

# FLESH

MANUAL



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Software version: 1.0 (11/2015)

Special thanks to the Beta Test Team, who were invaluable not just in tracking down bugs, but in making this a better product.

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# 1 Welcome to FLESH

## 1.1 Foreword by Tim Exile

The concept for FLESH came to me a few years ago. I'd been touring with the Flow Machine, my custom looping, beat making and improvising instrument which I built in REAKTOR. It already included THE FINGER and THE MOUTH which gave me plenty of power for live FX mangling and vocal synthesis but I was missing a way to make harmonic and melodic material in a live, improvised scenario. I wanted something that would empower me to create expressive and dynamic sounds which fitted in perfectly with whatever was going on at the time.

I wondered if I could create intelligent melodies that responded to the rhythmic feel of a track—or intelligent synths that dynamically based their tone on the track's shifting tone over time. I set to work designing new methods for analysis, sequencing and synthesis which would allow me to do this. It's taken a few years to get it right and now I'm very proud to share the results of my work with you.

I've been blown away by what these new techniques have come up with. Some of the melodies that have emerged have become ear-worms which I still hum a year later. On occasions through the development process I've been moved to tears by how creative a computer can be if you give it the power.

One of the most fun things has been creating entire tracks with just one loop sample. This is FLESH's ultimate power-move. FLESH is a composition tool and a performance instrument rolled into one. It allows you to create tracks as instruments—a collection of samples, chord patterns and sound settings—which you can combine and manipulate with physical controls in a new way for each performance. And as an extra bonus it has multiple outputs so you can record your jams and get as mucky (or crystal clear) as you like in the edit.

I hope this thing augments your musical horizons like it has mine.

## 1.2 Basic Information

Thank you very much for downloading this REAKTOR ensemble from Native Instruments. This new and exciting synthesizer can be used either with the free REAKTOR 6 PLAYER, or the full version of REAKTOR 6 (including subsequent versions). On behalf of the entire NATIVE INSTRUMENTS team, we hope this product will inspire you.



A full version of REAKTOR 6.0.1 or the free REAKTOR PLAYER 6.0.1 (or subsequent versions) is required to use FLESH. You can download the free REAKTOR PLAYER from the Native Instruments website.

## 1.3 Manual Conventions

This document uses particular formatting to point out special facts and to warn you of potential issues. The icons introducing the following notes let you see what kind of information can be expected:



The speech bubble icon indicates a useful tip that may often help you to solve a task more efficiently.



The exclamation mark icon highlights important information that is essential for the given context.



The red cross icon warns you of serious issues and potential risks that require your full attention.

Furthermore, the following formatting is used:

- Text appearing in (drop-down) menus (such as *Open...*, *Save as...* etc.) in the software and paths to locations on your hard disk or other storage devices is printed in *italics*.

- Text appearing elsewhere (labels of buttons, controls, text next to checkboxes etc.) in the software is printed in **blue**. Whenever you see this formatting applied, you will find the same text appearing somewhere on the screen.
  - Important names and concepts are printed in **bold**.
  - References to keys on your computer's keyboard you'll find put in square brackets (e.g., "Press [Shift] + [Enter]").
- ▶ Single instructions are introduced by this play button type arrow.
- Results of actions are introduced by this smaller arrow.



To get the best from this instrument please read the manual in its entirety.



## 2 What is FLESH

FLESH is an audio-reactive performance synthesizer, which generates harmonic chords and sequences from musically looped samples (like drum loops). FLESH can generate a complete track from a single drum loop and can be played like an instrument, using streamlined controls to bring in musical elements, tweak them, switch and mute loops, change harmonic structures etc. —all in sync with the DAW.

Conceived and developed by Tim Exile in partnership with Native Instruments, FLESH is a unique and creative loop based synthesizer. At the center of the FLESH is the loop engine. By drag and dropping a loop into FLESH it will analyze the sample to determine its velocity and centroid content. This information is then processed by the Harmony engine which in turn triggers the Synthesizer and FX sound generators.

Simple loops can be quickly brought to life. Expect wild and adventurous modern sounds as well as intelligently generated melodic lines that build on what you feed it. The beauty of FLESH is in its ability to create happy accidents and new sonic ideas for use in modern day productions as well as a flexible tool for live performance.

## 3 Installation and Activation

### 3.1 Installing FLESH

The following section explains how to install and activate FLESH. Although this process is straightforward, please take a minute to read these instructions, as doing so might prevent some common problems.

- ▶ To install FLESH, double-click the installer application and follow the instructions on the screen. The installer application automatically places the new ensemble file into a REAKTOR PLAYER directory. Alternatively, during the installation process, choose the directory where you would like to have FLESH installed.

A full version of REAKTOR 6.0.1 or the free REAKTOR PLAYER 6.0.1 (or subsequent versions) is required to use FLESH. You can download the free REAKTOR PLAYER from the Native Instruments website.

### 3.2 Activating FLESH

When installation is finished, start the Service Center application, which was installed with FLESH. It will connect your computer to the Internet and activate your FLESH installation. In order to activate your copy of FLESH, you have to perform the following steps within the Service Center:

**Log in:** Enter your Native Instruments user account name and password on the initial page. This is the same account information you used in the Native Instruments Online Shop, where you bought your REAKTOR Instrument, and for other Native Instruments product activations.

**Select products:** The Service Center detects all products that have not yet been activated and lists them. You can activate multiple products at once—for example, several REAKTOR Instruments.

**Activate:** After proceeding to the next page, the Service Center connects to the Native Instruments server and activates your products.

**Download updates:** When the server has confirmed the activation, the Service Center automatically displays the Update Manager with a list of all available updates for your installed products. Please make sure that you always use the latest version of your Native Instruments products to ensure they function correctly.



Downloading updates is optional. After activation is complete, you can always quit the Service Center.

## 4 How to Use FLESH

The following sections will give you a brief overview over some basic operations: you will learn how to open FLESH, how to explore the factory-set Snapshots and how to load and play FLESH Snapshots from the Header and the Side Pane.

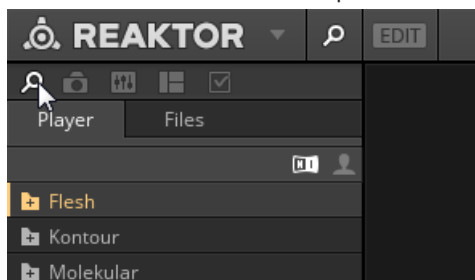


For the latest information on REAKTOR PLAYER files and using Snapshots please refer to the REAKTOR Getting Started Guide, available from the REAKTOR *Help* menu.

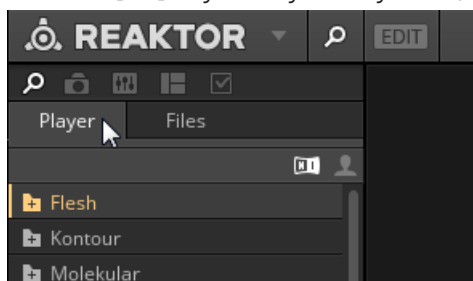
### 4.1 How to Open FLESH

This is how to open FLESH in REAKTOR or REAKTOR PLAYER:

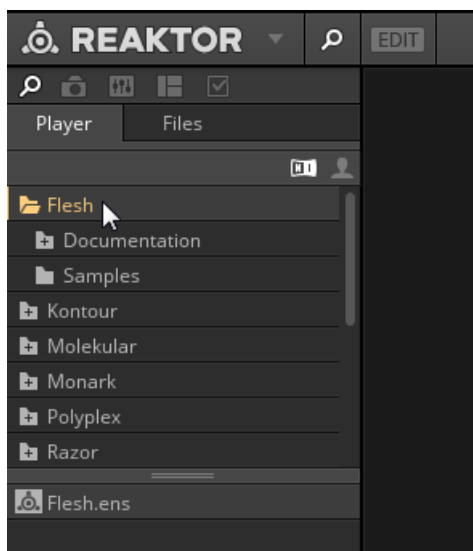
1. Start REAKTOR or REAKTOR PLAYER.
2. Click the Browser icon to open the Browser



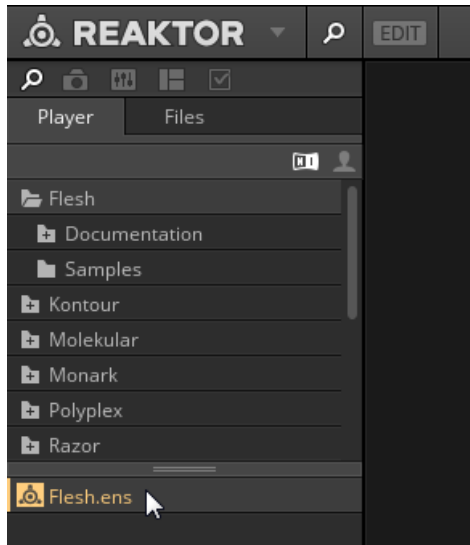
- Click the **Player** tab to show the REAKTOR PLAYER files (or you can open the browser with the [F1] key from your keyboard).



- Click the **FLESH** folder. The content of the folder will be displayed in the lower section of the browser.



5. Double-click the [Flesh.ens](#) file, or drag it into the main screen.



6. FLESH will be loaded in REAKTOR/REAKTOR PLAYER:



## 4.2 Exploring Factory-set Snapshots

Play some notes on your MIDI keyboard to get an idea of how FLESH sounds. Pressing notes triggers Harmony, Samples, and Sound Remote Octave slots. They use the following key ranges:

Function	Remote Octave Keys
Select a <b>HARMONY</b> slot	<b>C1</b> to <b>B2</b>
Select a <b>SAMPLES</b> slot.	<b>C2</b> to <b>B3</b>
Select a <b>SOUND</b> slot.	<b>C3</b> to <b>B4</b>



Please refer to the REAKTOR manual for details on configuring your Audio and MIDI settings, available from the *Help* Menu

Now, let's change the sound by loading a different Snapshot.



A Snapshot is REAKTOR's notion for a sound, preset, or patch. FLESH can hold banks of Snapshots, and loading any of these Snapshots will set each control of the Instrument to a specific value, and re-create a particular sound.

The Snapshots of FLESH are accessible from the drop-down menu in REAKTOR PLAYER's Header (Main Bar) or from the Side Pane.



FLESH interface with Snapshot list in the Side Pane.

- (1) Side Pane button
- (2) Snapshot drop-down menu
- (3) Snapshot button
- (4) Snapshot Banks
- (5) Snapshots

#### 4.2.1 Loading a Snapshot from the Side Pane

If it is not already visible after startup, you need to open the Side Pane. The Side Pane holds a full overview of the Snapshot Banks and Snapshots from FLESH.

1. Click the Side Pane button (1) in the Header to open the Side Pane.
2. Click the Snapshot button to display Snapshots (3).
3. Select a Snapshot Bank (4).



4. Select the name of a Snapshot entry **(5)** and double-click it with your mouse to load it.  
⇒ The Snapshot is loaded and ready to play.

### 4.2.2 Loading a Snapshot from the Header

Loading a Snapshot from the REAKTOR PLAYER drop-down menu in the Header is the simplest way to interact with Snapshots.

1. Click the Snapshot drop-down menu **(2)**. The menu holds all Snapshots and Banks of the Instrument.
2. Click an entry to select it.  
⇒ The Snapshot is loaded and ready to play.

## 4.3 Saving a Snapshot

Snapshots can be saved using REAKTOR. However, all parameter settings made in FLESH will be conveniently saved as part of your host software. Please read the REAKTOR documentation for more information on plug-in mode and saving Snapshots.



When working with FLESH in REAKTOR standalone, save and load your Snapshots as Presets (*File > Save Preset As / File > Open Preset*) instead of saving the Ensemble. If you do not follow this method, FLESH will ask for the samples when reloading the saved ensemble.

## 5 Overview of FLESH

FLESH is great for improvising or building musical sketches which can later be turned into full ideas. Its simplistic hands on approach provides the means for all types of musicians to generate pitched harmonic melodic material using simple samples. In addition, FLESH is a great live tool which can be tweaked in real-time using the four Macro Controls.

FLESH works by analyzing a sample, and chops it up into slices to extract the transient curves based on the spectral content over time, for example, with a drum loop, the frequencies of a kick drum slice will be identified as low, a snare as medium, and a hi-hat as high. As the loop is played FLESH will use the transient curves to trigger the five sound generators which generate pitches, melodies, modulation and effects over time based on your settings.

The three main pages of FLESH: [SAMPLES](#), [SOUND](#), and [HARMONY](#) can be used to define your sound and sketch out musical ideas:

- The [SAMPLES](#) page is the starting point for musical ideas and is where samples can be added. There are placeholders for twelve samples which can be played using the corresponding MIDI notes of the [SAMPLES](#) remote octave. Transients from a sample are used to trigger the sound generators. For information on adding samples and using the parameters within the [SAMPLES](#) page refer to chapter [↑7, Samples Page](#).
- The [SOUND](#) page contains icons for the sound generators, the Mixer, and Macro Controls. The icons provide access to the parameters of each sound generator (Sub Synthesizer, Mono Synthesizer, Sampler Player, Poly Synthesizer, and the FX engine) which can be edited and saved with each Snapshot. The four Macro controls globally control sound settings for all sound generators. The Mixer provides visual feedback by displaying the waveform of the active sound generators, and allows you to individually mute, or adjust their volume. For more information on using the [SOUND](#) page refer to [↑8, Sound Page](#).
- The [HARMONY](#) page is the primary page for editing parameters that affect the harmonic content of a Snapshot. The Harmony engine takes the incoming transient information from a selected sample and processes it into pitch information that is then routed to the Mono Synthesizer, and Poly Synthesizer. The Melody control can then be used to affect the how melodic phrases are created from the incoming sample loop, utilizing the notes set on the Harmony keyboard. For more information on using the [HARMONY](#) page refer to chapter [↑8.4.3, Remote Subpage](#).

In addition to the main three pages, the **SOUND** page contains several subpages which provide access to modulation levels, macro parameter ranges, and remote control of parameters when key switching Samples, Sound, and Harmony Remote Octaves.



FLESH Section Overview

### FLESH Section Overview

(1) **Header:** The header section contains the global settings of FLESH and allows you to adjust each value. For more information on the Header refer to section [↑6, Header](#).

(2) **Sound Generators:** From left to right the five sound generator icons; Sub Synthesizer, Mono Synthesizer, Sample Player, Poly Synthesizer, and FX provide access to the edit pages. The edit pages can be used to select preset sound generators, edit timbres, and set tolerances for the macro parameters. To access the edit page for each sound generator, click the sound generator icons. For more information on the sound generators refer to section [↑8.1, Sound Generators](#).

(3) **Mixer:** The Mixer allows you to alter the overall volume and FX send levels, as well as muting individual sound generators. To adjust volume for a sound generator, click a circle and drag the mouse upwards or downwards. To mute a sound generator, click the center of a Mixer circle.

(4) **Macro Controls:** The four Macro Controls can be used to collectively adjust the Spectrum, Character, Length, and Modulation of all sound generators. To adjust the timbre of the sound generators, click a control and drag the mouse upwards or downwards. For more information on the Macros Controls refer to section [↑8.3, Macro Controls](#).

(5) **HOLD:** When **HOLD** is on, the last notes played will continue to sound even after you have released them. To hold notes played from your keyboard or MIDI device, click this button.

(6) **HARMONY:** Each Snapshot can contain up to twelve harmonies each represented by one of the twelve slots. To edit the Harmony settings generated by the sound generators, click one of the twelve slots. For more information on editing Harmony settings read chapter [↑8.4.3, Remote Subpage](#).

(7) **SAMPLES:** Each Snapshot can contain up to twelve samples each represented by one of the twelve slots. To edit the Sample settings, click one of the twelve slots. For more information on using the Samples page read chapter [↑7, Samples Page](#).

(8) **SOUND:** Each Snapshot can contain up to twelve Sound settings each represented by one of the twelve slots. To edit the Sound settings generated by the sound generators, click one of the twelve slots. For more information on editing Sound settings read chapter [↑8, Sound Page](#).

(9) **Configuration pages:** The three subpages allow you to configure Modulation, Macros and Remote Octave settings. Click the icons to access the pages. For more information on configuring Modulation, Macros and Remote Octave settings please refer to section [↑8.4, Configuration Subpages](#).

## 6 Header

The Header section contains the global settings of the ensemble and allows you to adjust each value.



The header section in FLESH

- (1) **STEPS**: Select the number of steps per bar. Values range from 4 to 32 steps per bar. To adjust the **STEPS** value, click and drag the mouse upwards or downwards.
- (2) **SYNC**: This button synchronizes FLESH with the Master Tempo of REAKTOR or the tempo of your host sequencer. To enable Sync, click the **SYNC** button.
- (3) **Tempo**: This indicates the tempo (beats per minute (BPM)) of playback in standalone mode and the tempo of the host software when in (2) **SYNC** mode. To adjust the **BPM**, click on the value and drag the mouse upwards or downwards. Press [SHIFT] on your computer keyboard while moving the mouse to enter more discrete values.
- (4) **SWING**: This value adds a shuffling effect to the sound. To adjust the **SWING** value, click and drag the mouse upwards or downwards.
- (5) **Transport Snap Lock**: This button enables or disables the current settings of **STEPS**, **SYNC**, **BPM** and **SWING** to be locked or changed when selecting Snapshots. To enable or disable Snap Lock, click this icon.
- (6) **TUNE**: Use this to adjust the overall fine tuning of the instrument. Turn the knob clockwise to set the tuning by +1 semitone, or anti-clockwise by -1 semitone. In the center position tuning is unaffected. To reset tuning, double-click the **TUNE** knob
- (7) **LEVEL**: Use this to set the master output volume level. To adjust the Level, click and drag the mouse over the **LEVEL** knob. To reset FLESH to the default volume level, double-click the **LEVEL** knob.



The parameter values in the Header section can be saved and recalled with each Snapshot. However, to allow this, be sure to unlock the **(5)** [Transport Snap Lock](#).

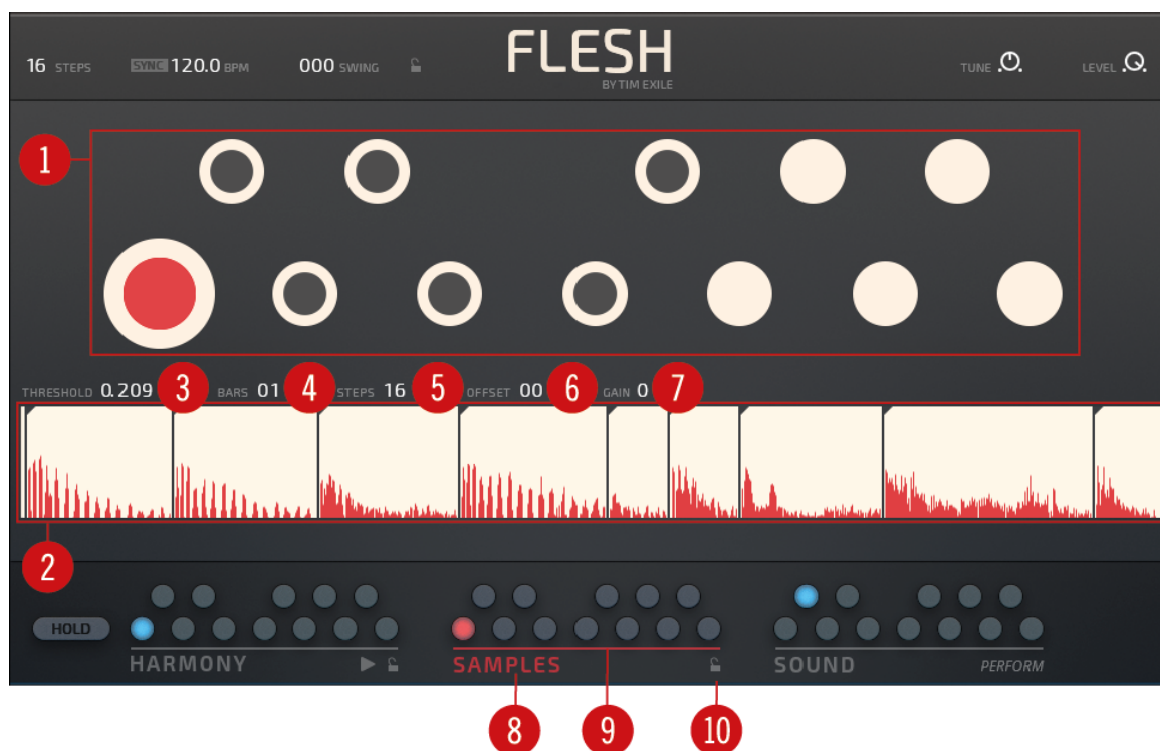
## 7 Samples Page

The **SAMPLES** page is the starting point for your ideas and allows you to add up to twelve samples which when selected are processed by sample engine and used to trigger the sound generators (Sub Synthesizer, Mono Synthesizer, Sample Player, Poly Synthesizer, and FX engine) to create musical phrases based on the settings within each sound generator.

The samples remote octave is used to switch between the loaded samples to change the rhythm, pitch and melody of a sound.

The Samples page is used to add samples and fine tune the available parameters to e.g. modify the playback speed, adjust the number of triggers and balance the volume levels between the loaded samples.

## Overview of the SAMPLES Page



SAMPLES Page - Overview

(1) **Sample Slots:** Each of the twelve sample slots can contain an individual sample. Each sample slot recalls unique settings regarding **THRESHOLD**, **BARS**, **STEPS**, **OFFSET** and **GAIN**. It is possible to populate the twelve slots by dragging and dropping samples on your computer into the empty slots. The twelve slots can be selected from your MIDI device using keys **C2** to **B3**. For more information on adding samples refer to section [↑7.1, Adding Samples to the SAMPLES page](#).

(2) **Sample Display Area:** This area is used to display the waveform of the selected sample and updates as each sample slot is selected. The transients of the sample waveform are displayed in red and the vertical lines represent where slices will occur relative to the **THRESHOLD** level.



(3) **THRESHOLD**: Set the **THRESHOLD** level to adjust the number of slices from the selected sample. When the level of audio crossing the threshold triggers the gate, the sound generators can be heard. The number of slices affects how the sound generators are triggered; at low levels the sample will have a greater effect on the sound generators, and at high levels the number of slices are decreased, and the sample will have less effect on the sound. To adjust the Threshold, click and drag the mouse upwards or downwards over the **THRESHOLD** value.

(4) **BARS**: Select the amount of bars the sample is played within a loop. This changes the playback tempo of a loop, for example, if a loop has 2 bars and you set Bars to 1, then the playback tempo will be doubled. Values range from 1 to 16 bars. To adjust the amount of Bars, click and drag the mouse upwards or downwards over the **BARS** value.

(5) **STEPS**: Select the number of Steps per Bar. This changes the playback tempo of a loop the amount of played steps, for example, a loop with 16 steps will play at half tempo when **STEPS** is set to 8. Values range from 4 to 32 steps per bar. To adjust the amount of Steps, click and drag the mouse upwards or downwards over the **STEPS** value.

(6) **OFFSET**: Use this to shift the start point of the sample. To adjust the amount of Offset, click and drag the mouse upwards or downwards over the **OFFSET** value.

(7) **GAIN**: The Gain parameter is used to balance the volume level of the loaded samples. To adjust the amount of gain, click and drag the mouse upwards or downwards over the **GAIN** value.

(8) **SAMPLES**: Click this icon to access the **SAMPLES** page.

(9) **Sample Remote Octave**: Drop samples here to load them. Select one of twelve sounds by clicking the Remote Octave slots or using the Remote Octave on your keyboard, keys **C2** to **B3** (MIDI notes 48 to 59). To copy a Sample, click a slot and drag it to another slot.

(10) **Sample Snap Lock**: Enable this to keep the loaded samples and settings when you change Snapshots. To toggle this feature on or off, click the Lock icon.

## 7.1 Adding Samples to the SAMPLES page

Samples are added to the Samples page by simply dragging a sample file onto a sample slot. By adding different samples it is possible to switch between them to provide rhythmical variations to drive the sound generators.



When working with FLESH in REAKTOR standalone, save and load your Snapshots as Presets (*File > Save Preset As / File > Open Preset*) instead of saving the Ensemble. If you do not follow this method, FLESH will ask for the samples when reloading the saved ensemble.

### To add a new sample to the Samples page:

1. Click [SAMPLES](#) to open the Samples page.
  2. Using the file system on your computer or the *File* menu in REAKTOR, locate the sample you want to load into FLESH.
  3. Left-click and hold the mouse button to select the sample, and then drag the sample to a sound slot.
- ⇒ The new sample is loaded into FLESH and is ready for use.



Please be aware that adding a new sample that contains to a slot that already contains a sample will replace the existing sample in the slot.



FLESH will only accept audio files in the .aif and .wav format and is optimized for samples with a rate of 44.100 Hz.

## 7.2 Copying and Pasting Samples in the SAMPLES page

In addition to adding samples and setting up playback, you can use the [SAMPLES](#) page to copy and paste loaded samples from one slot to another. This time-saving feature is useful when building up sequences which rely on the same sample, for example, when building up a musical sequence which uses the same sample to trigger the sound generators, but requires different sound settings, or an alternative harmony. You can use the same sample with different samples settings to alter the rhythm and tempo while keeping the same sound and vibe.

Copying and pasting samples is also good for re-ordering samples within the Remote Octave. A sample can be copied and pasted into the many sample slots to be reused and then triggered using the Remote Octave.



You can get different results out of the same sample by manipulating the sample parameters to change tempo or adjust the number of triggers by adjusting the threshold level.

**To copy and paste samples in the Samples page:**

1. Click [SAMPLES](#) to open the Samples page.
2. Select the sample you want to copy by clicking it.
3. Left-click and hold the mouse button and then drag the sample to a new sound slot.  
⇒ The sample is copied to the new location.



Please be aware the copied sample will overwrite any existing sample in the new slot.

## 8 Sound Page

The **SOUND** page hosts the main mixer view of the instrument accompanied by the four main macro parameters. This page is also the access point to the parameters of the sound generators and advanced modulation and remote octave options.

The icons across the top of the page provide access to the parameters of each sound generator; Sub Synthesizer, Mono Synthesizer, Sample Player, Poly Synthesizer, and the FX. Here they can be edited, and then saved with each Snapshot.

The **SOUND** page also contains the four Macro Controls that can be configured to control multiple sound parameters overall all sound generators simultaneously. The Mixer provides visual feedback of active sound generators and allows you to individually mute, or adjust their volume.



## SOUND Page - Overview

(1) **Sub Synthesizer:** This is a simple synthesizer that can be used to generate bass lines accompanying the Mono and Poly sounds. The Sub Synthesizer can be set to follow the harmonic settings of either the Mono Synthesizer or Poly Synthesizer. To toggle between the Sub Synthesizer parameter page and the **SOUND** page, click the Sub icon. For more information on the Sub Synthesizer refer to section [↑8.1.1, Sub Synthesizer](#).

(2) **Mono Synthesizer:** This is a monophonic wavetable synthesizer best suited for solos and lead sounds. The wavetables are created from the active sample used in the SAMPLES section. To toggle between the Mono Synthesizer parameter page and the **SOUND** page, click the Mono icon. For more information on the Mono Synthesizer refer to section [↑8.1.2, Mono Synthesizer](#).

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(3) **Sample Player:** This allows you to load up to twelve samples into FLESH. The samples are used to trigger the sound generators which create musical phrases based on the settings within the Harmony section. To toggle between the Sample Player parameter page and the [SOUND](#) page, click the Sample Player icon. For more information on the Sample Player refer to section [↑8.1.2, Mono Synthesizer](#).

(4) **Poly Synthesizer:** This is a resonator based four voice Polyphonic Synthesizer. This engine is best for chords but is well suited to create synth stabs and pad sounds. To toggle between the Poly Synthesizer parameter page and the [SOUND](#) page, click the Poly Synthesizer icon. For more information on the Poly Synthesizer refer to section [↑8.1.4, Poly Synthesizer](#).

(5) **FX:** The effect section hosts a flexible delay section that can be dynamically modulated using the high and low triggers as in the sound generators. To toggle between the FX parameter page and the [SOUND](#) page, click the FX icon. For more information on the FX refer to section [↑8.1.4, Poly Synthesizer](#)

(6) **Mixer:** The Mixer section displays the volume level for each of the five sound generators, from left to right; Sub Synthesizer, Mono Synthesizer, Sample Player, Poly Synthesizer, and FX. Here you can adjust the volume level, FX send level, and mute individual sound generators. Each sound generator subpage also contains [LEVEL](#) and FX send level parameters which replicates the Mixer controls seen here. To adjust a volume level, click and drag the mouse over a mixer display. To toggle mute on or off, click in the center of a display. For information on how to use the Mixer refer to section [↑8.2, Mixer](#).

(7) **Macro Controls:** The four main Macro Controls are enable drastic changes to all sound engines simultaneously. These can be set up in flexible ways and are customized for every single Snapshot. Click and drag a Macro Control to alter a sound. For information on how to use the Macro Controls refer to section [↑8.3, Macro Controls](#).

(8) **SOUND:** To access the Sound page, click [SOUND](#).

(9) **SOUND Remote Octave:** Select one of twelve sounds by clicking the Remote Octave slots or using the Remote Octave on your keyboard, keys **C3** to **B4** (MIDI notes 60 to 72). To copy a Sound, click a slot and drag it to another slot.

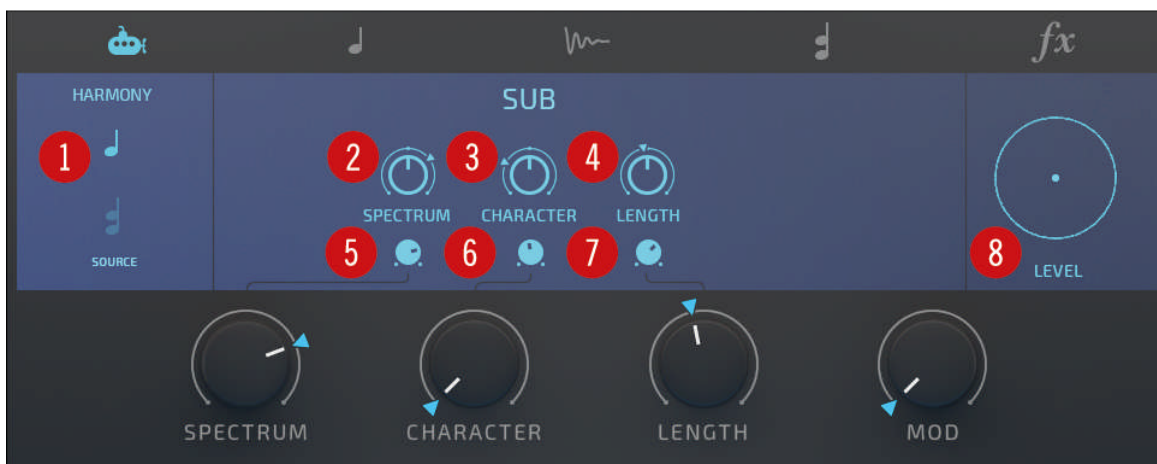
(10) **PERFORM:** In perform mode your carefully crafted sound combinations are protected and can be safely altered without losing them. You can recall them by selecting the current Remote Octave slot. This allows you to perform without permanently changing your sounds. To toggle the Perform feature on or off, click [PERFORM](#)

(11) **Configuration subpages:** Available only from the [SOUND](#) page, these three icons allow you to access the Modulation, Macros and Remote Octave subpages. To toggle the subpages on or off, click the [MOD.](#), [MACROS](#), or [REMOTE](#) icons. For more information on configuring the settings within the subpages, refer to section [↑8.4, Configuration Subpages](#).

## 8.1 Sound Generators

### 8.1.1 Sub Synthesizer

The Sub Synthesizer is a basic synthesizer to create deep bass lines. It can be set to follow the harmonic settings of the Mono or Poly section.



Sub Synthesizer overview

- (1) **HARMONY SOURCE:** Select between the Mono Synthesizer and Poly Synthesizer to source the pitch for the Sub Synthesizer.
- (2) **SPECTRUM:** Set the Spectrum Macro Control for the Sub Synthesizer. Higher values give higher harmonics, lower values give deeper harmonics.
- (3) **CHARACTER:** Set the Character Macro Control for the Sub Synthesizer. This controls the amount the Sub Synthesizer harmonics are affected by the pitch.

- (4) **LENGTH**: Set the Length Macro Control. Higher values give longer, slower sounds and add more decay bass.
- (5) **SPECTRUM Range Control**: Set how much influence the Spectrum Macro Control has over the Spectrum Macro Control of the Sub Synthesizer.
- (6) **CHARACTER Range Control**: Set how much influence the Global Character Control has over the Character Control of the Sub Synthesizer.
- (7) **LENGTH Range Control**: Set how much influence the Global Length Control has over the Length Control of the Sub Synthesizer.
- (8) **LEVEL**: Adjust the Sub Synthesizer volume level, or mute the Sub Synthesizer. To change the volume level of the Sub Synthesizer, click and drag the mouse over the circular area. To toggle mute on or off, click in the center of the circle.

### 8.1.2 Mono Synthesizer

The Mono Synthesizer rebuilds its wavetables based on the selected sample, and transforms it into a monophonic sequence or lead.



Mono Synthesizer overview



(1) **Treble/Bass symbol:** These symbols set the gate for how the Mono Synthesizer is triggered by the sample. By selecting the treble symbol, the Mono Synthesizer is triggered by the high frequencies of the selected sample, and by selecting the bass symbol, the Mono Synthesizer is triggered by low frequencies. To allow the Mono Synthesizer to react to the treble or bass frequencies select either symbol, to allow it to react to all frequencies select both symbols.

(2) **Mono Synthesizer Preset Selector:** Select one of sixteen presets by clicking a dot. Each preset has its own sound characteristics and introduces specific parameters to the interface (15). A list of the preset specific parameters can be found at the end of this section.

(3) **ROOT:** Use this to set the root pitch of Mono Synthesizer melody. To adjust the **ROOT** value, click and drag the mouse upwards or downwards.

(4) **MELODY:** Set how much melody is introduced from the transient curves of the selected sample. At the center position no melody will be introduced, and as a result only a single note will be produced. Transpose the melody using the **ROOT** value, and change the **OCTAVE** setting to select a note outside the current octave. The **MELODY** parameter is bi-polar; turning it to the left will create negative modulation of the pitch, and turning to the right will introduce positive modulation of the pitch from the transients of the selected sample.

(5) **OCTAVE:** Set the overall octave tuning of the Mono Synthesizer in a range of +/- 2 octaves. To adjust the Octave range, click and drag the mouse upwards or downwards over the Octave value.

(6) **GLIDE:** This adjusts the time it takes a sound to glide from the first note pitch to the following note pitch. When the **GLIDE** knob is turned to the full left position, there is no glide at all, and the pitch will jump from one note to the next. When the **GLIDE** knob is turned to the right, the glide time increases and the transition between notes becomes smoother. Extreme amounts of **GLIDE** can be used for a creative effect.

(7) **SPECTRUM:** Macro Control for changing the Spectrum of the Mono Synthesizer. Higher values give brighter sounds, lower values give deeper sounds.

(8) **CHARACTER:** Macro Control for changing the Character of the Mono Synthesizer. Higher values emphasize the unique character of the Mono Synthesizer.

(9) **LENGTH:** Macro Control for changing the Release of the Mono Synthesizer. Higher values result in longer envelope times for each note or trigger.

(10) **MOD:** Macro Control for changing the Modulation of the Mono Synthesizer. Higher values give the sound more movement and shape.

(11) **SPECTRUM Macro Range:** Set how much influence the Global Spectrum Control has over the Spectrum Control.

(12) **CHARACTER Macro Range:** Set how much influence the Global Character Control has over the Character Control.

(13) **LENGTH Macro Range:** Set how much influence the Global Length Control has over the Length Control.

(14) **MOD Macro Range:** Set how much influence the Global Modulation Control has over the Modulation Control.

(15) **Preset Specific Parameters:** Each Mono Synthesizer preset (4) has it's own set of specific parameters which appear in this area. A description of each parameter is listed at the end of this section.

(16) **LEVEL:** Adjust the Mono Synthesizer volume level, or mute the Mono Synthesizer. To change the volume level of the Mono Synthesizer, click and drag the mouse over the circular area. To toggle mute on or off, click in the center of the circle.

(17) **FX Send:** Use this parameter to adjust the amount of signal from the Mono Synthesizer sent to the FX. To adjust the **FX Send** value, click and drag the mouse upwards or downwards over the small circular area.

### Preset Specific Parameters

Preset Name	Parameter	Description
<b>MONOBROW</b>	<b>CUTOFF +/-:</b>	Toggle between positive and negative modulation of the cutoff.
	<b>VIBRATO:</b>	Adjust the amount of regular, pulsating change in the pitch of the sound. This can add expression and variation.
	<b>SATURATION:</b>	Add warmth and “fatten-up” the sound.
<b>MONOGAMY</b>	<b>CUTOFF CURVE:</b>	Toggle between the Velocity and Centroid curves as the modulation source for the filter cutoff frequency.
	<b>CHORUS:</b>	Adjust the amount of chorus applied to the sound. This can be used to “thicken” the sound and enhance or add stereo content.

Preset Name	Parameter	Description
<b>MONOMANIAC</b>	CUTOFF	Adjust the frequency at which the filter begins to affect harmonic content; frequencies below the cutoff point will pass through the filter unchanged. The effect of the filter is to reduce high frequency components of the sound.
<b>MONOCYCLE</b>	PITCH TYPE	Select the type of pitch modulation.
	PITCH AMOUNT	Adjust the amount of modulation on the pitch of the sound.
	PITCH SPEED	Control the speed of the pitch modulation.
	P MOD +/-	Selects positive or negative modulation of the pitch.
<b>MONOCHROME</b>	CUTOFF +/-	Select between positive and negative modulation of the cutoff frequency.
	RESONANCE	Control the amount of signal enhancement at the cutoff frequency.
<b>MONOLITH</b>	VIBRATO	Adjust the amount of regular, pulsating change in the pitch of the sound. This can add expression and variation.
	RESONANCE	Control the amount of the signal enhancement at the cutoff frequency.
<b>MONONOM</b>	CHORUS	Control the amount of chorus applied to the sound. This can be used to “thicken” the sound and enhance or add stereo content.
	RESONANCE	Control the amount of the signal enhancement at the cutoff frequency.
	WAVE MOD AMOUNT	Control the amount of modulation of the wave spectrum.
<b>MONONOV</b>	WAVE +/-	Toggle between positive and negative modulation of the wave spectrum.
	WAVE CURVE	Select the wave frequency modulation source curve. Choose between Velocity and Centroid.

Preset Name	Parameter	Description
<b>MONONONO</b>	PITCH TYPE	Select the type of pitch modulation.
	PITCH AMOUNT	Adjust the amount of modulation on the pitch of the sound.
	PITCH SPEED	Control the speed of the pitch modulation.
	PITCH +/-	Select between positive or negative modulation of the pitch.
<b>MONOCOQUE</b>	PITCH TYPE:	Select the type of pitch modulation.
<b>MONOPOD</b>	VIBRATO	Adjust the amount of regular, pulsating change in the pitch of the sound. Use it to add expression and variation.
	VIBRATO SPEED	Adjust the speed of VIBRATO.
<b>MONOCULT</b>	VIBRATO	Adjust the amount of regular, pulsating change in the pitch of the sound. Use it to add expression and variation.
	VIBRATO SPEED	Control the speed of VIBRATO.
<b>MONOTONY</b>	CHORUS	Adjust the amount of chorus applied to the sound. This can be used to “thicken” the sound and enhance or add stereo content.
<b>MONOFFCUTS</b>	RESONANCE	Control the amount of the signal enhancement at the cutoff frequency.
	SATURATION	Add warmth and “fatten-up” the sound.
	CHORUS SPEED	Adjust the speed of the of the chorus effect.
<b>MONOGRAM</b>	PITCH TYPE	Select the type of pitch modulation.
	PITCH AMOUNT	Adjust the amount of modulation on the pitch of the sound.
	PITCH SPEED	Adjust the speed of the pitch modulation.

Preset Name	Parameter	Description
	PITCH +/-	Toggle between positive or negative modulation of the pitch.
<b>MONOCLE</b>	PITCH TYPE	Select a type of pitch modulation.
	PITCH AMOUNT	Adjust the amount of modulation on the pitch of the sound.
	PITCH SPEED	Adjust the speed of the pitch modulation.
	PITCH +/-	Toggle between positive or negative modulation of the pitch.

### 8.1.3 Sample Player

The Sample Player can change the sonic character of the sample itself. Make it more percussive by shortening its length, liven up static sounds with a modulated filter. The sample player quantizes each slice to the tempo and swing and uses a granular technique to stretch the decay tails of each slice to allow extreme pitch and time modulation.



Sample Player overview

- (1) **MIX**: Crossfade between low frequency sounds and high frequency sounds of the selected sample. To adjust the Mix value, click and drag the mouse upwards or downwards over the Mix knob.
- (2) **Sample Preset Selector**: Select one of sixteen presets. Each preset has its own unique sound. To select a Preset, click the dots.
- (3) **SPECTRUM**: Macro control for changing the Spectrum of the Sample Player. Higher values give brighter sounds, lower values give deeper sounds.
- (4) **CHARACTER**: Macro control for changing the Character of the Sample Player. Higher values emphasize the unique character of the sample.
- (5) **LENGTH**: Macro control for changing the Release of the Sample Player. Higher values result in longer envelope times for each note or trigger.
- (6) **MOD**: Macro control for adding Modulation. Higher values give the sound more movement and shape.
- (7) **SPECTRUM Macro Range**: Set how much influence the Global Spectrum Macro Control has over the Spectrum Control.
- (8) **CHARACTER Macro Range**: Set how much influence the Global Macro Character Control has over the Character control.
- (9) **LENGTH Macro Range**: Set how much influence the Global Length Macro Control has over the Length control.
- (10) **MOD Macro Range**: Set how much influence the Global Modulation Macro Control has over the Modulation Control.
- (11) **LEVEL**: Adjust the Sample Player volume level, or mute the Sample Player. To change the volume level of the Sample Player, click and drag the mouse over the circular area. To toggle mute on or off, click in the center of the circle.
- (12) **FX Send**: Use this parameter to adjust the amount of signal from the Sample Player sent to the FX. To adjust the **FX Send** value, click and drag the mouse upwards or downwards over the small circular area.

## 8.1.4 Poly Synthesizer

The Poly Synthesizer is a resonating granular synthesizer that transforms your input signal into chords and is great for laying down a harmonic foundation. You can also stack the voices for a massive mono synth line.



Poly Synthesizer overview

(1) **Treble/Bass symbol:** These symbols set the gate for how the Poly Synthesizer is triggered by the sample. By selecting the treble symbol, the Poly Synthesizer is triggered by the high frequencies of the selected sample, and by selecting the bass symbol, the Poly Synthesizer is triggered by low frequencies. To allow the Poly Synthesizer to react to the treble or bass frequencies select either symbol, to allow it to react to all frequencies select both symbols.

(2) **ROOT:** Use this to set the root pitch of Poly Synthesizer melody. To adjust the **ROOT** value, click and drag the mouse upwards or downwards.

(3) **MELODY:** Set how much melody is introduced from the transient curves of the current sample. At the center position no melody will be introduced and as a result only a single note or chord will be produced depending on the Harmony keyboard and Poly Synthesizer preset. The note produced can be changed by selecting a different **ROOT** value. This parameter is bi-polar turning it to the left will introduce negative modulation of the pitch turning to the right will

introduce positive modulation of the pitch from the transient of the sample. Transpose the melody using the **ROOT** value, and change the **OCTAVE** setting to select a note outside the current octave.

(4) **OCTAVE**: Set the overall octave tuning of the Poly Synthesizer in a range of +/- 2 octaves. To adjust the Octave range, click and drag the mouse upwards or downwards over the Octave value.

(5) **GLIDE**: This adjusts the time it takes a sound to glide from the first note pitch to the following note pitch. When the **GLIDE** knob is at full left, there is no glide at all, and the pitch will jump from one note to the next. When you turn the **GLIDE** knob to the right, the glide time increases and makes the transition between the notes smoother. Extreme amounts of **GLIDE** can be used for a creative effect.

(6) **Poly Synthesizer Preset Selector**: Select one of sixteen presets by clicking a dot. Each preset has its own sound characteristics and introduces specific parameters to the interface (15). A list of the preset specific parameters can be found at the end of this section.

(7) **SPECTRUM**: Macro control for changing the spectrum of the Poly Synthesizer. Higher values give brighter sounds, lower values give deeper sounds.

(8) **CHARACTER**: Macro control for changing the character of the Poly Synthesizer. Higher values emphasize the unique character of the Poly Synthesizer.

(9) **LENGTH**: Macro control for changing the release of the Poly Synthesizer. Higher values result in longer envelope times for each note or trigger.

(10) **MOD**: Higher values give the sound more movement and shape.

(11) **SPECTRUM Macro Range**: Set how much influence the Global Spectrum Control has over the Spectrum Control.

(12) **CHARACTER Macro Range**: Set how much influence the Global Character Control has over the Character Control.

(13) **LENGTH Macro Range**: Set how much influence the Global Length Control has over the Length Control.

(14) **MOD Macro Range**: Set how much influence the Global Modulation Control has over the Modulation Control.



(15) **Preset Specific Parameter:** Each Poly Synthesizer preset (6) has its own set of specific parameters which appear in this area. A description of each parameter is listed below this section.

(16) **LEVEL:** Adjust the Poly Synthesizer volume level, or mute the Poly Synthesizer. To change the volume level of the Poly Synthesizer, click and drag the mouse over the circular area. To toggle mute on or off, click in the center of the circle.

(17) **FX Send:** Use this parameter to adjust the amount of signal from the Poly Synthesizer sent to the FX. To adjust the **FX Send** value, click and drag the mouse upwards or downwards over the small circular area.

### Preset Specific Parameters

Preset Name	Parameter	Description
<b>POLYTICKS</b>	<b>DETUNE:</b>	Detune the four oscillators of the Poly Synthesizer.
<b>POLYGAMY</b>	<b>SPREAD:</b>	Spread the oscillators by a fixed interval. The oscillators will be snapped to the chord after the spread. This allows you to create spread chords which snap to the scale.
<b>POLYMORPH</b>	<b>NOTCH:</b>	Increase or decrease the intensity of the notch filter.
<b>POLYEASE</b>	<b>CUTOFF +/-:</b>	Toggle between positive and negative modulation of the cutoff filter.
	<b>SPREAD:</b>	Spread the oscillators by a fixed interval. The oscillators will be snapped to the chord after the spread. This allows you to create spread chords which snap to the scale.
<b>POLYTHEIST</b>	<b>CUTOFF +/-:</b>	Toggle between positive and negative modulation of the cutoff filter.
	<b>SPREAD:</b>	Spread the oscillators by a fixed interval. The oscillators will be snapped to the chord after the spread. This allows you to create spread chords which snap to the scale.
	<b>VIBRATO:</b>	Adjust the amount of regular, pulsating change in the pitch of the sound. Use it to add expression and variation.

Preset Name	Parameter	Description
<b>POLYPHONEY</b>	RESONANCE:	Control the amount of the signal enhancement at the cutoff frequency.
	SATURATION:	Add warmth and “fatten-up” the sound.
	VIBRATO:	Adjust the amount of regular, pulsating change in the pitch of the sound. Use it to add expression and variation.
	VIBRATO SPEED:	Adjust the speed of Vibrato.
<b>POLYGON</b>	CUTOFF +/-:	Toggle between positive and negative modulation of the cutoff filter.
	SHIFT +/-:	Toggle between positive and negative modulation of granular pitch shift.
	FM:	Toggle between positive and negative modulation of frequency modulation
<b>POLIGARCH</b>	SAT +/-:	Toggle between positive and negative modulation of Saturation..
	BOOST +/-:	Toggle between positive and negative modulation of EQ.
	VIBRATO:	Adjust the amount of regular, pulsating change in the pitch of the sound. Use it to add expression and variation.
<b>POLYNOMIAL</b>	SATURATION:	Add warmth and “fatten-up” the sound.
	VIBRATO:	Adjust the amount of regular, pulsating change in the pitch of the sound. Use it to add expression and variation.
<b>POLYGLOT</b>	CUTOFF +/-:	Toggle between positive and negative modulation of the cutoff filter.

Preset Name	Parameter	Description
	VIBRATO:	Adjust the amount of regular, pulsating change in the pitch of the sound. Use it to add expression and variation.
<b>POLYFLOWER</b>	VIBRATO:	Adjust the amount of regular, pulsating change in the pitch of the sound. Use it to add expression and variation.
<b>POLYPHILLA</b>	DETUNE:	Control the tuning of the four oscillators.
<b>POLYKILLA</b>	PITCH SNAP:	Snap voices to scale after <b>SPREAD</b> has been used.
	SPREAD:	Spread the oscillators by a fixed interval. The oscillators will be snapped to the chord after the spread. This allows you to create spread chords which snap to the scale.
<b>POLYMER</b>	SPREAD:	Spread the oscillators by a fixed interval. The oscillators will be snapped to the chord after the spread. This allows you to create spread chords which snap to the scale.
	VIBRATO:	Adjust the amount of regular, pulsating change in the pitch of the sound. Use it to add expression and variation.
<b>POLLYPARROT</b>	DETUNE:	Detune the four oscillators of the Poly Synthesizer.
	VIBRATO:	Adjust the amount of regular, pulsating change in the pitch of the sound. Use it to add expression and variation.
<b>POLYNOT</b>	PITCH SNAP:	Snap voices to scale after <b>SPREAD</b> has been used.
	SPREAD:	Spread the oscillators by a fixed interval. The oscillators will be snapped to the chord after the spread. This allows you to create spread chords which snap to the scale.

## 8.1.5 FX

The FX engine could be described as a dub delay on steroids using two tempo-synced delay lines, filtering and limiting. The delay times and filter settings can be modulated by the modulation curves extracted from your samples giving unique and powerful rhythmic and tonal effects.



FX overview

(1) **FX sends:** Use these parameter to adjust the amount of signal from the Sound Generators sent to the FX. To adjust a value, click and drag the mouse upwards or downwards over the small circular areas.

(2) **Treble/Bass Symbol:** These symbols set the gate for how the FX is triggered by the sample. By selecting the treble symbol, the FX are triggered by the high frequencies of the selected sample, and by selecting the bass symbol, the FX are triggered by low frequencies. To allow the FX to react to the treble or bass frequencies select either symbol, to allow it to react to all frequencies select both symbols.

(3) **FX Preset Selector:** Select between sixteen presets by clicking the dots. Each preset has its own unique sound.

(4) **SPECTRUM:** Macro control for changing the spectrum of the FX. Higher values give brighter sounds, lower values give deeper sounds.

- (5) **CHARACTER**: Macro control for changing the character of the FX. Higher values emphasize the unique character of the FX.
- (6) **LENGTH**: Macro control for changing the release of the FX. Higher values result in longer envelope times for each note or trigger.
- (7) **MOD**: Higher values give the sound more movement and shape.
- (8) **SPECTRUM Macro Range**: Set how much influence the Global Spectrum Control has over the Spectrum Control.
- (9) **CHARACTER Macro Range**: Set how much influence the Global Character Control has over the Character Control.
- (10) **LENGTH Macro Range**: Set how much influence the Global Length Control has over the Length Control.
- (11) **MOD Macro Range**: Set how much influence the Global Modulation Control has over the Modulation Control.
- (12) **LEVEL**: Adjust the FX volume level, or mute the FX. To change the volume level of the FX, click and drag the mouse over the circular area. To toggle mute on or off, click in the center of the circle.

## 8.2 Mixer

The **SOUND** page contains the mixer for the five sound generators, from left to right the large circles represent the; Sub Synthesizer, Mono Synthesizer, Sample Player, Poly Synthesizer, and FX. Here you can adjust the volume level, FX, and mute individual sound generators. The Mixer also visually displays the output of each sound generator with a waveform around the edge of the circle.



Each sound generator subpage also contains the same volume level and FX sends seen here in the Mixer.

### 8.2.1 Adjusting the Volume of a Sound:

To adjust the volume of a sound from the Mixer view:

1. Click the **SOUND** to access the Sound page to access the Mixer view.
  2. Click the icon of the sound generator if one is open to exit the sound generator view.
  3. Click and drag the mouse upwards to increase the volume, or drag downwards to decrease the volume.
- ⇒ The volume is increased or decreased accordingly.

### 8.2.2 How to Mute an Engine

To mute a sound generator from the Mixer view:

1. Click the **SOUND** to access the Sound page containing the Mixer view.
  2. Click in middle of the sound generator you want to mute.
- ⇒ The individual sound generator is muted.

### 8.2.3 How to Adjust FX Sends

To adjust the effect send of a sound generator from the Mixer view:

1. Click the **SOUND** to access the Sound page to access the Mixer view.
  2. Click the icon of the sound generator if one is open to exit the sound generator view.
  3. Click and drag the mouse upwards to increase the volume, or drag downwards to decrease the FX level.
- ⇒ The FX level is increased or decreased accordingly.

## 8.3 Macro Controls

FLESH contains four global macro controls which are all pre-wired and controlled on the **SOUND** page.

(1) **SPECTRUM**: Global macro control for the timbre of all the Sound Generators. Higher values give brighter sounds, lower values give deeper sounds. Set how much influence the Spectrum Global Macro has on each Sound Generator within its sub-page.

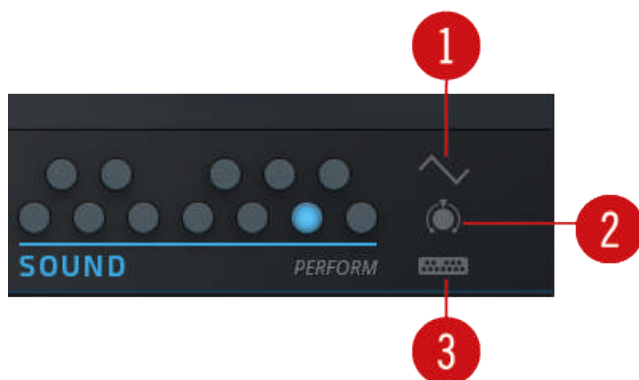
(2) **CHARACTER**: Global macro control for the character of all the Sound Generators. Higher values give greater emphasis to the unique personality of each engine. Set how much influence the Character Global Macro has on each Sound Generator within its sub-page.

(3) **LENGTH**: Global macro control for sustain and release of all Sound Generators. Higher values result in longer envelope times for each note or trigger. Set how much influence the Length Global Macro has on each Sound Generator within its sub-page.

(4) **MOD**: Global macro control for the modulation of all Sound Generators. This controls how the sound changes over time. Higher values usually result in more emphasized movement. Set how much influence the Modulation Global Macro has on each Sound Generator within its sub-page.

## 8.4 Configuration Subpages

The three Configuration subpages allow you to configure Modulation, Macros and Remote Octave settings. Click the icons to access the pages.



Configuration Subpages

(1) **MOD**. (Modulation): On the Modulation page the LFO, Envelope and Modulation Wheel can be used to add modulation to selected destination parameters. To show or hide the Modulation page click the **MOD**. icon. For information on how to use the Modulation page refer to [↑8.4.1, MOD. \(Modulation\) Subpage](#).

(2) **MACROS**: The Macro page contains all the instrument macro parameters side by side. This page is great to do quick adjustments and fine tuning to the main instrument parameters. To show or hide the Macros page click the **MACROS** icon. For information on how to use the Macros page refer to section [↑8.4.2, Macros Subpage](#).

(3) **REMOTE**: The Sound Remote Octave can be set to control all of the Sound engine parameters or just selected areas. To show or hide the Remote page click the **REMOTE** icon. For information on how to use the Remote page refer to section [↑8.4.3, Remote Subpage](#).

### 8.4.1 MOD. (Modulation) Subpage

The Modulation subpage reveals the LFO and ENV modulators and allows to add modulation to all parameters of the main Sound page. In order to change the modulation source for a given control just click on the modulation label. A full list of modulation destinations is provided at the end of this section.

▪



MOD. (Modulation) Sub Page - Overview

(1) **Modulation Knob**: Use this to adjust the amount of modulation. Turn the knob clockwise to enter positive amounts of modulation. Turn the knob counterclockwise to enter negative amounts of modulation. Double-click the modulation knob to reset the value to zero modulation.



(2) **Modulation Type:** Set the modulation type here. There are three types of modulation available; **LFO** (Low Frequency Oscillator), **MW** (modulation wheel) and **ENV** (envelope). Click the label to toggle the modulation type for each parameter.

(3) **LFO Waveform:** Set the waveform of the Low Frequency Oscillator. There are three waveforms available; Triangle, Rising Sawtooth and Falling Sawtooth. To select the type of LFO waveform you require to modulate a parameter, click the waveform area to toggle through the available waveforms.

(4) **LFO Rate:** Set the LFO rate to determine the speed of the LFO. Click and drag the mouse over the LFO Rate to adjust the speed of the selected LFO waveform.

(5) **ENV (ADSR)** Use these sliders to control the contour of the ENV modulation. **A** controls the attack phase, **D** controls the Decay, **S** controls sustain, and **R** turns on release. When release is off, the envelope will remain on the sustain level after releasing the key. The envelope is also velocity sensitive, and is scaled according to the velocity of key trigger. To adjust the envelope contour levels, click and drag the mouse upwards and downwards over the **A**, **D**, **S** contour levels

### List of Modulation Destinations

The **LFO**, **ENV** and **MW** can be used to modulate the following destination parameters:

- Sub Mixer Volume Level
- Mono Mixer Volume Level
- Mono FX Send Level
- Sample Mixer volume, and FX Send Level
- Poly Mixer Volume Level
- Poly FX Send Level
- FX Mixer Volume Level
- Spectrum Macro Global Level
- Character Macro Global Level
- Length Macro Global Level
- Modulation Global Macro Level

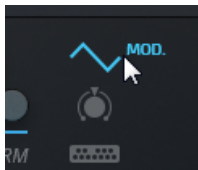
## How to Assign Modulation

To assign modulation to parameter:

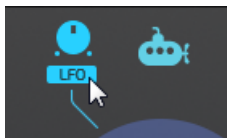
1. Click **SOUND** to access the Sound page.



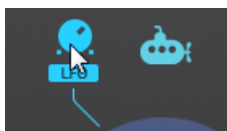
2. Click the **MOD.** icon (in the bottom right-hand corner) to access the Modulation view.



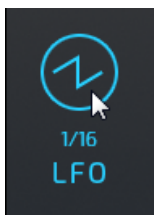
3. Click the parameter type button to select the type of modulation you want to apply to a parameter. There are three options available. Click the button to toggle all options.



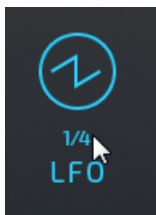
4. Turn the Modulation knob to set the amount of modulation you want to apply to the parameter.



5. Click the **LFO** waveform to select the interval at which the LFO will modulate the parameter.



6. Hold the left button and drag the mouse over the **LFO** rate to set the speed at which the LFO will modulate the parameter. The range is from 8 bars to  $3/64$ th.



7. If you chose **ENV** as the source for modulation be sure to set the **(A)** Attack, **(D)** Decay **(S)** Sustain and **(R)** Release accordingly.



8. If you choose **MW** (Modulation Wheel) as the type of modulation, apply the modulation wheel to hear the effect. This can also be recorded by your host software.  
⇒ You can hear the modulation applied to the target parameters and control them in real time or with your host software.

## 8.4.2 Macros Subpage

The **MACROS** subpage contains all of the main instrument and FX controls side by side. The direct access to all macro parameters is great in live performance situations and convenient to fine tune sound combinations while setting up the Sound Remote Octave. The macro parameters can also be controlled via automation parameters within your host software.



MACROS Sub Page - Overview

(1) **Sub Synthesizer Macros:** This area contains the Sub Synthesizer macros. Here you can set the macro ranges for the each parameter and fine tune how the Global Macro Controls affect these parameters. The Sub Synthesizer Macro Range controls here are covered in the Sub Synthesizer overview section, for more information please refer back to section [↑8.1.1, Sub Synthesizer](#).

(2) **Mono Synthesizer Macros:** This area contains the Mono Synthesizer macros. Here you can set the macro ranges for the each parameter and fine tune how the Global Macro Controls affect these parameters. Mono Synthesizer Macro Range controls here are covered in the Mono Synthesizer overview section, for more information please refer back to section [↑8.1.2, Mono Synthesizer](#).

**(3) Sample Player Macros:** This area contains the Sample Player macros. Here you can set the macro ranges for the each parameter and fine tune how the Global Macro Controls affect these parameters. Sample Player Macro Range controls here are covered in the Sample Player overview section, for more information please refer back to section [↑8.1.2, Mono Synthesizer](#).

**(4) Poly Synthesizer Macros:** This area contains the Poly Synthesizer macros. Here you can set the macro ranges for the each parameter and fine tune how the Global Macro Controls affect these parameters. Poly Synthesizer Macro Range controls here are covered in the Poly Synthesizer overview section, for more information please refer back to section [↑8.1.4, Poly Synthesizer](#).

**(5) FX Macros:** This area contains the FX macros. Here you can set the macro ranges for the each parameter and fine tune how the Global Macro Controls affect these parameters. FX Macro Range controls here are covered in the FX overview section, for more information please refer back to section [↑8.1.4, Poly Synthesizer](#).

### 8.4.3 Remote Subpage

The SOUND Remote subpage allows you to configure which sound areas are controlled by the sound remote octave. The sound engine parameters, mix and send levels, and main macros can be selectively controlled and set by the Sound Remote Octave.

#### Remote Octave Key Ranges

Use the following Remote Octave key ranges to recall slots or control specific feature within FLESH.

Remote Octave Keys	Function
<b>C1</b> to <b>B2</b> (MIDI notes 36 to 47)	Select a <a href="#">HARMONY</a> slot
<b>C2</b> to <b>B3</b> (MIDI notes 48 to 59)	Select a <a href="#">SAMPLES</a> slot.
<b>C3</b> to <b>B4</b> (MIDI notes 60 to 72)	Select a <a href="#">SOUND</a> slot.
Key <b>D4</b> (MIDI note 74)	<a href="#">HOLD</a> on/off
Key <b>E4</b> (MIDI note 76)	<a href="#">SEQUENCE</a> Play/Stop
Key <b>A4</b> (MIDI note 81)	<a href="#">PERFORM</a> on/off
Key <b>F4</b> (Midi Note 77)	<a href="#">HARMONY</a> Snap Lock on/off

Remote Octave Keys	Function
Key <b>G4</b> (Midi Note 79)	<b>SAMPLES</b> Snap Lock on or off
Key <b>B4</b> (Midi Note 83)	Swing/Tempo Lock on or off
Key <b>C5</b> (Midi Note 84)	During press and hold, the Keys <b>C1</b> to <b>B4</b> are used to switch the snapshots of the actual loaded bank.

The Remote Octave can be configured to affect the parameters listed in the table at the end of this section. These settings are saved with each Snapshot providing plenty of options for manipulation and control.



REMOTE Subpage- Overview

(1) **Remote Disabled:** A grey icon indicates that the SOUND Remote Octave is disabled for a parameter. When Remote Octave is disabled, a parameter will not change when a new **SOUND** slot is selected.

(2) **Remote Enabled:** A blue icon indicates that the SOUND Remote Octave is enabled for a parameter. When Remote Octave is enabled, a parameter will change when a new SOUND slot is selected.

### List of Remote Octave Recall Options

Remote Octave Recall Option	Description
<b>Sub Synthesizer</b>	Enable/disable all Sub Synthesizer parameters to be recalled by the Sound Remote Octave.
<b>Sub Synthesizer Level</b>	Enable/disable the Sub Synthesizer volume level to be recalled by the Sound Remote Octave.
<b>Mono Synthesizer</b>	Enable/disable all Mono Synthesizer parameters to be recalled by the Sound Remote Octave.
<b>Mono Synthesizer Level</b>	Enable/disable the Mono Synthesizer volume level to be recalled by the Sound Remote Octave.
<b>Mono Synthesizer FX Send Level</b>	Enable/disable the Mono Synthesizer FX send level to be recalled by the Sound Remote Octave.
<b>Sample Player</b>	Enable/disable all Sample Player parameters to be recalled by the Sound Remote Octave.
<b>Sample Player Level</b>	Enable/disable the Sample Player volume level to be recalled by the Sound Remote Octave.
<b>Sample Player FX Send Level</b>	Enable/disable the Sample Player FX send level to be recalled by the Sound Remote Octave.
<b>Poly Synthesizer</b>	Enable/disable all Poly Synthesizer parameters to be recalled by the Sound Remote Octave.
<b>Poly Synthesizer Level</b>	Enable/disable the Poly Synthesizer volume level to be recalled by the Sound Remote Octave.
<b>Poly Synthesizer FX Send Level</b>	Enable/disable the Poly Synthesizer FX send level to be recalled by the Sound Remote Octave.

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Remote Octave Recall Option	Description
<b>FX</b>	Enable/disable all FX parameters to be recalled by the Sound Remote Octave.
<b>FX Level</b>	Enable/disable the FX level to be recalled by the Sound Remote Octave.
<b>SPECTRUM</b>	Enable/disable the Spectrum Global Macro Control to be recalled by the Sound Remote Octave.
<b>CHARACTER</b>	Enable/disable the Character Global Macro Control to be recalled by the Sound Remote Octave.
<b>LENGTH</b>	Enable/disable the Length Global Macro Control to be recalled by the Sound Remote Octave.
<b>MOD. (Modulation)</b>	Enable/disable the Modulation Global Macro Control to be recalled by the Sound Remote Octave.



## 9 Harmony Page

The Harmony page is the space where notes and harmonies are defined to be played by the high and low triggers generated by the Samples section.

The Chords section allows the definition of twelve different notes or chords. It offers eight pre-set progressions to get started.

The Sub, Mono and Poly section parameters define how the incoming pitch information is processed in the sound engines.

The Sequence section allows you to record a chord progression that is created by switching the Remote Octave slots manually with the mouse or MIDI notes coming from an external device.

The link option allows you to have individual Sub, Mono and Poly harmony parameters per Remote Octave slot. If link is disabled these parameters are global.



HARMONY Page - Overview

(1) **SUB Section:** This section contains Harmony settings for the Sub Synthesizer. Here you can set the source pitch input for the Sub Synthesizer. For more information refer to [↑9.1, Sub Synthesizer Section](#).

(2) **MONO Section:** This section contains Harmony settings for the Mono Synthesizer. Here you can set the pitch source, and root note, adjust the Melody and Pitchbend settings for the Mono Synthesizer. For more information refer to [↑9.2, Mono Synthesizer Section](#).

(3) **POLY Section:** This section contains Harmony settings for the Poly Synthesizer. Here you can set the pitch source, and root note, adjust the Melody and Pitchbend settings for the Poly Synthesizer. For more information refer to section [↑9.3, Poly Synthesizer Section](#).

- (4) **CHORDS Section:** This section contains the Preset Chord Selector, the Keyboard, Transpose Chord buttons, and the All Transpose button for the Harmony. For more information refer to section [↑9.4, Chords Section](#).
- (5) **SEQUENCE Section:** This section contains the Sequencer settings for the Harmony. Here you can record and playback a chord sequence. For more information refer to section [↑9.4, Chords Section](#).
- (6) **HARMONY:** Click this icon to access the [HARMONY](#) page.
- (7) **HARMONY Remote Octave:** Select one of twelve harmonies by clicking the Remote Octave slots or using the Remote Octave on your keyboard, keys **C1** to **B2** (MIDI notes 36 to 47). Click the mouse over a Remote Octave slot and drag from to another slot to copy a Harmony setting.
- (8) **HARMONY Sequence Play:** This button will playback the recorded Harmony sequence. Press the Play button, press [P] on your computer keyboard, or **E4** (MIDI note 76) on your keyboard to hear Sequence playback.
- (9) **HARMONY Snap Lock.** Enable this for individual Sub, Mono, Poly Synthesizer settings per Remote Octave slot. Click the Lock icon to enable or disable this feature.

## 9.1 Sub Synthesizer Section

- (1) **SOURCE (SUB Pitch Source Select):** Select between Mono Synthesizer and Poly synthesizer to source the pitch of the Sub Synthesizer.

## 9.2 Mono Synthesizer Section

- (1) **VELOCITY/CENTROID:** Select the type of transient curve that drives the modulation sources. The curves are created when the samples are analyzed. Each sample slice has its own velocity (level) and centroid (the balance between low and high frequencies - low frequencies give a low result, high frequencies give a high result). When the sample is played back slice by slice these values are also played back and create the modulation curves.
- (2) **ROOT:** This sets the root note of the synthesizer. This feature is best used with the Sequencer to provide chord changes on playback.
- (3) **PITCHBEND:** Select the amount of pitch bend relative to the [ROOT](#) note.

- (4) **MELODY**: Increase the amount of Melodic content introduced by the transients.
- (5) **PITCHBEND**: Select the amount of pitch bend relative to the **MELODY**.

## 9.3 Poly Synthesizer Section

- (1) **VELOCITY/CENTROID**: Select the type of transient curve that drives the modulation sources. The curves are created when the samples are analyzed. Each sample slice has its own velocity (level) and centroid (the balance between low and high frequencies - low frequencies give a low result, high frequencies give a high result). When the sample is played back slice by slice these values are also played back and create the modulation curves.
- (2) **ROOT**: This sets the root note of the synthesizer. This feature is best used with the Sequencer to provide chord changes on playback.
- (3) **PITCHBEND**: Select the amount of pitch bend relative to the **ROOT** note.
- (4) **MELODY**: Increase the amount of Melodic content introduced by the transients.
- (5) **PITCHBEND**: Select the amount of pitch bend relative to the **MELODY**.

## 9.4 Chords Section

- (1) **LINK**: Link harmony parameters to chord selection. Click this button to recall individual synthesizer parameter settings for each chord. When link is enabled the **MELODY** and **ROOT** settings for each synthesizer are stored and recalled individually for each note **C1** to **B2**. When link is disabled the parameters apply to all chords.
- (2) **Chord Presets**: Click this button to recall one of eight preset chords. The set of eight chord presets contain a mixture of major, minor, intervals, chromatic fifths, and variations of them all. The chords are provided as a starting point and can be used for convenience when required. After a chord has been selected the transpose buttons (< >) can be used to change the root note. A table of all Chord presets is available at the end of this section.
- (3) **KEYS**: The keyboard displays notes C to B and represent the notes currently playing the harmony for each Harmony Remote Octave slot. Click on the keyboard to add single notes or build chords. Up to twelve chords can be added to a Snapshot and recalled using the Remote

Octave on your keyboard (**C1** to **B2**) or a MIDI device (MIDI note number 24 to 35). Switch between chords manually or record a sequence using the sequencer. For more information on building a Sequence refer to [↑9.4, Chords Section](#).

(4) **< > (Transpose)**: The **<** and **>** buttons transpose the entire keyed one semitone up or down.

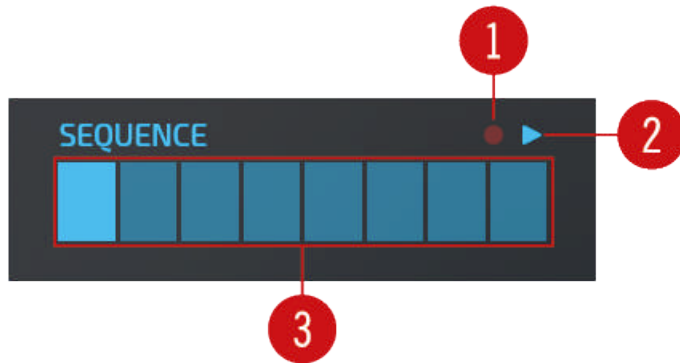
(5) **ALL**: When **ALL** is on transposition using the **< >** buttons will affect all the chords in the set. When **ALL** is off transposition only affects the selected chord.

### Chord Presets

Preset Name	Chord Structure
KEYNIUS	Major - Variation 1
LOWKEY	Minor - Variation 1
KEYTAR	Variations of a Major Chord with Extensions
MONKEYS	Variations of a Minor Chord with Extensions
TURKEYS	Minor - Variation 2
KEYMONO	Intervals 1 (Based on major scale)
KHAKEY	Intervals 2 (Based on minor scale)
KEYPLAYER	Chromatic scale with Fifths

## 9.5 Sequence Section

The Sequence section provides the means to record a chord sequence using the Harmony Remote Octave. The sequencer records increments of one bar up to a maximum of eight bars. The Sequence is armed using the record button, and recording is started by a gate on message and stopped by the next gate off. This means for multiple chord changes you need to make sure to play 'legato' - i.e. your note on messages should overlap. Once you finish recording the length of the sequence is rounded to the nearest bar. If you play past eight bars recording will automatically stop.



Sequence Section overview

- (1) **Record:** Use this button to initiate the recording process. Recording will begin when the first key is pressed.
- (2) **Play:** Press the Play button, or press [P] on your computer keyboard, or Key **E4** (MIDI note 76) to hear the Sequence playback
- (3) **Sequence:** A graphical overview of the sequence is displayed here.

### How to Record a Harmony Sequence

Before you begin recording a sequence be sure enter the notes or chords you require using the keyboard in the Chord section on the Harmony page. Prepare the sequence by entering a new chord for each Harmony Remote Octave slot.

To record a harmony sequence:

1. Click [HARMONY](#) to access the Harmony page.



2. In the [SEQUENCE](#) section click the Record button to initiate the recording process, or press key **E4** (MIDI note 76) on your keyboard.



3. Play your harmony sequence using keys **C1** to **B2** (MIDI notes 36 to 47) on your keyboard or MIDI controller to trigger the Harmony Remote Octave slots. Play the sequence legato, with the smooth transitions from note to note and no intervening silence.
  - ⇒ A sequence is recorded and displayed in the Sequence section. Playback the sequence using the Play button or by pressing key **E4** (MIDI note 76) on your keyboard.

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## 10 Credits

FLESH Instrument by Tim Exile

### **Product Design**

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### **Instrument Development**

Tim Exile, Lazyfish, Dietrich Pank, Igor Shilov

### **GUI Design**

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### **Sound Design**

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### **Quality Assurance**

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### **Documentation**

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### **Project Management**

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