

# nerve

a Drum / Loop Sequencer Instrument Plug-In

Version 1.0.0

March 2010

© 2010 Xfer Records

[www.xferrecords.com](http://www.xferrecords.com)

**Nerve Instrument plug-in  
for Windows and Macintosh OS X**

Coding: Steve Duda ([www.steveduda.com](http://www.steveduda.com))

Graphics: deadmau5 ([www.deadmau5.com](http://www.deadmau5.com))

Manual: Steve Duda

*thanks to stevejay for the manual template*

Manual version: Sunday, March 21, 2010

*The information contained in this document is subject to change without notice. In no event shall Xfer Records or the author of this document be liable for any damages arising out of or related to this document or the information contained within it. No part of this document may be reproduced or transmitted in any form or for any purpose without the express written consent of Xfer Records.*

**VST Plugin technology by Steinberg**

VST is a trademark of Steinberg Media Technologies GmbH  
All other copyrighted trademarks belong to their respective owners.

**W W W . X F E R R E C O R D S . C O M**

# 1. Contents

---

<b>2.Introduction.....</b>	<b>6</b>
Getting in touch.....	6
Installing Nerve.....	6
<i>Installing on the PC.....</i>	<i>6</i>
<i>Installing on Macintosh OS X.....</i>	<i>6</i>
<i>Uninstalling Nerve.....</i>	<i>7</i>
First Run.....	7
Host-Specific Instructions.....	7
<b>3.Getting Started with Nerve.....</b>	<b>9</b>
Pads Area.....	9
<b>4.How Data is organized.....</b>	<b>10</b>
Loading Nerve-Specific files.....	10
Loading Audio Files (WAV/AIFF).....	11
Drumkits (.xdk).....	11
Grooves (.xgr).....	11
MIDI Out Map (.xmo).....	12
Pad Patterns (.xpa).....	12
Kit Patterns (.xpq).....	12
Scores (.xps).....	12
Presets (.fxp).....	12
<b>5.Sample Editing.....</b>	<b>13</b>
Waveform Display.....	13
When a One-Shot sample is loaded:.....	13
When a Loop is loaded:.....	13
<b>6.Patterns.....</b>	<b>14</b>
Pattern Editor.....	14
Working with graphs.....	14
Using Hotkeys with graphs.....	15
View All mode.....	16
Step-Mute buttons.....	16

Pattern Length.....	16
Pattern Selector.....	17
Pattern Pages (Bars).....	17
Page Chaining.....	17
Global Switch.....	17
Random Switch.....	18
Recording Patterns.....	18
<b>7.Working With Loops.....</b>	<b>19</b>
Loop Loading Options.....	19
<b>8.Filtering.....</b>	<b>21</b>
SVF Switch.....	21
Cut. Knob.....	21
Res. Knob.....	21
Smooth Knob.....	22
Smooth Type.....	22
<b>9.LFOs.....</b>	<b>23</b>
LFO Delay.....	23
LFO Rise.....	23
LFO Rate.....	23
LFO PWM.....	24
LFO Shape.....	24
LFO Destinations.....	24
<b>10.Pre-calculated Effects.....</b>	<b>25</b>
<b>11.The Repeater.....</b>	<b>27</b>
<b>12.Mixing / Routing / Sidechain Compressor.....</b>	<b>28</b>
Levels.....	28
Offset.....	28
Group (Cut Groups).....	28
Output Assignments.....	29
Ducking / Side-chain Compressor.....	29
<b>13.Menus.....</b>	<b>31</b>
Swing Menu.....	31
Copy Menu.....	32
The “Menu” (main menu).....	33
<b>14.Tips for success.....</b>	<b>36</b>

Advance to new sounds.....	36
Steal a groove and make your rhythms gel.....	36
Get other synths or FX modulating.....	36
Additional configurations for the brave.....	37
<b>15.MIDI IN to Nerve.....</b>	<b>38</b>
MIDI Continuous Controllers (MIDI CC).....	38
MIDI Notes to Nerve.....	38
<b>16.MIDI Out from Nerve.....</b>	<b>40</b>
MIDI Out - (VST version).....	40
MIDI Out - (AudioUnits version).....	40
Sending Notes .....	41
Sending MIDI CC's.....	41
<b>17.Meet the Sound Designers.....</b>	<b>42</b>
<b>18.If you like Nerve.....</b>	<b>45</b>
Lucifer .....	45
vMinion (PC).....	45

# 2. Introduction

---

Nerve is a drum and loop sequencer for creating and altering rhythmic patterns and loops in a compact-but-powerful environment.

Nerve runs inside your host program (e.g. Ableton Live™, Apple Logic™, Steinberg Cubase™, Image-Line FL Studio™, Energy XT™, Reaper™, Mackie Traktion™, etc.) and will sync to this program's master tempo and transport for synchronized playback.

## If you don't like to read manuals..

Even if you enjoy reading manuals, there are tutorial videos at [www.youtube.com/xferrecords](http://www.youtube.com/xferrecords) which cover a lot of Nerve fundamentals!

## Getting in touch

If you experience any problems while using this plug-in, or you just wish to pass on your comments, you can email the developer directly at: [steve@xferrecords.com](mailto:steve@xferrecords.com).

## Installing Nerve

Nerve is available in both PC and Mac OS X versions. It is designed to be used within a host audio application that supports the VST plug-in format (or optionally the AudioUnits format on OS X).

- **Installing on the PC**

Run the "Install Nerve" executable. The installer does not install anything to your registry. It installs the Nerve VST (Nerve.dll) and the additional data folders. You may move the data folders ("Nerve folder and subfolders) to another hard disk. If you move these data folders, Nerve will ask you where they are located when you open the GUI.

- **Installing on Macintosh OS X**

Open the "Nerve VST Installer"

---

As Nerve is an instrument plug-in, it needs to be added on an Instrument/MIDI track in your host. If you are unsure as to how to do

---

this, check the documentation for your host.

---

- **Uninstalling Nerve**

(PC) delete the Nerve.dll plug-in file from your VST Plugins folder. Optionally delete the Nerve folder if you no longer wish to have the sounds.

(OSX) delete Nerve.vst from your VST Plugins folder and Nerve.component from your Components folder. Optionally delete the Nerve folder if you no longer wish to have the sounds.

## First Run

After installing Nerve, it should appear in your VST (or AU) Instruments list in your host program. You add it the same way you add any other Virtual Instrument – see your host programs' instructions.

The first time you add Nerve and open the GUI, you will be prompted to the location of the Data Folder. You should receive a window announcing this, then a file-browser Dialog window will appear with which to select the Nerve Data folder. This is the “Nerve Data” folder on your hard disk which contains the various subfolders (Kits, Patterns, Grooves, System, etc). If you select the wrong folder, Nerve will let you know. In this case, Close + Re-Open the Nerve Plugin window and Nerve will ask again.

After the Data Folder has been located, Nerve will ask you to type in the serial number.

A small word on copy-protection:

We have made the copy protection as unobtrusive as possible. As musicians with a great deal of 3rd party software ourselves, and know how frustrating it can be to switch machines only to realize you need to spend another day re-authorizing a bunch of software, if you even can get it running. The decision was made to leave this software essentially unprotected because we quite frankly don't like dongles and hope to never need to go that route. We hope you appreciate the simplicity, and we hope that you don't abuse our trust by leaving Nerve installed on machines you don't own, or letting people copy it, etc. Software programming is a ton of labor, and though it is a labor of love, we really need the income to continue!

## Host-Specific Instructions

**Logic Audio (OSX):** Insert Nerve on an Instrument track. It should appear under AU Instruments->Xfer Records->Nerve. You will notice there are two options, stereo or Multi-Output(8x stereo). The Multi-Output option requires you create additional Aux channels in Logic, in order to hear sounds on these outputs from Nerve.

Also bear in-mind that the AU version of Nerve sends MIDI out through the IAC bus – it looks for an available CoreMIDI output beginning with “IAC” in the name. Sending MIDI on the IAC bus can cause user

confusion if the track containing Nerve is record-enabled, as Nerve would be sending MIDI back to itself. For this reason, MIDI output from the AU version of Nerve is disabled by default (you will see a checked menu-item inside Nerve's menu->options that reads "Disable MIDI Out AU (IAC Bus)". You may uncheck this item to send MIDI out (and record-enable a different track). Read the "sending MIDI Out from Nerve" chapter for more information.

**Ableton Live** (OSX and Windows): Though not essential, it is recommended that you set the processing buffer size to 256 or less in the preferences->CPU pane. Live 8.0 or later allows for drag-and-drop to Nerve from the Ableton browser which is handy. You may also want to read about the useful Live 8-specific shortcuts in the chapter of this manual titled "Menus".

**FL Studio** (Windows): Go to Fruity Wrapper "Wrapping Setting" which is a gear icon located in the top-left corner of the Nerve GUI window. Click on the Processing tab, and make sure that "Use fixed size buffers" is Unchecked. This feature creates latency and causes minor sync issues (with the metronome but this points to a deeper sync issue). FL Studio will remember this setting for future Nerve use.

**Plogue Bidule** : In Standalone mode, you need to add a Sync Transport device and have Nerve synchronize to this device.



# 3. Getting Started with Nerve

---

## Pads Area

There are 16 pads in Nerve.

Each pad contains:

- (1) Audio Sample  
(WAV/AIFF/REX/RX2)
- Filter Controls (Filter Type/Cutoff/Reso/Smoothing/Smoothing Type)
- LFO parameters
- Pre-calculated Effects parameters
- Output Assignments (Audio/MIDI Note/MIDI CC)
- Mode Setting (Loop or One Shot)
- Volume and Panning Controls
- Pitch + Fine tuning controls
- Timing offset control
- Cut Group assignment
- Amplitude Envelope
- 8 patterns, each pattern with 8 graphs
- Repeater Effect Enable switch (“FX” in repeater)
- Side-chain Compressor Enable switch (target icon)
- Side-chain “Key Listen” option (Key icon)



These features are all documented in more detail later in the manual. However it should be mentioned that these pad-based controls can alt-clicked (option-click OSX) to set the value on all 16 pads at once.

The Selected pad is displayed as blue. Pads will flash the word “MIDI” if there is no sound file loaded but the pad is triggered (you can still use it for MIDI out).

## 4. How Data is organized

---

Here is a list of the various types of data that Nerve reads/writes with a brief description. A more detailed description follows.

1. **WAV/AIFF** Audio Files
2. **Drumkits** (.xdk) – Wave data + WAV Paths + All Pad Settings
3. **Grooves** (.xgr) – Timing offsets for re-use in the Swing menu “user” location.
4. **MIDI Out Assignments** (.xmo) – note and CC output assignments for all 16 pads
5. **Pad Patterns** (.xpa) – all graphs and pages/bars for a single pad.
6. **Kit Patterns** (.xpq) – a “Full Pattern” - all graphs and pages/bars for all 16 pads, global switch.
7. **Scores** (.xps) – all graphs for all patterns on all pads
8. **Presets** (.fxp) – “everything” .. entire machine state of Nerve including audio data. (same data saved automatically when you save a song in your host sequencer)

### Loading Nerve-Specific files

All of the Nerve-specific file types can be loaded or saved from the main Menu (“MENU” button -> LOAD or SAVE submenus). In addition, most of these types can be 'quick-loaded' (no dialog window) by using the 'quick-load' menu at the very top of the plugin. This menu displays “ -- Drumkits --” by default; click the left-right ( < > ) arrow buttons to the right of this display to switch between the various file types. Clicking on the name will bring up a pop-up menu allowing you to select the files in the Nerve Data folder for this type. Clicking the up-down arrows will

select the next menu-entry (preventing you from having to bring up the menu to repeatedly advance through a folder or sub-folder). Files you save to the Nerve Data subfolders will also appear here. You may wish to create your own subfolders in the corresponding Nerve Data Folder on your hard disk (e.g. /Nerve Data/Drumkits/Mine/) for the sake of organization.

## Loading Audio Files (WAV/AIFF)

These can be loaded by:

- Clicking on the “LOAD” button in the lower-right area of the GUI. Use the Up/Down arrows next to this load button to advance through the audio files in the folder. [TIP: You can hold Alt/Option while clicking these arrows, and EVERY pad past the selected pad will also advance to the next/previous sample – this is a great way to effortlessly swap out all sounds for a brand new drum kit!]
- Dragging a WAV/AIFF from a window in the operating system (or from the browser in some hosts, e.g. Ableton Live version 8 or greater) directly on to a Pad
- Dragging a WAV/AIFF as mentioned but on to the Sample Editor area – the audio file will load to the currently selected (blue) pad.



## Drumkits (.xdk)

Nerve comes with a large amount of one-shots and loops that you are free to use in music creations (royalty-free). Some of these sounds are organized in to Drumkits. A Drumkit is a collection of sounds for all 16 pads, and the parameters which go with the 16 pads (volume, filter, LFO, pitch, envelope, etc).

## Grooves (.xgr)

Groove files are timing offsets used within the Swing feature. Loading a .xgr file will make the swing (menu) change to “User” location indicating that you are using a user-created groove. The Swing knob controls how much groove (if any) is applied to all pads.

You can create your own grooves, using the “Create Pattern->User” command found at the bottom of the Swing menu. This command looks at the currently selected pad’s current pattern’s Late graph, and creates a groove from this graph. In the event that the currently selected pad is a

Loop, it will also analyze each loop slice and store this volume information for each step. This way you can get both the timing and levels (total feel) of a loop to affect the parts that you create on other pads.

## MIDI Out Map (.xmo)

Nerve is capable of sending MIDI notes out for any or all pads, each time a pad is triggered from Nerve's built-in step sequencer. Sometimes it is nice to layer or simply use another virtual instrument for the actual sound generation. You can set the MIDI Note Out for each pad in the "Note Out" entry box. MIDI Out Maps allow you to save your current MIDI Note Out assignments to disk for future use.

## Pad Patterns (.xpa)

Sometimes you might find yourself programming the same or similar patterns for different musical works. Pad Pattern files (.xpa) are a way to store the pattern information for a single pad / single pattern. This way you can easily load the pattern in a future session without overwriting the other patterns/rhythms happening on other drum pads. The pattern will load to the currently selected pad's current pattern selection. The pad pattern contains all 8 pages (bars) and all graphs.

## Kit Patterns (.xpq)

Kit Patterns are similar to Pad Patterns (.xpa) except they will save/load all 8 patterns for a given pad. This is useful for storing/reloading a multi-bar pattern, or if you are using patterns as variations, in a future session.

## Scores (.xps)

A Score contains all of the step-sequencer (graphs) data, for all patterns and all pads. It is thus similar to a "musical score" where there are all of the notes, but no actual sounds. A Drumkit plus a Score is essentially everything. Scores are handy if you want to be able to use load all note data in the future with a different drumkit/song project.

## Presets (.fxp)

Presets are the way to "save everything". This is very useful for when you want to save everything exactly as you hear it, to use again in the future or to exchange with another Nerve customer. The .fxp contains all settings and also embeds all used wave data, as well as the paths to the audio files. This is the same file you get from "exporting a cubase preset" from your host program. It is also the same thing which

automatically saves inside your host song file, when you save a song/set/session within your Host program as you normally do.

## 5. Sample Editing

---

### Waveform Display

Below the pads is a waveform display. This area is blank when no sample is loaded. When a sample is loaded you will see a graphic representation of the waveform twice (overview on top, zoomed view on the bottom showing the slice/start point of the waveform).



---

### When a One-Shot sample is loaded:

Clicking in the **top** waveform area (waveform overview) will make a yellow rectangle display. This indicates that you are zooming in/out if you drag the mouse. The yellow rectangle also illustrates what portion of the waveform you are viewing as zoomed in the lower area. Clicking/dragging on an envelope point (white squares on the perimeter of the blue envelope) will allow you to adjust the envelope times.

The lower waveform displays the zoomed in portion of the sound. The blue line in the center indicates the start position for the sample. Clicking in the lower waveform area will adjust the start point for the sample. The start point will jump to the exact location you clicked. If you prefer to slowly change this, you can shift-click (the more you move away from the center line, the faster the start point will change).

### When a Loop is loaded:

The top waveform overview lets you view all slice points for the loop at-a-glance. Clicking the mouse in the top area will select the slice marker closest to your mouse click.

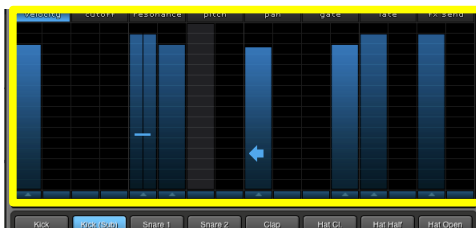
Clicking in the lower area will adjust the start position, quite the same as adjusting the start time for a One-Shot sample in this area (see two paragraphs up).

## 6. Patterns

---

### Pattern Editor

The top half of Nerve displays the currently selected pattern for the currently selected pad.



There are tabs along the top of the Pattern Editor which determine which page of the pattern you are viewing/editing.

### Working with graphs

The graphs display various parameters for the currently selected pads current pattern, listed here from Left-To-Right:

- **Vel/Start** – This graph displays the “note” information for triggering the pad. The vertical position indicates the Level (one-shots) or the Loop Segment (loops) to be played on a given step.
- **Cutoff** – This graph allows you to alter (raise or lower) the filter cutoff for a particular step. This works in conjunction with the Cutoff knob itself. Please note you must have the “Filter Type” enabled in order to hear the effect.
- **Res** – This graph works similar to the Cutoff graph, but for the filter's resonance (Reso. Knob) instead of the filters cutoff frequency

- Pitch – This graph displays the semitone offset for a particular step. When on the Pitch graph, the Pattern Editor's background displays vertical steps representing piano keys on a keyboard to assist you in making simple melodic riffs.
- Pan – This graph allows you to alter a sound's Left-Right panning position for a particular step.
- Gate – This graph works in conjunction with the Gate knob, to shorten the duration that a sound plays for (scales the envelope times).
- Late – This graph allows you to make a step play early or late by as much as 100% in either direction (which would equal the previous/next step). Keep in mind there is the "Timing Offset" parameter as well for each pad, so there is no need to adjust the Late graph equally on all steps.
- FX Send – This graph allows you to send the Pad's sound to the last output pair of Nerve (Stereo Output 8). If the graph is at Zero (no vertical height to the step), there is no send for this step. If the graph is at 50% vertical height, this indicates 100% send amount to Output 8. If above 50%, the dry signal (assigned output) begins to attenuate, so for example a step at 100% on EFX Send will appear only on output 8.

## Using Hot keys with graphs

There are several hot keys that you can use in conjunction with clicking the mouse on the graphs:

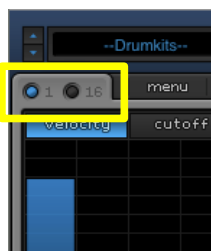
- **Shift**-Clicking will draw a line between the first step clicked and wherever you have dragged to.
- **Alt**-clicking will allow you to access the vertical value in a more fine resolution.
- **Shift-Alt** clicking will nudge the steps for All Graphs of this pattern to the right.
- **Shift-Control (Shift-Alt-Right-click PC)** clicking will nudge the steps for All Graphs of this pattern to the left.
- **Shift-Command (Shift-Control on PC)** clicking will set the current step to its 'default' value (which is 100% for most graphs, with the exception of resetting loop segments to the

appropriate step number, and 'tripletizing' on the Late Graph (adjusts steps 2, 3 and 4 for each beat by 33%, 66%, and 100% respectively to provide a triplet feel)

- **Shift-Command-Option** clicking (**Shift-Ctrl-Alt on PC**) will allow you to set a single step to reverse, or re-trigger multiple times, depending on the height you click on the graph.

## View All mode

If you click the toggle switch along the left of the Pattern Editor to the [16] position instead of [1], you will be able to view a particular graph for all 16 pads at once. The view is now divided into 16 horizontal rows, depicting pads 1-16. Clicking a step will toggle between enabled (at the last set level in this view) and disabled (off). Shift-dragging on a step will allow you to alter the steps value.



## Step-Mute buttons

Along the lower edge of the Pattern Editor graphs are 16 horizontal grey buttons. These buttons will allow you to 'mute' the note steps on this particular step. The result will be the same as erasing the same steps, however this is a handy way to remove steps without losing the velocity information on that particular steps, e.g. to try a more minimal pattern or make minimal variations, without losing the underlying note data.



## Pattern Length

Each pattern has an adjustable start-step and end-step. Thus each pattern can have its own length. You can assign the start and end steps by dragging the edges of the blue length-bar which draws along the lower edge of the Pattern Editor. If you click-drag on the left, the pattern start step will change. If you click-drag on the right, the pattern end step will change. If you click-drag in the middle, both the start **and** end steps will change, thereby altering which





steps in the pattern play while preserving the previously set pattern length.

## Pattern Selector

In the very top-right area, you will notice a 12 set of small buttons in a row, which is the pattern selector. The currently selected pattern will be displayed in blue. Patterns containing data will be displayed in a light shade of grey. Clicking on a different pattern will make this become the current pattern for all pads. You can alt-drag to duplicate a pattern to another location, handy for creating variations quickly.



## Pattern Pages (Bars)

In the top-right Pattern area, you will notice a 4x2 set of small buttons, which are the page indicators. The currently selected Bar will be displayed in blue. Clicking on a different page will make this become the current Bar-Page. If Global switch is on (Default, see Global Switch below) all 16 pads will now be set to this Bar. You can alt-drag to duplicate a Bar to another Bar page/location, handy for creating variations quickly.



## Page Chaining

A lot of the time a single 'bar' of drums is not enough; perhaps you want a 4-bar cycle. Nerve offers flexibility in this regard, as each pad can have its own chain length (for setting see "Global Switch" below). When the Chain switch is enabled, Nerve will change Bar Pages at the start of each bar, between the first (top-left) pattern and the number of bars selected in the number box to the right of Chain. This is based on your host timeline (bar 1 = pattern 1). The patterns included in the chain will draw white.



If you want a more specific arrangement of patterns, you should do this by sequencing pattern changes in your host sending MIDI notes to Nerve from a MIDI track.

## Global Switch

Sometimes it is nice to have each pad playing



its own independent rhythm. For example you may have a kick and snare pattern which you wish to remain constant on a simple riff, but you may have another percussion pad which you would like to switch between various phrases. The “Global” switch will allow all pads to act independently within a pattern when disabled; in other words each Pad now has its own page selection. When Global is off, the only shared attribute between the different pads’ patterns is the overall pattern itself (Pattern selector bar along the top).

The global switch is perhaps one of the more confusing/Advanced options in Nerve, once you get used to it, it can become very useful. The recommendation is to start things with Global switch enabled when making a beat (so all pads are ‘linked’) and shut it off once you decide you want a particular pad running a separate length (e.g. a snare part which is 8 bars long when everything else is just 2).

## Random Switch

The Random Switch operates in conjunction with having Chain enabled/raised above 1. When the Random switch is enabled, Nerve will pick a page number (within the Chain Length range) at the end of every bar, instead of playing the successive bar in the chain. Random Switch will also operate in conjunction with the Global switch (when global is enabled, all pads with randomize to the same randomly chosen bar. When global is disabled, each pad has its own independent randomly-chosen bar as well as random switch state).



## Recording Patterns

If you select the **Rec** button, any pads triggered (via MIDI, or from clicking on the pads with the mouse, if “trigger on click” is enabled in Options menu, else shift-clicking on them) will get recorded on the current step for that given pad. All notes are quantized to the nearest step. There is an optional metronome which will sound on downbeats during recording (“click” switch directly above the REC button).



# 7. Working With Loops

---

Loop files are useful to create background parts and textures, as well as a source for getting a feel/groove for your beats. Nerve is not designed as a fully-fledged loop player - as it is more intended for creating new loops and beats out of existing one-shots and loops. Therefore, Nerve has been designed to use a bar of a loop as “source material” to playback and/or re-arrange/manipulate in sync.



The Graphs area will now display the 16 slices vertically instead of velocity on the “Vel/Start” tab. A diagonal on this graph from lower-left to top-right (which is the default) will play the loaded loop in entirety. In other words, the lowest row of the graphs area (on “Vel/Start”) represents Slice 1 getting triggered for the corresponding step (in time, left-to-right), and the top-most row of this graph represents Slice 16 getting triggered.

When you load an audio file, they default to “One Shot” as pictured above. Clicking “Loop” will tell Nerve that you would like the currently selected Pad to be a Loop instead. This will reload the sound file as a Loop and change the sample editor to show 16 slice markers in the overview. You can select a slice in the top area of the sample editor, and you can move its position by clicking in the zoomed-in lower area of the sample editor.

## Loop Loading Options

Below the Sample Editor (slice view) are some options for how the loop loads/is loaded. Because a loop file does not have a known BPM (e.g. a 2-bar loop file at 120 BPM is the same length as a 1-bar loop file at 60 BPM) There is a “BPM” indicator directly below the sample editor. This BPM Indicator reads “1x” by default. This 1x indicates that Nerve is assuming your loaded BPM is close to the current BPM of your song. If

you are trying to load a loop which is of a distant BPM, or Nerve has guessed the number of bars wrong, you can change this parameter to have Nerve estimate the BPM half or double, for instance.

Since the BPM of the loop is probably not the BPM of your song, Nerve will time-stretch the Loop upon loading. There are 3 options for this found directly below the Sample Editor when a Loop is set:

- **RESAMPLE:** This will change the pitch of the loop to match your host tempo, much like the pitch of a music changes on vinyl if you speed up or slow down the speed of the turntable. The benefit of this mode is rhythmic accuracy but the downside is pitch-change.
- **SLICE:** The loaded bar of the loop is sliced into 16 equal divisions. Each Slice is then stretched at the end, if needed (if the song BPM is slower than the source loop BPM) or else cut short (if the song BPM is faster than the source loop BPM). The benefits of this mode are rhythmic accuracy and no pitch change, and the downside is a potential choppy-type of artifact that goes with equal-16<sup>th</sup> slicing.
- **STRETCH:** This uses a granular stretch to preserve the pitch while changing the tempo. The downside of this method is a loss of rhythmic accuracy. The upside of this method is preserved pitch. This is probably the best method if you are importing “pitched” or “sustained” sounds like pads or sound effects.

Lastly there is a “Lock” parameter (it will display “Lock” or “Unlock”). When set to Lock, the BPM and Stretching parameters will disappear. Furthermore changing the tempo of the project will not re-stretch or reload the loop file.

”Lock” is useful in several situations:

- 1) when changing tempo (e.g. automating tempo in host) to prevent the sound file from reloading causing CPU spikes.
- 2) Preventing the loop from “re-estimating” the tempo when changing tempo, which can result in a “double-time” or “half-time” feel when the tempo is changed drastically far from the loop source BPM
- 3) If you are, for instance, using “resample” mode and you like this resultant pitch, but wish to change the tempo and still hear the loop this way.
- 4) to guarantee that presets will sound similar if loaded at a different BPM . Therefore if you plan to share a preset with others, or use it in the future at a new BPM, it might be a good idea to set loops to “lock” before saving the preset. If you forget to do this it isn't a big deal – simply set the tempo to the preset BPM (which will display on any pad containing a loop, or automatically set the master tempo when running Nerve Standalone), Lock the loops, and re-save the preset.

# 8. Filtering

---

Each pad in Nerve contains a 2x oversampled State Variable Filter (SVF).

## SVF Switch

The SVF switch is used to engage (turn on) the Filter. Your options are L (LowPass), B (Band Pass), and H (Hi Pass). Clicking the current selection will switch the filter back to OFF.



## Cut. Knob

The Cut knob (Cutoff) is the 'master control' for the Filter. You can set the base frequency for the cutoff with this knob. However the resultant cutoff might be altered by other controls in Nerve, namely:

- Cutoff Graph (if data is drawn in this graph)
- LFO (if cutoff destination is non-zero)
- Smoothing (see below)



## Res. Knob

The Res knob controls the amount of resonance for the filter. Similar to the Cut knob, the Res knob sets the base amount but can be altered by the Res graph, or by the LFO.



# Smooth Knob

The Smooth knob affects how gradually the Filter cutoff will change if and when it is changed. The higher the knob, the more smoothing is applied resulting in a slower 'glide' to the new cutoff frequency.



# Smooth Type

There are 4 types of smoothing available, depending on the Smooth Type you have selected in the Smooth Type display (to the right of the smooth knob):

- Bi (bidirectional) – This is the default. It applies bidirectional / normal smoothing and might be what you would normally use and expect.
- Uni – Unidirectional smoothing. If the new cutoff (e.g. On a graph step) is lower than the current cutoff, the cutoff will glide/smooth as expected. However if the new cutoff is higher, the cutoff will 'jump' to this new value. This is useful for pattern-filter usage where you don't want a particular step/drum hit to begin muffled-sounding.
- Fall – The filter cutoff will instantly begin to fall as soon as a new cutoff value is received. This is useful for getting a '303 style' decay, or for using the filter in a percussive manner.
- Env – The filter cutoff follows the amplitude envelope. The Smooth knob behaves differently in this mode; The higher the smooth knob, the more the envelope is applied to the filter cutoff and inversely, the less of the Cut. Graph is applied.

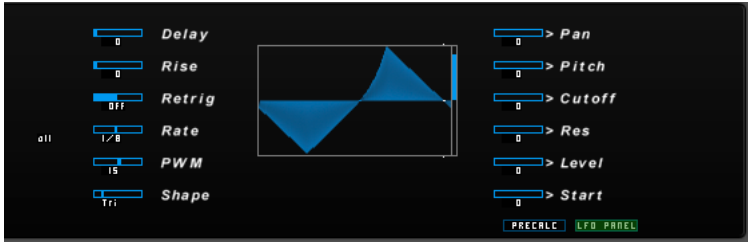


## A word about smooth:

Smoothing applies to the cutoff in all situations; whether it be moving/automating the cutoff knob externally, using the cutoff graph, or using the LFO assigned to cutoff!

# 9. LFOs

---



Each pad has its own LFO which can be used to further sculpt/shape the loaded sound. In addition, LFO's can be used (by routing to Filter) for generating MIDI CC's with which to control other software or hardware.

Show/Hide the LFO Panel (displayed here) by clicking the “LFO PANEL” button.

## LFO Delay

The LFO Delay slider allows you to make the LFO “wait” before beginning when a new note is triggered on the pad. This can be useful for certain applications, e.g. Making a 'terminal vibrato' (a vibrato which only happens near the end of the note).

## LFO Rise

The Rise parameter will “fade in” the LFO depth when a new note is triggered. This is useful similar applications to the LFO Delay parameter, but Rise allows the LFO to “swell in” (enter gradually).

## LFO Rate

The LFO Rate determines the frequency/speed of the current selected pad's LFO.

It has an additional control to the left which determines how the Rate slider behaves. There are 4 options to this additional control: Beat, +dot, +trip, All, and Free.

The first 4 modes are very similar: They all provide a BPM-synced LFO to the master tempo. The various options determine what choices appear:

	<b>mode</b>	<b>Choices</b>
Beat		only equal divisions of a beat (bar, ½ note)
+dot		Beat, also include dotted times (1.5 beats)
+trip		Beat, but also include triplet times
All		Beat, and include dotted and triplet times.
Free		no BPM sync, rate is 'free'

The purpose of the first 4 options is to make it easier to select or automate the desired tempo for your LFO.

---

## LFO PWM

PWM (Pulse Width Modulation) will alter the current selected Shape of the LFO to become asymmetrical to the left or right. You can also Shift-Drag the mouse on the LFO waveform itself to alter the PWM parameter.

---

## LFO Shape

This allows you to choose the shape of the current selected pad's LFO (Ramp/Sin/Triangle/Square/Random).

---

## LFO Destinations

Along the right side of the LFO, you will see various destinations (pan, pitch, cutoff, resonance, level, sample start). These control how much, if any, of the LFO signal is applied to the given destination. If these are all at zero, then the LFO is not assigned to anything and is thus inaudible.

A value in the center ("0") means the LFO has no effect on the given destination. The more you move the slider to the right, the more you will hear the LFO modulating the given destination. If you move the slider to the left of center, the LFO will now be modulating the given destination but in an inverse fashion (if the LFO is positive, then the destination parameter will decrease, and vice-versa).



# 10. Pre-calculated Effects

---

Nerve offers some additional processing abilities of audio in the form of Pre-calculated effects. As the name may imply, these parameters will sculpt the sample when it is loaded. The advantage of a pre-calculated effect is that it takes no CPU load when you are actually playing the song, because it is pre-rendered to sound the way it does. Conversely, there is a disadvantage that there is no way to automate these parameters because they involve reloading the sound file. (You may consider two potential workarounds, one would be mapping the sample to its own output and applying an external Plug-In effect. Another option would be to duplicate the sample to one or more additional pads, and apply different settings).

To access the pre-calculated effects, click the “precalc” button which displays when a sound file is loaded. You will now see the following parameters:

- **Pitch** – Pitch-Shifts the audio signal using Fast Fourier Transform (FFT). The Value displayed is semitones. Unlike the realtime pitch control on the main panel (which operates like a conventional sampler), this pitch-shift offers time preservation, so a sound will not become noticeably longer or shorter.
- **Re-Pitch** – a standard “sampler style” re-pitching of the audio, where a higher pitch will result in a faster speed.
- **Stretch** – Time-Stretches the audio signal using Fast Fourier Transform (FFT).
- **Bend** – applies a PWM (pulse width modulation) to the entire samples' speed, resulting in a pitch-bending effect. A Negative value will bend the sound higher in pitch at the beginning, and bend down to lower at the end. A Positive value will bend the start lower, and sweep up to a higher pitch.
- **Bend Depth** – Determines a skew rate for the Bend Parameter. The default is 50%
- **Soft Clip** – applies gain to the sound, with the loudest portions getting soft-clipped for a less harsh distortion when they exceed maximum sound level.
- **RingMod** – applies an amplitude modulation to the entire sound file, resulting in a tremolo or ringing effect, depending on the frequency (amount of the slider).

- **Bits** – applies a bit reduction. The values are not literal to the amount of bits remaining; they were altered to create more crunchy options than you would get if it was literal bit quantization.
- **SR** – applies a sample rate reduction, a popular lo-fi technique.
- **PWM** – shifts the audio data on the duty-cycle of the waveform, providing a pronounced tonal change to the sound.
- **Snap** – Alters the start of the sound, where the transient usually occurs, providing a more extreme 'punch' or attack to the sound.
- **Spread** – Adds (slider to right) or Removes (slider to left) the center channel audio content (what the left and right signals have in common). Only useful on true stereo sound files, e.g. a drum recorded stereo in a room.
- **Sin, Saw, Sqr, Tri** – re-synthesizes the audio based on the duty cycle (zero crossings) with various waveforms (Sinusoid, Sawtooth, Square, Triangle waves). You can either add/mix (slider to right) or subtract (slider to left) the synthesized signal with the original. 100% to the right produces a 100% re-synthesized sound.
- **Sub** – Synthesizes a subharmonic to go with the original signal via filtering->pitch-track->re-synthesis. Positive and Negative (left and right) on the slider behave similarly but with different Filter algorithms (results will usually vary).
- **Fuzz** – a feedback-based waveshaper effect to add gain and harmonics to the signal.
- **Norm** – Normalizes the audio file (searches for the maximum peak and applies the inverse amount of gain in order to make the sound file maximum amplitude).
- **Reverse** – Reverses the audio file. Useful when you always want to use a sound reversed. Keep in mind that there is a realtime reverse feature as well for when you want an occasional step to play reversed. To access the realtime reverse, shift-option-command click on a step (around 25% vertical scale) in the Vel/Start graph (you will see a blue arrow pointing to the left indicating this step is reversed).

#### Tips:

Hold the Alt key (a.k.a. 'option key' on OSX) while clicking to assign a precalc parameter value to all 16 pads at once.

Hold the Ctrl key ('Command' or 'Apple' key on OSX) while clicking to reset a parameter to its default value.

Hold both of these and click to reset a parameter for all 16 pads at once.

# 11. The Repeater

---

Directly above the “Nerve” Logo you will find the Repeater bar and its associated controls.

The Repeater allows you to manipulate the time position of playback on the pads of your choice, allowing for interesting fills and stutter-type effects.

You can operate the Repeater with the mouse or via MIDI notes to Nerve (see the “MIDI IN to Nerve” chapter for the specific note numbers).



The Repeater Bar ( $\frac{1}{2}$  thru  $\frac{1}{256}$ ) will engage the repeater and you will hear a repeating playback based on the time value selected.

It is worth mentioning that MIDI Out notes will also re-trigger! in other words, the Repeater is not a DSP effect per se, but rather a re-shifting of the playback position.

The Dot and Trip switches (which also can be accessed via MIDI) will alter the repeat time to be 1.5x or 1.6666x, respectively. The Send knob will optionally send the repeating pad(s) signal to Output 8 of Nerve when the repeater is engaged.

The “ON” switch allows you to choose which pads are going to be using the repeater effect. This switch is on (illuminated) for all pads by default.

# 12. Mixing / Routing / Side-chain Compressor

---

## Levels

Nerve has a volume slider for each Pad which will control that particular pad's volume. You will see the exact dB level of attenuation displayed in the lower (text portion) of the Sample Editor window, as you move the slider.



## Offset

To the left of the Level fader is an Offset control. This allows the selected pad's sequencer-event time to be moved early or later. This is useful if you want to make snares early or late in time, for instance (without having to use the Late graph).



## Group (Cut Groups)

Also the left of the Level fader is a Group control. This allows one sound to be “cut”, or silenced by the triggering of another pad with the same group assignment. This is useful for making an open hi-hat get choked from a closed hi-hat event, for instance. If two or pads are set to the same number, they will cut each other when another sound is triggered. You will also notice there are assignments with an asterisk (\*). This indicates that this pad should cut pads with the same group number, but not itself get cut by those pads.



## Output Assignments

Nerve also has an output selector for choosing which of the 8 stereo output pairs the currently selected pad's sound will route to. Please refer to your host's documentation on how to receive multiple outputs from a Virtual Instrument, as this varies in every program.



## Ducking / Side-chain Compressor

Nerve also has a built-in compressor specifically made for side-chaining a signal. This is most commonly used to “duck” certain parts every time another part sounds (most frequently the kick drum).

The “Power” button makes the compressor active for the currently selected pad. Like most every pad-specific control, You can option/alt-click this pad if you wish to set it on/off for all 16 pads at once.



The “Key” button (indicated with an icon of an arrow at the very the bottom of the interface, enabled in this picture) is the manner in which you choose which pad is the “side-chain detection” (input for initiating the gain reduction on the compressor). Only one pad can be the key for side-chain detection at a time.

The Gain Reduction display (small horizontal bar just under the key switch) will indicate how much gain reduction is being applied to any pads which have the compressor enabled as a “target” (target switch, located to the right of the Key switch).

There is a threshold parameter available (blue carat on the Gain Reduction display) which determines the signal level in which the compressor will trigger. The more to the right, the lower the threshold on the Key-enabled channel (thus more compression).

A real-use example would be:

- 1) enable the “Target” switch on the compressor on the pad which is contains the Kick Drum part.
- 2) Disable the “Compressor Enable” on this pad, because we don't need the Kick Drum to compress itself.

- 3) Now make sure the compressor is enabled on every other pad (on by default).
- 4) Now when you press play in your host program, you should see the gain reduction meter illuminating with blue every time the kick drum is triggered. You will hear a gain reduction on every other pads part during this time.

# 13. Menus

---

Along the top of the GUI are three buttons which provide pop-up menus when clicked: “Swing”, “Menu”, and “Copy”.

## Swing Menu

The Swing menu determines which groove will be applied to the patterns which are playing. The following entries appear:



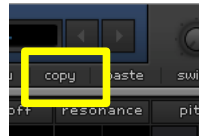
- **Swing** - a standard swing or shuffle feel, where every 2<sup>nd</sup> step is shifted late.
- **Swing 16B** - Standard swing, with a narrow range on the swing knob (0-16.6%)
- **Swing 16C** - Standard swing, with a narrow range on the swing knob (0-33.3%)
- **Swing 16D** - Standard swing, with a narrow range on the swing knob (0-50%)
- **Swing 16E** - Standard swing, with a narrow range on the swing knob (0-66.6%)
- **Bypass** - no swing is applied. This is useful for comparing the sound of things without being forced to turn the Swing Depth knob to zero, which would make you lose your exact depth setting.
- **Subtle** - a two-bar groove feel which has a real drummer element to it. Most steps are shifted late by a small amount.
- **Groove 1** - a half-bar groove with a 'lazy drummer' feel to it.
- **Groove 2** - a one-beat groove feel which offsets every step not on a downbeat (but more on the upbeats to preserve a swing-type feel).
- **Groove 3** - a one-bar swing groove feel with a slightly more rigid-yet-pronounced feel than “Subtle”.
- **Eighths 1** - displaces steps 2,3, and 4 of each beat equally, but leaves step 1 of each beat unaltered by swing depth.

- **Eighths 2** - displaces steps 3 and 4 of each beat equally, but leaves steps 1 and 2 unaltered by swing depth.
- **Triplets** – shifts step2 of a beat late by 33%, step3 by 66% and step 4 by 100%, resulting in a triplet-feel when the Swing Depth is at 100%.
- **User** – applies the user-created (or loaded) groove.
- **Create (Pattern->User)** - Selecting this menu item will have Nerve analyze the timing offsets (LATE graph) of the currently visible pattern and create a groove from this. After Nerve creates the groove, it will automatically select the “User” item for you, so you can instantly hear the result (assuming the swing depth knob is raised).

In the case the selected graph is a loop pad, the level of the audio data in each slice is also 'grabbed' and thus applicable to all other pads at once! This is a unique way to get all of your rhythm parts playing the feel of a drum loop effortlessly, with uncanny tightness.

## Copy Menu

When you click the Copy button, you will get a pop-up menu which allows you to select what type of data it is that you wish to copy. A check-mark will appear by the selected item, which is useful if you forget what is currently copied to the clipboard. You can copy



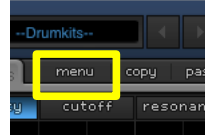
- **Copy This Graph** - copies a single graph (a single tab of a pattern)
- **Copy This Pattern** - copies the current Pattern (all graphs) for the currently selected pad
- **Copy This Pattern (all pads)** - Copies all graphs of the selected pattern across all 16 pads.
- **Copy All Patterns (this pad)** - All patterns for the selected pad are copied to the clipboard.
- **Copy This Pad Settings (Wav etc)** - copies the current state of a pad (wav file, filter settings, volume, pitch, pan, etc). This is useful if you want to duplicate a certain pad to another location (select this item, click the desired destination pad, click the paste button)
- **Copy This Cell and Swap With Pasted** - Similar to the above option, but when you click the paste button the two pads will swap information. Useful if you want to relocate a pad or pads



for organization purposes.

## The “Menu” (main menu)

There are many commands and options here, divided in to sub-menus for the sake of clarity. The Load and Save submenus are for reading and writing the various Nerve File Formats to and from disk (see chapter 4). The Init menu provides a way to initialize/clear particular things or everything, quickly. These should be self-explanatory. However there are a few extra options in the init menu for setting all 16 pad labels:



- **Init Pad Names (suggested)** – This sets the Pad Labels to the suggested names for creating kits which will 'translate' best to other kits. If you are planning to create your own kits and would like maximum compatibility with factory kits, this would be a good feature to use before dragging/loading in your samples.
- **Init Pad Names (default)** – This sets the pad names back to the way they begin when you first load Nerve (Pad 1, Pad 2, etc).
- **Init Pad Names (blank)** – This simply clears all pad names.
- **Init Pad Names (MIDI In)** – This sets the Pad names to the MIDI Note Numbers which trigger the pads from MIDI.

The next submenu in the “menu” menu is “Options”, and is where you will find a variety of preferences and power-user features:

- **Clock Double Speed** – If selected, the sequencer will run double-speed; instead of a step-rate of 1/16th it will now be 1/32<sup>nd</sup>.
- **Linear Envelopes** – By default the envelopes have a logarithmic response in the decay and release portions, as this is how most analog drum synths and acoustic percussion decays. However you may wish to have Linear Envelopes instead which provides a “louder” decay.
- **Rex Score to Blank Ptn Only** – When you load a REX/RX2 file, Nerve by default will dump out the score contents to the currently selected pattern on this pad. This is useful (and the default) because REX files contain slice position (timing) information which can be used to 'reconstruct' how the loop

would sound originally. However you may have a particular loop-rearrangement which you like, and may just want to load a different REX file. In this case, select this item. When enabled, you will see a check mark next to it, and loading a REX or RX2 file will not dump out the score contents to the current pattern, unless the pattern is blank.

- **Auto-Name Pads on File Load** – Each pad in Nerve contains a name label, which be renamed by right-clicking (ctrl-clicking on OSX). This menu option, when enabled, will automatically rename the pad for you based on (a condensed version of) the audio file's name.
- **Embed Audio in Host Preset** – If enabled (default) all wave-data loaded on to pads is bundled inside the Host song file or any Presets that you save. This is very handy for peace-of-mind opening old projects on new computers, or collaborating with others without concern for missing files. Although this wave data is internally data-compressed when it is saved (information lossless, no sound quality loss), it will still make your Host song files considerably larger. For this reason there is the option to disable Embedding the audio. However keep in mind if you change computers you might have a hard time relocating the missing files (Nerve would let you see the old filenames and locations, but will not currently search your hard disks for them).
- **Trigger Pad on Mouse Click** – By default this is enabled, so that when you click on one of the pads on-screen, you hear the sample play. If you find this distracting you can disable it here (and still trigger them if desired by using the Shift key).
- **Show Tooltips in View All Mode** – When you are in the View All (16) mode, you will see the name of the pad that your mouse is hovering over. When you click to adjust the velocities, etc, you will see these values. If you find this information distracting, you may shut it off by unchecking this option.

## COMMANDS SUB-MENU

- **Display Path to this WAV** – Selecting this item will invoke a pop-up dialog window displaying the entire path to the selected pad's audio file. This is useful if you forget where an audio file came from and wish to locate it. The Sample Editor also displays the path, but sometimes a path will be too long to display in entirety in the Sample Editor.
- **Crop To Envelope Length** – Sometimes you might find yourself using a small bit of a longer sound file. It is nice in these circumstances to be able trim-away the unused material before or after the envelope. This command does just that – it discards audio data before and after the envelope area. This does not destructively change any audio files on hard disk – it simply discards the excess areas from RAM. Note that you will

receive dialog messages telling you the operation is not possible if you are currently using Bend, Pitch, or Stretch effects in the PRECALC area. This is because these effects will sound different after such a crop feature, and the assumption is made that you don't wish things to sound different.

- **Crop All Pads to Envs** – Same as above, but for all 16 pads at once.

If you are running Ableton Live version 8 or greater, there are a couple additional menu items which will magically appear in the Nerve Options submenu. These were added for personal desire and may or may not be useful to you. Please note it is probably a good idea to stop recording if you currently are before using these, or you might get a whole lot of automation data written at the moment you select one of these items:

- **Publish Params (Live 8)** – This is intended to be used when the “Configure” button in Ableton Live's plugin overview is enabled (green). Selecting this menu item will announce all parameters to Live 8. Unfortunately Live8 still has a (perhaps sensible) limit of 128 automatable parameters so you will only see the global parameters and the parameters for the first several pads of Nerve appear.
- **Publish Glob+This Pad** – This is probably the more useful of the two options. This will make all of the 'global' automatable parameters appear in Live 8 (Swing, Master Volume, Compressor Settings, etc). As well as all parameters for the currently selected pad.

# 14. Tips for success

---

## Advance to new sounds

One handy trick with Nerve is to load audio files to all pads based on drum hit-type-categorized folders on your hard disk (or included content) and save this as a default drumkit (or preset). In other words, have a pad with kick drum loaded which is the first file in a folder of kicks, a snare drum loaded which is the first file in a folder of snares, etc. Then you can click the up/down arrows on the Wave Load button to advance through the sounds to create a 'custom' kit. You can alt-click with the first (top-left) pad selected to advance the wav for all pads at once. This is a great way to create/audition a variety of different samples very effortlessly and/or come up with a combination of drum sounds you likely have not heard before.

## Steal a groove and make your rhythms gel

One fairly unique feature to Nerve is the ability to grab the timing offsets and create a groove from these (Swing Menu > Create Pattern).

Try loading a RX2/REX file as the source for this, as Nerve automatically extracts the timing offsets from the Rex file. In other words:

- 1) Load Rex or RX2 File
- 2) Select "Create Pattern->User" from the Swing menu
- 3) Raise the Swing knob. The more the knob is raised, the more the other pads will respond to the level+timing information analyzed from the Rex/RX2 file.

## Get other synths or FX modulating

The LFO's in Nerve offer some flexibility (such as being re-triggered each step, or not) and are good fun to route to other soft synths. To do this, first draw (Vel/Start) steps in the pattern, so that the LFO will play continuously. Next, raise (or lower) the "> Cutoff" slider so that the LFO is controlling the cutoff. Then you want to raise the "CC Out" to the desired CC# to control a particular parameter of your other soft synth. Lastly you will need to route the MIDI from nerve to control

the other soft synth, which is probably the tricky step depending on your host program. It is fairly easy in some hosts (e.g. Ableton Live, where you select "MIDI From: Nerve Track/Nerve" in both MIDI input fields).

## **Additional configurations for the brave**

There is a "Nerve.cfg" file which resides on your hard disk. On Windows this file is located next to the Nerve.dll. On Mac OSX, this file exists in your global preferences folder (/Library/Preferences). You can view and edit this file using a standard text editor if you are so brave. It is strongly recommended to back up the file before doing so, although the Nerve plugin is also capable of recreating this file automatically! You can edit the values in the brackets [ ] to change some things which aren't available elsewhere inside of Nerve. Most of it isn't very useful (the most useful ones are already inside Nerve) but there are some tweaks you can make here. Perhaps the most useful would be assigning the default MIDI Out Note numbers when you add a fresh instance of Nerve (preventing you from having to load a MIDI Out Map from the Load submenu every time, if you are using Nerve with a particular drum software for example).

Please note that you potentially entering 'dangerous waters' by editing some of these config file parameters (such as the FFT parameters) which could change how loading older projects sound, or make projects that other people send you sound slightly different than it did for them. Therefore it is not recommended to edit this file, unless you are really trying to avoid making music.

# 15.MIDI IN to Nerve

---

## MIDI Continuous Controllers (MIDI CC)

Nerve can receive MIDI on multiple MIDI channels.

With regards to MIDI CC's, each MIDI Channel (1-16) controls the corresponding pad (1-16). The CC's react as follows:

CC #	Destination	CC #	Destination
1	--	18	LFO Retrigger Switch
2	Mute	19	LFO Rate
3	Solo	20	LFO PWM
4	Pitch (semitones)	21	LFO Shape
5	Pitch (fine)	22	LFO Phase
6	FX send	23	LFO -> Pan
7	Volume	24	LFO->Pitch
8	Panning	25	LFO->Cutoff
9	Env. Attack	26	LFO->Resonance
10	Env. Decay	27	LFO->Level
11	Env Hold	28	LFO->Sample Start
12	Env. Sustain	29	Sample Start
13	Env. Release	30	Pattern Change
14	Gate	31	Filter Cutoff
15	--	32	Filter Resonance
16	LFO Delay Time	33	Filter Smoothing
17	LFO Rise Time	34	Filter Type (OFF/LP/BP/HP)

## MIDI Notes to Nerve

Sending MIDI notes to the Nerve VSTi allows you to perform a variety of tasks, namely Triggering Samples/Pads, Changing Patterns, and using the Repeater functions.

Nerve has configurable MIDI notes by editing the file Nerve.cfg in a standard text editor (which is located in /Library/Preferences on OSX, and is located next to Nerve.dll in your VSTPlugins on Windows). Saving presets (or songs in your host) will also store these note assignments, in order to preserve backwards-compatibility with any projects using custom note assignments.

Here is a table of how Nerve responds to incoming MIDI Notes by default:

<b><u>MIDI Channel</u></b>	<b><u>MIDI Note</u></b>	<b><u>Function</u></b>	<b><u>comments</u></b>
1	32-33	Repeat Dot/Trip	Modifies repeats
1	34-41	Repeats	
1	48-55	Pattern Change	ALL pads pattern #
1	56	MUTE	Hold this + pad #
1	57	SOLO	Hold this + pad #
1	58	Erase Steps	Hold this + pad #
1	59	Roll Steps	Hold this + pad #
1	60-75	Trigger Pad	60 = "C4"
2	0-127	Change Pattern for individual pad	0-7 = pad1, 8-15 = pad2, etc.
3	0-127	Trigger Pattern for individual pad	Restarts pattern quantized to 16th

# 16. MIDI Out from Nerve

---

Nerve allows you to send MIDI (notes and CC) from any pad.

To enable this, you can assign NOTE OUT: and/or CC Out: fields in the lower-left area of the plugin.

## MIDI Out - (VST version)

The method of routing MIDI from a plugin to another track varies in different host programs. For example in Ableton Live – on the destination MIDI track which you wish to receive the MIDI, in the “MIDI From” area, select the track containing Nerve. In the drop-down menu below this, select “Nerve”:



The image above depicts this routing.

For other hosts, refer to your host documentation for how to route MIDI from a VSTi.

## MIDI Out - (AudioUnits version)

Nerve sends on the last IAC bus installed in your system. Nerve searches for this by name, so make sure that the MIDI Note is named as default (that is, it has a name beginning with “IAC”). You create IAC busses using the “Audio MIDI Setup” application in your Applications/Utilities folder (MIDI tab, enable the IAC Driver object and make sure there is at least one Port enabled).

**The AudioUnit MIDI Out is Disabled by Default:**



There is an Option in the Menu->Options when running the AudioUnit version to enable/disable MIDI out . It is disabled by default due to user-confusion issues with "MIDI loopback" into your host (MIDI sent out of Nerve feeding back to Nerve, which happens for instance in Logic Audio if the track containing Nerve is record-enabled).

Power-Users:

You can edit the Nerve.cfg file (Library/Preferences) with a text editor (e.g. TextEdit) if you want to change the default On/Off setting for MIDI Out. if you wish for the default note out assignments to be different. Set them to zero if you wish for them to be off. Furthermore, you can alt-click on the "MIDI Out:" control in Nerve if you wish to assign all pads at once to the same value (e.g. Off).

## Sending Notes

If NOTE OUT: is assigned, and the pad is triggered from the Pattern, Nerve will send MIDI notes on this assigned MIDI Note Number, and on the corresponding MIDI Channel for this pad. (Please note, as of now some hosts will not accept multiple MIDI Channels **from** a VSTi (e.g. Ableton Live) so you will get all MIDI data appearing on MIDI Channel 1.

Velocities on the left-most graph will be translated to MIDI Velocities for each note. Furthermore the Volume slider for the pad will scale the MIDI velocities.

## Sending MIDI CC's

If "CC Out:" is assigned, Nerve will send a Continuous Controller message (MIDI CC) on the corresponding MIDI Channel for this pad whenever the filter cutoff has changed (enough to be a new CC Value in the 0 to 127 range that MIDI CCs provide). This allows for flexible MIDI CC creation, because you can control the Filter Cutoff from the LFO, the Step Sequencer, as well as optionally the envelope (see Filter Smoothing). Thus it is fast and easy to generate LFO shapes and other CC patterns with which to control soft synths or other external MIDI gear.

# 17. Meet the Sound Designers

---

You will notice folder names which indicate the origin of sounds in Nerve. Many kits/etc in Nerve are prefixed with two letters indicating the sound designer which created the sounds. You can visit their websites by clicking their logo here, or in the "About" window in Nerve (click the Nerve logo to see the splash screen). Here are the biographies in no particular order:

---

UK-based DJ, Producer, and Audio Engineer  
**Dom Kane** first started DJing in 1992 and has shot into the big-leagues the last few years. His sound touches everything from tech-infused



progressive, to downright nasty tech-house, creating a pumped-up robo-funk engineered to destroy peaktime floors with pin-point precision. Whether you need a remixer, producer, or engineer, we here at Xfer would recommend to send Dom and email before he gets too busy.

---

**Sample Magic** is a multiple award-winning sample company making the very best samples across a range of genres, from minimal to chillout, techno to nu-rave. All samples are made in our all-analogue London studio, using the very best audiophile equipment. Samples can be bought as instant downloads at [www.soundstosample.com](http://www.soundstosample.com)



---

**Groove Quantize** is an award winning music production company founded in 2001, specializing in music for film and television



based in Sydney, Australia. The GQ content for Nerve was created by composer Dave Smith, the founding member of Australian electro pop band Boxcar. The samples and loops are derived from Dave's collection of analogue keyboards, beatboxes and numerous live recording sessions.

---

West Coast analog modular synth noodler, **Gunnar Lockwood** has produced electronic music under several names and spanning several genres since 1994. He has collaborated with Kid606, Tit Wrench, and Beem.



---

Founded on a passion for sound design, and experimental processes. **Bitword** seeks to explore, and uncover new sonic textures for use by modern composers.



---

Producer, sound designer, film and game music composer, remix artist **Richard Devine's** career has been distinguished by significant accomplishments in each of these fields and beyond. Devine has released music through several of the world's most revered and progressive electronica labels, including Warp, Asphodel, and Schematic, infusing his creations with a distinctive contemporary ethos that is both subliminal and sublime.



---

Combine House Music and Sound Design and you have created a passion for Producer / Remixer/Sound Designer/Label Owner, **Red-Eye** (Kris Giampa). When he's not working on the the next multi million selling AAA quality Video Game, you can usually find him creating or remixing club music for his associates or his own label Red Session Records.



---

For over 10 years **PowerFX** has been a leading sample developer/distributor who has licensed sounds to Apple, Cakewalk, Yamaha, Sony, Propellerhead, Ableton, Sandisk and can be heard on productions from Jay-Z, Timbaland, Rhianna, The Streets, Thievery Corporation, Discovery Channel, BMW, CNN and hopefully you!



---

**Shabdahbriah** is a semi-reclusive geek, obsessed with bending light and sound. Though both are merely, yet ultimately... frequencies of perception. Shabdahbriah came onboard late in the game to Nerve, but was kind enough to share sound collections from his personal archives.

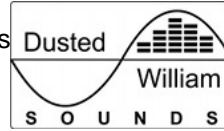


**Noise Inc.** - Project owned by Peter Mohamed. Main focus - sound design, multimedia projects, expression through unique and innovative sounds. contact : noise.inc@mac.com



---

**Dusted William Sounds** is, for the most part, the brain child of Derik White. Derik creates and licenses original songs, samples, presets, and other sound design related products for his own company as well as other electronic music focused entities. Some of his songs and sound have wound up in video games, DVD's, and in the hands of top producers.



---

Layering memorable pop-driven lyrics over the crisp synths and pounding beats of progressive house, Morgan Page has emerged from under the radar. With one GRAMMY®-nominated song and two IDMA nominations (Best Breakthrough Artist and Best Progressive House/Trance Track) in 2009 alone, Producer, Remixer, and DJ **MORGAN PAGE** has firmly established himself as one of the top talents of the next generation of dance music producers.



---

**Genji Siraisi** - Grammy nominated drummer / composer / producer and founding member of Groove Collective, Genji Siraisi is an electronic experimentalist, beat-master and soul-funk drummer. His solo work includes the albums Censorsh!t, Baby Winter and numerous compositions for film and television. He has worked with a wide variety of artists and labels including Tupac, Ultra Nate, Pharoah Sanders, Masters At Work, Curtis Mayfield, Natalie Merchant, Warner Bros, Giant Step, Universal, ExpansionTeam and continues to explore the world of sonic possibilities.



# 18.If you like Nerve..

---

... Xfer Records also make the following software products which will soon be put for sale on the [xferrecords.com](http://www.xferrecords.com) store:

## Lucifer

Lucifer is a blood-red audio effect plug-in that can twist and warp your music into beautiful and deadly shapes. Using the combination of a MIDI keyboard and your computer's mouse, you can trigger repeats, reverse the audio, re-arrange it, scratch it, filter it, distort it, bounce it, and many other effects besides, all in real-time and all in time to the beat.

Lucifer is available in VST plug-in format for both PC and Mac OS X. See the following web page to get the demo version:  
<http://www.xferrecords.com/lucifer>

## vMinion (PC)

LSR (Live Sync Recorder) Free is a free VST audio plug-in that can be used as an insert effect on an audio channel in your host audio application to capture a one or two bar loop of audio. This loop can be very simply saved to disk, or if you are also using Xfer Records, passed directly to that plug-in. If you try LSR Free and like it, be sure to think about buying the Pro version.

vminion is available in VST plug-in format for both PC and Mac OS X. See the following web page to get the demo version:

<http://www.xferrecords.com/vMinion/>

VST is a registered trademark of Steinberg Media Technologies GmbH. All other trademarks are the property of their respective owners.