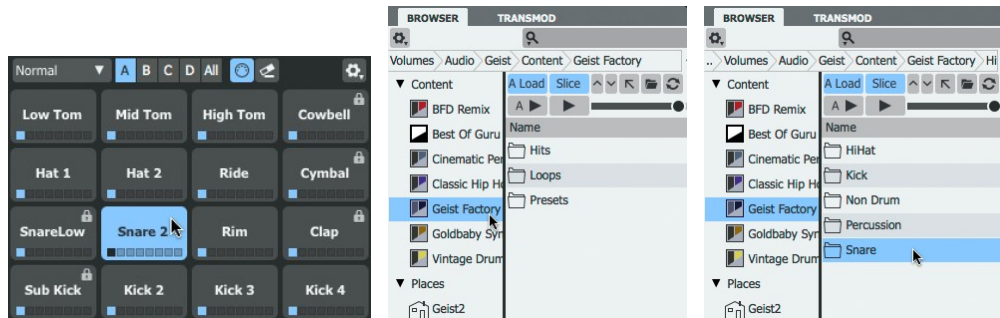


Returning to a previous state with the Undo function



If the **Auto load** functionality causes an undesired change, the multi-stage **Undo** and **Redo** functions can be used to revert to previous states.

Replacing a pad with a new sound



1. Select any pad which is not currently locked by clicking it.
2. Click on a Factory item and double-click the Hits folder.
3. Double-click the Snares folder.

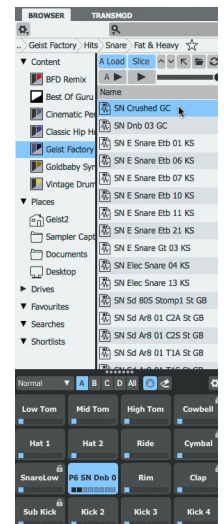


4. Double-click any sub-folder to enter it and then click on a sample to load it. The sample is loaded to the selected pad (see left).

Layering multiple sounds on a single pad

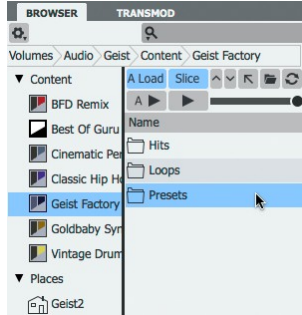
1. Click another sample in the folder while holding down the **ALT** key - the sample is loaded to the next free layer on the pad. Note the extra LED on the pad that is lit when the 2nd layer is loaded (see right).
2. Click the pad to hear both samples played together.

By default, layered sounds on a pad are played together when the pad is triggered. By changing a pad's **Layer play Mode** from the default setting of *All Layers* its layers can be set to play depending on input velocity (*Velocity split*), or to be cycled in a 'round-robin' or random order.

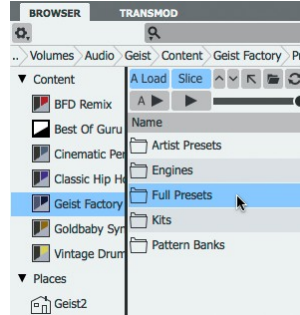


Loading a preset

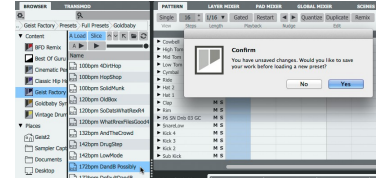
A Geist2 preset (also known as a 'full preset') stores the entire contents of a Geist2 session. Presets are loaded by *double-clicking*, unlike other file types used in Geist2, as this action cannot be undone. If any work is unsaved, Geist2 asks to save the current session.



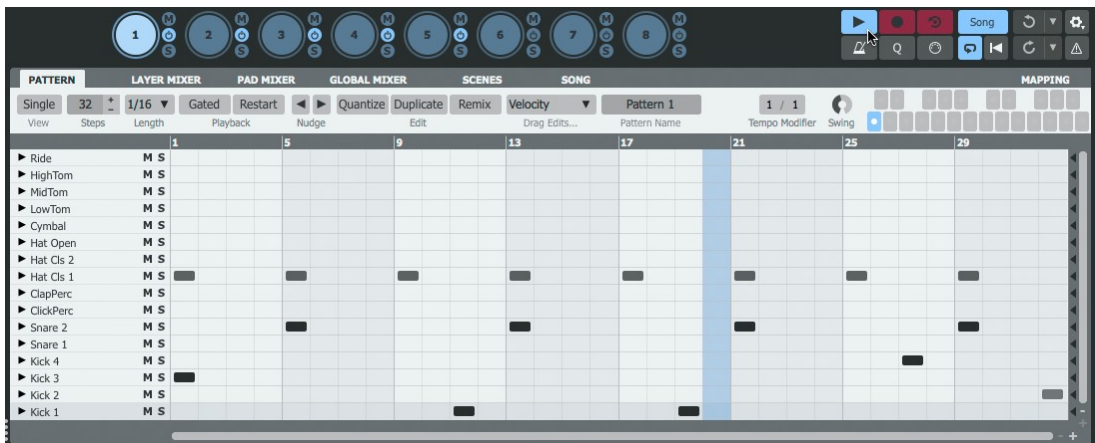
1. Return to a Factory folder and double-click the Presets folder.



2. Double-click the Full Presets folder.



3. Double-click any sub-folder and then click a Preset file to load it. Geist2 asks to save the current session.



4. Click the **Play/Stop** button on the transport after the preset has loaded, or start the host/DAW transport if running Geist2 as a plugin.

1.3 Playing pads and recording a pattern

Geist2 MIDI notes and channels

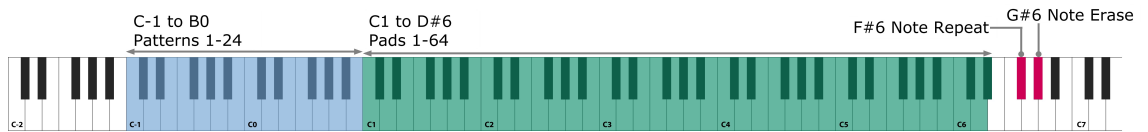
Geist2 is a multitimbral instrument. This means that it responds on more than one MIDI channel. Please do not confuse this concept with 'multiple outputs', which means that audio can be output from more than a single stereo audio channel (although Geist2 is also capable of this).

Geist2 contains 8 'engines', each containing 64 pads and 24 patterns, which are all assigned to an individual MIDI note. Because there simply are not enough MIDI notes in a single MIDI channel, each of the 8 engines is assigned to a MIDI channel from 1-8. Channel 9 is used for the currently selected engine.

Channels 1-9: Engine pads and patterns

Channels 1-8: Engines 1-8

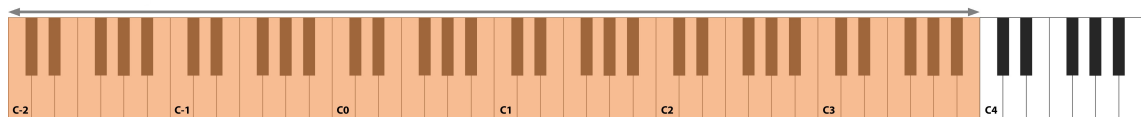
Channel 9: Currently selected engine



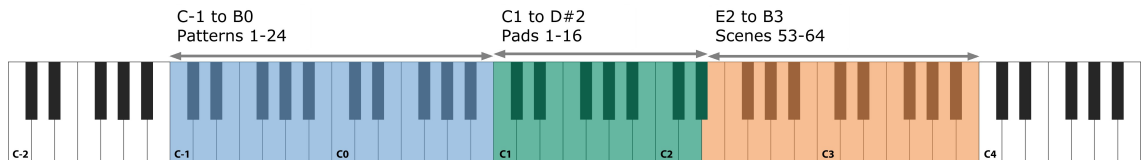
There are also several other MIDI channels to which Geist2 responds:

Channel 11: Scenes

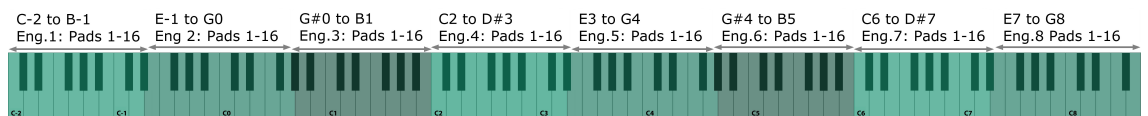
C-2 to B3
Scenes 1-64



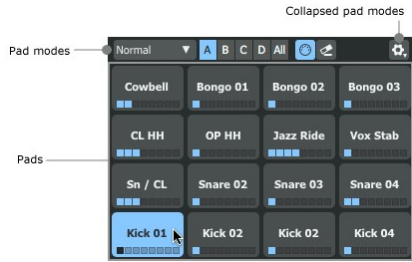
Channel 16: Current engine and scenes 53-64



Channel 10: Pads 1-16 on all 8 engines



Real-time pad triggering



The pads visible underneath the Browser represent the pads in the currently selected engine.

Pads can be played in either of the following ways:

- play their corresponding MIDI notes
- click the on-screen pads on the Geist2 interface

It is highly recommended to use a MIDI controller to play the pads. Playing the Geist2 interface pads with the mouse is intended for quick previewing during editing - this cannot provide accurate timing response for playback.

Sequencing pad triggers into a Pattern

Geist2 can record step-based sequences of the pads being played – these sequences are called patterns and 24 can be created in each engine. Patterns can also be programmed and edited using the mouse on the Geist2 interface.

An introduction to Geist2's step-sequencing paradigm

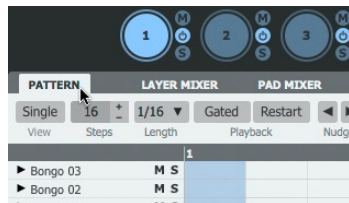
It is important to remember that Geist2 is a step-sequencer. Its sequencing system is inherently based around a set grid, defined by the **Steps** and **Step Length** parameters.

However, Geist2 can also accommodate deviations before or after straight grid divisions using *Shift* graph values for each step. Graphs are introduced in detail later but, briefly, they provide step-based automation of various parameters for each step in each pattern. When using the *Shift* graph, positive values (above the centre line) result in the step's event being played late and negative values (below the centre line) mean it is played early. Shift Graph values can be programmed or edited visually and are also generated during realtime MIDI input recording of pattern events.

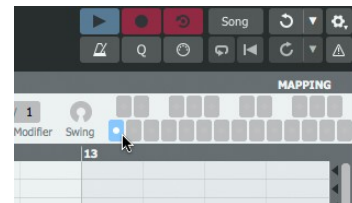
By default, each pattern is set to 16 **Steps**, with a **Step Length** of 1/16 (a 16th note). These two parameters establish the 'grid' of the step-sequencer pattern. Adjusting these values using the controls on the Pattern page changes the length of the current pattern and its 'step resolution'.

Recording events to a pattern via MIDI

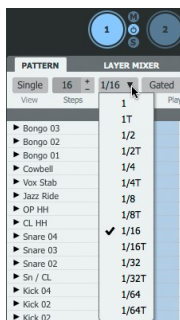
After loading some sounds onto the layers on the engine's pads, proceed as follows in order to record pattern events in real time:



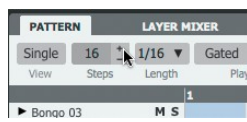
1. Click on the **Pattern** page button to display the Pattern page.



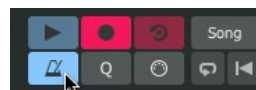
2. Select the desired pattern into which to record by clicking the desired pattern memory key.



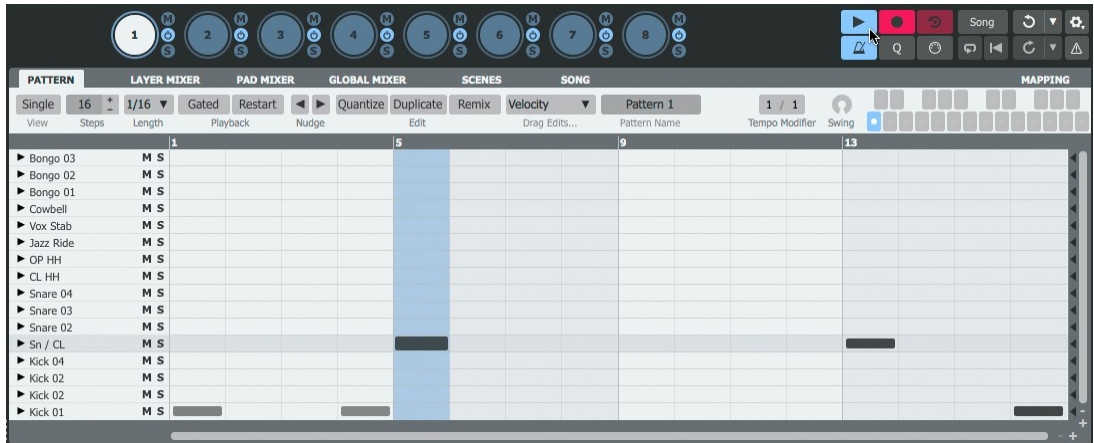
3. Set the required values for the **Steps** and **Length** parameters.



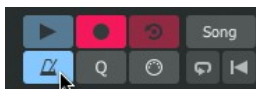
4. Click the **Record** button to 'arm' the recording function.



5. Click the **Metronome** button to hear a click on every beat.



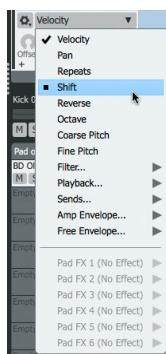
6. Click the **Play/Stop** button (or start the host transport if using Geist2 as a plugin) to start the transport and begin recording. Play the pads – events are recorded into the pattern as pad input is received.



7. Click the **Record** button to disarm the recording function and return to playback mode.



8. When recording events, the timing of each event within each step is captured within each track's *Shift* graph. To show it, first click the small triangular button at the left of the track. Ensure the **Single view** button is disabled.



9. By default, *Velocity* values are shown. Click the graph menu that appears and select *Shift*.



10. When events feature positive *Shift* values (above the centre line), events play later than the start of the step. Negative values (below the centre line) cause an event to play earlier than the start of the step.

Programming and editing patterns

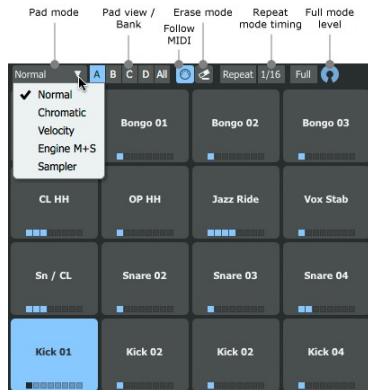
Patterns in Geist2 can also be programmed/edited with the mouse. Basic pattern event editing is very simple:

- To add an event, click a step cell with the mouse.
- To erase an event, right-click a step cell containing an event.

Pattern sequencing and editing is covered in more detail in [section 1.9](#).

Pad modes

Geist2 features a number of additional modes for the pads, intended for performance and pattern recording via MIDI while the transport is running.



Pad mode

This menu provides a number of modes for the engine pads (and their corresponding MIDI notes).

• Normal

In the default mode (*Normal*) each pad plays that pad's layers (each containing a sample) normally.

• Chromatic

In *Chromatic* mode the currently selected pad is placed over all 64 pads with different pitches. The pad itself plays at the root pitch defined by its layer Tune settings. Pads above it ascend by a semitone, while pads below it descend by a semitone, up to a maximum of +/- 48 semitones.

When events are recorded for pad performances in this mode, the different pitches of the pads are converted to Pitch graph events on a single pad track in the pattern.

• Velocity

With *Velocity* mode activated, the currently selected pad is placed on all pads at different velocities. Velocity graph information is captured when recording a performance in this mode.

Unlike Chromatic playback mode, this mode only uses the 16 pads, with velocity proportionally ascending from the lowest velocity on pad 1.

• Engine M+S

The *Engine M+S* (Engine Mute+Solo) mode is slightly different to the other modes, as performances in this mode cannot be recorded. With this mode enabled, the first 8 pads mute engines 1-8, while pads 9-16 solo engines 1-8. This mode is intended for live performance only.

• Sampler

The *Sampler* mode is a special mode for [sampling](#) directly onto pads in Geist2.

Pad view / Bank

This control dictates whether the **A**, **B**, **C** or **D** pad bank, each containing 16 of the 64 pads in each engine are shown in the pads area and in the Pattern page. To view all pads/tracks, click the **All** button.

Follow MIDI

With the **Follow MIDI** button enabled, received MIDI input (on the relevant notes) results in changing the currently selected pad. Deactivate the button to stop this behaviour.

Erase mode

Hold down the **Erase Mode** button along with any pad while a pattern is playing back: if the playback position passes any events for the pad while the **Erase mode** button is active, they are erased. This function features a MIDI key mapping on channels 1-9 (G#6).



Rpt (Note Repeat)

Holding down the **Rpt (Note Repeat)** function while playing a pad results in multiple steps being recorded in succession. The drop-down menu under this button dictates how often events are repeated - various BPM-based settings are available, from 1 to 1/64 (including Triplet versions). The **Sync to next division** setting, when activated, ensures that the initial event upon holding down the pad is quantized to the next BPM division.

This function features a MIDI key mapping on channels 1-9 (F#6).

Full (Full level mode)

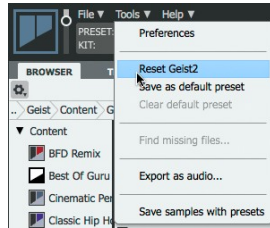
When this button is enabled, the velocity of all received notes is forced to the value set by the control to the right of the button.

1.4 Slicing loops

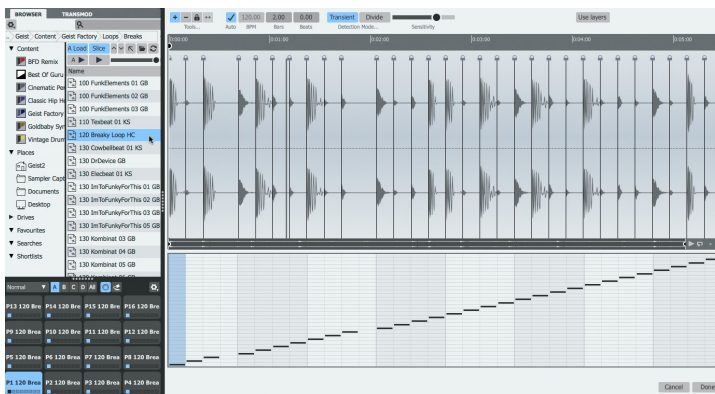
Geist2 features a Slicer panel which can be considered as an extension of the Browser. It is displayed when clicking on a file while the Slice button is enabled in the Browser and allows non-destructive 'chop' techniques for loops and breakbeats in order to extract audio slices and patterns.

This section describes using Geist2's factory loop library which is supplied pre-sliced in RX2 format - with these loops it is usually unnecessary to adjust slice points upon loading.

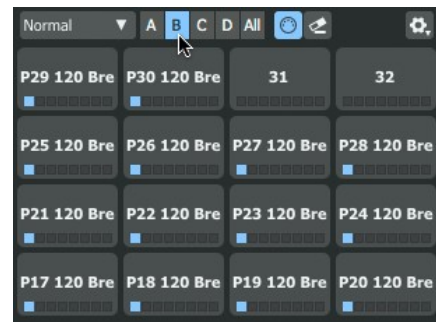
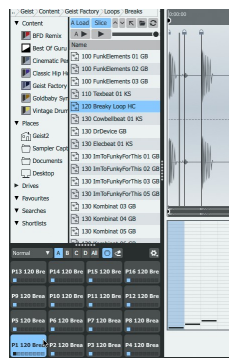
However, the Slicer can be used with any WAV or AIFF format samples. When doing so it is usually necessary to perform some degree of fine-tuning to optimize all slice points for a loop. See [chapter 3](#) for more details of the Slicer panel's different tools and modes.



1. Initialize Geist2 by using the **Reset Geist2** function on the Tools menu.
2. Activate the **Slice** and **Auto Load** buttons in the Browser.



3. Navigate to a subfolder within the Loops folder in the factory library and click a loop in the files listing.



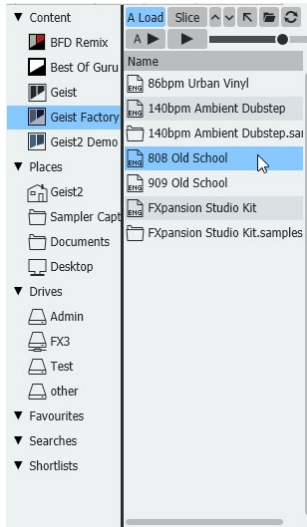
4. Click/play the pads or start the transport - the slices are already assigned to the pads. Note the playback indicator on slices when they are played.
5. When loops possess more than 16 slices, the additional slices are assigned to pads in the B, C and D pad banks, up to a maximum of 64 pads.
6. To finish loading the loop, click the **Done** button at the lower-right of the panel. To exit the slicer panel without loading anything, click **Cancel**.

1.5 More about loading sounds and saving work

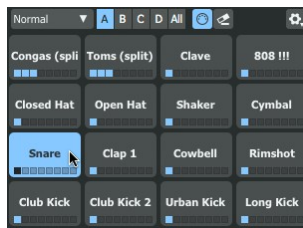
Using Auto load mode to load-in-context



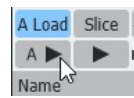
1. Initialize Geist2 and activate the **Auto load** button if it is not already activated. Also ensure **Slice** mode is disabled.



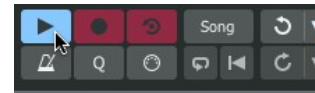
2. Click an engine file to load it into the first engine. This loads sounds and patterns.



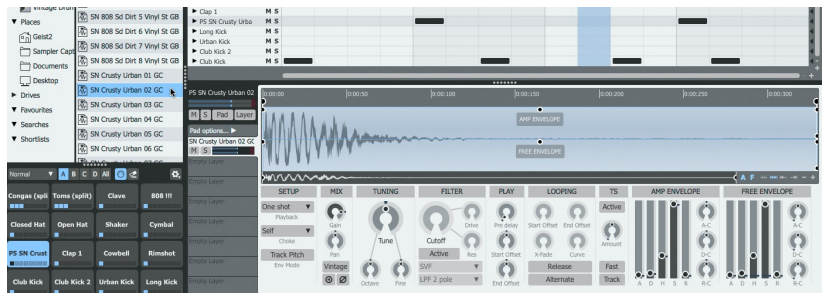
3. Click the first snare pad to select it. Ensure that it features pattern events in the current pattern.



4. Deactivate the **Auto play** button in the Browser if it is activated.

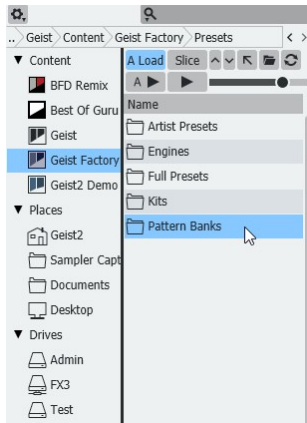


5. Start the Geist2 transport by clicking the **Play/Stop** button.

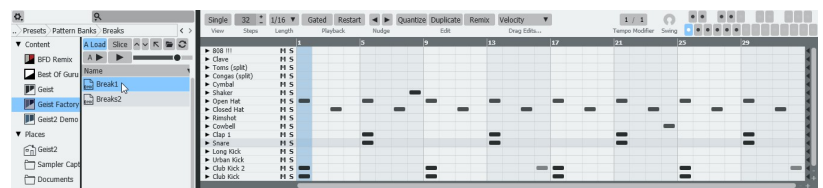


6. Navigate to an individual sample in the Browser and click it.

The sample is not previewed, but it is loaded to the pad and heard when triggered by pattern events.



7. Now navigate to a pattern bank.



8. Click a pattern bank file - the patterns within it replace the existing 24 patterns in the engine.

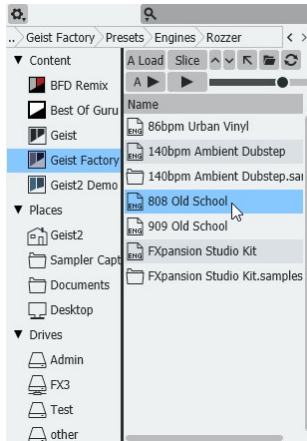
Working with Auto load deactivated

If the **Auto load** button is deactivated, clicking a loadable element does not result in it being loaded automatically – instead, elements are loaded by double-clicking or by using drag and drop.

Loading by double-clicking with Auto load deactivated



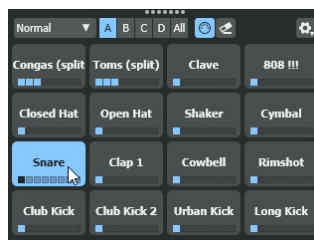
1. Initialize Geist2 and deactivate the **Auto load** and **Slice** buttons.



2. Navigate to a folder with engine files and **double-click** it to load it.



3. Activate the **Auto play** button in order to preview samples when they are selected in the Browser.



4. Click the first snare pad to select it. Ensure that it features pattern events in the current pattern.



5. Navigate to a folder with samples and **double-click** one to load it (see left).

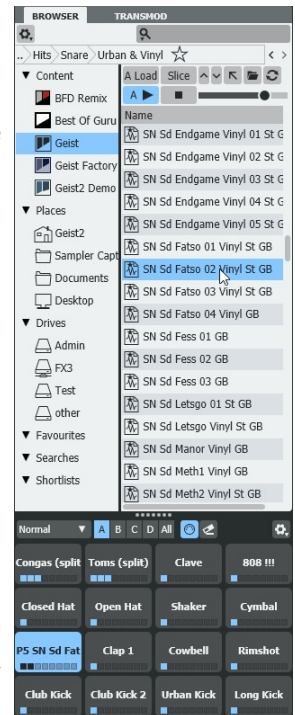
6. **Double-click** another sample in the folder while holding down the **ALT** key - the sample is loaded to the next free layer on the pad (see right).



- If automatic previewing is not desired, deactivate the **Auto play** button and manually use the **Preview play** button to its right to preview the selected sample.



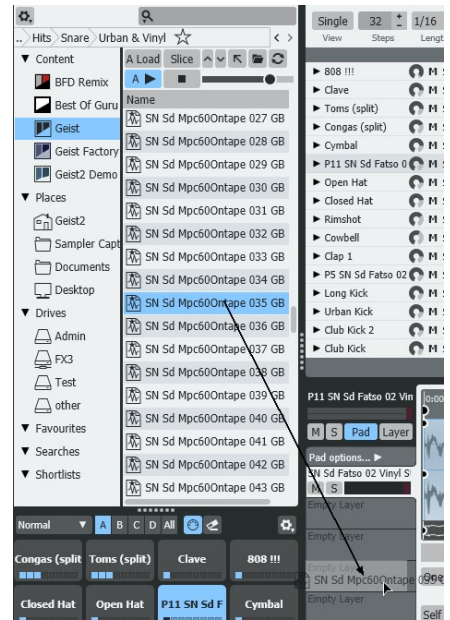
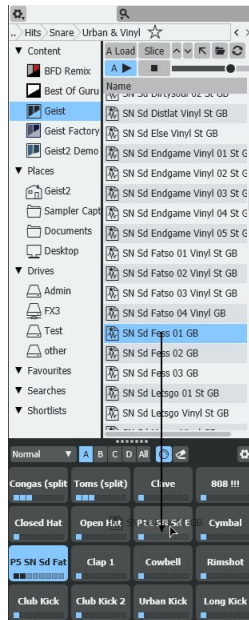
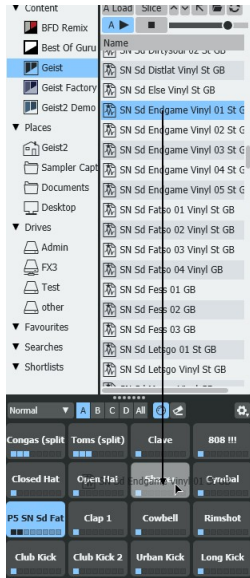
- Any preview (whether it is automatic or manual) can be stopped while it is active by deactivating the **Preview play** button.



Loading using drag & drop with Auto load deactivated

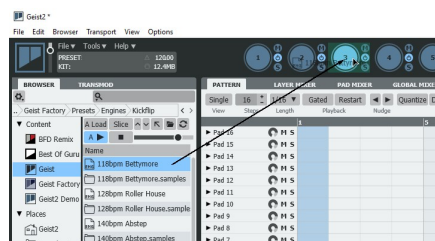
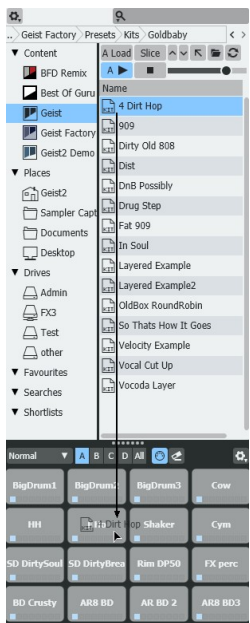
While dragging and dropping samples, pads, kits and patterns/pattern banks, hover over any other engine selector button in order to switch the currently selected engine. This means it is not necessary to abandon the drag and drop operation if the engine was not switched before starting it.

• Samples

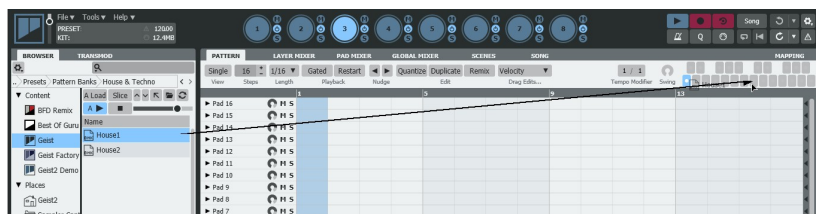


- Drag and drop a sample onto a pad to load it. Any existing samples on the pad are removed first.
- Drag and drop a sample to a pad while holding down the **ALT** key to load it to the next free layer.
- Drag and drop a sample to any layer in the Pad Editor's Layer selector to load it to a specific layer.

• Kits, patterns and engines



- Drag and drop engine files onto an engine selector.



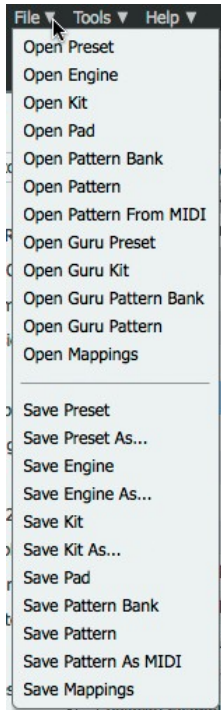
- Drag and drop a kit file onto the pads to load it.
- Drag and drop patterns onto the pattern memory keys. Drag single patterns to single keys, or banks to any key.

Other Browser functions

The Browser contains a number of features like searches, Favourites and Shortlists to make it as easy and quick as possible to locate sounds.

See [chapter 2](#) for a full guide to their operation.

Saving work



The [File menu](#) is used to save any current element in Geist2.

Saving a preset

To save the entire state of Geist2, use the **Save preset** function. Enter a filename in the system Save As dialog that appears and press ENTER.

The default save location is the FXpansion/Geist2 folder within the user documents folder, accessible using the *Places/Geist2* item in the Browser sidebar.

Saving other elements

The File menu also provides functions to save the kit, current engine, pads, pattern, or the whole bank of 24 patterns in the current engine.

Exporting as MIDI or audio

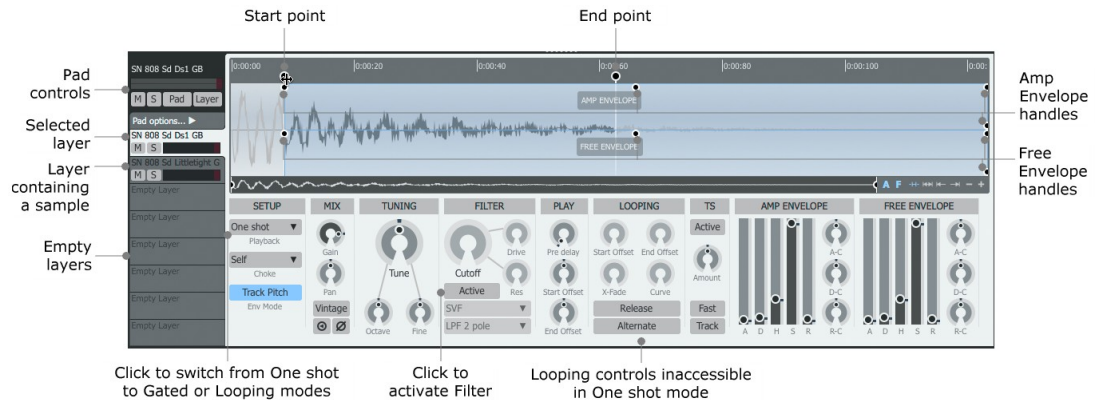
Geist2 offers several ways to [export MIDI and audio](#) material for external use.

1.6 Editing and modulating sounds

The Pad Editor provides numerous controls to edit parameters for altering the sound and playback characteristics of the currently selected pad and each of its 8 layers. This section introduces the most important parameters - see [chapter 5](#) for a full guide.

It is always visible on the Geist2 interface, meaning that it is possible to view pages like the Pattern page, Layer Mixer and Pad Mixer at the same time as viewing selected pad/layer parameters.

Layer Editor parameters can be modulated over time using graphs and TransMod modulation.



Pad controls

The pad controls provide various controls and settings for the entire pad and how its 8 layers are played. It also includes the Multiple Edit shortcuts which are described later in this section.

Click the **Pad options...** to access additional controls for the pad, including the **Layer play mode** for dictating how layers are played back. By default, all 8 layers on the pad are played simultaneously whenever it is triggered, using the *All layers* setting. Setting this to *Velocity split* mode activates controls for defining velocity split points and fades for the pad's layers.

Layer selector

The 8 slots underneath the pad controls represent each of the 8 layers on the pad. Click a layer to select it for editing in the main Layer controls section of the Pad Editor, containing the waveform display and editing controls. It is also possible to drag and drop samples onto these layer slots from the Browser.

Start point and End point

The **Start point** and **End point** handles can be dragged left/right in order to set the start and end of the section of the sample that is played when the layer is triggered.

Playback mode

This menu selects between *One shot*, *Gated* and *Looping* modes. *Gated* and *Looping* modes mean that the layer responds to event duration. When *Looping* mode is activated, the Looping controls section becomes accessible and **Loop start** and **Loop end** handles become available in the waveform display - these are adjusted in the same way as the **Start point** and **End point** handles.

Amp Envelope and Free Envelope handles

These handles can be dragged in order to adjust the shape of each envelope, as an alternative to using the sliders at the lower-right of the Pad Editor panel.

The Free Envelope can be assigned to modulate a variety of destination parameters via the TransMod system (see below). It is not assigned to any destinations by default.

Activating the Filter

By default, the layer's Filter is deactivated - to activate it, click the **Active** button in the Filter controls section.

Selecting and editing multiple layers

To select multiple layers in the Layer selector for simultaneous parameter editing:

- SHIFT-click to create a contiguous selection between 2 layers
- CMD-click (Mac) or CTRL-click (Windows) to add a layer to the selection

Multiple edit shortcuts



The **Layer** and **Pad** edit shortcuts are provided in order to allow multiple layers/pads to be edited simultaneously (if they are not locked). Simply hold down the following keyboard modifiers when adjusting controls:

	Keyboard modifiers	Function
Layer shortcut	CMD (Mac) / CTRL (Win)	Edit all pad layers
Pad shortcut	ALT	Edit same layer on all engine pads
Layer + Pad shortcuts	CMD+ALT (Mac) CTRL+ALT (Win)	Edit all pad layers on all engine pads

As an alternative to using keyboard modifiers, toggle the **Layer** and **Pad** buttons in the Pad controls section.

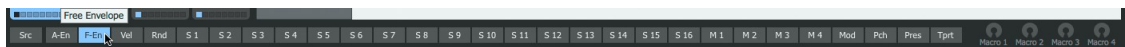
The **Pads** shortcut can also be used in conjunction with multiple layer selections (see above) - parameter adjustments are duplicated in all selected layer numbers across all pads in the engine. Note that effects devices cannot be added or edited using these edit shortcuts.

Modulating sounds with the TransMod system

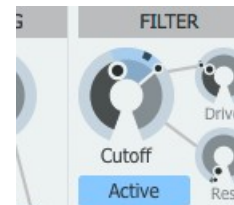
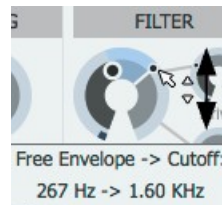
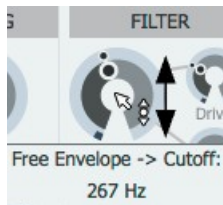
[TransMod modulation](#) involves selecting a current modulation source (from a variety of available sources) and drawing modulation amounts directly onto any Geist2 controls capable of being modulated.

Therefore, modulation can be viewed and edited visually rather than through an abstract modulation matrix list.

To assign a layer's Free Envelope to its Filter **Cutoff** parameter, proceed as follows.



1. First, select the layer for editing and then click the **F Env** TransMod source near the lower-left of the Geist2 interface.



2. Click/drag vertically the central part of the **Cutoff** control to set the initial value.

3. Click/drag vertically the outer ring of the control to set the maximum modulation depth.

• Whenever the layer is triggered, the envelope modulation is indicated in real-time.

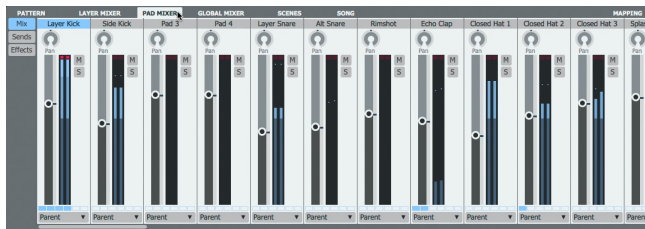
- This modulation acts only on the layer on which the modulation depth is set up as shown above. To operate multiple layers and pads, use the multiple selection/edit methods described above.
- Envelopes are polyphonic and act per layer - an individual Amp Envelope and Free Envelope exists for each layer on each pad in each engine. There are other polyphonic TransMod modulation sources such as the **Vel** (Velocity) and **Rnd** (Random) sources which provide values for each MIDI and pattern event triggering the layer.
- There are also a number of 'global' modulation sources such as Macro controls and LFOs (the latter must first be assigned to one of the 16 assignable modulator slots). These do not operate polyphonically but can still be used to modulate parameters on individual layers.
- See [chapter 8](#) for a full guide to the TransMod system.

1.7 Mixer pages and Effects

Geist2 features 3 separate mixer pages which provide channel-based layouts alongside effects processing for the following:

- Engines, Aux busses and the Master channel (Global Mixer page),
- Pads in the current engine (Pad Mixer page)
- Layers on the current pad (Layer Mixer page)

Pad Mixer page



The [Pad Mixer](#) page displays as many channels as the number of pads currently specified for the engine.

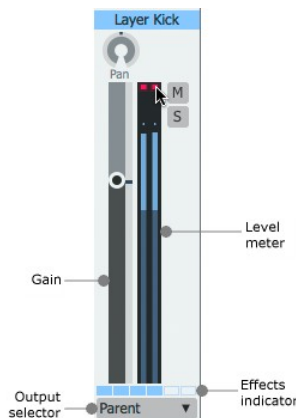
For applying effects to individual sounds in most situations, it is recommended to use the Pad Mixer. This means that usually, all layers on the pad are processed through the pad's effects devices.

The only exception to this is when individual layers are routed to alternative outputs using the **Output selector** control (see below for more details on this control).

One of the main advantages of adding effects to the entire pad is that the effects devices' parameters become available as [graphs](#) so they can be automated per-step in patterns.

It is also more efficient to use effects on the entire pad rather than using the same effects devices on multiple individual layers.

Important Pad Mixer controls



Pan, Gain, Mute, Solo, Level Meter

Use these controls in order to perform basic mixing functions.

Output selector

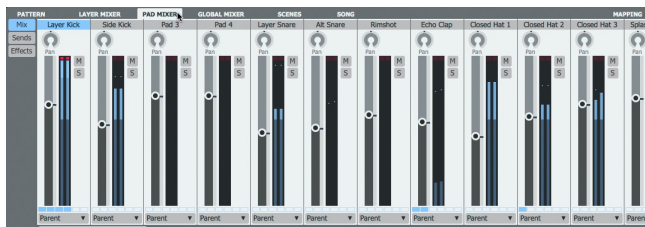
If a pad's **Output selector** is set to *Parent*, it is mixed with any other pads in the engine with the same setting. It can then be processed further in the Global Mixer if required.

If a discrete sub-output is specified, the pad bypasses the Global Mixer.

Effects indicator

This indicator shows whether each of the channel's 6 Effects slots is **Active** or not.

Layer Mixer page



The [Layer Mixer](#) page displays 8 channels - each representing one of the 8 layers on the currently selected pad.

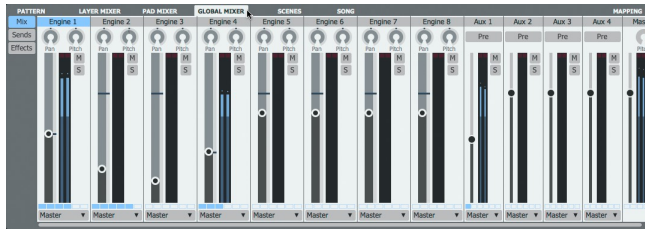
It allows mixing and effects processing of individual layers within a pad.

If a layer's **Output selector** control is set to *Parent*, it is mixed with other layers with the same setting and sent to its parent pad channel.

It can then be further processed in the Pad Mixer page if required.

Layers can also be set to discrete sub-outputs, bypassing the Pad Mixer.

Global Mixer page



The [Global Mixer](#) page displays all 8 engines, the 4 Aux channels and the Master channel as individual mixer channels.

If any pads or layers have been routed to a discrete sub-output using their **Output selector** controls, they are not represented in its parent engine channel in the Mixer page.

Each engine channel's **Pitch** control adjusts the pitch of the entire engine's sounds relative to individual layer Tuning settings.

Engine Effects

Engine Effects are for overall processes for all pads in the engine.

Aux busses

Aux busses are useful for parallel processing and other classic **Send**-based effects such as reverbs and parallel compression for multiple channels.

Layer, pad and engine channels can be sent to Aux channels in variable amounts using their **S1** to **S4** controls.

Entire pad, layer or engine channels can be routed to Aux channels using their **Output selector** controls.

Each Aux channel also features a **Pre** button for specifying its position in the signal path.

Master channel

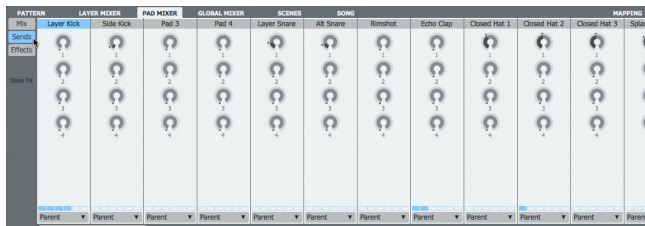
The Master channel is the default output routing for all channels in Geist, unless any channel is specifically assigned to a sub-output with its **Output selector**.

Editing multiple channels

Multiple channels can be selected or the **Layers / Pads multiple edit shortcuts** can be used in order to adjust mix parameters for multiple elements simultaneously.

Note that it is not possible to insert effects devices or adjust their parameters on multiple channels simultaneously.

Sends



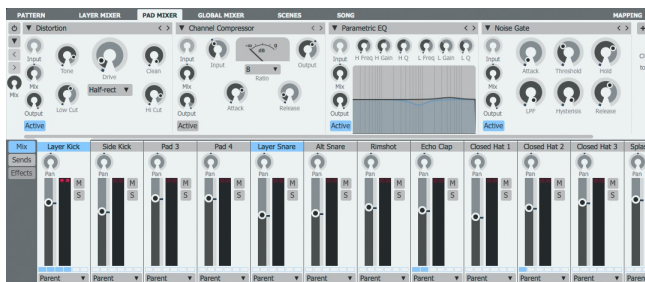
Sends are 'parallel' routings from the pad to the Aux busses - each pad channel features 4 **Send** controls, one for each of the 4 Aux busses, labelled **1** to **4**.

To display the Send controls, click the **Sends** button to the left of the mixer.

The routing point for all sends to an Aux buss can be set to either pre- or post-fader, using the **Pre** button on the Aux buss itself, located in the Global Mixer.

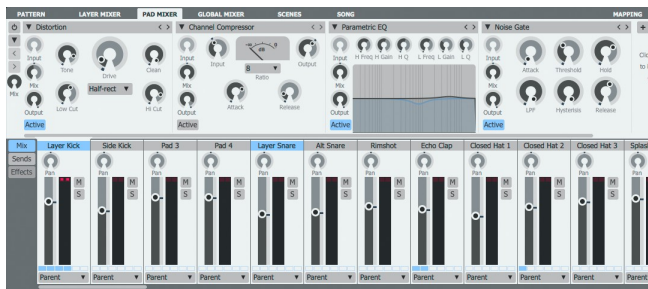
Note that the Aux channels themselves in the Global Mixer do not feature Sends.

Effects Slots



Each pad features 6 assignable [Effects slots](#) for loading effects devices. The visibility of the Effects slots is dependent on the current size/scaling of the Geist2 interface.

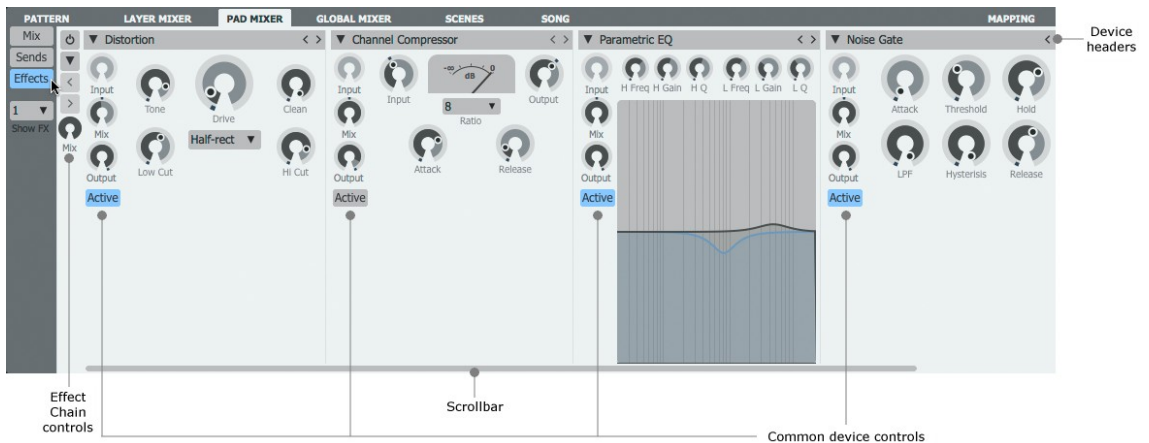
- When an adequate vertical area is available, the Effects slots for the selected channel are shown above the mixer.



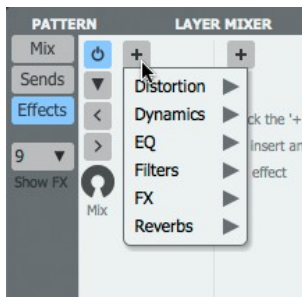
- When the required vertical area is unavailable, click the **Effects** button to display the current channel's Effects slots in place of the mixer channels.

Using the Effects controls

For a full guide to the effects system and its controls see [chapter 7](#).



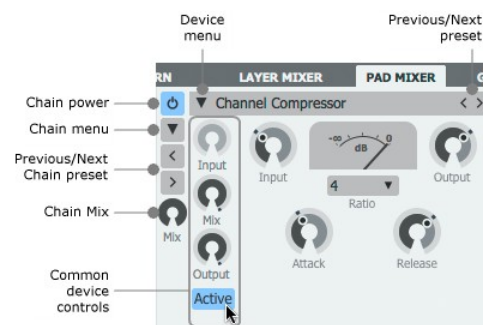
Loading an effect device into an empty slot



When an effect slot is empty, click the + button to display a menu of available effects devices. Click the desired device within the relevant sub-menu to load it into the slot. See the following sections for details of each available effects device:

- [Distortion](#)
- [Dynamics](#)
- [EQ](#)
- [Filters](#)
- [FX](#)
- [Reverb](#)

Device headers and common device controls



The **Active** button must be engaged for the device to process audio. When it is deactivated, the device is bypassed and audio passes through it unaffected.

The **Device menu** allows a different Effect device to be loaded in place of the current device and also provides access to preset loading and saving functions. The **Previous/Next preset** buttons cycle through the available presets for the device.

The **Mix** control exists on all effects slots and allows a wet/dry mix for any device.

In addition to the **Mix** control, each slot features an output **Level** control which is useful for attenuating or boosting a signal after certain effects settings.

The **Input** control is provided for certain devices such as delays and reverbs and sets the input level to the device.

Effect chain controls

The **Chain menu** and **Previous/Next Chain preset** buttons provide the ability to save and load presets for the entire chain of 6 effect slots. The **Chain Mix** control sets the wet/dry mix of the entire chain vs. the original signal.

The **Chain Power** button toggles the entire chain on or off.

Automating Effects

Effects parameters can be automated with the following methods:

- [Graphs](#) (for Pad Mixer effects only)
- [TransMod modulation](#)
- [Host automation or MIDI CC control](#), either live using hardware controls or from tracks in the DAW/host when running Geist2 as a plugin

1.8 Sequencing and arrangement

Geist2's architecture is deep enough to accommodate many different ways of working. No single way is better than another – it's purely down to the personal preference of the user.

Geist2 as a sample playback module or 'drum sampler'

Geist2 can be used as a sample-playback engine using the MIDI sequencing features in the host/DAW to trigger the Geist2 plugin's pads.



In such situations the internal sequencing functions can be ignored entirely - if patterns are not required, the **Pattern Power** buttons for all 8 engines can be deactivated.

Using Geist2's internal pattern sequencing

Another method of working is to sequence within Geist2 itself using its patterns and Graphs - this offers the following advantages:

- The slick step-sequencing environment can be faster and more fun for creating drum patterns than the sometimes cumbersome and fiddly MIDI editors in many host/DAW applications.
- Its advanced features like retro recording may not exist in the host.
- The step-based parameter automation graphs can efficiently add variation, movement and experimental effects.

Arranging pattern changes within Geist2's Song page

The [Song page](#) allows patterns to be arranged as 'blocks' on a linear timeline.

- Patterns can be recorded into the Song timeline in real-time (using [Pattern memory keys](#) or [Scenes](#) when working with multiple engines)
- The Retro Record function can also be used to 'capture' a pattern/scene performance after the fact

Working in this way can have the following advantages:

- Diverse full Geist2 presets can be loaded within the same host/DAW project for trying different rhythmic arrangements.
- The Geist2 standalone version can be used for composition work (without having to deal with a complex, resource-hungry host application) – perhaps on a laptop. The Geist2 session can then be loaded into a host/plugin environment for detailed work.
- If the kinds of features found in fully-fledged sequencer hosts are not required, it is perfectly possible to create entire sample-based musical pieces with the standalone version of Geist2 and nothing else – the built-in audio export functions allow entire songs or individual patterns to be exported as finished stereo mixdowns.

Hybrid approaches

Exporting patterns from Geist

Patterns can be composed in Geist2 and then exported to MIDI tracks in the DAW/host - working in this way takes advantage of the fast pattern composition tools in Geist2 along with the host's detailed arrangement and editing features. Patterns are exported by dragging pattern memory keys to suitable MIDI tracks in the host.

To stop patterns playing within Geist2 while it is triggered by MIDI notes from the host, deactivate the **Pattern power** button for the relevant engine(s).

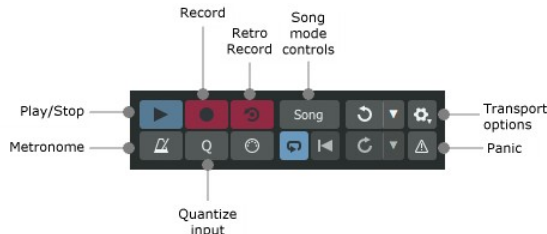
Triggering patterns and scenes from the host

An alternative to the previous method is to effectively use the DAW/host as the 'song sequencer' - patterns can be composed in Geist2 but then [played](#) using MIDI notes - either live or from recorded/programmed notes on MIDI tracks. Patterns can be played either as 'triggers' for switching continuously looping patterns or as 'gates' to play patterns for the duration of the note. [Scenes](#) provide a convenient way to play patterns on all 8 engines simultaneously using a single MIDI channel.

1.9 Patterns in more detail

Patterns and pattern recording were introduced [earlier](#). This section introduces features including pattern editing, Retro recording, Swing and other pattern-related functions.

Transport controls for working with patterns



The transport is vital to using patterns in Geist. The **Play/Stop** button must be active to hear patterns.

The **Song** button must be deactivated in order to **Record** or **Retro record** pattern events. With the **Song** button activated, these buttons are used for Song page events.

Activate the **Metronome** button to hear a click.

If the **Quantize input** button is activated, incoming events are automatically quantized to the pattern grid.

Use the **Panic** button to stop any currently playing patterns and pad layers that may be playing.

The **Transport options** menu includes additional Metronome and count-in settings as well as the **Follow playback cursor** function which causes the Pattern and Song pages to scroll with the current playback position.

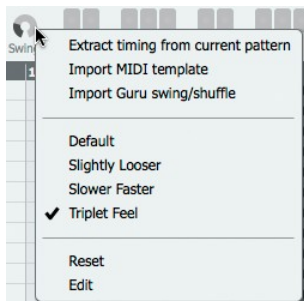
Swing and other timing related functions



The **Swing** and **Tempo Modifier** functions, shown on the Pattern page, allow control over various aspects of the entire engine's pattern timing behaviour.

Applying Swing to the engine's patterns

Each engine features individual swing/shuffle controls to apply a syncopated timing adjustment to the patterns within the engine. Control the amount for the current engine with the **Swing** control on the Pattern page.



The **Swing** control in the Pattern page is set per-engine:

- all patterns in the same engine share the same Swing settings
- each of the 8 engines can be set to different Swing settings

Right-click the **Swing** control in order to display the Swing menu - this includes a swing template menu, with each template providing a different type of syncopation. Try the *Triplet feel* setting for a classic drum-machine style swing.

The Swing functions are explored in more detail in the [Pattern editor](#) section.

Setting the engine's Tempo Modifier

The **Tempo Modifier** control multiplies the playback speed of the engine's patterns by a ratio, which can be a fraction (to slow down the tempo of the patterns) or a value greater than 1 (to increase the tempo). Try a setting of $1/2$ to halve the speed of the pattern or $2/1$ to double it.

The Tempo Modifier function is explored in more detail in the [Pattern editor](#) section.

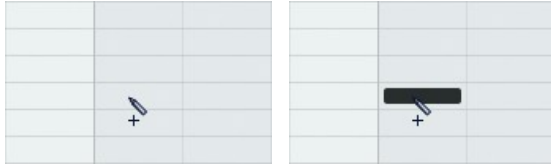
Convert timing

This function, available by right-clicking on a [pattern memory key](#), allows the 'resolution' of a pattern to be changed without altering the position of events in the pattern. It can be useful if triplet steps are required rather than 16ths, for example.

Programming and editing pattern events

The guide below shows the main editing functions available for patterns. For a full guide see [chapter 9](#).

Adding an event



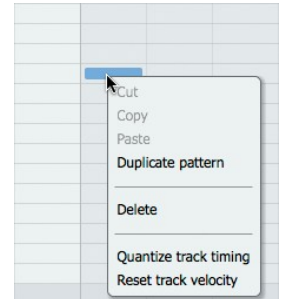
- **Click** to add an event

Adjusting velocity

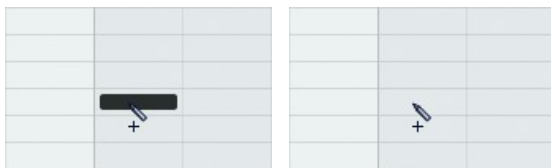


- **Click and drag** an event/selection **up or down** to adjust its velocity*

Event context menu



Deleting an event



- **Right-click** to delete an event (or selection)

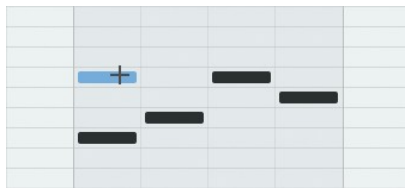


These actions can be swapped using the [Preferences](#) panel.

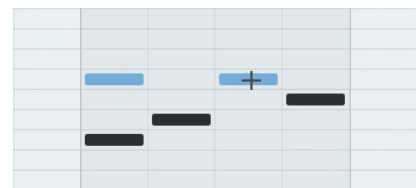
- **Right-click** in the editing area while holding down **ALT** to display the event context menu.

* It is possible to adjust any graph type in this way instead of *Velocity*, using the Drag edits function in the [Pattern editor](#).

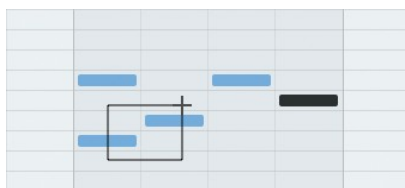
Selecting and deselecting events



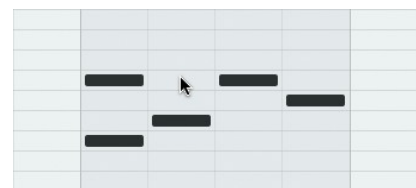
- **SHIFT-click** an event to select it. Any previously selected events are de-selected.



- **Click** an event while holding **SHIFT** and **CMD** (Mac) or **CTRL** (Windows) to add it to the selection. Clicking the event again with these keyboard modifiers held down de-selects it.



- **SHIFT-click** and drag to draw a selection box, from an empty area or from an event (the event is included in the selection). Also hold down **CMD** (Mac) or **CTRL** (Windows) to add to an existing selection.

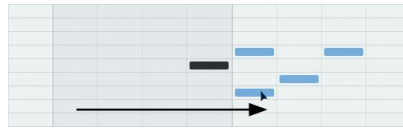


- **SHIFT-click** an empty area to de-select any selected events.

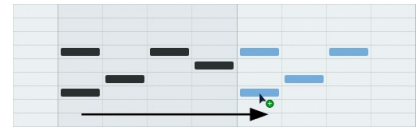
Moving and copying selections



- Create a selection



- **Click and drag** the selection to move it. Any Graph data that exists on selected steps is moved with the events.



- **Click and drag** the selection while holding down **ALT** to copy it. Any Graph data that exists on selected steps is copied with the events.

Other pattern editing functions

See the [Pattern editor](#) section later in this manual for a guide to other editing functions in the Pattern page.

Retro record

Sometimes the pressure of 'being in record mode' can impact the quality or spontaneity of a performance. Geist2's Retro record function retrospectively captures events triggered by MIDI input during playback. This means that it is possible to jam parts while in playback and then capture a good take when it occurs.

1. Select a pattern and set the required **Steps** and **Step Length** values in the Pattern page, either in a new or existing pattern, as shown [previously](#).

It is not necessary to select a pattern at this time, but be aware that the position of any captured events is always based on the pattern playing back while the events were played.

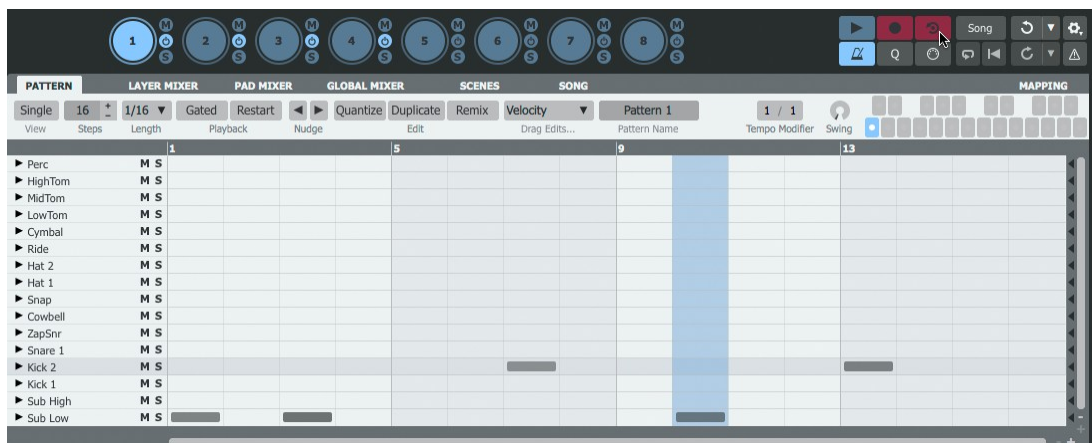


2. Click **Play/Stop** to start the transport. Alternatively, start the host transport if using the plugin.



3. Click the **Metronome** button if a click is required.

4. Play the pads on the interface or via their corresponding MIDI notes.



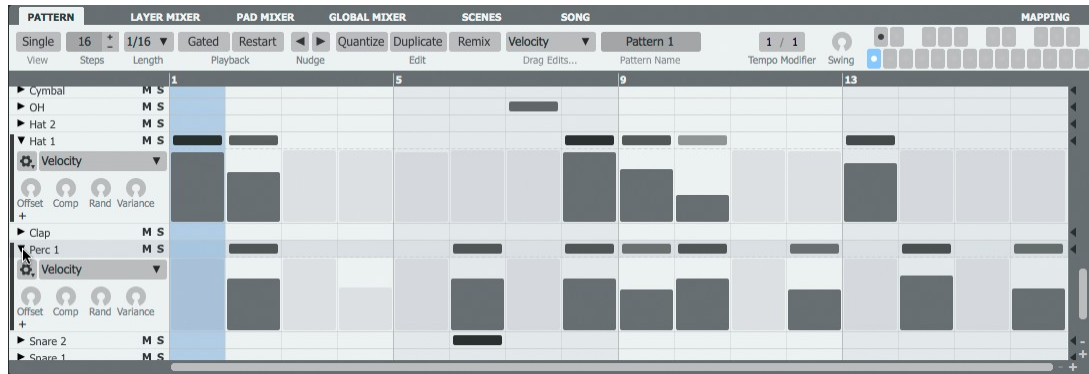
5. Click the **Retro** button to capture the events from the last non-empty pattern cycle.

1.10 Introduction to Graphs

Graphs are *step-automation* sequences which send a value to a parameter at the onset of each step.

Please note that graphs are not 'continuous' automation curves.

Viewing Graphs



By default, a graph lane can be shown for all tracks in the pattern - their visibility is toggled by clicking the small triangular arrow **Show graph** buttons at the left of each track. If the **Single View** button is activated, only a single graph lane is shown for the selected track only. When the **Single View** button is deselected, multiple graphs can be displayed.



Selecting the graph type

Use the **Graph type** drop-down menu to select the graph type to view/edit. Any graph containing any events is highlighted in the menu listing.

Important graph types in Geist2

Although graphs offer a lot of potential for sound design and movement for patterns, they are also crucial in several fundamental aspects of sequencing in Geist2.

Shift graph

This graph represents timing deviations away from straight step timing by placing pad events on pattern tracks at variable distances before or after actual step onsets.

Positive values (above the centre line) result in the step's event being played late and negative values (below the centre line) mean it is played early.

Shift graph values can be programmed or edited visually, and they are also generated during realtime MIDI input recording of pattern events.

Octave, Coarse Pitch, Fine Pitch graphs

These graphs represent changes in the overall pitch of pads over the course of the pattern.

Pitch graph values can be programmed or edited visually and are also generated during realtime MIDI recording of pattern events when using the *Chromatic Pad mode*.

Force Layers graph (Playback sub-menu)

This graph is produced when the *Slicer* panel's **Use layers** function is activated for extracting more than 64 slices from an audio loop with an accompanying pattern.

It has 8 steps, with each value forcing the corresponding pad layer (1-8) to be played on that step.

When using multi-layer velocity-split kits, adjusting this graph can offer a quick way of programming variation for each step.

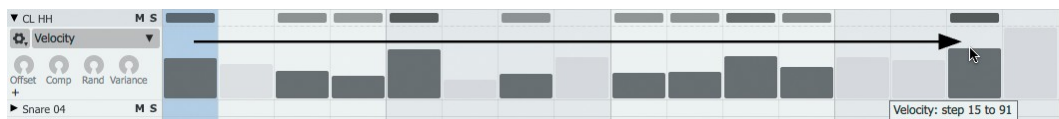
Summary of graph types

Velocity, Pan	Pad Velocity and Pan
Repeats	Number of event repeats within a single step – useful for glitchy effects
Shift	Deviation from quantized beat divisions
Coarse/Fine Pitch	Coarse and Fine pitch for all pad layers
Start Point	Changes the Start point of samples on pad layers
Filter Cutoff, Res	Filter Cutoff and Resonance for the step
Filter Type	Filter Type for the step
Force Layer	Forces only a certain layer (1-8) to play for the step
Probability	Dictates the probability of a pad triggering event occurring on a step
Loop Start	Changes the Loop Start point if a loop is defined for the sample
Loop End	Changes the Loop End point if a loop is defined for the sample
Send 1-4	Send levels for Aux sends 1-4
Envelope parameters	The Attack, Decay, Sustain, Hold, Release, Attack Curve, Decay Curve and Release Curve parameters for both the Amp and Free Envelopes are available as Graphs.
Pad FX 1-6...	All parameters for all 6 pad effects (not layer effects or any other type of effects!) are available.

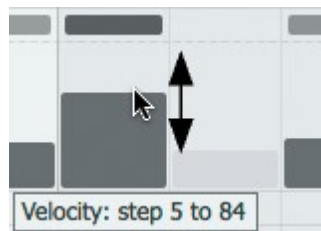
See the [Graphs](#) section later in this manual for a reference guide to each graph type.

Creating Graph events

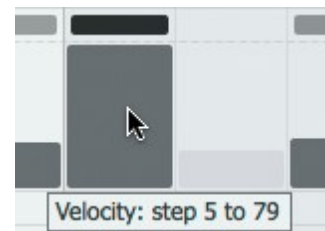
Drawing graph values



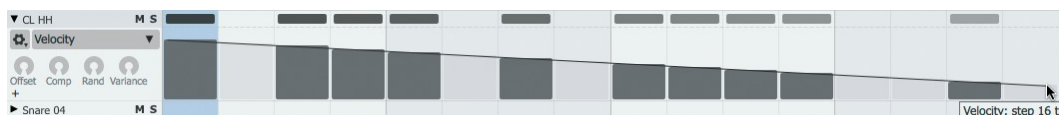
- Click and drag across the graph lane to 'paint' values or simply click values in single steps.



- Click and drag up/down to adjust a value. Hold down the **SHIFT** key for fine control.



- Right-click in the graph lane to revert a step's value to the default.

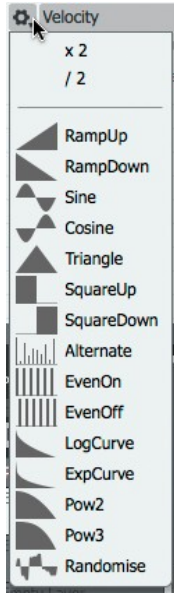


- Click and drag while holding down the **ALT** key to draw a series of graph events with the same value.

Recording graph values in real time

Graph data can be recorded in real time - see the [Graphs](#) section later in this manual for a guide to this process.

Additional graph editing functions



Insert menu

The **Insert** drop-down menu provides a number of useful graph automation shapes to insert onto the lane.

Note that using a shape from this menu results in overwriting all existing values in the graph lane.

X2 and /2 functions

The **X2** and **/2** functions, available on the **Insert** menu, operate on the entire graph lane and stretch or expand the duration of the sequence of values.



- Original series of graph values

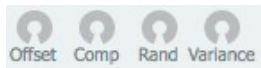


- The **X2** button compresses the graph value sequence to half the length, and repeats it to fill the entire length of the pattern.



- The **/2** button expands the first half of the sequence to double the length so that its duration is the entire pattern length.

Variance, Offset, Comp and Rand controls



These controls, with the exception of **Variance**, all act destructively to edit graph values. The Variance control acts non-destructively in real time.

Variance

The **Variance** control applies non-destructive randomization for each graph lane in real time during playback. It adds a positive or negative offset at random for each step, up to the amount specified.

Using this control is a very fast way of adding movement and variation to sequences. Try using it with the *Velocity* and *Fine Pitch* graphs for subtle amplitude and pitch variation over time. Try also using it with *Pad FX* graphs.

Offset, Comp, Rand

The **Offset**, **Comp** and **Rand** controls are used to adjust multiple graph values simultaneously. Adjusting any of these controls results in destructive edits to the graph values, visually represented on the graph display. When the control is released, the current graph values are applied and the control springs back to the default position (with value 0).

If a selection of steps exists on the track, the controls are applied only to the selected steps.

Note that it is not possible to assign or control the Offset, Comp and Rand controls to MIDI or host automation.

Offset

The **Offset** control adds the same value to all current values for the relevant graph.



- Increasing the **Offset** control from 0 on the Ramp-down graph sequence from earlier



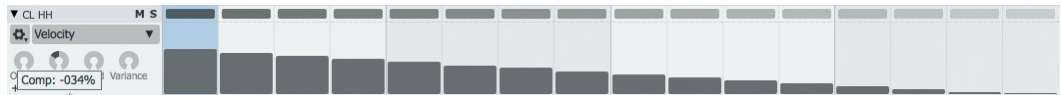
- Decreasing the **Offset** control from 0 on the Ramp-down graph sequence

Comp

As the **Comp** control is turned to the right, it gradually increases all graph values towards the maximum value, effectively 'compressing' the range between the maximum and minimum value. If the control is turned to the left, graph values are reduced towards the minimum value.



- Increasing the **Comp** control from 0 on the Ramp-down graph sequence



- Decreasing the **Comp** control from 0 on the Ramp-down graph sequence

Rand

The **Rand** control adds a random value to all graph values that is between 0 and the current value of the Rand control. The value can be positive or negative, depending on whether the Rand control is turned to the right or to the left.



- Increasing the **Rand** control from 0 on the Ramp-down graph sequence



- Decreasing the **Rand** control from 0 on the Ramp down graph sequence

1.11 Performing with patterns

Geist2 allows pattern performance by playing the [MIDI notes](#) associated with pattern memory keys (they can also be clicked on-screen but MIDI keys offer a far more accurate and playable method). This section refers to a pattern's MIDI keys, as the most common MIDI note input method for playing patterns are keys on a MIDI keyboard.

Each engine can play one pattern at any one time. Triggering or playing patterns in this way can be useful for live performances, playing specific patterns during a project from MIDI tracks in a sequencing host/DAW, or when recording into the Song page.

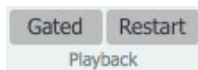
An alternative to triggering individual engine patterns is to use Scenes which are used in a very similar way. See the [next section](#) for a guide to using Scenes.

Playback mode



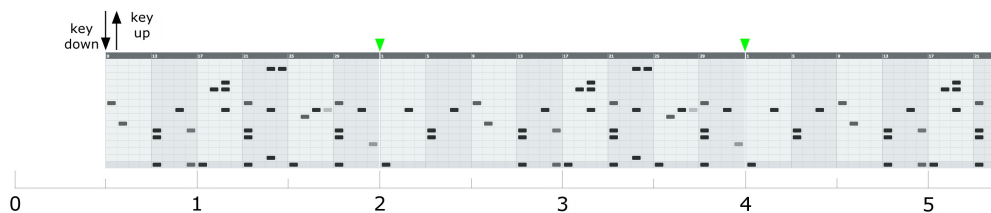
Each pattern features the **Restart** and **Gated Playback** modes which dictate certain aspects of how it is played back. Both modes can be active or inactive at the same time.

Gated off, Restart off



These are the default **Playback** settings for new patterns in Geist2, as they represent most immediate form of pattern playback.

- With the Gated mode deactivated, if the pattern is selected as the current pattern, it plays automatically when the Geist2 transport is started.
- If the transport is already started with a different pattern already playing, the pattern's MIDI key is used to switch to it - simply play the key and release it.
- The deactivated **Restart** mode means that it starts *in phase with the playing position*.
- It then loops indefinitely until another pattern is selected/played.

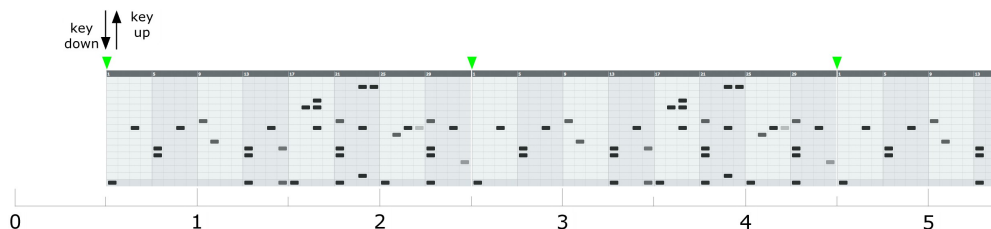


Gated off, Restart on

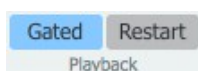


These settings are similar to the default settings mentioned above, except that in situations when the transport is already started, the pattern is always played from its beginning when its MIDI key is used to switch to it.

- The pattern is started by playing its MIDI key and releasing it.
- The pattern always plays from its start, and can play out of phase with the playing position.
- It loops indefinitely until another pattern is selected/played.

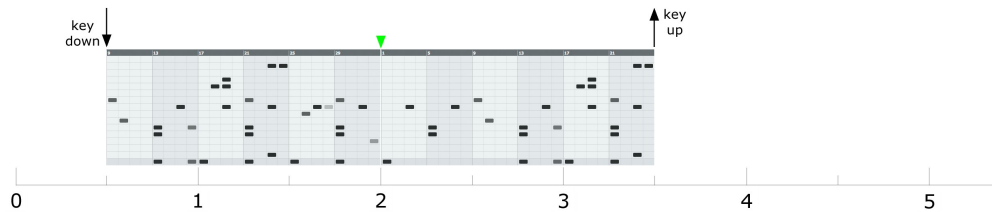


Gated on, Restart off

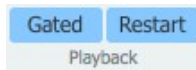


Gated mode is provided in order to allow patterns to be played by holding down a pattern's MIDI key.

- With this setting activated for the current pattern, it does not play automatically when the Geist2 transport is started.
- If the transport is already started, whether a different pattern is already playing or not, the pattern's MIDI key must be held down to switch to it and play it.
- The deactivated **Restart** mode means that it starts *in phase with the playing position*.
- It continues to play until the key is released.

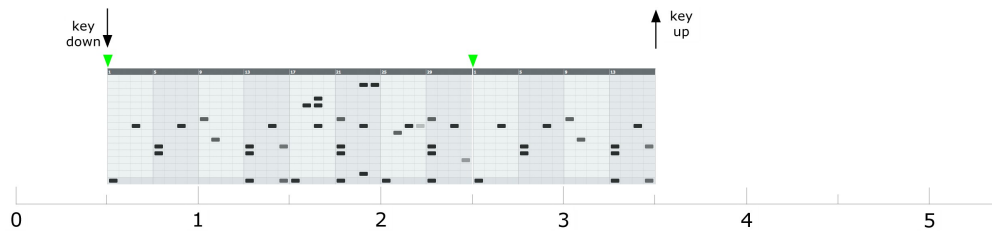


Gated on, Restart on



These settings behave in a very similar way to the **Gated on, Restart off** settings described above, except that in situations when the transport is already started, the pattern is always played from its beginning when its MIDI key is held down to play it.

- The pattern is started by holding its key down.
- The pattern always plays from its start, and can play out of phase with the playing position.
- It continues to play until the key is released.



Turning off pattern sequencing on an engine



If an engine's patterns are not required, the sequencing functions on the engine can be disabled by deactivating its **Pattern power** button.

There are several situations when this may be required:

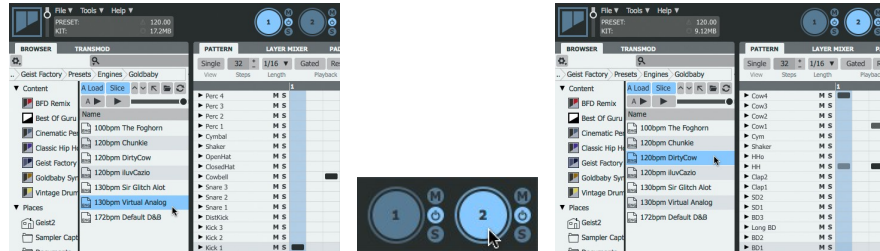
- When sequencing the engine's sounds from MIDI tracks in the host/DAW when using Geist2 as a plugin
- After exporting pattern(s) from the engine to a host MIDI track (to prevent double-triggering from pattern events at the same time as the incoming MIDI)
- Pattern power is very important in the context of using Scenes in Geist2 – after switching scenes, the **Pattern power** of one or more engines may be deactivated. See the [next section](#) for more details.

1.12 Performing with scenes

Scenes are playable 'snapshots' that represent the pattern state of all 8 engines. Playing scenes with MIDI notes can be much more convenient than playing patterns individually on multiple engines for performance or for recording into the [Song page](#).

A reference guide to the controls on the Scenes page is provided [in chapter 10](#).

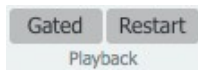
Creating scenes



1. Initialize Geist2 and load an engine file into the first engine.

2. Select engine 2.

3. Load an engine file into engine 2.



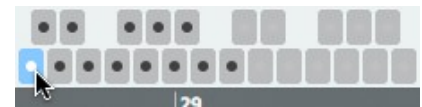
4. If the loaded engine files do not contain at least 2 patterns in each, then create some patterns or load pattern banks. Make sure that the [Playback](#) mode for all the patterns is set to **Gated** off, **Restart** off.



5. In engine 2, select pattern 2 by clicking its pattern memory key or playing its [MIDI note](#) on the relevant MIDI channel.



6. Select engine 1.



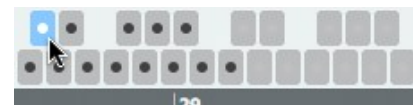
7. Make sure that pattern 1 is selected in engine 1 - if not, click its pattern memory key or play its MIDI note.



8. Switch to the Scenes page.



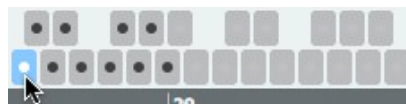
9. Click the **Snapshot scene** button on the first scene slot (C-2), or any other scene slot.



10. Now select pattern 2 in engine 1 by playing its MIDI note or by switching to the Pattern page and clicking its pattern memory key.



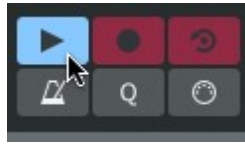
11. Select engine 2.



12. Select pattern 1, again either using its MIDI or pattern memory key.



13. On the Scenes page, click the **Snapshot scene** button on the next slot (C#-2) or any other unused slot.



14. Click **Play/Stop** to start the transport. Alternatively, start the host transport if using the plugin.



15. Now each of the used scene slots can be clicked in order to trigger them. Alternatively, use the scene's MIDI note on MIDI channel 11.

Scenes and Pattern Power

If the selected pattern in any engines is blank when a scene is created, Geist2 deactivates the **Pattern power** button for these engines within the scene data. When such a scene is recalled, the Pattern power button for the engines is deactivated. This is to ensure that the scene sounds the same if events are subsequently added to patterns in a previously unused engine. Therefore, when changing scenes, one or more engines' **Pattern power** button may be turned off – simply reactivate it if required.

To disable an engine's patterns within a scene manually, deactivate its **Pattern power** button manually before creating the scene.

For example, to create a variation on the last example with engine 1 deactivated:



1. Click engine 1's **Pattern Power** button to deactivate it.



2. Click the **Snapshot scene** button on an unused scene slot.

Engine	Pattern	Power
1	2: Pattern 2	Off
2	1: Pattern 1	On
3	1: Pattern 1	Off
4	1: Pattern 1	Off
5	1: Pattern 1	Off
6	1: Pattern 1	Off
7	1: Pattern 1	Off
8	1: Pattern 1	Off

3. The **Scene info** display shows only engine 2 is active.

Scene playback behaviour

Note that scenes simply reference the numbered patterns in each engine. If a scene references pattern 2 in engine 1, deleting or editing the referenced pattern will result in the scene sounding different when it is triggered.

What is actually heard when recalling a scene depends on the the **Playback** mode settings for the patterns within it. If any patterns are set to **Gated** mode, the scene trigger/MIDI note must be held down for as long as required. Patterns within scenes also follow the behaviour set by the **Restart** mode.

By default, scenes start as soon as they are triggered - this is specified using the **Immediate Start Mode** setting. By adjusting this setting, scenes can be set to start on the *Next Beat* or at the start of the *Next Bar*.

Scenes can be selected without being played by clicking the lower-left part of the scene slot which also displays the scene's MIDI note. This can be useful for inspecting the **Scene info** for a scene without playing it.

1.13 Arranging patterns into a song

The Song page provides a sequencer for arranging patterns along a linear timeline to form a 'song' structure.

It features a track for each of the 8 engines. Song events can be captured in real time or programmed/edited with the mouse.

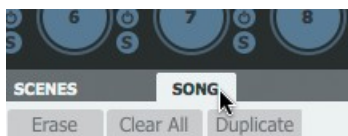
This section introduces using the **Record** and **Retro Record** functions to capture song events in real time.

The Song page is only capable of sequencing patterns – there are no parameter automation features. To automate parameters over time within Geist2, use MIDI or automation to send the required data to Geist2.

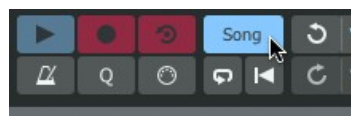
See [chapter 10](#) for a full guide to editing and other functions in the Song page.

Recording in Song mode

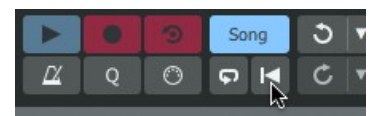
1. Follow the Scenes tutorial in the previous section to create several scenes with distinct pattern combinations.



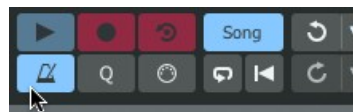
2. Click the **Song** button to display the Song page.



3. Activate the **Song Mode** button.



4. Click the **Return to start** button to go to the start of the timeline.



5. Activate the **Metronome** button if required.



6. Activate the **Record** button to 'arm' Record mode.



7. Start the transport with the **Play/Stop** button. Any engines with their **Pattern Power** button deactivated for the scene do not produce any events.

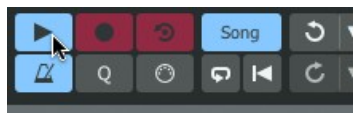


8. When the transport is stopped, the record process is complete. Zoom out if necessary to see the result in full.

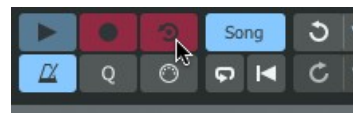
- Pattern memory keys or their corresponding MIDI notes can also be used instead of Scenes. Scenes can be more convenient for creating Song events for all engines.

Recording retrospectively into the song

The process for Retro recording is very similar. Instead of entering Record mode:



- 1.** Start the transport and perform with Scene or Pattern key triggers.



- 2.** Stop the transport and click the **Retro record** button. All active pattern events during the previous playback pass are captured.

- Pattern key or scene performances which occurred while the Song mode button is deactivated can also be captured. After the performance, click the **Song mode** button and then click the **Retro** button on the transport. The captured parts are inserted from the beginning of the song.

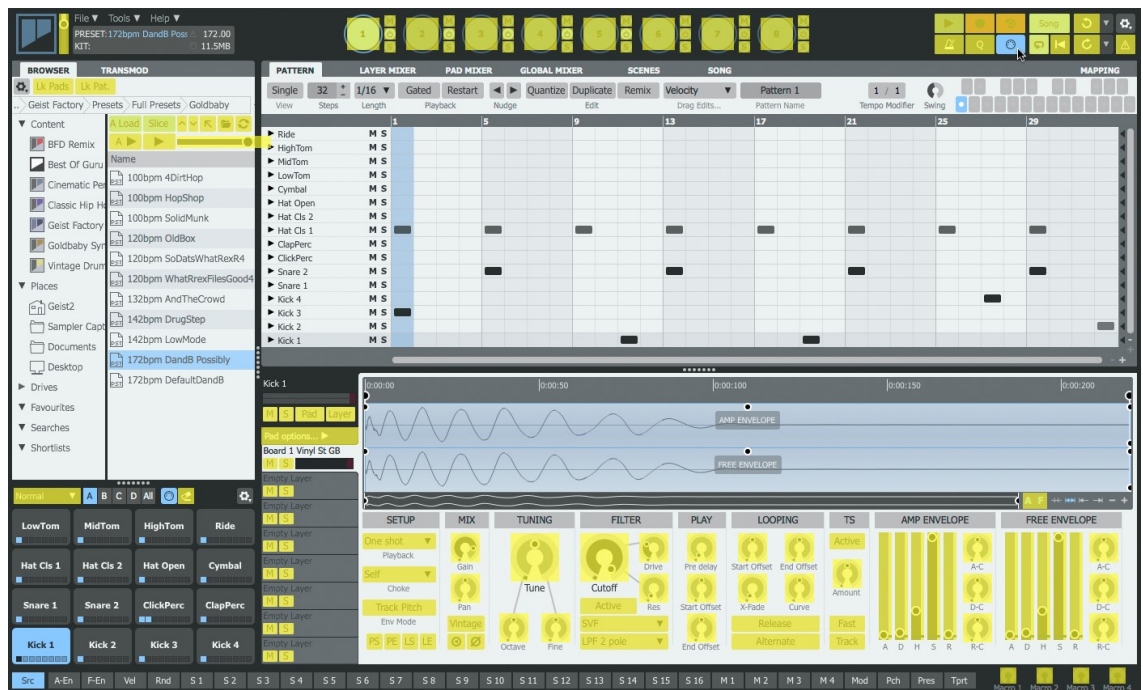
1.14 Using MIDI and host automation

The Learn system allows one or more Geist2 controls to be mapped to single MIDI CCs (continuous controllers) or host automation parameters.

Mappings are stored with presets – to recall a set of mappings whenever Geist2 is launched, save them in a [default preset](#).

Mapping Geist2 controls to MIDI CCs

Hardware controllers which send MIDI CCs tend to be affordable and accessible. They offer a range of 127 values.



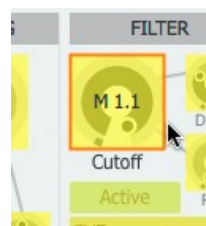
1. Click the **Learn** button to enter Learn mode. Controls in Geist2 which can be mapped to MIDI CCs are highlighted in yellow.



2. Click the desired control on the Geist2 interface.



3. Move the physical knob, slider or other controller to map to the Geist2 control.



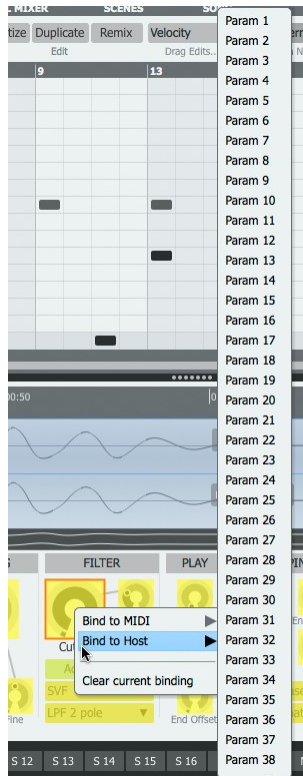
4. The control is now mapped to the MIDI CC - the MIDI channel and CC number is overlaid on the control.



5. Click the **Learn** button again to exit Learn mode and return to normal operation.

Alternatively, instead of steps 2 and 3, right-click the desired control while in Learn mode and use the **Bind to MIDI** sub-menu to assign a MIDI CC number manually.

Mapping Geist2 controls to host automation parameters



Host automation parameters generally offer higher resolution than MIDI CCs. They can be drawn as curves in most sequencing hosts, or recorded with a dedicated controller. Such controllers are not simple, generic MIDI controllers, but usually dedicated devices that integrate specially with the host.

To create host automation assignments, first enter Learn mode as described above. Then right-click the desired control and use the **Bind to Host** sub-menu to specify the host parameter number to which to map the Geist2 control. The assignment is created with the host parameter number overlaid on the control. Click the **Learn** button again to exit Learn mode.

Removing MIDI or host automation assignments

To remove any existing assignments, right-click on any mapped control and use the **Clear current binding** function.

Managing assignments with the Mapping panel

The [Mapping panel](#) displays a table showing all current MIDI CC and host automation mappings.

The panel allows each mapping's current properties and behaviour settings are shown and can be adjusted.

1.15 MIDI / audio export and MIDI output

Geist2 offers various ways of exporting material allowing arrangement within other environments such as the host/DAW or other hardware/software samplers.

Exporting patterns as MIDI

Patterns can be exported as MIDI sequences from Geist2 using drag and drop.



Exporting to a disk folder

- Click and drag the required pattern key to the desktop or any other location with write permissions in Finder (Mac) or Explorer (Windows). The pattern is exported as a MIDI file to the relevant location.



Exporting to a MIDI track in a host/DAW

- First, make sure the required MIDI or audio instrument track in the host's 'arrange' page is visible. Click and drag the required pattern key to the required point on the track. The pattern is exported as a MIDI 'clip' to the track where the mouse is released.



- If using the exported MIDI track to drive the same engine in Geist2, it is advisable to turn off the **Pattern power** button for the engine or to select an empty pattern.

Exporting graph data

If any graphs used in a pattern are assigned to MIDI CCs, the graph data is written as MIDI CC values when the pattern is exported.

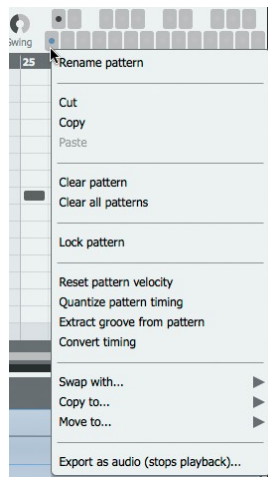
When attempting to export a pattern which contains any graph data not currently assigned to a MIDI CC, Geist2 automatically assigns MIDI CCs to any graphs that contain events, and event values are exported as MIDI CC data with the pattern.

If this automatic assignment behaviour is not required it can be disabled in the [Preferences](#).

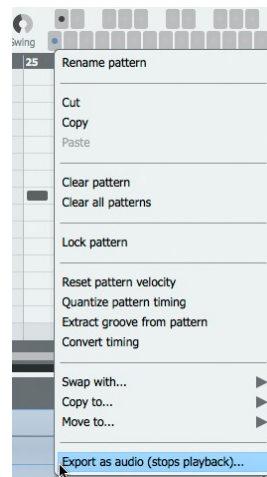
Exporting patterns as audio

Patterns can also be exported as audio clips using the pattern context menu, either to a file location or to an audio track in a host/DAW when using Geist2 as a plugin:

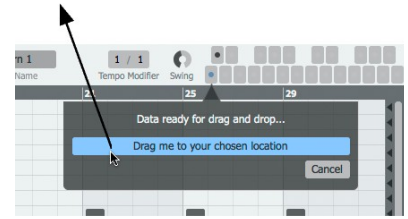
1. Firstly, select the desired pattern.



2. Right-click its pattern memory key to display the pattern key context menu.



3. Click the **Export as Audio (stops playback)** function.

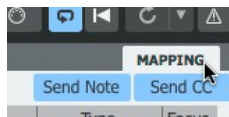


4. The pattern is internally mixed (offline and faster than real time). When the audio has been mixed down and prepared for export, a popup appears with a draggable area. Drag and drop from here to an audio track or to a valid file location such as the desktop.

Audio export panel

The above process uses settings found within the [Audio export panel](#), displayed using the **Export as audio** function in the File menu. This panel also provides several other audio export options.

MIDI output (standalone and VST plugin in suitable hosts only)



When using Geist2 as a standalone application or as a plugin in a suitable host, its pattern and graph events are transmitted from its MIDI output in order to trigger other MIDI instruments by activating the **Send Note** and **Send CC** buttons in the [Mapping panel](#).

If using the Geist2 plugin, the host must support MIDI output from a plugin.

With the **Send Note** button activated, the output from engines 1-8 is transmitted on MIDI channels 1-8 of the MIDI output, using the pads' assigned MIDI notes.

With the **Send CC** button activated, any graphs currently assigned to MIDI CCs are output as MIDI CC data alongside note events in the pattern.

2 Browser

Browser overview

The Browser is the primary method of loading sounds into Geist2, and is introduced in the following sections:

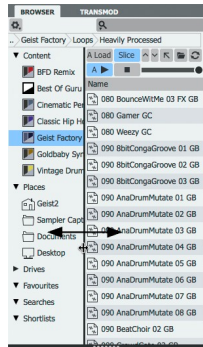
- [Loading sounds for the first time](#)
- [More about loading sounds and saving work](#)

This chapter provides a reference guide to using the following aspects of the Browser:

- [Browser modes](#): **Auto load**, **Auto play**, **Preview play** and **Slice** buttons
- [Navigation and Options](#): Tools for folder/file navigation and additional Browser functions
- [Sidebar and Files](#): Sidebar shortcut locations, Geist2 file types and additional functions
- [Searches, Favourites and Shortlists](#): Additional tools to make it easier and faster to find the right sound

Note that files can also be loaded using the [File menu](#).

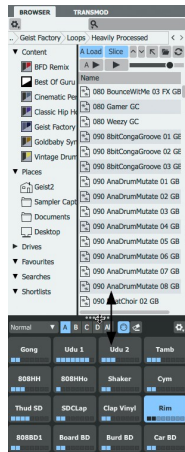
Browser visibility and dividers



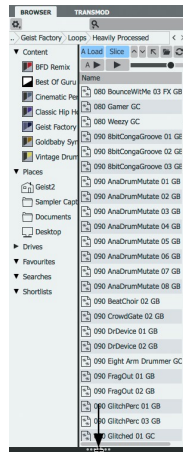
The Browser shares space on the interface with the TransMod panel, used for [TransMod modulation](#) in Geist2. If the TransMod panel is currently visible, click the **Browser** button to display the Browser instead.

The border between the Browser sidebar and the files area/shortlist can be adjusted to resize the areas: simply click and drag the border left/right.

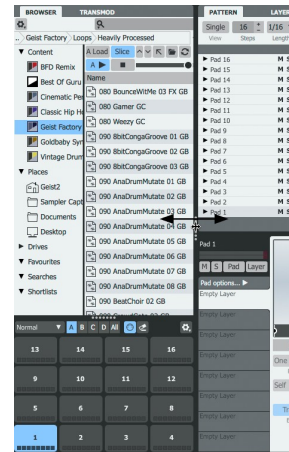
The border can also be double-clicked to hide the sidebar completely – double-click it again to restore it.



- The pads area can be made larger or smaller by vertically dragging the divider above it.



- The pads can be hidden entirely if desired. Toggle visibility by double-clicking the divider.



- The Browser area can be resized or hidden by dragging left/right the divider between the Browser and the rest of the interface.

Alternatively, double-click the divider.

2.1 Browser Modes

Auto load



When the **Auto load** button (labelled **A Load** on the interface) is activated, selecting a file in the Browser results in it being loaded to the currently selected pad or layer. Continuing to click on other files will result in them replacing the current contents.

Holding down ALT while clicking on a sample results in it being loaded to the next available layer on the current pad.

This continues to occur until the pad is locked, another pad is selected or the **Auto load** button is deactivated.

Deactivating Auto load

If **Auto load** is deactivated, samples must be loaded to pad layers via one of the following methods:

- **Drag & drop to a specific pad or layer**

Dragging a sample onto a pad loads it to the pad's first layer, replacing all other samples on the pad's layers.

Holding down ALT while dragging a sample onto a pad loads it to the pad's next available layer.

In this mode, 8 samples can be selected and subsequently loaded to a pad using drag and drop.

Hover over a different engine's Engine selector button during the drag operation in order to switch to that engine before dropping the sample onto one of its pads.

- **Double-click to load the sample to the current pad layer**

Double-click to load a sample to the currently selected pad layer.

Hold down the ALT key during this process to load the sample to the pad's next available layer.

Auto play



When the **Auto play** button is activated, selecting a sample in the Browser results in it being previewed automatically.

Any playing preview can be stopped by clicking the **Preview Play/Stop** button to the right of the **Auto play** button.

Previewing sounds manually

To preview a sample again, or if the **Auto play** button is deactivated entirely, click the **Preview play/stop** button.

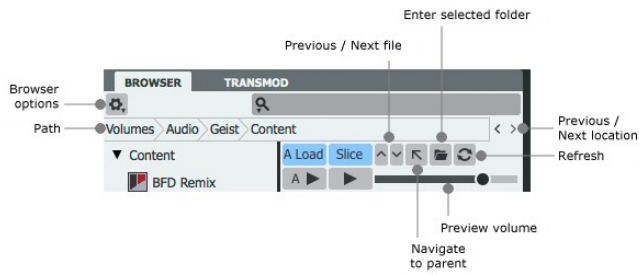
Slice



With the **Slice** button activated, selecting a sample results in it being opened in the [Slicer panel](#). The Slicer allows non-destructive 'chopping' for loops and breakbeats and is designed for fast operation and automatic pad assignment.

Note that it is possible to set the contents of any folder not to invoke the Slicer panel, even when the **Slice** button is activated: right-click any file in the folder and use the **Allow/Disallow slicing of files in this folder** function on the files context menu that appears.

2.2 Browser Navigation and Options



The Browser provides various controls for navigating around folders and files on the system.

Navigation

Previous / Next file

The **Previous file** / **Next file** buttons select the previous or next file in the Files list.

It can be useful to assign these buttons to MIDI CCs for browsing samples with a hardware controller.

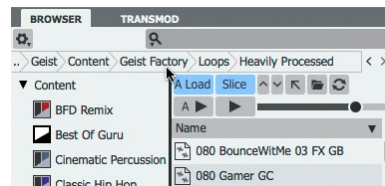
Navigate to parent

The **Navigate to parent** button either returns to the location which contains the current folder or, when performing a search, cancels the search and returns to the previous location.

Enter selected folder

When a sub-folder is selected, the **Enter folder** button opens the sub-folder (the sub-folder can also be double-clicked to enter it - this button is primarily provided for use with MIDI remote control).

Path



The current folder's parent hierarchy is shown with this control. The name of each folder level is abbreviated for space reasons but is shown in full as a tooltip.

Click on any level of the **Path** to jump to the relevant location.

Refresh

The Refresh button refreshes the current Files listing.

Previous / Next location

The **Previous location** / **Next location** folder buttons are web-browser-style navigation buttons to return to the previous or next location within a sequence of browsed locations.

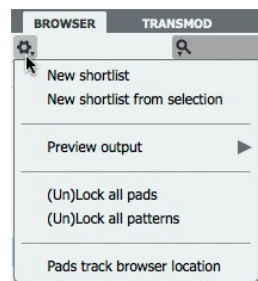
Preview volume

This control adjusts the level of Browser previews.

Drag and drop from OS file window

Drag and drop a folder from Finder (Mac) or Explorer (Windows) to show the folder's contents in the Geist2 Browser.

Browser Options



This menu provides a number of additional Browser functions.

New Shortlist New Shortlist from selection

These functions are used with the [shortlists](#) system.

Preview output

This function allows Browser previews to be routed to a discrete sub-output.

Setting a discrete sub-output allows a 'cueing' system to be used, whereby sounds can be auditioned without them being heard in the main mix, useful for live performance.

Lock/Unlock all pads

Lock/Unlock all patterns

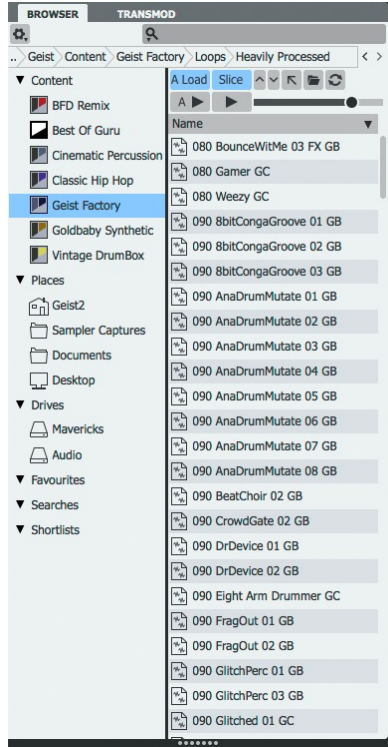
These functions lock or unlock all pads and patterns in the current engine with a single action.

This can be especially useful for Slicer operations while **Auto load** mode is enabled if only the audio or only the pattern are required to be extracted from a loop.

2.3 Sidebar and Files

Browser sidebar

The Browser sidebar provides clickable shortcuts to various locations and Browser utility functions. Each type of item in the sidebar can be right-clicked to display a context menu offering further context-specific functions.



Main items

Content

This area of the sidebar displays links to content locations of various types, including the Geist2 factory library and any installed Geist Expanders.

The context menu for these items (right-click on any item) provides the ability to reveal their location in a system file window (Explorer on Windows / Finder on Mac).

Drives

This section displays all available drives detected on the system – click any drive to browse its contents.

The context menu for these items (right-click on any item) provides the ability to reveal their location in a system file window.

Other items

The context menu for these items allows the selected item to be renamed or removed. A colour label can also be defined.

Some items feature additional functions on the context menu (see below).

Favourites

Saved [favourites](#) are shown in this area.

Searches

Saved [searches](#) are shown in this area.

The context menu for these items provides the ability to refresh the selected search.

Shortlists

Saved [shortlists](#) are shown in this area.

Files area

This area of the Browser shows the files contained within the currently selected location. Nested sub-folders are also shown for navigating further down in the folder structure.

Main controls

Files

The main part of this area shows the files contained within the current location or the search results when a search is performed.

Selection

Click a file to select it. The behaviour that follows selection depends upon the state of the **Auto load**, **Auto play** and **Slice** buttons (see [section 2.1](#) for details of these functions).

Right-clicking on a selection displays the files context menu.

Multiple selection

Multiple files can be selected using the following methods:

- SHIFT-click to create a contiguous selection between 2 files
- CMD-click (Mac) or CTRL-click (Windows) to add a file to the selection

This is useful for several functions, such as:

- adding files to shortlists
- loading up to 8 samples to a single pad when **Auto load** mode is deactivated
- various operations on the files context menu (see below)

Columns, View options and File types



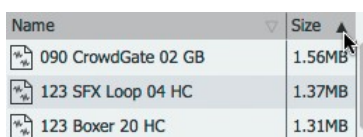
Right-click on the column headings bar above the Files list to display the View options menu. This menu provides various options for the content of the Files list under the View, Columns and Sort by sub-menus.

View

By default, the Browser is set to show all possible types of files relevant to Geist2. The View menu provides the ability to toggle the visibility of each of these file types:

Audio	Samples in WAV, AIFF, REX and RX2 formats
Presets	Geist2 presets store the entire state of Geist2, and must be double-clicked to load them from the Browser (regardless of the Auto load button state), discarding the contents of the current session. Note that a preset loading operation <i>cannot</i> be reversed using the Undo function.
Engines	Engine files store the entire state of an engine: the sounds on the pad (plus Pad Editor settings), 24 patterns, and any layer/pad/engine effects.
Kits	A kit file contains the contents of the pads on an engine, including layer and pad effects.
Patterns	Individual pattern files
Pattern Banks	An entire set of up to 24 patterns (all patterns in an engine)
MIDI	Geist2 can import MIDI files as patterns - any MIDI notes that are not on pad notes are ignored.
Guru Kit	The GURU kit file must be saved with GURU 1.5 or later
Guru Pattern	Individual GURU pattern (saved with GURU 1.5 or later)
Guru Pattern Bank	An entire set of up to 24 GURU patterns (saved with GURU 1.5 or later)
Folders	If this item is deactivated, folders are not visible in the files list in the Browser. This is intended for situations when a folder containing samples also contains a lot of sub-folders, and their presence makes excessive scrolling necessary.

Columns



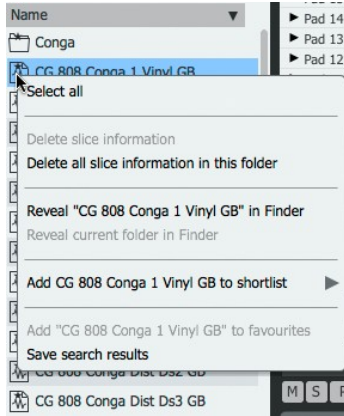
By default, only the *Name* (filename) is shown for each item in the Files list. Using this menu, *Type* and *Size* columns can also be shown for each item (or deactivated if they are currently activated).

Clicking on the column headings sorts the currently displayed files by the column's criteria. Repeatedly clicking the column headings toggles between ascending and descending sorting.

Sort by

This menu provides an alternative to clicking column headings to sort by Name, Type or Size column headings to change the current sorting method used for the Files list.

Files context menu



Right-click in the files area to display the files context menu, which provides the following functions:

Select All

This function selects all files visible within the current location.

Delete slice information

Allow/Disallow slicing of files in this folder

These functions are related to Geist2's [Slicer](#).

Reveal selected items in Explorer/Finder

This function launches a system file browser window (Explorer on Windows or Finder on Mac) at the selected file or folder location.

Reveal current folder in Explorer/Finder

This function launches a system file browser window at the current folder location.

Add selected to shortlist

Add selected to favourites

Add current folder to favourites

These functions are discussed in the next [next section](#).

Importing GURU files saved in GURU 1.5 or later

Geist2 can import GURU v1.5 format kits, patterns and pattern banks from the Browser. GURU v1.5 format presets can also be imported via the File menu (see section 12:4). Files saved with GURU versions prior to v1.0 cannot be imported – they must be loaded into v1.5 or later and re-saved.

Note that while the important aspects of the files are imported, there are some parameters which cannot be translated due to fundamental differences between the architecture of Geist2 and GURU.

- Effects are not imported
- The filter settings may differ considerably, due to the improved filter in Geist, and the fact that it features discrete filter types rather than GURU's blendable LP/BP/HP filter.
- Envelope settings are an approximation of GURU envelopes.
- Velocity split ranges are approximated from GURU's velocity split settings.
- Choke groups are also an approximation of GURU's settings.
- Gain/volume levels may differ slightly, due to the different gain structure within Geist.
- Not all graphs are translated properly – in particular, the Force Layers and Filter Type graphs differ considerably.

2.4 Searches, Favourites and Shortlists

Geist2's Browser provides a number of functions to make it faster and easier to find the right sound.

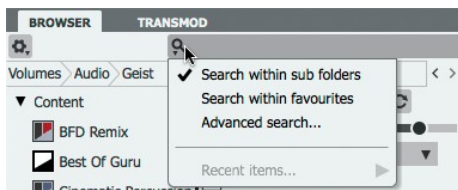
Simple searches



The Search box provides a simple filename-based search. Simply click the **Search** box, type a search term and press ENTER.

Search results appear in place of the current Browser location in the files area. To return to the previous Browser location, click either the **Previous** or **Navigate to Parent** buttons.

Search menu



Click the **Search menu** button at the left of the **Search** box to display the Search menu.

Search within sub-folders

With this setting deactivated, the Search function effectively applies a filter to the files within the current folder.

With this setting activated, all sub-folders within the current Browser location are included in the search.

Search within favourites

With this setting activated, all current Favourites locations are also included in the search.

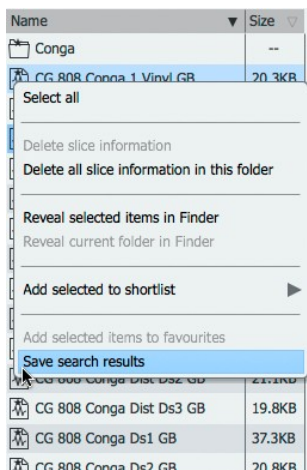
Advanced search...

This function toggles the visibility of the Advanced search controls (see below).

Recent searches

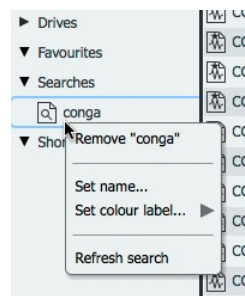
Any recently used search terms are listed in this sub-menu for convenience.

Saving searches

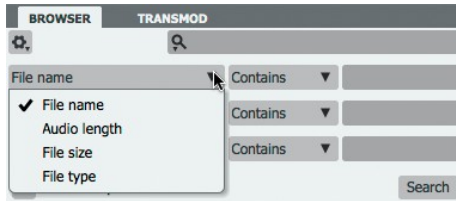


Right-click within the search results to display the files context menu. Use the **Save search results** function to save the search in the Searches section of the Browser sidebar.

The context menu for these sidebar items provides the ability to remove, rename, set a colour label for the item or reveal the selected item's location in the system file browser.



Advanced Search functions



The **Advanced search...** function on the Search menu (see above) toggles the visibility of the Advanced search controls, providing additional options for searching.

Note that the **Search within sub-folders** and **Search within favourites** settings in the Search menu also apply to the Advanced search function.

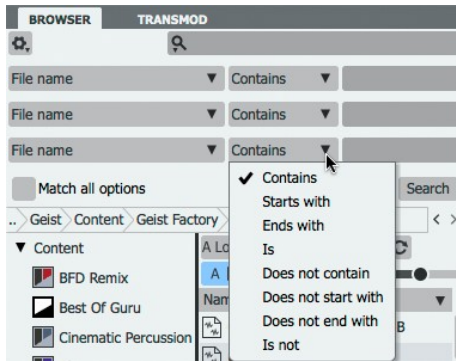
Like the simple **Search** function described above, the results returned by the Advanced Search are displayed in place of the current Browser location in the files area. To return to the previous Browser location, click the **Previous** or **Navigate to Parent** buttons.

Search conditions

It is possible to define up to 3 search conditions with the Advanced search controls. Each of the 3 search conditions feature the ability to define a **File attribute**, **Condition** and **Advanced Search term**.

File attribute

This menu specifies which file attribute is searched. This can be any of the following: *File name*, *Audio length*, *File size* and *File type*.



Condition

This drop-down menu defines the condition for the search term to return a result. The possible settings are:

- Positive searches: *Contains*; *Starts with*; *Ends with*; *Is*
- Negative searches: *Does not contain*; *Does not start with*; *Does not end with*; *Is not*

Advanced Search term

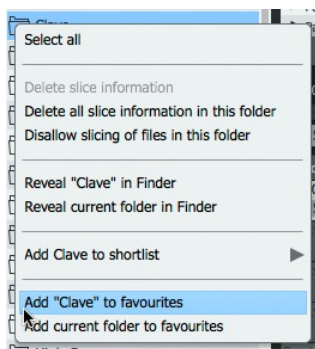
Enter the desired search term in the text box at the right of each of the 3 search conditions.

Match all options

With this button activated, all 3 search conditions must be met for a result to be returned.

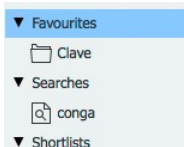
With the button deactivated, any of the 3 search conditions must be met for a result to be returned.

Favourites



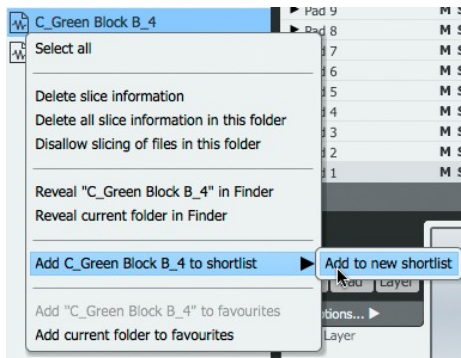
Click and drag any folder from the files area to this section to save it as a favourite, or right-click in the files section and use the **Add to favourites** functions.

The items are then accessible in the Favourites section of the sidebar for quick access in future. The context menu for these sidebar items provides the ability to reveal the selected item's location in the system file browser.



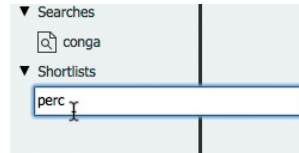
Shortlists

Shortlists allow multiple samples to be added from different locations on disk to be viewed and auditioned together for convenience.

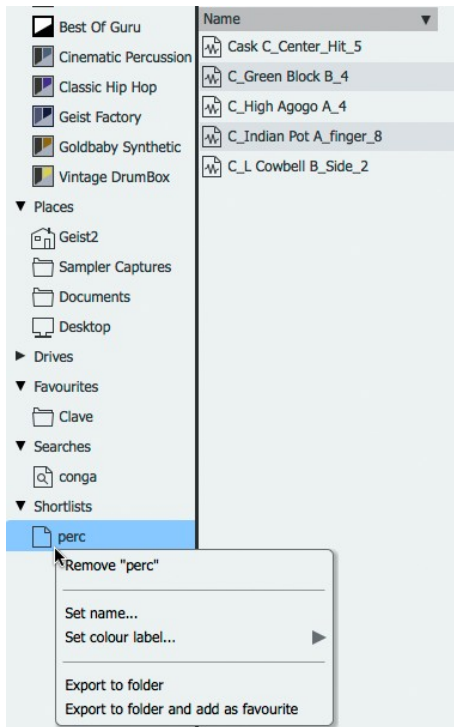


Creating shortlists

To add files to a shortlist, right-click on a sample in the Files area of the Browser and use the **Add to shortlist** function. Name the shortlist and press ENTER. A new shortlist can also be created by using the Browser options menu.



Recalling a shortlist



To recall a shortlist, click the relevant Shortlist in the Browser sidebar - any files previously added to the shortlist are now displayed in the Files area.

Shortlist context menu

Right-click on a shortlist in the Browser sidebar to display the shortlist context menu which provides several functions with which to manage shortlists.

Remove

This function removes the selected shortlist from the sidebar. Note that any audio files contained within it remain unaffected in their original disk locations.

Set name...

This function allows the shortlist to be renamed.

Set colour label...

This function specifies a colour label for the shortlist in the Browser sidebar.

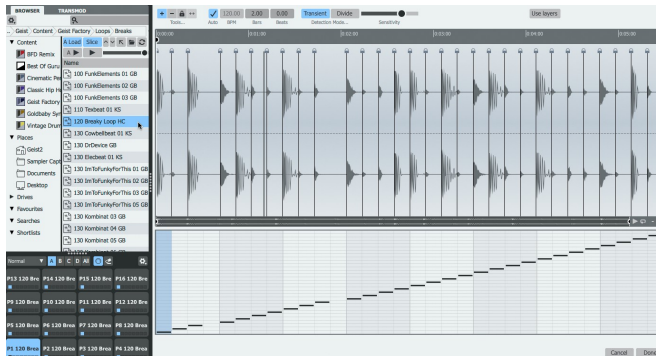
Export to folder

Use this function to create a copy of all audio files within the shortlist in a new folder.

Export to folder and add as favourite

This function creates a copy of all audio files within the shortlist in a new folder and then adds the folder to the Favourites section in the Browser sidebar.

3 Slicing



When the Browser's **Slice** button is activated, clicking a sample (WAV/AIFF/RX2) in the Browser displays the Slicer panel. This panel allows loops and breakbeats to be 'chopped' non-destructively and assigned to pad layers. The pattern of the loop can also be extracted.

Slicing is introduced in the [Slicing loops](#) section earlier in this manual.

This section describes how to open loops in the Slicer panel.

The rest of this chapter provides a guide to the [Slicer panel controls](#) and the various [slicing tools and modes](#).

Important Browser controls for slicing

Slice



The **Slice** button must be activated for Geist2 to open the Slicer panel when a sample is clicked in the Browser.

Note that there are other ways of sending a sample to the Slicer panel - see below.

Auto load



If the **Auto load** button is activated when the Slicer is used, the extracted slices and corresponding pattern are always automatically assigned to the pads and current pattern in the current engine in order to preview it in context.

In the case of pads, previous layer sample content is removed but other settings remain.

The above does not apply to locked pads or patterns.

Note that this automatic loading can be cancelled by clicking the **Cancel** button to exit the Slicer and discard the current slicing session. Click the **Done** button to confirm the changes.

When **Auto load** mode is active, the extracted pad and pattern contents are refreshed in real time when moving/adding/removing slice points and using the **Sensitivity** slider in **Transient** slice mode.

Deactivating Auto load mode

If the **Auto load** button is deactivated, pads and audio slices are loaded to pads using the **Extract** buttons while individual slices can also be loaded to pads using drag and drop (using the **Drag tool**). These functions are described in [section 3:2](#).

Other ways of opening samples in the Slicer

Slicing samples already loaded into layers

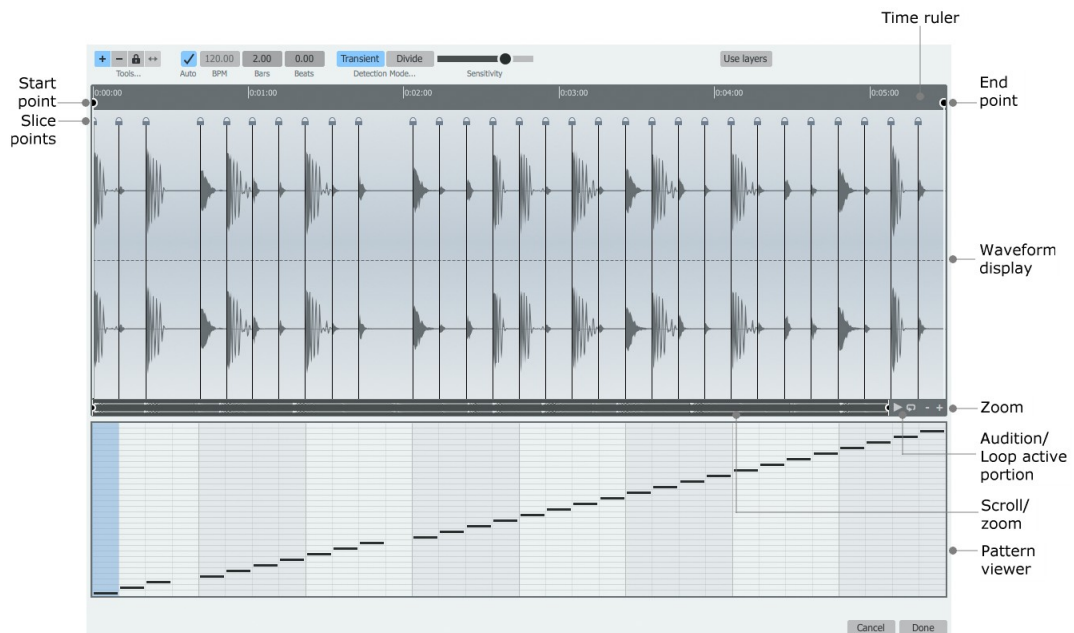
The **Send to slicer** function is available on the [layer context menu](#) - it allows any sample on a pad layer to be opened in the Slicer panel.

Assigning newly-recorded samples to the Slicer

The [Sampler](#) provides an **Assign** mode for sending new samples directly to the Slicer panel.

3.1 Slicer panel

Slicer displays and controls



Waveform display

The selected sample in the Browser is shown in the waveform display.

BPM/Bars/Beats

This information in these fields is calculated from the sample. REX2 files feature embedded information for these fields, while WAV/AIFF samples are analysed and calculated according to their length.

It is possible to manually override the automatically detected information if required - simply click the relevant field and type a new numerical value.

Time ruler

Time units are shown on the rule above the waveform and slice point markers. By default, seconds are used as units. Right-click in the ruler to display a context menu which allows tempo-based units (*Beats*) to be used instead.

Start and End points

The **Start point** and **End point** markers enclose the section of the sample that is used for the slicing session. It can be very useful to adjust these markers when only a certain part of a sample is required - for example, it is possible to load an entire song into the slicer and focus on the drum solo/break section with these markers.

Slice points

Each division is indicated by a slice point, which represents the end of the previous slice and the start of the next.

Locked slices such as those shown above are displayed with a 'padlock' symbol. Unlocked slices are shown as triangular indicators. See the [next section](#) for more details on slice points and the Lock functions.

Audition/Loop active portion

The **Audition active portion** button on the scrollbar plays the active portion of the loop enclosed by the **Start point** and **End point**. Activating the **Loop active portion** button to its right results in the portion repeating when the Audition button is used - click the Audition button again to stop the looping audition.

When extracting patterns from loops, this function can be very useful for ensuring that a musically useful looping portion is sliced, which is crucial for obtaining an optimal pattern.

Pattern viewer

This part of the Slicer page displays the current pattern (this display cannot be edited).

If **Auto load** mode is currently activated, the loop's pattern is automatically extracted and replaces the previous contents of the current pattern.

When **Auto load** mode is not active, this display shows the contents of the pattern before the Slicer was invoked. The sliced loop's pattern can still be manually extracted by clicking the **Extract Pattern** button.

Detection Mode: Transient/Divide

This control sets the Slicer to either **Transient** (transient-based algorithm) or **Divide** (equal division-based algorithm) mode.

In Transient mode, a Sensitivity control is shown on the interface.

In Divide mode, this is replaced by a numerical text box which specifies the number of equal-length slices into which to divide the audio file.

These modes are described in more detail in the [next section](#).

Use layers

Clicking the **Use layers** button results in all slices in the loop (if over 64) being used and assigned to additional layers on the pads.

If the pattern is extracted, information about the layers required is also extracted with it and stored in [Force layer graph](#) values for the pattern's tracks.

Other useful controls for slicing sessions

Undo

The **Undo** function can be used to revert to previous states before the slicing session was initiated, whether or not **Auto load** mode is active.

Lock pad/pattern functions

Pad and pattern locks are very useful for Slicer operations while **Auto load** mode is activated. These lock functions can be accessed via pad and pattern key context menus.

Delete slice information

Delete all slice information in this folder

See the [next section](#) for details of these functions.

Allow/Disallow slicing of files in this folder

This function, on the files context menu, allows any folder to be set to override the Slicer panel functionality if the Browser's **Slice** button is activated. It may be convenient to use this setting for any folders containing 'single hits' rather than loops/breakbeats (all sub-folders in the Geist2 Factory/Hits folder have been set to disallow slicing).

If this function has been applied to a folder, a 'star' indicator appears on the folder icon, the folder name in the Path display and on the icon for each sample within the folder.

All sub-folders in the Geist2 Factory/Hits folder have been set to disallow slicing.

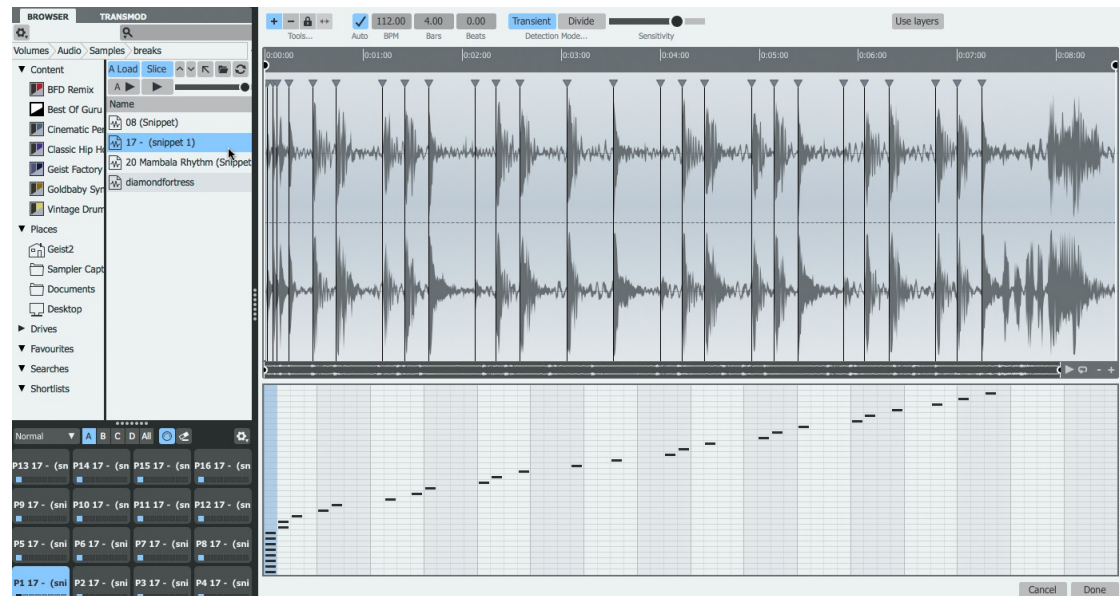
3.2 Slicing tools and modes

Any factory loops supplied with Geist2 or Geist Expander add-ons are already sliced optimally for convenience.

However, when working with user samples, it is usually necessary to perform some adjustment using the various tools and modes in the Slicer panel.

Using *Transient* Detection mode

In *Transient* slice mode, Geist2 features a variable **Sensitivity** control for detecting transients in the audio file. As the slider is increased, the slicing algorithm becomes more sensitive to transients so that more slice points are created.



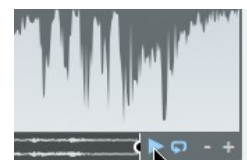
1. With the **Auto Load** and **Slice** buttons activated in the Browser, Click a WAV or AIFF audio file containing the desired loop from which to extract slices and/or a pattern.

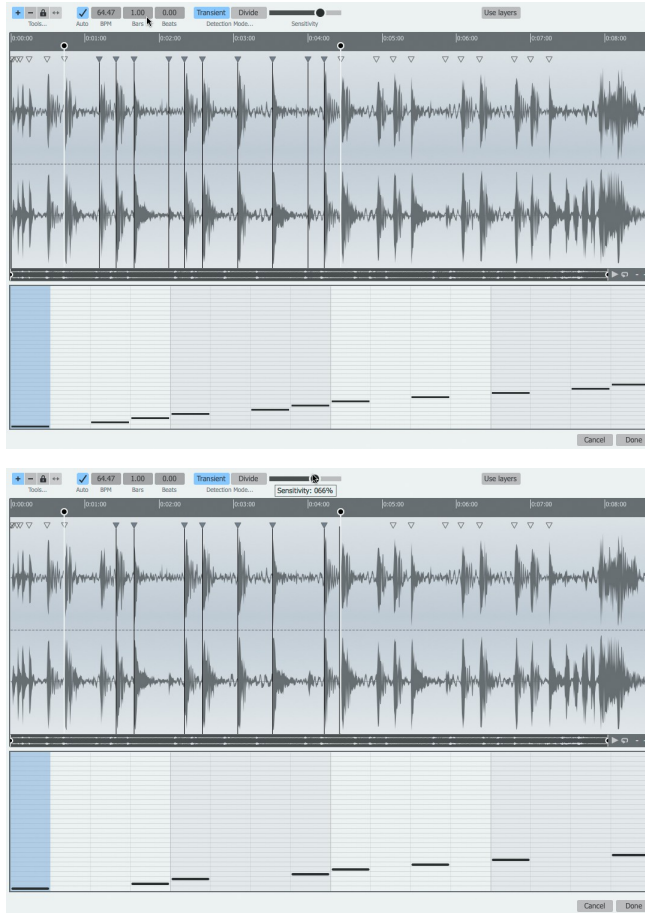
At first, the pattern can typically look quite chaotic, especially if the desired loop is a sub-section of the audio file.



2. Use the **Start point** and **End point** markers to specify the desired portion of the file on which to operate.

When extracting a pattern from the audio, the **Audition / Loop active portion** buttons can be very useful during this process. By looping the portion between the **Start point** and **End point** markers, the markers can be set to ensure that the resulting pattern loops in a musically useful way.





3. Geist2 attempts to make a best guess of the BPM and length of the active portion which is being sliced. To override the detected values, simply click the relevant field and type a new numerical value.

In this case, the loop in question is 1 bar long.

After these processes, the extracted pattern more closely resembles the transients in the audio.



4. The **Sensitivity** control can be used to adjust the transient-detection.

Decreasing the control as shown in the image to the left results in less slices being detected.

Increase the control to detect more slices.

- Any slice can be auditioned by right-clicking the waveform.



Additional tools for adjusting slices



Insert tool

There may be situations, especially with material containing widely varying dynamics, where the Sensitivity control cannot provide the granularity to detect all required slices. In such cases the **Insert tool** can be used to manually add slice points wherever required.



- Simply click at the desired point in the waveform in order to add a slice point.

- Click and drag the slice point left/right to move it.

- Right-click the slice point to display the slice context menu (see below).

When a slice is manually added in this way, it is automatically Locked – this means that it is not affected by any further adjustment of the **Sensitivity** control until it is unlocked.

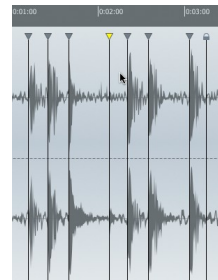
- Additionally, slice points can be deleted by ALT-clicking in the waveform - the slice point to the left is deleted.
- Audition slices by right-clicking the waveform.



Delete tool

Activate the **Delete tool** for easy deletion of slice points by clicking the waveform.

- Additionally, slice points can be inserted by ALT-clicking in the waveform wherever required.
- Audition slices by right-clicking the waveform.
- Right-click a slice point to display the slice context menu (see below).



- Click the required slice.



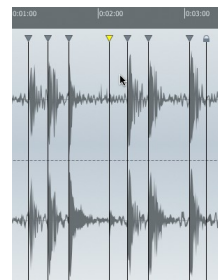
- The slice point is removed.



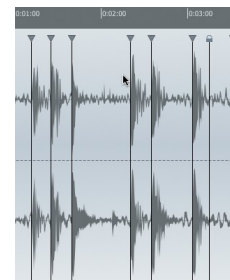
Lock tool

It can be very useful to lock slice points to prevent them from being affected by further changes to the **Sensitivity** control. For example, it can be useful to dial in a high Sensitivity setting to detect and then lock quieter transients, after which the control can be decreased again without affecting the locked slices.

- Audition slices by right-clicking the waveform.
- Right-click a slice point to display the slice context menu (see below).

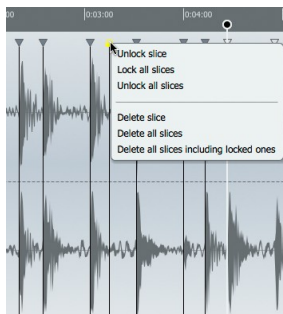


- Click the waveform within the required slice.



- The slice point is locked.

Slice context menu



The slice context menu provides access to certain functions which may be more convenient than switching the active slicing tool.

Lock/Unlock Slice Delete Slice

These functions provide an alternative to switching to the **Lock tool** or **Delete tool**.

Lock all slices / Unlock all slices

These functions allow all slice points to be locked/unlocked in a single action.

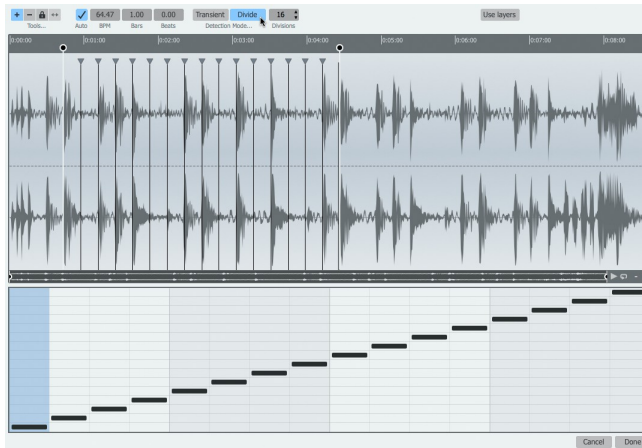
Delete all slices

This function allows all unlocked slice points to be deleted in a single action.

Delete all slices including locked ones

This function allows all slice points (even those which are locked) to be deleted in a single action.

Using *Divide* Detection mode



In the *Divide Detection* mode, the **Sensitivity** slider is replaced by a **Divisions** control – a numerical text box which specifies the number of equal-length divisions produced by the slicing process.

The image to the left shows *Divide* mode in operation with **Auto Load** activated.

The loop has been chopped into 16 equal slices, with the slices and pattern automatically extracted. To change the number of divisions, click the Divisions value and enter a new number.

It is still possible to add additional slice points manually or move/lock/delete slice points as required with the slicing tools.

Manual slice and pattern extraction



Geist2 contains additional functions for manual slice and pattern extraction with the **Auto Load** button deactivated. This may be more convenient when extracting material from multiple sources, instead of using Auto Load mode along with Lock functions.

They can be used with both *Transient* and *Divide Detection* modes.

When working in this way, simply clicking the **Done** button before performing any **Extract** or drag & drop actions does not result in anything being loaded. The **Cancel** button, however, still discards any actions performed in the Slicer session.

Manual Extraction buttons: Audio, Pattern, Audio+Ptn



These 3 buttons are only visible when the **Auto load** button is deactivated in the Browser.

Audio

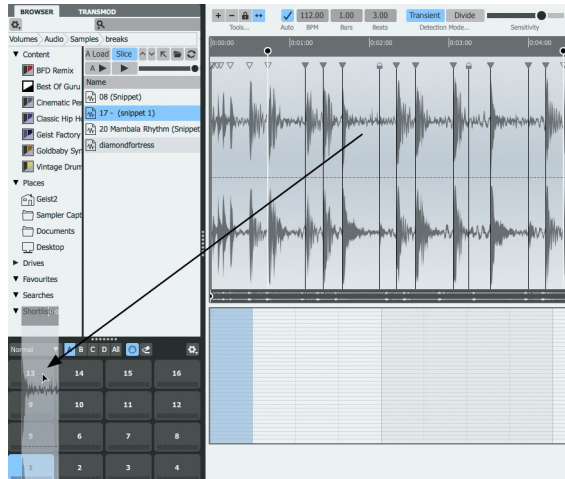
The **Audio** button sends the audio slices to current engine's pads.

Pattern

Click the **Pattern** button to send the extracted pattern to the current pattern slot (as shown in the image on the left).

Audio+Ptn

Click this button to perform both of the above actions.



Drag tool

The **Drag tool** is a special tool designed to drag and drop slices manually to pads or layers. This tool is only available when the **Auto load** button is deactivated in the Browser.

With the tool selected, simply click and drag any slice to a pad – all previous sample contents are removed and the slice is added as the first layer.

If this operation is performed while holding down the ALT key, the slice is added as the next unused layer on the pad.

Additionally, the following functions are also available with the Drag tool active:

- Audition slices by right-clicking the waveform.
- Right-click a slice point to display the slice context menu (see above).

Confirming or discarding a slicing session

Done

After any adjustments and pad assignment as a result of the **Auto load** function or any manual slice extraction, click the **Done** button to confirm all actions since the Slicer panel was opened.

Cancel

To cancel and discard all operations performed during the slicing session, click the **Cancel** button to exit the Slicer panel. Any slicing and extraction operations, whether automatic or manual, are discarded.

Slice information files

When clicking the **Done** button to confirm a slicing session, Geist2 saves a 'slice information file' (using the original filename with a .gsa file extension) alongside any sample that is processed in the Slicer.

The .gsa file contains information about the slicing settings and slice points and means that it is only necessary to slice any particular file once. Loading the same file into the Slicer in future also recalls the slice points and settings.

To remove the .gsa file for any sample (and therefore remove any slicing settings and slice points), simply right-click the sample in the Browser and use the **Remove slice information** function. The file can now be re-sliced from scratch if desired.

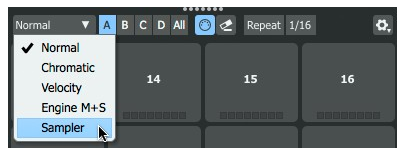
If a slicing operation is aborted with the **Cancel** button, no changes are made to the .gsa file alongside the sample (if a .gsa file does not yet exist, none is created).

4 Sampler

Geist2's Sampler functions provide the ability to record audio directly onto a pad so that new samples are ready to play and sequence as quickly as possible.

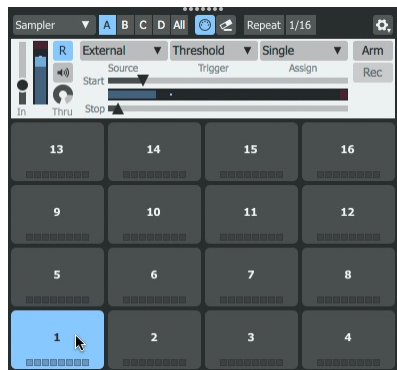
It is possible to sample an external signal or to 'resample' Geist2's Master output (or any of its sub-outputs). The latter is especially useful for quickly creating new samples by sampling existing material processed through Geist2's layer processing and effects.

A number of sampling modes are provided, such as starting/stopping recording based on an audio threshold level - perfect for recording single drum hits - or exact bar/beat lengths for creating loops.



Sampling in Geist2 occurs directly to the selected pad, making it as fast as possible to start composing music with freshly sampled sounds.

The Sampler mode is accessed via the **Pad modes** menu above the pads.

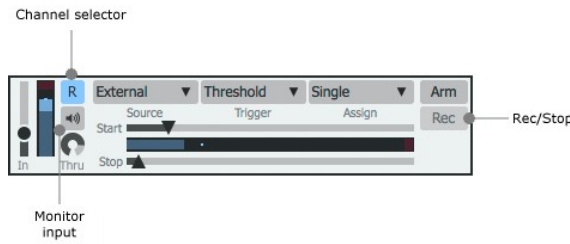


When the *Sampler* mode is selected in this menu, the Sampler controls appear and are active for the currently selected pad in the current engine.

The [next section](#) provides a full guide to Geist2's Sampler controls.

4.1 Sampler controls

Sampler controls



Source

The source for the sampling session is specified using the Source selector, located near the Arm and Rec/Stop buttons in the Sampler page.

- **External**

The external input allows sampling from external sources.

This mode can be used in the standalone version and in hosts that support the routing of audio to instrument plugin inputs.

- **Resample Master**

With this setting, the content of the Master output is used for the sampler input source. No audio streams routed to Sub-outputs are recorded.

Resampling is used for quickly creating new samples using Geist2's processing and effects - effectively a real-time alternative to using the audio export functions.

- **Resample sub-output 1-32**

With these settings, the content of the relevant sub-output is used as the sampler input source.

- **Spitter2**

Spitter2 is used to route audio from a host DAW into Geist2's sampler. By loading an instance of Spitter2 to the track you wish to record, you can then sample the incoming audio by changing the input of Geist2's sampler to 'Spitter2' (or whatever you may have renamed the instance of Spitter2 running in your DAW).

In Gain/Meter

The **Input gain** control sets the input level for the sampler recording. The **Input meter** represents the current level of the input signal.

Channels



Click this button to set which input channels are recorded - *Stereo*, *Mono (Left)* and *Mono (Right)* are available.

Monitor input

With this button activated, the sampler input signal is routed to the Master channel output.

Thru

The **Thru** control adjusts the level of the sampler input signal that is routed through to the Master output when the **Monitor input** button is activated. Please note that this control is exactly the same as the Browser's **Preview Volume** control - using either of these controls affects the other.

Note that when the **Source** is set to resample the *Master*, the sampler input signal is never routed to the Master output to prevent feedback.

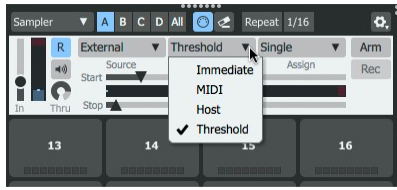
Arm

The **Arm** button arms the Sampler for recording.

If the **Trigger** mode is set to *Immediate*, clicking the **Arm** button starts recording immediately.

In other **Trigger** modes, further actions or conditions are required before recording starts.

Trigger Mode



The **Trigger** mode setting dictates how the sampler starts recording. Note that in the MIDI, Host and Threshold modes, the **Rec/Stop** button can always be used to start and stop recording manually while the **Arm** button is active.

• Threshold

When this setting is enabled, two extra controls appear, labelled **Start** and **Stop**, with a **Level meter** between them which represents the source signal.

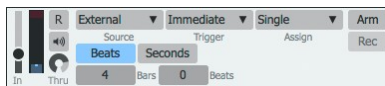


With the **Arm** button active, recording starts when the signal level rises above the threshold defined by the **Start** parameter.

Recording stops when the source level falls below the threshold defined by the **Stop** parameter for a short period.

Additionally, sampling can be manually started or stopped using the **Rec/Stop** button.

• Immediate



With this setting, the sampler begins recording as soon as the **Arm** button is activated, for the period defined by the **Beats** or **Seconds** time controls which appear when this mode is activated.

• MIDI

With this setting, recording begins on the first MIDI note received (when the **Arm** button is active), for the duration defined by the Beats or Seconds time controls which appear when this mode is activated.

If the **Follow MIDI** button is activated, it is possible to play any pad's MIDI note to select the pad and immediately commence recording.

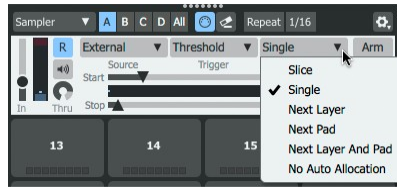
To record to the current pad, either play its specific MIDI note, or deactivate the **Follow MIDI** button and play any note.

• Host

With this setting, recording starts when the transport is started, either internally or from the host (when the **Arm** button is active). The sampler records multiple takes of a defined length.

The length of each take can be defined in **Beats** (specified using the **Bars** and **Beats**) or **Seconds** using the controls that appear when this mode is active.

Assign mode



The **Assign** mode dictates what happens to sampler takes after they have been recorded - this menu allows a number of automatic assignment options.

- **Slice**

In *Slice* mode the sample is automatically opened in the [Slicer panel](#) after recording is complete.

- **Single**

In *Single* mode, the sample is always recorded to the currently selected pad layer.

- **Next Layer**

In *Next Layer* mode, the sample is assigned to the next layer on the currently selected pad. When all pads on the current pad are filled, no further automatic assignment takes place (any further recorded samples can be accessed from the Sampler Captures folder).

- **Next Pad**

In *Next Pad* mode, the sample is assigned to the first layer on the next pad. When all pads are filled, no further automatic assignment takes place (any further recorded samples can be accessed from the Sampler Captures folder).

- **Next Layer and Pad**

In this mode, samples are assigned to the next layer on the current pad. When all layers have been filled, the process repeats on the next pad.

- **No Auto Allocation**

In this mode, no automatic assignment takes place (recorded samples can be accessed from the Sampler Captures folder).

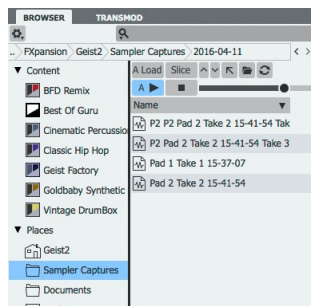
Rec/Stop

The various modes activate and deactivate this button automatically based on various conditions. Whenever recording is in progress, click this button to stop recording when required.



In the **Threshold Trigger mode**, while the **Arm** button is activated, the **Rec/Stop** button can be manually clicked to start recording.

Managing recorded samples



When samples are created, they are assigned as dictated by the **Assign** menu and saved automatically to the Sampler Captures folder within the Geist2 documents folder.

To keep projects organized, it is highly recommended to save a Geist2 preset, kit or pad while the **Save samples with presets** setting (in the Tools menu) is activated.

5 Pads and Layers

Each Geist2 engine contains up to 64 pads. Each pad is assigned to a MIDI note on the engine's MIDI channel and contains 8 layers, each of which can contain a sample.

Pads and layers are introduced in chapter 1 in the following sections:

- [Playing pads and recording a pattern](#)
- [Editing and modulating sounds](#)
- [Mixer pages and Effects](#)

This chapter provides a full reference guide to pads and layers: [Pad](#) and [Layer](#) controls in the Pad Editor and mixing/effects processing in the [Pad Mixer](#) and [Layer Mixer](#) pages.

Selecting a pad or layer for editing

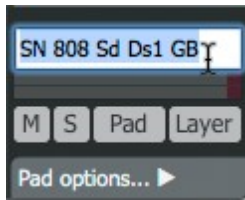


The concept of the 'selected pad' is used for editing a pad or any of its layers.

- Click a pad to select it and plays its layers
- ALT-click a pad to select it without playing any audio
- If the [Follow MIDI](#) button is activated, the pad can be selected via its corresponding note on the relevant MIDI channel
- If any of the real-time pad modes are active (see [chapter 1](#)) a pad *must* be ALT-clicked to select it.
- When a pad is selected, it becomes the active pad for editing - a number of [pad controls](#) and [layer controls](#) are available.
- Pad and layer selections are preserved between the Layer Editor and the [Pad Mixer](#) and [Layer Mixer](#) pages.

5.1 Pads and managing pads

Pad controls



Pad name

The default name for a pad is that of the first sample loaded to one of its layers. To rename a pad, double-click on the current name, type a new name, then press ENTER.

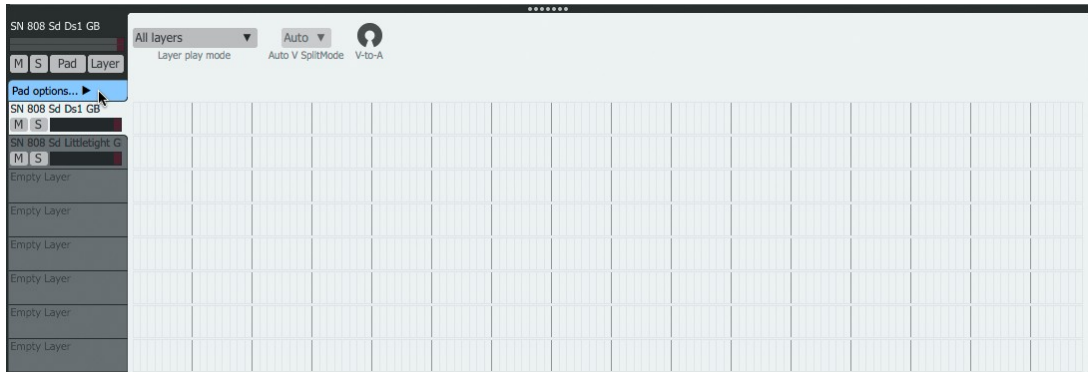
Mute (M) / Solo (S)

These buttons mute/solo the pad. Note that these buttons are distinct from the Track Mute/Solo buttons on each track of every pattern.

Level Meter

The Level meter displays a real-time representation of the pad's output amplitude whenever it is played.

Pad Options

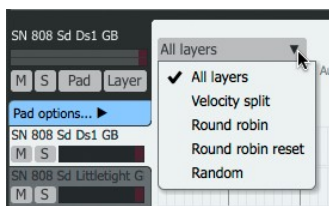


Click the **Pad Options** button to show additional controls relating to the pad, which replace the [Layer controls](#) section.

V-to-A (Velocity to Amplitude)

This parameter sets the degree to which the pad's amplitude is affected by MIDI/pattern event velocity.

Layer play mode



This setting dictates how the pad's 8 layers are played back when the pad is triggered.

- **All layers**

All layers are played back simultaneously (this is the default setting).

- **Velocity split**

Any layers on the pad can be split along the velocity range, with different layers triggered at different velocities.

When this setting is active, the Velocity split editor becomes visible, allowing the velocity range and fade for each layer to be edited (see below).

- **Round robin**

A single layer is played each time the pad is triggered. The playback engine 'cycles through' the available layers each time the pad is triggered.

• **Round robin reset**

Similar to *Round robin*, except that each time the pattern is looped, the pad is played from the first layer. This means that the round-robin behaviour is repeatable: it sounds the same on every pass when the pattern is repeated.

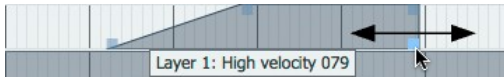
• **Random**

A single layer is played at random each time the pad is triggered.

Velocity split editor

The Velocity split editor can only be used when the **Layer play mode** is set to *Velocity split*. The Low / High velocity split and velocity fade points for each layer are adjusted by clicking and dragging their handles left/right as shown below.

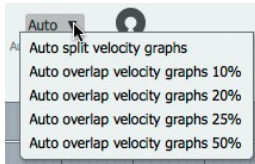
Selecting and deselecting events



- Click and drag the lower handles to adjust the layer's Low / High velocity split points.



- Click and drag the upper handles to adjust the Layer's Low / High velocity fade.



Auto V SplitMode

This menu can be used to arrange all layers proportionally across the velocity range, with a selection of optional fade (overlap) amounts.

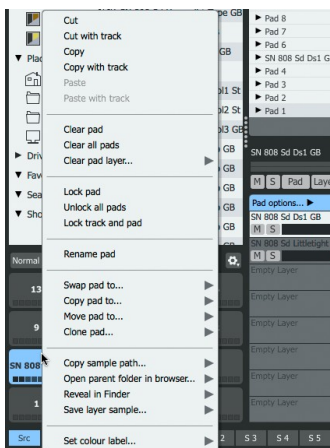


- Using the *Auto split velocity graphs* setting.



- Using the *Auto overlap velocity graphs 25%* setting.

Pad context menu



Right-click a pad to display the Pad context menu, which provides a number of pad management operations.

Cut, Copy, Paste

These functions allow pads to be Cut, Copied and Pasted within the engine or any other engine.

**Cut with pattern
Copy with pattern
Paste with Pattern**

These functions allow pads to be Cut, Copied and Pasted along with their corresponding pattern tracks.

Clear pad

This function clears the contents of the selected pad - all its layer samples and settings are removed.

Clear all pads

This function clears the contents of all pads in the current engine.

Clear pad layer...

This sub-menu allows any of the pad's 8 layers (displayed on a sub-menu) to be cleared.

Lock/Unlock pad

This function locks the pad – none of its pad/layer settings can be adjusted, and its samples cannot be changed.

Unlock all pads

This function unlocks any pads in the engine which are currently locked.

Lock/Unlock track and pad

This function locks both the pad and the corresponding track in the current pattern.

Rename pad

This function allows the pad to be renamed (the default name is that of the first sample loaded to the pad).

Swap, Copy, Move pad to...

These functions allow pads to be Swapped/Copied/Moved to other pads within the engine. Select the destination pad from the sub-menus.

Clone pad...

This function clones all layers of the current pad to all pads in the engine at varying pitch, *overwriting the previous contents of the pads*. It is distinct from the *Chromatic Pad mode*, which non-destructively allows the currently selected pad to be played at different pitches over all pads in the engine, after which the **Pad mode** can be set back to *Normal*.

If any layers' Timestretch function is activated, the pitching process does not affect the length of its sample. If the Timestretch function is not active, the duration of its sample varies with pitch.

The pad can be cloned in the following ways:

Upwards: Ascending in semitones from pad 1 at original pitch.
Downwards: Descending in semitones from pad 16 at original pitch.
Centred: Ascending and descending in semitones from pad 9 at original pitch.

Copy sample path...

This function copies, as text to the clipboard, the path to the sample file on any of the pad's layers. Select the required layer from the sub-menu.

Open parent folder in browser...

This function reveals the sample on any of the pad's layers in the Geist2 Browser. Select the required layer from the sub-menu.

Reveal in Explorer/Finder...

This function reveals the sample on any of the pad's layers in a system file window (Explorer on Windows, Finder on Mac). Select the required layer from the sub-menu.

Save layer sample...

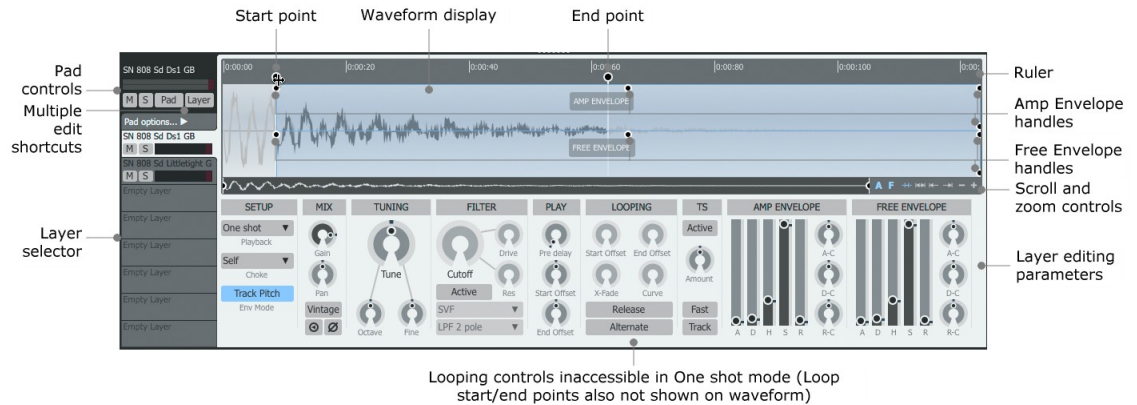
This function opens a file save dialog for saving any pad layer's sample to disk. Select the required layer from the sub-menu.

Set colour label...

This sub-menu allows a colour to be set for the pad.

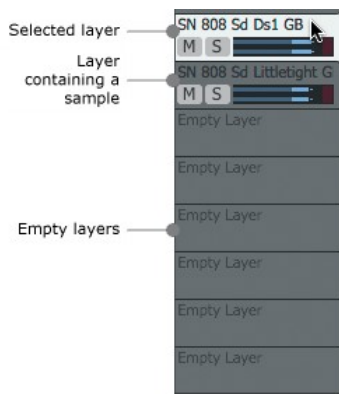
5.2 Layer controls

The Layer controls are always visible in Geist2 except when the [Pad Options controls](#) are active or when the context-sensitive editing area (for the Pattern, Song, Scene, Mapping and Mixer pages) is extended to full-height using the divider as shown in [chapter 1](#).



Layer selector

This control dictates which layer on the [currently selected pad](#) is represented by the Layer controls.



Click the relevant layer in the Layer selector to select one of the pad's 8 layers for editing.

The Layer selector section also provides the following controls for each layer when it contains a sample:

Layer name

The default name for each layer is the filename of the sample loaded into it. To rename the layer, double-click the current name, type the new name and press ENTER.

Mute (M) / Solo (S)

These buttons mute/solo the layer.

Level Meter

The level meter displays a real-time representation of the Layer's sample amplitude whenever it is played.

Layer editing parameters

The controls underneath the waveform display are discussed in detail in the next few sections:

- [Setup, Mix, Tuning and Filter controls](#)
- [Play, Looping and Timestretch controls](#)
- [Envelope controls](#)

Waveform display

The waveform display represents the layer's sample at its original pitch.

Start/End points

The **Start** and **End** markers shown above the layer's sample in the waveform display set the beginning and end of the layer's sample that is played back. To adjust their positions, click and drag the markers left/right.

Loop start/end

When a layer's **Playback** mode is set to *Looping*, the waveform display also shows **Loop Start** and **Loop End** markers. To adjust their positions, click and drag the markers left/right. See [section 5.2.1](#) for more details of the Loop markers and additional Looping controls.

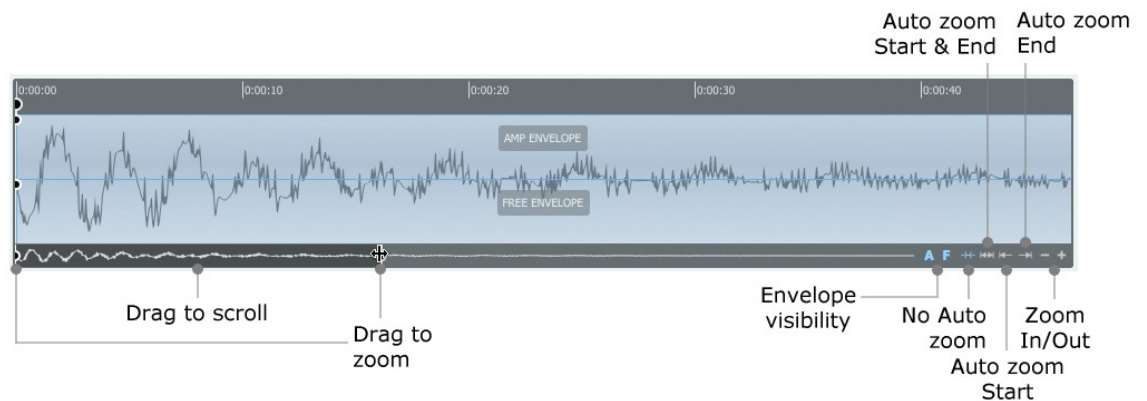
Ruler

Time units are shown on the ruler above the waveform and Start/End/Loop markers. By default, seconds are used as units. Right-click in the ruler to display a context menu allowing tempo-based units to be used instead.

Amp Envelope and Free Envelope handles

These controls allow graphic envelope editing as an alternative to using the [Envelope](#) sliders, if activated using the **Envelope visibility** buttons (see below).

Scroll/zoom controls



Scroll/zoom

The Scroll/zoom bar adjusts the visible area when zoomed in (drag left/right to scroll) and can also be used to set the zoom level - drag left/right the handles on either end of the control.

Zoom buttons

The **Auto-zoom** modes can be faster for many operations than manual zooming with the **Zoom In/Out** buttons. Only one of the modes can be active at any one time.

No Auto-zoom

With this button active, no auto-zooming occurs.

Auto-zoom start & end

With this button enabled, the waveform view auto-zooms so that the start and end points are at the extreme left and right border of the display. Effectively, the 'active' part of the sample is 'maximized' within the waveform display.

Auto-zoom start Auto-zoom end

The **Auto-zoom start** mode forces the waveform display to 'jump' to the start point of the layer when it is selected. The start point is centred in the display.

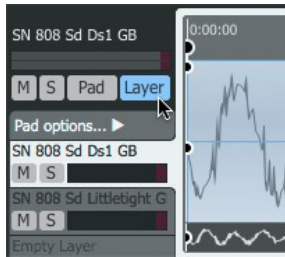
The **Auto-zoom end** mode forces the waveform display to 'jump' to the end point of the layer when it is selected. The end point is centred in the display.

These modes are extremely useful for fine adjustments to prevent clicks.

A (Amp Envelope visibility) F (Free Envelope visibility)

These buttons toggle the visibility of the Amp and Free [Envelopes](#) in the waveform display.

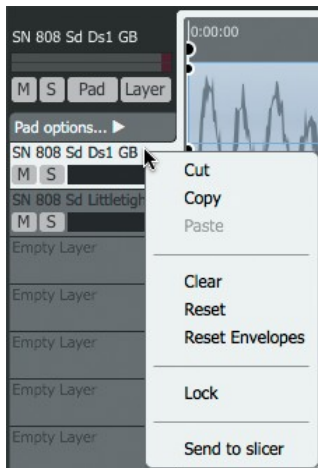
Multiple edit shortcuts



The **Layer** and **Pad** edit shortcuts are provided in order to allow all layers on the pad or all pads in the engine to be edited simultaneously (if they are not locked).

These functions are described in [chapter 1](#).

Layer context menu



Right-click any of the 8 layers in the Layer selector to display the Layer context menu, which provides a number of management functions for layers.

Cut, Copy, Paste

These functions allow layers to be Cut, Copied and Pasted between the 8 layer slots on the pad and other pads in any engine.

Note that multiple selections are disregarded when using these functions.

Clear

This function clears the sample and all settings from the layer.

Reset

This function resets the layer to its initialized state, but does not remove its sample.

Reset envelopes

This function resets the layer's envelopes to their initialized state.

Lock/Unlock

This function locks the layer so that its sample and settings cannot be altered by Load operations. If the layer has been previously locked, this function unlocks it.

Send to slicer

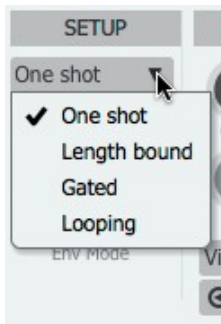
This function opens the layer's sample in the [Slicer panel](#).

5.2.1 Setup, Mix, Tuning and Filter controls



Setup controls

Playback mode



The **Playback** mode menu dictates how the layer reacts to being played. This setting dictates how the layer's sample is played back and also affects the behaviour of the layer's [envelopes](#).

- **One shot**

In this mode, the layer is triggered and plays in its entirety unless choked.

Unless another layer on the pad is set to Gated or Looping operation, pattern events for the pad are always set as 'single step' events - no duration can be specified. If any other layer on the pad is set to *Gated* or *Looping* mode, the duration of the pattern event is ignored for any layer set to *One shot* mode.

Similarly, the duration of any incoming MIDI event is also ignored for the layer.

- **Length Bound**

Length Bound mode is similar to *One shot* mode except that both envelopes for the layer are switched to a special AHR mode, in which envelopes are forced to the length of the sample.

- **Gated**

In *Gated* mode, the layer responds to event duration.

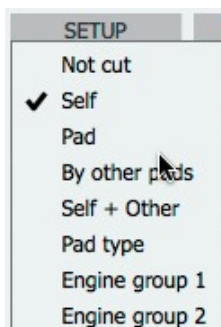
In the Pattern page, events for the pad can be set with variable duration, over multiple steps if required.

For incoming MIDI events, the layer responds to MIDI note-on and MIDI note-off messages.

- **Looping**

Looping mode is similar to *Gated* mode, but continuously repeats the region enclosed by the **Loop Start** and **Loop End** points and then, when the event ends, the remainder of the sample after the Loop End point is played during the Amp Envelope's Release stage (unless the **Release** button in the Looping controls is activated, in which case the looping section is played during the Release stage).

Choke mode



Choking is the process of stopping the playback of one layer by another. Geist2 offers a number of different sources for choking a layer, specified by the **Choke** menu.

- **Not cut**

The layer cannot be choked by any other layers. Use this setting for polyphonic playback (over MIDI only - pattern sequencing within Geist2 is monophonic for each pad).

- **Self**

The layer is choked by itself.

- **Pad**

The layer is choked by any layer on the same pad.

- **By other pads**

The layer is choked by any other pad in the engine.

- **Self + Other**

The layer is choked by any layer on the pad (including itself), or any other pad in the engine.

- **Pad type**

The layer is choked by any layer on any pad in the same row within the engine.

- **Engine group 1, 2**

The layer is choked by any layer assigned to the same engine group – each engine features 2 assignable cut groups.

- **Global group 1, 2**

The layer is choked by any layer assigned to the same global cut group, of which 2 are available in total.

Track Pitch

See the [Envelope controls](#) section later in this chapter for details of this setting.

Mix controls



Gain, Pan

These controls adjust the layer's gain and pan - they can also be found within the [Layer Mixer](#).

Vintage mode

Activating the Vintage button applies an alternative lo-fi resampling algorithm derived from those found on vintage sampler hardware. The effect of this setting is most prominent when altering the pitch of the Layer's sample.

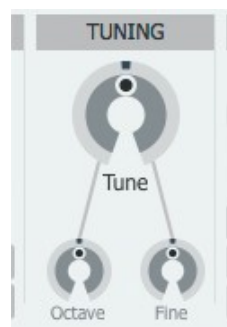
Reverse

This button reverses the sample on the layer.

Phase

This button inverts the phase of the layer's sample.

Tuning controls



Tune

The **Tune** control adjusts the pitch of the layer's sample by up to +/- 12 semitones.

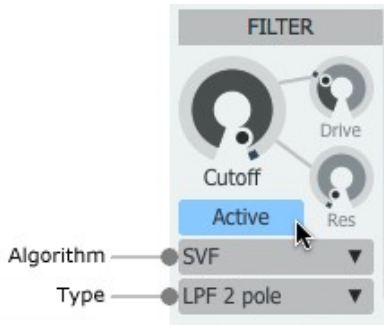
Fine

The **Fine** control adjusts the pitch of the layer's sample by up to +/- 1 semitones.

Octave

The **Octave** control increases or decreases the pitch of the layer's sample by up to 4 octaves.

Filter controls



Active

Engaging this button activates the layer's filter.

Geist2's per-layer filter is an extremely high quality circuit-modelled algorithm – by default, the filter is deactivated in order to save CPU power.

Algorithm

Japan

The *Japan* filter offers a classic Japanese monosynth filter based on cascaded OTA filters and a huge variety of filter **Type** menu settings are available.



• **Algorithm menu**

As well as conventional 2-pole and 4-pole low-pass, band-pass, high-pass and notch filters, it also offers a 2-pole peak filter response and a number of additional combinations of low-pass, high-pass, notch and peak filter outputs which provide a huge range of possible sonic effects.

SVF

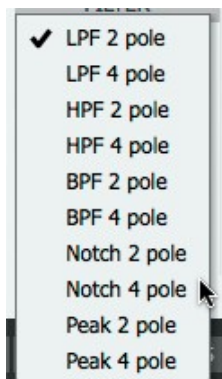
This filter is a typical state-variable filter (*SVF*) design, offering 2-pole and 4-pole low-pass, band-pass, high-pass, notch and peak filter responses using the **Type** menu.

MS20

The *MS20* filter is an OTA-based Sallen-Key filter design, offering low-pass, band-pass, high-pass and notch **Type** settings.

Comb

The *Comb* filter is great for all sorts of uses, especially lush detune and chorus textures, resonant special FX and sounds reminiscent of flanging and phasing. When this filter is selected, 2 **Type** menu settings are available: negative and positive.



• **Type menu for SVF Algorithm**

Type

The Type drop-down menu allows one of a variety of filter responses to be selected, depending on the current **Algorithm**.

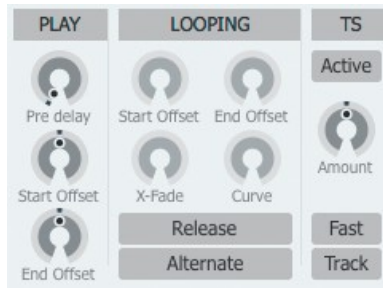
Cutoff, Res (Resonance)

These parameters adjust the cutoff frequency of the filter and the amount of resonance at the cutoff frequency.

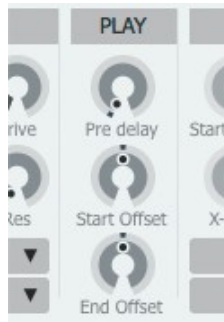
Drive

The **Drive** control increases the level of the signal entering the filter, effectively overloading and overdriving the filter circuit. Higher amounts of drive lead to a gritty, aggressive sound with less resonance.

5.2.2 Play, Looping and Timestretch controls



Play controls



Predelay

This parameter applies a delay of up to 1 second before the layer is played. This can be very useful for creative stacking of sounds on multiple layers.

Start offset

This control adds a positive or negative offset to the sample Start point defined on the waveform display.

End offset

This control adds a positive or negative offset to the sample End point defined on the waveform display.

Looping controls

These controls are available only when the [Playback](#) mode is set to *Looping*.

It is important to be aware that the **Loop Start Offset** and **Loop End Offset** rotary controls represent additional offsets to the loop points defined in the waveform display.



Loop Start Offset

The **Loop Start Offset** control adds a positive or negative offset to the **Loop Start point** defined on the waveform display.

Loop End Offset

The **Loop End Offset** adds a positive or negative offset to the **Loop End point** defined on the waveform display.

X-Fade

The **X-Fade** control adjusts the size of a crossfaded transition between the end and start of the looping section. Using a crossfade is a way of avoiding clicks when looping a sample.

Curve

This control adjusts the crossfade curve shape when the **X-Fade** control is active.

Release

With the **Release** button activated, the looping section is played during the Release phase of the Amp Envelope. With the button deactivated, playback continues from the current point to the **End point** of the sample when the voice is released, ignoring the **Loop End point**.

Alternate

With the **Alternate** button activated, playback occurs in alternating forward/backward directions between the loop points.

Timestretch controls

The process of time-stretching allows the pitch of a sample to be changed without affecting its length and vice-versa..

This is useful for working with full loops on a single pad, and also for general-purpose creative sound design.

It is important to remember that timestretching almost always results in some artifacts, as it is a very complex digital process which 'bends physics' to some extent. Toggling the **Fast** mode button can minimize the artifacts, although these types of artifacts can often be desirable when used in a creative context.



Timestretch power

This button activates or deactivates the timestretch function.

When the timestretch function is active, any changes to the pitch of the sample – using the Tune and Fine controls, pitch graphs and engine/Master pitch controls elsewhere in Geist2 – result in the length of the sample staying the same.

Amount

This control adjusts the timestretch amount between a range of 10% to 400% of the original length. At the centre position (0%), the sample is played back at its original speed.

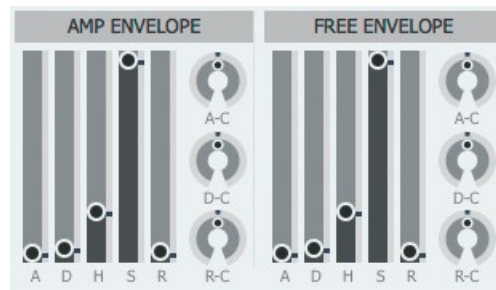
Fast

By default, the Geist2 timestretch algorithm is optimized for drum sounds and other sounds with hard, fast transients. Activating the **Fast** mode button enables a less CPU-heavy algorithm instead which is designed for melodic material like synths or vocals. It's always worth experimenting with both the default and Fast modes, as one may work better than the other for any particular material.

Track

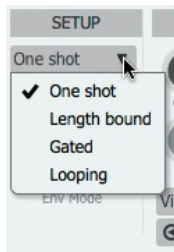
When the **Track** button is activated, the amount of timestretch is scaled accordingly when the Geist2 tempo is changed.

5.2.3 Envelope controls



Each Layer in Geist2 features 2 ADHSR envelopes with **A (Attack)**, **D (Decay)**, **H (Hold)**, **S (Sustain)** and **R (Release)** stages.

The curve of the Attack, Decay and Release stages can be set using the **A-C (Attack-Curve)**, **D-C (Decay-Curve)** and **R-C (Release-Curve)** controls, which vary the curve shape between exponential (0%), linear (50%) and inverse-exponential (100%).



The Amp Envelope is hard-wired to the amplitude of the layer's sample but can also be used to modulate other parameters within the layer using the TransMod modulation system.

The Free Envelope is not routed to any parameters by default - it is intended to be used only via the TransMod modulation system.

Both envelopes are displayed and edited over the waveform display but can also be adjusted via conventional controls.

The behaviour of the envelopes is affected by the Layer's current [Playback](#) (see left) and **Track Pitch** settings.

Envelope visibility



The **A** and **F** visibility buttons for each envelope (located next to the **Auto-zoom** controls) toggle their visibility on the waveform display.

With both envelopes visible, the Amp env is shown over the top half of the waveform, while the Free env is displayed over the lower half.

Using *One-shot* Playback mode

When the layer's **Playback** mode is set to *One shot*, the envelopes for *Track Pitch* and *Non Tracked Env Mode* settings effectively operate as ADHR envelopes.

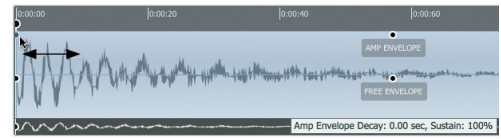
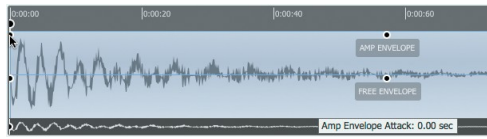
It is important to remember that *One shot* envelopes cannot possess a true 'release' stage as no release event exists - they only respond to an initial trigger. Similarly, there is no true sustain event since the event has no duration.

However, the Sustain and Release parameters are not ignored. In such situations:

- the **Sustain** setting dictates the level of the envelope during the **Hold** time
- the **Release** stage effectively acts as a second Decay stage after the **Hold** stage

The default envelope shape features 0-length Attack, Decay and Release stages, with the Hold time set to the duration between the start/end indicators.

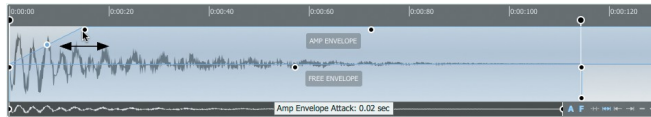
The handles for the 0-length Attack and Decay can overlap. When this is the case:



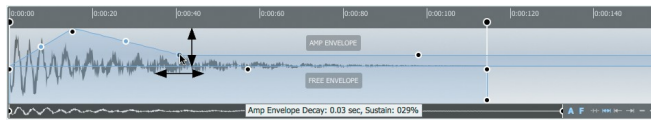
- click and drag the left side of the handle to adjust the Attack

- click and drag the right side of the handle to adjust the Decay

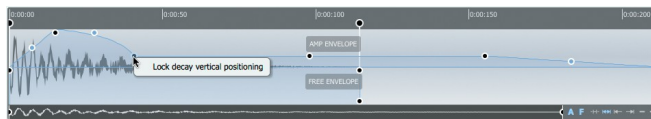
This technique applies with any overlapping envelope handles.



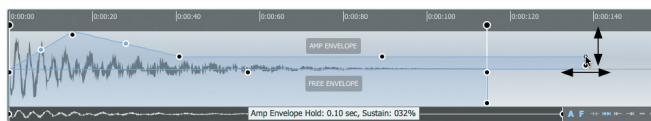
Click and drag the Attack handle left/right to set the Attack time. Note that the Hold time now extends beyond the layer's sample end point, as it has not been changed.



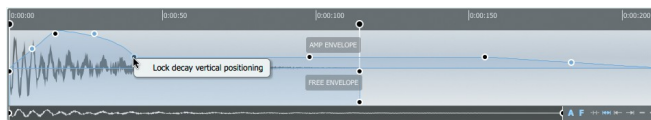
Click and drag the Decay handle left/right to set the Decay time, and up/down to set the Sustain level during the Hold stage.



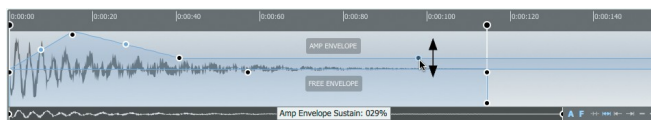
Right-click the Decay handle to access the vertical lock function meaning that the Sustain level cannot be altered by dragging up/down.



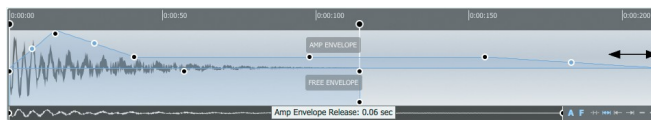
Click and drag the Hold handle left/right to set the Hold time, and up/down to set the Sustain level during the Hold stage.



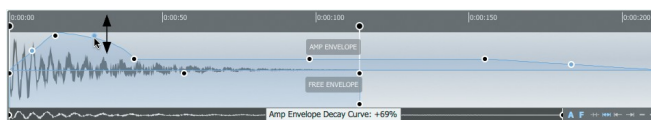
Right-click the Hold handle to access the vertical lock function meaning that the Sustain level cannot be altered by dragging up/down.



Click and drag the Sustain handle up/down to set the Sustain level during the Hold stage - this is especially useful if the Decay/Hold handles are locked.



Click and drag the Release handle left/right to adjust the Release time. Note that in *One-shot* mode, the Release is simply a second Decay stage - it is not related to input note duration.



Click and drag the handles within the Attack, Decay and Release stages to adjust the curve of each stage.

Using Length Bound Playback mode

When *One Shot Length Bound Playback* mode is used, the layer's envelopes are switched to a special AHR mode and always scaled to the length of the sample. In this mode, envelopes follow the behaviour of the envelopes in Geist2's predecessor, GURU.

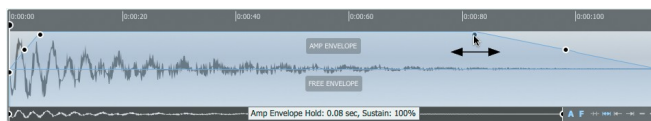
- The **Attack** and **Release** times can be set up to 50% of the length of the sample.
- The **Hold** time is 0-100% of the difference between the length of the sample and the Attack + Release times.

Therefore, if the Attack and Release stages are set to 25% of the length of the layer's sample, the Hold stage can be set up to 50% of the sample duration.

- The **Release** stage is effectively a Decay stage. *Length Bound* envelopes can only act as one-shot events - they only respond to a trigger event and ignore any event duration.



Click and drag the Attack handle left/right to set the Attack and Hold times.



Click and drag the Hold handle left/right to set the Hold and Release times.

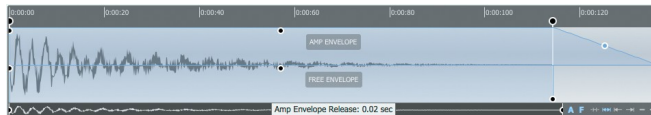
Using Gated or Looping Playback modes

In *Gated* and *Looping Playback* modes, the envelopes act as ADHSR envelopes when the **Env Mode** is set to *Track Pitch* or *Non Tracked*.

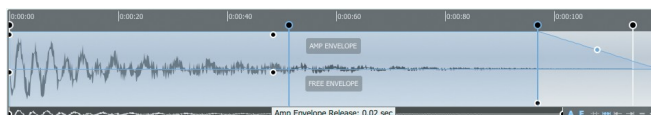
If the incoming event stops, the **Release** stage becomes active immediately, regardless of the current stage within the ADH sequence.

If the incoming event is still active when the **Hold** time has elapsed, the **Sustain** stage becomes active for the remaining duration of the incoming event, after which the **Release** stage becomes active.

The Attack and Decay handles are adjusted in the same way as for One-shot envelopes. The Hold handle does not exist – the Sustain level is set using the Decay handle (with unlocked vertical movement) or the Sustain handle.



In *Gated* mode, the Release stage is shown as starting from the sample **End point**, although it begins as soon as the pad input event is released.



In *Looping* mode, the Release stage begins from the end of the **Loop end point**.

The Attack, Decay and Release curves are adjusted in exactly the same way as in the One-shot envelope.

Track Pitch

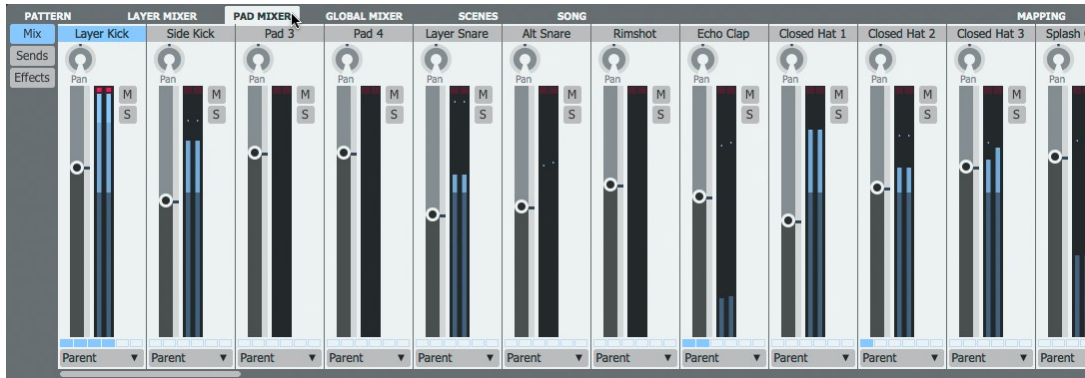


With the **Track Pitch** setting activated, envelope times are scaled proportionally when changing the pitch of a sample - since the sample is played back faster or more slowly, the envelope times are also scaled accordingly.

With the setting deactivated, envelopes are not scaled with pitch or the length of the sample - they are always applied in absolute time, regardless of the pitch of the layer's sample.

5.3 Pad Mixer

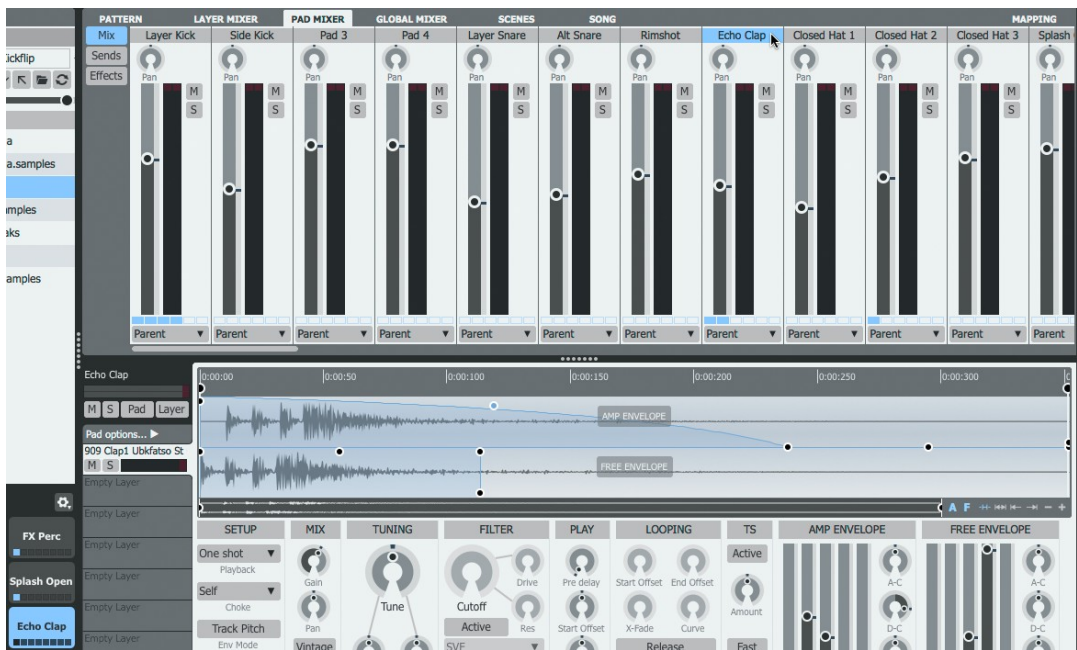
The Pad mixer allows the pads in the currently selected engine to be mixed and processed with effects. It is displayed by clicking the **Pad Mixer** page button.



Pad 'channels'

The 'channels' in the mixer, arranged from left to right, represent the 64 available pads in the current engine - use the scrollbar to access all pad channels.

Selecting a pad channel



- Click one of the 64 displayed channels, each of which corresponds to a pad in the current engine.

The selection is also reflected in the Pads area and the Pad Editor.

Likewise, the relevant pad channel becomes selected with the following actions:

- Clicking a pad to select it and play its layers
- ALT-clicking a pad to select it without playing any audio
- If the **Pad selection follows MIDI** button is activated, the pad is selected by playing its corresponding note on the relevant MIDI channel

Multiple selection of Pad mixer channels

Multiple pads can be selected in the Pad mixer, using the following methods:

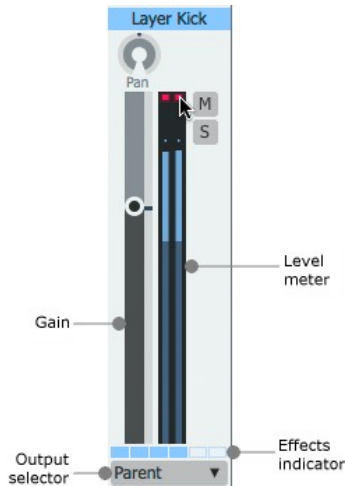
- SHIFT-click to create a contiguous selection between 2 pads
- CMD-click (Mac) or CTRL-click (Windows) to add a pad to the selection

Multiple edit shortcuts

The [Pad multiple edit shortcut](#) applies in the Pad Mixer in the same way as in the Pad Editor.

Note that the **Pad** edit shortcut is not capable of adding effects devices or altering their parameters across multiple pads.

Pad channel controls



Each pad 'channel' features **Mute**, **Solo**, **Pan** and **Gain** controls along with the following controls:

Level meter

The meter features a clip indicator at the top of the channel - click the indicator to reset it.

Output selector

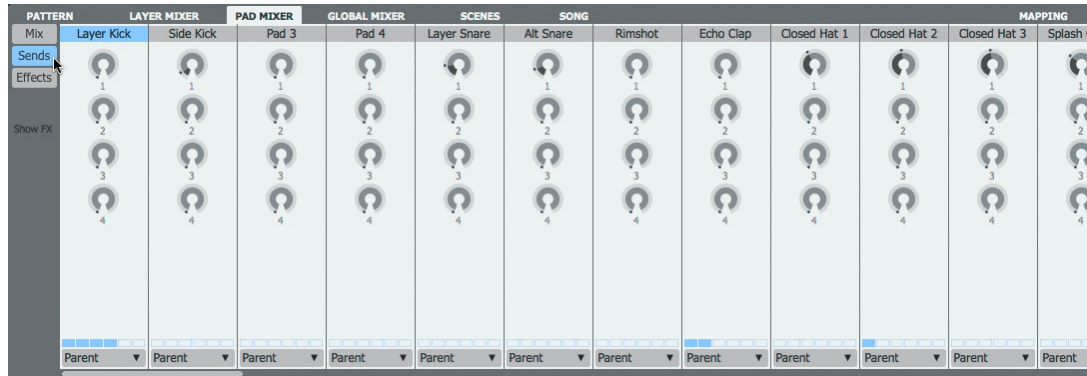
If a pad's **Output selector** is set to *Parent*, it is mixed with any other pads in the parent engine that are also set to *Parent* and then sent to the Mixer, allowing effects to be added to the engine mix. If a sub-output is specified, the layer bypasses any other stages and effects further down the signal path (engine channel and Master channel blocks).

Effects indicator

This indicator shows whether each of the channel's 6 effects slots is **Active** (see below).

Sends

Sends are 'parallel' routings from the pad to the Aux busses - each pad channel features 4 **Send** controls, one for each of the 4 Aux busses, labelled **S1** to **S4**.

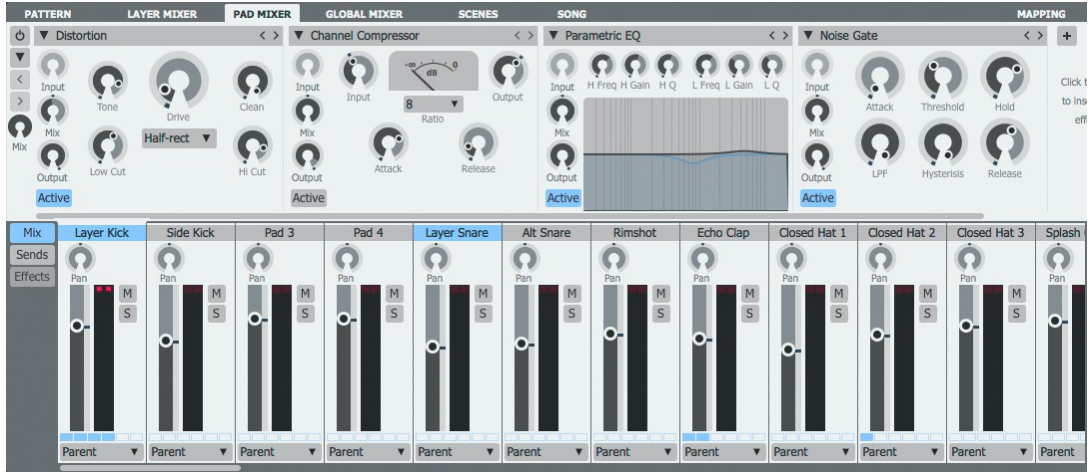


To display the Send controls, click the **Sends** button to the left of the mixer.

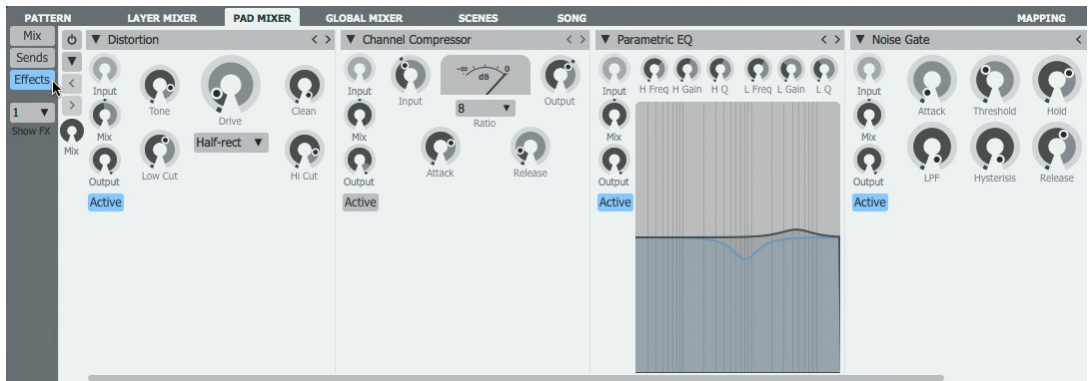
The routing point for all sends to an Aux buss can be set to either pre- or post-fader, using the **Pre** button on the Aux buss itself, located in the [Global Mixer](#).

Effects Slots

Each pad features 6 assignable [Effects slots](#) for loading effects devices. The visibility of the Effects controls is dependent on the current size/scaling of the Geist2 interface.



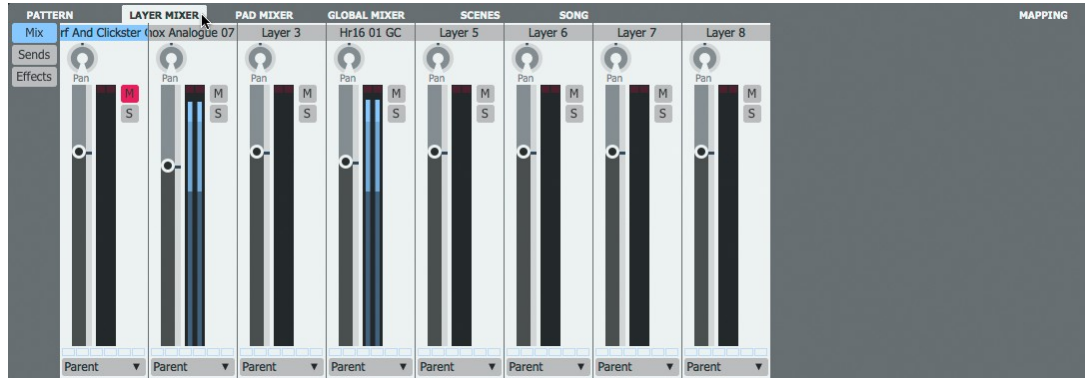
- When an adequate vertical area is available, the Effects slots for the selected channel are shown above the mixer.



- When the required vertical area is unavailable, click the **Effects** button to display the current channel's Effects slots in place of the mixer channels.

5.4 Layer Mixer

The Layer mixer allows the 8 layers in the currently selected pad to be mixed and processed with effects. It is displayed by clicking the **Layer Mixer** page button.



Layer 'channels'

The 'channels' in the mixer, arranged from left to right, represent the 8 available layers on the selected pad.

Selecting a layer

First, the relevant pad must be selected as described in the [Pad Mixer](#) section.

Then, select a layer on the pad in either of the following ways:

- Select a layer by clicking one of the 8 displayed 'channels' in the Layer mixer, each of which represents a layer on the current pad.
- Click a layer in the Layer selector at the left of the Pad Editor – selections are always preserved between the Layer selector and the Layer Mixer.

Multiple selection of layers

Multiple layers can be selected in the Layer mixer, using the following methods:

- SHIFT-click to create a contiguous selection between 2 layers
- CMD-click (Mac) or CTRL-click (Windows) to add a layer to the selection

Multiple selections can also be made in the Layer selector in the Pad Editor – as mentioned above, selections are always preserved between these sections.

Multiple edit shortcuts

The **Layer** and **Pad** [multiple edit shortcuts](#) apply in the Layer Mixer in the same way as in the Pad Editor.

Layer Channel controls

Each channel's controls in the mixer behave identically to those of the [Pad Mixer](#).

Output selector

If a layer's **Output selector** is set to *Parent*, it is mixed with any other layers on the parent pad that are also set to *Parent* and sent to the Pad Mixer.

If the layer is routed to a sub-output, it bypasses any other stages and effects further down the signal path (the pad, engine and Master channel blocks).

Sends and Effects slots

Each channel in the layer mixer features Sends and [Effects slots](#) which behave identically to those of the [Pad Mixer](#).

6 Engines and Global Mixer

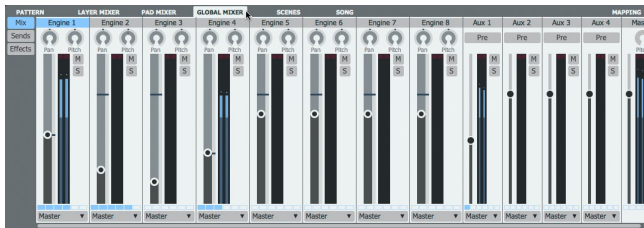
The [Engine selector](#) and [Global Mixer page](#) provide control over Geist2's 8 engines as well as the 4 Aux channels and the Master channel.

Engine Selector



- The [Engine selector](#) provides access to Geist2's 8 engines, along with a number of additional supporting functions.

Global Mixer page



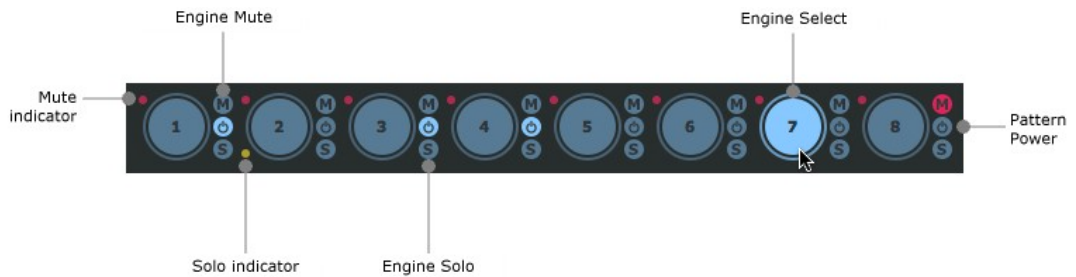
- The [Global Mixer page](#) displays channels for each of the 8 engines alongside 4 Aux channels, used as Send destinations from other channels, and the Master channel, the primary stereo output from Geist2.

Much of the Global Mixer's functionality is introduced in [chapter 1](#) and [chapter 5](#).

6.1 Engine Selector

The Engine Selector provides a number of functions relating to Geist2's 8 engines:

- it specifies and indicates the engine currently selected for editing
- it allows engines to be muted or solo'd
- it provides indicators to represent muted or solo'd elements within engines
- it allows the pattern sequencing of each engine to be enabled or disabled
- it also provides various engine management functions via the engine context menu



Engine Select

Each engine features a large circular button for selecting it as the current engine. The currently selected engine is highlighted.

Note that engines can be named (see below), with the name shown within the Engine Select button, replacing the default numbering.

The current engine can also be selected using engine channels in the [Global Mixer](#).

Engine Select buttons also act as level meters - louder signals produced by the engine result in brighter highlighting.

Engine Mute, Solo

Each engine features **Mute** and **Solo** buttons, to the right of its **Engine Select** button. These functions affect the entire audio output from the engine.

Mute/Solo indicators

Each engine selector button contains 2 LED indicators, to the left of its **Engine Select** button. These are highlighted if any element of the engine is muted or soloed (layers, pads or the engine itself).

A red LED indicates that mutes are present within the engine, while a green LED indicates solos. If an element within an engine is muted, its red mute indicator is highlighted.

If an element within an engine is solo'd, its green solo indicator is highlighted and the red mute indicators for unsoloed engines are also highlighted.

Level meter

The **Level meter** indicates the amplitude of any pads/layers being played within the engine.

Pattern Power

The **Pattern power** button for each engine is very important in the context of Geist2's sequencing functions.

Deactivating an engine's **Pattern power** button disables pattern playback on the engine. This is useful in the following situations:

When exporting patterns to a DAW/host

After exporting patterns to MIDI tracks in the DAW/host for further editing/arrangement, it is usually necessary to deactivate the **Pattern power** button so that only the incoming MIDI notes trigger Geist2 pads.

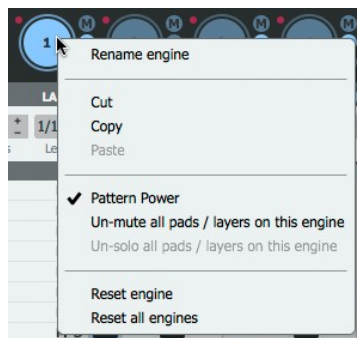
When using scenes

When creating a [scene](#), Geist2 stores an engine's state with its **Pattern power** button deactivated if it is currently playing back an empty pattern. This is to ensure that the original scene content is preserved if the empty pattern is subsequently edited.

To enable the engine's pattern sequencer again, simply reactivate the **Pattern power** button on the affected engines.

Engine context menu

Right-click an Engine selector button to display the Engine context menu. This menu provides a number of functions for managing engines.



Rename engine

This function allows the engine name to be changed from its numerical default of 1-8. It is recommended to keep the engine name as short as possible.

Cut, Copy, Paste

These functions allow the entirety of the currently selected engine to be cut, copied and pasted between the 8 engines. When pasting the contents of a clipboard, the destination engine is overwritten.

Un-mute all pads/layers on this engine

This function turns off any mutes that exist within the engine, on any of its pads and layers.

Un-solo all pads/layers on this engine

This function turns off any solos that exist within the engine, on any of its pads and layers.

Reset engine

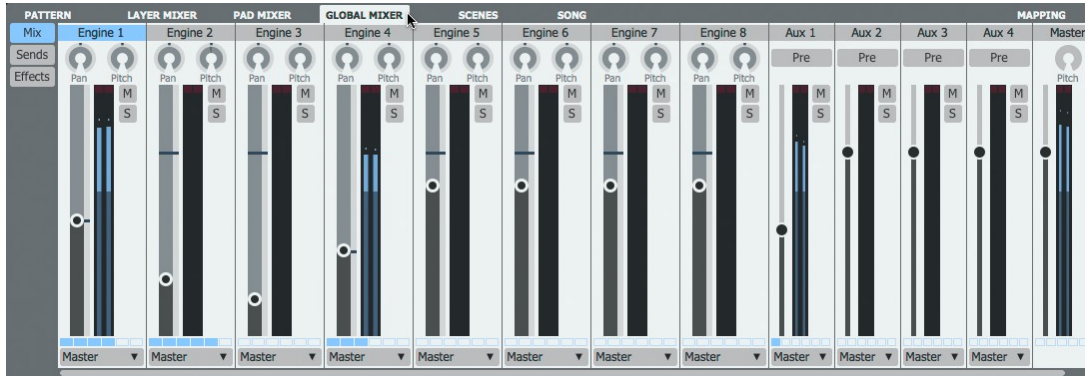
This function resets the current engine to its default empty state - all layers, pads and patterns within the engine are reset.

Reset all engines

This function resets all 8 engines to their default empty state - all layers, pads and patterns within all 8 engines are reset.

6.2 Global Mixer

Geist2's Global Mixer page, displayed by clicking the **Global Mixer** page button, shows all 8 engines as channels, along with 4 Aux buss channels and the Master channel.



It provides very similar controls to the [Pad Mixer](#) and [Layer Mixer](#) pages although there are a few differences.

Selecting a channel

Engine channels can be selected by either of the following methods:

- click the engine channels in the Global Mixer page.
- click the [Engine selector](#) buttons which are always visible on the Geist2 interface

Selecting an engine makes it the currently active engine for editing – its pads and patterns are accessible via the on-screen pad and pattern buttons.

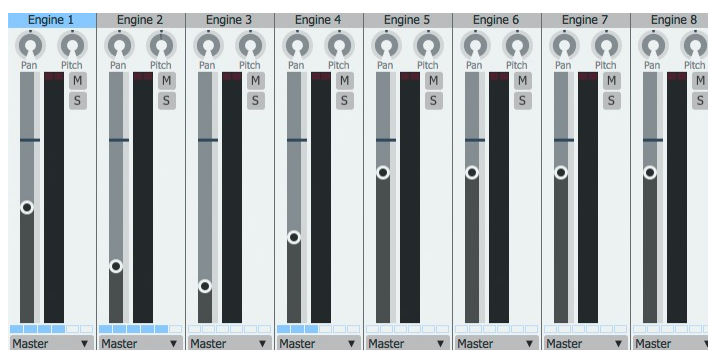
Other channels are selected by clicking the relevant channel in the Global Mixer.

Multiple selection of channels

Multiple channels can be selected in the Mixer page, using the following methods:

- SHIFT-click to create a contiguous selection between 2 channels
- CMD-click (Mac) or CTRL-click (Windows) to add a channel to the selection

Engines



Like channels in the [Pad Mixer](#) and [Layer Mixer](#), each engine 'channel' features **Mute**, **Solo**, **Pan** and **Gain** controls, along with a **Level meter** and **Output selector**.

Engine channels also each contain a **Pitch** control.

Pitch

This control adjusts the pitch of the entire engine. Relative pitch differences between layers in the engine are preserved.

Output selector

If an engine's Output routing is set to *Master*, it is mixed with all other signals routed to the Master channel.

If the engine is routed to a sub-output, it bypasses the Master channel.

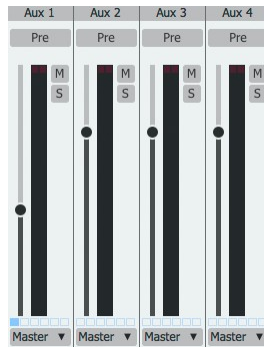
Sends

In the Global Mixer page, Sends are only available for Engine channels and behave identically to those in the [Pad Mixer](#) and [Layer Mixer](#) pages.

Effects Slots

Each engine channel features 6 assignable [Effects slots](#) which behave identically to those in the [Pad Mixer](#) and [Layer Mixer](#) pages.

Aux channels



Like all channels discussed previously, each Aux channel features **Mute**, **Solo** and **Gain** controls, along with a **Level meter** and **Output selector**.

Aux channels also each contain a **Pre** button.

Pre

In Geist2, the pre- or post-fader routing of the sends to an Aux channel is set for all sends at once, using the channel's **Pre** button.

By default, with the button deactivated for an Aux, the routing occurs *post-fader* - all sends to the Aux are routed *after* the source channel's **Gain** control is applied.

Activating the button for an Aux changes the routing to *pre-fader* - all sends to the Aux are routed *before* the source channel's **Gain** control is applied.

Output selector

If an Aux channel's **Output selector** is set to *Master*, it is mixed with all other signals routed to the Master channel.

If the Aux buss is routed to a sub-output, it bypasses the Master channel.

Effects Slots

Each Aux channel features 6 assignable [Effects slots](#) for loading effects devices.

Master channel



The Master channel represents the primary stereo output of Geist2 and is the default routing destination for all 8 engines.

It features a **Gain** control, **Level meter** and **Pitch** control.

Pitch

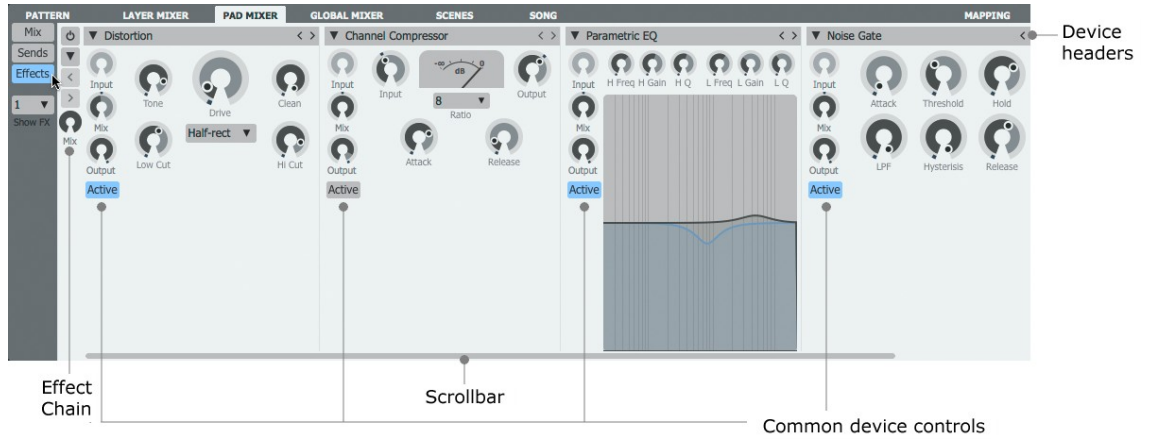
This control adjusts the pitch of the entire output of Geist2, relative to individual layer, pad and engine tuning settings.

Effects Slots

Like other channels in Geist2's mixers, the Master channel features 6 assignable [Effects slots](#) for loading effects devices.

7 Geist2 Effects

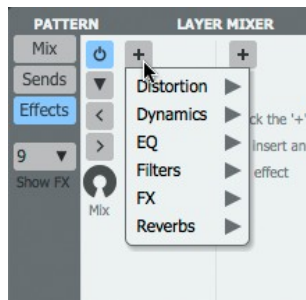
Geist2 features Effects slots within the [Global Mixer](#), [Pad Mixer](#) and [Layer Mixer](#) pages.



Each channel in each Mixer page contains 6 Effects slots which are used in the same way within all these pages.

See the [next section](#) for a guide to common Effects slot controls.

Loading an effects device into an empty slot

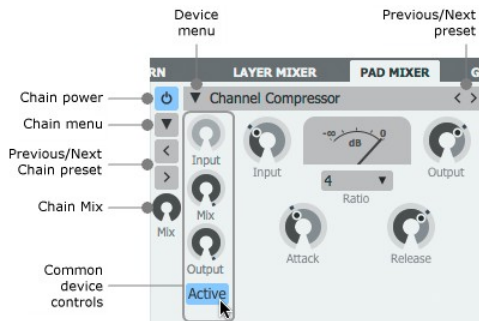


When an Effects slot is empty, click the + button to display a menu of available devices. Click the desired device within the relevant sub-menu to load it into the slot. See the following sections for details of each available device:

- [Distortion](#)
- [Dynamics](#)
- [EQ](#)
- [Filters](#)
- [FX](#)
- [Reverb](#)

7.1 Effects slot controls

Effect controls



Device headers and common device controls

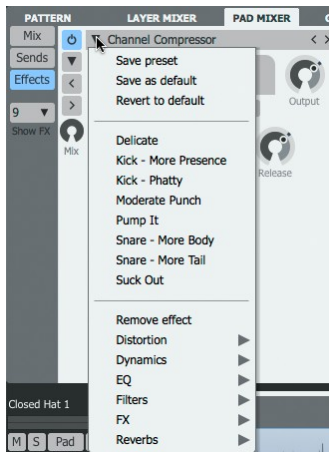
Active

With this button activated, the effects device processes audio. When it is deactivated, the device is bypassed and audio passes through it unaffected.

Device menu

Preset functions

The upper part of this menu contains preset-based functions.



The **Save preset** function saves the current device settings as a preset.

Use the **Save as default** function to save the current settings as the default settings whenever the device is loaded in future. The **Revert to default** function switches back to the currently defined default settings.

The next section of the menu displays factory and previously saved user presets for the device.

Device menu

The lower part of the menu displays the effects device menu for replacing the device currently loaded into the slot - this part of the menu is used in the same way as the **+** button menu for an empty slot. It also provides the **Remove effect** function for emptying the slot.

Previous / Next preset

These buttons cycle through the available presets for the device.

Input

The **Input** control is provided for certain effects devices such as delays and reverbs and sets the input level to the device.

It is useful for automation purposes, effectively functioning as a wet/dry control which preserves decaying tails when it is turned down.

Mix

This control acts as a 'wet/dry' control, blending between the input signal and the output of the device. It is very useful for parallel processing through inserted devices such as compressors, reverbs and so on.

Output

This control sets the output level from the device.

Effect Chain controls

The Effects chain controls, located above the Effects slots, provide a preset system for the entire chain of 6 Effects slots.

Chain power

The **Chain power** button activates or deactivates the entire chain of 6 slots.



Chain menu

The **Presets...** menu contains the **Save preset** function to save the current settings as a preset and the **Clear chain** function to re-initialize the entire set of 6 slots on the channel. This menu also allows factory and previously saved presets to be loaded.

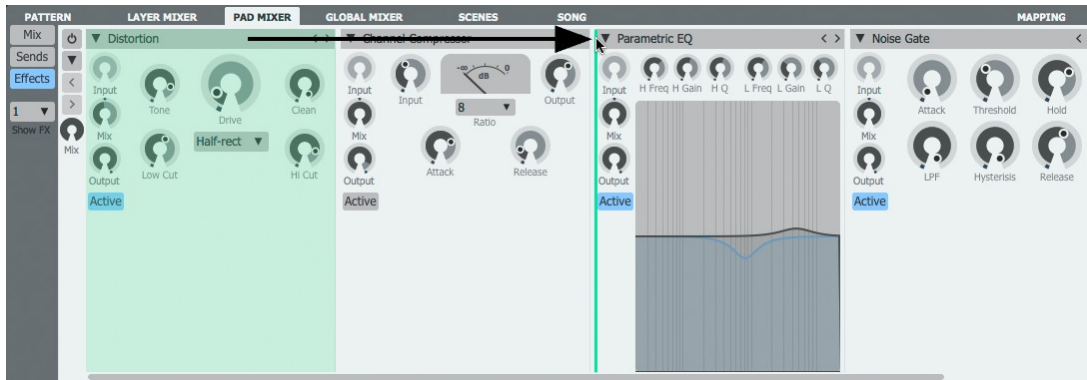
Previous / Next Chain preset

The **Previous** and **Next** buttons cycle through the available Chain presets sequentially.

Chain Mix

The **Chain Mix** control acts as a 'wet/dry' control for the entire chain, blending between the input signal and the output of the 6 Effects slots.

Re-ordering Effects slots



Click and drag any Device header left/right in order to change its position in the FX chain.

Effects context menu

Right-clicking within an effects device displays the effects context menu.



Cut

The **Cut** function stores the current Effects slot's state in the clipboard and removes the device, resetting the slot to an empty state.

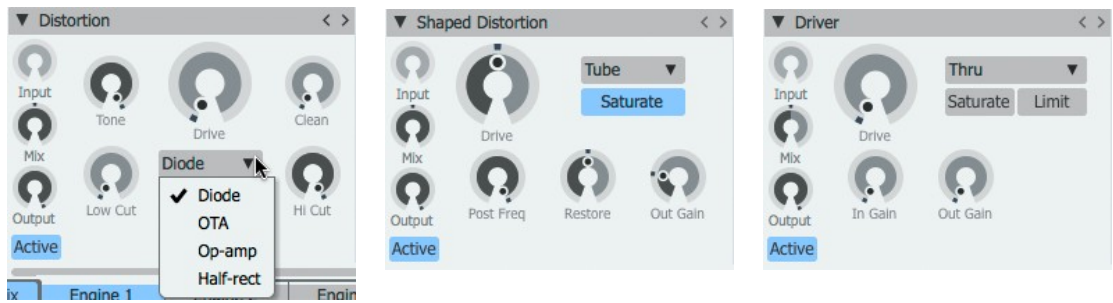
Copy

The **Copy** function stores the current Effects slot's state in the clipboard, leaving the slot unchanged.

Paste

If the clipboard contains suitable data, this function pastes the clipboard contents into the slot, replacing its previous state.

7.2 Distortion



- Distortion
- Shaped Distortion
- Driver

Distortion

This is a versatile, DCAM-modelled overdrive/distortion effect. The **Type** control switches between 4 different distortion models – *Diode*, *OTA*, *OpAmp* and *HalfRect* – each of which provides a different flavour of distortion. The **Low Cut** and **Hi Cut** controls filter the signal before the distortion stage.

The **Drive** control sets the amount of drive or distortion applied to the signal. The **Tone** control adjusts a 1-pole low-pass filter for removing unwanted high frequencies from the driven signal. The **Clean** control reintroduces the signal previously filtered out by the **Low Cut** and **High Cut** controls.



Shaped Distortion

The **Model** menu selects from a wide range of available distortion algorithms. The **Drive** control adjusts the amount of distortion while the **Gain** control sets the final output level, useful for attenuating the volume produced by large amounts of **Drive**.

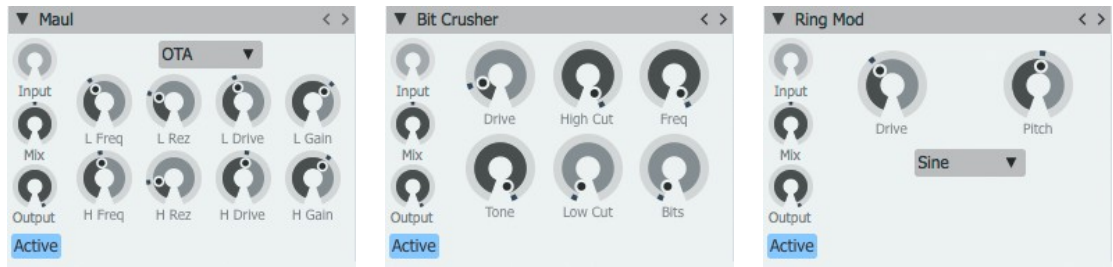
The **Post Freq** control applies a low-pass filter after the distortion stage, useful for removing unwanted high frequencies produced by this process. The **Restore** control provides a dynamics function for the distorted signal. At the centre point, no dynamics adjustment occurs. At settings below this, attack transients are emphasized while sustain portions of the transient are de-emphasized. At settings above the centre, the opposite occurs: attacks in transients are de-emphasized while the sustain portion is emphasized.

The **Saturation** button activates a saturation circuit which is dependent on the signal level and is applied to the entire output signal. Note that this is not a peak clipper - the output signal can still exceed 0dB.

Driver

The **Driver** device is an overdrive/distortion effect. The **Model** menu selects from a wide range of different distortion algorithms each with its own character. The **Drive** control adjusts the amount of overdrive. The **In Gain** adjusts the level of the signal entering the effect while the **Out Gain** adjusts the final output level, useful for attenuating the volume added by larger amounts of **Drive**.

The **Saturation** button activates a saturation circuit which is dependent on the signal level and is applied to the entire output signal. Note that this is not a peak clipper - the output signal can still exceed 0dB. The **Limit** button engages a soft limiter on the output signal - again, please note that the output can still exceed 0dB if it contains very fast transients.



• Maul

• Bitcrusher

• RingMod

Maul

This device splits the incoming signal into 2 bands with resonant low-pass/high-pass filters and applies a distortion algorithm to each band with different amounts.

The **Model** menu selects from the available distortion algorithms. The **Freq Low** and **Rez Low** controls set the cutoff frequency and resonance of the low band. The **Drive Low** control sets the amount of distortion for the low band and the **Gain Low** control adjusts the final output level of the band.

The **Freq High**, **Rez High**, **Drive High** and **Gain High** controls perform the same functions for a high-pass filter which acts to define the high band.

Any part of the signal with frequencies between the **Freq Low** and **Freq High** settings is passed through unaffected.

BitCrusher

This effect emulates the digital distortion that occurs when lowering the bit-depth or sample-rate of an audio signal. The **Low Cut** and **Hi Cut** controls filter the signal before the distortion/bit-reduction/samplerate-reduction stages.



Adjust the bit-depth with **Bits** control and the samplerate with the **Frequency** control.

The **Drive** control sets the amount of drive or distortion applied to the signal. The **Tone** control adjusts a 1-pole low-pass filter for removing unwanted high-frequencies from the processed signal.

RingMod

This effect is used for radical shifts in timbre and experimental effects. It multiplies the input signal with its internal oscillator, the shape and pitch of which are set with the **Mode** menu and **Pitch** control respectively. The **Drive** control sets the amount of distortion on the input signal.

Dirty DAC



This effect emulates the behaviour of an old Digital-to-Analogue Converter with low-fidelity characteristics. It offers an alternative processing algorithm to the Bitcrusher device and imparts a similar type of effect, although the character is very different.

The **Frequency** control sets the sample-rate frequency of the DAC model. It can be adjusted between 1kHz (fully anti-clockwise) and 10kHz. Lower settings lead to more pronounced aliasing effects.

The **AntiAlias** control adjusts the amount of anti-aliasing filtering for the output signal. Turning up the control reduces the cutoff frequency of a low-pass filter, reducing audible sidebands and aliasing effects caused by the sample-rate reduction process.

Analog Ring Mod



This device provides an alternative ring modulator circuit. Again, the input signal is multiplied with an internal oscillator to create complex sidebands and dissonant effects.

The **Pitch** control tunes the internal oscillator by +/- 6 octaves. The **Tone** control introduces and adjusts a low-pass filter function to the ring modulated output signal. Increase the control to increase the amount of filtering.

The **Mode** control adjusts the waveform of the internal oscillator between *Sine*, *Triangle*, *Saw* and *Square* shapes.

7.3 Dynamics



• Gain

• Stereo Width

• Channel Compressor

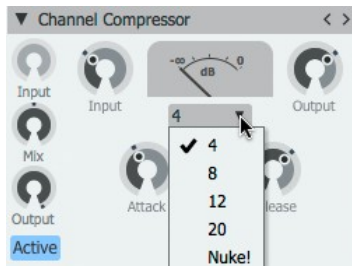
Gain

This effect is a simple tool for increasing or decreasing a channel's gain. The **Gain** control sets the channel's gain between $-\infty$ dB and +36 dB.

Stereo Width

This device provides a **Width** control that adjusts the stereo width of the signal between stereo (maximum position) and mono (minimum position). It also features a **Gain** control that sets the signal's gain between $-\infty$ dB and +18 dB.

Channel Compressor



This is a DCAM circuit-modelled channel compressor, based on a classic 'limiting amplifier' design. Increase the **Input** control to make the sound more compressed (higher signals engage the compression circuit more), and adjust the **Output** level to reduce the final level as required.

The **Ratio**, **Attack** and **Release** controls affect the compression characteristics.

The amount of gain reduction is indicated on the VU meter in real time.



• Bus Compressor

• VCA Compressor

• Noise Gate

Bus Compressor

This is a DCAM circuit model of a classic British console bus compressor design. The **Threshold** control dictates the level over which signals are compressed. The **Ratio**, **Attack** and **Release** parameters control the compression characteristics, while the **Makeup** control allows the audio level to be increased after the compression circuit's gain-reduction. The **Limit** button applies non-linearities to the compressor's amplitude detection circuit (while not affecting the input signal itself). This results in a different character to the processing – the compression effect is more transparent on attacks.

The amount of gain reduction is indicated on the VU meter in real time.

VCA Compressor

This device is a modelled emulation of a VCA-based compressor circuit with a fast and clean compression characteristic. The **Input** control adjusts the signal level entering the compressor circuit. Higher levels result in the compressor circuit reacting more heavily. The **Attack** time can be set between 100µs (microseconds) and 100ms (milliseconds) while the **Release** time can be set between 10ms and 2s. The compressor's Ratio can be set between 1:1 and 50:1. The **Threshold** represents the signal level at which the compressor begins to react and the **Output** control increase the output level after the compressor circuit has applied gain reduction.

Noise Gate

The Noise Gate attenuates the signal until its amplitude reaches the **Threshold** level. The **Attack** and **Release** controls set the speed at which the gate opens and closes after the signal goes above or below the threshold, while the **Hold** control forces the gate to remain open for an adjustable length of time after it is opened, even if the input signal drops below the threshold level. The **LPF** control applies a low-pass filter to the signal used for the amplitude-detection circuit. Increasing the **Hysteresis** control smooths the gate's response, although this can result in a side effect of lower sensitivity to small changes in amplitude around the threshold level.



• Envelope Shaper

• Drum Dynamics

• Limiter

Envelope Shaper

The Envelope Shaper adjusts transients and changes the dynamic shape of a signal in a different way to using a compressor. The **Sensitivity** control adjusts the sensitivity of the Envelope Shaper's peak-detection circuit. The **Attack** control adjusts the intensity of the attack phase of detected peaks in the audio signal. Increase the control to intensify attack transients, and decrease it to soften transients. The **Sustain** control adjusts the intensity of release portions of detected peaks in the audio signal, which increases or decreases the apparent sustain of sounds in the signal. Increase the control for more sustain, and decrease it for less sustain. This control is useful for adjusting the perceived level of ambience in a channel. Very low settings can produce damping effects for drum sounds.

The processed signal level can be adjusted using the **Gain** control. With the **Linked** button activated, the device's peak-detection circuit operates on a mix of left/right input channels. With the button deactivated, it operates on left/right channels independently.

Drum Dynamics

The Drum Dynamics device is an alternative envelope-shaping transient processor.

The **Attack** control increases or decreases the intensity of the attack phase of incoming transients. The **Sustain** control increases or decreases the intensity of the decay phase (and the apparent sustain) of incoming transients. Reducing this control is useful for 'damping' effects on drum sounds. Activating the **Fast** button makes the algorithm more sensitive to short transients. With this button deactivated, the algorithm is more sensitive to longer transients.

Limiter

A limiter is effectively a compressor with a very fast attack time and a high ratio for signals that exceed the maximum level. The **Input** control adjusts the level of the signal going into the Limiter algorithm. Higher input levels lead to more pronounced and 'brutal' limiting. The **Hardness** control adjusts the strength of the Limiter's 'knee'. At high settings, peaks are clipped with a 'brick-wall' limiting effect. At lower settings, gain reduction occurs more slowly (with slower attack and release settings), leading to a more natural effect with less 'pumping'. The **Output** control attenuates the processed output signal from the Limiter circuit.

7.4 EQ



• Parametric EQ

• DJ EQ

• Hi Lo Balance

Parametric EQ

This is a 2-band parametric EQ. The current frequency response curve is indicated on the graphical display.

The **High Freq**, **High Q** and **High Gain** controls set the centre frequency, Q and gain of the high band.

The **Low Freq**, **Low Q** and **Low Gain** controls set the centre frequency, Q and gain of the low band.

DJ EQ

The DJ EQ offers a simple 3-band parametric EQ, with fixed Q. The **L Gain** and **H Gain** set the amount of gain for the low and high bands. The **M Gain** and **M Freq** settings adjust the gain and centre frequency for the mid band.

The frequency response curve is represented on the graphical display.

Hi-Lo Balance

The HiLo Balance device is a 'tilt'-style EQ which cuts high frequencies when boosting low frequencies, and vice versa. The **Crossover** control sets the point between the low and high frequency bands. The **Balance** control sets the degree of 'tilt' between low and high frequencies. At the centre position no effect is applied to the incoming audio.

At values higher than the centre position, high frequencies are boosted while low frequencies are attenuated by the same amount.

At values lower than the centre position, low frequencies are boosted while high frequencies are attenuated by the same amount.

Vari EQ

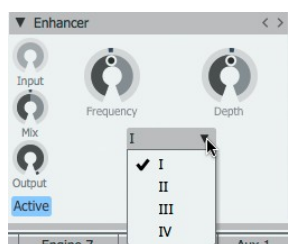


The Vari EQ is a single-band EQ processor which provides a wide variety of filter response types, selected using the drop-down menu. The current frequency response curve is indicated on the graphical display.

Bell, Low shelf, High shelf types: these parametric EQ-style curves provide **Frequency**, **Gain** and **Q** controls.

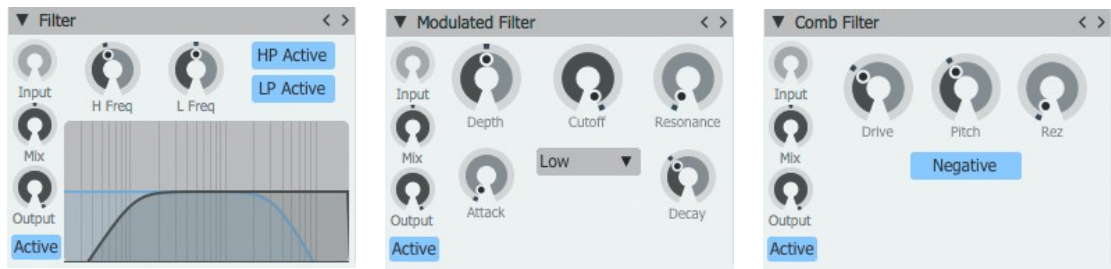
LPF, BPF, BPF (0 dB), HPF, Notch, Allpass types: these filter-style curves provide **Frequency** and **Q** controls.

Enhancer



The Enhancer device is intended to add high-frequency harmonics to emphasize these frequencies in the signal. It is useful for adding 'sizzle' to sounds to help them cut through dense mixes. Harmonics are added at and above the **Frequency** setting. The **Mode** control adjusts how the Enhancer circuit reacts to transients in the incoming signal. *I* is the slowest setting while *IV* is the fastest. The **Amount** control adjusts the level of the harmonics which are added to the signal before the output.

7.5 Filters



• Filter

• Modulated Filter

• Comb Filter

Filter

The Filter device provides simple 1-pole non-resonant high-pass and low-pass filters. Each filter features power buttons (**HP Active** and **LP Active**) and frequency (**HP Freq** and **LP Freq**) controls. The frequency response of the filters is indicated on the graphical display.

Modulated Filter



This is a DCAM circuit-modelled multimode resonant filter with modulation.

The **Cutoff** and **Resonance** controls adjust the cutoff frequency and amount of emphasis around the cutoff frequency. The **Mode** control switches between low-pass, band-pass, high-pass, peak and notch modes.

The effect contains a built-in envelope follower for modulating the cutoff frequency with the amplitude of the input signal. It features controls for envelope **Attack** and **Decay** in response to detected peaks in the signal, and an **Env Depth** control which sets the amount of modulation of the cutoff frequency by the generated envelope shape.

Comb Filter

The Comb Filter operates by feeding a delayed version of the input signal back on itself, generating phase effects that cause an array of peaks in the frequency response.

The **Drive** control adjusts the level of the signal entering the comb filter. The **Pitch** control adjusts the length of the delay in the comb filter circuit, while the **Resonance** control sets amount of feedback. The **-ve (Negative)** button toggles the comb filter's feedback polarity between negative and positive.

Three Oh! Three Filter

Hoover Filter

Grandad Filter

Little Fatty Filter

Child Genius Filter

Japan Filter

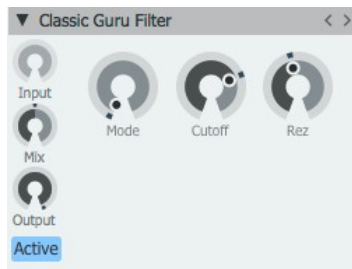


All these filter devices, each modelled on classic vintage filter circuits, feature a common set of controls. They do not feature any built-in modulation – they must be modulated with graphs, TransMod modulation or MIDI CCs/host automation.

The **Mode** control sets the response of the filter – a variety of responses are available, and each filter device features a different set of filter responses. Each Mode offers a huge variety of timbral variation and character, so please experiment with each device!

The **Pitch** and **Resonance** controls adjust the cutoff frequency and resonance of the filter circuit. The **Drive** sets the level of the signal entering the filter. The filter circuit responds with varying characteristics depending on the input level. Higher levels can decrease the apparent resonance of the filter.

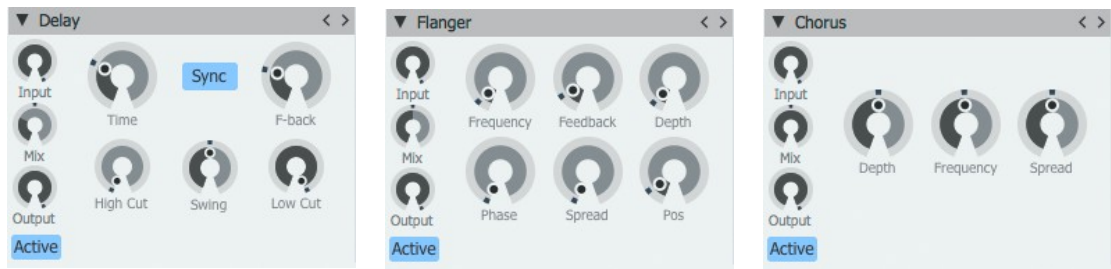
Classic Guru Filter



This device provides the filter algorithm from Guru as it features a unique character. The **Cutoff** and **Resonance** controls adjust the cutoff frequency and resonance of the filter circuit.

The **Mode** control blends between low-pass (a setting of 0%), band-pass (50%) and high-pass (100%) filter responses.

7.6 FX



- Delay

- Flanger

- Chorus

Delay

This device provides a classic stereo delay line controlled by the **Delay Time** and **Feedback** controls.

The **Swing** control adjusts between a wide variety of delay feels, and the **High Cut** and **Low Cut** controls adjust the filters in the feedback chain.

The **Sync** button enables a tempo-synced **Delay Time** control with BPM-based values instead of absolute time values.

Flanger

The Flanger effect is a short modulated delay line with feedback to the input. It is used for a sense of movement and for psychedelic effects.

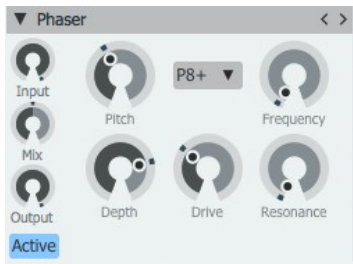
The **Frequency** control sets the frequency of the sine LFO used to modulate the flanger's delay time, while the **Depth** control adjusts the amount of modulation.

The **Feedback** control adjusts the amount of the processed signal that is fed back into the input. Higher settings result in a more pronounced flanging effect, with settings over 50% leading to extreme comb filter type effects.

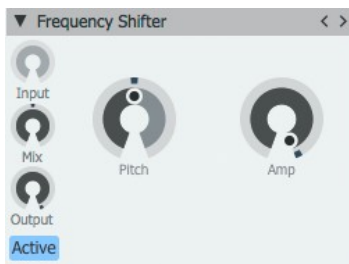
The **Pos (Position)** control adds up to 10ms to the flanger's delay time. The **Spread** control adjusts the panning of the left and right channel processed signals, while Phase offsets the phase of the internal LFOs for the left and right channels.

Chorus

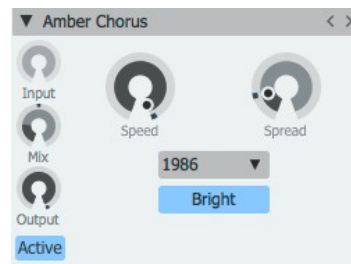
The Chorus device is a modulation effect that is pitch-based, useful for thickening up sounds. The **Frequency** control affects the speed of pitch modulation. The **Depth** control adjusts the amount of modulation away from the input signal's original pitch. The **Spread** control varies the panning of the left and right pitch-modulated signals.



• Phaser



• Frequency Shifter



• Amber Chorus

Phaser



The Phaser effect applies a set of allpass filters on the input signal with the option to sweep the filters with an LFO for psychedelic movement and timbral effects. The **Mode** control features 8 selectable phaser algorithms. 2, 4, 6 and 8 stage phasers are available (the number of stages, or 'poles', is the number of allpass filters), each with positive or negative feedback.

The **Input Drive** control sets the level of the signal entering the phaser circuit. The **Pitch** control sets the centre frequency of the allpass filter array, while the **Resonance** control sets the resonance of the filters.

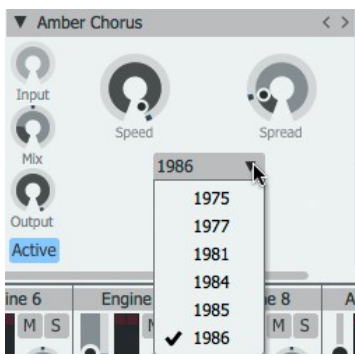
The **Frequency** parameter controls the rate of the LFO, with the **Depth** control setting the amount of modulation of the centre frequency of the filters.

Frequency shifter

This effect changes the pitch of the input signal without preserving the harmonic information, resulting in very alien and abstract timbres.

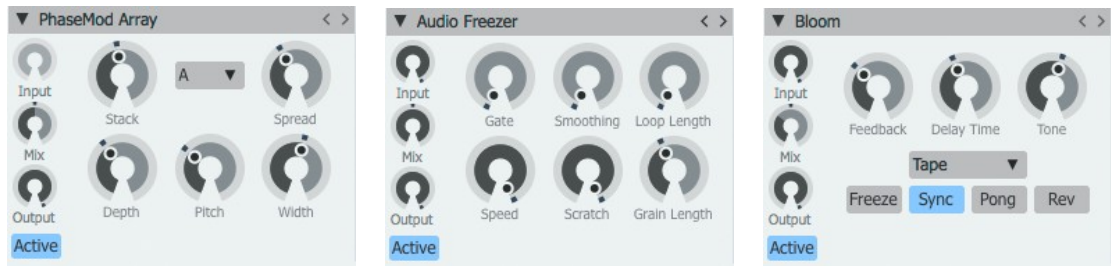
The **Pitch** control sets the amount of frequency shifting above or below the original signal, while the **Amp** control adjusts the level of the output signal.

Amber Chorus



Amber Chorus provides a range of chorus algorithms derived from classic bucket-brigade delay (BBD) chorus circuits found in string-synthesizers and stomp boxes. These algorithms impart a psychedelic and thickening effect to the source signal and results in a 'blended' ensemble sound with a very different character to the regular Chorus device. 6 different models are available using the **Mode** control with each providing their own unique sonic character. The **Speed** control adjusts the rate of pitch modulation and the **Spread** control varies the panning of the left and right pitch-modulated signals.

The algorithms in Amber Chorus were derived from classic ensemble string synth chorus circuits. Such devices usually integrated additional fixed filtering to shape the tone of the output to be more string-like. Activating the **Bright** button bypasses these filters. With the button deactivated, the filters are applied and a darker sound is created at the output.

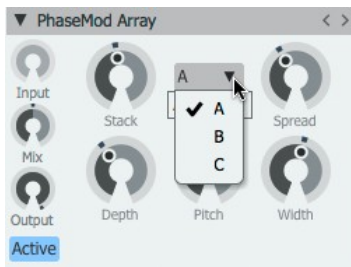


• PhaseMod Array

• Audio Freezer

• Bloom

PhaseMod Array



The PhaseMod Array device provides 4 sine oscillators whose phase is modulated at audio-rate by the incoming signal. It is designed to provide audio-rate FM effects.

The **Pitch** control adjusts the base tuning of 4 sine wave oscillators. The **Stack** control dictates how many of the 4 sine oscillators are heard. The **Spread** control spreads the pitch of the 4 sine oscillators apart according to the **Mode** setting and the **Width** control spreads the 4 sine oscillators apart in the stereo field. The **Depth** control sets the amount of audio-rate phase modulation applied to the 4 sine oscillators from the audio input signal.

When using higher amounts of the **Spread** and **Depth** controls, the device often produces best results with a monophonic synth source.

The **Mode** control changes the way the **Spread** control affects the tuning of each of the 4 sine oscillators.

The following table shows the deviation from the base tuning (set by the **Pitch** control) of each sine introduced by the **Stack** control with the **Spread** control at 100%:

	Mode A	Mode B	Mode C
Stacked sine 1	+0	+0	+0
Stacked sine 2	-12	-11	+11
Stacked sine 3	+12	+12	-12
Stacked sine 4	-5	+7	-4

Audio Freezer

This is a granular buffer-looping/freezing effect that is useful for glitchy and stuttery sounds.

Once the **Gate** button is enabled, the Freezer effect starts recording audio from the input into a buffer, the length of which is dictated by the **Loop Length** control (1-16 beats). After the loop buffer is filled, subsequent incoming audio is ignored, until the buffer is re-gated (**Gate** button turned off and on again).

The audio in the loop buffer is divided up into slices, the size of which is set by the **Grain Length** parameter in seconds.

Once the buffer has been filled, the first grain is looped – or 'frozen' – while the **Speed** parameter is set to 0. Increasing the **Speed** control plays through the available grains sequentially. The **Smoothing** control adjusts the amount of smoothing between grains.

The **Scratch** parameter scales the pitch of the loop in a similar way to scratching a record on a turntable - the loop can be played forwards, backwards and everywhere in between.

Bloom



The Bloom device features the core of the Bloom delay plugin. When it is used as a Pad effects device it can be used with graphs in a very similar way to the step-sequencers in the Bloom plugin.

The **Model** menu and the corresponding **Model Tone** control dictate the character of the delay effect. With the *Digital* model selected, the Model Tone control adjusts between vintage and modern digital delay characteristics. With the *BBD* model, the Model Tone control adjusts the number of BBD stages - at low settings the sound features a very low-fidelity quality. With the *Tape* model selected the Model Tone introduces more hiss, wow/flutter artifacts and less high-frequency response.

The **Delay Time** and **Feedback** controls set the amount of delay and feedback intensity in the effect. Activating the **Sync** button enables a tempo-synced **Delay Time** control with BPM-based values instead of absolute time values.

Engaging the **Freeze** button holds the content of the delay indefinitely with no new input or feedback being allowed to enter the delay. Activating the **Direction** button reverses the delay line. Automating these buttons or using a graph with the device as a Pad effect can create fascinating glitchy effects. With the **Ping-Pong** button activated, the delay line acts in mono with repeats alternating between the left and right outputs.

7.7 Reverb



• Breverb Hall

• Breverb Plate

• Breverb Room

Breverb Hall

The **Time** control sets the duration of the reverberation tail. It is also influenced by the **Size** parameter, which sets the rate of build-up diffusion after the initial period, the amount of which is controlled by the **Diffusion** parameter. The **Size** control also acts as a master control for **Time** and **Spread**. The apparent size of the space created is actually a combination of the settings of the **Size**, **Shape** and **Spread** controls.

The **Shape** parameter works together with the **Spread** parameter to control the overall ambience of the reverberation created by the Breverb Room algorithm. It specifically determines the contour of the reverberation envelope. With the **Shape** control at the minimum setting, reverberation builds explosively and decays very quickly. As the control is increased, reverberation builds up more slowly and sustains for the time set by the **Spread** parameter, which controls the duration of the initial contour of the reverberation envelope. Low settings result in a rapid onset of reverberation at the beginning of the envelope, with little or no sustain, while higher settings spread out both the build-up and sustain.

The **Predelay** control sets the amount of time that elapses between the input signal and the onset of reverberation. It can be used to create a sense of distance and volume within an acoustic space.

Breverb Plate

The **Time** control sets the duration of the reverberation tail. It is also influenced by the **Size** parameter, which sets the apparent size of the plate emulated by the algorithm. The **Diffusion** parameter controls the degree to which the initial echo density increases over time.

The **Predelay** control sets the amount of time that elapses between the input signal and the onset of reverberation. It can be used to create a sense of distance and volume within an acoustic space.

The **Shape** control determines the contour of the reverberation envelope. With the control turned all the way down, reverberation builds explosively and decays very quickly. As the control is raised, reverberation builds up more gradually and sustains longer.

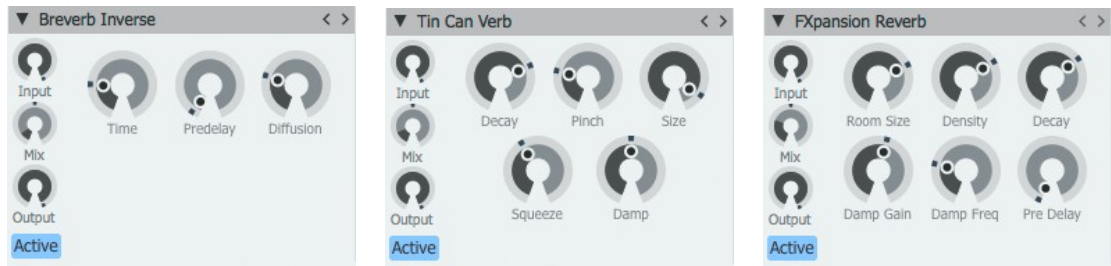
Breverb Room

The **Time** control sets the duration of the reverberation tail. It is also influenced by the **Size** parameter, which sets the apparent size of the acoustic space being emulated by the algorithm. Values from minimum to half way up are typical of the ambience of a recording studio.

The **Diffusion** parameter controls the degree to which the initial echo density increases over time.

The **Decay** control balances between the late reverberation and the early reflections. When the control is turned down fully, only the early reflections are present. As it is increased, late reverberations are gradually added.

The **Predelay** control sets the amount of time that elapses between the input signal and the onset of reverberation. It can be used to create a sense of distance and volume within an acoustic space.



• Breverb Inverse

• Tin Can Verb

• FXpansion Reverb

Breverb Inverse

The **Time** control sets the duration of the reverberation. This time, added to the **Predelay** time, is the time that elapses from the direct sound to the end of the reverberation process. The **Predelay** control sets the amount of time that elapses between the input signal and the onset of reverberation. It can be used to create a sense of distance and volume within an acoustic space.

The **Diffusion** control sets the degree to which the initial echo density increases over time.

Tin Can Verb

This effect is a recreation of a low-end room reverb unit, perfect for emulating 'cheap and nasty' onboard synth FX.

The **Size** control adjusts the size of the virtual reverberation room. Smaller rooms offer subtle ambience, while large rooms result in a more 'cavernous' and reflective effect. The **Decay** control adjusts the decay time of the reverb effect. Use smaller decay times for subtle small room effects, with larger times useful for special effects.

Increasing the **Damping** control results in less high frequencies in the effected signal, leading to a darker reverb sound. At least some damping is recommended to avoid overly tinny and fatiguing results.

The **Pinch** and **Squeeze** controls manipulate the shape of the virtual reverb room, leading to a variety of resulting effects. They make the reverb sound a lot more artificial and are useful for special effects.

FXpansion Reverb

FX-verb is a high-end algorithmic reverb device.

The **Room Size** control adjusts the size of the virtual reverberation chamber - increasing it leads to a more pronounced and longer reverberation effect. The **Decay** control adjusts the length of the reverberation tail (which is also affected by the **Room Size** control). The **Density** control adjusts the density of reflections in the generated reverberation.

This device features a built-in damping EQ - the **Damping Gain** control adjusts the amount of damping with the **Damping Freq** control adjusting the centre frequency of the damping EQ positioned before the final output.

The **Predelay** control introduces a delay between the dry signal and the reverberated output, creating a sense of space and distance.

The **Early** control adjusts the level of early reflections within the reverb output signal and the **Late** control adjusts the level of late reflections within the reverb output signal.

8 TransMod modulation

Geist2 features an extensive TransMod modulation system, similar to the TransMod modulation found in other FXpansion products such as Strobe2, Etch, Bloom and Maul.

TransMod modulation involves selecting a current modulation source (from a variety of available sources) and drawing modulation amounts, or 'depths', directly onto any Geist2 controls capable of being modulated.

Therefore, modulation can be viewed and edited visually rather than through an abstract modulation matrix list.

See [chapter 1](#) for an introduction to using TransMod modulation.

TransMod sources and destinations



The Voice-level polyphonic sources include per-layer Envelopes as well as MIDI/pattern event-based velocity and random values.

Many TransMod sources are accessed by being assigned to one of 16 'slots' located in the TransMod panel. Each slot can be assigned to a modulator such as an LFO, mini-sequencer, mathematical function, AD envelope and so on. See [section 8.2](#) for a guide to these modulators.

Other sources include 4 Macro controls and several global monophonic sources, mainly MIDI controllers.

Destinations include most controls in Geist2's Pad editor and Mixer sections.

TransMod panel

TransMod modulation sources are shown on the TransMod panel - this is shown instead of the Browser by clicking the **TransMod** button above the Browser area. To return to the Browser, click the **Browser** button.

See the [next section](#) for details on using the panel and other TransMod system functions.

8.1 Using TransMod modulation

The example in [chapter 1](#) shows how to assign a layer's Free Envelope to its Filter **Cutoff** parameter.

The following example shows how to set up a global LFO to modulate an Envelope's **Decay** time.

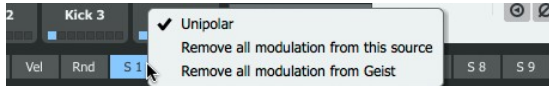


1. Click the TransMod button to switch to the TransMod panel from the Browser.

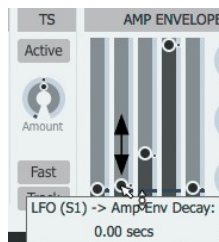


2. Click the + button and assign the desired modulator from the menu (in this case the LFO) to the relevant slot.

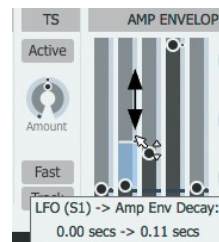
3. After assigning a modulator to a slot, the slot source (in this case S1) is selected automatically.



4. The source is unipolar by default (values from 0-1) - right-click on the source and deactivate the **Unipolar** setting for bipolar behaviour (output values between -1 and 1) if desired. This example does not require it.



5. Click/drag vertically the central part of the Amp Env **Decay** control to set the initial value.

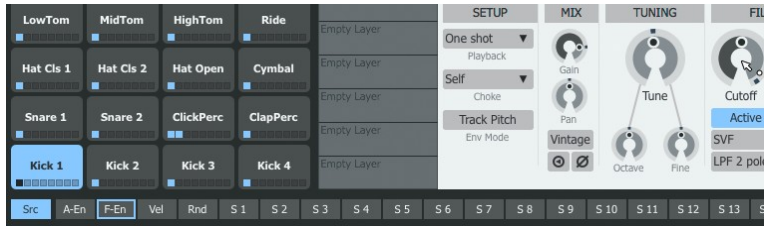


6. Click/drag vertically the right-hand side of the control to set the maximum modulation depth from the initial value.

- If the current source is bipolar, the drawn modulation amount represents the positive half of the modulator's output (0-1) with the initial parameter value representing the halfway point (0). However, negative modulation which mirrors the drawn amount in the opposite direction away from the initial parameter value - occurs when the source output is between -1 and 0.

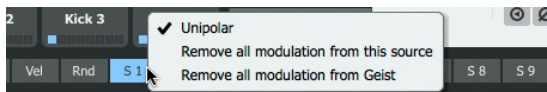
Managing TransMod modulation

TransMod source indicator



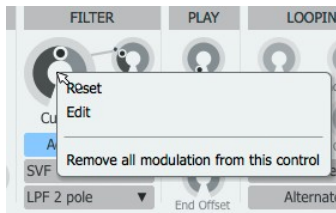
Hover the mouse over a modulated control to highlight the TransMod sources from which it currently possesses modulation depths. This process also works in reverse; any parameter with an assigned TransMod depth is highlighted when the mouse is hovered over the relevant TransMod source.

Removing modulation from a TransMod source



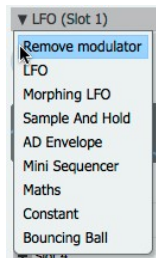
Right-click a TransMod source to display the TransMod source context menu, which allows all modulation depths from the source, or from all sources, to be removed.

Removing modulation depths from parameters



The control context menu, shown by right-clicking on a parameter, allows all modulation to be removed from the selected parameter. Geist2 asks for confirmation to proceed as this action cannot be undone!

Removing an assignable slot modulator



When an assignable slot has been used, its menu contains an additional **Remove modulator** function in order to remove the slot's current modulator device.

When this function is used, Geist2 prompts whether the slot's modulation depths should be preserved or removed with the modulator.

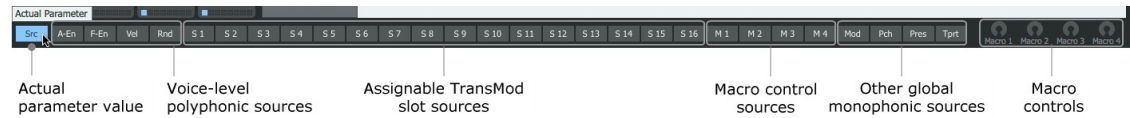
Preserving any existing depths is useful if they are required with a different modulator.

The behaviour when using this function can be customized in the [Preferences](#) with the **Remove modulator behaviour** setting, which allows any of the following when using the **Remove modulator** function:

- always display the prompt
- always remove any modulation depths
- never remove any modulation depths
- use the ALT keyboard modifier to dictate the behaviour

With the latter setting, hold down ALT while using the function to always remove any modulation depths. Without the ALT key held down, any existing modulation depths are not removed.

TransMod modulation sources



Voice-level polyphonic TransMod sources

The Amp Envelope, Free Envelope, Velocity and Random sources operate on the voice level - this means that they set up modulation which occurs within each voice, in other words: on the layer level. When any of these sources are selected as the current TransMod source, modulation amounts can only be drawn onto Layer-level parameters: Pad Editor Layer controls and Layer Mixer controls (including Effects).

F Env (Free Envelope) and A Env (Amp Envelope)

Each layer on each pad within each engine features its own Amp Envelope and Free Envelope. When modulation from the Amp Envelope or Free Envelope TransMod sources has been created on Pad Editor Layer controls or Layer Mixer parameters, the relevant parameter(s) for the layer are modulated when that layer's Free/Amp Envelope is triggered by a MIDI or pattern event.

Velocity and Random

The values for these sources are generated at the onset of a layer being triggered by a MIDI or pattern event. Like the Envelopes described above, the values are applied to the relevant Editor/Mixer/Effects parameter(s) for the layer which has been triggered by the MIDI/pattern event.

Global monophonic sources

Unlike the voice-level sources described previously, all other TransMod sources act 'globally' - they can modulate parameters across any engine/pad/layer.

Global sources include the 20 assignable slots and Macro controls as well as a number of MIDI messages.

S1 - S16 (Assignable Slots 1-16)

These slots can each be assigned to 1 of a number of modulator devices such as an LFO, mini step-sequencer or AD envelope.

Note that rotary controls within modules selected for assignable slots can themselves be modulated by the currently selected TransMod source.

The available modulators are described in the [next section](#).

M1 - M4 (Macro controls 1-4)

Macro controls are intended to provide a single control assignable to host automation or a MIDI CC (Continuous Controller) message, which can be assigned to move multiple controls across multiple engines/pads/layers by different amounts.

Mod (Mod Wheel), Pch (Pitch Wheel)

These are sources derived from the MIDI modulation wheel and pitch-bend wheel controllers.

Pres (Channel Pressure or Aftertouch)

This source will usually only be useful when using Geist2 as a MIDI-triggered sampler (rather than when using the internal sequencing). Channel Pressure is applied globally across all modulated layer/pad/engine parameters in a similar way to the Macro, Mod Wheel and Pitch Wheel sources described earlier, except that it must first be initiated by a MIDI note.

Tpt (Transport)

The Transport source outputs a value of 1 while the transport is running, returning to 0 when it is stopped. It can be useful for reducing delay feedback amounts when stopping playback.

8.2 Assignable TransMod modulators

LFO



This module provides a wide variety of LFO shapes for adding movement to parameters via the TransMod system. The **Shape** menu selects from the available range of waveforms - *Sin (Sine)*, *Cos (Cosine)*, *Triangle*, *Saw Up*, *Saw Down*, *Square*, *Arc Sin*, *Arc Cos* and *Noise*. The rate is set using the **Freq** control which operates in Hz or, if the **Sync** button is activated, in BPM-based units. The **Phase** control adjusts the start phase of the LFO when it is reset.

Morphing LFO



The Morphing LFO allows its waveshape to be continuously morphed from Saw to Square to Sine to Triangle to Arcsine using the **Shape** control. The LFO rate is set using the **Freq** control which operates in Hz or, if the **Sync** button is activated, in BPM-based units. The **Phase** control adjusts the start phase of the LFO when it is reset.

Setting the **Swing** control above or below 50% creates a 'swung' feel by changing the length of each of 2 LFO cycles so each cycle has a different length while the combined length of the 2 cycles remains the same.

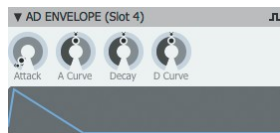
Sample And Hold



The Sample And Hold module outputs a modulation signal derived from 'sampling' the value of an internal noise signal on each pulse of a clock, the rate of which is dictated by the **Freq** control. This control is set in Hz or, with the **Sync** button activated, in BPM-based units.

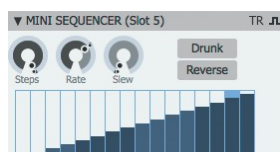
The **Phase** control dictates the position within the duty cycle of the clock source when the sampling process occurs.

AD Envelope



The AD Envelope outputs a one-shot Attack-Decay envelope when it is reset. The **Attack** and **Decay** controls adjust the time of each stage. The **A Curve** and **D Curve** controls adjust the curve of the Attack and Decay stages respectively, between Inverse Exponential (0%), Linear (50%) and Exponential (100%).

Mini Sequencer



The Mini Sequencer provides a modulation step sequencer for the TransMod system. The **Steps** control adjusts the number of steps from 1 to 16 and the **Rate** control sets the length of each step. The **Slew** control smooths transitions between steps.

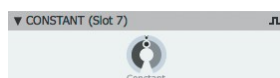
Activate the **Reverse** button to step backwards through the sequence. Activating the **Drunk** button introduces jitter and random changes of direction.

Click and drag up/down on each step in the editor to change its value. Click and drag across the steps to 'paint' a sequence of values.

Activating the **TR** button near the upper-right of the module locks the rate relative to the Reset on Pad selection; the module will move by one step every time a selected pad is triggered in the Pattern Editor.

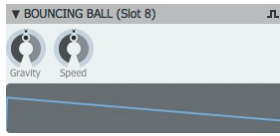
With the **TR** button deactivated, the sequencer runs freely.

Constant



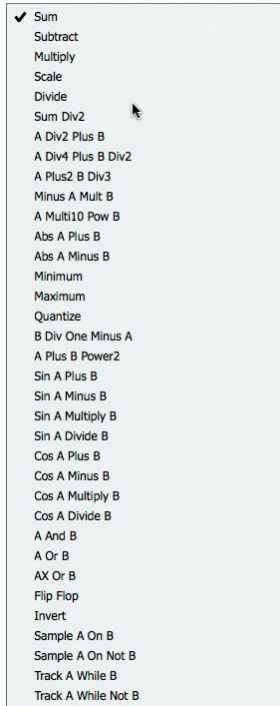
The Constant source outputs a constant value, set by the **Constant** control. It can be particularly useful when used in conjunction with the Maths module and when the control is modulated by other TransMod sources in real time.

Bouncing Ball



This module creates modulation signals derived from the height of a simulated bouncing ball. The ball is 'released' when the module receives a reset signal. The **Gravity** control sets the amount of gravity pulling the ball downwards. The **Speed** control sets the speed of the ball when it is released.

Maths



This module creates new modulation signals by applying mathematical conditions using 2 TransMod sources, very useful for creating complex, evolving movement and much more. The **Argument** menu selects between mathematical conditions including *Sum*, *Subtract*, *Multiply* and *Divide* as well as more complex math and logic functions. The two **Source** menus select the TransMod sources to use with the selected mathematical function.

Trigger options for assignable slots

Although the slot sources act globally across all modulated layers/pads/engines parameters, they can be set to reset their behaviour upon various types of triggers.

These settings are accessed via the slot's **Trigger options** button which appears after a modulator has been assigned.

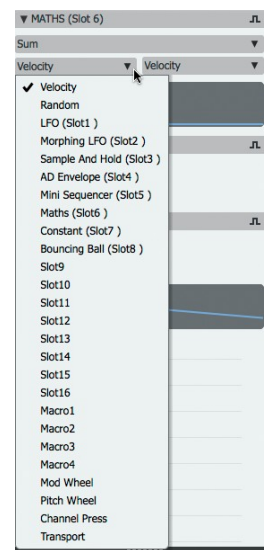
Reset behaviour varies depending on the nature of each modulator - for example in LFOs, the phase is reset and in the mini-sequencer, playback is reset to step 1.

Reset at transport start

With this setting enabled, the modulator is reset every time the transport is started.

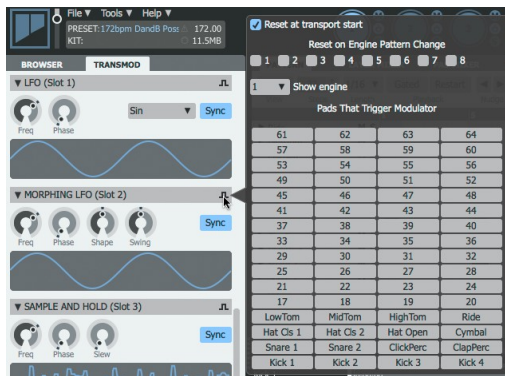
Reset on Engine Pattern Change

The modulator can be reset by pattern changes on any/all of the 8 engines.



- Maths **Source** menu

- Maths **Argument** menu



Reset on Pad(s) in an engine

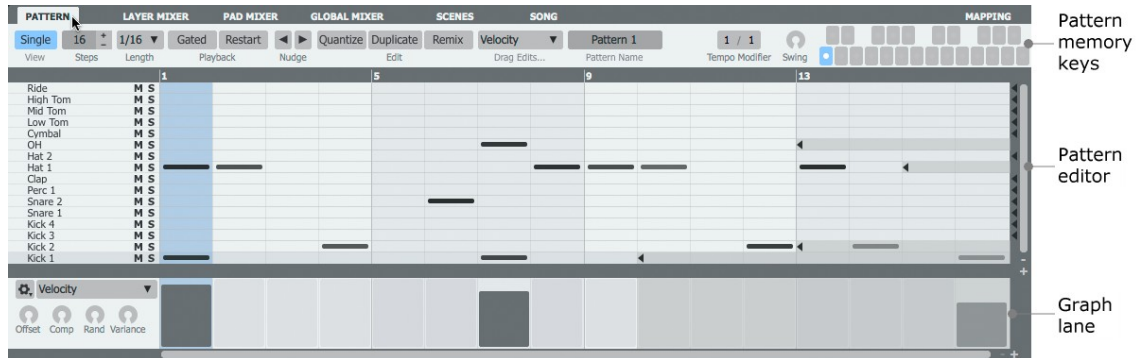
The modulator can be reset by any number of pad triggers within any single engine. Click any of the buttons representing the 64 pads to toggle the reset function for the pad.

Right-click in this area to optionally select **All** or **None** of the pads.

9 Patterns and Graphs

Patterns and graphs are introduced in these sections in chapter 1:

- [Playing pads and recording a pattern](#)
- [Sequencing and arrangement](#)
- [Patterns in more detail](#)
- [Introduction to Graphs](#)
- [Performing with patterns](#)



This chapter provides a reference guide to using the following functions in the Pattern page:

- [Pattern memory keys](#)

These buttons represent the 24 patterns in the engine.

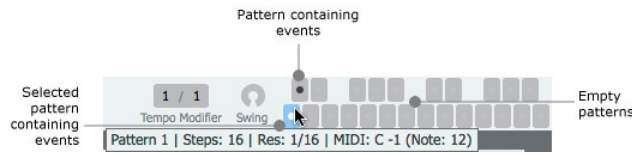
- [Pattern editor](#)

This editor provides a fast editing interface for creating step-sequence patterns.

- [Graphs](#)

Graphs are step-automation sequences for parameters.

9.1 Pattern memory keys



This section of the interface represents the 24 available patterns in the currently selected engine as clickable buttons called pattern memory keys (also referred to simply as pattern keys).

The currently selected pattern is highlighted (one of the 24 patterns must always be selected), and plays according to its [Playback](#) setting.

Any patterns that contain events are marked with a dot.

Selecting a pattern

Clicking a pattern memory key on the Geist2 interface selects it as the current pattern.

Alternatively, play the pattern key's corresponding MIDI note.

Playing a pattern

Selecting a pattern is not always the same thing as 'playing' the pattern. The way in which the pattern is played and heard depends on its **Playback** setting.

For example, a pattern with **GAT (Gated)** mode enabled is only heard while the pattern key, or its corresponding MIDI key, is held down. A pattern with **RES (Restart)** mode activated (and the **Gated** mode deactivated) starts playing as soon as it is selected, from the start of the pattern.

See the [Performing with patterns](#) section in chapter 1 for a graphical illustration of the behaviour that occurs with all possible **Playback** setting combinations.

Exporting patterns as MIDI

Pattern memory keys can be [exported as MIDI](#) by dragging and dropping them outside the Geist2 interface.

Swapping and copying patterns

Patterns within an engine can be swapped and copied using drag and drop.



- Drag one pattern key onto another to swap the two.

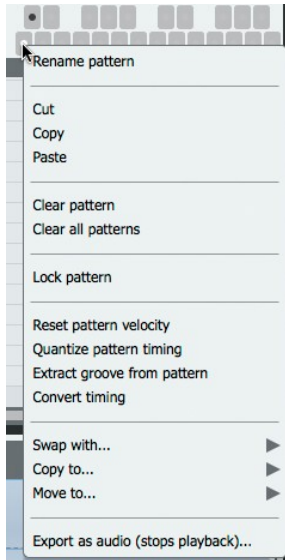


- To copy a pattern from one slot to another, drag the pattern key onto another while holding down the **ALT** key.

The pattern key context menu also provides functions for managing patterns - see below.

Pattern key context menu

Right-click on a pattern memory key to display the pattern context menu, containing various pattern management features.



Rename pattern

Cut/Copy/Paste

These functions cut/copy/paste patterns between the available pattern keys within any engine. Note that it is also possible to swap and copy patterns within an engine using drag and drop (see above).

Clear pattern Clear all patterns

These functions clearing the current pattern or all patterns in the engine.

Lock/Unlock pattern

This function locks the pattern (all tracks within it) so that it cannot be altered, or unlocks it if it was previously locked.

Reset pattern velocity

This function resets the *Velocity* graph events for all step events within the pattern.

Quantize pattern timing

This function resets the *Shift* graph events for all step events within the pattern.

Extract groove from pattern

This function analyses the pattern's *Shift* graph values and creates a swing template that can be used with the **Swing** control on any engine.

Convert timing

Because Geist2 is a step-sequencer, it has a fixed 'grid' – each pattern has a finite number of steps, with the steps lasting a certain amount of time in relation to the current tempo (although an event can occur at any point within the step using *Shift* graph values).

The **Convert timing** function allows the grid to be changed without changing the position of existing events. Using this function displays a dialog box prompting for new **Steps** and **Step Length** values for the converted pattern.

The grid change can optionally be applied to all patterns in the engine.

The function calculates where existing events should be in the new pattern – which steps they occupy and any new *Shift* graph values that may be required.

Note that this function is intended for increasing the grid resolution while keeping a pattern sounding the same (in other words, increasing the Steps value and decreasing the Step Length value). It is not recommended to decrease the resolution unless absolutely necessary, as events may be lost.

Some common conversions which may be needed include:

- Convert to 1/16T (triplet) timing – set **Steps** to 24 and **Step Length** to 1/16T.
- Double the resolution of a 16-step pattern: set Steps to **32** and **Step Length** to 1/32.

Swap with... / Move to... / Copy to...

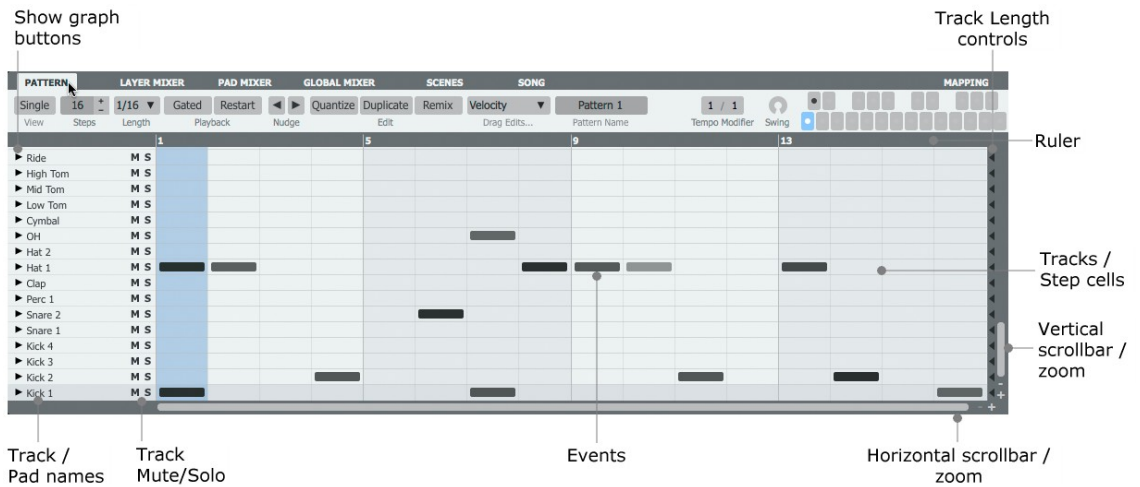
These functions allow patterns to be swapped/copied/moved between the available pattern keys within the engine.

Export as audio (stops playback)

Pattern memory keys can be [exported as audio clips](#) using this function.

9.2 Pattern editor

The Pattern page displays the currently selected pattern and allows it to be programmed and edited. It is displayed by clicking the **Pattern** page button.



Ruler

The numerical markers in the ruler indicate step numbers. The current horizontal zoom level dictates the actual step numbers that are displayed.

Tracks

Each of the pads in the currently selected pad bank is represented as a track in each pattern. To view tracks for all 64 pads, use the **All** option rather than the **A**, **B**, **C** and **D** banks.

Track/Pad name

The Pad name is effectively the name of the track. Pads cannot be renamed in the pattern page – this must be performed in the [Pad Editor](#).

Track Mute/Solo

Track **Mute** and **Solo** buttons operate on the pattern tracks in the current pattern only – muting or soloing a track in a pattern does not affect any other patterns. These buttons are not related to the pad or layer Mute/Solo functions.

Step cells

Events

The actual step 'cells' represent possible positions for events in the current pattern. Events are shown as dark blocks.

This area is fully editable using the editing tools – see below for a comprehensive guide to the tools and their editing features.

Track Length control

The length of each pad track can be changed using its **Track Length control**. Using different track lengths for the pads in the engine can lead to fascinating evolving polymeter rhythms. These can also be MIDI-mapped for further creative possibilities. Note that when exporting patterns from Geist2, any such polymeter patterns are clipped to 16 bars.

Horizontal zoom

These buttons increase and decrease the horizontal zoom level of the step-sequencer display in the pattern page.

Vertical zoom

These buttons increase and decrease the vertical zoom level of the step-sequencer display in the pattern page.

Scrollbars

The horizontal scrollbar can be clicked and dragged left/right in order to access the whole pattern when zoomed in sufficiently.

The vertical scrollbar allows scrolling when zoomed in or when using graph lanes.

**Single (Single Graph view)
Show graph buttons**

These functions are related to [graphs](#).

Pattern page control reference

Pattern name



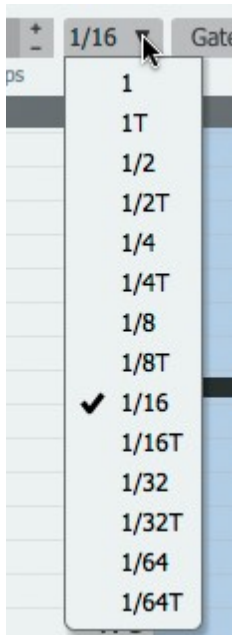
This field sets and displays the name of the currently selected pattern. Click the text-box to edit it or enter a new name.

Steps



The **Steps** control adjusts the number of steps in the pattern. There are several ways of using this control:

- Click the numerical display to type a value manually
- Click the + and - buttons to increase and decrease the value by 1
- Click while holding down the SHIFT key to adjust the value by +/- 8
- Click while holding down the ALT key to double or halve the value



Step Length

This control sets the length of each step in the step sequencer grid – 1, 1/2, 1/4, 1/8, 1/16, 1/32, 1/64 straight and triplet settings are available. The default setting for new patterns is 1/16.

**Gat (Gated)
Res (Restart)**

When a pattern is set to **Gated** mode, it only plays while the pattern's MIDI key is held down. With the **Gated** button deactivated, patterns are started by playing the key and releasing it, and it loops indefinitely.

When a pattern is set to **Restart** mode, it always plays from the beginning of the pattern when triggered. With the **Restart** button deactivated, the pattern starts in phase with the playing position.

Note that both of these modes can be active at the same time.

See the [Performing with patterns](#) section in chapter 1 for a graphical illustration of these settings.

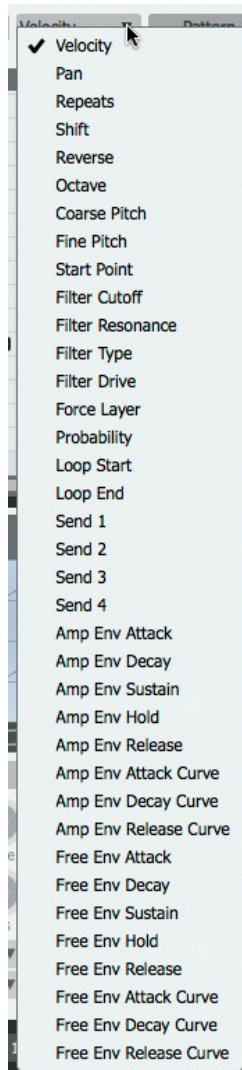
Nudge left/right

These buttons move the events in the pattern left or right by 1 step. Events 'wrap around' the beginning and end of the pattern.

All the steps' accompanying graph information is also moved.

With one or more events selected, using the **Nudge** buttons results in moving only the selected events.

• **Step Length**



• Drag edits menu

Q (Quantize)

Clicking the **Q (Quantize)** button quantizes either the selected events in the pattern, or the whole pattern if no selection exists. Events are quantized to the start of the nearest step.

Note that this function is distinct from the **Quant (Input Quantize)** button in the Geist2 [transport](#), which enables or disables automatic quantizing of real-time MIDI input during recording.

D (Duplicate)

Click the **D (Duplicate)** button to double the entire pattern, or the current selection of events – another copy of it is inserted at its end.

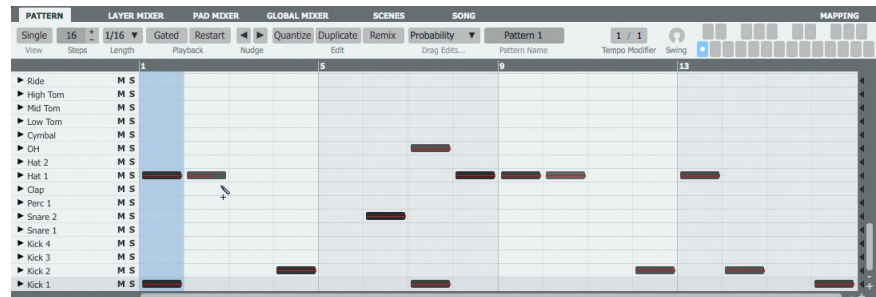
R (Remix)

R (Remix) mode is a special editing mode which, when enabled, allows only a single pad to play in any single step. It is intended as a quick way to rearrange or remix a sliced loop.

Drag edits...

By default, click/dragging up/down on an event with the Pen or Multi tools results in adjusting its velocity. The **Drag edits...** menu allows this to be used to adjust any [graph type](#). This can be more convenient than viewing and editing the graph data for all pads.

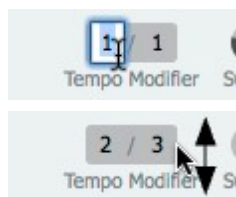
When any graph except *Velocity* is selected, the values are represented by red indicators on each event, rather than the gradient shading used for representing event Velocity.



• Editing event probability with the Drag edits function

Tempo Modifier

The **Tempo Modifier** scales the master tempo, so that each engine can operate at a distinct multiple or fraction of the master tempo.



This control effectively represents a ratio which it multiplies the master tempo.

Click and drag up/down to change the values, or double-click a value to type a new value.

With the Tempo modifier ratio set to 1/1 (or, indeed, 2/2 or 3/3 for example), the engine's patterns play back at the master tempo.

If it is set to 1/2, that engine's patterns play back at half the master tempo.

If the ratio is set to 2/1, patterns play back at double the speed of the master tempo.

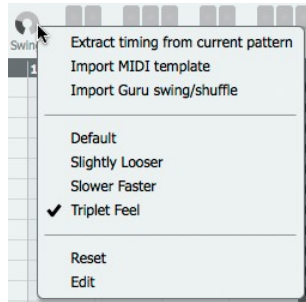
When a pattern is played back, it is looped according to the Tempo modifier ratio. Therefore, if the patterns in engine 1 and 2 are set to the same number of steps, and engine 2's Tempo modifier is 1/2, engine 1's patterns will have played through twice in the time engine 2's patterns take to play once.

It is possible to set the ratio to anything from 1/16 (a 16th of the master tempo) to 16/1 (16 times faster than the master tempo).

Of course, any ratio between these values can be set, such as 2/3, 3/5 etc. These values are useful for polyrhythmic and unconventional rhythms.

Swing controls

Geist2 features individual control over swing (also known as syncopation or 'shuffle') for each engine.



Although the **Swing** control is shown in the Pattern page, it is important to remember that Swing settings are applied per-engine, not per-pattern.

Swing

The **Swing** control sets the amount of swing applied to the engine.

Swing menu

Right-click on the **Swing** control in order to display the swing menu.

Swing templates

All the currently available swing templates are shown in the swing context menu. Each provides a different type of swing feel.

Extract timing from current pattern

This function creates a swing template using the *Shift* graph information from the current pattern. The resulting template is added to the list of available swing templates.

This feature is also available on the pattern key context menu – right-click on the relevant pattern and use the **Extract groove from pattern** function.

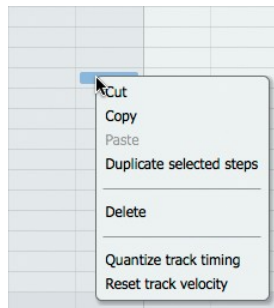
Import MIDI template

This function creates a swing template from a MIDI file. The resulting template is added to the list of available swing templates.

Import GURU swing/shuffle

This function imports a GURU-format swing file and creates a swing template from it, which is added to the list of available swing templates.

Event context menu



Hold down the ALT key and right-click within any step cell or event selection to display the track context menu.

Alternatively, if the **Pattern editor right click opens menu** setting is activated in the Geist2 [preferences](#), simply right-click (without holding down ALT).

Cut, Copy, Paste

These functions allow step selections containing event and graph values to be cut, copied and pasted.

Duplicate selected steps, Duplicate pattern

When a selection of step events exists, this function is called **Duplicate selected steps**. It repeats the selection on the same track. The pattern length is increased if the duplicated events over-run the current pattern length.

If no selection exists, this function is called **Duplicate pattern** and performs the same action as the **Duplicate** button at the top of the Pattern page.

Delete

This function deletes the selected note(s) on the track – this function is also available through various methods using the editing tools.

Quantize track timing

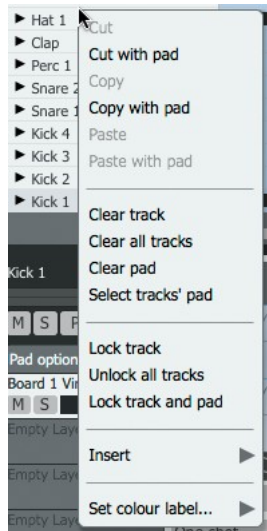
This function resets the *Shift* graph for the pattern track.

Reset track velocity

This function resets the *Velocity* graph for the pattern track.

Track context menu

Right-click on any Track name to display the Track context menu.



Cut / Copy / Paste

These functions allow selections to be cut, copied and pasted.

Clear track

This function clears all pattern events on the track.

Clear all tracks

This function clears all events in the entire pattern.

Clear pad

This function clears the pad associated with the track.

Select track's pad

This function sets the track's pad as the currently selected pad.

Lock/Unlock track

Track locks are distinct from pad locks (and layer locks).

Unlock all tracks

This function unlocks any tracks in the pattern which may have been previously locked.

Lock/Unlock track and pad

This function locks the selected track and its corresponding pad.

Insert...

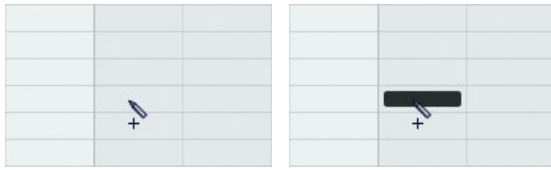
This sub-menu provides useful event patterns which are inserted from the selected step (the step which is right-clicked or ALT-right-clicked to display the context menu).

Set colour label...

This sub-menu allows a colour to be set for the track.

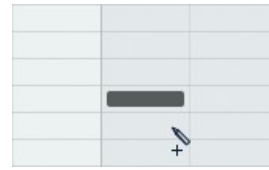
9.3 Pattern editing functions

Adding an event



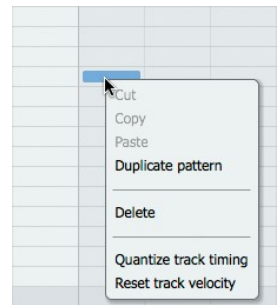
- **Click** to add an event

Adjusting velocity



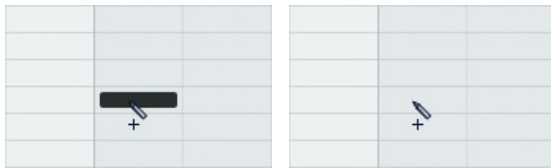
- **Click and drag** an event/selection **up or down** to adjust its velocity*

Event context menu



- **Right-click** in the editing area while holding down **ALT** to display the event context menu.

Deleting an event



- **Right-click** to delete an event (or selection)



These actions can be swapped using the [Preferences](#) panel.

* It is possible to adjust any graph type in this way instead of *Velocity*, using the [Drag edits](#) function.

Adding a series of events

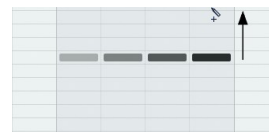


- **Click and drag right** to add a series of events on adjacent steps.



- Perform this action and then **drag down/up** to adjust the velocity of all the new events.

Creating velocity fade-ins and fade-outs



- **Click and drag right** to insert a series of events, then **drag up** while holding down **ALT** to create a velocity fade-in.

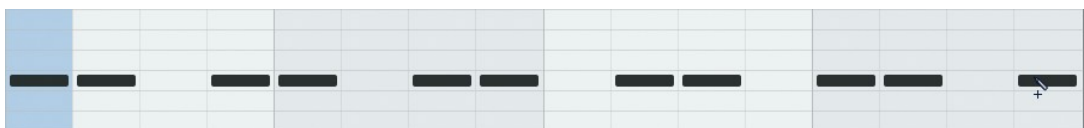


- **Drag down** while holding down **ALT** to create a velocity fade-out.

Adding a series of events



1. **Click and drag right** to insert a series of events.

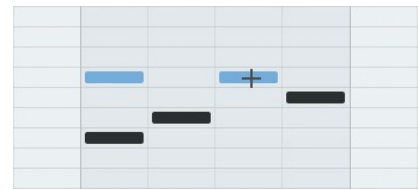


2. Cycle through available Insert patterns by **repeatedly right-clicking**, without releasing the left mouse button.

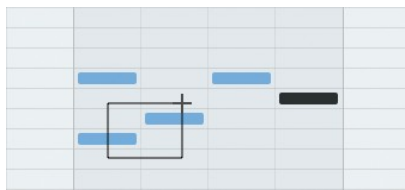
Selecting and deselecting events



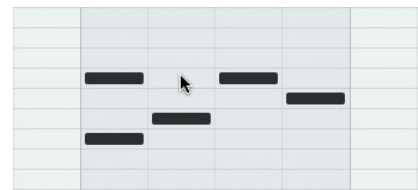
- **SHIFT-click** an event to select it. Any previously selected events are de-selected.



- **Click** an event while holding **SHIFT** and **CMD** (Mac) or **CTRL** (Windows) to add it to the selection. Clicking the event again with these keyboard modifiers held down de-selects it.



- **SHIFT-click** and drag to draw a selection box, from an empty area or from an event (the event is included in the selection). Also hold down **CMD** (Mac) or **CTRL** (Windows) to add to an existing selection.



- **SHIFT-click** an empty area to de-select any selected events.

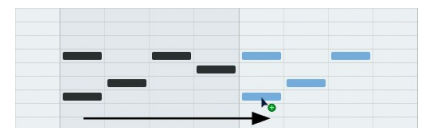
Moving and copying selections



- Create a selection

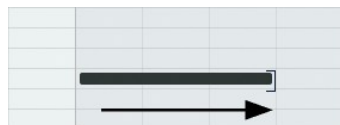


- **Click and drag** the selection to move it. Any Graph data that exists on selected steps is moved with the events.



- **Click and drag** the selection while holding down **ALT** to copy it. Any Graph data that exists on selected steps is copied with the events.

Gated and Looping mode pads



- **Click and drag right** to create a Gated / Looping mode event with a duration greater than 1 step. The length is snapped to steps.



- Perform this action while holding down the **ALT** key to override snapping to steps.



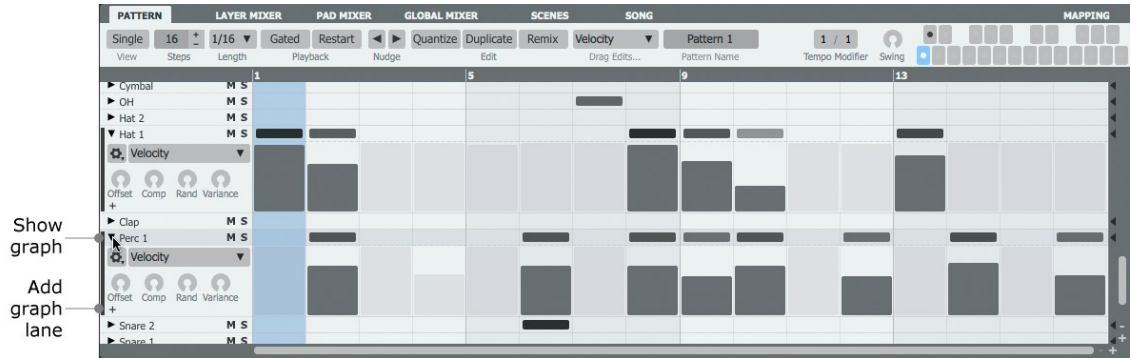
- Click and drag the end of an event to resize it, holding down the **ALT** key to override snapping to steps.

9.4 Graphs

Graphs are step-automation sequences which send a value to a parameter at the onset of each step.

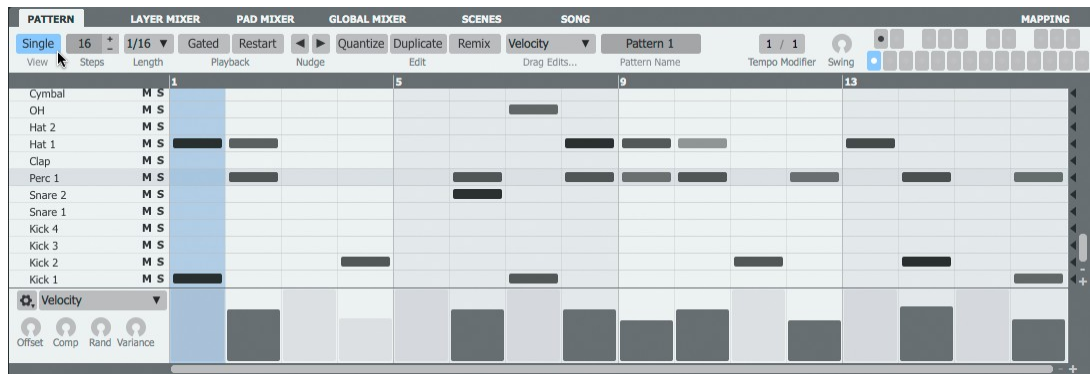
Many aspects of graph functionality are described in the [Introduction to Graphs](#) section in chapter 1.

Viewing Graphs



By default, graph lanes can be shown for all tracks in the pattern - their visibility is toggled by clicking the small triangular arrow **Show graph** buttons at the left of each track. The **Add graph lane** allows multiple graph lanes to be set up for each pad track.

Single mode



With the **Single** button activated, only a single graph lane is shown (for the currently selected pad track).



Graph type menu

Use this drop-down menu to select the graph type to view/edit. See below for a guide to all available graph types.

Graph types

All graph values sent to a parameter are applied relative to any underlying parameter value settings.

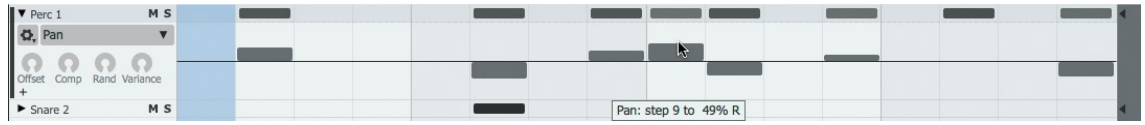
Main Graph Types

Many of the following graph types relate to corresponding controls in the Pad Editor's [Layer controls](#).

Velocity

The *Velocity* graph represents the velocity of the event on the step. Values range from 0 to 127.

Pan



The **Pan** graph represents the **Pan** position of the event on the step. Values below the centre point represent panning towards the left, while values above the centre represent panning towards the right.

Repeats



This graph repeats an event up to 8 times on a single step. It is intended for rolls and glitchy effects.

Shift



This graph represents timing deviations away from the step-sequencer grid - it alters the timing of a step's event by placing the onset of the event at variable distances before or after the step.

Positive values (above the centre line) result in the step's event being played late, and negative values (below the centre line) cause it to be played early.

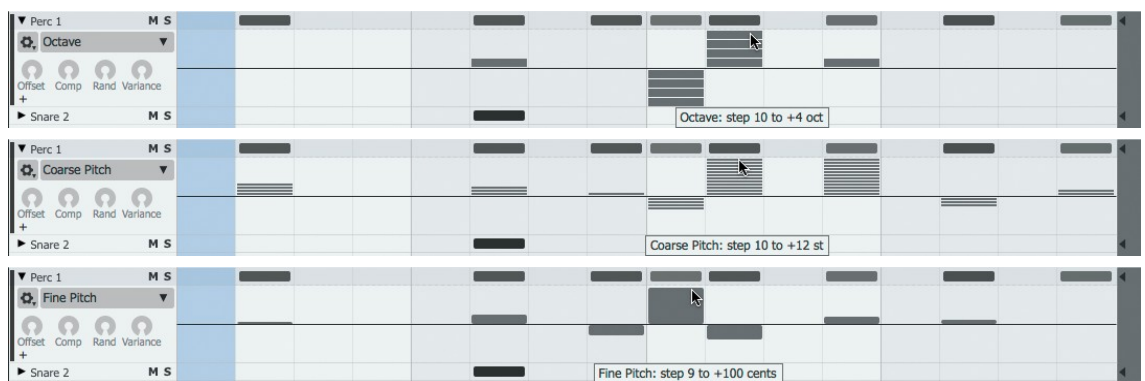
Shift graph values are also generated relative to the grid during realtime MIDI input recording of pattern events.

Reverse



This graph inverts the **Reverse** setting for each layer triggered by the step's event. There are only 2 possible values - 'Forward' (minimum value) and 'Reverse' (maximum value).

Octave / Coarse Pitch / Fine Pitch

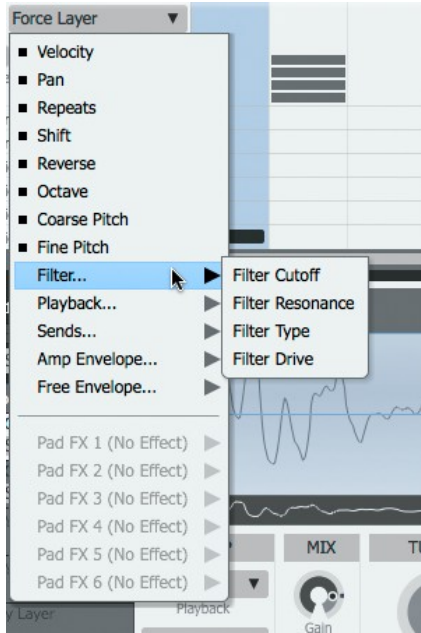


These graphs represent changes in the overall pitch of pads over the course of the pattern and relate to the **Octave**, **Tune** and **Fine** controls in the Pad Editor's [Layer controls](#).

The *Coarse Pitch* graph adjusts the pitch of a step's event between +12 (values above the centre line) and -12 (values below the centre line) semitones. The *Fine Pitch* graph adjusts the pitch of a step's event from +100 (values above the centre line) and -100 cents (values below the centre line). The *Octave* graph adjusts the pitch between -4 (values below the centre line) and +4 (values above the centre line).

Values for these graphs are also generated during realtime MIDI input recording of pattern events, when using the [Chromatic Playback](#) mode for pads.

Filter... Graph types



The following graph types relate to corresponding Filter section controls in the Pad Editor [Layer controls](#).

Filter cutoff

This graph adjusts the Filter **Cutoff** for the step's layers.

Filter resonance

This graph adjusts the Filter **Resonance** for the step's layers.

Filter type

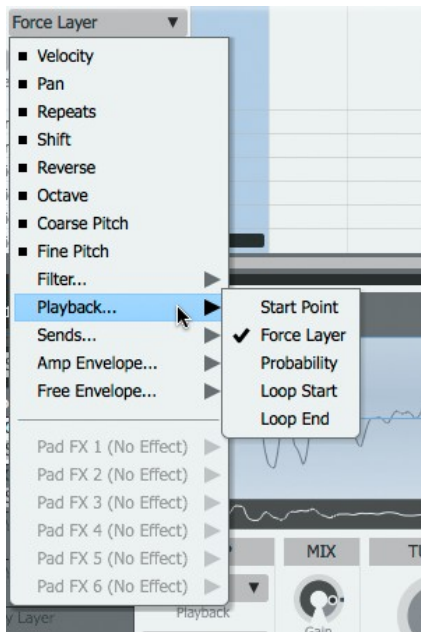
This graph sets the Filter **Type** for the step.

When set to the minimum value, the Filter type specified for the layer in the Pad Editor [Layer controls](#) is used. All other values for the graph correspond to one of the available filter types.

Filter drive

This graph sets the amount of Filter **Drive** for the step.

Playback Graph types



Start point / Loop Start / Loop End

These graphs create offsets to the start and loop points of layer samples in the same way as the **Start Offset** and **End Offset** controls in the Pad Editor [Layer controls](#). They are intended for creating glitchy/semi-granular effects.

These graphs are bi-directional: the values defined in the Layer controls are represented by the centre line of each graph.

Force Layer

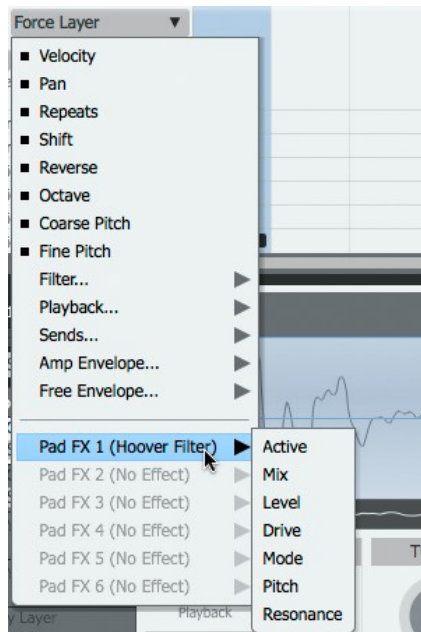
The *Force Layer* graph overrides the [Layer play mode](#) setting and plays a specific pad layer on a step. This graph is produced by the **Use Layers** function in the [Slicer panel](#) when extracting the pattern as well as the slices from a loop.

Possible values range from Off to 8, with each value from 1 to 8 forcing the corresponding layer (1-8) to be played on that step. If the value on a step is 'off', the layer playback is determined by the Pad's Layer Mode setting.

Probability

The *Probability* graph dictates the probability of a pad triggering event occurring on a step. It offers a controlled randomization which is very useful for injecting variation into a pattern.

Sends Graph types



Send 1-4

These 4 graphs adjust the levels for the pad's Aux sends.

Amp and Free Envelope Graph types

The parameters for the [Amp and Free Envelope](#) can all be addressed by graphs - each of the **A (Attack)**, **D (Decay)**, **S (Sustain)**, **H (Hold)**, **R (Release)**, **A-C (Attack-Curve)**, **D-C (Decay-Curve)** and **R-C (Release-Curve)** parameters feature a corresponding graph type.

Pad FX 1-6 Graph types

These graphs address each parameter for Pad effects devices currently inserted. The effects device must be loaded before its parameters can appear in the **Graph type** menu.

If the device is removed, any graph data associated with it is also cleared.

Editing graphs

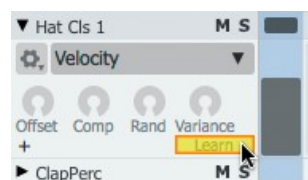
See the [Introduction to Graphs](#) section in chapter 1 for a full guide to editing graph data with the mouse, MIDI input, the Insert menu and the **Offset**, **Comp**, **Rand** and **Variance** controls.

Recording graph values in real time

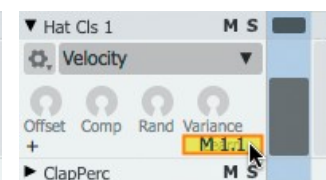
Graph values can be recorded in real time by assigning the graph to a MIDI CC or host automation parameter. Each individual graph (each graph type on each pad track on each engine) can be mapped to a MIDI continuous control (CC) or host automation parameter using [Learn mode](#). The mapped variable CC/automation is 'sampled and held' on the onset of each step with the value being recorded in the graph lane.



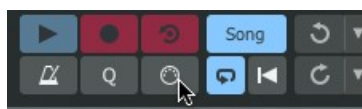
1. With the desired Graph lane visible, click the Learn button near the Geist2 transport controls.



2. Click the Learn button near the graph controls and map the MIDI CC as described in [chapter 1](#).



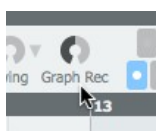
3. The MIDI CC is mapped to the graph and shown on the graph's Learn button.



4. Click the **Learn** button again to exit Learn mode and return to normal operation.

The graph is now ready for real-time recording - enter Record mode by clicking **Record** and then **Play/Stop.**, any MIDI CC data received create values on the graph lane as the play position passes each step in the pattern. Click the **Record** button again to stop recording.

Graph Rec



Whilst in **Single mode**, this knob can be used to adjust the value of any graph, allowing many adjustments to be made quickly and easily.

Other uses for mapping graphs to MIDI CCs or host automation parameters

There are other situations when it is useful to map graphs to CCs or host automation parameters:

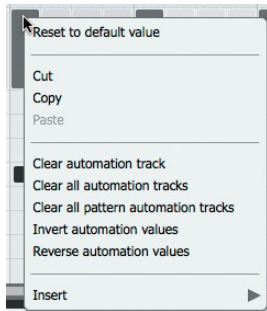
- **Exporting graph data as MIDI CCs when a pattern is exported as MIDI**

Mapped MIDI CCs are exported during MIDI exports alongside MIDI note events. Any unmapped graphs that contain events are automatically assigned to a pre-defined set of CCs., with values being exported as MIDI CC data with the sequence. This automatic behaviour can be disabled if required in the [Preferences](#).

- **Transmitting graph data from Geist2's MIDI output**

Graphs which are assigned to MIDI CCs are sent as MIDI CC data along with pattern events from Geist2's [MIDI output](#).

Graph context menu



Hold down the ALT key and right-click on any graph lane step to display the graph context menu.

Alternatively, if the **Pattern editor right click opens menu** setting is activated in the Geist2 [Preferences](#), simply right-click (without holding down ALT).

This menu offers a number of functions which are specific to graph lanes:

Cut / Copy / Paste

These are identical functions to those on the [event context menu](#) - they allow step selections containing events and graph values to be cut, copied and pasted elsewhere.

Reset to default value

This function resets the step's graph value to its default value. It is also possible to right-click (or ALT-right-click, depending on the preference mentioned above) a graph value to reset it to the default value.

Clear automation track

This function clears all the currently viewed graph's values in the track (resets to the default value).

Clear all automation tracks

This function clears all graph values for all graphs that exist on the track.

Clear all pattern automation tracks

This function clears all graph values for all graphs on all tracks in the pattern.

Invert automation values

This function, intended for use with graph types which feature positive and negative values, inverts the entire sequence of graph values in the track – any positive value becomes a negative value, and vice versa.

Reverse automation values

This function reverses the sequence of graph values in the track – for example, an upwards ramp shape would become a downwards ramp shape.

Insert menu

This function offers the same preset graph sequence shapes as those provided by the [Insert menu](#) at the left of each graph lane. However, using this context menu function allows the values to be inserted from the selected step, overwriting all subsequent steps.

10 Scenes and Song pages

The Scenes and Song pages are introduced in these sections in chapter 1:

- [Sequencing and arrangement](#)
- [Performing with scenes](#)
- [Arranging patterns into a song](#)

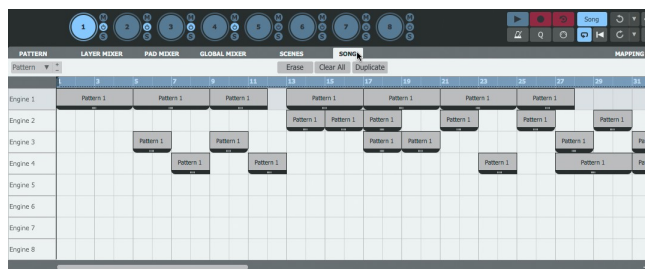
This chapter provides a reference guide to using the controls and editing functions in these pages.



- [Scenes](#) page

Scenes provide recallable/playable snapshots of the patterns within all 8 engines.

They are useful for live performance or for real-time creation of Songs.



- [Song](#) page

The Song page allows creation of arrangements of patterns over time.

Real-time Song recording is described in [chapter 1](#).

This chapter covers the Song Page [controls](#) and [editing functions](#).

10.1 Scenes page

Scenes are snapshots of the patterns playing in all 8 engines - these snapshots can be recalled/played in real time, either for live performance or for recording into the Song page.

It can be more convenient to use scenes than using individual pattern key MIDI notes for the 8 engines on MIDI channels 1-8.

The Scenes page is displayed by clicking the **Scenes** page button.

Trigger Previous / Next Scene group control



Scene group control



There are 96 scene slots, each of which can contain a scene. Scenes are arranged in 6 groups of 16 - use the **Scene group** control to view the desired group.

Each scene slot can be recalled either using the Geist2 interface, or via [MIDI notes on MIDI channel 11 or 16](#).

The following MIDI notes are used for each set of 16 scene slots (shown with **MIDI numbering** set to -2 in the [Preferences](#) panel).

All scene slots are available on MIDI channel 11, while slots 53-64 are available on channel 16.

Group 1: C-2 to D#1	Group 4: C2 to D#3
Group 2: E-1 to G0	Group 5: E3 to G4
Group 3: G#0 to B1	Group 6: G#4 to B5

Creating and triggering scenes



Snapshot scene

Click any slot's **Snapshot scene** button to add the combination of currently playing patterns as a scene in the slot.

Clear scene

Click a slot's **Clear scene** button to clear the slot of any scene stored within it.

Scene MIDI note

Scenes can be selected without being played by clicking MIDI note shown at its lower-left. This can be useful for inspecting the **Scene info** for a scene without playing it.

Snapshot next

Click the **Snapshot Next** button to add the combination of currently playing patterns as a scene in the next empty scene slot.

Trigger previous scene

This button plays the previous scene to that which is currently selected. This button is unavailable if the first scene (on C-2) is currently selected.

Trigger next scene

This button plays the next scene to that which is currently selected. This button is unavailable if the last scene (on B5) is currently selected.

Clear All

This button clears the contents of all scene slots.

Start mode

The **Start mode** setting dictates when the scene begins in relation to when its scene slot or associated MIDI note is played.

The following settings are available:

- **Immediate**

When the scene is played, it begins automatically, in phase with the current tempo/bar position.

- **Next beat**

When played, the scene begins on the next beat.

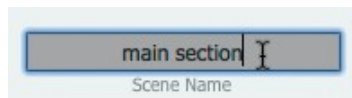
- **Next bar**

When played, the scene begins at the start of the next bar.

Note

The **Start mode** setting is *not* related to the **Playback** mode of a scene's patterns, although the Playback mode still applies for each pattern in a scene. For example, if a pattern in a scene is set to **Gat (Gated)** mode, it will not be heard unless the scene slot or associated MIDI note is held down during any pause caused by the Start mode setting, and for as long as required after it starts.

Scene Name



This text field allows the current scene slot to be renamed. Click the **Scene Name** field, type a new name and press ENTER.

The name is also displayed on the scene slot.

Scene info

This section features a summary of the contents of the selected scene. The pattern number and **Pattern power** status is shown for each of the 8 engines.

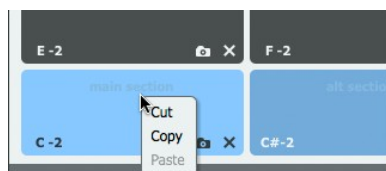
Scenes and Pattern Power

To disable an engine's patterns within a scene, deactivate its **Pattern power** button before creating the scene.

If the selected pattern in any engine is blank when a scene is created, Geist2 deactivates the **Pattern power** button for the engine within the scene data. When such a scene is recalled, the Pattern power button for the engine is deactivated. This is to ensure that the scene sounds the same if events are subsequently added to patterns in a previously unused engine.

Therefore, when changing scenes, one or more engines' **Pattern power** button may be turned off – simply reactivate it if required.

Scene context menu

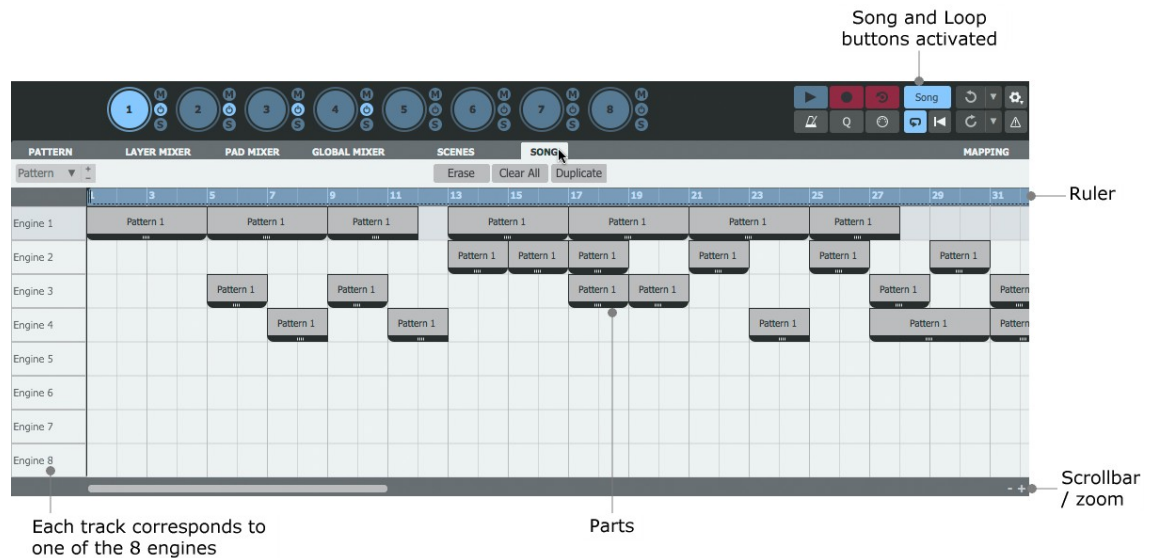


Cut / Copy / Paste

These functions allow scenes to be cut, copied and pasted between scene slots. The **Paste** function overwrites the existing contents of the destination scene slot.

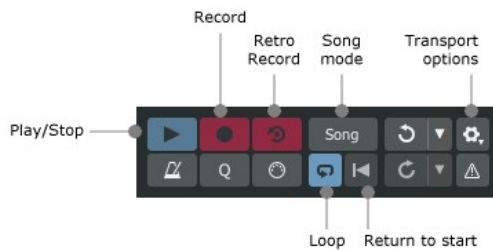
10.2 Song page

The Song page provides a sequencer for patterns so that they can be arranged on a linear timeline. It is displayed by clicking the **Song** page button.



The page features a track for each of the 8 engines in Geist2. Patterns can either be drawn directly onto the tracks, or pattern / scene performances can be recorded in realtime or captured retrospectively.

Relevant transport controls



Song mode

Activating this button enables Song mode. In Song mode, the **Record** and **Retro record** functions are used for the Song sequencer instead of patterns.

When the **Song mode** button is deactivated, the Song sequencer is disabled, as are any controls specific to Song mode. In this state, the **Record** and **Retro record** functions are used for pattern events.

Play/Stop

The **Play/Stop** button starts and stops the Geist2 transport.

Note that when running Geist2 as a plugin in a host/DAW environment, its transport is synchronized to the host transport.

Return to start

Clicking this button causes the playback position to return to the start of the Song. This button is only available while the **Song mode** button is activated.

If the **Loop** button is activated, clicking the **Return to start** button once returns to the **Loop Start** indicator. Clicking the **Return to start** button again returns to the start of the song.

Loop

Activating the **Loop** button enables Loop mode. A loop indicator with adjustable **Loop Start** and **Loop End** markers appears in the Song ruler and playback repeats within this period. This button is only available while the **Song mode** button is activated.

Rec (Record)

When the **Song mode** button is activated, the **Rec (Record)** button operates for the Song page – it is not possible to record pad events into patterns.

Start the transport with the **Record** button activated to commence recording. Patterns can be played via pattern keys or scenes (and their corresponding MIDI notes).

Retro (Retro record)

The MIDI input is always being recorded to an internal buffer, even when the **Record** function is not active. Click the **Retro (Retro record)** button to capture the contents of this internal buffer.

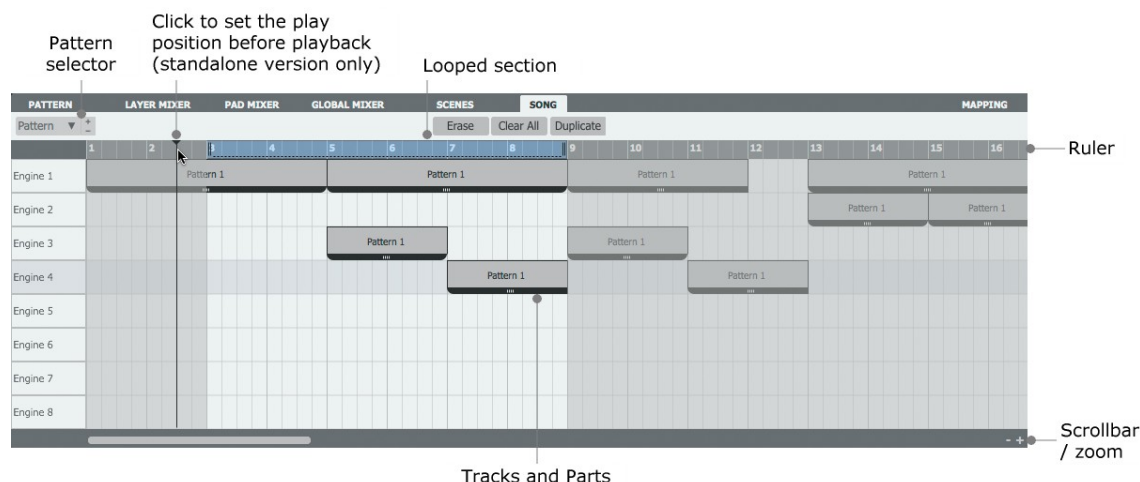
If the **Song mode** button is activated, events captured by the **Retro record** button are written over the previous contents of the song at the positions at which they were played.

If the **Song mode** button is currently deactivated, first activate **Song mode** and then click the **Retro record** button – the pattern key/scene performance overwrites the previous contents of the song from the beginning.

Follow playback cursor (in Transport options menu)

Activating this setting results in the song timeline view scrolling with the current playback position.

Tracks and parts



Ruler

The ruler's time 'scale' is based on the current time signature supplied by the host when running Geist2 as a plugin. When running the standalone version, the time signature is 4/4.

The Song does not support time signature changes. It is not recommended to change time signatures in the host/DAW, as the entire Geist2 Song timeline also changes with it - this means that the song is not played back accurately.

When working with time signature changes, it is recommended to export patterns as MIDI sequences and use the host's MIDI features for arrangement instead of the Song page in Geist2.

Play position

The current playback position is indicated by a vertical line which scrolls along the timeline at the current tempo.

In the standalone version of Geist2, the play position can be set before playback by clicking in the upper part of the ruler.

When running Geist2 as a plugin in a host/DAW, the playback position is always synchronized to that of the host.

Engine tracks

The Song page displays 8 tracks – one for each of the 8 engines.

Parts

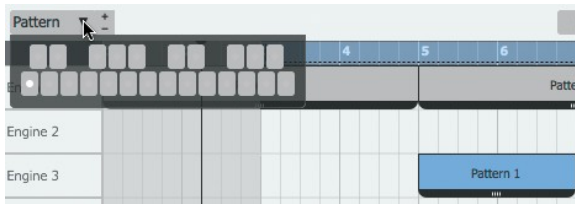
Each event representing a pattern on an engine track is called a *part*. A part is effectively a reference to one of the engine's 24 patterns.

Only a single part can play on an engine track at any one time.

Pattern number references

The number of the pattern referenced by a part is shown on the part itself.

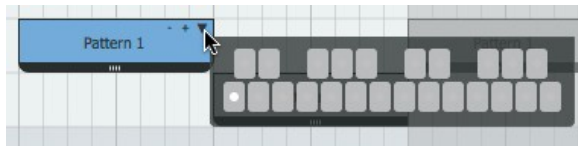
The pattern referenced by any selected song part(s) can be edited manually using the following methods:



• **+**, **-** and **Menu** buttons on the **Pattern selector**:

The **+** and **-** buttons increase and decrease the pattern numbers for all the selected parts by 1.

The **Menu** button displays a pop-up menu of the engine's 24 patterns – click the desired pattern to specify it as the referenced pattern for all selected parts.



• **+**, **-** and **Menu** buttons on the parts themselves:

Hover the mouse over a part - 3 buttons appear which operate identically to the above buttons – again, the change is applied to all selected parts.

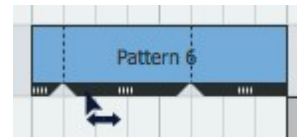
Pattern phase

The phase of patterns is preserved when recording into the Song.

A pattern's phase refers to the point from where it starts playing when played by its pattern key or a scene which contains it.

When performing live with patterns/scenes, or when creating a live recording, the pattern's phase depends on the point in time when the pattern was played/triggered. After a song recording has been made, patterns can be moved/copied freely while preserving their original phase. If required, their phase can be adjusted using the **Phase anchor**.

Phase anchor



The **Phase anchor** is located in the darker lower section of each part, and is adjusted by clicking and dragging it left/right. The beginning and end of each pattern within a part is indicated by a vertical dotted line.

Erase

Hold down the **Erase** button while playing back the song with the **Record** function active - parts are erased in real time on the selected engine track while the button is held.

Clear All

Click the **Clear All** button to clear all parts on all engine tracks.

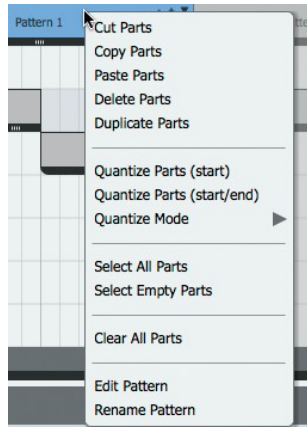
Duplicate

This button creates a copy of the selected part(s) at the position at which the last selected part ends.

When multiple selections are duplicated, their relative positions are preserved. If no selection exists, the entire arrangement is duplicated.

Song context menu

The song context menu can be invoked on a selection or an empty area of the song page by right-clicking while holding down the ALT key.



Except for the **Paste parts** function, all functions on the menu require a selection.

Cut Parts / Copy parts / Paste parts

These functions allow selections to be cut, copied and pasted. Paste operations occur at the **Play position**.

Delete parts

This function deletes the currently selected parts.

Duplicate parts

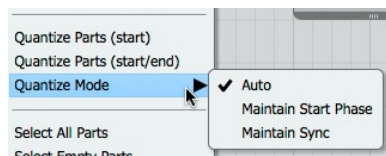
This function is identical to the **Duplicate** button at the top of the Song page although it must operate on a selection of parts.

Quantize parts (start)

This function quantizes the start of the selected parts to the current grid resolution (which is dependent on the zoom setting).

Quantize parts (start/end)

This function quantizes the start and end of the selected parts to the current grid resolution (dependent on the zoom setting).



Quantize Mode

The Quantize mode setting selects between different behaviour when using the **Quantize parts** functions described above.

- **Maintain start phase**

Even if the start of the part moves during a quantize operation, the same part of the pattern is preserved – this means that the timing of the part's events in relation to the song is changed.

- **Maintain sync**

The events within the part will continue to be triggered at exactly the same time within the song after a quantize operation, but some events at the start and end of the pattern may no longer be heard.

- **Auto**

Each part is quantized depending on the referenced pattern's **Restart [Playback](#)** mode setting. This setting usually provides the most musically useful results.

Select all parts

This function selects all parts within the song.

Select empty parts

This function selects all empty parts within the song – in other words, any parts that are linked to a pattern containing no events.

Clear all parts

This function clears the entire song.

Edit pattern

This function jumps to the selected pattern in the relevant engine in the Pattern page for editing. This function disregards multiple selections – it only operates on the part which is ALT-right-clicked.

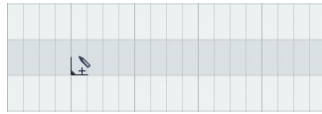
Rename pattern

This function renames a part's linked pattern – any additional instances of the pattern within other events in the song are also renamed. It is designed to allow referenced patterns to be renamed without leaving the Song page.

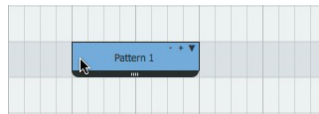
This function disregards multiple selections – it only operates on the part on which is ALT-right-clicked.

10.3 Song page editing functions

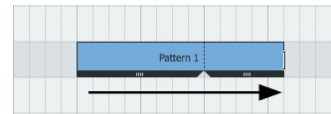
Adding a part



- **Click** in an empty area to add a part. The point at which it is inserted is indicated by the 'L' shaped marker.

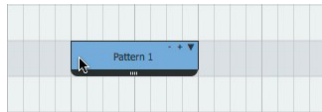


Adding a longer part

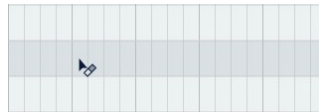


- **Click and drag** right to extend the part so that it plays repeatedly.

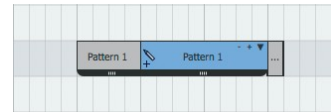
Deleting a part



- **Right-click** a part or a selection to delete it.

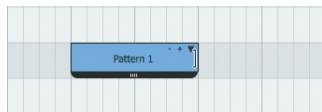


Adding over existing parts

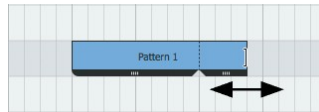


- **Click** on an existing part while holding down CMD (Mac) or CTRL (Windows) - the existing part is overwritten.

Adjusting a part's end point

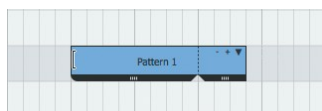


- Hover the mouse over the **end** of a part.

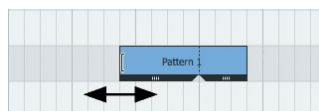


- **Click and drag left/right** to adjust the end point.

Adjusting a part's start point

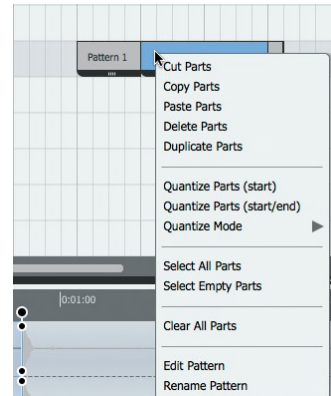


- Hover the mouse over the **beginning** of a part.



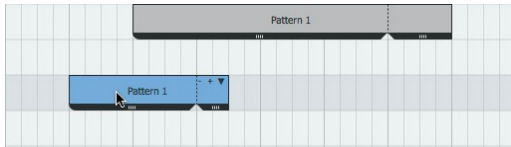
- **Click and drag left/right** to adjust the start point.

Displaying the song context menu

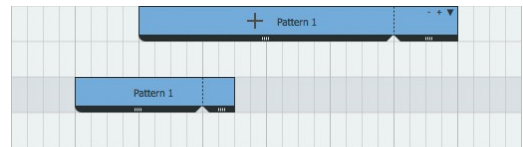


- While holding down the **ALT** key, **right-click** on an empty area, on a part, or on one of multiple selected parts

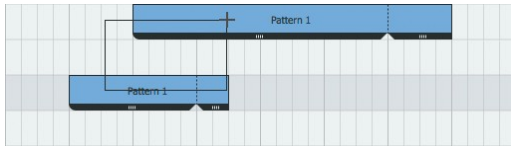
Selecting and de-selecting parts



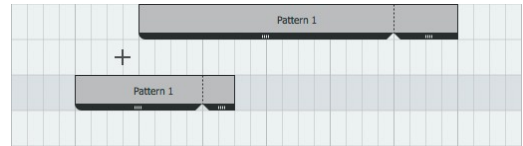
- **Click** a part to select it. Any previously selected events are de-selected.



- **Click** another part while holding down the **SHIFT** key to add it to the selection.



- **SHIFT-click and drag** to draw a selection box, from an empty area or from a part (the part is included in the selection).

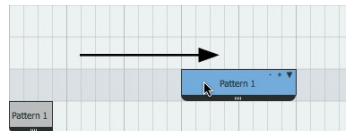


- **SHIFT-click** or right-click an empty area to de-select any selected events.

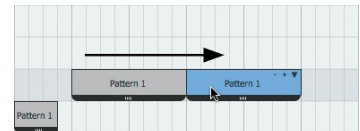
Moving and copying selections



- Select a part.



- Click and drag the part to move it.



- Click and drag the part while holding down the **ALT** key to copy it.

11 Other controls, menus, controls and indicators

This chapter provides a reference guide to a number of additional parts of the Geist2 interface, many of which have been mentioned previously in this manual.

- [Transport and Status display](#)

The Transport is used throughout Geist2 for pattern/song playback and recording. It is introduced in the following sections:

- [Playing pads and recording a pattern](#)
- [Patterns in more detail](#)
- [Arranging patterns into a song](#)
- [Song page](#)

The Status display provides a number of additional utility displays and controls.

- [File, Tools and Help menus](#)

These menus allow loading/saving and various other utility functions.

- [Exporting Audio](#)

This section covers the Audio Export panel with settings for the [drag and drop](#) audio export function. It also provides functions for exporting multiple patterns or an entire song.

- [Mapping panel](#)

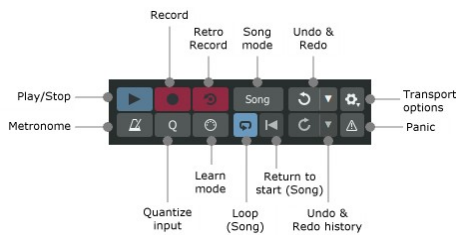
The Mapping panel allows [mapped](#) MIDI CCs and host automation parameters to be adjusted with various additional settings.

- [Preferences](#)

The Preferences provide settings for customizing various aspects of Geist2 and its interface.

11.1 Transport and Status display

Transport area



Play/Stop

This button toggles playback of the Geist2 transport in the standalone application or when the host/DAW transport is stopped while using Geist2 as a plugin. When running Geist2 as a plugin, its transport is always started and stopped with the host transport.

Record

Retro record

These buttons are used with recording and retrospectively recording pattern events and song arrangements.

When the **Song Power** button is deactivated on the Song page, these buttons are used for pattern events. When the **Song Power** button is activated on the Song page, these buttons are used for song arrangements.

The processes involved in using these functions is described in the following sections:

- [Playing pads and recording a pattern](#)
- [Patterns in more detail](#)
- [Arranging patterns into a song](#)
- [Song page](#)

Quant (Quantize Input)

With the **Quant** button activated, events are automatically quantized to the start of the nearest step when recording. When it is deactivated, *Shift* graph events are created in order to capture the timing of the original performance.

Metro (Metronome)

With the **Metro** button activated, the metronome 'click' is active while the transport is started (during recording and playback). It can be set to operate only while recording with the **Metronome only when recording** setting in the Transport options menu (see below).

The Transport options menu also allows the level of the metronome click to be adjusted and it can also be set to a discrete sub-output - useful for live performance.

A number of different metronome click sounds are provided, which can be selected using the [Preferences](#) panel.

Panic

This function stops any sounds and patterns that are currently playing.

Undo & Redo

The multiple-level **Undo & Redo** functions apply for all functions in Geist. The number of undo steps can be defined in the [Preferences](#).

Undo & Redo History

The **Undo** and **Redo** functions also provide a sequential list of previously performed actions, which forms an undo 'history'. Click the buttons to the right of the each button to display the Undo and Redo histories as a pop-up menu.

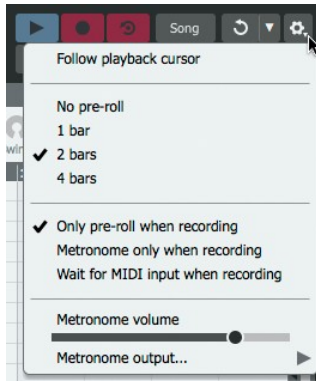
The **Undo history** is arranged chronologically with the most recent at the top (closest to the button) - the most recent action is separated from previous actions. Click on any stage of the displayed history to revert back to its state.

The **Redo history** is a sequential list of undo actions. The most recently performed undo action is at the top of the list (closest to the button).

Learn mode

This button activates [Learn](#) mode.

Transport options menu



Follow playback cursor

If currently zoomed in so that the full pattern or Song is not visible, activating this setting causes the play position to scroll for the duration.

Pre-roll (count in)

These functions allows a count-in period to be defined - Geist2 playback can be delayed by **1 bar**, **2 bars** or **4 bars**. This is primarily intended to be used when using the **Record** function, in conjunction with the **Only pre-roll when recording** setting activated.

By default the **No pre-roll** setting is activated, meaning that no pre-roll occurs.

Only pre-roll when recording

With this setting activated, the pre-roll only occurs when using the **Record** function on the Geist2 transport.

It may be useful to deactivate this setting when using the pre-roll/count-in features in a host/DAW environment.

Metronome only when recording

With this setting activated, the metronome click is only heard during recording when the Metro button is activated. With the setting deactivated, the metronome is also heard during playback.

Wait for MIDI input when recording

This setting can only function when using the Geist2 standalone - when it is activated, the transport does not start until a pad or pattern MIDI note is received (depending on the state of the **Song mode** button in the Song page), which is placed at the start of the pattern as an event.

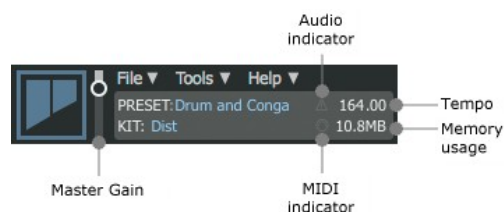
Metronome volume

This control adjusts the volume of the metronome signal.

Metronome output...

This sub-menu allows a discrete sub-output to be specified for the metronome signal – this can be especially useful for live performances.

Status display



Master Gain

The **Master gain** control adjusts the gain of the Master channel - this is an identical control to the Master channel's **Gain** fader in the [Global Mixer](#) page. Since all Geist2 elements are routed to the Master channel by default, the control effectively adjusts the level of the default audio destination for all elements in Geist2.

If any elements are routed to one of the 32 sub-outputs, they will not exist within the Master channel signal and therefore are not affected by this control.

Preset name

This display shows the name of the last loaded preset.

Kit name

This display shows the name of the last loaded kit within the current engine.

Tempo

This control sets the tempo when using the Geist2 standalone application. Click and drag the control up/down or double-click it to type a new tempo. Alternatively, it can be set via the **Tap Tempo** function: ALT-click the **Tempo** control 4 or more times.

When using Geist2 as a plugin, this is only a display and Geist2's tempo is always locked to the host/DAW tempo.

Memory usage

This readout displays the amount of RAM currently used by Geist2 and the currently loaded samples.

MIDI indicator

This indicator flashes when any MIDI events are received.

Audio indicator

If this indicator is highlighted in red, Geist2 cannot establish an audio stream connection with the audio interface (standalone version) or the host audio engine (plugin version), meaning that it will not function until this is resolved.

Voice steal indicator

This indicator lights up if the voice limit is reached and voice stealing (based on the oldest playing voices) has to occur.

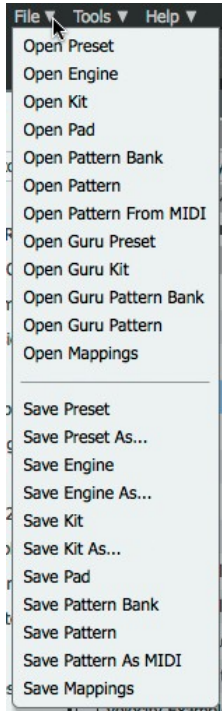
File / Tools / Help

These buttons display the File, Tools and Help menus, described in [the next section](#).

11.2 File, Tools and Help menus

File menu

This menu allows various file and preset types to be loaded into Geist2 using an OS file Open dialog instead of the Browser. It also contains functions for saving work.



Loading functions

Open Preset / Engine / Kit / Pad / Pattern Bank / Pattern / Pattern From MIDI

These file types can also be loaded from the [Browser](#).

Open GURU Preset / Kit / Pattern Bank / Pattern

These GURU v1.5-format file types can also be loaded from the [Browser](#).

Open Mappings

This function allows you to load previously saved MIDI CC/host automation mappings (these are saved with the Save mappings function in the Save menu). This function overrides the Mapping page Lock mappings function.

Saving functions

The File menu also allows you to save various elements from the current Geist2 session to disk.

Save Preset, Save Preset As...

These functions save the entire current state of Geist2 as a preset.

Save Engine, Save Engine As...

These functions save the currently selected engine as an engine file.

Save Kit, Save Kit As...

These functions save the current engine's kit (pads and layers, their settings and effects) as a kit file.

Save Pad

This function saves the currently selected pad as a pad file – its layers, Pad/Layers page settings, and pad and layer effects.

Save Pattern Bank

This function saves all patterns in the current engine as a pattern bank.

Save Pattern

This function saves the currently selected pattern.

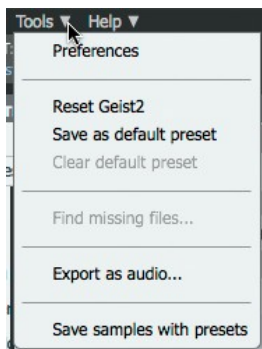
Save Pattern As MIDI

This function exports the current pattern as a MIDI file. Patterns can also be exported using [drag and drop](#).

Save Mappings

This function saves the current MIDI CC and host automation assignments as a file which can be recalled by using the **Load mappings** function on the Load menu.

Tools menu



Preferences

This function displays the [Preferences](#) panel which contains a number of options for customizing Geist2.

Reset Geist2

This function resets Geist2 to the default preset state (see below), or to an entirely blank state if a default preset is not currently specified.

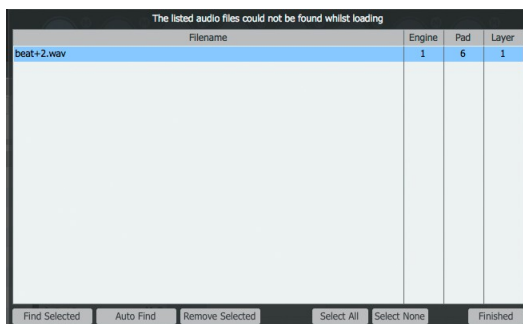
Save as default preset

This function saves the current state of Geist2 as the default preset, which is loaded every time Geist2 is launched or when the **Reset Geist2** function is used.

Clear default preset

This function removes the default preset if one exists.

Find missing files...



This function can only be used when a preset/kit/engine/pad file is loaded with missing samples and displays a panel showing all missing samples alongside the engine/pad/layer to which they are assigned. The panel also automatically appears when attempting to load a file with missing samples. Select the required files (using the Select All / Select None buttons if necessary) and then use one of the following functions:

- The **Find Selected** function opens a system file dialog prompting to navigate to the missing selected file in the list.

- The **Auto Find** function opens a system file dialog prompting for a folder/drive/other location in which to start searching for the selected missing file. All sub-folder items within the location are recursively searched.

- To remove the sample from the Geist2 session, select the sample in the list and click the **Remove Selected** button.

Click the **Finished** button to exit the panel.

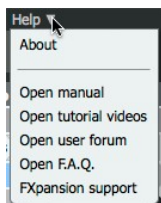
Export as audio...

This function is discussed in the [next section](#).

Save samples with presets

This setting toggles whether samples are saved in a sub-folder alongside presets/engines/kits/pads.

Help menu



About

This function displays the 'about' box containing the Geist2 version number and credits listing.

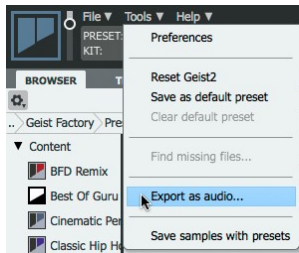
Check for updates

This function checks the FXpansion website for any Geist2 software updates.

Open manual / tutorial videos / user forum / FAQ / FXpansion support

These functions open the Geist2 online PDF manual, tutorial video playlist, forum, FAQ and support page in the system's default browser.

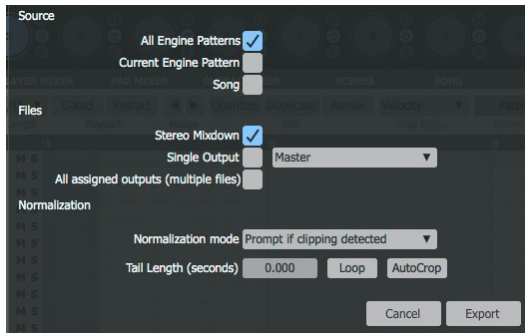
11.3 Exporting Audio



Use the **Export as audio...** function in the Tools menu to display the Audio Export panel, which provides several different ways of exporting audio from Geist2. This panel also specifies a number of settings that apply for the [drag and drop](#) pattern audio export function.

Source

This control dictates what pattern material is exported. The following settings are available:



- **All engine patterns**

The current pattern number from all 8 engines is exported.

- **Current engine pattern**

The currently selected pattern in the current engine is exported.

- **Song**

The entire [Song](#) is exported.

Files

This setting determines which channels to export.

- **Stereo mixdown**

The master output of Geist2 is exported as a stereo file.

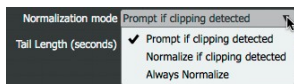
- **Single output**

A currently assigned sub-output, selected by the drop-down menu, is exported as a stereo file.

- **All assigned outputs (multiple files)**

All assigned Geist2 outputs are exported as separate stereo files.

Normalization mode



This setting features several options for normalizing the exported file (s) so that the highest peaks reach 0 dB.

- **Prompt if clipping detected**

Geist2 asks whether to normalize the audio export if clipping is detected.

- **Normalize if clipping detected**

Geist2 automatically normalizes an exported audio file if it detects any clipping within it.

- **Always normalize**

Geist2 always normalizes all exported audio files.

Tail Length

A tail of any length can be retained at the end of the audio export, in order to include any long decays from reverb or delay effects, for example.

Loop

With this button enabled, each pattern-based export (when the **Source** is not set to *Song*) is exported as : **Pattern + Pattern & effects tail + effects tail**. This feature is designed to provide enough material to make a sustaining loop with effects tail when using loop-based arrangement software such as Ableton Live, for example.

AutoCrop

With this button activated, any excess silence in the **Tail Length** is removed if it exists. This occurs when the tail level drops under -96dB.

11.4 Mapping panel

The Mapping panel contains features to view and manage any MIDI CC/host automation assignments to Geist2 controls created with the [Learn](#) function.

All current MIDI CC and host automation mappings are listed in the panel, which is displayed by clicking the **Mapping** page button.

Note that sets of Mappings can be saved and loaded using the File menu.

Lock mappings

Clear	Lock	Locale	Path	Name	Min	Max	Type	Focus
X		MIDI Ch 1 CC 1	Engine 1 Pad 1 Layer 1	Cutoff	7	28160	Continuous	<input type="checkbox"/>
X		Host param 1	Engine 1	Gain	-100	6	Continuous	<input type="checkbox"/>
X		Host param 2	Engine 2	Gain	-100	6	Continuous	<input type="checkbox"/>
X		Host param 3	Engine 3	Gain	-100	6	Continuous	<input type="checkbox"/>
X		Host param 4	Engine 4	Gain	-100	6	Continuous	<input type="checkbox"/>
X		Host param 5	Engine 5	Gain	-100	6	Continuous	<input type="checkbox"/>
X		Host param 6	Engine 6	Gain	-100	6	Continuous	<input type="checkbox"/>
X		Host param 7	Engine 7	Gain	-100	6	Continuous	<input type="checkbox"/>
X		Host param 8	Engine 8	Gain	-100	6	Continuous	<input type="checkbox"/>

Mapping table

Existing assignments are shown in a table with the following column headings:

Clear

Click this button to remove the assignment.

Locale

This column shows the MIDI channel and MIDI CC number that is assigned to the Geist2 control.

Path

This column displays the part of Geist2 containing the mapped control – whether it is a global control or within a specific engine, pad or layer.

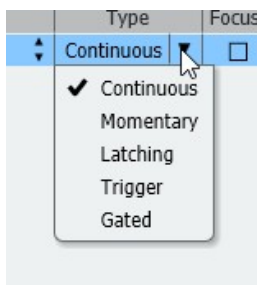
Name

This column displays the name of the assigned control.

Min / Max

These values define the minimum and maximum value of the control across the range of the MIDI CC range of 0-127. Click and drag the value to adjust it, use the buttons at the right of the control or double-click the value to enter a new value.

Type



This column provides a menu with several modes of behaviour for the mapping. The *Momentary*, *Latching* and *Trigger* modes are intended for mapping button-type controls.

• Continuous

By default, all assignments are *Continuous* – the parameter's value follows the incoming MIDI CC values continuously.

• Momentary

In this mode the parameter is set to its maximum value while the incoming MIDI CC is at a value of 127.

• Latching

With the *Latching* mode active, every time the MIDI CC reaches a value of 127, the assigned control toggles between the **Min** and **Max** values.

• Trigger

In this mode, when the incoming MIDI CC reaches the maximum value (127), the assigned control is set to its maximum value. The control does not respond to any MIDI CC value other than 127.

• Gated

This is a simpler version of *Trigger* mode, and is useful for actions such as file browsing (when mapped to browser buttons).

Focus

MAPPING	
Note	Send CC
Type	Focus
nuous ▼	<input checked="" type="checkbox"/>
nuous ▼	<input type="checkbox"/>
nuous ▼	<input type="checkbox"/>

This setting is only available for engine/pad/layer-specific controls. It implements the mapping on the currently 'focused' element's control. For example, activating the Focus setting for a layer's **Tune** or **Cutoff** control results in the mapping being active on the currently focused layer.

If it is deactivated (this is the default state), the mapping is absolute, to the specific engine/pad/layer of the mapped parameter.

The **Focus** setting is unavailable for 'global' controls such as Master channel or Aux channel controls.

Other controls

Clear all

This button clears all current MIDI CC/host automation mappings.

Lock mappings

This button locks all current mappings so that they are not overwritten by loading a new preset.

Note that the **Lock mappings** button does not apply when using the **Load mappings** function in the File menu or when using the **Reset Geist2** function in the Tools menu to return a default preset which contains different mappings.

Auto Select

With the **Auto Select** button activated, sending the relevant MIDI CC/host automation parameter results in any current mapping becoming selected in the Mapping panel table.

Send Note / Send CC

These buttons relate to Geist2's MIDI output (within the standalone application and in compatible host/DAW applications), They activate the transmission of MIDI notes and continuous controllers (CCs) in the MIDI output stream. By default, both buttons are activated, meaning that both notes and CCs are transmitted.

The state of these buttons is preserved as the default when Geist2 is next launched. Their state is also saved within Geist2 presets (and when saving a host session containing Geist).

Mapping panel context menu

Locale	
Ch 1 CC 1	Engine 1 Pa
aram 1	Engine 1
aram 2	Engine 2
aram 3	Engine 3
aram 4	Engine 4
aram 5	Engine 5
aram 6	Engine 6

Right-click in any column of a mapping to display the mapping panel context menu. This menu provides a number of functions with which to manage mappings.

Remove mapping

This function clears the selected mapping.

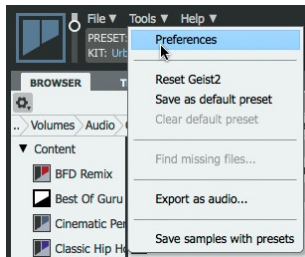
Invert range

This function swaps the **Min** and **Max** values for the selected mapping, effectively inverting the range.

Reset min / Reset max / Reset min and max

These functions reset the **Min** and **Max** values to the default values associated with the mapped control.

11.5 Preferences

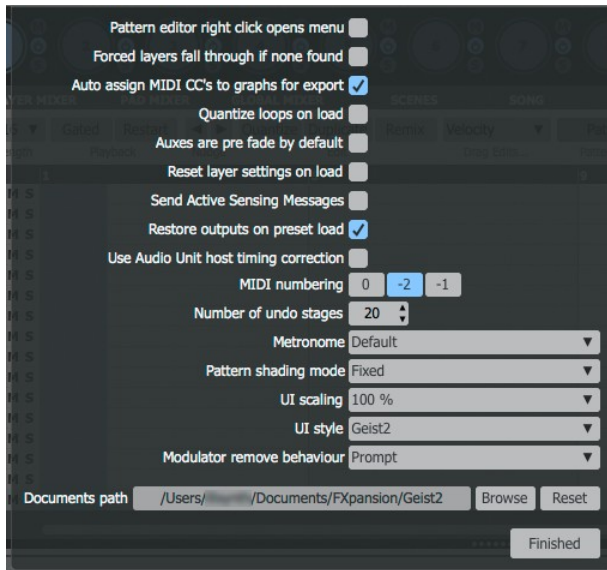


The Preferences panel offers a number of ways to customize the look and several functional aspects of Geist2.

To open the Preferences panel, use the **Preferences** function on the Tools menu near the upper-left of the Geist2 interface.

Pattern editor right-click opens menu

By default in the Pattern page, the right mouse button is used to erase step events, while the pattern context menu is invoked by right-clicking with the ALT key held down.



Activating this preference inverts this behaviour - a right-click opens the context menu while an ALT-right-click erases events.

Forced layers fall through if none found

With this setting activated, if a layer that does not currently contain a sample is triggered by the Force Layer graph, playback falls through to the next available layer according to the currently specified **Layer mode**.

If the setting is deactivated, the specified layer is always triggered even if it does not contain a sample, in which case the event will result in nothing being heard.

Auto-assign MIDI CCs to graphs on export

When this setting is activated, a MIDI CC is assigned to all used graphs, with their values written to patterns when they are exported. This means that patterns sound the same when exported as they do within Geist.

Quantize loops on load

With this setting activated, all *Shift* graph events are discarded when loading a loop (when extracting the pattern from RX2 or sliced WAV/AIFF files).

Auxes are pre-fade by default

Activating this setting changes the default status of all Aux channels from Post-fade to Pre-fade.

Reset layer settings on load

By default, when a new sample is loaded to a layer its layer parameters are preserved. With this setting activated, loading a new sample to a layer results in all parameters for the layer being reset to default values.

Send Active Sensing Messages

Certain hosts such as *Ableton Live* can deactivate the Geist2 plugin after a period of inactivity from the sequencer, and do not reactivate the plugin when a pattern containing events is started, due to relying on an explicit MIDI note input into the host. This setting causes Geist2 to send MIDI active sensing messages to the host to prevent it from being deactivated. It is not necessary to activate this setting unless using *Ableton Live* or instructed to do so by technical support.

Restore outputs on preset load

With this setting activated, any **Output selector** settings within presets are restored upon loading. With the setting deactivated, the settings are ignored and the previous **Output selector** settings are not changed.

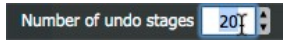
Use Audio Unit host timing correction

This setting can be used to solve timing problems in certain AU host situations. Please leave this setting deactivated unless advised otherwise by our tech support team.

MIDI numbering

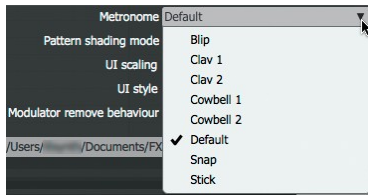
Different MIDI devices and software often have different MIDI octave numbering conventions. The lowest octave in the MIDI note range can be referred to as octave 0, -1 or -2 (the default setting). The **MIDI numbering** preference is provided so that the MIDI octave numbering can be set according to personal preference.

Number of undo stages



This setting defines the number of available **Undo** stages. Note that more stages use more RAM!

Metronome



The **Metronome** menu provides a selection of metronome sounds to use as a 'click' while recording sequences.

It is possible to set up custom metronome sounds:

1. Create a sub-folder with the desired metronome name within the following folder:

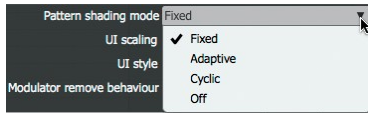
Mac: *Library/Application Support/FXpansion/Geist2/System/Metronomes*

Windows: *Program Files\FXpansion\Geist2\System\Metronomes*

2. Copy 2 audio files into the folder – the first should be called *bar.wav* and the second should be called *beat.wav*.

3. On the next relaunch of Geist, the added metronome is available in the **Metronome** menu.

Pattern shading mode



This menu specifies the type of shading used for grid steps in the pattern page.

Some of the shading modes dynamically react to the setting of the **Length** parameter in the Pattern page.

Fixed

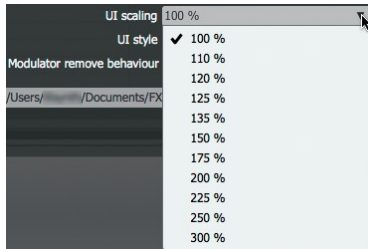
The shading of steps changes every 16 steps, regardless of the **Length** setting.

Adaptive

The shading of steps changes on every beat. With a 1/16 **Length**, the shading changes every 4 steps; with a 1/16T setting, the shading changes every 6 steps, and so on.

Cyclic

The shading of steps alternates every measure: for a **Length** of 1/4 or 1/4T, the shading changes every 4 steps; for 1/8 or 1/8T settings, the shading changes every 8 steps, and so on.

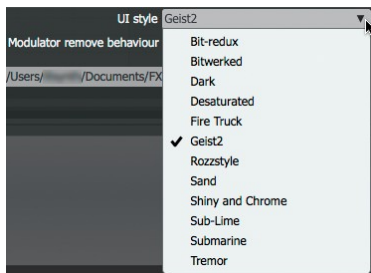


Off

All steps are the same colour – there are no differences in shading.

UI scaling

This menu adjusts the scaling of Geist2's user interface. The default setting is 1580 x 910 pixels which is the *100%* setting. The scaling can be changed between *50%* and *300%* - higher settings are recommended for Retina/4k or higher resolution screens.

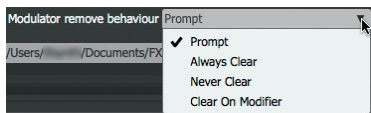


UI style

This menu provides a selection of Geist2 user interface themes, each with a different colour-scheme.

Modulator remove behaviour

This setting dictates the behaviour when using the **Remove modulator** function to remove devices from the assignable [TransMod](#) slots. The following behaviours are available:



- always display a prompt asking whether to remove existing modulation depths
- always remove any modulation depths
- never remove any modulation depths

- use the ALT keyboard modifier to dictate the behaviour

With the latter setting, hold down ALT while using the function to always remove any modulation depths. Without the ALT key held down, any existing modulation depths are never removed.

Documents path

This is a disk location used by Geist2 for things like sampled audio, as well as user presets for effects and so on. It defaults to the user documents path:

Windows: `C:\Documents and Settings\\My Documents\FXpansion\Geist2`

Mac: `<user>/Documents/FXpansion/Geist2`

The **Documents path** setting allows this location to be changed by clicking the **Browse** button and navigating to the desired location.

Click the **Reset** button to change this setting back to the factory default.

12 Using the Geist2 standalone application

Launching the Geist2 standalone application

The standalone version of Geist2 is a minimal host application that loads the Geist2 plugin. On Mac OSX, the standalone version of Geist2 can be found in your **Applications** folder. On Windows, it is located in the Start menu. The standalone application allows the **Tempo** and **Tap tempo** functions to be used.

Audio preferences

The Audio preferences are accessed via the main OS menus.

On Mac, click the **Geist2** menu item at the top of your screen (next to the 'Apple' menu), and choose **Open Audio Preferences** from the Preferences sub-menu.

On Windows, click the **Options** menu on the Geist2 application's menu bar, and choose **Open Audio Preferences**.

To close the Audio preferences window, click the **Finished** button.

Audio settings

Note: The **Input device** setting and **Inputs** section are not accessible as Geist2 does not feature an audio input.

Samplerate

This setting dictates the samplerate of the Geist2 session. If your audio interface allows you to set the samplerate within its own control panel, this preference is set to the same samplerate.

Buffer size

The buffer size is set to the same value as that specified in your audio interface control panel. Note that some audio interfaces' drivers will only permit you to change the buffer size in their own control panel – in these cases, the Geist2 buffer size setting is not accessible.

Higher buffer sizes are less stressful for the CPU, but the latency is also higher as a result.

Output device (Mac OSX) ASIO device / Open ASIO panel (Windows)

On Mac OSX, simply select an Output device from the drop-down menu containing all available CoreAudio devices detected in your system.

On Windows, select the appropriate ASIO device driver from the drop-down menu. Click the Open ASIO panel button to open the selected ASIO device's control panel.

Outputs

All outputs provided by the selected Output device or ASIO device are shown in this section. Click an item to select it.

Inputs

All inputs provided by the selected Output device or ASIO device are shown in this section. Only a single stereo input can be selected for use with the Sampler.

MIDI preferences

The MIDI preferences are accessed via the main OS menus.

On Mac, click the **Geist2** menu item at the top of your screen (next to the 'Apple' menu), and choose **Open MIDI Preferences** from the Preferences sub-menu.

On Windows, click the **Options** menu on the Geist2 application's menu bar, and choose **Open MIDI Preferences**.

To close the MIDI preferences window, click the **Finished** button.

Input devices

This section shows all MIDI input devices detected on your system. At least 1 device must be enabled in order to route MIDI signals into Geist2. Click an input device to enable or disable it. Each enabled input device is highlighted in green.

Output devices

This section shows all MIDI output devices detected on your system. At least 1 device must be enabled in order to use the MIDI output feature within Geist2. Click an output device to enable or disable it. Each enabled output device is highlighted in green.

Sync to MIDI clock

When this setting is activated, the Geist2 standalone application is synchronized to an external MIDI clock. The MIDI input device which carries the MIDI clock signal must be activated as an input.