

A decorative graphic consisting of several overlapping, stylized green swirls and waves that frame the text.

# synplant 2

version 2.0.2

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## INTRODUCTION

Welcome to Synplant 2, the next evolution of the software synthesizer that reimagined sound design with a genetic twist. Rather than the traditional knob-twisting and dial-adjusting, Synplant lets you plant sound seeds that evolve into your very own synth patches. The focus is on exploration and discovery, letting your ears guide you through a forest of organic textures and evolving timbres, all waiting to be discovered.

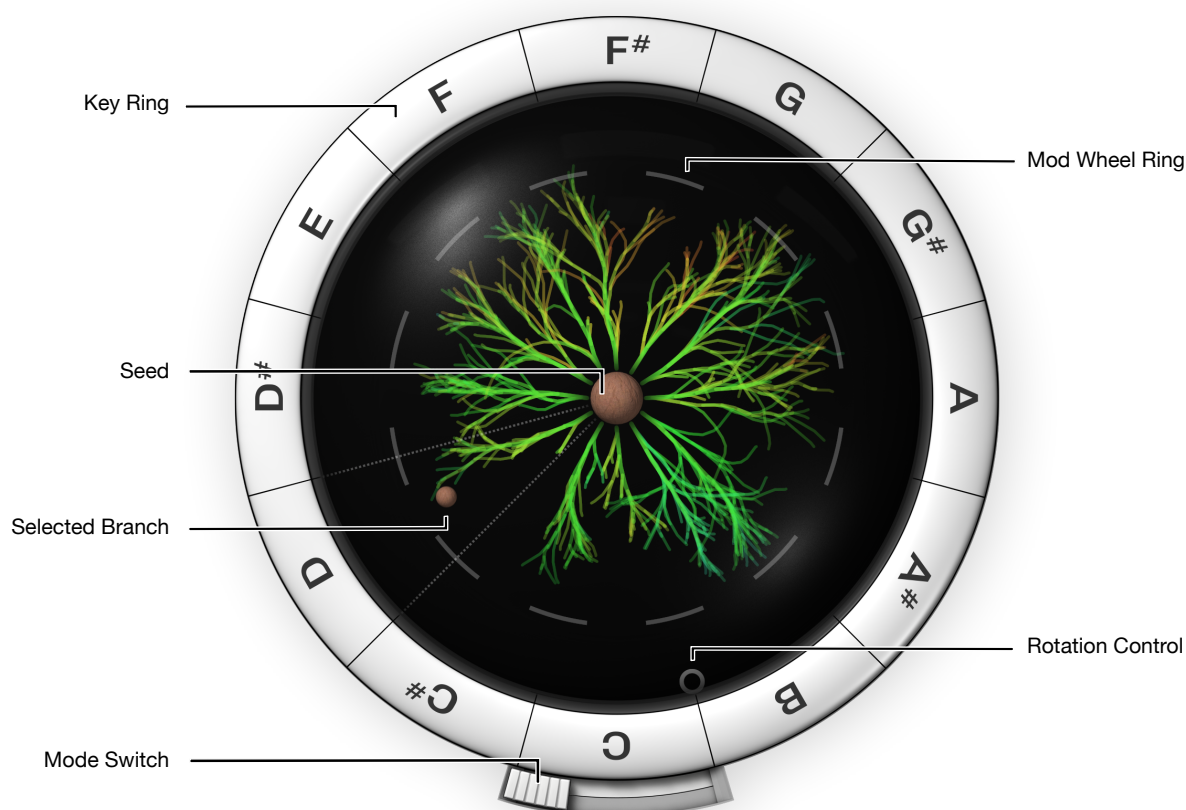
In this second iteration, we've introduced key enhancements to elevate your sound design experience. A standout feature is Genopatch, which employs machine-learning algorithms to analyze your audio samples and generate new Synplant seeds. The results can range from closely mimicking your original sample to unexpected sonic surprises.

We've also revamped the DNA editor for a more intuitive experience. Unlike its predecessor, which lined up all parameters as identical sliders on a single DNA spiral, the new editor offers a structured layout with graphical representations for various settings like envelopes, oscillator types, and filters. This makes it easier to grasp and manipulate the genetic code of your patches.

Furthermore, the new version introduces additional genes and versatile triggering options, including a layered sound mode. It also features tempo synchronization, monophonic patches, glide, and more. All genes can be automated directly in your DAW, and the audio engine has been updated for better sound quality.

With these advancements, Synplant 2 makes developing your own unique sound easier than ever. Whether you're stumbling upon new sounds through serendipity, drawing inspiration from external samples, or meticulously sculpting parameters with the updated DNA editor, Synplant 2 will have your sonic creations blossom in no time.

# Synplant Bulb



## Seed and Branches

The seed is the core of your sound in Synplant. Drag within the bulb to grow branches from this seed. Each branch has a unique timbre. Closest to the seed, all the branches sound identical to the seed, but the farther out you pull a branch, the more different it will sound.

If you find a branch you like, you can cut it off and re-plant it as a new seed by clicking the **Seed Button** in the center of the bulb. If none of the branches appeal to you, you can retract one back to its origin to match the original seed sound. Then, click the **Seed Button** to plant it as a new seed and generate 12 fresh branches.

**TIP** An easy way to fully retract a branch to its root is to click the branch with the **COMMAND** (Mac) or **CONTROL** (Windows) key held down.

If it is hard to pinpoint the exact desired length, hold down the **SHIFT** key while dragging to obtain a finer resolution.

Synplant automatically triggers a note to play it whenever you click and drag a branch. (If this is undesirable, turn it off using the [MIDI Settings](#) window.)

Hold down **COMMAND** (Mac) or **CONTROL** (Windows) and click the **Seed Button** to generate a new random seed sound. The **Atonality** slider (see below) affects the type of seed being created. If the slider is turned down to 0, the seed will typically produce a melodic and playable sound. If it is turned up to 100, the seed is more likely to become an unpitched sound effect.



Hold down **ALT** and click the **Seed Button** to clone the currently selected branch to all 12 branches. This action makes all branches grow identically so that the sound behaves consistently across all keys. You can also **ALT**-drag a branch around the bulb to clone it to specific positions.

**DID YOU KNOW?** You can adjust the volumes of individual branches through the **Edit Branch Volumes** option, accessible by right-clicking on the branches or from the **Main Menu**. Additionally, you can also auto-normalize all branch levels for equal loudness.

## Key Ring

Normally, clicking the **Key Ring** around the bulb plays notes without changing the branch lengths. The exception is when the **Bulb Mode** is **Layered** (see below), where clicking the **Key Ring** buttons toggles individual layers on and off.

Press **COMMAND** (Mac) or **CONTROL** (Windows) and click a **Key Ring** button to grow a new random branch. Use this to swap out branches you don't like. The new branch will sound different when pulled out.

## Mod Wheel Ring

By dragging the **Mod Wheel Ring** in and out, you control the **Mod Wheel** parameter (typically linked to *MIDI Controller 1*). The effect varies based on the **Wheel Target** (described later). The default target, **Growth +**, causes all branches to grow simultaneously.

## Rotation Control

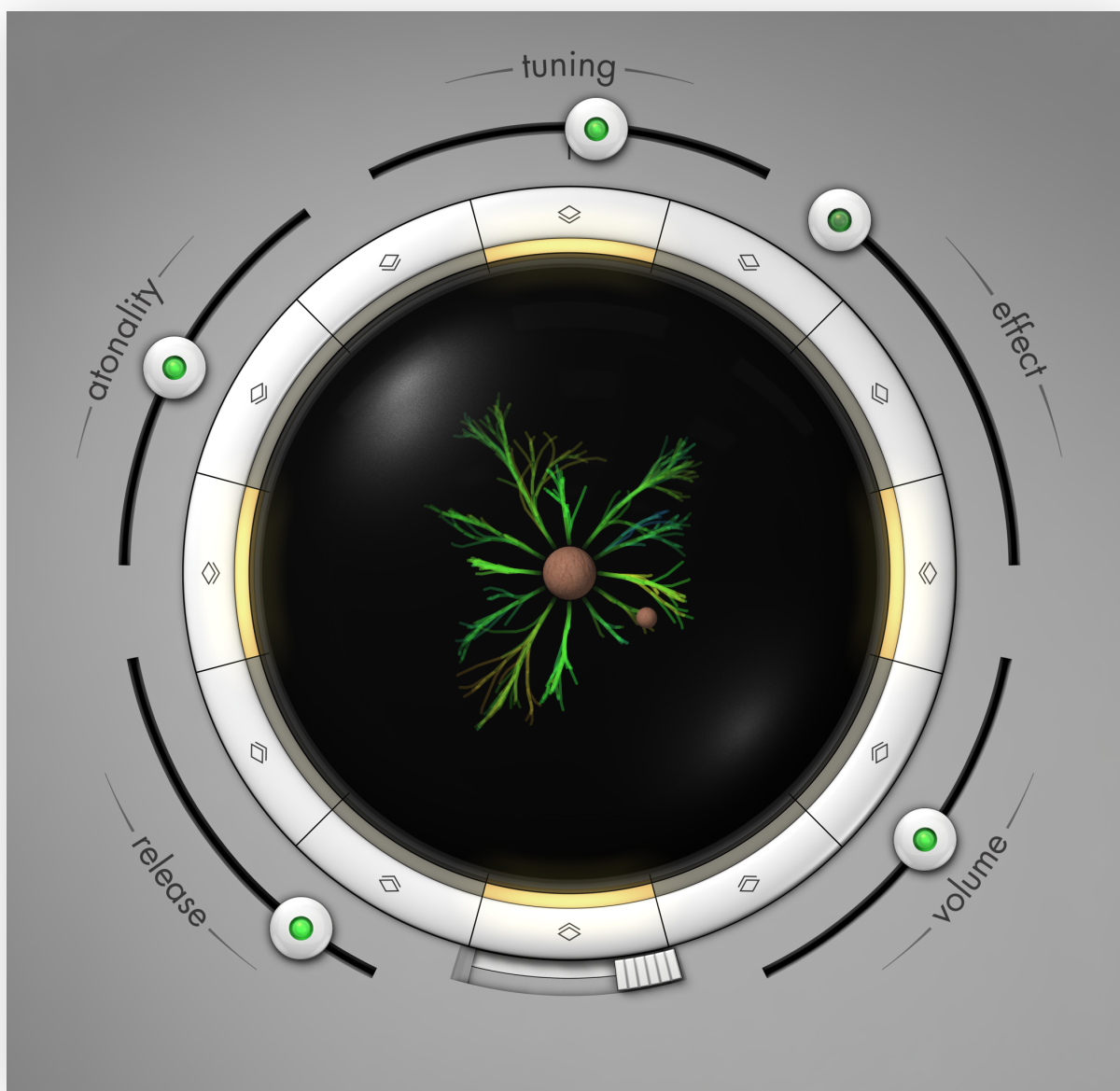
The **Rotation Control** is the small circle in the periphery of the bulb. By spinning it around, you can change which branches are triggered by which keys on your MIDI keyboard.

## Bulb Modes

The **Bulb Mode** determines how branches respond to MIDI notes.

<b>Standard</b>	Each branch corresponds to a specific note within an octave: C, C#, D, etc., up to B.
<b>Velocity</b>	Branches are triggered by different velocity ranges. For example, the bottom branch responds to the highest velocities (117-127).
<b>Ranges</b>	Branches are mapped to six-semitone ranges (C to F, F# to B), from the keyboard's bottom to the top.
<b>Layered</b>	Enables multiple branches to be triggered simultaneously for rich, layered sounds. The Atonality setting detunes these layers, even when fully contracted. Note that enabling many layers reduces polyphony. (You can adjust the maximum polyphony in the <a href="#">MIDI Settings</a> window, described later.)

## Surrounding Sliders



### Tuning

The **Tuning** slider adjusts the pitch within an octave range. To automatically tune the sound, right-click the slider or select **Correct Tuning** from the **Main Menu**. While generally accurate, it may fail with complex sounds. For a broader pitch range, modify the **a\_freq** gene in the **DNA Editor**. Lower **Atonality** settings help maintain tuning, particularly with grown-out branches.

### Effect

The **Effect** slider controls both the reverb and panning amount. Lower settings produce a dry, monophonic sound, while higher settings produce a wet, spacious sound. Stereo panning correlates with branch positions in the bulb: branches on the left side pan to the left and those on the right pan to the right.

**TIP** For more control, adjust the **fx\_mix** and **adj\_pan** genes in the **DNA Editor**.

## Volume

The **Volume** slider has a built-in soft clipper that adds distortion at high levels. You can modify the **adj\_clip** gene in the **DNA Editor** to tame this distortion. To normalize loudness, right-click the slider or choose **Normalize Volume** from the **Main Menu**.

## Release

The **Release** slider determines the fade-out time after a key is released. The impact of this slider varies depending on the seed's inherent qualities. The lower **Release** settings will also fade out the built-in reverb upon key release.

## Atonality

The **Atonality** slider influences the type of sounds produced when growing branches. Lower settings yield more musical and “playable” sounds, while higher settings introduce atonality and pitch modulation. The effect is subtle on short branches but becomes more pronounced on longer ones. At settings above 50%, notes also become increasingly and randomly detuned, resembling a poorly tuned instrument.

# Popup Selectors

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## Voice Mode

**Poly** Multiple voices can be played simultaneously. The maximum number of voices can be changed in the [MIDI Settings](#), discussed in a separate section of this manual.

**Mono** Only one voice can be played at a time. When a new note is played, the previous one is stopped.

**Legato** Similar to **Mono**, only one voice can be active at a time. However, if you play a new note while holding down the previous one, the sound will transition smoothly without retriggering the voice.

## Wheel Target

The **Mod Wheel** can be assigned to various target parameters, and its effect can be scaled using the **Mod Wheel Scaling** slider (*described in the [Bottom Sliders section](#) below*).

These are the available targets:

**Growth +** Expands all branches (*the classic Mod Wheel action from Synplant version 1*).

<b>Growth -</b>	Contracts the branches when the <b>Mod Wheel</b> is turned up.
<b>Filter +</b>	Opens the filter as the <b>Mod Wheel</b> is turned up, starting from the current patch setting. The related gene for this is <b>flt_freq</b> .
<b>Filter -</b>	Starts with a closed filter and opens it up to the current patch settings as the <b>Mod Wheel</b> is turned up. The related gene is <b>flt_freq</b> .
<b>Env Time +</b>	Slows down the timing of the sound as the <b>Mod Wheel</b> is turned up. The affected genes are <b>env_time</b> and <b>env_loop</b> .
<b>Env Time -</b>	Speeds up the timing of the sound as the <b>Mod Wheel</b> is turned up. The affected genes are <b>env_time</b> and <b>env_loop</b> .
<b>FM Amount</b>	Modulates the frequency modulation amount. The related gene is <b>fm_amt</b> .
<b>LFO Amount</b>	Modulates the vibrato/tremolo amount. The related gene is <b>lfo_amt</b> .
<b>Effect</b>	Increases the effect amount with the <b>Mod Wheel</b> , similar to turning up the <b>Effect</b> slider.
<b>Volume</b>	Increases the volume with the <b>Mod Wheel</b> , similar to turning up the <b>Volume</b> slider.

### Tempo Sync

This feature attempts to synchronize any rhythmic components of the sound with the host tempo. Available choices for synchronization are: **1/2**, **1/4 D** (dotted), **1/2 T** (triplets), **1/4**, **1/8 D** (dotted), **1/4 T** (triplets), and **1/8**.

## Bottom Sliders

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### Glide Time

This slider controls the time for the pitch to glide from one note to another, ranging from 0 to 10 seconds (*where 0 seconds means no glide*). In **Poly** and **Mono** Voice Modes, the glide occurs between the last note pressed and the next one. In **Legato** mode, the glide only happens when you press a new key while holding down another.

### Mod Wheel Scaling

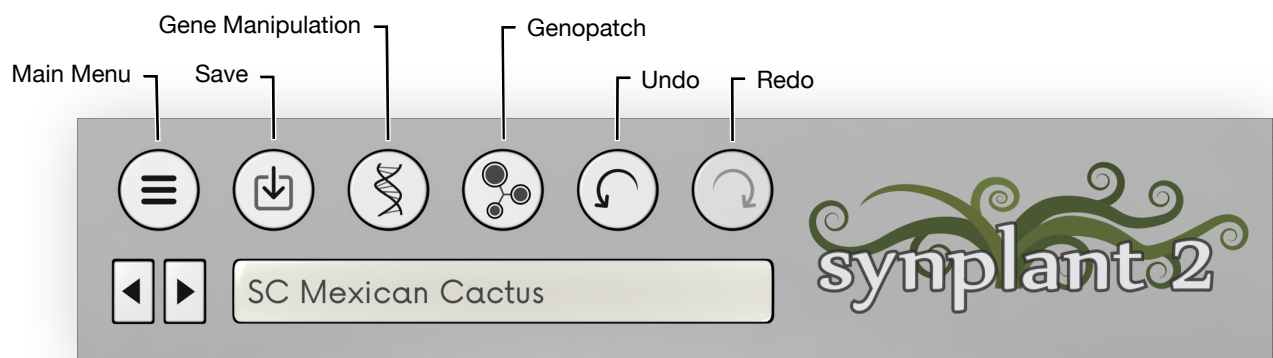
This slider scales the modulation depth of the **Mod Wheel**, allowing you to control how much the **Mod Wheel** affects the selected **Wheel Target**.

## Velocity Sensitivity

This slider controls how much velocity affects the sound, ranging from 0% to 100%. At 0%, it has no effect, resulting in uniform volume and timbre for all notes. As you increase the slider, velocity adjusts the volume and potentially the sound's character depending on the **mod\_vel** gene.

**NOTE** This setting does not alter branch selection in **Velocity Bulb Mode**. A velocity response curve can also be set in the [MIDI Settings](#) window for overall control, independent of individual patch settings.

## Toolbar



### Main Menu

This is the main menu button. See the separate section below for descriptions of all available menu items.

### Save Patch

Saves the current patch as a ".synplant" file on your computer.

### Manipulate Genes

Opens the **DNA Editor**, described in the [DNA Editor section](#) below.

### Genopatch

Opens **Genopatch**, our revolutionary sample to patch AI, described in the [Genopatch section](#) below.

### Undo/Redo

Reverts or reapplies your recent changes. The undo history is cleared when the editor window is closed.

### Previous/Next Patch

These buttons allow you to navigate through patches in the current patch folder quickly.

## Patch Display

Clicking the patch name unveils a menu listing all available patches in the current folder. This menu includes options to “Browse Patches...”, which opens the [Patch File Browser](#), and **Show Current Folder**, which reveals the active folder in Windows Explorer or MacOS Finder.

If you hold down **COMMAND** (*Mac*) or **CONTROL** (*Windows*) and click the display, Synplant will select a random patch from the currently active folder and load it.

## Main Menu

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### Undo/Redo

Same as the **Toolbar** buttons, these options let you revert or reapply recent changes. The undo history is cleared when the editor window is closed.

### Open Patch

Opens the [Patch File Browser](#), described below.

### Save Patch

Like the **Toolbar** button, this saves the current patch as a “.synplant” file on your computer.

### Copy/Paste Patch

These options let you copy your current patch to the clipboard and paste a patch from the clipboard into Synplant.

### Genopatch

Opens **Genopatch**, described in a separate section below.

### Plant Seed

Plants the currently selected branch as a new seed. Same as clicking the **Seed Button**. See the [Seed and Branches section](#) for more information.

### New Random Seed

Generates a new random seed for your patch. Same as holding **COMMAND** (*Mac*) or **CONTROL** (*Windows*) and clicking the **Seed Button**. See the [Seed and Branches section](#) for more information.

### Manipulate Genes

Opens the **DNA Editor**, described in the [DNA Editor section](#) below.

### Clone Selected Branch

Clones the sound of the selected branch to all keys. Same as **ALT**-clicking the **Seed Button**. See the [Seed and Branches section](#) for more information.

### Grow New Random Branch

Replaces a branch with a new random one. Same as holding **COMMAND** (*Mac*) or **CONTROL** (*Windows*) and clicking the **Key Ring**.



## **Correct Tuning**

Automatically tunes your patch to ensure it's in key. Also available by right-clicking the **Tuning** slider.

## **Normalize Volume**

Adjusts the volume of your patch to a standard level. Also available by right-clicking the **Volume** slider.

## **Normalize Branch Volumes**

Levels the volume across all branches of your seed. Also available by right-clicking a branch.

## **Edit Branch Volumes**

Opens a layer that allows you to manually adjust each branch's volume. Also available by right-clicking a branch.

## **Edit MIDI Controllers**

Opens a layer with MIDI CC boxes, allowing you to map Synplant functions to your MIDI controller. Click a MIDI CC box to activate "MIDI learn" (*if your host application supports it*). Drag or right-click to set a numeric value.

## **MIDI Settings**

Opens a window to configure MIDI settings. See [MIDI Settings section](#) below.

## **MIDI Program List**

Synplant offers 16 slots for loading patches, allowing quick transitions between sounds. You can switch between these patches using MIDI program change commands if your host supports it, and it is enabled in the **MIDI Settings** window. The program list is persistent; a new instance of Synplant will automatically load with the previously selected 16 patches.

## **Register**

Opens a dialog that allows you to enter your registration key to unlock the full version of Synplant.

## **Read User Guide**

You are here!

## **Run Introduction**

Runs the introductory tutorial shown at the first launch to get you acquainted with Synplant.

## **Auto-check for Updates**

Toggles the feature that automatically checks for software updates.

## **Zoom**

Allows you to scale the entire user interface. The zoom levels range between 50% and 200%.

## **About**

Shows information about the plug-in.

## Patch File Browser

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When you choose to open a patch, a familiar MacOS/Windows file browser will appear, but with added functionalities. Firstly, you can preview any patch instantly by clicking it and playing it using your MIDI keyboard without loading it into the plug-in and closing the browser.

Secondly, two buttons at the bottom allow quick navigation between the “Factory Patches” and “User Patches” folders. The “User Patches” folder initially defaults to a location under your “user folder,” but if you save a patch to a different folder, it will update to that location.

Inside the “Factory Patches” folder, you’ll find sub-folders organized as follows:

- |             |   |
|-------------|---|
| All         | Contains every available factory patch.                       |
| By Category | Patches are sorted into categories like Bases, Pads, etc.     |
| By Creator  | Patches are organized by their creators.                      |
| By Package  | Patches are grouped based on their respective sound packages. |



## DNA Editor

The **DNA Editor** window is where you can fine-tune the genetic makeup of your sound. The DNA spiral contains 48 genes, each represented by a circle on a horizontal line. To adjust a gene, click its circle and drag it left or right. Drag the mouse up or down (or **SHIFT**-click) for more precise adjustment. Hold **COMMAND** (*Mac*) or **CONTROL** (*Windows*) to reset the value to its default (0.5 for most genes).

The DNA spiral also visualizes how branches grow from the base seed settings as colorful lines overlaying the spiral. Observe that the genes control the seed settings only; branches grow randomly.

The DNA spiral is segmented into three outlined boxes at the top, middle, and bottom. Clicking inside these boxes switches the view to different sections displayed to the right of the spiral:

### I. Envelope and LFO

### II. Oscillators

### III. Filter and Effect

I. Envelope and LFO

env\_time env\_loop env\_tilt env\_kf

vol\_atk vol\_dcy

vol\_sus vol\_fade

figure 1a Volume envelope

mod\_atk mod\_dcy

mod\_sh mod\_vel

figure 1b Modulation envelope

lfo\_rate lfo\_amt

lfo\_bal lfo\_dly

figure 1c Pitch oscillation (vibrato)

figure 1d Volume oscillation (tremolo)

\* mod\_atk shapes the attack phase of the Modulation Envelope. A value of 0.5 gives a linear attack. Smaller values give a slower buildup, whereas higher values are quicker.

The knobs in the detailed sections on the right-hand side mirror the horizontal controls in the DNA spiral. Information about the gene you're hovering over is displayed at the bottom of the DNA window.

Right-clicking a gene knob gives you a context menu with options to flip its value, input an exact value as text or reset the gene to its default setting. You can automate all knobs in your DAW and map them to MIDI controls.

## Gene List and Descriptions

Synplant's genes are not traditional synthesizer parameters. They have complex relationships and have been extensively tuned to generate useful sounds through random mutations. All gene settings range from 0.0 to 1.0, and virtually all genes have a default setting of 0.5.

### I. Envelope and LFO

Gene	Description
<b>env_time</b>	Controls the total duration of the sound. Above 0.9, the envelope will have infinite duration.
<b>env_loop</b>	Controls the looping time of the envelope. A longer loop time than env_time means no looping will occur.
<b>env_tilt</b>	Determines the tilt of the envelope. Smaller values mean quicker attack and longer decay, while higher values mean slower attack and faster decay.
<b>env_kf</b>	Controls the key follow of the envelope. Settings above 0.5 make the envelope shorter with high keys and longer with low keys.
<b>vol_atk</b>	Shapes the attack phase of the volume envelope. A value of 0.5 gives a linear attack.
<b>vol_dcy</b>	Shapes the decay phase of the volume envelope. A value of 0.5 gives a linear decay.
<b>vol_sus</b>	Sets the sustain level of the sound. A value under 0.5 means no sustain.
<b>vol_fade</b>	Introduces an additional volume fade that begins after the initial attack phase. Settings above 0.75 activate the fade.
<b>mod_atk</b>	Shapes the attack phase of the modulation envelope. A value of 0.5 gives a linear attack.
<b>mod_dcy</b>	Shapes the decay phase of the modulation envelope. A value of 0.5 gives a linear decay.
<b>mod_sh</b>	Sets the sample-and-hold frequency of the modulation envelope. Only very high values will activate the effect.
<b>mod_vel</b>	Determines how velocity affects the modulation envelope. Lower settings lower the sensitivity; below 0.1, velocity does not affect modulation.
<b>lfo_rate</b>	Controls the LFO frequency.
<b>lfo_amt</b>	Adjusts the vibrato/tremolo effect. Below 0.5, Oscillator A and B are modulated in opposite directions.
<b>lfo_bal</b>	Decides the balance between vibrato (0.0) and tremolo (1.0).
<b>lfo_dly</b>	Settings above 0.5 introduce a delay before the LFO starts modulating the sound.

## II. Oscillators

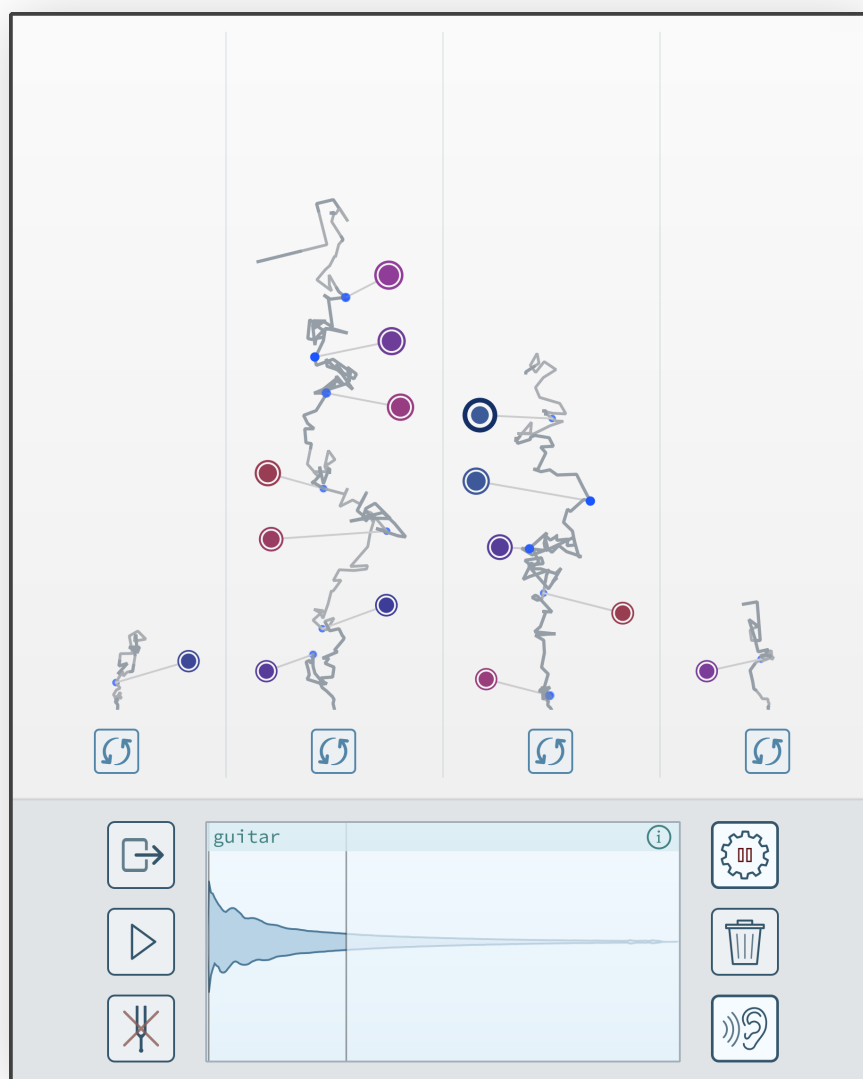
Gene	Description
<b>a_form</b>	Controls the waveform shape and timbre of Oscillator A.
<b>a_noise</b>	Adjusts the mix of noise in Oscillator A.
<b>a_mod</b>	Determines the pitch modulation amount from the modulation envelope.
<b>a_color</b>	Changes the character of the noise in Oscillator A.
<b>a_freq</b>	Controls the pitch of Oscillator A ( <i>also affects Oscillator B and filter cutoff</i> ).
<b>fm_mod</b>	Affects how the modulation envelope modulates the FM amount.
<b>fm_amt</b>	Controls the frequency modulation amount of Oscillator A by Oscillator B.
<b>mix_mod</b>	Determines how the modulation envelope modulates the mix between Oscillator A and B.
<b>osc_mix</b>	Changes the mix between Oscillator A and B.
<b>b_form</b>	Controls the waveform shape and timbre of Oscillator B.
<b>b_noise</b>	Adjusts the mix of noise in Oscillator B.
<b>b_mod</b>	Determines the pitch modulation amount from the modulation envelope.
<b>sub_am</b>	Adjusts the sub-oscillator mix.
<b>b_freq</b>	Controls the pitch of Oscillator B relative to the pitch of Oscillator A.
<b>b_sh</b>	Sets the sample-and-hold rate of Oscillator B. Values above 0.5 set a fixed rate, while values below sync the rate to Oscillator B's frequency.

## III. Filters and Effects

Gene	Description
<b>flt_type</b>	Morphs the filter type from bandpass to dual lowpass ( <i>serial and parallel</i> ) to notch.
<b>flt_q</b>	Controls the “q value” ( <i>or “resonance”</i> ) of the filters.
<b>flt_mod</b>	Determines the cutoff modulation amount from the modulation envelope.
<b>flt_sep</b>	Sets the separation between the cutoff frequencies of the two internal filter stages.
<b>flt_freq</b>	Controls the cutoff frequency relative to the frequency of Oscillator A.
<b>flt_kf</b>	Determines how filter cutoff changes over the keyboard. Below 0.25, the cutoff is fixed; above 0.75, it follows the keyboard exactly.
<b>saturate</b>	Adjusts the level of saturation on the voice.
<b>rvb_mix</b>	Sets the dry/wet mix of the built-in effect.
<b>rvb_atk</b>	Applies an envelope to the reverb amount when set above 0.66.
<b>rvb_len</b>	Changes the length of the reverberation.
<b>rvb_damp</b>	Controls how the reverb dampens higher frequencies when it decays.
<b>rvb_chor</b>	Adjusts the chorus amount.
<b>rvb_size</b>	Changes the size of the perceived reverberation space.
<b>adj_bass</b>	Controls the output low-shelf filter that adjusts the bass frequency content of the sound.
<b>adj_treb</b>	Controls the output high-shelf filter that adjusts the treble frequency content of the sound.
<b>adj_pan</b>	Adjusts the panning of the branches around the center seed.
<b>adj_clip</b>	Adjusts the gain of the “soft clipper”, which is applied after the master volume.

## Genopatch

Genopatch is a groundbreaking AI that crafts synth patches from audio recordings. It achieves this by making educated guesses about optimal synth settings, listening to the outcomes, and iteratively refining them to match the reference audio better.



Using Genopatch is straightforward. You start by selecting a source sample, choosing a segment of up to two seconds from that sample, and then hitting start. You'll then see four strands sprouting upwards, each generating patches. The higher they grow, the closer their solutions (*represented by circles*) will be to your source audio.

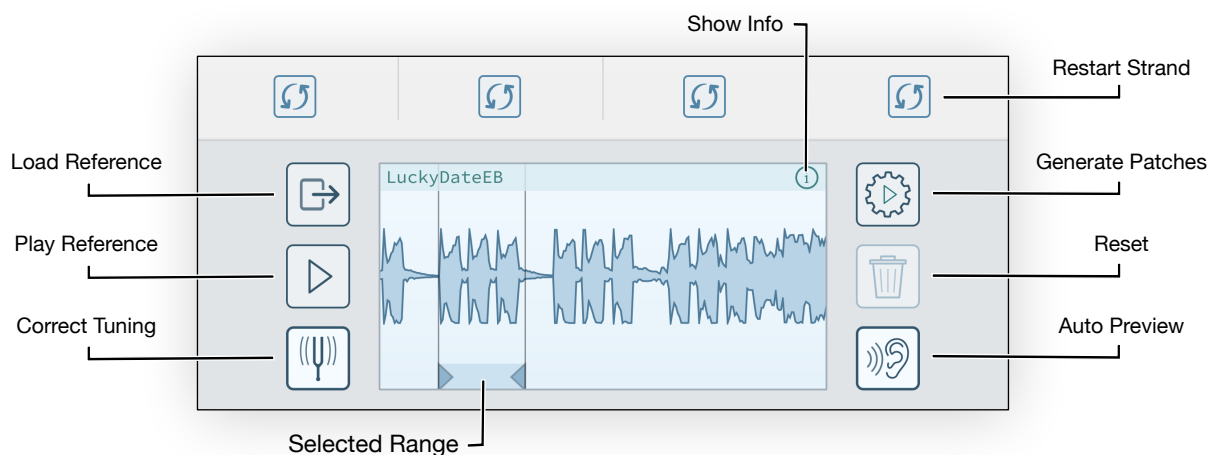
To preview a solution, click on one of the circles. The selected patch will load into Synplant, and you can play it on your keyboard. To save your favorite patches, click the **Save** button in the **Toolbar**, just as usual. (*Hold down the SHIFT key if you want to select a solution without triggering it.*)

Initially, the generated sounds may vary widely and not closely resemble the reference sample. However, as the strands grow, they converge toward more accurate solutions, each with unique characteristics. Once a strand reaches the top, it stops growing, as the solutions tend to become increasingly similar.

While Synplant is highly versatile, it can't replicate every sound perfectly due to its synthetic nature and the limitations of its 48-gene DNA. But that's often the point. Sometimes you get a perfect match with the original sound, and other times you end up with something entirely new and unexpected.

The entire operation runs on your computer's CPU, requiring no internet connection. The speed at which Genopatch produces new results depends on your processor's capabilities. Although it utilizes all available CPU power, it's designed to minimize system lag. Closing the Genopatch window will pause the process, allowing you to resume later. However, closing the project in your DAW will erase all found solutions, requiring you to start anew.

**TIP** After you create a patch with Genopatch, you might want to adjust the velocity and keyboard response using the **Velocity** slider and the **env\_kf**, **mod\_vel**, and **flt\_kf** genes.



## Load Reference Sound

Opens a sample browser to load your reference sound. The browser features a Play button and an Auto Play switch for sample previews. It supports WAV and AIFF files of any sample rate and bit resolution. Samples longer than 10 minutes will be truncated. You can also drag and drop a sample file directly into the Synplant window to load it into Genopatch. Some DAWs even allow drag-and-drop from an audio track.

## Play Reference

Previews the selected segment of the reference sound.

## Correct Tuning (On and Off)

When off, Genopatch will tune the patches to match the pitch of the source sample when you press the C3 key. Turning it on will adjust the pitch based on the detected pitch in the reference sample.

### **Generate Patches**

Click to start the magic. Click again to pause. (Closing the Genopatch window will also pause the process.)

### **Reset**

Clears all results, allowing you to select a new segment from the reference sample and start over.

### **Auto Preview (On and Off)**

When on, each new solution will automatically play upon discovery. It turns off when you manually select a solution.

### **Waveform Display**

Click and drag to scroll horizontally and zoom vertically.

### **Selected Range**

Adjust the left and right ends to select a new range, or click and drag to move the entire range.

### **Info Button**

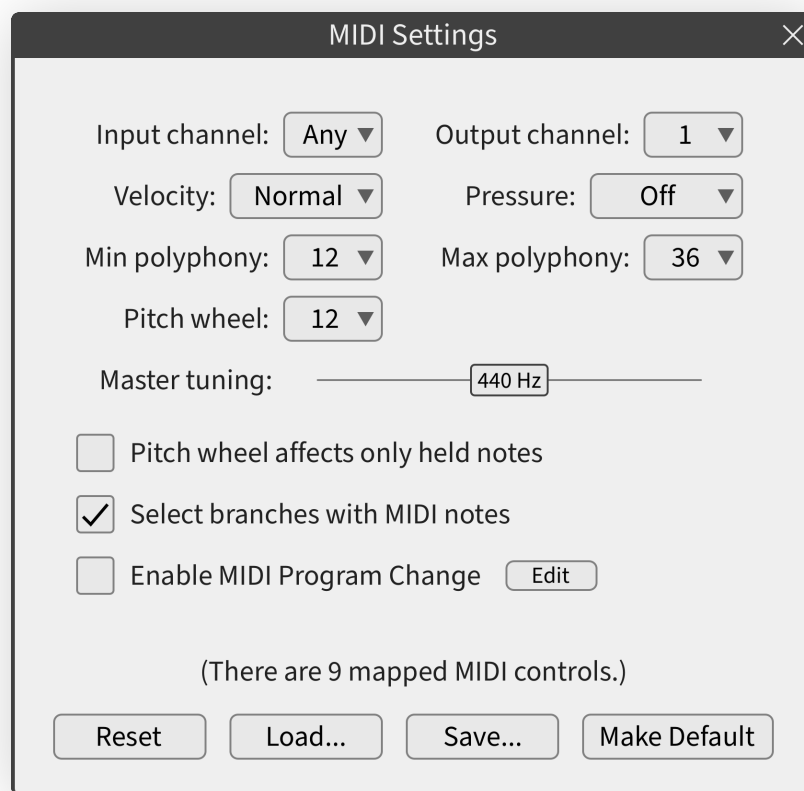
Swaps the waveform display for an info display, showing detected pitch, solution testing rate, and additional details about selected solutions.

### **Restart Buttons**

Click to discard an individual strand and restart. Holding down the ALT key while clicking invokes a special mode, using the currently loaded Synplant patch as the search base. The solutions will gradually shift from the source patch towards the reference audio as the strand grows.

## MIDI Settings

The **MIDI Settings** window in Synplant Version 2 lets you fine-tune how the software interacts with MIDI data. Each Synplant instance has unique settings saved within your project but not in individual patch files. These settings can also be saved and loaded as separate .scmc files.



MIDI Settings

Input channel: Any Output channel: 1

Velocity: Normal Pressure: Off

Min polyphony: 12 Max polyphony: 36

Pitch wheel: 12

Master tuning: 440 Hz

☐ Pitch wheel affects only held notes

☒ Select branches with MIDI notes

☐ Enable MIDI Program Change Edit

(There are 9 mapped MIDI controls.)

Reset Load... Save... Make Default

### Input Channel

Set the MIDI channel that this instance of Synplant will respond to.

### Output Channel

Choose the MIDI channel Synplant will use to send out MIDI notes when you play branches from the user interface. Setting this to Off will disable note playback when editing branches.

### Velocity

Select the velocity curve from options: Low, Normal, High, or Fixed.

### Pressure

Choose the pressure setting: Soft, Normal, Hard, or Off. This routes MIDI pressure to the **Mod Wheel** and is useful for MPE compatibility.

### Min Polyphony

Set the minimum polyphony level. This setting is used in all **Bulb Modes** except **Layered**.

## Max Polyphony

Set the maximum polyphony level. In **Layered** mode, polyphony is multiplied by the number of active layers up to this limit.

## Pitch Wheel

Adjust the range of the pitch wheel in semitones.

## Master Tuning

Tune the master pitch between 340 to 540, accommodating those who prefer non-standard tuning like 432Hz.

## Pitch Wheel Affects Only Held Notes

When checked, only notes that you hold down will be affected by the pitch wheel. This is useful for MPE compatibility.

## Select Branches with MIDI Notes

If unchecked, playing notes won't automatically select branches, allowing you to edit while playing a sequence.

## Enable MIDI Program Change

Enable or disable Synplant's response to MIDI program change messages. The **Edit** button takes you to the **MIDI Program List** window.

## Reset

Clicking this button resets all MIDI configuration settings to their default values.

## Load

Use this button to load a previously saved MIDI configuration.

## Save

Click this button to save the current MIDI configuration settings.

## Make Default

This button sets the current configuration as the default for new instances of Synplant.

## About MPE Compatibility

While Synplant does not fully support the MPE specification, it does allow for per-note MIDI controllers and expressions. Recommended settings for MPE compatibility are:

<i>Pressure</i>	<b>Normal</b>
<i>Pitch Wheel</i>	<b>48 semitones</b>
<i>Pitch Wheel Affects Only Held Notes</i>	<b>On</b>



## Backwards Compatibility

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Synplant 2 has improvements in the audio engine that may result in subtle sound differences compared to version 1. While these changes are often minor, they can be more pronounced under specific settings.

When you load patches and songs saved with Synplant version 1, you will see a warning that Synplant is running in “compatibility mode”. In this mode, Synplant reproduces the legacy sound of version 1 precisely without the DSP improvements of version 2.

You can choose to either dismiss the warning or upgrade the patch. If you upgrade the patch and it does not sound as expected, you can revert the changes using the **Undo** button.

## Requirements

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The minimum requirements for installing and running Synplant are:

- Microsoft Windows 7  
A host that supports 64-bit VST® 2.4, or VST3 plug-ins
- macOS High Sierra (10.13)  
A host that supports 64-bit VST 2.4, VST3, or AudioUnit 2 plug-ins

## Credits and Contacts

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Synplant v1.0 - v2.0.2 (2008 - 2024)

Created by:

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**Fredrik Lidström**

Additional art and design concepts:

**Andreas Karperyd**

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<b>Virtual Riot</b>	Valentin Brunn

**Sonic Charge** website:

<https://soniccharge.com>

Thanks to all our fabulous beta testers!

# Change History

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## Version 2.0.2 (2024-08-29)

- Fixed a bug where loading a wav file from a directory with Unicode characters caused the file browser to display an error and not open on subsequent attempts.
- General improvements to Unicode character handling in file paths, resolving issues like those in the "Favorite Button" mod.
- Corrected the Basic PWM patches.

## Version 2.0.1 (2023-10-29)

- Fixed a compatibility bug with slow "mod\_sh" settings in "backwards compatibility mode".
  - Fixed broken control-click to load random patch on Windows.
  - Mod-wheel (*and other CC changes*) work in the file browser preview also in the VST3 version.
  - Genopatch claims slightly less CPU in the Windows version.
  - Using more modern file browsers on Windows.
  - Improved error handling in Windows installer.
  - New drag and drop implementation on Windows for FL Studio compatibility.
  - If you update a version 1 patch and save it as a ".synplant" file, Synplant will ask if you want to remove the old ".synp" file.
  - Prepared support for "explicit branch morphs" in the audio engine.
  - Support for "mods" (*scripts that installs modifications on the UI*).
  - Bug-fixes and improvements in Javascript back-end.
  - Slightly improved the neural net in Genopatch.
- + other minor bug fixes

## Version 2.0 (2023-10-04)

- Introducing Genopatch, our sample to patch AI.
- Rewritten audio engine: new genes and improved DSP algorithms.
- New DNA editor with a structured parameter layout and graphs.
- All genes can be automated and mapped to MIDI CC
- New "bulb modes" give you alternative ways to trigger the different branches.
- Mono/legato/polyphonic "voice modes" with portamento.
- Tempo sync.
- Alternative "mod wheel targets".
- Adjustable branch volumes.
- Individual branches can be randomized.
- Basic MPE support.

- Scalable user interface.
  - Skin support.
  - Extendible with Javascript.
- + lots more

## **Version 1.2.6** (2022-11-07)

- VST3 support.
- (Windows) Deprecated 32-bit support.
- Bug and compatibility fixes.

## **Version 1.2.5** (2022-02-16)

- (Mac) Native support for Apple Silicon.
- Bug fixes, “under the hood” maintenance, and improvements.

## **Version 1.2.4** (2020-08-24)

- Added support for time-limited licensing.
- Made a workaround to handle a rare Windows problem with generating a unique machine-id.

## **Version 1.2.3** (2020-03-04)

- Got rid of potential audio buffer under-runs (*causing clicks and pops*) on first playback.
- New algorithm for the “system unique identifier” used for authorization. Hopefully fixing the problem where the plug-in became unregistered spontaneously.
- Fixed a bug that could leave temporary files behind when saving and replacing files.
- (Mac) Solved a compatibility problem with DAWs that are built with recent Apple SDK’s, e.g., Cubase 10.5.
- (Mac) Notarized installer for Catalina.
- (Mac) New 64-bit compatible uninstaller.
- (Mac) “Go to folder” buttons in browser now work in Catalina.
- (Mac) 64-bit Audio Unit no longer depends on the “Component Manager”. This means you should not need to restart after installation.
- (Mac) Preferences and registration data is now shared with “sandboxed” DAWs like GarageBand (*meaning Authenticator works with these DAWs too*).
- (Mac) Fixed a problem where under certain conditions the preferences data could stay locked if the DAW crashed, requiring a full system restart.
- (Windows) No longer fails showing the file popup if there are more than 1000 files in the directory (*file popups are however limited to 500 entries*).
- Lots of other minor bug and compatibility fixes.

## Version 1.2.2 (2015-03-11)

- Fixed: shift-clicking for dragging any of the arced sliders around the plant or any branch on the plant always resulted in dragging the Effect slider.
- Also fixed: If Windows had been running (without restart) for more than 24 days straight, Synplant didn't properly display "tutorial bubbles" or "tooltip hints".

## Version 1.2.1 (2014-12-16)

- Open browsers now feature two buttons to quickly take you to factory and user preset directories.
- Many minor bug-fixes.

## Version 1.2 (2014-03-26)

- 64-bit compatible version.
- Supports **Sonic Charge Authenticator** for easier registration.
- Compiled with latest compilers, frameworks and libraries for improved stability and compatibility.
- New installers (*signed on Mac*)
- Moved documentation and factory patch location on Windows from DLL directory to \Program Files\Sonic Charge
- Name of DLL (*Windows*) and "bundle" (*Mac*) changed from SynplantVST/SynplantAU to Synplant.

## Version 1.0.1 (2009-09-24)

- Implemented support for the "all notes off midi message". We have discovered that some hosts (*most importantly Cakewalk Sonar*) requires this to stop notes from playing. In other words, the hanging note problems in Sonar should have been fixed now.
- Improved compatibility with older VST 2.3 hosts, including FXpansion's RTAS wrapper. VST 2.4 is still the official requirement, simply because we need to put a limit on the extent of our guarantees. However, we will continue doing our best to provide "unofficial support" for as many hosts as we possibly can. In short, we expect this version of **Synplant** to work well with the RTAS wrapper.
- Fixed a rare but serious problem with the GUI freezing up on Mac (*never to defrost again, never to come back to life*). Turned out to be a bug in **Synplant** in combination with some unexpected behavior from OS X.
- Some minor updates to the internal code libraries that will improve stability in general.

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