

# LFOTool

a unique FX / utility plug-in  
for VST or AudioUnit hosts

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**LFOTool Plug-in  
for Windows and Macintosh OS X**

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

# 1. Contents

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<b>2.Introduction.....</b>	<b>5</b>
Registration.....	5
Getting in touch.....	5
LFOTool has no copy protection.....	5
Installing LFOTool.....	6
<i>Installing on the PC (Windows).....</i>	<i>6</i>
<i>Installing on Macintosh OS X.....</i>	<i>6</i>
<i>Uninstalling LFOTool.....</i>	<i>6</i>
<b>3.Connecting LFOTool.....</b>	<b>7</b>
Step 1: Add LFOTool .....	7
Step 2 (Optional/Advanced) Route MIDI to LFOTool.....	7
<b>4.Operating LFOTool.....</b>	<b>9</b>
Working with Graphs.....	9
Graph Edit – Create your own LFO Shape.....	10
Graph Edit – adjusting curves.....	10
LFO Controls.....	11
Rate Control.....	11
Swing Control.....	12
Phase Control.....	12
PWM Control.....	12
Smooth Control.....	13
Snap Control.....	13
<b>5.LFO Routing.....</b>	<b>14</b>
<b>6.SVF (Filter).....</b>	<b>15</b>
L-B-H Switch.....	15
Cutoff Slider.....	15
Resonance Slider.....	15
Preset Menu.....	16
Disk Icon – Save your own presets.....	16
If you don't see any presets in the list.....	16

**7.MIDI Options.....17**  
    Sending MIDI To LFOTool.....17  
    Change graphs via MIDI notes.....17  
    Altering LFO playback via MIDI Notes.....17  
    Sending MIDI From LFOTool (VST ONLY).....18  
    MIDI cc LOCK.....19

# 2. Introduction

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LFOTool is a plug-in which is useful for achieving a variety of FX – AutoPan, Tremolo, simulation of sidechain-compressor 'pumping', and autfilter FX.

LFOTool requires a VST or AudioUnit host to operate – it runs inside your host program (e.g. Ableton Live™, Apple Logic™, Steinberg Cubase™, Image-Line FL Studio™, Energy XT™, Cockos Reaper, Garageband, etc.) .

## Registration

If you purchased LFOTool through Xfer Records, you are automatically registered for free updates.

If you acquired LFOTool from a Beatport promotion (Fish EP on xfer records):

- 1) create an account on [xferrecords.com](http://xferrecords.com)
- 2) forward your Beatport receipt to [steve@xferrecords.com](mailto:steve@xferrecords.com)
- 3) include the email address that you used to create the [xferrecords.com](http://xferrecords.com) under, if it is different than the email address that you are forwarding the beatport receipt from.

## Getting in touch

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

## LFOTool has no copy protection

Here at Xfer we try to make copy protection the last thing to interrupt you from making music, so there is none – however it is not free software! If you happened to acquire this software from a less-than-reputable source, you should be aware this is not free software, but priced to be very affordable to everyone! Support the developer, and he will support you in return!

# Installing LFOTool

LFOTool 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.

- **Installing on the PC (Windows)**

Unzip the .zip file. Place LFOTool.dll in your VSTPlugins folder (or subfolder inside), as determined by your host program. **Place the “LFOTool Presets” folder in the same location as LFOTool.dll** (your VSTPlugins folder, or subfolder thereof).

- **Installing on Macintosh OS X**

Unzip the .zip file. Place LFOTool.vst in the VST Folder of your choice (/Library/Audio/Plug-Ins/VST/). **Place the “LFOTool Presets” folder in /Library/Audio/Plug-Ins/VST or /Library/Audio/Presets/Xfer Records/**

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- **Uninstalling LFOTool**

(PC) delete the LFOTool.dll plug-in file and the LFOTool Presets folder from your VST Plugins folder.

(OSX) move LFOTool.vst from your VST Plugins folder and LFOTool Presets folder to the trash.

# 3. Connecting LFOTool

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## Step 1: Add LFOTool

LFOTool should be added to an Instrument (MIDI) Track. You need to be able to route MIDI to LFOTool so you can have it trigger chords. This is the same procedure you would follow adding any VST Instrument in your host. If you are not sure how to do this, refer to your host documentation or send us an email.

## Step 2 (Optional/Advanced) Route MIDI to LFOTool

LFOTool has some advanced features which allow you to play MIDI notes to control it. For example, if you want to use LFOTool like an envelope or to switch between various LFO routings via MIDI notes, you may wish to Route MIDI to LFO tool.

### MIDI-to-LFOTool Connection, Example: Ableton Live

1. Insert LFOTool on the audio track you wish to process, by dragging LFOTool (or double-clicking it) from the Plugins browser in Live.
2. Create a MIDI Track. This is the track where notes will control LFO Tool.
3. on the MIDI Track, click the “MIDI To” rectangle, and select the track containing LFO Tool.
4. The rectangle below also needs to display LFOTool, which will happen automatically if the destination is an audio track.
5. Click Monitor “IN” on the MIDI track (or record-enable it) to be able to play your MIDI Controller.

See diagram below:



Steps 1, 2 as mentioned above. (Audio Track which contains LFOTool, and a MIDI track for the notes.

3. On the MIDI track "MIDI To, select the track containing LFOTool.

4. select "1-LFOTool" in the rectangle below, if it does not automatically appear.

5. Set Monitor to "In", so our destination track will receive this MIDI.

## MIDI-To-LFOTool, Example: Logic Audio

You can place LFOTool as an effect insert in Logic and use it for basic LFO functionality, however in Logic, there is no method with which to route MIDI notes to the insert-FX plug-in. Because of this limitation in Logic, LFOTool will additionally appear as an "AU Midi Effect" where you typically add instruments:

1. Track menu->New->Software Instrument...
2. Where you normally add an Instrument (e.g. EVP88), select **AU MIDI-controlled Effects->Xfer Records->LFOTool->Stereo**.
3. The LFOTool GUI should appear. In the top-right just above the LFOTool GUI you will see "Side Chain: None". Click here and select the source audio (or instrument) track you wish to process with LFO Tool.
4. Be sure to mute the original track on its fader, so you don't hear the dry signal!

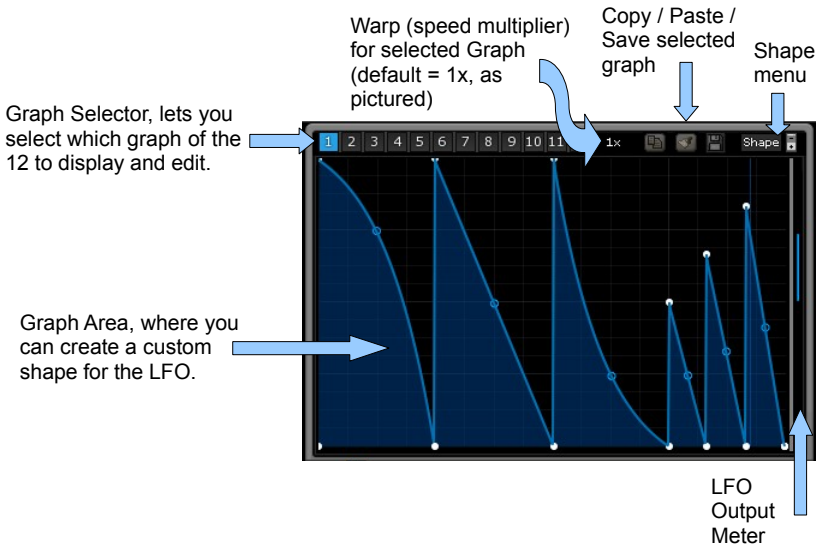


# 4. Operating LFOTool

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## Working with Graphs

The heart of LFO Tool lies in the graph, where you can sculpt a up to 12 custom shapes for your LFO.



The **Graph Selector**, as mentioned in the diagram above, allows you to select which graph to display and edit. Please note: clicking the Graph Selector does not change the sound you hear, it is simply changing which graph you are viewing and editing. To change what you hear, see LFO Routing (the next chapter).

The **Warp Multiplier** allows the current selected graph to play faster or slower than the global LFO Rate. This is useful for having certain graphs which sound fast/slow without having to adjust the global LFO Rate, or avoid drawing a repeating shape pattern across the graph. Please note that the LFO will “restart” at the end of the global LFO Rate time period (slider in the lower-left below the graph).

The **Copy/Paste** buttons allow you to duplicate your graph to other Graph locations (1 – 12). This is useful for creating variations.

The **Save** button (disk icon) allows you to store your own creations to the Shape Menu.

Clicking the **Shape** button will bring up a Menu of preset graph shapes. Selecting one will replace the current-selected Graph with a default shape. This is useful for getting a “starting point” for an LFO shape quickly.

## Graph Edit – Create your own LFO Shape

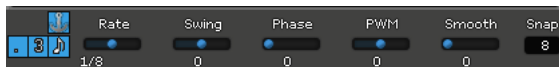
The graph edit area allows you to add/remove points and adjust tension curves:

- Double-clicking will add a point to the graph and the location of the mouse cursor.
- Double-clicking a point (or ctrl-click) will remove the point
- Alt-clicking / dragging will snap a point to the Grid Size.
- Shift-clicking will add points to create a horizontal line segment at the Grid Size.

## Graph Edit – adjusting curves

Each line segment has a curve. A hollow point will be visible if the line-segment is not vertical or horizontal. This hollow point can be clicked to adjust the curve of the segment. Alt-clicking a hollow point will adjust the curve for all segments.

# LFO Controls



These controls adjust how all graphs will get played back.

## Rate Control

This is the LFO Rate, or the amount of time it takes to play the graph. There are four switches to the left of the LFO:



- **Musical Note Icon:** This determines whether the LFO time is based on the Host program Tempo when enabled (on = BPM), or else free (off = Hz).
- **Anchor:** If the aforementioned Musical Note Icon is on (blue), the Anchor will determine if the LFO position is fixed (anchored) to the song position. The difference may not be obvious at first, but if you are adjusting the LFO Rate control with Anchor is on, you'll notice that the position of playback will likely “jump” because LFOTool is anchoring each LFO time to be in-phase. Playback is guaranteed to sound the same each time this way. However, you may wish to be able to change the rate without the position jumping – in this case turn the Anchor off.
- **Dot (.) and Triplet (3) icons:** if the Musical Note Icon is on (blue), these switches determine whether or not to include dotted and triplet times in the LFO Rate control.

## Swing Control



This control makes the LFO “Swing”. When this parameter is raised or lowered, you will notice the playback of the LFO will be alternating faster/slower on each playback. A typical use would be with LFO time set to  $1/8$  or  $1/16^{\text{th}}$ , though it operates at any LFO Rate. Please note: **Both the Anchor and Musical Note Icon (BPM) must be enabled for the Swing to take effect.**

## Phase Control



The Phase control will adjust the phase of the graphs. You will notice the graph blue-background shading will move left in relation to the line-segments. This background shading is displaying what will get output of the LFO.

## PWM Control



The PWM control will modify the line segments rendering over time, squeezing them together the left or right. Similar to the Phase control, you will notice the graph blue-background shading will adjust. This background shading is displaying what will get output of the LFO.

## Smooth Control



The Smooth control makes the LFO output more gradual. This is useful if you are hearing clicks from extreme vertical changes in the graph.

## Snap Control



Snap will adjust the Grid Size visible in the Graph area. This is useful when Alt- or Shift-clicking on the graph, in order to snap points to a certain division of the graph.

# 5. LFO Routing

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There are 4 destinations for the LFO, as displayed above:

**Cut** - Filter Cutoff frequency

**Res** - Filter Resonance

**Vol** - Volume

**Pan** - Stereo Panning

The Numbers, to the left determine which of the 12 LFO Graphs will be the source graph for the given destination. In the picture above, Graph #1 is assigned to Cutoff and Resonance, Graph #2 to Volume, and Graph #3 to panning.

The sliders determine the depth, in other words how much the graph is applied.

The blue dots above the sliders are a meter of sorts, showing you the final value for each of the four given parameters. e.g. "Final Cutoff Value" after the LFO output (with depth slider above) is combined with the Cutoff slider itself.

**Please note:** to hear the Cut/Res have an audible effect on your signal, the SVF must be enabled (see next chapter).

## 6. SVF (Filter)

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SVF stands for State Variable Filter.

### L-B-H Switch

This determines whether the filter is enabled or not. If L B H are all grey, the filter is off. Clicking any of them will enable the filter and the letter will turn Blue:

L = Low-pass (removes high frequencies)

B = Band-pass (removes high and low frequencies)

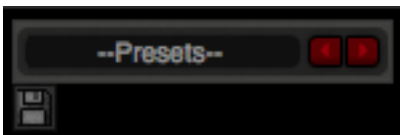
H = Hi-pass (removes low frequencies)

### Cutoff Slider

The cutoff slider adjusts the base frequency for the filter cutoff. This can be useful for tweaking the frequency range that the filter is operating in when the LFO Assignment for Cut is in use.

### Resonance Slider

Similar to cutoff, this slider adjusts the base amount of resonance for the filter.



## Preset Menu

The Presets menu allows you to quick way to select the presets from the “LFOTool Presets” folder on your hard disk.

Once you have selected a preset, the red arrows to the right allow you to navigate to other presets in that subfolder.

## Disk Icon – Save your own presets

The Disk icon allows you to save your own presets to the LFOTool folder so they appear in the menu (or elsewhere, if you want). A dialog window will appear prompting you to type a name and location for your preset. You may create your own subfolders inside “LFOTool Presets” folder, if you desire.

## If you don't see any presets in the list

LFOTool was unable to locate the “LFOTool Presets” folder. As mentioned at the start of the manual, these locations are as follows:

### Mac OSX:

“**LFOTool Presets**” folder must be in one of these locations:

~/Library/Audio/Plug-Ins/VST/

/Library/Audio/Plug-Ins/VST/

~/Library/Audio/Plug-Ins/Components/

/Library/Audio/Plug-Ins/Components/

~/Library/Audio/Presets/Xfer Records/

/Library/Audio/Presets/Xfer Records/

**Windows:** “**LFOTool Presets**” folder must be in the same location as LFOTool.dll (VSTPlugins folder or subfolder thereof) You may not rename LFOTool.dll or this folder.



# 7. MIDI Options

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## Sending MIDI To LFOTool

LFOTool has the ability to receive MIDI notes. The manner of doing this routing varies between different host programs. You may wish to search or consult your owner's manual for "how to route MIDI to a VST effect".

## Change graphs via MIDI notes

The lowest 4 octaves of the MIDI keyboard / Piano roll will allow you to choose which graph affects the different destinations. This is useful for "playing" specific changes between LFO shape-patterns:

MIDI Notes 0 thru 11 will select the LFO Routing source for Cutoff.

MIDI Notes 12 thru 23 will select the LFO Routing source for Reso.

MIDI Notes 24 thru 35 will select the LFO Routing source for Volume.

MIDI Notes 36 thru 47 will select the LFO Routing source for Pan.

## Altering LFO playback via MIDI Notes

There are 4 different options as pictured above with Musical note icons. **These determine how LFOTool will respond to MIDI notes 48 and above:**

- **Note Retrigger** – The LFO will "start over" each time a note is received. This is useful for creating rhythmic phrase-patterns, or using LFOTool much like an envelope.

- **Note Gate** – The LFO will stop when a Note Off is received (when a note is let go). This is useful for having momentary parts where the LFO is being heard, as determined by the notes/note durations you send.
- **Vel > PWM** – The velocity of incoming notes will affect the PWM slider. I'm really not sure how useful this is, to be honest, but I wanted it at one point..
- **Pitch > Rate** – The note number (48-127) of the incoming note will adjust the Rate slider. This is useful for 'performing' various LFO speeds.

The above 4 switches can be used individually, or all together.

## Sending MIDI From LFOTool (VST ONLY)

LFOTool (VST VERSION ONLY) can send out a MIDI cc message which makes it possible to control external synthesizers or other softsynths from the output of LFO Tool. The **Cutoff output** is used (as can be visualized as the blue dot above the cut slider in LFO Routing panel) and a cc is sent every time this value changes (well, changes more than 1/128<sup>th</sup>, as MIDI cc is limited to a 0-127 resolution).

To send MIDI Out:

1) route MIDI From LFO Tool to your desired destination.

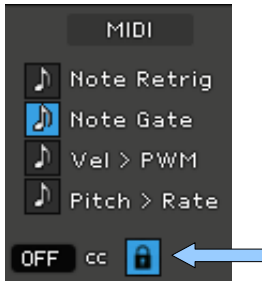
For example, in Ableton Live:

On your desired destination track, you need to select “MIDI From” and pick the track containing LFOTool (1-Audio in the case here). If the source track containing LFOTool is a MIDI track (instrument) You may need to select LFOTool in 2<sup>nd</sup> rectangle below, as shown. Lastly, you must enable Monitor “IN” so the destination track will listen to MIDI from LFOTool.



- 2) change “CC Out” from Off to a number.
- 3) Assign LFO->Cutoff in LFO Destination.

# MIDI cc LOCK



For convenience, a Lock Icon prevents the MIDI CC numeric assignment (to left of lock) from changing when you change Presets. This prevents you from having to repeatedly set the CC value assignment if you choose to browse through presets.

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Questions? Comments?

Email [steve@xferrecords.com](mailto:steve@xferrecords.com)

Thank you for your support

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