SLICE - SEQUENCE - MIX



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INTRODUCTION Getting Started...

Welcome to GURU!

Thank you for buying GURU - prepare to be inspired!

That's exactly how we felt when our friends at Devine Machine showed us the first prototype, almost a year ago... inspired by what it could do and, just as importantly, by how much FUN it was to do it... !

Devine Machine and FXpansion joined forces to help GURU blossom – adding a sophisticated premium-quality effects suite, hundreds of workflow enhancements, a mountain of exciting, usable audio content and more – so that today you can enjoy performing / producing / exploring the multitude of new sonic possibilities GURU offers.

We hope you'll find GURU to be a breath of fresh air in helping you to reclaim your creative freedom, both in the studio and when playing live.

- The FXpansion team

A word from Devine Machine

A reviewer from Computer Music once said about Devine Machine that "We eat our own dog food", because we use our creations on stage. This has been the case for GURU too. We sincerely hope you will enjoy it, and appreciate the joining of forces with the talented FXpansion team. We'd like to thank them, and thank you very much for buying GURU.

- Link & Steve from Devine Machine

• Pour la version Française de ce manuel, veuillez suivre ce lien :

• Die deutschsprachige Version der Bedienungsanleitung ist unter folgender Internet-Adresse erhältlich:

•このマニュアルの日本語版は、こちらのサイトをご参照下さい:-

http://www.fxpansion.com/product-guru-manuals.php

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www.devine-machine.com

www.fxpansion.com

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Installation

Installation of GURU is very simple, involving two separate procedures:

1. Installation of the program files (plugins & standalone)

2. Installation of the included audio content

Before installing GURU, always check to see if there is a newer version available on our website. This requires you to register your copy of GURU¹. Please check the GURU webpage for details of updates to the program, or look at the continuously updated GURU FAQ:

http://www.fxpansion.com/product-guru-main.php

The audio content bundled with GURU occupies approximately 4 GB of disk space. You should ensure that there is enough free space on the drive to which you choose to install this content.

If you don't have enough free space, you can choose not to install the content and simply use your own existing sounds with it.

If you have any problems with the installation or authorization, consult the Support & Troubleshooting section of this manual (section 11:6) for details of what to do next.

Windows Installation

Installing program files on Windows

- Insert the GURU DVD into your DVD drive.
- Navigate to your DVD drive in My Computer (if you have autoplay enabled, the DVD drive will appear automatically).
- Run the Guru Setup.exe file located on the DVD.
- The installer program will guide you through the installation process.

¹ See section 11:6 for details on registering GURU.

NOTE:

Various options will be presented during installation:

1. Customize which plugin formats are installed.

GURU comes in VST, RTAS, ReWire, DXi and standalone versions. During the installer, deselect any formats you don't need (if you're not sure, leave them all selected!).

When you hover your mouse over an option, information about it will appear to the right of the installer window.¹

2. If you selected to install the VST plugin during the plugin format selection, you will be asked to choose the location of your VSTplugins folder. This defaults to any VSTplugins path found in your registry, although you can navigate to any folder that you choose².

Installing audio content on Windows

• Once the program installation has completed, click the 'Finish' button. The audio data installer should then be automatically launched. Follow the on-screen instructions.

• During the audio data installation, you will be asked to specify a location for the audio content. This can be anywhere you like, including removable drives. However, please ensure the chosen location has 4 GB of free space available.

• When you have chosen a location, click 'Install' to begin the audio data installation. There is a lot of data so this may take a while... please be patient!

MacOSX Installation

Installing program files on MacOSX

- Insert the GURU DVD into your DVD drive
- Navigate into the newly mounted disk, and run the **Guru Setup.pkg** file.

• The installer program will guide you through the installation process.

• The GURU program files must be installed on the system drive³.



¹ Choosing options during install •

Guru 1.0.0 Setup	_ = 🛛
Choose Install Location Choose the folder in which to install Guru 1.0.0.	GURU
Please choose a location to install the VST plugin	
Continuation Folder	
Destination Folder EXProgram EllestYST Plugns(EXpansion)(Suru)	Browse
Destination Folder EliProgram Files(VST Plugns)P/spansion(Gurul Space required: 31.44%	Browse
Destination Folder Elifengeam Electrist Eliugnist/SpansiontGunal Space regulard: 31.416 Space available: 51.928	Browse
Destination Folder Ethnogram Reistott rikugnat/stoansionitiounul Spoor negated: 11.446 Spoor available: 51.958 Spoor available: 51.958	Browse

² Choosing VSTplugins folder location •

Select a Destination	
Select a destination volume	to install the Guru software.
	
Macintosh HD U	SBDISKPRO
152GB (59.3GB Free) 494MI	B (83.0MB Free)
Installing this software requir	res 25.3MB of space.
You have selected to install t	his software on the volume GURU
"Macintosh HD."	
-	and the second second second
	Select a Destination Select a destination volume Macrossi HO 132Cd (53.53d Free) = 0 Unstalling this software legal You have selected to install the Macrossi HO.

³ Install the program to the system drive •

Installing audio data on MacOSX

• Once the program files installation is complete, navigate back to the DVD drive and run the **Guru Data Setup.pkg** file and follow the on-screen instructions.

• You will be asked to choose a location (a drive and a folder) for the audio content¹. This location can be anywhere you like, including removable drives. However, please ensure the chosen location has 4 GB of free space available.

• Follow the on-screen instructions to complete the audio data installation. There is a lot of data so this may take a while... please be patient!

Authorization

When you run GURU for the first time after installation, you will need to authorize it by entering your serial/license number. You will find this number on the DVD packaging.

Your serial number is proof of your license to use GURU. A lost serial number cannot be replaced.

Therefore, please make sure to register GURU as soon as possible.

• If you have any problems with the installation or authorization, or if you want to find out how to register your copy of GURU, see section 11:6.

Instant gratification...

Okay, you've just installed GURU and want to have some fun with it before you sit down to the serious business of reading this manual, it's a good idea to load one of the supplied example GURU bundle files. Start GURU (either the standalone version or as a plugin within your host). Hit the Load button on the GURU toolbar and navigate to the 'Example Bundles' folder within the Guru data folder.

Hit the Play button on GURU or on your host sequencer after loading one of these bundles, and have a play around with the interface to get a feel for how it works: we tried to make GURU as intuitive and quick to learn as possible. However, it does include some innovative features so it is highly recommended to **thoroughly read this manual as soon as possible**.



¹ Select destination for the audio content •

CHAPTER ONE GURU: Fundamental Philosophy

1:1 Engines, Pads, Patterns and Graphs

These concepts are crucial to the way that GURU works, so it's very useful to read through the following descriptions.

Engines

GURU is made up of 8 'Engines'. Each of these Engines contains 16 Pads. Although these Pads can be sequenced from your host sequencer using MIDI notes, they can also be controlled by each Engine's advanced step sequencer system. There are sequencers for Pads (the Pattern view) and for modulating certain sound parameters (the Graph view). An Engine is essentially an independent entity with its own MIDI channel (they respond to channels 1-8), although the tempo of all Engines is locked to multiples of Engine 1's tempo.

Each Engine also has 3 Aux effects and an Insert effect. There is also a Master Insert effect which affects the entire Master output.

Pads

The 16 Pads inside each of GURU's Engines are categorized into Kicks, Snares, Hihats and Percussion, with 4 Pads assigned to each type. This is central to SmartSlicing: GURU's intuitive new approach to loop-slicing.

Each Pad is a sophisticated sampler with a substantial array of parameters that can be adjusted in the Pad Edit view, which is a tweaker's paradise. You can layer (either stacked or velocitylayered with crossfades) up to 8 samples on a single Pad, adjust start/end points, gain, pan, pitch and filtering, add one of the built-in effects or adjust send levels to any of the 3 Engine Aux effects. There are also 2 envelopes to play with in the Pad Edit view: one for amplitude and one for filter cutoff, pitch and certain effects destinations.

The Pads are mapped to MIDI notes C1 to D#2 by default.

Patterns

The Pattern view is for step-sequencing Pads. The sequencer can have up to 4 pages, each with up to 32 steps, giving a total of up to 128 steps. Each sequence is called a Pattern: each Engine in GURU has 24 Patterns, assigned to MIDI keys from C3 to B4. Click on the Pattern keys, or hit the corresponding MIDI key, to access any of the 24 Patterns for each Engine. While all the Engines are tempo-synchronized, Engines 2-8 have a tempo multiplier setting which adjusts the tempo for each Engine relative to the main tempo (which is used for Engine 1). By using multiple Engines with different tempo multipliers, you can create complex multi-layered polyrhythms with ease.

GURU contains the ability to intuitively record Patterns, so you can use it as a complete workstation environment. This can be a breath of fresh air if you find yourself constrained by fiddly audio/MIDI sequencers, which have too many possibilities that sometimes get in the way of creativity. GURU even provides a Scene view, where you can store 'snapshots' of the state of all 8 Engines together, and change between them by using MIDI note input.

Graphs

Graphs are graphical step-automation lanes which control sound-altering parameters of Pads, synchronized to the Patterns in an Engine. There are 4 Graph types: Level, Pitch, Filter and Repeat. Each type contains the following sub-Graphs:

<u>Level</u>

- Velocity
- Pan

<u>Pitch</u>

- Coarse Pitch
- Fine Pitch

<u>Filter</u>

- Filter Cutoff
- Filter Resonance

<u>Repeat</u>

Repeat

Repeats a note a variable amount of times within one sequencer step.

Shift

Shifts play position of a note forward or backwards between neighbouring steps.

• Scrub

Increases the start point offset for all samples on the Pad.

Graphs are very closely linked to Patterns – each of the 24 Patterns in each Engine has individual Graph layouts. All Pad lanes in each Pattern can have individual Velocity, Pan, Coarse Pitch, Fine Pitch, Filter Cutoff, Filter Resonance, Repeat, Shift and Scrub Graphs.

1:2 SmartSlice: GURU's enlightened approach to drumloop-slicing

GURU introduces SmartSlice... a novel, efficient way to slice drumloops. As well as performing a transient-based auto-slice on loops, GURU also analyzes the frequency information of the slices and categorizes them into kick, snare, hihat and percussion hits. The best-matching 4 slices in these categories are then mapped onto the corresponding Pads.

This intelligent slicing and mapping means you can experiment with different audio loops effortlessly, instead of having to painstakingly re-categorize the slices of new loops manually. Finally there's no longer any need for the tedious process of building a manually-categorized drumsound library with uniform keymapping – any audio is usable in GURU within seconds!

The procedure works as shown in the diagram to the right. The audio file is first analyzed for transients and sliced according to them. Then, each slice is frequency-analyzed, and the best 4 kick, snare, hihat and percussion samples are mapped to the relevant Pads, while any other slices are discarded.

There are other ways to slice loops in GURU... you can perform a SmartSlice using Score mode, which also extracts the Pattern from the loop based on the SmartSlicing results. Alternatively, you can use the Equal-16ths slice mode, avoiding the SmartSlicing process altogether.



3 Assign slices to pads

1:3 Overview of the GURU interface



1. GURU LCD

The LCD is the main edit area in GURU. It can be in any of the following view modes:

- Pattern view
- Graphs view
- Pad Edit view
- Aux Effects view
- Mix view
- Scenes view
- · Options panel

Each of these view modes have a corresponding button in the GURU toolbar.

2. GURU toolbar



Load/Save Bundle buttons

3. Browser

This is where you load sounds and Patterns into GURU. See chapter 2 for an in-depth look at the Browser.



4. MIDI Pads

There are 16 MIDI Pads, with 4 assigned to each drum category (kicks, snares, hihats and percussion). They can be played by clicking them on-screen or by hitting their corresponding MIDI notes (by default, C1 to D#2).

The Pads light up blue (kicks), red (snares), yellow (hihats) and green (percussion hits) in response to being played.

Pads are also selected for editing by clicking them. There is an Edit button just above the Pads for quick access to the Pad Edit view, or you can use the Pad Edit button on the toolbar.

See chapter 3 for more details on Pads and the Pad Edit view.



5. Pattern Keys

The Pattern keys are a way of selecting Patterns for editing when in the Pattern view, and also for playing them. They are mapped to MIDI notes C3 to B4.

See chapters 4 & 5 for more details on Patterns.



Pattern keys MIDI notes C3 to B4

6. Sequencer Master

The Sequencer Master section houses a convenient display for the current Engine, Pattern and Pad, as well as global volume, tuning, mute, solo, tempo and Groove controls for the current Engine.

It also contains the Undo button, and the Playback and Recording controls.

1:4 Control conventions and keyboard shortcuts

The UNDO button

GURU provides a one-level Undo function **when editing Patterns**. When there is something to Undo, you'll see the Undo button highlighted. Any operation which involves notes in Patterns can be undone – even loading Patterns from the Browser.

The Undo button is also used in Record mode, in order to Undo the last take. When in Record mode, this button can be controlled by a MIDI note.

Keyboard shortcuts

GURU is quite heavily dependent on keyboard shortcuts, in order to facilitate quick edits and fast workflow.

One very important shortcut to remember is [CTRL]-click, which is used for numerous frequently used functions.

• On Windows, [CTRL]-click in GURU is the same as the **right** mouse button.

• On Mac, [CTRL]-click in GURU is the same as Apple-click.

You should, therefore, whatever your OS, be able to use rightclick for [CTRL]-click operations (assuming, of course, that you use a 2-button mouse).

It is also worth remembering that [ALT] is a key modifier which results in modifying **all** similar parameters. This depends in many cases on what is being clicked. Please see section 11:2 for a full list of GURU's keyboard shortcuts.



Current Engine/Pattern/Pad display & Vol/Tune/Mute/ Solo/Tempo for Engine

CHAPTER TWO Starting to use Guru: the Browser

		— Browser tabs
PATTERNS KIT	HIT LOOPS	— Auto button Eavourites controls
SCOR		Preview tools
C:\gurutest\ <u>Loops\</u>	000 H DL 105 02.wav	Parent folder/drive
Acou	0003 H DL 120 05.wav	
Ge <u>ar</u>	DL 120 10.wav	Folders in the folders
Hamb	130 04.wav	drives pane
Koln	130 05.wav	—— Files in the files pane
LOFI	130 06,wav	· · · · · · · · · · · · · · · · · · ·
	DL 130 07.wav	
	Detected K	
	Detected S	
		Scrollbar
	Detected H	
	Detected H	
	Detected M	
	P Detected M	
	P Detected M	
	Detect in p	Pane resizer

The Browser is a very important part of Guru, as it is central to getting sounds into it! You will see 4 tabs in the Browser: Patterns, Kits, Hit and Loops. Before we examine them, it's essential to explain how the Browser works, and to explain its preview functionality.

2:1 Operating the Browser

The Guru browser is a dual-pane browser: the left pane is for folders, and the right pane is for files – Loops, Hits, Kits and Patterns. You can make either pane wider by clicking and dragging the file button at the bottom of the divider.

It's very easy to navigate around drives and folders... simply click on any folder or drive name to explore it. When you are in a folder, the parent drive/folder will appear at the top of the folder list, with the top of its left. Again, simply click on the name to go up a folder level.



If you are in a certain location in one Browser tab, you can make any other tab go to the same location, by clicking the other tab while holding down [SHIFT].

Favourites

The Guru browser has a useful Favourites function for folder locations. When in any folder/drive, simply click the Add Favourite button to set up a Favourite – you will be prompted to name it. The Show Favourites button toggles the left pane of the Browser between a list of Favourites and the normal folder browser display. You can click on a Favourite while holding down [SHIFT] in order to remove it from the Favourites list.

Browsing and Preview tools:

<u>Auto mode</u>

You will notice that all tabs of the Browser have the Auto button. Auto mode allows 'preview in context': the elements which are selected in the Browser play in place of the elements you are replacing which are already loaded into Guru, while unaffected parts play as normal. Thus you can hear what the file you're thinking of loading onto Pad(s), Pattern(s) or an Engine will sound like within the context of your current Guru song.

When the Auto button is activated in any tab of the Browser, any of the browsable elements within it can be auditioned in context before loading them. If Guru is not playing when you click on a previewable file, it will start playing¹, and you will be able to hear the new element in context. You can then click the own button in order to load it, or preview another.

Preview tools

Play/Stop control

When no elements are being previewed, the play/ stop control will show a 'play' icon.

When a file is being previewed, the control becomes a clickable 'stop' icon. If it is clicked, the preview will be cancelled and no file will be loaded.

Other controls

OK

This button appears while previewing. Click it to load the currently previewed file.





AUTO

¹ This behaviour is controlled by the 'Auto-play if Auto-previewing in Browser option in the GURU Options panel. If the option is disabled, you will need to hit play on Guru before using Auto mode. Guru will not start playing automatically. The descriptions in this manual assume that the option is ena-

bled.

2:2 Hit tab

The Hit tab of the Browser lets you load single-hit sounds – in other words, sounds which can be loaded onto a single Pad.

• To load a sound onto a Pad, simply click and drag and drop a sample from the files pane to the Pad. Pads can contain up to 8 layered sounds: please see chapter 3 for details on loading multiple layers.

• .WAV and .AIFF files of any sample-rate or bit-depth can be loaded.

Using Auto mode

Auto mode is designed to work with Patterns: you won't hear anything unless there's a Pattern playing. If you're just starting out with GURU, jump forward to section 2:4 and load a Pattern.

- Engage the Auto button.
- Click the Pad on which you want to load a sample and navigate to the desired sample in the Hit tab of the Browser.

• When the sample is clicked, the Pad will start flashing. Guru will begin to play if it was previously stopped, with the selected sound playing whenever the relevant Pad is triggered by the Pattern.

• When you're happy with the sound, click OK in order to load it to the Pad.

• Otherwise, you can click another sample, or use the **buttons** to browse through the samples in the current folder.

• If you change your mind and decide you don't want to load a new sound onto the Pads, click the button – the previewing will stop and the contents of the Pads will not be changed.



2:3 Loops tab

The Loops tab is crucial to one of Guru's most exciting features: the SmartSlicing process. It allows an audio file to be auto-sliced according to its transients, with each resulting slice being analysed according to frequency and other criteria for kicks, snares, hihats and percussion. The best-matching 4 slices in each drum category are then mapped to the corresponding Pads in the Engine.

This feature is designed to be used with loops, especially with the Score mode. However, it can be used with any audio file. However, the Score function won't be very useful on audio files which do not 'loop' properly when they are continuously repeated.

Slicing/Mapping tools

The Loops tab features a few more tools than the rest of the Browser tab.

Score button

The Score button has 3 states:

• Audio (Audio-only)

Only the sounds within the loop will be extracted to the Pads after the slicing process.

• Score (Score-only)

Only the Pattern will be extracted from the loop after the slicing process, and imported to the current Pattern. This mode is similar to using the Pattern Browser, except that the Pattern will be extracted straight from an audio loop.

• Both (Audio & Score)

The sounds within the loop will be imported to the Pads and the extracted Pattern will be imported to the current Pattern.

Slice mode context menu

It is possible to select one of 4 different loop-slicing algorithms when using the Loops tab. [CTRL]-click on the Auto or Score buttons in order to bring up the Slice mode context menu.

• Fast (Fast SmartSlice)

This is the default slicing algorithm using the SmartSlice technology.

• Enhanced (Enhanced SmartSlice)

This SmartSlice algorithm features more accurate transient detection, but is also slower.



Auto/Score buttons





AUDIO



• Hi-Sens (Hi-Sensitivity SmartSlice)

This is the third SmartSlice algorithm, which is a version of the Enhanced technique, optimized for 'busier' loops with lots of transients close together.

• Equal-16ths (No SmartSlice, loop split into 16 equal slices) With this algorithm, the SmartSlice process is avoided, and the loop is sliced into 16 equal segments.

Using Auto mode

With Auto mode enabled, GURU will preview the selected loop in context, depending on the state of the Score button:

• The SmartSlice... message will appear momentarily while the loop is analysed and sliced. After this message disappears, you can click the H to display the slices detected in the loop.

• If it is set to 'Audio' only the Pads will be heard in context, played by the current Pattern (you won't hear anything unless there are some Pattern events present!). The Pads, the soutton and the souttons will begin to flash.

• With the button set to 'Score', only the Pattern will be extracted, and previewed using the currently-loaded Pad sounds. The current Pattern, the button and the ok buttons will begin to flash.

• With the button set to 'Both', you'll hear the new loop's sounds being played by the Pattern extracted from it. The Pads, the current Pattern, the **button** and the **button** buttons will begin to flash.

You can then do one of the following:

• Click OK in order to load the loop.

• Click another loop in the Browser to preview or use the **w**

• Click the the **button** – the previewing will stop and the contents of the Pads and/or the Pattern will not be changed.



Using component slices

The H button can be used to 'expand' the loop to show the slices detected within it. When the component slices are displayed in this way, a single slice can be loaded, effectively as a Hit. In Auto mode, this procedure works exactly as the Hit Browser Auto mode.

When using the Equal-16ths slice mode, the expanded slices will represent each of the 16 slices generated by the slicing process, rather than SmartSliced categorized hits.

Operating without Auto mode

With Auto turned off, no preview in context will occur when a loop is clicked.

• To load all the the sounds from a loop, drag and drop the loop from the Browser to the Pads. The Score button should be set to 'Audio'.

• To load a Pattern from the loop, drag and drop the loop to a Pattern key. The Score button should be set to 'Score'.

• To load the Pattern and sounds from the Loop, drag and drop the loop from the Browser to a Pattern key, or to the Pads (if you drag and drop to the Pads, the Pattern will be imported to the current Pattern. The Score button should be set to 'Both'.

• To load one of the component slices from the loop, expand it with the H button and drag and drop the required slice to the desired Pad, or to the waveform display.

More about the Score mode

Guru's Score function is useful for preserving the original timing feel of a loop: even though Guru's on-board sequencing system is step-based, any timing deviations are preserved using Shift Graph¹ values.

Please note that this method does not perform the same function as other drumloop slicers: although the entire loop is turned into a Pattern, Guru still discards everything but the 4 best matches for kicks, snares, hihats and percussion. Each slice of the detected Score is re-directed to the closest matching Pad. ¹ See section 6:2 for details on Shift graphs.

The Score mode works best with 1, 2 or 4 bar loops, and best results are obtained if the tempo of the loop is between 70% and 130% of the current tempo. Anything which falls outside these limits is liable to be detected at half or double the tempo, for example. However, you can use the tempo multipliers in Engines 2-8 in order to adjust the timing¹.

Guru will look at the length of the loop and adjust the step/ page length of the Pattern accordingly. If there are multiple notes within 1 step, the notes will be placed on separate Pad lanes of the correct type, with Shift graph values generated for each ensuring that they play at the correct time.

Using REX files with GURU

As well as **.WAV** and **.AIFF** files, ReCycle-format **.REX**, **.RCY** and **.RX2** files will also be displayed in the Loops Browser. GURU will use the slice information stored within the ReCycle file instead of using a SmartSlice-based slice mode. The drumdetection analysis will still take place, however, and GURU will map the best-matching drum slices to the relevant Pads. The Score button operates as normal.

The Equal-16ths slice mode is an exception, however: it overrides the slice information from the ReCycle file. When using this mode with a ReCycle file, GURU divides it into 16 segments as normal, mapping them to the Pads sequentially.

Auto mode operates with REX files in the same way as with other audio files.

¹ See section 7:2 for details on tempo multipliers.

2:4 Patterns tab

The Browser's Pattern tab allows you to save and load Patterns, either individually (the current Pattern), or the whole bank of 24 Patterns in the current Engine using 'Pattern Sets'. If you save a Pattern Set, the filename can be expanded with the H button to reveal each Pattern contained within it.

As well as GURU's own **.G01** and **.G24** formats, standard MIDI files (**.MID**) can be loaded from the Patterns Browser.

Loading Patterns and Pattern Sets

To load a Pattern while in Auto mode:

• Click the Pattern key (or its corresponding MIDI key) on which you want to load a new Pattern.

• Navigate in the Browser to the desired Pattern and click on it. You will notice that the Pattern key starts flashing. Guru will start playing if it isn't already, and if there are sounds already loaded onto the Pads in the current Engine, the previewed Pattern will be heard in context, triggering the sounds on the Pads.

• Click _____ in order to load a Pattern once you're done previewing.

• Otherwise, you can click another Pattern, or use the **w**

• If you change your mind and decide you don't want to load a new Pattern, click the <a>button – the previewing will stop and a new Pattern will not be loaded.

• If you want to load a Pattern Set, the process is the same, except that multiple Pattern keys will start flashing. The currently viewed Pattern will play in context.

To load a Pattern while not in Auto mode, simply drag and drop a Pattern from the Browser to a Pattern key. By holding down the [SHIFT] key, you can also drag and drop a component Pattern in a Pattern Set to a Pattern key.

Save Pattern Set



Saving Patterns and Pattern Sets

• To save the current Pattern, navigate to the folder to which you wish to save the Pattern. Then, click the Save Pattern button on the right hand side of the Patterns Browser and enter a filename into the dialog box which appears.

• To save all the Patterns in the current Engine, navigate to the folder to which you wish to save the Patterns as a Set. Then, click the Save Pattern Set button and enter a filename.

2:5 Kits tab

This tab of the browser is where you load and save Kits. When a Kit is saved, by using the Save Kit button on the Kits Browser, all the following are saved to a **.KIT** file:

- the Pads
- their Pad Edit settings including Pad insert FX and Aux sends
- the Engine's Aux FX
- the Engine insert effect as deployed in the Mix view

Auto mode applies to Kits in the same way as Patterns: if Guru is playing, and Auto mode is enabled, any Kit selected in the Browser will begin previewing in context. As usual, you can:

Click OK to load it

• Click another Kit or browse through the folder's Kits with the the buttons

• Stop previewing with the button – no Kit will be loaded and the contents of the Pads will not be changed.

When not in Auto mode, simply drag and drop a Kit onto the MIDI Pads area in order to load it.

Like loops in the Loop tab, Kits can be expanded, by clicking the H button to the left of the filename, to show all the constituent Pads in the Kit. Any of these can be dragged onto one of Guru's Pads. Please note that the Engine Aux FX setup and the Engine insert effect will not be recalled when dragging individual Pads from a Kit in this way.



CHAPTER THREE Working with Pads & the Pad Edit view

GURU's Pads are mapped to MIDI notes C1 to D#2 by default. They can be controlled by MIDI tracks in your sequencer, or by GURU's internal Patterns and Graphs. Pads are immensely tweakable, and offer a fairly complex signal path, as the following signal flow diagram suggests.



3:1 Pad Edit view



Layer/Velocity split controls

Utility controls

When you click the Pad Edit button on the GURU toolbar, the Edit button just above the Pad display, or the Pad Edit toggle button in the Pattern view, the Pad Edit view appears in the GURU LCD. This view allows you to adjust the various settings for the last Pad selected via the onscreen Pad buttons.

You can exit the Pad Edit view by clicking the large OK button or the Pad Edit toggle button in the Utility controls section.

You can quickly jump to the Pad Edit settings for any other Pad by clicking the relevant Pad on the screen.

Each layer in each Pad has its own Pad Edit settings.

Pad Edit Keyboard modifiers

• If you hold down the [ALT] key on your computer keyboard while adjusting any parameter control in the Pad Edit view (with the exception of the start and end markers in the waveform display, and the Velocity split display), the parameter will be adjusted to the same value for all Pads (and each layer within them) in the current Engine.

• You can also [CTRL]-click in order to reset a parameter to its default value (again, this does not apply to the start/end markers or the velocity split display).

• It logically follows that you can click a control while holding down [CTRL] and [ALT] in order to reset that control on all layers to defaults.

Please refer to section 11:2 for a full list of Pad Edit view keyboard modifiers.

Pad edit button



The behaviour of the [ALT] key in the Pad Edit view can be altered via the Options panel, using the '[Alt] key in Pad Edit links only current Pad layers' option.

This results in [ALT]-key edits affecting all layers on the current PAD, rather than layers in all Pads in the current Engine.

Waveform display



• At the top of the waveform display, there are markers for the start and end of the sound – by clicking and dragging these points, the start/end can be freely adjusted. This is very useful for fine-tuning slice points. It can also be used to manually find alternative segments of a loop which have been discarded by GURU's SmartSlice process.

• The start/end markers can be moved at the same time by clicking and dragging the end marker while holding down the [SHIFT] key.

• GURU's waveform display is capable of zooming in and out horizontally: simply click the display and drag down/up. Alternatively, use the zoom buttons. You can also use the Quick zoom button in order to instantly zoom into the area between the start and end markers. Clicking the Quick zoom button again zooms out to view the whole sample.

• When zoomed in sufficiently, zero crossings are conveniently displayed as white lines, and any adjustments to the start/end markers will 'snap' to them.

• You can scroll left and right through the waveform by clicking and dragging it left and right, or use the scrollbar.

The zero-crossing functionality can be disabled by turning off the 'Show/snap to zero crossings in Pad Edit waveform display' option in the Guru Options panel.

Utility controls

Mute/Solo

These mute/solo the Pad.

Pad name

[CTRL]-click on this box in order to name the layer. When a sample is loaded onto the layer, the Pad name is updated with the sample's filename.

<u>Lock</u>

This locks the Pad so that no new samples can be dragged onto the Pad's layers, across all Engines. It is the same lock function as in the Pattern view: it also prevents any newlyloaded Pattern data from affecting any of the Pad's events in its Patterns. You can also [ALT]-click the Lock button in order to lock all other Pad types – in other words, [ALT]-click on a Kick Pad layer to lock all Snare, Hihat and Perc Pads on all Engines.

Pad Edit toggle

This button exits back to the Pattern view (it has exactly the same effect as the large OK button).

Move left/right

These are for shifting the Pad lane backwards and forwards by one step at a time. You can [ALT]-click these buttons in order to move all lanes in the Pattern at the same time.

<u>Cut</u>

This function allows you to define the Pad's 'Cut' functionality – i.e., the ability to stop the Pad's sound output while it is playing with a subsequent event. Clicking on the Cut box cycles through the following settings:

No Cut

No Cut is the default value. In this mode, the Pad will not be cut by anything.

Itself

In this mode, the Pad will be cut when it is triggered again.

By Color

This mode results in the Pad being cut by all Pads in its colour group in the Engine, including itself. For example, setting the Cut parameter to 'By Color' (yellow) on a hihat Pad can result in hihat-style choke effects.



Large Pad name (inc.Value display & Output meter)



NO CUT



<u>MIDI In</u>

Click and drag the MIDI In value up and down in order to change the MIDI note which triggers the Pad. You can also set the MIDI note for a Pad using the MIDI Learn function on the Pad context menu¹.

<u>Out</u>

Click this box and drag up/down to select one of the 7 sub-outputs for the Pad, instead of the default Main Output.

Large Pad name/Value display

This larger box shows the name of the Pad, except that when a Pad Edit control is adjusted, it changes to show a readout of the parameter value. There is also a VU meter in this area which represents the amplitude of the layer's audio Output.

Gain, Pan, Tune/Fine, Cut/Rez/Type



These parameters allow control for gain, pan, tuning and filtering of each sound on a Pad.

<u>Gain</u>

This control adjusts the volume of the sound, from -inf to +6 dB, with 0 dB at the centre position.

<u>Pan</u>

The pan control enables you to pan the sound left/right within the stereo field.

Tune/Fine

These controls allow coarse (-+ 24 semitones) and fine tuning (-+ 1 semitone) adjustment.

GURU contains a useful function in case you want to load a loop onto a Pad as a Hit (in other words, by dragging it from the Hit Browser tab rather than the Loops tab). Load the loop into the layer from the Hit Browser in the normal way, and then click on the Tune knob while holding down [CTRL] and [SHIFT]. The sample will be pitched up or down so that it fits the Pattern.

Cut/Rez/Type

The Cut and Rez controls allow adjustment of filter cutoff and resonance, while the filter Type control blends between Low-pass (hard-left), Bandpass (centre) and Highpass (hard-right) filters.

¹ See section 3:3 for more details on the Pad context menu.

Please note that some hosts, such as Logic, allow you to load multi-channel instruments like Guru as stereo instances. Obviously, in these situations, using the sub-outputs will be ineffective. Always make sure to launch Guru as a multi-channel plugin!

The Pan and Tuning parameters provide the basis for the Pan and Pitch Graphs in Guru's step-sequencing system (see section 6:2).

Pad effect slot



Each Layer has an effect slot for processing the signal. Use the selector buttons to scroll through the available effects, or [CTRL]-click on the effect name for a drop-down menu. If you hold down [ALT] while you select an effect, it will be selected for all layers on all Pads in the current Engine. Settings are saved for effects in the same slot during the current GURU session, so you can safely try out alternative effects or use the Bypass setting. However, only the active effect's settings are saved with your host project, or in a GURU bundle.

There is a special type of Pad effect in GURU – the Oscillator (SIN OSC, TRI OSC etc) effect type. These are tone generators which can be used for basslines or to fatten up kicks, for example. Their pitch is modulated by Pitch Graphs and the Pitch FX Envelope amount (see below). They also utilize the Pitch FX Env for Frequency Modulation – the frequency of the Oscillator is modulated by the layer sample's frequency.

When you use these Osc effects, they replace the layer's sample in the signal path (although, as already mentioned, the sample is in fact utilized for FM). Therefore, if you require the original sound to be played, you need to put it on another layer. Please refer to section 10:1 for full details on the Oscillators and the other Pad effects.

Direct/Aux Controls



Direct

This controls the volume of the direct signal of the Pad. The Direct signal includes everything in the Pad Edit view, except the Aux-effected signal. It's useful if you want to use only the Aux-effected signal for the Pad's output.

Aux Sends

These sends control the amount of the Pad's signal which is fed to the Engine's Aux Effects.

There are no global Aux sends for the whole Engine. However, if you hold down the [ALT] key while adjusting an Aux send, the same Aux send on all layers on all Pads in the current Engine will be affected.

BYPASS. COMP-FF COMP-FS COMP-SF COMP-SS TUBEDRIVE OD OD-ASYM DIST DIST-ASYM HALF-RECT FULL-RECT SHAPER-SIN SHAPER-TRI RING-SIN RING-TRI BIT-REDUX SR-REDUX BIT-CRUSH OSC-SIN OSC-TRI OSC-SAW OSC-SOR OSC-PULSE OSC-NOISE HIGH-PASS LOW-SHELF LOW-MID HIGH-MID Pad effects HIGH-SHELF drop-down menu LOW-PASS

Amp Envelope

This AHR (Attack-Hold-Release) envelope shapes the amplitude of the Pad's samples. When a parameter is moved, the graphical representation of the Amp Envelope on the waveform display reflects the changes. The parameters are:

• <u>A: Attack</u>

The length of time taken to reach full amplitude from -inf dB

• <u>H: Hold</u>

The length of time for which the sample is held at full amplitude

• <u>R: Release</u>

The length of time taken for the amplitude to reach --inf dB

FX Envelope

GURU provides another AHR envelope, called the FX Envelope. It works in exactly the same way as the Amp Envelope, except that it is routed to several different destinations. The main use for this envelope is to control filter cutoff and pitch (using the Env—Cutoff and Env—Pitch controls).

However, the FX Envelope is also used with the Osc Pad effects (see above).

Audition

This button plays the sound of the Pad continuously without any MIDI/Pattern input, for convenient auditioning while editing parameters in the Pad Edit view. It's useful if you want to quickly adjust a sound without soloing the current Pad, or if you don't want to keep playing a sequence or playing MIDI in order to hear the Pad while you edit.

Layers and Velocity Splits

Each of GURU's Pads can hold up to 8 samples. Each Layer has its own Pad Edit settings, with the exception of the utility controls which act globally for all layers on the Pad. Therefore, each layer has individual settings for Gain, Pan, Tune/Fine, Cut/Rez/Type, Envelopes, Aux Sends, as well as its own Pad insert effect.

• When the Layer button is clicked in the Pad Edit view, a row of numbers (1-8) appears.



Guru's envelopes are scaled to the time of the current layer's slice: in other words time between the start/end markers in the waveform display. The scaling is also affected by the Scrub Graph, as it affects the length of the samples on the Pad.





• Click on one of these buttons to edit that layer in the Pad Edit view. Please note that if no sample is currently loaded into the layer, a "No layer loaded" message will appear in place of the waveform display.

• You can then drag and drop a new sound from the Browser (either a Hit or a slice in a loop 'expanded' by using the H button next to its filename) onto the Pad or the waveform display to assign it to the current layer (when not in Auto mode).

• Alternatively, if you want to use Auto mode, click the sound in the Browser (either a Hit or a slice in a loop 'expanded' by using the H button next to its filename). The sound will be previewed in context on the current layer.

Velocity Split

By default, all layers are played simultaneously whenever the Pad is triggered. However, the layers can be velocity-split, with different layers responding to different velocities. Clicking the Velocity split button reveals the Velocity split display:



The graphic shows each velocity split, with splits 1 to 8 arranged from left to right (the x-axis represents velocity from 0 at the left to 127 at the right) The currently edited split is highlighted in green.

The red vertical indicator line represents the velocity of the last Pad trigger. This is very useful in visualising how you need to split velocities.

LAYER
Laver display off (default



Layer display on, no velocity split (all layers play simultaneously)

Logarithmic/Linear velocity splits

You can choose between logarithmic and linear velocity split curves in GURU by using the Options panel. Logarithmic is the default setting, but Linear is used for the examples below, as it makes it slightly easier to see what's going on.

Adjusting the crossfade amount

If you click and drag the velocity split display left/right, you can adjust the amount of cross-fading between the different velocity-split layers.

• The default setting is an even crossfade amount between the layers.

• Drag extreme-left for no crossfading.

• Drag extreme-right for the maximum setting. At this setting, the higher the incoming velocity, the more layers are heard, with each layer scaled down according to the velocity split distribution (see below).

Adjusting velocity split distribution

If you click and drag on the velocity split display while holding down the [SHIFT] key, the velocity split range for the currentlyselected layer can be adjusted. These examples are shown with an even crossfade amount between the layers.

• The default setting is an even velocity split distribution – the splits are spaced apart evenly. This setting is located 'in the middle' of the left/right extremes.

• If you [SHIFT]-drag to the extreme-left, the velocity splits will be distributed as in the screenshot to the right, with splits spaced apart further towards the high-numbered layers.

• If you [SHIFT]-drag to the extreme-right, the velocity splits will be distributed as in the screenshot to the right, with splits spaced apart further towards the low-numbered layers.



Logarithmic velocity split. (all examples below are linear)







3:2 Automating Pad Edit view parameters in your host sequencer

Because there is such a huge array of individual Pad Edit view parameters (over 150 for each Pad in each Engine, not even counting those for the Pad effects!), it was not reasonable to expose them all as automatable parameters within the host sequencer. Instead, GURU features the coloured Pad Group automation system.

• When you click any Pad Edit control while holding down the [SHIFT] key, its colour changes to red. Continuing to [SHIFT]click on the control cycles its colour through orange, yellow, green, light blue, blue, purple and grey, and then back to normal. When you change the colour of a knob, you are assigning it to an automatable coloured Pad Group. You can assign any number of Pad Edit knobs to Pad Groups, which operate across all Engines.

• You can assign the same Pad Group to a parameter's controls in all layers in the Engine by holding down [ALT] while [SHIFT]-clicking on a parameter.

• When you automate the Pad Group in your host sequencer, all controls associated with it will be automated.

Please note that the changes are **absolute**: parameters will change to the incoming automation values, not relative to the existing settings.

It is also important to note that there is another automation group: the FX Group. This group automation system uses the same colours, but it is used on the Engine and Master insert effects, and the Aux effects (in other words, for all instances of Engine effects).

The Pad Group and FX Group parameters are totally independent.

Please see section 8:4 for more information on the FX Group.

Pad Colour Groups: 1. Red • 2. Orange • 3. Yellow • 4. Green • 5. Light Blue • 6. Blue • 7. Purple • 8. Grey •
3:3 Other Pad operations

Operating Pads

The on-screen Pads are used to select the current Pad (in other words, for editing in the Pad Edit view). They can be used to play notes, even during Pattern recording within GURU. You can even set them, via an option in the Options panel, to send the highest velocity at the centre of the Pad and lower velocities towards the edge. Please note, however, that triggering the corresponding MIDI notes for a Pad will not select it as the current Pad for editing – you need to click the on-screen Pads in order to do this.

If you hold down the [ALT] key while hovering the mouse over the on-screen Pads, any Pad containing sample layers will be highlighted in its category colours (kicks in blue, snares in red, hihats in yellow and percussion in green).

Pad context menu

If you [CTRL]-click on a Pad, you will be presented with the Pad Context Menu. Using this menu, a variety of functions can be performed on the Pad.

MIDI Learn

This is a quick and easy way to set the MIDI note used for a Pad. When you click on this menu item, GURU will assign the next MIDI note received to the Pad.

Edit Pad/Close Edit Pad

If you're not currently editing the Pad, this menu item will read 'Edit Pad'. Clicking on it will bring up the Pad Edit view for the Pad. If you are already editing the Pad, the menu item will show 'Close Edit Pad'. Clicking it will return the GURU LCD to the Pattern View.

Cut Pad or Copy Pad

Cuts or copies the contents of the Pad *and* its Pattern lanes in all of the Engine's Patterns to the clipboard.

Paste Pad

Pastes the Pad contents of the clipboard to the specified Pad.

Paste Pad+Seq

Pastes the Pad data from the clipboard to the specified Pad and its Pattern lanes to all Patterns in the current Engine.



Save All Pads as Kit ...

Offers quick access to the Kit save function: a dialog box prompting for a filename appears. The Kit is saved after you enter a name and click OK.

Get Path Infos ...

Brings up the location of the sample in a dialog box.

Delete Layer ...

Deletes the currently viewed (or last viewed if not currently in the Pad Edit view) layer.

Delete Pad...

Deletes the contents of the Pad (including all layers).

Delete All Pads

Deletes the contents of all Pads in the current Engine.

Moving/Exchanging/Copying Pads

GURU offers the facility to move, exchange and copy Pads using drag and drop. Simply drag and drop a Pad onto an empty Pad in order to move it. If you drop a Pad onto a Pad containing a sample, the Pads will be exchanged.

You can also copy a Pad from one to the other by holding down [ALT] and [SHIFT] while dragging and dropping.

Please note that this function requires the 'Enable Pad/Pattern Drag & Drop move/swap/copy' option to be turned on in the GURU Options panel. A confirmation box asking you whether to proceed ('Yes') or Cancel the operation appears when attempting to perform any delete function.

CHAPTER FOUR Patterns and Graphs: GURU's step-sequencing system

Patterns and Graphs form the step-sequencing aspect of GURU. While GURU is perfectly capable of accepting MIDI input from a host sequencer (in other words, acting as a sampler instrument with Pads triggered by MIDI input from the sequencer), the Pattern/Graph step-sequencing system offers new and exciting ways of manipulating sounds, as well as providing an easy way to creatively experiment with rhythms.

Understanding GURU's step-sequencing system requires a good knowledge of working with **Patterns**, **Graphs** and the **Sequencer Master** section. This chapter provides a brief overview of each of these.

Patterns

Each of the 8 Engines in GURU is endowed with 24 Patterns. Each Pattern contains a lane, divided into steps, for each Pad, on which to enter notes. A Pattern has 1 page of 32 steps by default, which can be reduced down to 1 step if you wish. It is possible to have 4 pages each with up to 32 steps – in other words, the GURU sequencer system has up to 128 steps.



It is important to remember that in Engine 1, and by default in Engines 2–8, 16 steps represents 1 bar – in other words, a step is a 16^{th} note in duration.

However, Engines 2-8 have a tempo multiplier setting, located in the Sequencer Master display, which allows flexible tempo manipulation of the Patterns in each Engine.

You can enter notes by clicking steps in each Pad lane on the Pattern view using the mouse, or use GURU's realtime recording features.

The 24 Patterns are represented by the Pattern keys, which are assigned to MIDI notes C3 to B4. When you click a Pattern



key, or play its corresponding MIDI note, that Pattern will be selected for editing in the Pattern view.

Graphs



Each Pad lane in each Pattern has a set of Graphs associated with it. A Graph is a step-automation system for certain soundaltering parameters, allowing parameter automation in parallel to the Pattern note-sequencing system: each step in a Graph corresponds to a step in a Pattern. When a Pattern is played, its associated Graphs always play back along with it.

There are Graphs for velocity, pan, coarse and fine tuning, filter cutoff and filter resonance. There are also graphs for Repeat (the number of times a Pad is triggered within 1 sequencer step, spaced apart equally), Shift (shifts play position of a Pad forwards or backwards between adjacent steps) and Scrub (moves the sample-start point between the start and end of the samples on the Pad).

Graphs are examined in detail later in chapter 6. However, it is useful at this point to note that the Velocity and Shift Graphs are very important ones to consider, as they have a crucial part to play in the feel of your sequences. The Velocity Graph is a graphical representation of the velocity of the notes in a Pattern (i.e. the loudness of the notes), while the Shift Graph, represents timing deviations, smaller than a step, from hard step-divisions. Careful use of these Graphs can inject a humanized 'swing' effect into your Patterns. Velocity-based 'swing' can give the illusion of timing deviations when there aren't any.

Sequencer Master

The Sequencer Master section offers control over recording Patterns into GURU in real time. It also contains controls for the volume (including solo/mute buttons), tuning, tempo and Groove of the current Engine, as well as showing the current Engine, Pattern and Pad numbers. Chapter 7 features a comprehensive guide on using these functions.



CHAPTER FIVE Workina with Patterns

5:1 Pattern view



The Pattern view is the default view in GURU: it appears in the LCD when GURU is first launched. This is where Patterns are displayed and edited.

Ruler and Steps Marker

The ruler is marked with every beat in the format 'bar:beat'. It is an especially useful reference when using multiple-page sequences. The Steps marker can be dragged left and right along the ruler, in order to change the number of steps on each page of the Pattern. Moving this marker is an alternative way of setting the 'Steps' parameter at the bottom of the LCD.

Pattern number display

This is a readout of the number of the current Pattern (between 1 and 24), which is currently being displayed in the Pattern view. You can select different Patterns for editing with the use of the Pattern keys.

<u>Mode</u>

Each of the 24 Patterns in each Engine has its own Mode setting, which defines how GURU plays back Patterns and how it reacts when a new Pattern key is triggered. Click on the value in order to cycle through the available options. [ALT]-click on this parameter in order to set it for all Patterns in the current Engine.

Sync

In this mode, the current Pattern will be played when you hit play in GURU or in your host sequencer. Patterns can be switched by pressing the appropriate Pattern/MIDI key. The transition between the previous and new Patterns will occur as soon as the key is pressed, but playback of the new Pattern will start according to the current play position: if you trigger

Pattern number display, Mode, Pages, Steps controls Draw/Select mode buttons

Pattern

Mode : 👘 Sync the Pattern key on the second beat of a bar, the new Pattern will play from the second beat, looping until the Pattern key is released.

• Trig

Trig mode functions in a similar way to Sync, except that when a Pattern key is held down, the new Pattern will play from the start, regardless of the current play position.

Gate

In this mode, the Pattern will not play automatically on playback. Instead, it will play while a MIDI Pattern key is held down, according to the current play position: if you trigger the Pattern key on the second beat of a bar, the Pattern will play from the second beat, looping until the Pattern key is released.

Effectively, Gate mode is similar to Sync mode, except that it requires a MIDI note in order to trigger it.

Shot

This mode works in a similar way to the Gate mode, except that when a MIDI Pattern key is held down, the new Pattern will play from the start, regardless of the current play position.

Effectively Shot mode is similar to Trig mode, except that it requires a MIDI note in order to trigger it.

<u>Pages</u>

The Pages parameter can be set between 1 and 4. Simply click the value in order to cycle through the possible values. When this parameter is set to a value higher than 1, a graphical Page selector appears which allows easy access to each page: simply click and drag the selector in order to change the currently viewed page of the Pattern.

<u>Steps</u>

This is an alternative to dragging the steps marker in order to change the number of steps in the current Pattern. Left-click the value to decrease it, and [CTRL]-click in order to increase it.

Pad select indicator

The arrow between the Pattern view and draw/select mode buttons indicates the currently selected Pad. Click to the left of any Pad lane in order to select the Pad as the current Pad. When the arrow is pointing at a Pad lane, clicking it again will jump to the Graphs view for the Pad lane. When using Gate or Shot modes, only MIDI Pattern keys can be used to trigger Patterns: you cannot use the on-screen Pattern keys in these modes to play new Patterns, only to select them for editing.

Pages : 4

Steps : 32

Editing Patterns in the Pattern view

Inside each of the 24 Patterns, there are individual lanes for all of the engine's Pads. It is simplicity itself to use the Pattern view: there are only 2 edit modes to consider – draw mode and select mode – switch between them by using the relevant buttons to the left of the Pattern view. If you're in Draw mode, you can use Select mode while you hold down the [SHIFT] key with the mouse over the LCD area. You can then release the [SHIFT] key when you want to return to Draw mode.

Draw mode

When entering notes, you'll see a readout appear at the bottom of the LCD, showing relevant values.

Creating/Deleting notes

- · Click on any step in order to place a Pad trigger on it
- [CTRL]-click a note to delete it.

Velocity

• Click and drag downwards on the note, and you can change the velocity. With lower velocities, the colour of notes in the Pattern view is faded out.

Creating multiple notes

• Click and drag right draws a series of notes, after which you can alter the step-spacing between them by keeping the mouse button pressed and dragging downwards.

Combining actions

• Click an empty step and drag downwards in order to create a note and set its velocity. Then, without releasing the mouse button, drag right to create a series of notes, then move the mouse up/down. In this way, you can draw a series of notes of a certain velocity, at a relative spacing of your choice.

• Click an empty step and drag right to draw a series of notes, then hold down the [ALT] key and drag downward, the notes' velocities will bescaled from the first to the last note in the series – the end result being a fade-out.

• Click an empty step, drag down to set the velocity to a value lower than maximum, and drag right to draw a series of notes, you can hold down the [ALT] key and drag up in order to scale the velocities from the minimum (first note) to the maximum (last note) – resulting in a fade-in. You can also drag down after holding down [ALT], in order to obtain a fade-out from the original note. Draw mode













Select mode

• In this mode, you can create a rectangular selection box, by clicking and dragging, in order to select multiple notes.

• You can also perform a 'Lane select' – a selection of all notes on multiple lanes on all pages – by clicking and dragging just to the left of the Pattern lanes (see screenshot).

• Once you've made a selection, [ALT]-click and drag it in order to copy it to any of the other Pad lanes within the Pattern page.

• [CTRL]-click on the selection in order to delete it (this function can also be achieved by clicking the selection).

• 🖅 button

With the explored button pressed, any Pattern events will also affect any Graph data associated with the selected notes. If a note with a Graph value is moved, its Graph data will move with it, and the previous position's Graph events will be reset to defaults. If a selection is deleted, associated Graph events will be deleted too. Finally, if a selection is copied, associated Graph events will be copied with it.

• Cut, Copy & Paste

These buttons allow you to cut, copy and paste selections. GURU pastes a selection back to its original location on the page. If you're copying and pasting to the same page of the Pattern, you need to move the original to where you actually want to paste to, then paste the original back in from the clipboard.

• If you want to copy a selection within the same page of the same Pattern, it's much easier to move it while holding down [ALT].

Utility controls

The following controls are available for each Pad lane in the Pattern view:

Mute/Solo

These functions mute or solo the corresponding Pad's events in the Pattern.

Pad name

[CTRL]-clicking on the Pad name brings up a dialog allowing you to rename it.

Select mode







Please note that, regardless of the state of the +FX button, any associated volume graph events will <u>always</u> be affected by any action performed on a selection.





<u>Lock</u>

This locks the Pad lane so that no new Pattern data can be loaded onto it, in all Engines. It is the same lock function as in the Pad Edit view: it also prevents any samples being loaded onto the Pad. You can also [ALT]-click the Lock button in order to lock all other Pad types – in other words, [ALT]-click on a Kick Pad layer to lock all Snare, Hihat and Perc Pads on all Engines.

Pad edit toggle

This button takes you directly to the Pad edit view for the corresponding Pad.

Move left/right

These buttons shift the Pad's Pattern events 1 step to the left or right. If you hold down [ALT] while clicking, all events on all Pad lanes of the current Pattern will be moved.

5:2 Other Pattern operations

Undo button

The Undo button in GURU's Sequencer Master section is used for a single-level Undo for Patterns: you can always Undo the last operation when editing Pattern event data.

It is not a multi-level undo – you can only Undo the last operation. The Undo button will be highlighted when there is something to undo. There is also no 'Redo' function.

Pattern keys



The Pattern keys are used for selecting the current Pattern in the Engine: in other words, the Pattern displayed in the GURU LCD in Pattern view. This is very significant, because **the current Pattern is the currently-playing Pattern**.

The Pattern keys can be used by clicking them with the mouse, or by playing them using a MIDI controller (notes C3 to B4).

UNDO

If you hold down the [ALT] key while clicking on a Pattern, its Pattern number is selected in all Engines as the current Pattern.

Pattern context menu

[CTRL]-clicking on a Pattern key brings up the Pattern context menu, which offers the following functions:

Cut Pattern & Copy Pattern

Cuts or copies the contents of the Pattern to the clipboard.

Paste Pattern

Pastes the Pattern contents of the clipboard to the specified Pattern.

Init Shifts

Initializes Shifts on the specified Pattern (in other words, it erases all Shift Graph events). This is like a quantize parameter on a sequencer.

Create Groove From Shifts ...

Creates a new Groove from the Shift values within the specified Pattern. An average is taken from all Pad lanes.¹

Init Pattern

Initializes the specified Pattern (in other words, all Pattern events, including notes and Graphs, are erased).

Init All Patterns ...

Initializes all Patterns in the current Engine (all events, including notes and Graphs, are erased on all Patterns in the Engine).

Moving/Copying/Exchanging Patterns

GURU offers the facility to exchange Patterns by dragging and dropping one Pattern key on another. You can also copy a Pattern from one Pattern key to the other by holding down [ALT] and [SHIFT] while dragging and dropping.

Please note that this function requires the 'Enable Pad/Pattern Drag & Drop move/swap/copy' option to be turned on in the GURU Options panel.



¹ See section 7:4 for more details on this function.

Exporting Patterns as MIDI files

GURU allows a very convenient way of exporting Patterns as MIDI files. Velocity and Shift Graph information are used in the creation of the MIDI note data. All other Graphs values are exported as MIDI controller data.

Exporting a Pattern to disk

Simply click a Pattern key and drag it to a writable location on your system (for example, the desktop, a folder window, etc).

Exporting a Pattern to your sequencer

If your sequencer supports drag and drop of MIDI files, you can export Patterns directly to your sequencer's arrange page by clicking and dragging the relevant Pattern key.

Controller numbers for Graphs in exported Patterns:

11 Pan •

- 12 Filter Cutoff •
- 13 Filter Resonance
 - 14 Coarse Pitch
 - 15 Fine Pitch
 - 16 Repeat •
 - 17 Scrub •

CHAPTER SIX Working with Graphs

Graphs offer a variety of ways to bring your loops and sequences to life by automating parameters, allowing everything from automating level and pan to extreme soundmangling and time-shifting in order to modify the groove or timing feel.

Graphs are step-based: their values are applied at the onset of a note in the Pattern. They are not realtime automation systems which change values within one step. If you require realtime adjustment of parameters, it is necessary to automate them from your host sequencer, using the colour-based Padand FX-Groups. You can, however, record Graph values using the **Instant Graph Recorder** host automation parameter.

6:1 Graphs view

To access the Graphs view for the current Pattern, click the Graphs button on the GURU toolbar. You can also click the Pad select indicator in order to toggle between Graphs and Pattern views.

The Graphs view in fact contains 2 views which appear in the GURU LCD: the Graphs Select view (the default Graphs view) and the Graphs Edit view.



The Graphs Select view is actually an extension of the Pattern view. You can edit the Pattern as normal (including being able to use draw and select modes, as well as change the mode, pages and steps values), but the area normally covered by the Pattern view is compressed horizontally to make room for the Graph selector matrix.

Each node on the matrix represents one of 4 Graph types – Level, Pitch, Filter or Repeat – on each Pad lane of the Pattern. Clicking on a node toggles between the Graphs Select Pad select indicator

and Graphs Edit views for the corresponding Graph type and Pad lane. The node will be highlighted to indicate that it is beina edited.

The matrix also serves as a convenient overview to indicate which Pad lanes have active Graphs, as each matrix node is permanently highlighted when any events exist within any sub-Graph in its respective Graph type.

You can click the Pad select indicator arrow to return to the Pattern view.

Graphs Edit view Pattern overview tabbed sub-Graph selector Graph edit area ок REPEAT PITCH FILTER LEVEL OK to exit back to Graphs

The choice of tabs available in the tabbed sub-Graph selector varies according to the Graph type. These tabs allow you to select a sub-Graph of the Graph type for editing.

The Pattern overview lets you edit notes in a Pattern as you would in the Pattern and Graphs Select view, but only in Draw mode: Select mode is not available. The Mode, Pages and Steps values can be edited.

You can exit back to the Graphs Select view by clicking the large OK button, or by clicking the same matrix node again.

Clicking any other matrix node jumps to the respective Graph type/Pad.

Clicking the Pad select indicator arrow takes you back to the Pattern view.

Editing events in a sub-Graph

You will notice that the Graph editor area follows the stepbased approach of the Pattern view. Instead of notes, however, Graphs show parameters represented as bar graphs. The Background of the Graph will reflect the colour associated with the Pad type – blue (kick), red (snare), yellow (hihat) or green (perc).

select view

• Clicking in the Graph edit area will cause the relevant step's value to jump to the mouse cursor. You can then drag up and down in order to further adjust the value. Clicking and dragging left/right will result in the mouse 'painting' values across multiple steps.

• [CTRL]-clicking returns the step in the Graph to the default value. You can [CTRL]-click and drag left/right in order to do this to multiple steps.

• [SHIFT]-clicking 'fixes' the mouse's vertical position, so you can paint the same value across multiple steps by clicking and dragging while holding down [SHIFT].

• Holding down the [ALT] key while clicking and dragging allows you to shift the Graph's events vertically and horizontally. The graph will 'wrap' horizontally, but if you release the mouse button after points in the Graph have exceeded the vertical boundaries of the Graph edit area, these values will be lost (they will be 'cut' by the vertical boundaries of the Graph edit area).

Some sub-Graphs behave slightly differently from the Velocity example in the screenshot above: some have positive and negative values, while others may have stepped values, and so on. The next section goes into each sub-Graph in detail.

It is worth noting that Velocity is a very special type of sub-Graph: any changes to the velocity of a note made by clicking on it and dragging up/down in the Pattern view will be reflected here, and vice versa. It is also important to note that if a note is deleted in the Pattern view draw mode, its Velocity graph value will not be affected: when you add a new note on the same step, it will have the same velocity as the previous note.

The Shift Graph is very important in several other functions in GURU, such as Score mode, unquantized Recording and advanced Groove operation.

Graphs are designed to be used on GURU's internal Patterns. However, all Graphs will affect notes from your MIDI sequencer too, with the exception of the Repeat and Shift Graphs.

Instant Graph Recorder

One of GURU's Host automation parameters¹ can be used to record live into the currently viewed Graph! Simply automate the **Instant Graph Recorder** parameter from your sequencer while in Graphs Edit view.

¹ See section 11:4 for more details on host automation.

6:2 Graphs reference

Level Graph type

This Graph type contains 2 sub-Graphs – use the tabbed selector to choose between them:

<u>Velocity</u>

Represents the velocities of notes.

This Graph is a special case, in that it is possible to edit its events away from the Graph view, by clicking and dragging notes up and down in the Pattern view to change their velocities. Any velocity changes made to a note in the Pattern view will be reflected here, and vice versa.

This Graph is unidirectional: the minimum value (0) is at the bottom, and the maximum (127) at the top.

• <u>Pan</u>

This Graph affects a Pad relative to the Pan setting in the Pad Edit view. Therefore, if a Pad layer has been set to hard-left in the Pad Edit, then a hard-right Graph value would result in the layer being panned to the centre.

This Graph is bi-directional: the minimum value is along the centre of the y-axis, with hard-right at the top and hard-left at the bottom.

Pitch Graph type

As well as affecting the pitch of samples on Pad layers, Pitch Graphs are also used to determine the pitch of the Oscillator Pad effects. With the use of Pitch Graphs and Osc effects, you can effectively write basslines and other melodic sequences in GURU.

Pitch Graphs are created when using the 'Map Pad chromatically to 16 Pads' option in the Guru Options panel. This option is perfect for playing in melodic sequences live.

The Pitch Graph type contains 2 sub-Graphs:

• <u>Pitch</u>

This Graph represents coarse pitch, stepped in semitones.

The Pitch Graphs are relative to the Pad's tuning setting in the Pad Edit view.







This Graph is bi-directional: the root pitch is along the centre of the y-axis, while the top is an octave higher than the root pitch and the bottom is an octave lower.

• <u>Fine</u>

This Graph is for fine pitch adjustments, smaller than a semitone.

The Pitch Graphs are relative to the Pad's tuning setting in the Pad Edit view.

This Graph is bi-directional: the root pitch is along the centre of the y-axis, while the top is a semitone up and the bottom is a semitone down.

Filter Graph type

The Filter graph type also contains 2 sub-Graphs, which control each Pad layer's internal filter.

- Filter Cutoff
- Filter Resonance

These values are absolute: they override the Pad's filter cutoff and resonance settings in the Pad Edit view.

They are both uni-directional: the minimum value is at the bottom of the Graph, while the maximum value is at the top.

Repeat Graph type

Finally, the Repeat graph type contains 3 sub-Graphs:

• <u>Repeat</u>

This Graph function repeatedly triggers a Pad a variable amount of times within one sequencer step. It's great for drumrolls and glitchy/timestretchy effects. When it is used, any notes affected will be displayed in the Pattern view divided into segments, as shown in the screenshot. This Graph is stepped.

This Graph is uni-directional: minimum values are at the bottom of the y-axis, while maximum values are at the top.

Please note that this Graph does **not** affect MIDI notes playing into GURU from your sequencer.







• <u>Shift</u>

This Graph type Shifts the play position of a Pad forward or back between adjacent steps. In other words, it will make a Pad trigger later (values higher than 0) or earlier (values below 0). It's great for programming 'swing' and syncopation into your Patterns. Shift Graphs are created when performing unquantized Recording, or when using Score mode in the Loops Browser with unquantized loops. When creating Shift values in this way, the relevant values will appear on the Pad lanes with whose notes they are associated.

This Graph type is bi-directional: no Shift takes place at the centre of the y-axis, while the top of the y-axis represents a Shift all the way forward to the next step, while the bottom of the y-axis is a Shift all the way back to the previous step.

Please note that this Graph does **not** affect MIDI notes playing into GURU from your sequencer.

• <u>Scrub</u>

This changes the start point of the samples on a Pad. It is perfect for glitchy, disturbed audio effects.

This Graph type is bi-directional: the normal start point defined in the Pad Edit view is used as the centre of the y-axis, while values above the centre move the start point later in the sample, and values below the centre move the end point earlier in the sample.

If you draw this Graph by clicking, then holding the [ALT] key and dragging, the values will be quantized to $16^{th}s$.



Shift Graphs can be at their most effective when used in a subtle way. Sometimes the most floor-shaking Grooves have a minimal, but nevertheless distinctive, use of syncopation.



CHAPTER SEVEN Sequencer Master section

The Sequencer Master section handles several features in GURU:

- 1. Display of the current Engine, Pattern and Pad numbers.
- 2. Control over the following for each Engine:
 - Solo
 - Mute
 - Volume ([CTRL]-click to reset to default)
 - Tuning ([CTRL]-click to reset to default)
 - Tempo
 - Groove
- 3. Control over recording Patterns into GURU.

7:1 Sequencer Master display



The Sequencer Master display shows the current Engine, Pattern and Pad names. This display also shows a readout of the Engine Pan parameter when adjusted in the Mix view.

Naming Patterns

If you click on the Pattern name in the display, you can name the current Pattern, via the dialog box that appears.

7:2 Tempo control & Tempo multiplier ratio

When using Engine 1, the Tempo control displays the host tempo in Beats Per Minute. If you are using GURU as a plugin, this will follow the host tempo. However, if you're using the standalone version of GURU (or if you're using a host which does not support tempo-sync), it is possible to set this value manually by clicking and dragging it up and down.

If you look at the Sequencer Master display for engines 2-8, you will notice that the tempo control becomes a ratio, rather than an absolute tempo. This ratio is like a fraction: it multiplies the base tempo (i.e., the tempo of Engine 1). Each number in the ratio can be clicked to decrease it and [CTRL]-clicked to increase it.

With the tempo multiplier ratio set to 1/1 (or, indeed, 2/2 or 3/3 for example), the Engine's Patterns will play back at the same tempo as Engine 1. If the ratio is set to 1/2, that Engine's Patterns will play back at half the tempo of Engine 1. If the ratio is set to 2/1, it will play back at double the speed of the first Engine.

When a Pattern is played back, it is looped according to the tempo multiplier ratio. Therefore, if Engine 1 and 2 are set to the same number of Pattern steps, and Engine 2's tempo ratio is 1/2, Engine 1's Patterns will have played through twice in the time Engine 2's Pattern take to play once.

It is possible to set the ratio to anything from 1/8 (an 8^{th} of the tempo of Engine 1) to 8/1 (eight times the speed of Engine 1). Of course, any ratio between these values can be set.

In this way, it is possible to experiment with loops to create interesting polyrhythmic grooves. It can be very useful in conjunction with sparser or shorter loops, and is a limitless source of new sonic ideas.

SEQUENCER MASTER
MSENGINE 2 PATTERN: Pattern 1 PAD: Empty
VOL () TUNE () BPM: 1/1
Tempo multiplier ratio in Engines

2-8, or tempo control in Engine 1.

You can control the tempo multiplier for Engine 1 via the 'Eng.1 Tempo Numerator' (left number) and the 'Eng.1 Tempo Denominator' (right number) host automation parameter. In fact, all Engines' tempo ratio can be automated in this way.

7:3 Recording Patterns

GURU offers a very intuitive means of recording Patterns using live input. You can record into GURU with the following methods:

• Clicking the on-screen Pads with the mouse.

• Playing an external MIDI controller (for example, a keyboard or set of drumPads).

Record-arming

After loading an Engine with sounds, select the Pattern onto which you wish to Record. Then, click the Record button on the Sequencer Master section of the GURU interface. The display will inform you that GURU is 'armed' for Recording.

The display also shows two options:

<u>Click on Record</u>

If this is enabled, GURU will play a metronome click while Recording is in progress.

<u>Quantized Record</u>

If this option is enabled, GURU will quantize all input to the nearest step. If the option is disabled, GURU will preserve the timing of your playing, using Shift graph¹ values.

Record mode

You can now do one of three things:

• Press play on your sequencer – this is to be used if you want to Record the Pattern while hearing it in the context of the rest of your host project.

• Press the Play button on the GURU interface – this is to be used if you want to Record the Pattern while only playing GURU.

• Click the Record button again in order to exit Record-armed mode, if you decide you do not want to continue with Recording.

Once you press play (either in your sequencer or on GURU) after Record-arming, GURU will go into Record mode. You can now play your beats in live! If you're currently in the Pattern view, you'll notice that the notes you play appear on the relevant Pad lanes as soon as you enter them. GURU will keep



¹ See section 6:2 for details on Shift Graphs.



cycling through the Pattern, so you can keep playing entering notes.

When you want to stop Recording, you can do one of the following:

• Press the Play button to stop Recording and return to Record-armed mode.

• Press the Record button in order to stop Recording but continue playback. You can enter Record mode again at any time during normal playback by hitting the Record button.

Commit/Undo

GURU offers the Commit/Undo buttons if you want to carry on jamming, without leaving Record mode. If the 'Use MIDI notes for Commit/Undo in Record mode' option is enabled in the GURU Options panel, these buttons are also mapped to MIDI keys, so you won't have to leave your MIDI keyboard! After playing in a part while in Record mode:

• Click the Commit button (or use MIDI note G#2) to make the take permanent. GURU will not leave Record mode, and you can carry on jamming on top of the last take.

• Click the Undo button (or use MIDI note A#2) in order to revert the Pattern back to its state when you last hit Commit (or, if you haven't pressed Commit yet, when you entered Record mode).

Please note that the MIDI note for the Undo button is **only** active during Recording (and if the relevant option is enabled in the GURU Options panel), and not during normal operation.

Record mode options

GURU's Options panel includes a number of options with which to customize Record mode¹. The mapping of MIDI keys to the Commit and Undo buttons has already been mentioned above. Additionally, GURU features the following:

• Ability to map the current Pad chromatically to the Pattern keys during Record mode.

• Ability to map the current Pad to the Pattern keys with scaled velocities during Record mode.

• Ability to disable velocity-sensitivity during Record mode.



¹ Consult sections 9:1 and 9:4 for further details on the Record mode options. • If you enjoy jamming with the on-screen Pads, you can make them velocity-sensitive, with the highest velocity at the centre.

7:4 Using Groove

GURU's Groove functions offer a very flexible way of manipulating the 'feel' of your sequences. It is similar to the 'Swing' or 'Shuffle' function in drum machines, although it takes the concept much further. In GURU, a Groove has 2 elements: timing information and velocity information. These let you apply Groove to the timing of the notes in your sequences, as well as to their velocity.

Each Engine has its own Groove settings, adjustable using the Groove controls just underneath the Sequencer Master.

Groove controls

Please note that holding down the [ALT] key while adjusting any Groove control will result in the same parameter being adjusted across all 8 Engines.

Groove selector

Click and drag up and down on this small window in order to select from the available Grooves. You can also [CTRL]-click this in order to bring up a menu of Grooves.

Groove timing amount

This knob adjusts the amount of Groove timing deviation to be applied to the current Engine's Patterns. If you hold down the [ALT] key while you adjust this control, it will be adjusted to the same value for all Engines.

Groove velocity amount

This knob adjusts the amount of Groove velocity deviation to be applied to the current Engine's Patterns. Again, if you hold down the [ALT] key while adjusting this parameter, it will be adjusted to the same value for all Engines.

Please note that this control will not have any effect when you use a Groove created from Shift Graphs (see below).



Groove selector

Groove and Shift Graphs

GURU has a very useful feature which creates timing Grooves from Shift Graphs¹. This is a great way of synchronizing different Engines to the same feel.

[CTRL]-click on a Pattern key to bring up the Pattern context menu², which includes the 'Create Groove from Shifts...' item. When you click this menu item, you will be prompted for a name for the Groove. After you've entered a name and clicked OK, the new Groove will become available in the Groove selector. These Grooves are always saved for future use. When creating a Groove from a Shift Graph, GURU will take an intelligent average of all the Shift Graphs in the various Pad lanes in the Pattern.

The 'Create Groove from Shifts...' function offers many possibilities, as Shift Graphs are used elsewhere within GURU for timing-oriented functions. Firstly, they are created in Record mode (when the 'Quantize Record' option is disabled) in order to preserve the timing of your realtime input. They are also used in the Browser's Score function, when recreating the timing of a loop in the imported Pattern. Using these Shift-based functions with 'Create Groove from Shifts' allows you to create a limitless library of Grooves, ready for use in your current GURU session, or at any future time! ¹ See section 6:2 for more details on the Shift Graph.

² See section 5:2 for more details on the Pattern context menu.



CHAPTER EIGHT Working with Engines

8:1 Engine controls in GURU toolbar

Engine selectors

The GURU toolbar contains selector buttons for each of the 8 Engines, in order to select the current Engine to edit. Any Engines not containing sounds are 'greyed out' to indicate this. Engines containing sounds are brighter, while the current Engine is highlighted.

Engine activity display

Next to each Engine selector button, there is an activity indicator, which represents any currently playing Pattern events in the Engine. If you mute the Engine, this indicator turns yellow (no Engine activity is displayed), while if you solo the Engine, it turns green (Engine activity is displayed if it exists).

Please note that this is not a VU meter: it is a representation of the events playing in the Engine. The 'amplitude' of the 'meters' represents the velocity of notes playing in the Engine. You **must** have sounds loaded onto the Pads in an Engine for the activity display to function when the Pad is triggered.

8:2 Aux Effects View



You can edit the Aux Effects for the current Engine by clicking the Aux Effects button on the GURU toolbar. Each Engine has 3 Aux Effects slots available, in which any effect from the Engine effects group can be used.

Cycle through the available Aux effects by clicking the selector buttons, or [CTRL]-click on the effect name in order to bring up a menu. If you hold down [ALT] while you select an effect, it is selected for the same slot in all Engines.





FREEZER •

See section 9:2 for full details on the Engine effects.

Settings are saved for effects in the same slot during the current GURU session, so you can safely try out alternative effects or use the Bypass setting. Only the active effect's settings are saved with your host project, or in a GURU bundle.

Whenever an Aux effect control is moved, a readout appears next to the effect selectors, displaying the parameter value.

Please refer to the signal flow diagram in section 11:1 for details on how these effects are mixed in the GURU signal path.

8:3 Mix View



The Mix view consists of 8 'channel strips', as well as the Insert effect area below them. The Mix view insert area displays the Engine insert slot for the currently selected Engine channel or, if the Master channel is selected, the Master insert slot.

Engine channels

Click on an Engine channel in order to select it as the current Engine (you can also use the Engine selector buttons in the GURU toolbar). When you select an Engine, the Mix view insert area displays the Engine insert effect for that Engine.

Any unused Engines' channels will be 'greyed out' in the Mix view, although you can still click on them in order to adjust their settings. When selected, an Engine will be highlighted more brightly than the rest.

Pattern/Pad display

Each engine channel in GURU's Mix view contains an overview display of the currently-playing Pattern and Pads in the Engine. The display is updated constantly to represent which of them are playing at any time. If you ever feel the need to see some dancing lights when using GURU, this is where to look.

Mute/Solo

These buttons mute and solo the entire Engine. These are the same controls which are available during other LCD view modes, located on the Sequencer Master display.

<u>Pan</u>

This control pans the entire Engine left/right. A readout of the pan value appears in the Sequencer Master display when it is adjusted.

<u>Tune</u>

The Tune control allows you to adjust the tuning of the entire Engine. This is the same parameter which is available during other LCD view modes, located on the Sequencer Master display.

Volume fader & meter

The volume fader allows you to adjust the volume of the entire Engine. It is the same parameter which is available during other LCD view modes, located on the Sequencer Master display.

The volume meter offers a visual representation of the audio output of the Engine.

Engine insert effects

In addition to the insert effects available per Pad (see section 3:1), GURU allows an insert effect for each engine, which will affect all signals from it. The Mix view insert area will show the currently selected Engine's Insert slot, in which any of the Engine effects can be used.

Browse through the available effects by using the selector buttons, or [CTRL]-click on the effect name for a menu. If you hold down [ALT] while you select an effect, it is selected for the insert slot in every Engine.

Settings are saved for effects in the same slot during the current GURU session, so you can try out different effects knowing that you can return to a previous one. However, only the active effect's settings are saved with your host project, or in a GURU bundle.

Whenever an effect control is moved, a readout appears next to the effect selectors, displaying the parameter value.

Pad activity display



Master channel

The Master channel is the last stage in the GURU signal path. After this point, individual layers are separated out into the sub-Outputs as dictated by each layer's Out parameter in the Pad Edit view.

<u>Tune</u>

This is the Master tune parameter: it adjusts the tuning of all 8 Engines.

Volume fader

The Master level – across all 8 Engines.

Pad type volume controls

These 4 controls adjust the volume of all kicks, snares, hats and percussion in all 8 Engines.

Master insert effect

When you click on the Master channel, the Mix view insert area will display the Master insert slot – the effect you select here will be applied to the entire mix (in other words, on all 8 Engines). Any of the Engine Effects can be used.

Browse through the available effects by using the selector buttons, or [CTRL]-click on the effect name for a menu.

Settings are saved for effects in the same slot during the current GURU session, so you can try out different effects knowing that you can return to a previous one. However, only the active effect's settings are saved with your host project, or in a GURU bundle.

Whenever an effect control is moved, a readout appears next to the effect selectors, displaying the parameter value.

Whenever an effect control is moved, a readout appears next to the effect selectors, displaying the parameter value.

Pad type volume controls



Master volume

8:4 FX Group automation

The eight FX Group automation parameters are provided in order to allow you to control Engine effect (i.e. those in the Engine Aux effects and in the Engine and Master insert slots) parameters. The FX Group works in the same way as the Pad Group automation, discussed in chapter 3. Due to the high number of possible parameters (over 250 in total) for the effects, it was not viable to expose them all as automatable parameters within the host sequencer. Hence the FX Group automation system.

When you click any Engine effect control while holding down the [SHIFT] key, its colour changes to red. Continuing to [SHIFT]-click on the control cycles its colour through orange, yellow, green, light blue, blue, purple and grey, and then back to normal. When you change the colour of a parameter, you are assigning it to an automatable coloured FX Group. You can assign any number of Engine effect knobs to one of the eight Colour groups, which operate across all Engines.

You can assign the same FX Group to a parameter's controls in all Engines by holding down [ALT] while [SHIFT]-clicking on a parameter. Each Engine effect in GURU has 8 parameters.

When you automate an FX Group in your host sequencer, all controls assigned to it will be automated.

Please note that the changes are **absolute**: parameters will change to the incoming automation values, not relative to the existing settings.

8:5 Scenes view

GURU's Scenes view is a performance tool which lets you recall 'Engine Pattern states' by triggering a MIDI note. Say, for example, that you have Engines 1, 2 and 3 playing together, and you like what you're hearing. You can save a 'snapshot' of the currently playing Patterns as a Scene, and then assign it to a MIDI note. You can create up to 48 such Scenes, and recall them with the MIDI notes to which you assign them.

To enter Scenes view, simply click on the Scenes button on the GURU toolbar.





Number of selected Scene

Created Scene without MIDI note assignment

MIDI-assigned Scenes Unused Scene containers

Summary of Scene contents

• Simply [SHIFT]-click on one of the Scene containers to assign a snapshot of the current Patterns in all 8 Engines.You will see a summary of the Patterns which exist for each Engine in the readout on the left.

• Until you assign a MIDI note to a Scene, the MIDI Triggering indicator will read '**muted**', and at the bottom of the readout, the '**[CTRL-click] on Scene for MIDI Learn**' message appears. If you [CTRL]-click on the Scene container, GURU will assign the next received MIDI note to it.

• Once a Scene is assigned to a MIDI note, [CTRL]-click it again in order to delete the assignment.

• You can change Scenes by simply clicking a used Scene container, or by playing the corresponding MIDI note. The Patterns on all 8 Engines will be changed according to the contents of the new Scene.

• To delete a Scene, click it while holding down [CTRL] and [SHIFT].

SCENES	
Selected Scene:	
4	D4 B3 G#3
MIDI Triggering: muted	
Scene Patterns :	
Eng. 1 Pattern 1 COPY Eng. 2 Pattern 1 COPY Eng. 3 Pattern 1 COPY Eng. 4 muted	$\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$
Eng. 5 muted Eng. 6 muted Eng. 7 muted Eng. 8 muted	$\bigcirc \bigcirc $
[CTRL] Click on Scene For MIDI learn	

CHAPTER NINE Customizing GURU: the Options panel

Click on the Options button on the GURU toolbar in order to access the Options panel. The GURU Options allow you to customize many aspects of its functionality and, in many cases, significantly change how it normally works. They are provided in order to allow a little more flexibility for different workflows.

Options are saved with songs, as well as to a preferences file.

9:1 MIDI Options

Pads respond to MIDI velocity

If you choose, you can set Pads not to respond to MIDI velocity by disabling this option – they will always be played at the highest velocity (127) when triggered.

• Selected Pad assigned chromatically to Pattern keys during Record

With this option enabled, the current Pad is mapped chromatically to the Pattern keys (and their MIDI note equivalents) during Record mode. The first Pattern key is 1 octave below the original Pad, with the rest of the keys' tuning increasing 1 semitone with each key (the root-pitched sample is located on the 13th Pattern key, C4).

Events are recorded to the selected Pad's lane in the current Pattern, with Pitch Graph values being generated to recreate the different pitches of the notes entered. This is useful for making melodic sequences, especially using the Osc Pad effects.

When you are in Record-armed and Record modes, the Pattern keys will light up, and you'll be able to hear the pitchscaled Pad over their range when they are clicked/played.

• Selected Pad assigned with scaled velocities to Pattern keys in Record mode

This option maps the current Pad with scaled velocities to the Pattern keys (and their corresponding MIDI notes) during Record mode. The first Pattern key has the lowest velocity, with each subsequent Pattern key having a higher velocity than the last. ON by default

OFF by default

OFF by default

This option will not apply when both the 'Pads respond to MIDI velocity' and 'Pads respond to MIDI velocity in Record mode' option is turned off.

When you are in record-armed and record modes, the Pattern keys will light up, and you'll be able to hear the velocity-scaled Pad over their range when they are clicked/played.

• Pads respond to velocity in Record mode

This allows you to set Pads to be velocity-responsive during record mode, even if the 'Pads respond to MIDI velocity' option is disabled.

Alternative click sound in Record mode

If you find the default GURU click sound (during record mode) not to your liking, you can enable this option to provide a different, softer-sounding click.

• Send click audio signal to sub-output 7

If you enable this option, the Record mode click signal (if enabled on the Sequencer Master display during Record-armed mode) is routed to sub-output 7. This can be useful for certain monitoring situations.

• Use MIDI notes for Commit and Undo in Record mode

Assigns the Commit and Undo buttons to MIDI notes G#2 and A#2 respecitvely, during record mode. This is very useful for recording without leaving your keyboard.

9:2 Audio Options

• Show averaged L/R sample in Pad Edit waveform display

By default, GURU shows an average of the left and right channels when viewing a stereo sample in the waveform display. You can disable this option in order to see the left channel only when you use stereo files.

• Show/snap to zero crossings in Pad Edit waveform display

By default GURU shows zero crossings as white vertical lines when zoomed in in the Pad Edit view, and the start/end markers snap to them. Turning off this option disables this functionality. ON by default

OFF by default

OFF by default

OFF by default

ON by default

ON by default

• Send Pad types to sub outputs 1-4

Enable this to force all kick, snare, hihat and perc Pad signals to sub-outputs 1, 2, 3 and 4 respectively. This option overrides the normal GURU signal path and individual Pad output settings. Aux-effected signals are sent as normal to the master output.

Send Aux Effect returns to sub outputs 5-7

When enabled, this option causes the returns from Aux effects 1, 2 and 3 (on all 8 Engines) to be routed to sub-outs 5. 6 and 7 respectively. All output assignments in the Pad Edit view apply as normal: if any Pad layers are also routed to sub-outs 5-7, they will be mixed with the Aux signals.

• Linear velocity split

By default, velocity splits in GURU use logarithmic curves. Turning on this option results in linear curves instead. Please see section 3:1 ('Layers and velocity splits') for visual examples of both modes.

• Faster meter decay in Mix view

Enabling this option results in a faster VU meter fallback in the Mix view channels.

• Latency compensation (better sync on some hosts)

Certain hosts (for example, Ableton Live) have a slightly different method of reporting time sync information to plugins. If you're using Ableton Live, or any other host in which you are experiencing problems with missed or doubled Pattern notes, especially when changing Patterns or Scenes, then enable this option.

• No Polyphony Limit

By default, GURU has a polyphony limit of 32, in order not to cause problems for users with slower CPUs. You can enable this option if you have a fast CPU.

OFF by default

9:3 Browsing

• Allow drag&drop of binary files as soundfiles on Pads

With this option enabled, GURU allows you to drag arbitrary binary files from your operating system's file browser as raw samples onto Pad layers. This may come in useful if you want to experiment with strange digital noise. You cannot use GURU's own Browser for this: you must use your OS browser (Windows Explorer or MacOSX Finder).

• Quantize imported MIDI files to 16th notes

Enabling this option forces the timing of MIDI files, imported via the Pattern Browser, to hard 16th note divisions (in other words, suppressing the creation of Shift Graph events to represent the original timing). This does not affect Patterns created when using Score mode: if you want to quantize these, simply use the Init Graphs function on the Pattern context menu.

• Preserve Pad Edit settings when loading new sounds

By default, existing Pad insert settings are reset when loading a new sound (hits, loops or kits) onto a Pad in an Engine. Enabling this option results in Pad inserts remaining unaffected when dragging in a new loop.

• Preserve Engine insert effects when loading new loops

By default, Engine insert effect slots are reset when loading a new loop into the Pads in an Engine. Enabling this option results in the Engine insert being preserved when loading a new loop.

• Auto-Play when Auto-previewing in Browser

By default, if GURU is stopped, it will start playing when you click on a loop while in Auto mode. Disabling this option suppresses this behaviour.

OFF by default

OFF by default

OFF by default

OFF by default

ON by default

9:4 Misc

• Velocity-sensitive on-screen Pads (centre = max. velocity)

Switching on this option results in the on-screen Pads sending the highest velocity (127) when clicked at the centre. Lower velocities are transmitted when Pads are clicked towards the edge. This can be especially useful when editing velocity layers without a velocity-sensitive MIDI controller present.

• Always show info in Sequencer Master display

By default, the Sequencer Master display is permanently active. If this option is enabled, everything but the current Engine display and the Mute/Solo buttons is hidden until the mouse is moved over the display.

• Solo track also solos Engine

By default, soloing a Pad in an Engine will result in any other active Engines continuing to play as normal. With this option enabled, clicking solo for any Pad/Pad lane in a Pattern also solos its Engine.

• Exclusive solo for Engines in Mix view

With this option enabled, only one channel can be soloed in the Mix view: if a channel is already soloed, clicking solo on another channel results in the previously soloed channel being taken out of solo mode.

• Lock mouse to fader position in Mix view (less precision)

GURU has the capability of much higher control resolution on faders than is usual, when clicking and dragging. However, the mouse does not lock to the caps of faders, which can be a bit disorienting at first, and is made worse with low quality pointing devices. Therefore this option is enabled by default. Disable this option if you would like higher control resolution when clicking and dragging faders in GURU.

• Click on GURU logo for Panic function (MIDI reset)

Enabling this option turns the GURU logo on the interface into a panic button, sending a MIDI reset when clicked.

• Swap (ALT) and (SHIFT) keys

This swaps the effect of pressing the [ALT] and [SHIFT] keys within GURU.

OFF by default

ON by default

OFF by default

OFF by default

ON by default

OFF by default

OFF by default

• (ALT) key in Pad Edit links only current Pad layers (not all layers in Engine)

By default, holding down [ALT] while adjusting a parameter in the Pad Edit view also adjusts that parameter for all layers in all Pads of the current Engine. Enabling this option results in only the layers in the current Pad being affected.

• Enable Pad/Pattern Drag & Drop move/swap/ copy

Turning on this option results in the ability to move and swap Pads by dragging and dropping one over another, and to copy them by doing so while holding down [ALT] and [SHIFT].

By default this option is disabled, as Pads might be changed by mistake during playing them on-screen, or when clicking on them to select the current Pad. This problem can be made worse when using low-quality pointing devices. OFF by default

OFF by default

CHAPTER TEN Effects reference

GURU's high-quality built-in effects are divided into 2 categories:

Pad Effects

These are only available in the Pad Edit effect slots. Each layer on each Pad in GURU can have its own effect. They are automated using the Pad Group automation system¹.

Pad effects are stripped-down, specialized effects, designed to be simple and quick to use while still offering a wide range of musical settings and possibilities. Each effect unit is limited to 2 adjustable parameters.

Pad effects offer a huge number of sonic possibilities, even to the extent of analog-style synthesis.

• Engine Effects

The Main Effects are available for Engine Insert slots, Aux Effects slots and the Master Insert slot. They are automated using the FX Group automation system².

These are more complex than the Pad Effects – each effect unit has up to 8 parameters to control.

You've probably seen most of these effect types many times before, so excessive descriptions are avoided unless necessary.

¹ See section 3:2 for details on Pad Group automation.

² See chapter 8 for more details on the FX Group automation system, and about Host automation in general.
10:1 Pad Effects

Use the Effect selector buttons in the Pad Edit view in order to scroll through the Pad effects, or [CTRL]-click the effect name for a menu. If you hold down [ALT] while you select an effect, you select it for the same slot in all Engines. Settings are saved for effects in the same slot during the current GURU session, so you can safely try out other effects or use the Bypass setting. Only the active effect's settings are saved with your host project, or in a GURU bundle. See chapter 3 for more details on using the Pad Edit view.

All the Pad effects use values from 0 to 100 on their readouts.

Compressors

- COMP-FF: Fast Fast: 2ms attack, 10 ms release
- COMP-FS: Fast Slow: 2ms attack, 30 ms release
- COMP-SF: Slow Fast: 15ms attack, 10 ms release
- COMP-SS: Slow Slow: 15ms attack, 30 ms release

These are all compressor units, each with a preset attack/decay shape, as shown above. A compressor reduces the amplitude of the signal when it goes above a certain threshold. Each type has the same two controls:

Thresh [Threshold] (-50 dB to 0 dB)

This is the amplitude (level) above which compression (gain reduction) will occur.

Ratio (1:1 to 10:1)

When the compressor is engaged, it will reduce the amplitude of the signal by this ratio.

Waveshaper Distortion effects

- TUBEDRIVE
- OD: tanh (x)
- OD-ASYM: asymmetric
- DIST: 1/(x+1)
- DIST-ASYM: asymmetric
- HALF RECT: half wave rectify max (0, x)
- FULL RECT: full wave rectify abs (x)
- SIN SHAPER: sin (wave)
- TRI SHAPER: tri (wave)

There are 9 types of waveshaper type distortion and overdrive effects in GURU. The end results can vary from subtle crunch and warmth to extreme destruction of audio.

Each waveshaper type has its own character and behaviour. However they all consist of the following 2 controls:

Drive (0 dB to 60 dB)

This is the input gain to the effect, in dB.

Tone (dull to bright)

The tone control is a 6 dB per octave lowpass filter. The brightest tone is achieved at the maximum setting. As the parameter is decreased, more of the high frequency content of the signal is filtered.

Ring Modulators

• SIN RING

• TRI RING

These ring modulators multiply the audio signal of the layer's sample with a sine wave (SIN RING) or a triangle wave (TRI RING), resulting in strange new timbres and harmonics. They both feature the following controls:

Freq (semitones)

The pitch of the sine or triangle wave, in semitones.

Mix (dry to wet)

This control allows you to control the blend between dry (0) and wet (100) signals.

Bit crushing type effects

- BIT-REDUX
- SR-REDUX
- BIT-CRUSH

These effects degrade the resolution of audio, and are perfect for emulating some of the characteristics of vintage samplers and sampling beatboxes, or simply for mashing your sound beyond recognition into the realms of raw digital noise.

• BIT-REDUX

This is a bit-depth reduction effect.

Bits (24 to 2)

This parameter sets the bit-depth between 24 bits and 2 bits.

Mix (dry to wet)

This control allows you to control the blend between dry (0) and wet (100) signals.

• SR-REDUX

This is a sample-rate reduction effect.

Freq (low to high)

The Freq control adjusts the sample rate. At the lowest point, the sample rate is 27.5 Hz, while it is 28160 Hz at the highest setting.

Mix (dry to wet)

This control allows you to control the blend between dry (0) and wet (100) signals.

• BIT-CRUSH

Bit-crush combines bit-depth and sample-rate reduction.

Bits (24 to 2)

This parameter sets the bit-depth, from 24 bits to 2 bits.

Freq (low to high)

The Freq control adjusts the sample rate. At the lowest point, the sample rate is 27.5 Hz, while it is 28160 Hz at the highest setting.

Oscillators (Oscs)

- SIN-OSC
- TRI-OSC
- SAW-OSC
- SQR-OSC
- PULSE-OSC

The Oscillator effects are not strictly effects at all: in fact, they are basic synthesis tools, for creating basslines and beefing up kicks with extra sub bass, or any number of analog-style sounds.

When an Osc effect is selected on a Pad layer, it replaces the sample (although the sample is still used for FM – see below). Therefore, if you want to hear the original sound of the layer, you'll need to create a new layer with a sound on which to insert the Osc. There must be a sample loaded onto the layer for an Osc unit to function.

Sine, Triangle, Saw, Square and Pulse waveform shapes are provided.

These Oscs are affected by pitch modulation from the FX Envelope (with the Pitch depth amount turned up) and from the Pitch Graphs. Therefore, it is possible to create melodic sequences. This can be even more interesting when automating the Pitch Graphs with the Instant Graph Recorder host automation parameter.

While the Oscillators replace the sound of the sample on the layer, the sample does actually interact with the Oscs in a couple of ways.

• The amplitude envelope shape of the sample provides the amplitude envelope for the Osc. It is determined by an envelope follower which tracks the amplitude of the sample. The signal is then routed through the regular Amp Envelope of the layer.

• The Oscs also have an FM (Frequency Modulation) feature, which modulates the pitch of the Osc with the waveform of the sample on the layer. The modulation is shaped by the FX Envelope.

If you consider the signal path of a Pad layer in GURU, you will realize that the Pad effect slot comes before the filter. With this in mind, it should be noted that using an Osc unit turns a layer into a simple 1-oscillator subtractive synth with sample FM. When you layer 8 Oscs on a Pad, and control them with Pitch Graphs, a whole new dimension of sound possibilities are created. All manner of timbres, from fat subs and filter-swept basses to special effects and deep textures are possible.

Each Osc unit has the following two controls:

Freq (semitones)

The basic pitch of the Osc: all Pitch modulation will be relative to this base frequency.

FM-Depth (0 to 100)

This is the depth to which the Osc's pitch will be modulated by the frequency of the layer's sample waveform, shaped by the FX Envelope.

OSC-NOISE

This is a special type of Oscillator which synthesizes noise. It is capable of generating stereo noise, if used on a layer with a stereo sample, and is blendable between pink and white noise. Please note that, due to the characteristics of white noise, it actually 'sounds' mono when in fact it is stereo. You will also experience this psychoacoustic effect if you cut lower frequencies on pink noise.

Noise is useful for drum synthesis: it can be used for snares, hihats, cymbals and other cutting percussion sounds, especially when combined with resonant filtering.

The two parameters are:

Freq (semitones)

The sample-and-hold frequency of the noise generator.

Colour (pink to white)

This control allows you to blend between pink and white noise types.

Equalizers

These are 1-band parametric EQ units.

• HIGH-PASS: 20 Hz to 6.4 kHz <u>Freq (20 Hz to 6.4 kHz)</u> <u>Q [Resonance] (0 to 100)</u>

All frequencies below the Freq value are filtered. The amount of resonance at the cutoff-point is adjustable from 0 to 100.

• LOW-SHELF: 33 Hz to 460 Hz, +-15dB <u>Freq (33 Hz to 460 kHz)</u> <u>Gain (-15dB to +15dB)</u>

All frequencies below the Freq value are boosted or attenuated according to the Gain value.

• LOW-MID: Q 1.0, 40 Hz to 6.4 kHz, +-12dB <u>Freq (40 Hz to 6.4 kHz)</u> <u>Gain (-15dB to +15dB)</u>

The frequencies around the Freq value are boosted or attenuated, according to the Gain parameter. There is a resonance (Q) setting of 1 dB per octave.

• HIGH-MID: Q 1.0, 120 Hz to 18 kHz, +-12dB <u>Freq (120 Hz to 18 kHz)</u> <u>Gain (-15dB to +15dB)</u>

The frequencies around the Freq value are boosted or attenuated, according to the Gain parameter. There is a resonance (Q) setting of 1 dB per octave.

• HIGH-SHELF: 3.3 kHz to 18 kHz, +-15dB <u>Freq (20 Hz to 6.4 kHz)</u> <u>Gain (-15dB to +15dB)</u>

All frequencies above the Freq value are boosted or attenuated according to the Gain value.

• LOW-PASS: 100 Hz to 18kHz

- Freq (100 Hz to 18 kHz)
- <u>Q [Resonance] (0 to 100)</u>

All frequencies above the Freq value are filtered. The amount of resonance at the cutoff-point is adjustable from 0 to 100.

10:2 Engine Effects

Engine Effects are available for Engine insert slots, Aux effect slots and the Master insert slot. Scroll through them using the Effect selector buttons. or [CTRL]-click the effect name for a menu. With the exception of the Master insert slot, if you hold down [ALT] while you select an effect, you select it for the same slot in all Engines. Settings are saved for effects in the same slot during the current GURU session, so you can safely try out other effects or use the Bypass setting. Only the active effect's settings are saved with your host project, or in a GURU bundle.

• DELAY

A stereo delay effect to provide spacious dubby echoes and delays.

Time (units depend on Sync parameter)

The delay time. Depending on the Sync setting, this will either operate in seconds or in BPM sync values, between a 256th to a whole note (including normal, triplet and dotted note values).

Sync (seconds or BPM)

Sets the Time base to either seconds/milliseconds or BPM sync values (following the GURU tempo).

Feedback (0 to 150%)

The amount of the output which is fed back into the input. Larger values result in more regenerations of the delay.

Spread (-100 to 100%)

The stereo spread of the delay. 0 leads to a mono delay, while 100 results in a stereo ping-pong. -100 represents an inverse stereo ping-pong.

Lowcut (low to high)

Controls the frequency cutoff of the lowcut (highpass) filter in the feedback chain.

Highcut (low to high)

Controls the frequency cutoff of the highcut (lowpass) filter in the feedback chain.

Smooth (0 to 100%)

The amount of smoothing applied to delay time changes.

Mix (dry to wet)

Blends between dry (0) and wet (100) signals.

• FLANGER

A stereo flanger (a delay-based modulation effect).

Freq (0 to 5Hz)

The frequency of the LFO used to modulate the Flanger.

Depth (0 to 100%)

The depth of modulation of the Flanging effect by the LFO.

Pos (0 to 15ms)

The minimum delay time possible in the Flanger.

Feedback (0 to 100%)

The amount of the delay output fed back into the effect.

Spread (0 to 100%)

The amount of stereo spread.

Phase (0 to 100%)

The offset between LFO modulation for the left and right channels.

Mode (positive or negative)

This control switches between positive and negative feedback types.

• CHORUS

A stereo chorus (a delay-based modulation effect).

Freq (0 Hz to 5Hz)

The speed of the chorus effect.

Depth (0 to 100%)

The depth of the chorus effect.

Spread (0 to 100%)

The stereo spread of the chorus effect.

COMPRESSOR

Reduces the gain of the signal when it goes above a threshold.

Mode (RMS, Hilbert RMS, Peak, Hilbert Peak)

The peak detection algorithm used to follow transients. *Threshold (dB)* The level above which gain reduction takes place.

Attack (0.48 ms to 2 sec)

The time taken for the compressor to engage.

Decay (0.48 ms to 2 sec)

The time taken for the compressor to become inactive after the signal goes below the threshold.

Ratio (1:1 to 20:1)

The amount of gain reduction applied.

Makeup (-inf dB to 18 dB)

A post-compressor make-up gain control, to boost the volume of the compressed signal.

• REVERB

A reverberation effect, which simulates room reflections of a sound.

Size (0 to 100%)

This control adjusts the room size.

Decay-Time (0 to 100%)

Higher values lead to longer decay times for the reverb tail.

Damp (0 to 100%)

The amount of high-frequency damping that occurs.

Pinch (0 to 100%)

As this control is increased, the simulated room becomes more symmetric.

Squeeze (0 to 100%)

Increasing this control leads to a more metallic sound.

Freeze (off or on)

This control freezes the current wet reverb sound.

Mix (dry to wet)

Blends between dry (0) and wet (100) signals.

DISTORTION

A waveshaping distortion effect, for anything from subtle crunch or warmth to extreme destruction of audio. This is a more controllable version of the Pad effect distortions, with added EQ functions.

<u>Mode</u>

(Off, Tubedrive, OD, OD-Asym, Dist, Dist-Asym, Half-rect, Full-Rect, Sin-Shaper, Tri-Shaper)

This control switches between the different types of waveshaper distortions.

Drive (-10 to 60dB)

The amount of drive applied to the signal.

Eq-Gain (-30 to 30dB)

EQ cut/boost control. This EQ occurs before the drive in the signal path.

<u>Eq-Freq (Hz)</u>

The frequency of the EQ.

HP-Freq (25Hz to 25.5kHz)

An additional post-drive high-pass filter. All frequencies below this value will be filtered out.

LP-Freq (25Hz to 25.5kHz))

An additional post-drive low-pass filter. All frequencies above this value will be filtered out.

Level (-30 to 10 dB)

This is a post-drive gain parameter for boosting or cutting the overdriven signal.

Filter LFO and ENV effects

These are filter units modulated by a built-in LFO or envelope follower. They share the same controls, although each type has different filter modes.

• MG-FILTER-LFO

• MG-FILTER-ENV

A ladder-design filter emulating those found in certain well-known analog synthesizers. The <u>Mode</u> parameter is switchable between 1, 2, 3 and 4 pole lowpass, 2 pole bandpass and notch, and 1 pole highpass.

• SV-FILTER-LFO

• SV-FILTER-ENV

A state-variable filter design, as found on certain other well-known analog synthesizers. 2-pole and 4-pole lowpass, highpass, bandpass, notch, peaking and allpass filters are selectable via the *Mode* parameter.

• PHASER-LFO

• PHASER-ENV

A phaser effect. 2, 4, 6 and 8 pole phasers are available, each with positive or negative feedback, via the *<u>Mode</u>* parameter.

• COMB-LFO

• COMB-ENV

A comb filter effect. There are only 2 possibilities for the *Mode* parameter: positive and negative.

• Filter LFO controls

All the LFO filters share the same control layout:

Freq (-48 to 72 semitones)

The cutoff frequency, tuned in semitones relative to A4.

Res (0 to 100%)

The resonance of the filter at the cutoff frequency.

<u>Mode</u>

MG-Filter: L1, L2, L3, L4, B2, N2, H1 SV-Filter: L2, L4, H2, H4, B2, B4, N2, N4, P2, P4, A2, A4 Phaser: P2+, P2-, P4+, P4-, P6+, P6-, P8+, P8-Comb: positive / negative

Rate (units depend on Sync parameter)

The rate of the LFO modulating the filter cutoff. The units of this control depend on the setting of the Sync parameter. If Sync is set to seconds, the rate is adjustable from 0.03Hz to 128Hz. If Sync is set to BPM, the rate is adjustable from 16 notes to a 256th note, with normal, triplet and dotted note settings available.

Sync (seconds or Beats)

Sets the time base to either seconds/milliseconds or BPM sync values (following the GURU tempo).

<u>Shape</u>

The LFO shape, switchable between Sine, Cosine, Tri-Sine, Tri-Cosine, Arc-Sine, Arc-Cosine, Saw-Up, Saw-Down, Square, Sample & Hold Pink, Sample & Hold Brown, Ramp-White, Ramp-Pink and Ramp-Brown LFO shapes.

Depth (0 to 100%)

The amount of modulation applied to the cutoff frequency by the LFO.

Spread (0 to 100%)

The stereo spread of the LFO.

• Filter ENV controls

An envelope follower tracks the amplitude of the cutoff signal and generates a control signal from this, which can be shaped by attack/decay controls. In the Filter ENV effects, the control signal modulates the cutoff frequency of the filter.

Each ENV filter unit features the following controls:

Freq (-48 to 72 semitones)

The cutoff frequency, tuned in semitones relative to A4.

Res (0 to 100%)

The resonance of the filter at the cutoff frequency.

Mode (L6, L12, L18, L24, B12, N12, H6)

MG-Filter: L1, L2, L3, L4, B2, N2, H1 SV-Filter: L2, L4, H2, H4, B2, B4, N2, N4, P2, P4, A2, A4 Phaser: P2+, P2-, P4+, P4-, P6+, P6-, P8+, P8-Comb: positive / negative

Attack (1.95 ms to 8 sec)

The attack time of the control signal generated by the envelope follower.

Decay (1.95 ms to 8 sec)

The decay time of the control signal generated by the envelope follower.

Type (RMS, Hilbert RMS, Peak, Hilbert Peak)

The type of peak detection algorithm used in the envelope follower.

Depth (0 to 100%)

The depth to which the resulting control signal modulates the cutoff frequency.

Modtype

(stereo +, linked +, stereo -, linked -, stereo +- linked +-)

This control allows you to choose between several types of stereo modulation.

Bitcrusher LFO and ENV effects

• BIT-CRUSH-LFO

• BIT-CRUSH-ENV

These are similar effects to the bit-crushing units in the Pad effects, although they possess built-in modulation features. The samplerate frequency can be modulated by an LFO or envelope follower.

• BIT-CRUSH-LFO

Freq (-48 to 72 semitones)

The Freq control adjusts the sample rate. It is tuned to semitones relative to A4. At the lowest point, the sample rate is 27.5 Hz, while it is 28160 Hz at the highest setting.

Bits (24 to 2)

This parameter sets the bit-depth, from 24 bits to 2 bits.

Rate (units depend on Sync parameter)

The rate of the LFO modulating the filter cutoff. The units of this control depend on the setting of the Sync parameter. If Sync is set to seconds, the rate is adjustable from 0.03Hz to 128Hz. If Sync is set to BPM, the rate is adjustable from 16 notes to a 256th note, with normal, triplet and dotted note settings available.

Sync (seconds or Beats)

Sets the time base to either seconds/milliseconds or BPM sync values (following the GURU tempo).

<u>Shape</u>

The LFO shape, switchable between Sine, Cosine, Tri-Sine, Tri-Cosine, Arc-Sine, Arc-Cosine, Saw-Up, Saw-Down, Square, Sample & Hold Pink, Sample & Hold Brown, Ramp-White, Ramp-Pink and Ramp-Brown LFO shapes.

Freq-Depth (0 to 100%)

The amount of modulation applied to the Freq parameter by the LFO.

Bits-Depth (0 to 100%)

The amount of modulation applied to the Bits parameter by the LFO.

Spread (0 to 100%)

The stereo spread of the LFO.

BIT-CRUSH-ENV

Freq (-60 to 60 semitones)

The Freq control adjusts the sample rate. It is tuned to semitones relative to A4. At the lowest point, the sample rate is 27.5 Hz, while it is 28160 Hz at the highest setting.

Bits (24 to 2)

This parameter sets the bit-depth, from 24 bits to 2 bits.

Attack (1.95 ms to 8 sec)

The attack time of the control signal generated by the envelope follower.

Decay (1.95 ms to 8 sec)

The decay time of the control signal generated by the envelope follower.

Type (RMS, Hilbert RMS, Peak, Hilbert Peak)

The type of peak detection algorithm used in the envelope follower.

Freq-Depth (0 to 100%)

The amount of modulation applied to the Freq parameter by the envelope follower.

Bits-Depth (0 to 100%)

The amount of modulation applied to the Bits parameter by the envelope follower.

<u>Modtype</u>

(stereo +, linked +, stereo -, linked -, stereo +- linked +-)

This control allows you to choose between several types of stereo modulation.

Ring Modulation LFO and ENV effects

• RING-MOD-LFO

• RING-MOD-ENV

These ring modulators multiply the audio signal of the layer's sample with one of several waveforms, resulting in strange new timbres and harmonics. There are two versions, one with the waveform frequency modulated by an LFO, and another in which the waveform is modulated by an envelope follower.

• RING-MOD-LFO

Freq (semitones)

The frequency of the wave, in semitones.

Mix (dry to wet)

This control allows you to control the blend between totally dry (0) and totally wet (100) signals.

Mode (Sin/Tri/Saw/Sqr/Prb/White/Pink)

The shape of the oscillator with which the audio signal is multiplied. Sine, Triangle, Saw, Square, Parabolic, White Noise and Pink Noise are available.

Rate (units depend on Sync parameter)

The rate of the LFO modulating the filter cutoff. The units of this control depend on the setting of the Sync parameter. If Sync is set to seconds, the rate is adjustable from 0.03Hz to 128Hz. If Sync is set to BPM, the rate is adjustable from 16 notes to a 256th note, with normal, triplet and dotted note settings available.

Sync (seconds or BPM)

Sets the time base to either Seconds or BPM sync values (following the GURU tempo).

<u>Shape</u>

The LFO shape, switchable between Sine, Cosine, Tri-Sine, Tri-Cosine, Arc-Sine, Arc-Cosine, Saw-Up, Saw-Down, Square, Sample & Hold Pink, Sample & Hold Brown, Ramp-White, Ramp-Pink and Ramp-Brown LFO shapes.

Depth (0 to 100%)

The amount of modulation applied to the cutoff frequency by the LFO.

Spread (0 to 100%)

The stereo spread of the LFO.

RING-MOD-ENV

Freq (semitones)

The frequency of the wave, in semitones.

Mix (dry to wet)

This control allows you to control the blend between totally dry (0) and totally wet (100) signals.

<u>Mode</u>

The shape of the oscillator with which the audio signal is multiplied. Sine, Triangle, Saw, Square, Parabolic, White Noise and Pink Noise are available.

Attack (1.95 ms to 8 sec)

The attack time of the control signal generated by the envelope follower.

Decay (1.95 ms to 8 sec)

The decay time of the control signal generated by the envelope follower.

Type (RMS, Hilbert RMS, Peak, Hilbert Peak)

The type of peak detection algorithm used in the envelope follower.

Depth (0 to 100%)

The depth to which the resulting control signal modulates the cutoff frequency.

Modtype

(stereo +, linked +, stereo -, linked -, stereo +- linked +-)

This control allows you to choose between several types of stereo modulation.

Parametric Equalizers

- PARA-EQ-CUT
- PARA-EQ-SHELF

• PARA-EQ-CUT

This EQ unit offers 4 bands of equalization.

Low band: <u>HP-Freq (20 Hz to 6.4 kHz)</u> This parameter is a highpass filter – anything below the filter's value will be cut.

Low-Mid band: <u>LMid-Freq (40 Hz to 6.4 kHz)</u> <u>LMid-Q (0.5 to 5.0)</u> <u>LMid-Gain (-12 dB to 12 dB)</u> Frequency, resonance (Q) and Gain settings for the Low-mid band.

Hi-Mid band: <u>HMid-Freq (120 Hz to 18 kHz)</u> <u>HMid-Q (0.5 to 5.0)</u> <u>HMid-Gain (-12 dB to 12 dB)</u> Frequency, resonance (Q) and Gain settings for the Hi-mid band.

High band: LP-Freg (100 Hz to 18 kHz)

This parameter represents a lowpass filter: any frequencies above the filter's value will be cut.

• PARA-EQ-SHELF

This is a 3 band EQ.

Low band: <u>Low-Freq (33 Hz to 460 Hz)</u> <u>Low-Gain (-15 dB to 15 dB)</u> Frequency and Gain settings for the low band.

<u>Mid-Freq (40 Hz to 18 kHz)</u> <u>Mid-Q (0.5 to 5.0)</u> <u>Mid-Gain (-12 dB to 12 dB)</u> Frequency, resonance (Q) and Gain settings for the mid band.

<u>High-Freq (3.3 kHz to 18 kHz)</u> <u>High-Gain (-15 dB to 15 dB)</u> Frequency and Gain settings for the high band.

• TRANCEGATE

The Trancegate is a rhythmic audio-gating effect, The gating pattern is controlled by the last 4 controls in the effect, which each switch between 16 possible 4-note combinations of on and off. Therefore, any 16-step on/off sequence can be achieved.

Depth (0 dB to -inf dB)

The depth of the gating effect: by default, 'off' steps are reduced to -inf dB.

Attack (-1 ms to 500 ms)

The attack time of the gating effect.

Hold (0 to 1)

The hold time of the gating effect.

Release (2ms to 1000 ms)

The release time of the gating effect.

<u>1-4 (1 to 16 bit pattern)</u> <u>5-8 (1 to 16 bit pattern)</u> <u>9-12 (1 to 16 bit pattern)</u> <u>13-16 (1 to 16 bit pattern)</u>

The last 4 parameters in the Trancegate effect define the on/off pattern of the gating sequence. There are 16 possible settings (or 'bit-patterns') for each control. The bit patterns are as follows (0 = OFF, 1 = ON):

Parameter value	Bit-Pattern
1	0000
2	0001
3	0010
4	0011
5	0100
6	0101
7	0110
8	0111
9	1000
10	1001
11	1010
12	1011
13	1100
14	1101
15	1110
16	1111

• FREEZER

The Freezer is a looping tool which allows you to grab the last piece of audio coming into the effect slot and loop it with various options.

Gate (Off / On)

Once the Gate control is turned to the On position, the last buffer of audio (up to 2 seconds) is held and looped, according to the setting of the Length parameter. Moving the control to the Off position releases the held buffer.

Length (units depend on Sync parameter)

This is the loop time for the repeated buffer. Possible ranges are from a 256th note to a whole note (if in BPM Sync mode) or from 1.95 ms to 2 seconds (if Sync is set to seconds). The maximum possible length is 2 seconds.

Sync (seconds or BPM)

Sets the time base to either Seconds or BPM sync values (following the GURU tempo).

Smooth (0 % to 100 %)

This sets the amount of crossfade between the end and the beginning of the loop, which leads to smoother transitions.

Scratch (-1 to 1)

This parameter scales the pitch of the loop just like a record on a turntable, so you can play the loop forwards and backwards and everywhere in between.

Speed (0 % to 100 %)

This parameter moves the start of the loop forwards through the sample. By default, it is set to 0 to freeze the audio, after which you can 'scrub' through the audio with this control.

Jump (0 to 16)

You can make the start point of the loop jump at random around the whole 2-second buffer by multiples (the number of which is defined by the value of this parameter) of the loop length. This parameter will not have any effect unless the Length parameter is set to 2 seconds.

Mix (dry to wet)

Blends between dry (audio signal entering the effect) and wet signals (the 'Frozen' audio). When the Gate is set to Off, a dry signal is always heard.

CHAPTER ELEVEN Technical Reference

11:1 Signal Flow diagram



11:2 Keyboard shortcut reference

• Pad Edit view

[ALT] while changing parameter: Changes parameter for all layers in Engine¹
[CTRL]-click on parameter: Resets parameter to default value¹
[ALT]-[CTRL]-click: Resets all similar parameters in all layers within the current Engine to default values¹
[CTRL]-click on Pad name: Name Pad
[SHIFT]-click on parameter: Assigns parameter to colour automation Pad Group¹
[ALT]-[SHIFT]-click on parameter: Assigns all similar parameters in all layers in current Engine to colour Pad Group¹
[ALT]-click on Lock button: Locks all other Pad types
[ALT]-click on Move L/R buttons: Moves all Pad lanes in Pattern left/right
[CTRL]-[SHIFT]-click on Tune control: Tunes sample up/down to fit current tempo (use for full loops)
[SHIFT]-move end marker: Moves start & end markers simultaneously
[SHIFT]-click & drag on Velocity split display: Adjusts Velocity split distribution [click and drag: Adjust crossfade amount]

On-screen Pads

[ALT]-[SHIFT]-click & drag 1 Pad onto another: Copies Pad [click & drag: Moves/Exchanges Pad(s)] ²

[CTRL]-click on Pad: Accesses Pad context menu

hold down [ALT] while mouse moves over Pads: Coloured highlighting of Pads containing sounds.

Sequencer Master section

[CTRL]-click on Groove selector: Accesses Groove selector menu [ALT] while adjusting Groove parameters: Adjusts Groove parameters for all Engines [CTRL]-click on Volume/Tune controls: Sets to default values [CTRL]-click on tempo ratio denominator/numerator: Increases value [click: Decreases value]

Pattern view/Graphs Select view

hold down [SHIFT] in Draw mode: Enter Select mode while [SHIFT] is held down³
[SHIFT] in Select mode: Return to Draw mode
[ALT]-click on Mode parameter: Sets Mode for all Patterns in Engine
[CTRL]-click on Steps parameter: Decreases number of steps in each page [click = increases steps number]
[ALT]-click on Lock button: Locks all other Pad types
[ALT]-click on Move L/R buttons: Moves all Pad lanes in Pattern left/right
[CTRL]-click on note in Pad lane while in Draw mode: Deletes note [click on empty step: Draws note)
[ALT]-click selection while in Select mode: Copies selection
[CTRL]-click selection while in Select mode: Deletes selection

Pattern keys

[ALT]-click on Pattern key: Selects this Pattern number in all Engines
 [ALT]-[SHIFT]-click & drag 1 Pattern onto another: Copies Pattern [click & drag: Moves/Exchanges Patterns]²
 [CTRL]-click on Pattern: Accesses Pattern context menu

• Graphs Edit view

[CTRL]-click on step of Graph: Resets value to default
 [SHIFT]-click & drag on Graph: Fixes vertical mouse position (i.e. draw same value on multiple steps)
 [ALT]-click & drag Graph: Moves Graph shape horizontally and vertically
 [SHIFT]-[ALT]-click on Graph: Reset current Graph
 click (do not release) then [ALT]-drag on Scrub Graph: Draws 16th step-quantized values on Scrub Graph

Scenes view

[CTRL]-click on created Scene: MIDI Learn [CTRL]-[SHIFT]-click on Scene: Delete Scene

Any effect slot (Pad effect/Aux effect/Engine & Master insert effect)

[CTRL]-click on Pad effect name: Brings up Pad effect selector drop-down menu

Browser

[SHIFT]-click on new Browser tab: Current tab's Browser location is duplicated in the new tab.

¹ with the exception of the sample start/end markers and the velocity split display.

² only if 'Enable Pad/Pattern Drag & Drop move/swap/copy' option is enabled.

³ only if the mouse is moved over the GURU LCD

11:3 MIDI Keyboard layout



11:4 Host Automation Parameters

GURU exposes most parameters to your host sequencer's automation system. Please consult your host/sequencer manual for details on how to use its automation facilities.

Engine Parameters:

These parameters exist for all Engines (there are 8 parameters for each, prefixed by Eng.1, Eng.2 etc.):

- Engine BPM Denominator
- Engine BPM Numerator

These parameters represent the Engine tempo multiplier ratio. Although Engine 1's tempo ratio is not seen on the GURU interface, it can be controlled from your sequencer.

- Engine Groove Time (Groove timing amount)
- Engine Groove Vel (Groove velocity amount)

The Groove parameters correspond to the Groove controls in the Sequencer Master display.

- Engine Master Level (Engine volume)
- Engine Master Pan
- Engine Master Tune

The rest of the Engine parameters mirror the controls on the Engine channels in the GURU Mix view. Please refer to section 8:3 for more details on these.

Global parameters:

These parameters are not per-Engine, they can affect parameters across all 8 Engines.

- Master Hihats
- Master Kicks
- Master Snares
- Master Percs
- Master Level
- Master Tune

Refer to section 8:3 for further details on these parameters.

The following parameters are for the Pad Group and FX Group automation systems, described in sections 3:2 and 8:4 respectively.

Pad Group

- Red Pad Group
- Orange Pad Group
- Yellow Pad Group
- Green Pad Group
- Lt Blue Pad Group
- Blue Pad Group
- Purple Pad Group
- Grey Pad Group

Instant Graph Recorder

• Instant Graph Recorder

This is a unique parameter which allows the currently viewed Graph to be 'recorded' using host automation. You need to be in Graphs Edit view for the particular sub-Graph to which you would like to record, and GURU needs to be in Record mode. As the automation values are fed into GURU, the relevant Graph values are written at step onsets.

- FX Group
- Red FX Group
- Orange FX Group
- Yellow FX Group
- Green FX Group
- Lt Blue FX Group
- Blue FX Group
- Purple FX Group
- Grey FX Group

11:5 Loading and Saving in GURU

Load/Save with the host session

When using GURU as a plugin, its settings will be saved with the host project file. This involves saving all Engine, Pattern and Pad settings, with references to the samples used.

Load/Save a Bundle file

GURU can save the entire contents of the Engine to a GURU Bundle (.GRU files) with the use of the Save button on the toolbar. This is effectively like saving your host project, except all samples are saved inside the file. These Bundles are recalled by using the Load button on the toolbar. This makes it easy to share GURU setups and songs.

Load/Save Kits

The Browser allows you to save Kits (.KIT files) – the entire content of an Engine, minus the Patterns:

- the Pads (including their Pad Edit settings, effects and Aux sends)
- the Engine's Aux FX
- the Engine insert effect as deployed in the Mix view

Please refer to section 2:5 for more details.

Load/Save Pattern/Pattern Set

The Browser also allows you to save the current Pattern (a **.G01** file), or a group of all the current Engine's Patterns into a Pattern Set (a **.G24** file). See section 2:4 for more details.

11:6 Support and Troubleshooting

Authorization problems

If you're having problems authorizing GURU, please try the following measures:

• Ensure you are correctly differentiating between O and 0 (zero), S and 5 (five), I and 1 (one), for example.

• Try to authorize GURU with the standalone version, rather than as a plugin, or vice versa.

The ISOUND STREAM STOPPED! message

Certain sequencers, such as Emagic/Apple *Logic Audio/Express/Pro*, do not process audio instruments when the track is not selected in the arrange page and the sequencer is stopped. If such a circumstance arises, you will see the **!SOUND STREAM STOPPED!** alert in the GURU toolbar, while the Browser, on-screen Pads and the Play button on the Sequencer Master section will be locked and inaccessible. If the sequencer is playing you can perform all functions as usual. This is due to a combination of GURU's architecture and the way that such host sequencers' audio engines operate. It is not very significant as, in these sequencers, you cannot trigger GURU while the host is stopped unless its track is selected on the arrange anyway.

The **!SOUND STREAM STOPPED!** message can also appear when using other hosts which are able to stop playback when in the background, or which have a button which turns the audio engine on or off. Again, in such cases GURU would not be playable anyway.

• Missed or doubled Pattern notes, especially when changing Patterns/ Scenes.

Certain hosts and sequencers (for example, Ableton Live), report time sync information to plugins in a different way to others, with the end result being that some Pattern notes are not played or are doubled, especially when changing between Patterns or Scenes. If you are experiencing this type of behaviour, then go to the GURU Options panel and enable the 'Latency compensation (better sync on some hosts)' option.

GURU FAQ (Frequently Asked Questions)

The GURU FAQ is constantly being updated with the latest technical information on the program. If you cannot find the answer to your problem in this manual, please log into our website at **www.fxpansion.com** and navigate to the GURU FAQ, or use the following direct link:

http://www.fxpansion.com/support-main.php?supopt=supfaq&n=guru

• Registering and downloading the latest version of GURU

It is vitally important to always ensure that you have the latest version of GURU installed, as we are constantly updating the program with new features and performance enhancements. In order to download new versions, you will first need to register your copy of GURU.

If you do not already have a personal user account set up at our website, it is necessary to create one before you proceed. Use the following page to create an account:

http://www.fxpansion.com/support-main2.php?supopt=userreg

Once you've created an account, you can log in and register GURU. Simply click on the **Register Product** link at the small menu at the top-right of the page, and then follow the on-screen instructions to register GURU with your personal serial/license number.

Once you've successfully registered GURU, you can proceed to the Download Updates page where you will see GURU in your list of FXpansion products. Click on it in order to enter the GURU download area.

Obtaining technical support

If you cannot resolve your problem or query by consulting the manual and FAQ, and if the latest version does not resolve it either, then you can make a technical support request.

email: http://www.fxpansion.com/support-main2.php?supopt=supportform

user forum: http://www.kvraudio.com/forum/viewforum.php?f=13

Please note that we need as much information as possible about your problem in order to process your request quickly. If you do not provide adequate information, your query may take much longer to resolve.