SOUND PARTICLES

SkyDust 3D

Reference Manual

Apr 2023

v. 1.0.0

Welcome Note

Welcome to the new world of spatial synthesizers! SkyDust 3D is my vision of what a synthesizer should be, taking advantage of well-known synth techniques, with nowadays CPU power, and with a built-in spatial engine completely integrated with the rest of the synthesizer.

I always had a passion for 3D audio, and I always thought that the combination of music and 3D sound would be a fantastic one. Unfortunately, during most of my life, the only musicians that cared about using 3D sound were composers working in contemporary music. I have a big respect for people creating contemporary music, but... (how can I say this?)... is probably too advanced for my music taste (sorry, I tend to prefer soundtracks and epic music). With the entire entertainment industry moving to spatial audio, the conditions for the use of 3D sound on the mainstream music industry are set. Many people think that spatial music (or spatial audio in general) is all about using a 3D panner. For me, that is a very limited vision of it. Yes, you need a panner to do certain things, but artists should also have much more creative tools to take advantage of 3D sound. For instance, SkyDust 3D can do things that a regular stereo synth and a 3D panner will never be able to achieve.

Being able to create my own musical instrument is a privilege. This was only possible with the help of a fantastic team of software developers, designers, testers, and sound artists. And also, due to the work of others that came before me: from synth pioneers that created some of the techniques that everyone takes from granted, to engineers that spent some of their time writing books and sharing their knowledge, without forgetting the musicians that create fantastic music that inspired us all to continue to use this technology.

I really hope you enjoy it, and don't forget to send us your feedback (we love to hear from our users).

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Introduction

Welcome to the future of sound and music! We are thrilled to have you on board with SkyDust 3D Virtual Instrument plugin from Sound Particles.

This groundbreaking synthesizer is designed to revolutionize the way you approach synthesis. With its 3D capabilities, SkyDust 3D opens up a whole new world of possibilities for designing the perfect sound, placing and moving all the voices around the listener. Designed to satisfy the needs of the future, its engine is packed with endless possibilities, making it the perfect tool for artists who are diving into the world of 3D sound formats. Whether it's stereo, surround 5.1 and 7.1, Dolby Atmos 7.1.2, Ambisonics up to 6th order, binaural, or anything in between, SkyDust 3D has got you covered.

We encourage you to dive into the manual and explore all that SkyDust 3D has to offer. With this innovative tool at your fingertips, the sky's the limit!

Overview

Figure 1. SkyDust 3D

SkyDust 3D is an eight oscillators synthesizer, designed to be easy-to-use and straightforward, while providing all the controls you need to attain your own custom sound. When you open the plugin you will see that it is divided into two panels, a Top Panel and a Bottom Panel.

The Top Panel is divided into the following pages:

1. Main
2. Oscillator
3. Filter
4. Frequency Modulation (FM)
5. Pitch
6. Spatial
7. Arpeggiator / Sequencer
8. Effects
9. Extras
10. Matrix

On the Bottom Panel you can choose between the following tabs:

1. Keyboard
2. Mixer
3. Macros
4. Pads
5. Spatial views

The Main Page offers a great selection of **presets** created by professional sound designers, and you can easily tweak them to your liking with the randomisation of multiple parameters. If you want to take your sound to the next level, the other pages allow you to fine-tune or even create your sound from scratch. You also have **sub presets** for each page that will affect only the parameters on that specific page.

On the next section of this document, you'll find a detailed description of each page and its specific controls.

Top Bar

The SkyDust 3D top bar incorporates a set of features that assist you while using the plugin, like scaling the window, randomizing parameters, managing presets and accessing the settings to help you improve the experience with the plugin.

Figure 2. Top Bar

In the top bar you will see the following options:

1. **MIDI Indicator** - Flashes every time the synth receives MIDI messages.
2. **GUI Zoom** - The SkyDust 3D GUI can be resized. The pop-up available in the upper-left part of the interface let users choose a scaling value, from 25% to 400%. This action affects only the currently selected SkyDust 3D instance. New instances of the plugin will open with the default size factor (100%).
3. **Randomize** - This button will generate random presets, allowing you to have endless presets. If you are looking for happy accidents, this feature is for you. Sometimes you may have mad presets, other times you may have a diamond in the rough. On the right side, there is a popup menu that allows to lock some of the modules, ("I like this sound, but give me a different arpeggiator and spatial effects").
4. **Preset Navigator** - Allows users to navigate through the previous and next preset using the arrows placed on the left and right of the Preset pop-up menu. Clicking on it opens the Main Page to access the preset list.
5. **Save** - Clicking the “Save” button saves the current state of the plugin in a preset. The user can define the preset name, the author and the category of the preset. To edit this fields or delete a preset you can go to the Main Page and right-click on the preset you want to edit or delete. To see where the presets are located check the Preset Location section.
6. **Output Format** - Choose the right output format for your track, between the following options:
    - Mono
    - Stereo (several stereo options, based on different stereo mic techniques)
    - Binaural
    - LCR

- LCRS
- 4.0
- Quad
- 5.0
- 5.1
- 7.1
- 9.0
- 5.0.2
- 5.1.2
- 5.0.4
- 5.1.4
- 7.0.2
- 7.1.2
- 7.0.4
- 7.1.4
- 9.1
- 7.0.6
- 7.1.6
- 9.1.4
- 9.1.6
- 9.0.8
- 9.1.8
- 11.1.8
- 11.1
- 12.0
- 13.1
- 1^{st} order Ambisonics
- 2^{nd} order Ambisonics
- 3^{rd} order Ambisonics
- 4^{th} order Ambisonics
- 5^{th} order Ambisonics
- 6^{th} order Ambisonics

7. **Settings** - Access the settings panel.

Settings Panel

Figure 3. Settings Panel

On the top right of the plugin window you can access the Settings Panel by clicking on the gear icon.

In the Settings Panel you can control the following parameters:

1. **Polyphony** - Lets you choose the maximum number of notes to be playing at the same time, with a maximum of 256. When using a computer with weak performance or a very small buffer size, the synth may not be able to play all notes, resulting in a glitchy behavior. For instance, holding the sustain pedal and playing the same note multiple times, triggers several notes that can become hard for the synth to handle. Decreasing the Max Polyphony activates the note stealing, which stops the older (soft) notes that are almost inaudible, and focus on the new ones. On another hand, if you have a powerful computer, you may want to increase this value to make sure nothing is lost.
2. **Midi Channel** - You can choose the MIDI Channel to be received by SkyDust 3D, with Omni as the Default.
    a) The checkbox allows you to choose to release previous uses on MIDI Learn, when assigning a new one. For instance, If you were using the Mod Wheel to control Macro A but want to control something else, this checkbox will tell the synth to forget about the previous assignment, before doing the new one.
3. **Pitch Bend** - Allows you to define the Pitch Bend range, with a maximum of 36 semitones, with different ranges for up and down.

4. **Tune** - You can define the tune of SkyDust 3D, with "A" going from 400 Hz to 500 Hz. You can also transpose the scale from one octave below to one octave up. This could be useful while playing or performing, if you are used to play and solo in a certain scale on the keyboard but want to sound in a different scale.
5. **HRTF Dataset** - Allows you to select one among many choices of a HRTF Datasets. Import your own Sofa File clicking on "IMPORT SOFA FILE"
6. **Reset Settings** - Resets all the Settings parameters to the default values.

Top Panel

On top of the plugin window, right below the Top Bar, you have the Page Selection where you can shift between the 10 pages. This is visible in all pages and allows the user to quickly switch between them. All the pages allow you to see the bottom panel - which will be explained in a latter section of the manual.

Main

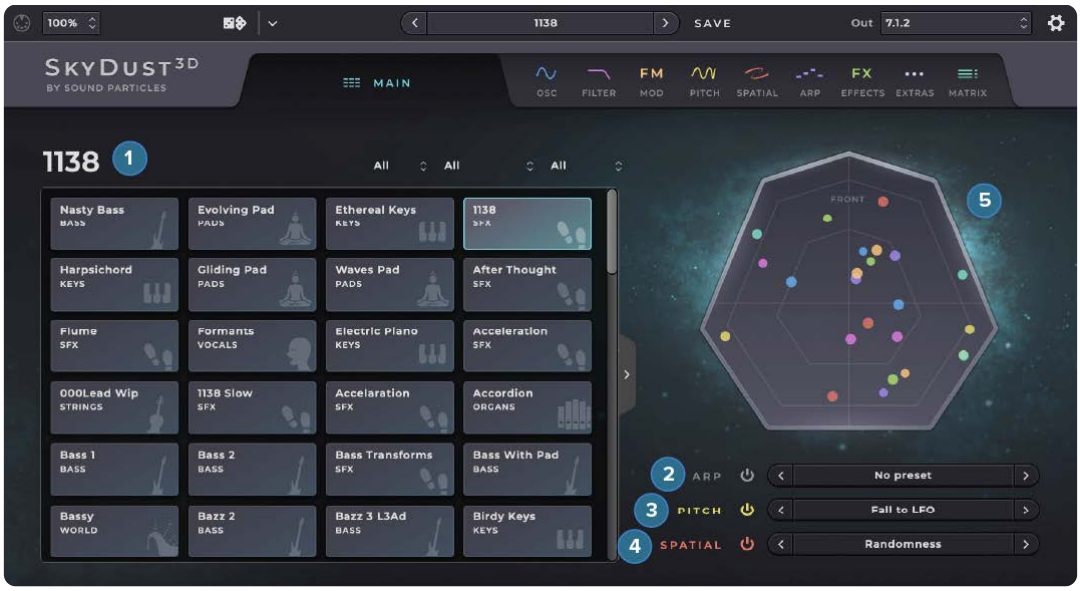

Figure 4. Main Page

The Main Page allows you to use the instrument fast without needing any additional experience. In this page you will have access to the preset selection:

1. **Main presets** - Select a global preset.
2. **Arp sub-presets** - Select a sub-preset that will affect the Arpeggiator / Sequencer only.
3. **Pitch sub-presets** - Select a sub-preset that will affect the Pitch only.
4. **Spatial sub-presets** - Select a sub-preset that will affect the Spatial only.
5. **Spatial View** - View the position of all sound elements (particles).

Oscillator

Figure 5. Oscillators Page

The Oscillator Page gives you access to controls over the base of your sound, with parameters for each of the **8 oscillators**. On the left side of the page, you can switch between the **Summary** tab and each individual **Oscillator** tab.

In the **Summary** tab you have control over all oscillators with the following parameters:

1. **Power button** - Turn On/Off each oscillator.
2. **Waveform** - Choose one of the following wave types: Sine, Square, Triangle, Saw, Sine 2, Full Rectified Sine, Half Rectified Sine, Half Rectified Sine 2, Sine + Silence, Sine 2 + Silence, Double Half Sine + Silence, Double Half Sine 2 + Silence, White Noise, Pink Noise, Brown Noise, Binary Noise.
3. **Waveform Modifier** - Choose between: Silence, Amplitude Offset, Wave Folding, Wave Folding Positive, Clipping, Bit Crusher, Time Shift (Up), Time Shift (Down).
4. **Modifier value** - Defines the amount of the Modifier effect you want on your oscillator.
5. **Gain** - Controls the output gain of your oscillator.
6. **Octave** - Selects the oscillators octave range, from -3 to 3.
7. **Transpose** - Transposes your oscillator, from -12 to 12 semitones.
8. **Detune** - Fine tunes your oscillator, from -100 to 100 cents.

In the individual **Oscillators** tab, in addition to the above mentioned controls, you have also access to the Envelope Generator (EG) and Low Frequency Oscillator (LFO) which control the gain of the oscillator:

Figure 6. Oscillators Page - EG

The **EG** has the following parameters:

1. **EG Type** - Select the type of EG, from simple AR (Attack/Release) to complex DAHDSR (Delay/Attack/Hold/Decay/Sustain/Release).
2. **Delay** - Controls the time it takes for the oscillator to start to play after you press a key on the controller.
3. **Attack** - Controls the time it takes for the oscillator to go from 0 (- ∞ dB) to the maximum value.
4. **Hold** - Controls the time it takes for the oscillator to hold on the maximum value before it decays.
5. **Decay** - Controls the time it takes for the oscillator to go from the Peak value to the Sustain level.
6. **Sustain** - Controls the level of the sustain. The sustain has no time value since it endures as long you keep your key pressed.
7. **Release** - Controls the time it takes for the oscillator to go from the Sustain level value to 0 (- ∞ dB).

The **LFO** has the following parameters:

Figure 7. Oscillators Page - LFO

1. **Power button** - Turn On/Off the LFO.
2. **Waveform** - Choose between: Sine, Square, Square (Sharp), Triangle, Saw Up, Saw Up (Sharp), Saw Down, Saw Down (Sharp), Full Rectified Sine, Half Rectified Sine, Noise Steps, Noise Steps (Sharp), Noise Linear, Noise Lagrange, Noise Binary and Noise Binary (Sharp).*
3. **Waveform Modifier** - Choose between: Silence, Amplitude Offset, Wave Folding, Wave Folding Positive, Clipping, Bit Crusher, Time Shift Up, Time Shift Down.
4. **Modifier value** - Allows you to define the amount of the Modifier effect you want on your oscillator.
5. **Sync** - If enabled, the rate of the LFO syncs with the DAW's project tempo.
6. **Global** - If enabled all the voices will be sync together, independently from their start times.
7. **Rate/Note** - Controls the rate of the LFO. If Sync is disabled ranges from 0.1 to 10 Hz, with Sync enabled you can choose between several time divisions.
8. **Depth** - Controls the depth of the modulation of the LFO.
9. **Delay** - Controls the time it takes for the LFO to reach its full rate and depth.
10. **Phase** - Allows you to offset the initial phase of the LFO wave.

*Sharp waveforms create instant gain changes that creates clicks, but you may want exactly that.

Filter

Figure 8. Filter Page

The Filter Page allows you to apply and control the filters. On the left menu, you can switch between **Off** (disables all filters), **Global** (controls a single global filter applied to all oscillators) or **Oscillator** (opens 8 tabs that have one filter for each oscillator). Each filter also has its own EG and LFO available, which controls the filter's frequency.

Each **Filter** has the following parameters:

1. **Power button** - Enable the filter on the correspondent oscillator.
2. **Filter Type** - Choose between: Low Pass, High Pass, Band Pass, Band (Semi Parametric), Band (Parametric), Low Shelf, High Shelf. Each type opens the respective parameters on the right side of the Filter.
3. **Slope** - Select the slope (filter order) of your filter, which means the attenuation per octave.
4. **Keyboard Mapping** - When enabled, the filter frequency will shift depending on the keyboard note pressed. The goal of this feature is to maintain the same timbre on the entire note range. This change will be made in relation to the middle C note (MIDI note 60). For instance, if the user presses the middle C, the filter will use the frequency defined on the frequency knob, playing above middle C will shift the frequency up and playing under the middle C shifts it down. The slider controls the exact amount of frequency shift. For example, playing a note 4 octaves above middle C, but with a knob at 50%, means that the filter frequency should be changed only 2 octave (50% of 4 octaves).

5. **Velocity Mapping** - When enabled, the filter frequency will shift depending on the velocity of the note you are playing. The goal of this feature is to have brighter notes when the MIDI velocity is higher. If the slider is at 100%, the current frequency of the filter will be ignored and its frequency will range from 20 Hz (velocity = 1) to 20 kHz (velocity = 127), with a log scale. If is at 0% (or velocity mapping is disable), the filter will use its settings. If the knob is at 50%, the filter will be a weighted sum, considering 50% of the frequency of the filter + 50% of the velocity mapping frequency.
6. **Parameters** - Depending on the filter you have access to different parameters:
    a) Low/High Pass: Frequency (defines the cutoff frequency of the filter) and Resonance (increase or decrease the resonance of the filter's cutoff frequency).
    b) Band Pass: Frequency (defines the center frequency of the filter) and Q (defines the quality/slope of the filter).
    c) Peak: Frequency (defines the center frequency of the filter), Q (defines the quality/slope of the filter) and Gain (define the amount of boost or reduction of the center frequency).
    d) Low/High Shelf: Frequency (defines the frequency of the filter) and Gain (define the amount of boost or reduction of the filter).

The **EG** has the following parameters:

Figure 9. Filters Page - EG

1. **Power button** - Enable the EG to control the filter.
2. **EG Type** - Select the type of EG, from simple AR (Attack/Release) to complex DAHDSR (Delay/Attack/Hold/Decay/Sustain/Release).
3. **Start (Frequency)** - Controls the octave offset in relation to the filter's frequency, when the EG starts.
4. **Delay (Time)** - Controls the time it takes for the EG to start after you press a key on the controller.
5. **Attack (Frequency)** - Controls the octave offset in relation to the filter's frequency, on the end of attack.
6. **Attack (Time)** - Controls the time it takes for the filter to go from the start value to the attack value.

7. **Hold (Time)** - Controls the time it takes for the filter to hold on the attack position before it "decays".
8. **Decay (Time)** - Controls the time it takes for the filter to go from the attack value to the sustain value.
9. **Sustain (Frequency)** - Controls the octave offset in relation to the filter's frequency, during the sustain.
10. **Release (Frequency)** - Controls the octave offset in relation to the filter's frequency, on the end of the release.
11. **Release (Time)** - Controls the time it takes for the oscillator to go from the sustain value to the release value.

The **LFO** has the following parameters:

Figure 10. Filters Page - LFO

1. **Power button** - Enable the LFO to control the filter.
2. **Waveform** - Choose between: Sine, Square, Square (Sharp), Triangle, Saw Up, Saw Up (Sharp), Saw Down, Saw Down (Sharp), Full Rectified Sine, Half Rectified Sine, Noise Steps, Noise Steps (Sharp), Noise Linear, Noise Lagrange, Noise Binary and Noise Binary (Sharp).*
3. **Waveform Modifier** - Choose between: Silence, Amplitude Offset, Wave Folding, Wave Folding Positive, Clipping, Bit Crusher, Time Shift Up, Time Shift Down.
4. **Modifier value** - Allows you to define the amount of the Waveform Modifier effect you want on your oscillator.
5. **Sync** - If enabled, the rate of the LFO syncs with the DAW's project tempo.
6. **Global** - If enabled all the voices will be sync together, independently from their start times.
7. **Rate/Note** - Controls the rate of the LFO. If Sync is disabled ranges from 0.1 to 10 Hz, with Sync enabled you can choose between several time divisions.
8. **Depth** - Controls the depth of the modulation of the LFO.
9. **Delay** - Controls the time it takes for the LFO to reach its full rate and depth.
10. **Phase** - Allows you to offset the initial phase of the LFO wave.

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Frequency Modulation

Figure 11. FM-Page

The Frequency Modulation Page allows you to play with classic FM Synthesis. Here you can select from a number of algorithms to define how your FM matrix will work. You can also create your own algorithms by defining the routing of the oscillators (operators) on the matrix.

The oscillators will work as operators, which means some will be carriers and some will be modulators. The **carriers** are the ones that go to the output, the **modulators** are the ones that are routed to the carriers.

On the left side of the page you can select **each oscillator** and change the following modulation parameters:

1. **Fixed Frequency** - Allows you to fix the frequency of the oscillator, to obtain a specific modulation. If enabled the ratio knob turns into a frequency knob.
2. **Ratio** - Defines the frequency of the oscillator based on the usual FM ratios.
3. **Detune** - Fine tune your oscillator, from -100 to 100 cents.
4. **Feedback** - Controls the feedback of the oscillator. This will make the oscillator modulate itself.
5. **Mod. Gain** - Controls how much the modulator will affect the carrier sound.

Besides the parameters for each oscillator in this page you will have a matrix to select the routing of each oscillator and a diagram representation of the FM algorithm you are using.

In the matrix you can send each oscillator to the audio output in order to listen to the signal, you can send it to any other oscillator in order to modulate it or combine both. The matrix is read by seeing which oscillator on the top is being sent to oscillators on the right or to the audio output. On the image you can see that only oscillators 1 and 4 are being routed to the output, while 2, 3, 5 and 6 are only modulating other oscillators.

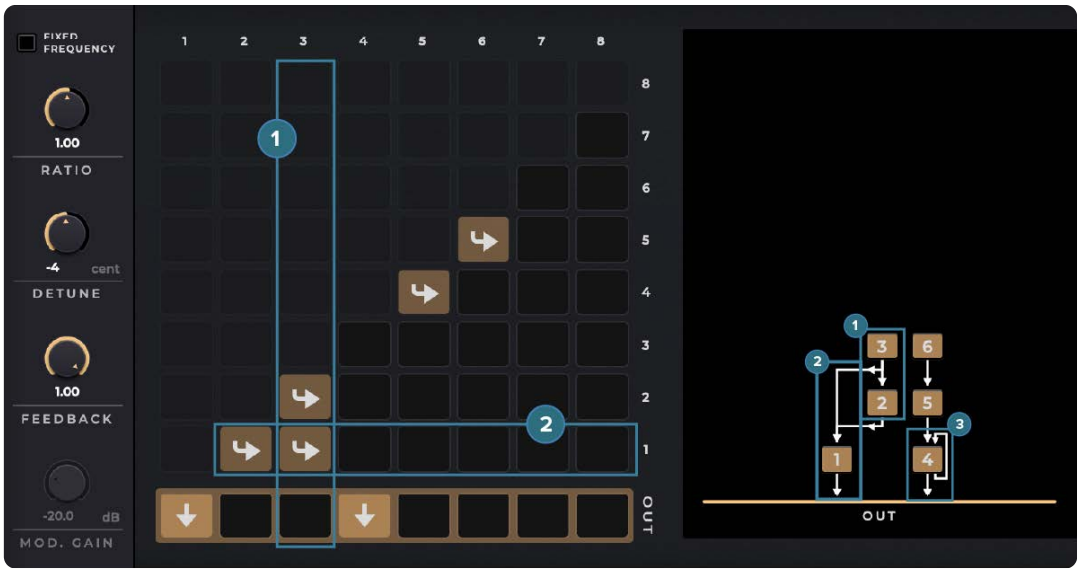

Figure 12. FM Matrix

1. Each modulator oscillator can modulate more than one oscillator (carriers and/or modulators).
2. Each oscillator can be modulated by more than one modulator oscillator.
3. Each oscillator can modulate itself by using the feedback knob.

Note: that each oscillator can only modulate other oscillators with an inferior index number (i.e. oscillator 1 can't modulate any other oscillator, while oscillator 8 can modulate all the other oscillators).

Pitch

Figure 13. Pitch Page

The Pitch Page allows you to manage all aspects related to pitch, like for example using an LFO to create a vibrato, or assigning an EG to each oscillator. On the left side of the page, you can choose between three modes: **Off** (turns off all pitch effects), **Global** (applies a single pitch effects to all oscillators using an EG and LFO), or **Oscillator** (provides different pitch settings for each of the eight oscillators individually with their own EG and LFO).

In Oscillator mode, each oscillator's tab displays the **Octave**, **Transpose**, and **Detune** parameters, which are also found on the Oscillators Page.

To adjust the EG and LFO settings of any tab, you can use the following parameters:

The **EG** has the following parameters:

Figure 14. Pitch Page - EG

1. **Power button** - Enables the EG to control the pitch.
2. **EG Type** - Select the type of EG, from simple AR (Attack/Release) to complex DAHDSR (Delay/Attack/Hold/Decay/Sustain/Release).
3. **Start (Pitch)** - Controls the initial pitch for the start of the EG, from -24 to +24 steps (semitones).
4. **Delay (Time)** - Controls the time it takes for the EG to start after you press a key on the controller.
5. **Attack (Pitch)** - Controls the pitch offset of the attack, from -24 to +24 steps (semitones).
6. **Attack (Time)** - Controls the time it takes for the pitch to go from the star value to the attack value.
7. **Hold (Time)** - Controls the time it takes for the pitch to hold on the attack value before it "decays".
8. **Decay (Time)** - Controls the time it takes for the pitch to go from the attack value to the sustain value.
9. **Sustain (Pitch)** - Controls the pitch offset during the sustain, from -24 to +24 steps (semitones).
10. **Release (Pitch)** - Controls the pitch offset on the end of the EG, from -24 to +24 steps (semitones).
11. **Release (Time)** - Controls the time it takes for the oscillator to go from the sustain value to the release value.
12. **Rand** - This checkbox enables the Random mode for the parameter above. The effect of this can be defined on the Random Behavior menu.
13. **Random Behavior** - Defines the range of values that are possible for the parameters that have Random enabled, between the options:
    a) Zero to Value - Each note gets a random value from 0 to the value defined on the knob.
    b) -Value to Value - Each note gets a random value from the symmetrical value of the knob to that same value. For instance, a value of 12 steps will range between -12 and 12 steps (semitones).

c) Detune +/-10 cents - Each note gets a random value within +/- 10 cents from the value defined on the knob.
d) Detune +/ 50 cents - Each note gets a random value within +/- 50 cents from the value defined on the knob.
e) +/- 2 Octaves - Each note gets a random value within +/- 2 octaves from the value defined on the knob.

The **LFO** has the following parameters:

Figure 15. Pitch Page - LFO

1. **Power button** - Enable the LFO to control the filter.
2. **Waveform** - Choose between: Sine, Square, Square (Sharp), Triangle, Saw Up, Saw Up (Sharp), Saw Down, Saw Down (Sharp), Full Rectified Sine, Half Rectified Sine, Noise Steps, Noise Steps (Sharp), Noise Linear, Noise Lagrange, Noise Binary and Noise Binary (Sharp).*
3. **Waveform Modifier** - Choose between: Silence, Amplitude Offset, Wave Folding, Wave Folding Positive, Clipping, Bit Crusher, Time Shift Up, Time Shift Down.
4. **Modifier value** - Allows you to define the amount of the Waveform Modifier effect you want on your oscillator.
5. **Sync** - If enabled, the rate of the LFO syncs with the DAW's project tempo.
6. **Global** - If enabled all the voices will be sync together, independently from their start times.
7. **Rate/Note** - Controls the rate of the LFO. If Sync is disabled ranges from 0.1 to 10 Hz, with Sync enabled you can choose between several time divisions.
8. **Depth** - Controls the depth of the modulation of the LFO.
9. **Delay** - Controls the time it takes for the LFO to reach its full rate and depth.
10. **Phase** - Allows you to offset the initial phase of the LFO wave.

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Spatial

The Spatial Page allows you to manage all aspects related to the position of the sounds in the 3D space.

On the left side of the screen, you can choose between different modes:

- **Off** - This mode turns off all movement and each oscillator can be independently placed on a static position.
- **EG** - This mode uses an EG an LFO to control the position and movement of the sounds.
- **Movement Modifiers** - This mode applies some movement patterns.

Figure 16. Spatial Page

Like the other pages, you can also choose to use it in **Global** (applies the same movement to all the oscillators simultaneously), or **Oscillator** (provides position settings for each of the eight oscillators individually).

OFF MODE (STATIC):

The static mode has controls for the position of each oscillator. There is a polygon view where you can adjust the Azimuth and Elevation of each oscillator and there is also a slider the bottom of each polygon view that allows to adjust the divergence of the sound which adds some randomness at each note. Minimum (fully left) keeps the sound at the selected position while Increasing it (moving right) adds randomness and distance from the selected position.

Figure 17. Spatial Off Mode

EG MODE:

Figure 18. Spatial Page - EG

The **EG** has the following parameters:

1. **Power button** - Enable the EG to control the movement.
2. **EG Type** - Select the type of EG, from simple AR (Attack/Release) to complex DAHDSR (Delay/Attack/Hold/Decay/Sustain/Release).
3. **Start (Position)** - Set the initial position by moving the white dot. Use the divergence slider too add some randomness at each note. Minimum (fully left) keeps the sound at the start position while Increasing it (moving right) adds randomness and distance from the start.
4. **Delay (Time)** - Set the time before the movement begins.

5. **Attack (Position)** - Set the position on the end of the "attack" by moving the white dot. Use the divergence slider too add some randomness at each note. Minimum (fully left) keeps the sound at the selected position while Increasing it (moving right) adds randomness and distance from the selected position.
6. **Attack (Time)** - Set the time it takes to go from start to attack position.
7. **Hold (Time)** - Set the time to hold the "attack" position before the "decay".
8. **Decay (Time)** - Set the time it takes to go from "attack" to "sustain" position.
9. **Sustain (Position)** - Set the "sustain" position by moving the white dot. Use the divergence slider too add some randomness at each note. Minimum (fully left) keeps the sound at the selected position while Increasing it (moving right) adds randomness and distance from the selected position.
10. **Release (Position)** - Set the ending position by moving the white dot. Use the divergence slider too add some randomness at each note. Minimum (fully left) keeps the sound at the selected position while Increasing it (moving right) adds randomness and distance from the selected position.
11. **Release (Time)** - Set the time it takes to go from sustain to release position.

The **LFO** has the following parameters:

Figure 19. Spatial Page - LFO

1. **Power button** - Enable the LFO to control the movement.
2. **Waveform** - Choose between: Sine, Square, Square (Sharp), Triangle, Saw Up, Saw Up (Sharp), Saw Down, Saw Down (Sharp), Full Rectified Sine, Half Rectified Sine, Noise Steps, Noise Steps (Sharp), Noise Linear, Noise Lagrange, Noise Binary and Noise Binary (Sharp).*
3. **Waveform Modifier** - Choose between: Silence, Amplitude Offset, Wave Folding, Wave Folding Positive, Clipping, Bit Crusher, Time Shift Up, Time Shift Down.
4. **Modifier value** - Allows you to define the amount of the Modifier effect you want on your oscillator.
5. **Sync** - If enabled, the rate of the LFO syncs with the DAW's project tempo.

6. **Global** - If enabled all the voices will be sync together, independently from their start times.
7. **Rate/Note** - Controls the rate of the LFO. If Sync is disabled ranges from 0.1 to 10 Hz, with Sync enabled you can choose between several time divisions.

8. **Depth** - The LFO can affect movement in therms of Azimuth, Elevation and Distance.

    a) Azimuth Depth - This knob changes the Azimuth of the sound (moving left/right in the horizontal plane).
    b) Elevation Depth - This knob changes the Elevation of the sound (moving Up/Down on the vertical plane).
    c) Distance Depth - This knob changes the Distance of the sound, making it closer or far. When it is closed to the listener position, creates a big mono sound (all speakers playing the same).

9. **Delay** - Controls the time it takes for the LFO to reach its full rate and depth.

10. **Phase** - Allows you to offset the initial phase of the LFO wave.

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MOVEMENT MODIFIERS:

Figure 20. Spatial Page - Movement Modifiers

In the Movement Modifiers mode you can choose the position of the sounds in three separated moments:

1. **Start** - Define the initial position (and divergence) of the voices when the keys are pressed.
2. **Move** - Choose a movement pattern while the note is pressed. You can select one of the following patterns: Random Rotation, Oscillate, Floating, Random to Target, Rotation, Moving Up, Moving to a Position, Moving Left, Moving Front, Moving Rear and Moving Right.
3. **Release** - On the release of the note you can choose between moving the sound in two different ways:
    a) **Final position** - where you can define a specific final position and divergence.
    b) **Movement** - where you can define a different movement pattern for the release.

Note: The symbols of the movement patterns are a visual representation of each movement but you can see the descriptions by placing the mouse over the different pattern button.

Arpeggiator

In the Arpeggiator Page you can generate arpeggios and sequences. On the left side of the screen, you can choose between three modes: **Off** (turns off all sequences), **Arpeggiator** (applies an arpeggiator to the MIDI input), or **Sequencer** (applies a custom sequence of notes to the MIDI input).

With the Arpeggiator you can play multiple notes at once (for example a chord) and the synth will play those notes in sequence, creating an arpeggio. With a Sequencer you can play a single note and define a sequence of notes with multiple pitch changes, based on the note played. In SkyDust you can also sequence lots of additional parameters besides the notes pitch, like for example the position of the sounds.

In the **Arpeggiator** mode, you'll see the following parameters:

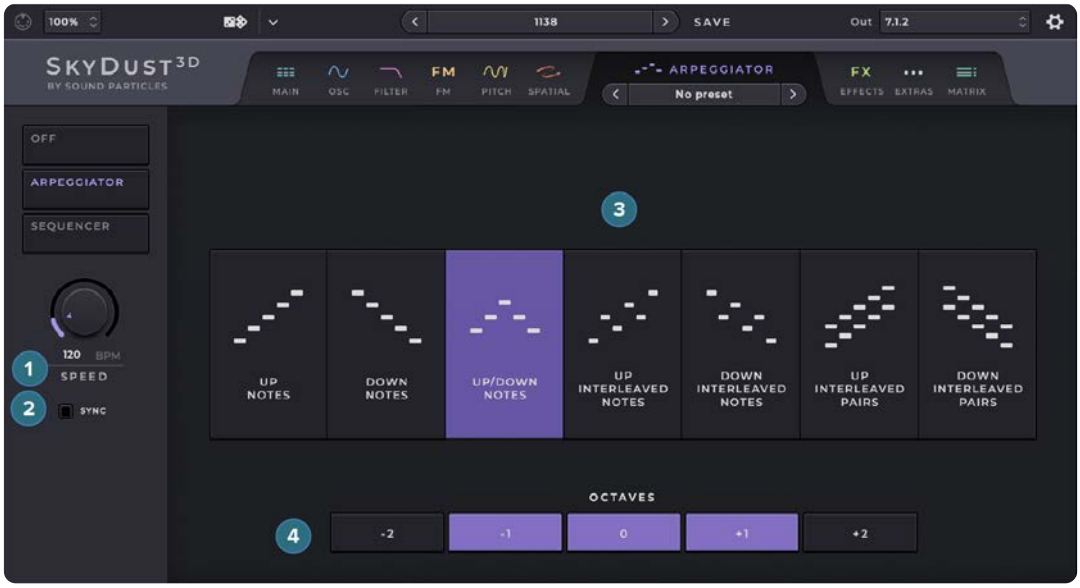

Figure 21. Arpeggiator

1. **Speed** - Set the tempo of the arpeggiator in beats per minute (bpm) or set the subdivision if sync is enabled.
2. **Sync** - Sync the arpeggiator with the project's tempo on the host DAW.
3. **Arpeggio type** - Set the type of arpeggio pattern by selecting one of the following options:
    a) **Up Notes** - Play notes from the lowest to the highest in pitch.
    b) **Down Notes** - Play notes from the highest to the lowest in pitch.
    c) **Up/Down Notes** - Play notes from the lowest to the highest returning to the lowest.

d) **Up Interleaved Notes** - Start from the lowest note and play each note followed by its second highest note, such that on a 4-note chord, the 1st note is followed by the 3rd, and the 2nd note is followed by the 4th.
e) **Down Interleaved Notes** - Start from the highest note and play each note followed by its second lowest note, such that on a 4-note chord, the 4th note is followed by the 2nd and the 3rd is followed by the 1st.
f) **Up Interleaved Pairs** - Start from the lowest note and play every note paired with the second highest note, such that on a 4-note chord, the 1st note pairs with the 3rd, and the 2nd pairs with the 4th.
g) **Down Interleaved Pairs** - Start from the highest note and play every note paired with the second lowest note, such that on a 4-note chord, the 4th note pairs with the 2nd, and the 3rd pairs with the 1st.

4. **Octaves** - Defines the octave range of the arpeggios. This will add additional notes that are octave variations of the notes that are being played.

In the **Sequencer** mode, you'll see the following parameters:

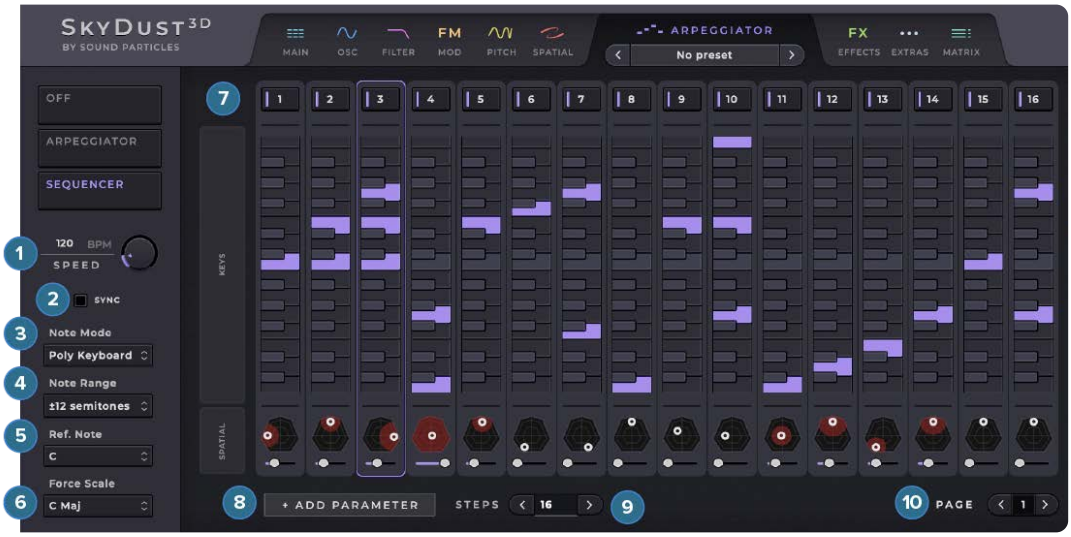

Figure 22. Sequencer

1. **Speed** - Set the tempo of the arpeggiator in beats per minute (bpm) or set the subdivision if sync is enabled.
2. **Sync** - Sync the arpeggiator with the project's tempo on the host DAW.
3. **Note Mode** - Select the mode for viewing and setting the values of the parameters on the steps:
    a) **Pitch Bar** - Select a single note to play in each step using a vertical bar.
    b) **Mono Notes** - Select a single keys to play in each step using a keyboard.
    c) **Poly Notes** - Select multiple keys from to play in each step using a keyboard.
4. **Note Range** - Select the note range from 1 octave to 3 octaves of the sequencer.

5. **Ref. Note** - Select the reference note. It will appear on the center of the keyboard, and represents the note that is pressed.
6. **Force Scale** - Forces the notes that are played to be accordant to the selected key. This allows the sequencer to adapt the arpeggios to the right notes. For instance, If you specify a sequence with C Major arpeggio (C, E, G, C) and play the note C on your keyboard it will play a C Major arpeggio. If now you play a different note, without Force Scale it would play the same intervals starting on the new note, for example playing an A would play the A Major arpeggio (A, C#, E, A), but with Force Scale enabled to force the C Major scale, when you press an A it will adapt the intervals to be on the C Major scale, so it would play the A Minor arpeggio (A, C, E, A). Note that with Force Scale on, playing a note outside of the defined scale will be ignored by the synth.
7. **Steps** - On the top of each step you can enable or disable that step. Depending on the Note Mode you choose, you'll see either a keyboard view or a pitch bar to set the parameters being sequenced.
8. **Add Parameter** - Select a new parameter to sequence. Besides pitch, you can also add 3D pan or nay other synth parameter, allowing you to define specific values of it for each step.
9. **Steps** - Chose the number of steps to be played on the sequence.
10. **Page** - Change pages to see other steps when using more than 16 steps.

Effects

Figure 23. Effects Page

On the Effects Page, you'll have 4 slots to fill with the desired Effects in the order you want. All effects are applied after the 3D render and in series (3D render > FX1 > FX2 > FX3 > FX4 > Out). On the right side of the page you have the Dry/Wet knobs for each effect slot and meters to check the levels on the output of each effect.

When adding an effect you will have the following options:

1. **Bit Crush** - Reduces the resolution of digital audio signals by quantizing them to a lower bit depth. This effect creates a distortion that is often described as sounding "digital" or "80's". On this effect you have the following parameters:

    a) **Pre-Gain** - Controls the input level of the audio signal before it is processed by the bit crusher. When reducing the Bits the signal may not have enough level to create sound in the soft passages. The Pre Gain helps you prevent this problems.
    b) **Bits** - Controls the bit depth (resolution) of the audio signal after it has been processed by the bit crusher. Turning the knob clockwise reduces the bit depth which means that there are fewer possible amplitude values that each sample can use, which results in a more distorted and "squared" sound. It ranges from 16 to 1 bit.

Figure 24. Bit Crush Effect

2. **Delay** - Creates the illusion of an echo or repetition of a sound source by adjusting the following parameters:

    a) **Feedback** - Controls the amount of the delayed signal that is fed back into the delay effect. Increasing the feedback level will create multiple repeats of the delayed sound, creating a more pronounced echo effect. High feedback values can quickly lead to a buildup of sound, so it's important to use this parameter with care.
    b) **Gain** - Controls the level of the delayed signal relative to the original signal. Increasing the gain can make the echo effect more prominent, while decreasing it can make the delayed signal blend more smoothly with the original signal.
    c) **Time** - Controls the time between the original sound and each repetition. Longer delay times will create a more pronounced echo effect, while shorter delay times can create a slap-back doubling effect or make the sound seem thicker.

Figure 25. Delay Effect

3. **Distortion** - Alters the waveform of an audio signal, creating a more "dirty" sound by turning the wave more squared. In this effect you can choose between the Clipping (that generates a more aggressive and "hard" distortion sound) and Overdrive (that creates a "soft" distortion that adds warmth and sustain to the original sound). You can adjust it using the following parameters:

    a) **Pre Gain** - Controls the input level of the audio signal before it enters the distortion effect. Increasing the pre-gain will increase the amount of distortion applied to the signal, resulting in a more intense and "gritty" sound.
    b) **Out Gain** - Controls the level of the distorted signal after it has been processed by the distortion effect. Increasing the out gain will increase the volume of the distorted signal, allowing it to stand out more prominently in a mix, without increasing the amount of distortion.

Figure 26. Distortion Effect

4. **Equalizer** - Adjust the level of specific frequency bands, by selecting between the two modes:

    a) **3 Bands** - Allows you to boost or cut three fixed frequency bands (Low, Mid, High) using the three knobs.
    b) **Parametric** - Allows to adjust the parameters of one frequency band, using the Frequency, Q factor and Gain.

Figure 27. Equalizer Effect

5. **Reverb** - Create the illusion of a room and space by adjusting the following parameters:

    a) **Width** - Increasing the width will spread the reverb across the 3D sound field, making it sound wider and more spacious. Decreasing the width will make the reverb sound more focused and centered.
    b) **Damp** - Controls the amount of high-frequency damping in the reverb effect. Increasing the damp will reduce the amount of high frequencies in the reverb tail, resulting in a darker and more mellow sound. Decreasing the damp will allow more high frequencies to ring out, resulting in a brighter and more open sound.
    c) **Room Size** - Controls the perceived size of the virtual space in which the reverb effect is taking place. Increasing the room size will make the reverb sound like it's in a larger space, with a longer decay time and more pronounced reflections. Decreasing the room size will make the reverb sound like it's in a smaller space, with a shorter decay time and less pronounced reflections.

Figure 28. Reverb Effect

Extras

Figure 29. Extras Page

On the Extras Page, you'll get access to 8 extra Envelope Generators (EG) and 8 extra Low Frequency Oscillators (LFO) that can be assigned to any parameter on the SkyDust 3D.

On the left panel you have the selected EG or LFO (Source) and on the right panel you have a drop down menu to select the parameter and the curve editor to shape how the parameter (Destination) is modified (by the EG/LFO).

Each **EG** has the following parameters:

Figure 30. Extras Page - EG

1. **EG Power button** - Enables the Envelope Generator.
2. **EG Type** - Selects the type of EG, from simple AR (Attack/Release) to complex DAHDSR (Delay/Attack/Hold/Decay/Sustain/Release).
3. **Delay** - Controls the time it takes to start the EG after you press a key on the controller.
4. **Attack** - Controls the time it takes to go from the star value to the attack value.
5. **Hold** - Controls the time it holds on the attack value before it decays.
6. **Decay** - Controls the time it takes to go from the attack value to the sustain value.
7. **Sustain** - Controls the value of the sustain.
8. **Release** - Controls the time it takes for the oscillator to go from the sustain value to the release value.

Each **LFO** has the following parameters:

Figure 31. Extras Page - LFO

1. **LFO Power button** - Enables the LFO.
2. **Waveform** - Choose between: Sine, Square, Square (Sharp), Triangle, Saw Up, Saw Up (Sharp), Saw Down, Saw Down (Sharp), Full Rectified Sine, Half Rectified Sine, Noise Steps, Noise Steps (Sharp), Noise Linear, Noise Lagrange, Noise Binary and Noise Binary (Sharp).*
3. **Waveform Modifier** - Choose between: Silence, Amplitude Offset, Wave Folding, Wave Folding Positive, Clipping, Bit Crusher, Time Shift Up, Time Shift Down.
4. **Modifier value** - Allows you to define the amount of the Modifier effect you want on your oscillator.
5. **Sync** - If enabled, the rate of the LFO syncs with the DAW's project tempo.
6. **Global** - If enabled all the voices will be sync together, independently from their start times.
7. **Rate/Note** - Controls the rate of the LFO. If Sync is disabled ranges from 0.1 to 10 Hz, with Sync enabled you can choose between several time divisions.
8. **Depth** - Controls the depth of the modulation of the LFO.
9. **Delay** - Controls the time it takes for the LFO to reach its full rate and depth.
10. **Phase** - Allows you to offset the initial phase of the LFO wave.

*Sharp waveforms create instant gain changes that creates clicks, but you may want exactly that.

Both EG's and LFO's have a **Curve Editor** where you can better define how a certain source (in this case, the extra EG or LFO) controls a certain parameter. Sometimes you may want an inverted behavior (as the source value increases, you want the

destination value to decrease), other times you want to obtain a more logarithmic or exponential curve instead of a linear or you simply want to create a custom curve.

On the Curve Editor you have the following parameters:

Figure 32. Extras Page - Curve Editor

1. **Curve Editor** - Edit the curve by dragging the existing points on the limits of the curve (to define the minimum and maximum values), by dragging the line between the points (to create logarithmic and exponential curves), by adding new editing points (by double clicking the line) or deleting them (by dragging it to outside of the curve editor).
2. **Invert** - Inverts the curve.
3. **Reset** - Resets the curve to the default value.
4. **Depth** - Controls how much the Source will modulate the Destination by reducing or increasing the range between the minimum and maximum value.
5. **Min** - Defines the minimum value to which the Source will modulate the Destination.
6. **Mid** - Moves the entire curve up and down.
7. **Max** - Defines the maximum value to which the Source will modulate the Destination.

Matrix

Figure 33. Matrix Page

The Matrix Page is where you can define a source parameter to control other parameter and the specific curve. For instance, you can use a Macro to control the gain of an oscillator, or use the Modulation Wheel to control the elevation of an oscillator.

On the left panel you can see **"All"** the controls or filter by **Source** or **Destination**, to find what you are looking for when there are lots of entries in the Matrix.

On the rest of the page you can add entries where you can define a Source and a Destination and use the curve editor on the right to shape how the parameter (Destination) is modified (by the Source).

On top of the page you will have access to the following parameters:

1. **Add** - Adds a new entry for Source/Destination connection.
2. **Delete Entry** - Removes the selected entry

Each Entry as the following parameters:

3. **Enable/Disable** - When green, it enables the connection between the Source and Destination and when black, it disables it.
4. **Set/Offset** - Defines how the source changes the destination parameter. If in Set, the destination will have full and exclusive control over the destination parameter, and the UI knob will be ignored. If in Offset, the source will make changes on the destination parameter, by increasing it or decreasing in relation

to the original defined parameter value, but allowing multiple sources to control and affect it.

5. **Source** - Select the control source you want to add, between: 4 Macros, 8 Extra LFO's, 8 Extra EG's and MIDI messages.
6. **Destination** - Select the parameter you want to control. You can choose any parameter of the synth.

On the right you also have a curve editor with the following parameters:

7. **Curve Editor** - Edit the curve by dragging the existing points on the limits of the curve (to define the minimum and maximum values), by dragging the line between the points (to create logarithmic and exponential curves), by adding new editing points (by double clicking the line) or deleting them (by dragging it to outside of the curve editor).
8. **Invert** - Inverts the curve.
9. **Reset** - Resets the curve to the default value.
10. **Depth** - Controls how much the Source will modulate the Destination by reducing or increasing the range between the minimum and maximum value.
11. **Min** - Defines the minimum value to which the Source will modulate the Destination.
12. **Mid** - Moves the entire curve up and down.
13. **Max** - Defines the maximum value to which the Source will modulate the Destination.

Bottom Panel

As you navigate through the pages to adjust all the parameters, there is also a bottom panel available with multiple tabs for you to view and control various options.

By default, the bottom panel displays the classic keyboard. However, in SkyDust 3D, you have the option to select four additional tabs: **Mixer**, **Macros**, **Pads**, and **Spatial**.

Keyboard

Figure 34. Keys Tab

On this tab you have control over the basic features of a keyboard, as well as other quick access parameters:

1. **Keyboard** - Monitor the MIDI notes received by SkyDust 3D or click on the keys to play and generate sound. Right-clicking allows you to define the keyboard range that you want to display.
2. **Sustain** - A blue line appears on the top of the keys when the sustain pedal is enabled.
3. **PitchBend** - Shifts the pitch of the played notes. In the Settings panel you can define the Up and Down range values of the wheel.
4. **ModWheel** - Controls the modulation value that is sent to any assigned expression parameters.
5. **Octave Offset** - Offsets the octave of the original MIDI input.
6. **Spatial** - Turns On/Off all the spatial movement settings. When Off it will use the spatial settings defined in the Off mode on the Spatial Page.
7. **Pitch** - Turns On/Off any existent pitch effects.
8. **Arp** - Turns On/Off the arpeggiator or sequencer.
9. **Legato/Mono** - The synth becomes monophonic (plays only one note at once). In Mono mode, when a new note is played, the synthesizer creates a new envelope for that note, even if the previous note is still being held down. This

means that each note played will have its own distinct attack, decay, sustain, and release envelope. In contrast, in Legato mode, the synthesizer shares the same envelope for the new note as the previous note that is being held down.

10. **Glide** - Defines the time it takes to go from the pitch of the previous note to the new note.
11. **Macro** - This knob controls the Macro A. On the Macros tab or in the Matrix Page you can define the parameters controlled by the macro.
12. **Spatial view** - This view lets you monitor the movement and position of the generated voices from a top "perspective".
13. **Master Fader** - This fader controls the output level of the synth.
14. **Master VU meter** - This VU meter lets you monitor the output level of all the channels on the output.

Mixer

Figure 35. Mixer Tab

On this tab you have a mixer to control the levels of all the oscillators, the master output and the Dry/Wet knobs for all the four effects.

1. **Fader** - Controls the level of the oscillator.
2. **Oscillators meter** - Monitors the audio level of each oscillator.
3. **Oscillators Mute** - Mutes a particular oscillator.
4. **Oscillators Solo** - Solos the oscillator (mutes all the others).
5. **FX Dry/Wet** - Controls the Dry/Wet relation to the respective effect.
6. **Master Mute** - Mutes the master output of the synth.
7. **Master Fader** - Controls the output level of the synth.
8. **Master meter** - Monitors the output level of all the channels on the output.

Macros

Figure 36. Macros Tab

The Macro tab is a section where you can assign multiple parameters to each of the four Macro knobs available. By doing this, you can control several parameters at once using a single Macro knob.

This can be a useful feature in situations where you need to make quick changes to multiple parameters during a performance. For example, you might assign the four Macro knobs to control the filter cutoff, resonance, envelope attack, and decay time. Then, during a performance, you could turn a single Macro knob to adjust all four of these parameters simultaneously.

On this tab you have the following parameters:

1. **Macro Knob** - Set the value of the Macro. You can write click and use MIDI learn to assign a MIDI controller knob to this.
2. **Page** - Use the arrows to navigate between the pages when you have more than 4 parameters.
3. **Add** - Add a parameter to be controlled by the Macro.
4. **Parameter Slot** - Click on the parameter slot to open the Matrix Page and edit the curve used to control the parameter.
5. **Delete** - Select the "-" button to delete the parameter from the Macro.

Pads

Figure 37. Pads Tab

On this tab you have access to two XY pads. With this pads, you can manipulate the position of a virtual dot moving it in two axis, to adjust two assigned parameters at the same time. For example, the X-axis could be assigned to control filter cutoff frequency, while the Y-axis controls resonance. By moving the dot around the XY pad, the player can simultaneously adjust both the filter cutoff and resonance, creating complex filter sweeps and other effects.

1. **Y-axis Parameter** - Define the parameter you want to control on the Y-axis.
2. **X-axis Parameter** - Define the parameter you want to control on the X-axis.
3. **Snap** - When enabled the dot will return to the previous position when you release the mouse button.
4. **Snap Time** - When Snap is enabled this knob sets the time it takes for the dot to return to the previous position.
5. **Master Fader** - Controls the output level of the synth.
6. **Master meter** - Monitors the output level of all the channels on the output.

Spatial

Figure 38. Spatial Tab

In the Spatial tab you can see different types of spatial views so you can monitor the movement the voices in the format that is more convenient to you.

1. **Spatial Views**
   a) **360 View** - Displays a complete 360° view of the voices, having the azimuth angles on the horizontal axis and the elevation angles on the vertical axis, like on a world map.
   b) **Rear View (Cube)** - Displays the voices from the rear perspective, in a squared room.
   c) **Top View (Cube)** - Displays the voices from the top perspective, in a squared room.
   d) **Top View (Sphere)** - Displays the voices from the top perspective, in a circular room.

e) **Polygon View** - Displays the voices from the top perspective, in a squared room.

2. **Master Fader** - Controls the output level of the synth.
3. **Master meter** - Monitors the output level of all the channels on the output.

Bottom bar

On the bottom of the window you also have access to a bottom bar with useful features:

Figure 39. Bottom Bar

1. **Tooltips' section** - Every time you move the mouse cursor over a knob or any control, you will see a short description of that parameter.
2. **Update** - If the plug-in is running on a computer with Internet access, it can detect if a newer update is available, informing the user of the existence of a new update, by showing a blinking phrase on the top of the display.

3. **Help button** - Opens the Help Panel, which shoes additional information and useful links.

    a) **Visit our Website** – Link to soundparticles.com

    b) **Watch Tutorials** – Link to SkyDust 3D tutorials

    c) **Read Manual** – Web version of this Manual.

    d) **Request Support** – This button will redirect users to the requested support page. This will automatically retrieve some data about your setup (OS, CPU, RAM, plugin version and host).

    e) **Forum** – Link to our user Facebook group, Sound Particles Forum.

    f) **Check for Updates** - Pressing this button will access soundparticles.com to check if there are available updates. Normally when a new update comes out the plugin automatically shows it but you can use this to be sure your version is up to date.

    g) **Resize button** - Users are allowed to use a custom scaling factor by dragging the cursor in the bottom-right of the plugin's interface. Performing this makes the zoom pop-up display the custom value of the scaling. **Bare in mind that hosts may deal differently with plugin resizes.*

Plugin and Presets Location

Installing SkyDust 3D copies the plugin into appropriate plugin folders, and the hosts will automatically recognize them. It also allows SkyDust 3D users to choose a custom folder for the installation, in both operating systems — MacOS and Windows.

On MacOS, the default paths for SkyDust 3D plugin architectures are the following:

- VST3: /Library/Audio/Plug-Ins/VST3
- AU: /Library/Audio/Plug-Ins/Components
- AAX: /Library/Application Support/Avid/Audio/Plug-Ins

On Windows, the default paths for SkyDust 3D plugin architectures are the following:

- VST3: C:\Program Files\Common Files\VST3
- AAX: C:\Program Files\Common Files\Avid\Audio\Plug-Ins

PRESETS LOCATIONS

User presets will be stored in a .spp file in the following locations:

On MacOS, the path for SkyDust User presets is the following:

- /Users/USERNAME*/Library/Application Support/Sound Particles/SkyDust/Presets

On Windows, the path for SkyDust User presets is the following:

- C:\Users\USERNAME**\AppData\Roaming\Sound Particles\SkyDust\Presets

*USERNAME is your login name. Your user Library folder may be hidden, in which case you can select the “Go To Folder” option in the Go menu of the Finder, enter “~/Library”, and click OK.

**USERNAME is your login name. AppData may be hidden; use the explorer view options to show system files.

Nuendo & Cubase Workflow

When working in stereo or binaural, Cubase and Nuendo work in a straight forward manner. But, if you want to use a multichannel, you need to follow some additional steps, as a way to overcome some issues (Nuendo and Cubase never considered a 3D synth like SkyDust). But don't worry, if you follow these steps, you would be able to take full advantage of SkyDust with multichannel.

1. First go to **Audio Connections** > **Outputs**;

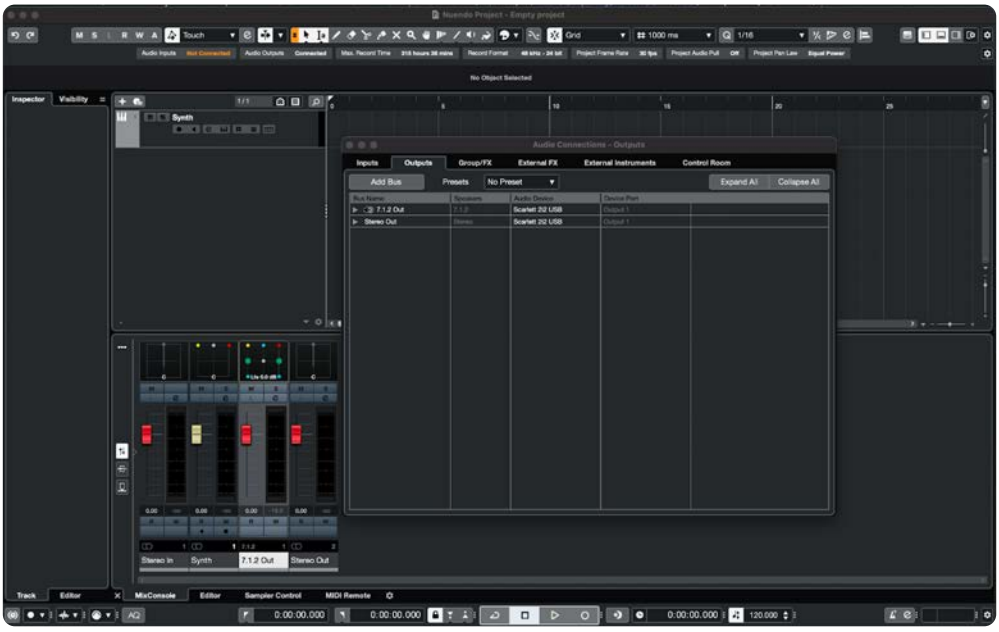

Figure 40. Nuendo Workflow - Step 1

2. Set the surround output bus you want to use as **Main Mix** bus (not required but recommended for a quicker setup);

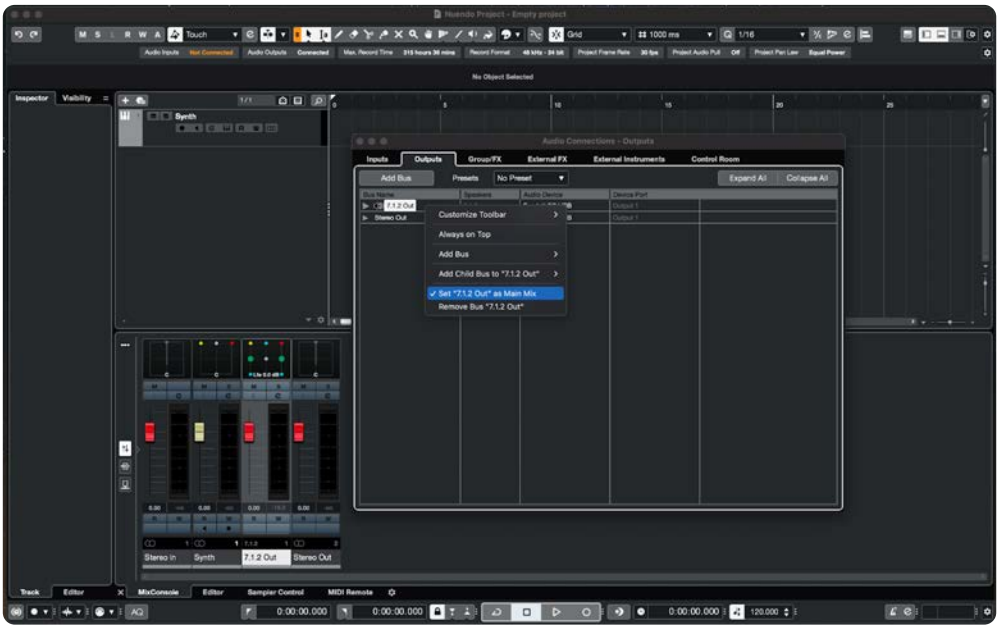

Figure 41. Nuendo Workflow - Step 2

3. Create an **Instrument track**;

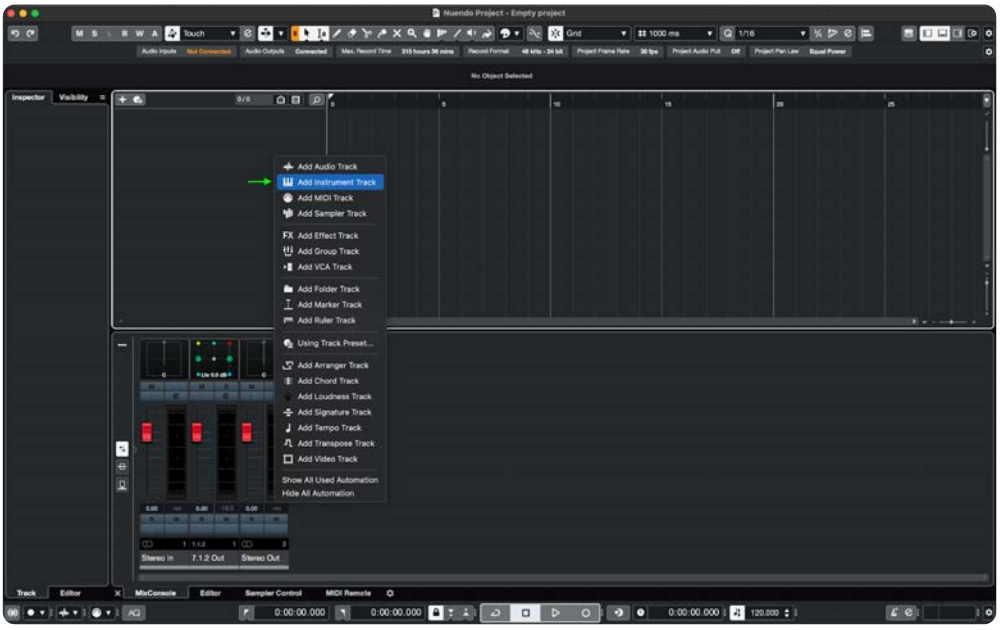

Figure 42. Nuendo Workflow - Step 3

4. Select **SkyDust** as instrument;

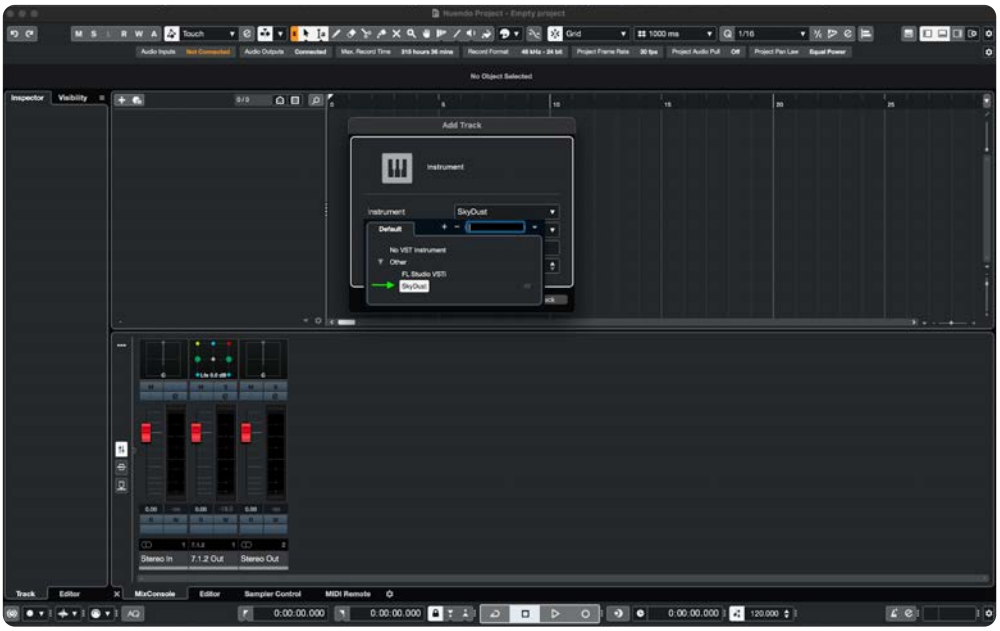

Figure 43. Nuendo Workflow - Step 4

5. Select the **Main surround output** bus;

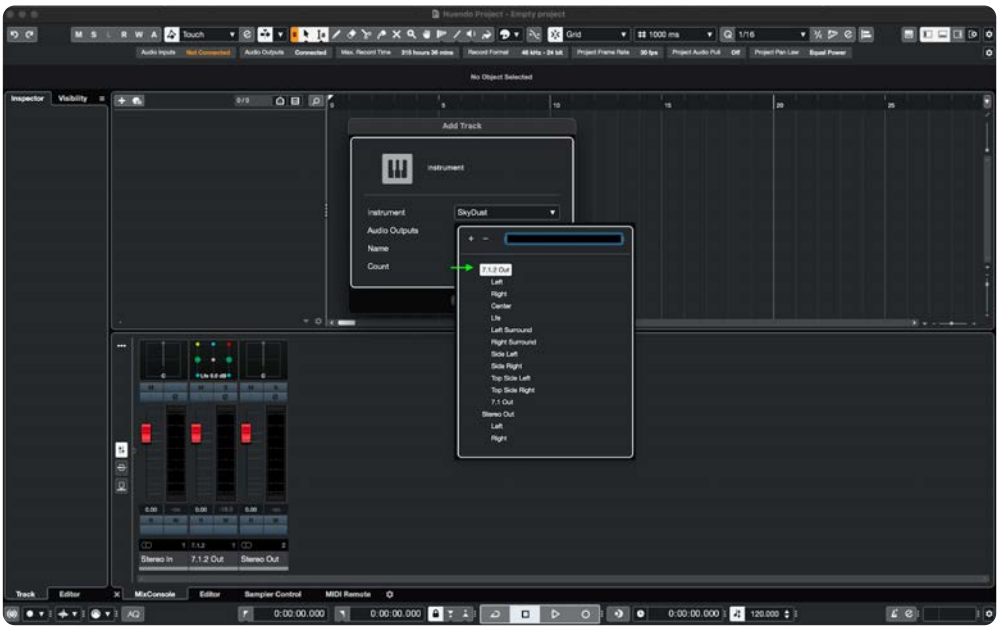

Figure 44. Nuendo Workflow - Step 5

6. On the track Inspector, click on the **Activate Outputs** icon;

Figure 45. Nuendo Workflow - Step 6

7. Activate the output of the same surround format on the previous step;

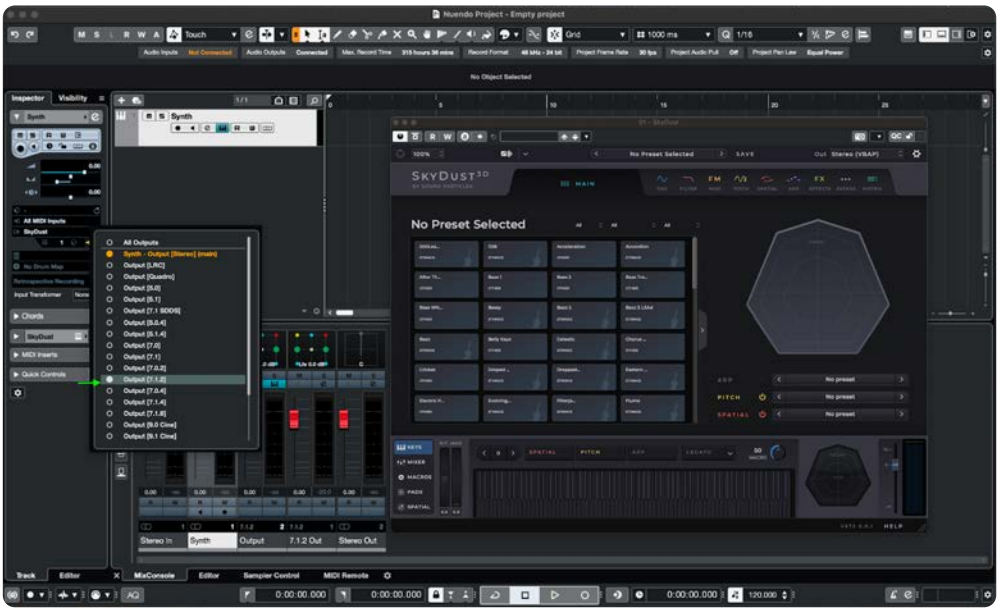

Figure 46. Nuendo Workflow - Step 7

8. Go to **SkyDust Out** format popup, on the top right corner of the plugin, and select the corresponding surround format;

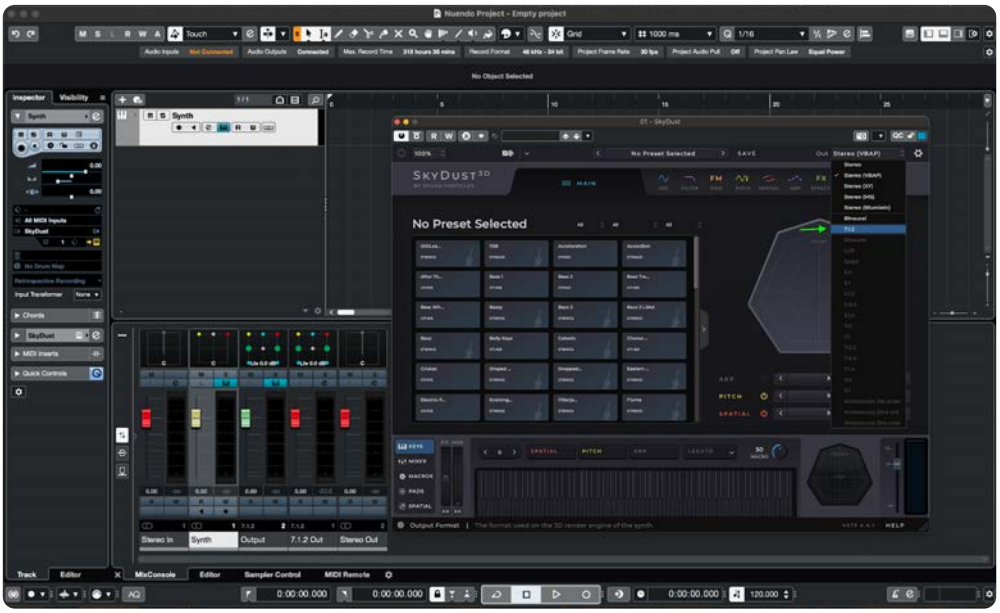

Figure 47. Nuendo Workflow - Step 8

9. Enable **Record** in the Instrument track and it will be ready to use;

Figure 48. Nuendo Workflow - Step 9

Tips

Right-click:

- Right-clicking on a parameter lets you assign the following control options:

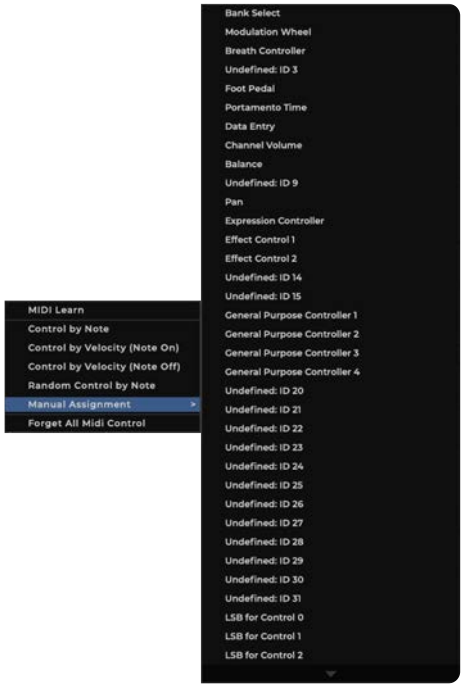

Figure 49. Control options

Knobs:

- Double click or Option/Alt-click resets to the default value;
- Shift while dragging enables fine-tune.

VU Meter:

- Click on any channel clears all clipping LEDs;
- Left click on any channel and select “reset” clears all clipping LEDs;
- In multichannel scenarios it is possible to choose the VU’s channel order (SMPTE/Film) with a mouse right-click inside the VU’s area.

Randomize:

- This button will set new random values to the parameters and the plugin effect mode buttons/pop-ups.

Tooltip’s bar:

- This version of SkyDust 3D has a bar at the bottom of the interface that shows short definitions for each element of the plugin.

Additional Notes

CHECK FOR UPDATES

If the plug-in is running on a computer with internet access, it is able to detect if a newer update is available, informing the user of the existence of a new update, by showing a blinking phrase on the bottom bar of the synth.

To achieve that, Sound Particles SkyDust 3D plugin tries to access a simple XML file located at https://www.soundparticles.com.

SOUND PARTICLES SKYDUST 3D DOES NOT SEND ANY INFORMATION FROM THE USER OVER THE INTERNET.

SUPPORT

If you detect a bug, if you got a crash, if you believe something is not perfect, or even if you have ideas for future versions, don't hesitate, and email us at support@soundparticles.com. We REALLY want to hear from you. Sometimes a bug lives on for too much time, simply because we haven't detected ourselves and we didn't receive any feedback from the affected users. Besides that, your feedback is very important for us.

"Help us help you"

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