Space Controller
Reference Manual

November 2021
v 1.1

Welcome Note

Welcome to "Space Controller"

Over the years, it become clear for us that using knobs, joysticks or even the mouse was not the best way to pan sounds. Knobs can work with stereo, joysticks may work for surround, but as you move to 3D audio, all these approaches present severe problems in terms of usability.
Panning in 3D should be fun!
As such, we searched for alternatives. I still recall one of the first talks on the subject with Michael Novitch (Technicolor / Paramount) a few years ago.
With Space Controller, I really believe that we found a much better solution for panning: easy, fast, precise, intuitive and fun… because 3D panning should be fun.

Enjoy! And if you have any question or suggestion, don't hesitate to contact us. We REALLY love to receive feedback from our users.

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Space Controller

Thank you very much for downloading Space Controller plugin from Sound Particles.

Space Controller is committed to change the way you use sound in space, enriching your mixes by spreading sound around you. By combining the movement of the mobile device through a dedicated application and a 3D audio plugin prepared to receive this information and use it creatively with a set of panning modes, this unique audio plugin makes panning easier than ever using real-life motion. Designed to be simple and quick to use, Space Controller has four different modes of operation — Mono, Channel, Rotation and Symmetric Side — enabling sound designers and music producers to use this new approach to panning in several different ways. Whether to add motion to sound effects or to creatively mix instruments, this audio plugin will change the way you think about the sound around you.

Space Controller brings the easiest panning solution to your workflow. Allows you to move your sound around intuitively in all reproduction formats — from stereo to 5.1, immersive formats up to 22.2, also Ambisonics up to 6th order, and Binaural.

Go through this manual and get the best out of Space Controller!
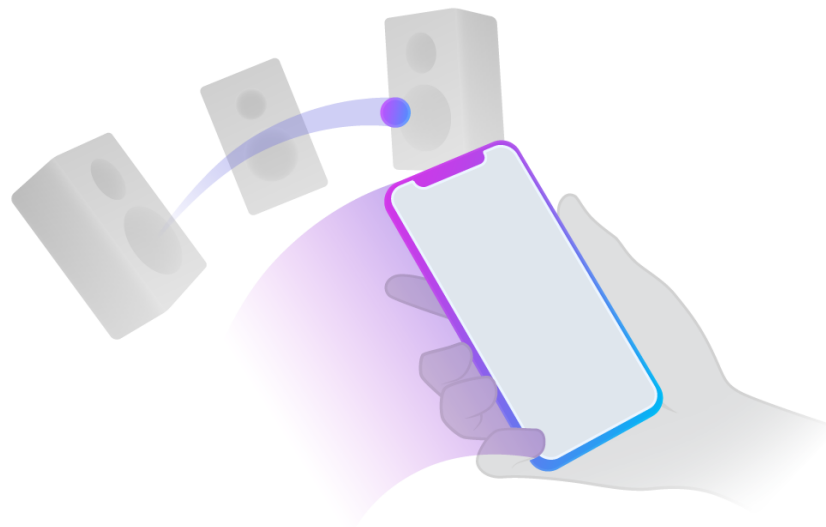
Space Controller Signal Flow
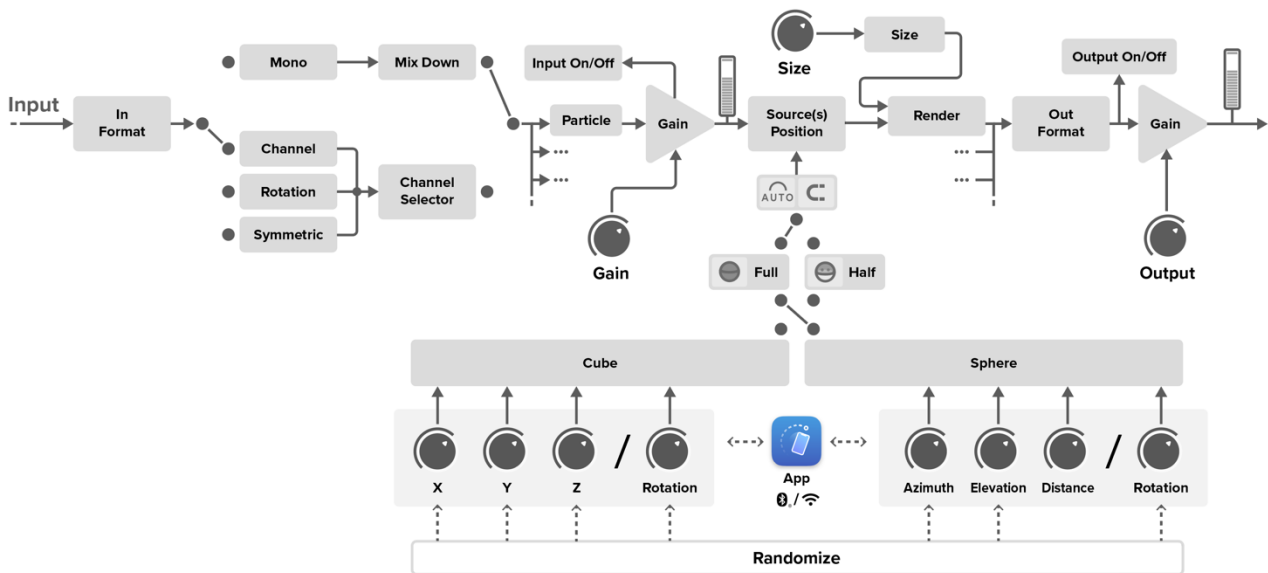
Space Controller overview

Space Controller plugin interface is designed to be easy-to-use while providing all information and controls you need to achieve the best out of the plugin.

Space Controller has its key element at the center on the interface, the Space View. Here the plugin provides visual feedback of the location of the sounds you're positioning or moving using a mobile device.
Moreover you can also use this area to place and move sound sources, by mouse dragging them, like in a common panner plugin.
Around the Space View, there are a whole set of parameters that will help you produce the sound motions you want.

Above the Space View it is possible to select from two different ways of display: Cube and Sphere. Switching between these two will change both the view and the control parameters to position sound sources.

Under the Space View are the plugin's four modes of panning – Mono, Channel, Rotation and Symmetric Side. These will affect the overall behavior of the plugin as they allow you to control all sound sources simultaneously or each independently.

At the left side you can also control parameters related to each source position, and below is the setup and information regarding the connection between the plugin and the mobile app.

At the right side there's the selection of the input and output formats, VU meters and the global output control.

The Space Controller app for iOS and Android enables the user to move and positioning sounds by pointing a mobile device to any virtual position.

The app is included with the plugin and it can be downloaded in [App Store](#) and [Play Store](#).

The Space Controller mobile app has a connection status label and a section of communication links to set which instances of the plugin are being controlled. Below there's a section with information of the direction the mobile device is pointing at, including angles and a preview of the sound source position in a Cubic Room.

The Tap/Hold button is used to set the smartphone ON/OFF panning control state.

Quick start and connection setup

This is a short description with the required steps to install and connect the Space Controller app with the plugin. Follow the steps below according to your mobile device platform — iOS or Android.

Please be sure to first install the plugin on your computer.

Mobile setup — iOS and Android

SpaceController App installation

1. Go to the App Store or PlayStore.

2. Search for the SpaceController App.

3. Download & Install the SpaceController application.

Before opening the SpaceController app on your mobile phone, please insert the Space Controller plugin in a desired track of a DAW. Additionally, to avoid connection errors, make sure that one of the network services below on your computer is switched on — Bluetooth or Wi-Fi (or both).

Bluetooth

1. On your mobile device, switch the Bluetooth on.

2. Launch the SpaceController app.

3. Click on the settings wheel, in the top-right corner of the app, and select Bluetooth as the Connection service.

4. Return to the Main View.

5. Under "SpaceController" the connection status label should get from Scanning to Connected. Depending on various factors, the connecting time should be about 5 seconds.

6. The app and the plugin should be now connected, simply tap the "Tap to Pan" button to start panning sounds with your mobile device.

Wi-Fi (only available for Space Controller Studio version)

1. Turn on the mobile phone Wi-Fi and connect it to the available network. Note that the network should be the same network used by your computer.

2. Launch the SpaceController app.

3. Click on the settings wheel, in the top right corner of the app, and select Wi-Fi as the Connection service

4. Click on "Scan QR code". The SpaceController app will open your mobile camera and permission to use your camera will be requested.

5. In the plugin, click on "Wi-Fi Setup". A QR will appear on the plugin's interface.

6. Point your camera to the QR code. Make sure that the QR code image fits inside the square of the QR scanner.

7. The app and the plugin should connect in a few seconds, simply tap the "Tap to Pan" button to start panning sounds with your mobile device.

App controls

Main window

1) **Connection label** – Shows the connection status between the plugin and the app

2) **Communication links** – Select the link to be controlled by the app. Link number can be changed with the side arrows or by clicking in link label, which will show a numeric pad that allow the user to type the link to be controlled by the app. Press and hold on side arrows to continually increase/decrease link number

3) **Pointing display section** – Shows the current direction the phone is pointing

4) **Set Front** – Button to calibrate the front direction to be considered by the app

5) **Tap/Hold to Pan** – Button that activates/deactivates the remote panning control

6) **Settings Wheel** – Button to open the app's settings window

Settings window

Preferences and Wi-Fi sections

1) **Flip Screen toggle** – Allow the user to flip the app upside-down

2) **Stable 0° Elevation –** Helps the user to have a steadier control of the vertical plane. Tilting the mobile device between -25° and 25° will not affect the elevation of the sound source, keeping it at 0°

3) **Vibration –** When Vibration mode is on, the phone will vibrate every time it points to the speaker position of a 5.x.x or a 7.x.x related speaker layouts
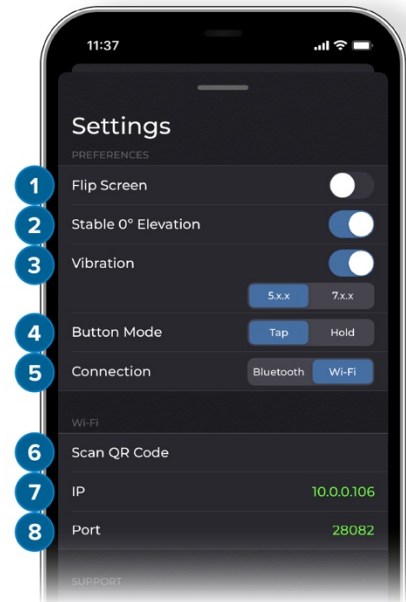
4) **Button Mode toggle** – User can choose between Hold and Tap gestures to enable/disable the Tap/Hold to Pan button in the app

5) **Connection type** – Allows the user to choose between Wi-Fi and Bluetooth connection protocols (Wi-Fi only available for Space Controller Studio version)

6) **IP Address popup** – Displays the selected network and allows the user to choose other available network interfaces

7) **Port** – Shows the Wi-Fi connection port number

Support section

1) **Read Manual** – Opens the online version of user manual

2) **Forum** – Opens the Sound Particles' Facebook group, in case the user wants to ask a question, send suggestions or search for plugin related posts or comments.

3) **Report bug** – Opens a webpage where the user can report issues experienced with the app or plugin

4) **Watch Tutorials** – Opens Sound Particles' YouTube channel with plugin related tutorials

5) **Send email to Support** – Opens a webpage where the user can contact our support team with any plugin related feedback

6) **Acknowledgements** – Opens a PDF with acknowledgements of third-party rights, licenses as well as the terms and conditions

# Plugin main controls

Connection section

The connection section provides users with the setup of the Space Controller APP with the Space Controller plugin. It also informs about the current connection status; how many devices are connected, and which instance of the plugin is being controlled.
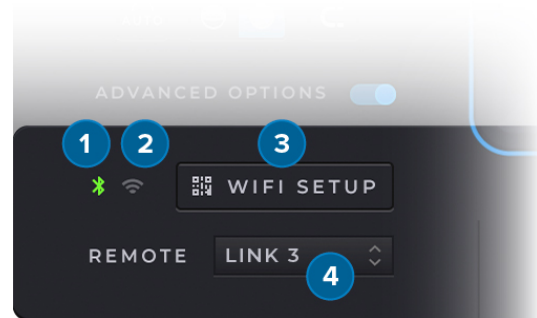
1) **Wi-Fi led** – displays the ON/OFF status of the plugin-app Wi-Fi connection

2) **Bluetooth led** - displays the ON/OFF status of the plugin-app Bluetooth connection

3) **Wi-Fi Setup** – Pressing this button will show on the plugin window a few instructions to setup the Wi-Fi connection, as well as a QR code to use with the Space Controller app

4) **Communication Link** – Popup that enables to choose which Link of the Space Controller app is controlling the plugin instance. For projects with multiple Space Controller instances, each plugin instance should be linked to a different communication Link. Space Controller enables you to control up to 128 plugin instances independently.

Views

The Space View is the central element on the interface and fundamental to help user checking or controlling where the sounds are being placed and how they're moving.
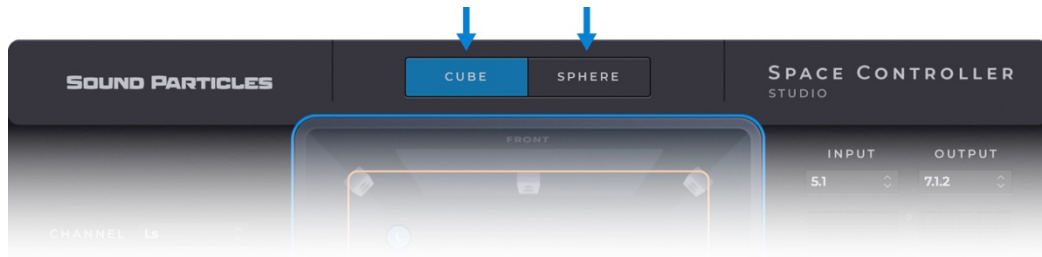
Space Controller has two main view modes — Cube and Sphere — that will allow you to choose your preferred workflow. You get to work with cartesian coordinates system in the Cube Mode that may be preferred in cinema and music projects. If you're working with Ambisonics, VR or other sphere-related workflows, Sphere Mode, which uses spherical coordinates system, can be a more suitable alternative.

Cube

In Cube Mode you can choose to view the cubic room either from Top or Back perspectives.
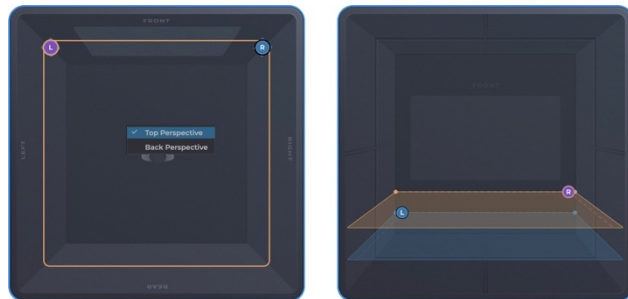
The perspective can be switched in the context menu accessible by right-clicking with the cursor over the Cube view.

When the Cube View is selected the plugin uses the X, Y, Z coordinates as parameters, which respectively controls the Left/Right, Front/Back and Up/Down position of the input source(s).

Sphere

When the Sphere View is selected the plugin uses Azimuth and Elevation parameters, which respectively control the position of the input source(s) in the horizontal and vertical planes.

View main controls

There is a set of elements within the central region of the dome that are common to both views, Cubic and Spherical. These assists and streamline users to check and control how the sound sources are being panned.
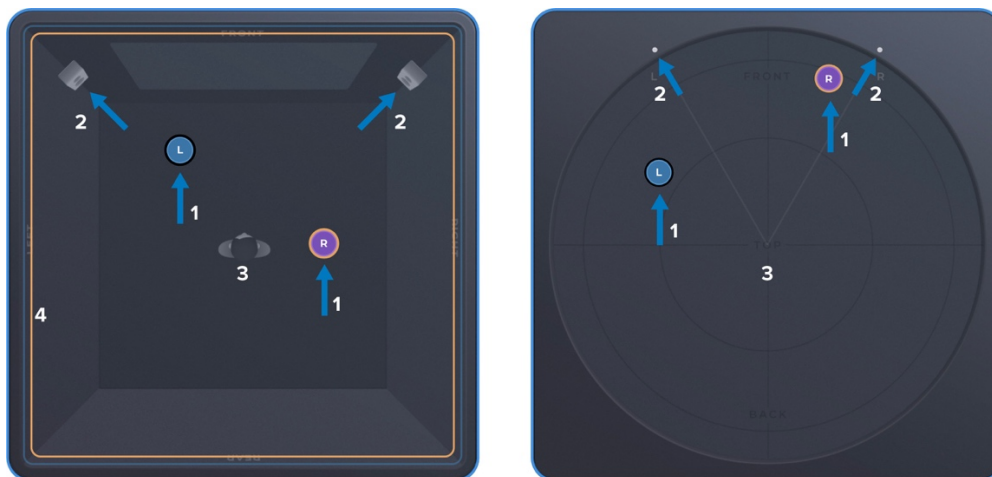
The view main controls are:

1) **Input source(s) handle(s)** – displays the position of each input source and which input channel it corresponds to

2) **Output channel format (speakers)** - displays the speaker layout of the selected output format. These speakers are represented by real-speaker icons in cube mode, while in sphere mode they are represented by the abbreviation of the speaker they represent

3) **Listener position** – displays a dummy head at the center to indicate the reference position. In the spherical mode, the listener is positioned in the center of the dome

4) **Height line** – Indicates the current elevation of the sound source in the room. This line is available only in the cube mode

Panning modes

Space Controller plugin has four Panning modes — Mono, Channel, Rotation and Symmetric — allowing the user to experiment different approaches to panning through a greater variety of trajectories.

These four modes will use your mobile device movement data to creatively distribute the input sound sources around you.

Mono
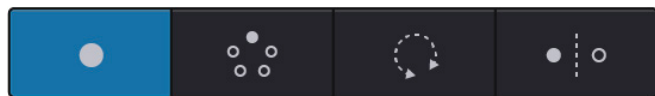
The Mono Mode is the most basic and straightforward of all. In this mode, any non-mono signal is downmixed to be used as a single source in the dome (if the input signal is mono no downmixing will occur). The source is pointed in respect to where the mobile device is pointing.

Channel

The Channel Mode is very similar to the Mono Mode with the difference that you can pan any of the input channels. A specific channel of the input signal will be spatialized according to where the mobile device is pointing at. There is a dropdown on the left-side of the interface that allows users to select which channel of the input format they want to control. Note that this operating mode is disable when the plugin detects a mono input.

Rotation

The Rotation Mode allows users to rotate the input image according to the angle of the mobile device. In this mode, only the azimuth of the source is manipulated, and the elevation of the sound source will always be 0°.

Symmetric Side

The Symmetric Side Mode mirror the X axis behavior to all sources based on a selected channel. For example, when using 5.1 input and selecting the left channel to be controlled by the mobile device, all the other sources will mirror the left channel in relation to the X axis. Like the Channel Mode, the Symmetric Side Mode is disabled when the plugin detects a mono input signal.

Left section parameters

1) **Channel selector** – Allows the user to check and select which channel is being controlled by the app or plugin. Each input channel has a dedicated set of position parameters

2) **Rotation** –Rotation parameter is displayed in the plugin when Rotation Mode is selected, the user can set or check the amount of horizontal rotation applied to the input sound

In Cube view:

3) **X coordinate** – Controls the position of the selected source in the x-axis

4) **Y coordinate** – Controls the position of the selected source in the y-axis

5) **Z coordinate** – Controls the position of the selected source in the z-axis

In Sphere view:

7) **Azimuth** – Controls the azimuth position of the selected source

8) **Elevation** - Controls the elevation position of the selected source

Input and Output section

Space Controller has an input and output section dedicated to the parameters that change the already processed audio. These parameters are the input source popup and output popup to select its render format.

1) **Input format** – A popup menu where it is possible to choose the plugin input format according to the number of input channels of the track

2) **Output format** – A popup menu where it is possible to choose the output format of the plugin according to the number of output channels of the track

3) **VU's** – Dedicated Input and Output VU meters to monitor the signal levels for each channel

4) **Output** – Knob that controls the plugin's overall output signal

The signal levels are visible in the VU meters available on the right-side of the interface. Users can access a popup menu by right clicking on the VU's. This essentially allow users to reset the VU's animation (e.g.: if they already clipped), as well as viewing the render format in use.

Input Source and Output Render Formats

Stereo - A stereo render made of gains based on VBAP.

Stereo (XY) - A stereo render made with a virtual XY microphone. Only available as Output format.

Stereo (MS) - A stereo render made with a virtual MS microphone. Only available as Output format.

Stereo (Blumlein) - A stereo render made with a virtual Blumlein microphone. Only available as Output format.

Binaural - A binaural render based on the SADIE MINP KU100 dataset.
Only available as Output format.

LCR - An LCR VBAP multichannel render.

LCRS - An LCRS VBAP multichannel render.

Quad - A Quad VBAP multichannel render.

4.0 - A 4.0 VBAP multichannel render.

5.0 - A 5.0 VBAP multichannel render

5.1 - A 5.1 VBAP multichannel render.

7.0 - A 7.0 VBAP multichannel render.

7.1 - A 7.1 VBAP multichannel render.

9.0 - A 9.0 VBAP multichannel render.

9.1 - A 9.1 VBAP multichannel render.

5.0.2 - A 5.0.2 VBAP multichannel render.

5.1.2 - A 5.1.2 VBAP multichannel render.

5.0.4 - A 5.0.4 VBAP multichannel render.

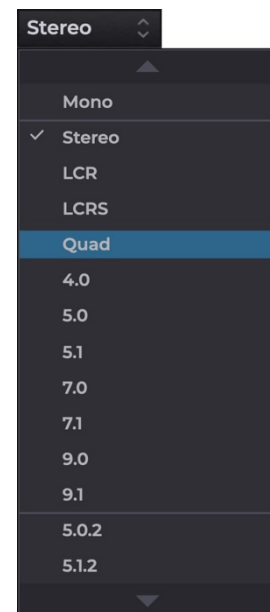**5.1.4** - A 5.1.4 VBAP multichannel render.

7.0.2 - A 7.0.2 VBAP multichannel render.

7.1.2 - A 7.1.2 VBAP multichannel render.

7.0.4 - A 7.0.4 VBAP multichannel render.

7.1.4 - A 7.1.4 VBAP multichannel render.

7.0.6 - A 7.0.6 VBAP multichannel render.

7.1.6 - A 7.1.6 VBAP multichannel render.

9.1.4 - A 9.1.4 VBAP multichannel render.

9.1.6 - A 9.1.6 VBAP multichannel render.

9.0.8 - A 9.0.8 VBAP multichannel render.

9.1.8 - A 9.1.8 VBAP multichannel render.

11.1.8 - A 11.1.8 VBAP multichannel render.

11.1 - A 11.1 Auro-3D VBAP multichannel render.

12.0 - A 12.0 IMAX VBAP multichannel render.

13.1 - A 13.1 Auro-3D VBAP multichannel render.

22.2 - A 22.2 NHK VBAP multichannel render.

Ambisonics (ACN/SN3D) - An Ambisonics render up to 6th order based on the Ambisonics input.

Advanced mode parameters

1) **Locks** - It is possible to individually hold each position-related parameter, either as coordinates in Cube (XYZ) mode or angles in Sphere (Az./El.)

2) **Size** - Space Controller allows changing the size of sources, which will control the width of each sound. Higher sizes will make a sound reach for more speakers, whereas sounds with smaller sizes will reach less speakers. The current size will be represented by a colored shade around the corresponding source

3) **Gain** – Changes the gain of the input signal channel. To change the selected channel, users must change the settings on the channel dropdown, or simply select the correspondent source in the dome

Auto-modifiers

4) **Auto-Z** – Automatically sets the Z/Elevation coordinate according to the distance to center

5) **Magnet –** The Magnet feature will snap every controlled source playing to the nearest output speaker position

Dome modifiers

6) **Full Dome** – The full dome mode enables users to pan the sound sources in a full sphere-like space, with the listener positioned in the middle of the sphere. This allows you to give negative elevation/Z values to the sound sources
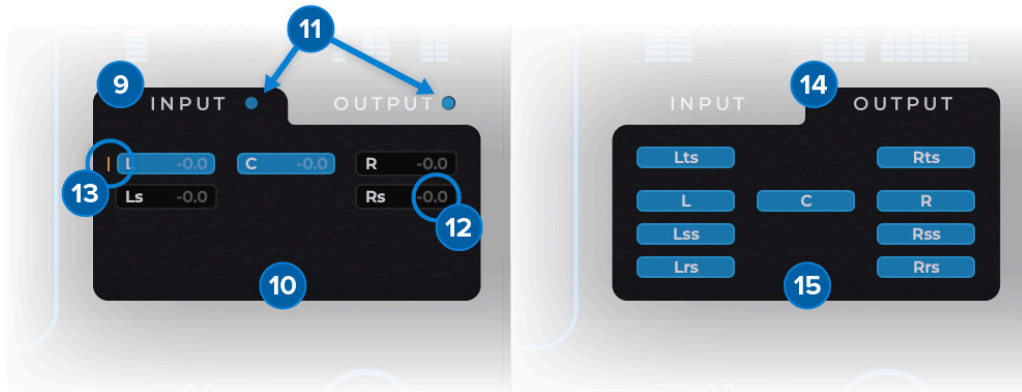
7) **Half Dome** – The half-dome uses a cupula-like space (half-sphere). Sound sources may be spatialized only within positive elevation/Z values

Sphere

8) **Distance** – The panning position distance according to the center of the dome
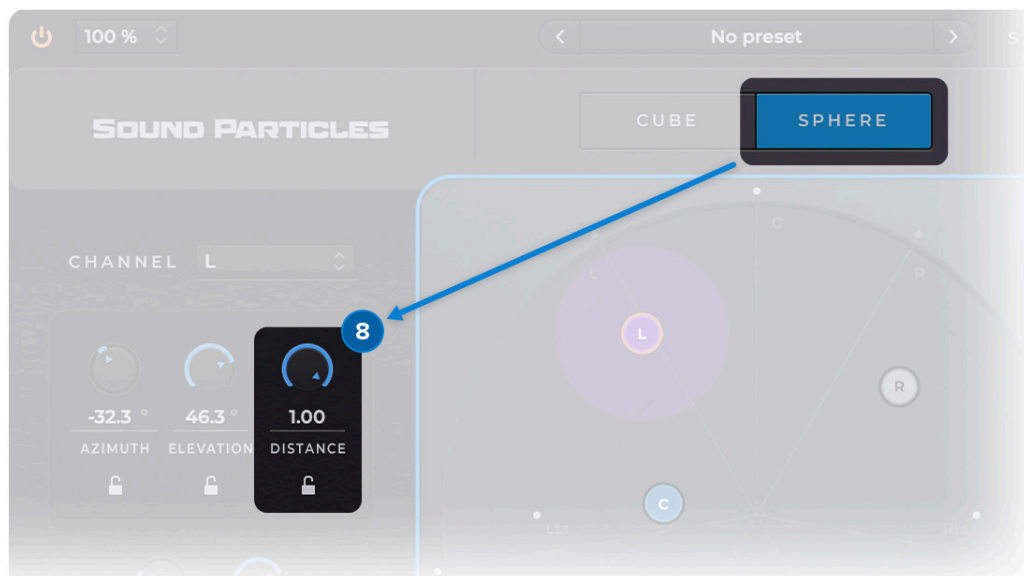
Input and Output section

9) **Input channels tab** – Allows users to see the input channels and their current states

10) **Input Channel buttons** – Enable users to deactivate or activate any input channel. This means that individual channels can be muted. When deactivating channels, the correspondent source in the dome becomes gray

11) **Changes LED** – A blue circle appears when the plugin detects gain changes on the input or output channels. Bear in mind, that this blue circle will only appear when the advanced options are visible

12) **Channel gain indicator** – Indicates the channel gain based on the Gain parameter mentioned above. By default, all input channels are set to 0 dB

13) **Selected channel marker** - Indicates what input channel is selected in the channel dropdown and dome. In practice, this indicates which channel is controlled by the mobile device or used as reference. It also indicates which channel the gain parameter will affect

14) **Output channels tab** - Allows users to see the output channels and their current states

15) **Output channel buttons** - Enable user to deactivate or activate any output format speaker. This means that sources travelling through deactivated speakers won't have any effect in the output since that speaker will be considered as silent in the render.

16) **LFE** - Enables the user to control the gain of the Low Frequency Effects channel with a low pass 8th order Butterworth filter at 120 Hz. The following table shows what the LFE knob controls depending on the input/output format.

Input Format	Output Format	Controls
With LFE Channel	**No LFE Channel**	The amount of the input LFE summed into all output channels
No LFE Channel	**With LFE Channel**	The input signals are also mixed to the LFE channel
With LFE Channel	**With LFE Channel**	The gain of the input LFE signal going to the output LFE channel
No LFE Channel	**No LFE Channel**	LFE disabled

Space Controller Toolbars

The Space Controller toolbar incorporates a set of features that assist you while using the plugin. The upper tab allows you to save and manage presets very quickly and intuitively. Additionally, the Smooth Bypass, Scaling and Randomize features will help you improve the experience with the plugin.
The bottom tab gives you access to all the help you need, with dynamic tooltips.
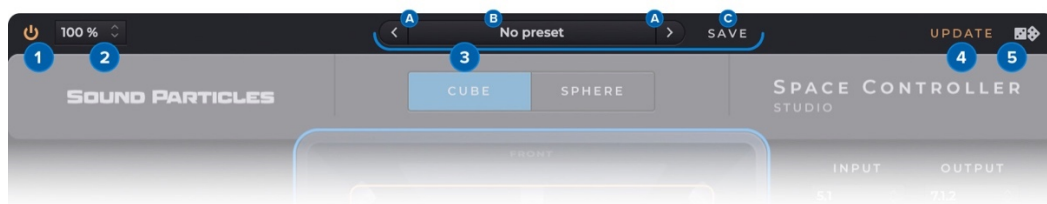
1) **Smooth Bypass** — noiseless plug-in activation/deactivation. Using this feature the Space Controller is bypassed without any clipping, even if it's processing audio.

2) **GUI Zoom —** the Space Controller GUI can be resized. The popup 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 Space Controller instance. New instances of the plugin will open with the default size factor (100%).

3) **Internal Preset Saving System —** The internal system for saving presets is a feature that allows the management of presets, enabling users to: create snapshots, alter presets, and access all of them (factory and custom) across all DAWs. The plugin also supports a tree structure for better organisation of presets, allowing users to save presets within specific folders.

   A. **Preset Navigator** — allows users to navigate through the previous and next preset using the arrows placed on the left and right of the Preset popup menu.

   B. **Preset Popup Menu** — the preset popup displays the current preset in use. It initially appears with a preset called Default, used whenever the plugin is inserted into a track. Clicking the name of the preset brings up a menu with the options: **Delete preset**, **Set as default preset**, and **Refresh preset list** — followed by the complete list of presets (factory and custom).

B1. Set as default preset — defines the current plugin settings as the default settings when the plugin is inserted into a new track. This action determines the default on all hosts and architectures.
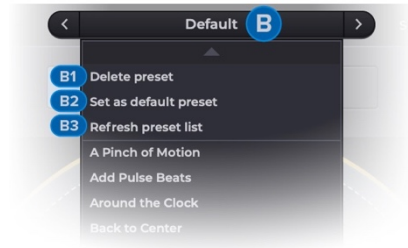
B2. Refresh preset list — updates the presets list. If there is a new preset file in the presets folder, or a new preset has been created from a different Space Controller instance, this option updates the preset list.

B3. Delete preset — deletes the current preset. This action is permanent and deletes the preset on all hosts.

C. Save — Clicking the "Save" button saves the current state of Space Controller parameters. An Operating System window will automatically appear in the required directory. Presets saved in different paths won't be recognised in the preset menu of the plugin.

4) **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.

5) **Randomize** — This button will set new random positions for the sound sources
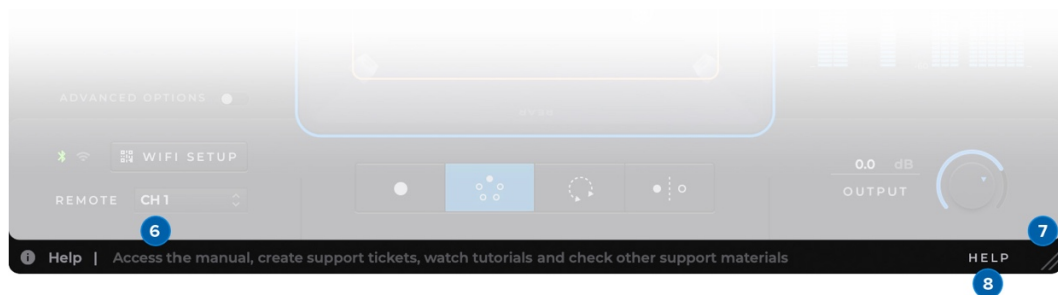
6) **Tooltips' section** — Shows the definition for an element of the plugin when the parameter is hovered.

7) **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 popup display the custom value of the scaling. *Bear in mind that hosts may deal differently with plugin resizes.*

8) **Help button** — displays the Help menu that gives access to our Website, User Manual, Tutorials, Support Requests, Forum and Check for Updates.
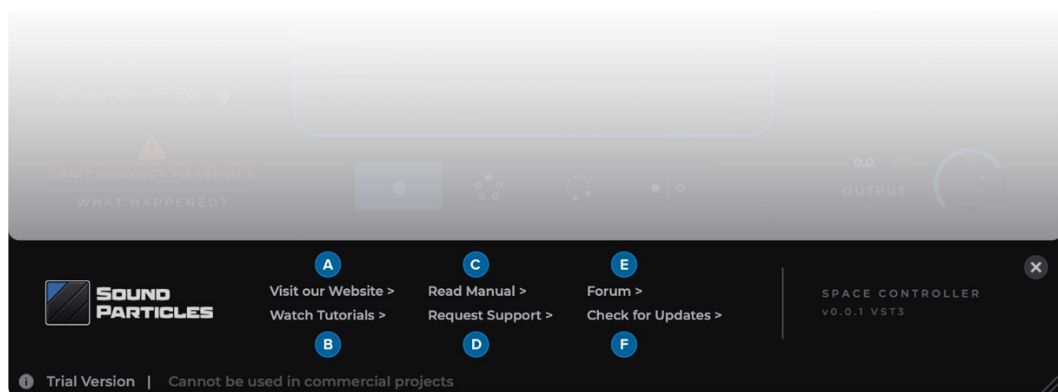
A. **Visit our Website** – Link to soundparticles.com
B. **Watch Tutorials** – Link to Space Controller tutorials
C. **Read Manual** – Web version of this Manual.
D. **Request Support** – This button will redirect users to the requested support page. This will automatically retrieve some data about your setup (OS, CPU, RAM, plugin version and host). Note that this request support is particular for Space Controller topics.
E. **Forum** – Link to our main Facebook group, Sound Particles Forum.
F. **Check for Updates** - Pressing this button will access soundparticles.com to check if there are available updates.

Plugin Installation

The Space Controller Plugin installation copies the plugin into appropriate plugin folders, and the hosts will automatically recognize them. It also allows Space Controller users to choose a custom folder for the installation, in both operating systems — macOS and Windows.

On macOS, the default paths for Space Controller plugin architectures are the following:

- /Library/Audio/Plug-Ins/VST3
- /Library/Audio/Plug-Ins/Components
- /Library/Application Support/Sound Particles/SpaceController
- /Library/Application Support/Avid/Audio/Plug-Ins

On Windows, the default paths for SpaceController plugin architectures are the following:

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

In the case of VSTs on Windows, we set the paths in accordance with Steinberg recommendation regarding plugin locations.

Presets locations

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

On macOS, the path for Space Controller User presets is the following:

- /Users/USERNAME*/Library/Application Support/Sound Particles/Space Controller/Presets

On Windows, the path for Space Controller User presets is the following:

- C:\Users\USERNAME**\AppData\Roaming\Sound Particles\Space Controller\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.

Copy/Paste automation into Dolby Atmos objects

Space Controller works with Dolby Atmos Beds. Since plugin architectures do not support object metadata, Space Controller is currently not compatible with objects. However, Space Controller has dedicated automation parameters to copy directly into the Dolby Atmos Music Panner or Pro Tools, Nuendo and Logic Pro native panners that send objects position metadata to the Dolby Atmos Render.

Attention: Space Controller cannot be inserted directly into the same track as the Dolby Atmos Music Panner, both need to have dedicated tracks. The Space Controller automation is copied from the channel-bases/ Beds track to the object-based track as follows.

Beyond Space Controller automation parameters, the user has now more automation parameters that are "read-only". These are not meant to be changed as their function is only to be copied to the Dolby Atmos Music Panner or the DAW native panner. Any changes made to the automation should be done in the Space Controller automation parameters as they will then be reproduced in the remaining read-only parameters.

The following Space Controller parameters must always be enabled in order to write automation:

Space Controller:

- X Coordinate Ch #

- Y Coordinate Ch #

- Z Coordinate Ch #

The next parameters are read only which means their function is only to be copied to the respective panner.

Parameters for Dolby Atmos Music Panner:

- Ch # -> Pan X

- Ch # -> Pan Y

- Ch # -> Pan Z

Parameters for Pro Tools | Ultimate panner:

- Ch # -> Front Pos, Rear Pos

- Ch # -> F/R Pos

- Ch # -> Height

Parameters for Nuendo VST MultiPanner enable parameters:

- Ch # -> Left-Right Pan (X)

- Ch # -> Front-Rear Pan (Y)

- Ch # -> Bottom-Top Pan (Z)

Parameters for Logic Pro 3D Object Panner:

- Ch # -> Left/Right

- Ch # -> Back/Front

- Ch # -> Elevation

Pro Tools instructions:

1. Right click the plug-in insert and select Automation Dialog...

2. Select the parameters you want to automate, considering the desired number of channels, and add them to the Automation enabled list. Also select the required Copy/Paste parameters according to the panner you're using to control the object.

3. Then make the Copy/Paste parameters visible by selecting the "Show/hide automation lanes" on the bottom left of the track.

4. Write the desired automation with Space Controller plugin/app.

5. Make the automation lanes of the Dolby Atmos Music Panner / Pro Tools panner visible.

6. Copy the automation lane from Space Controller respective to the panner you want to automate as shown in the bale below. Paste the previously copied automation lane by right clicking the destination automation lane: Paste Special > To Current Automation Type.

If you are using a Dolby Atmos Music Panner, use these parameters:

Space Controller (Copy)	Dolby Atmos Music Panner (Paste)
Ch # -> Pan X	Pan X
Ch # -> Pan Y	Pan Y
Ch # -> Pan Z	Pan Z

If you are using the native Pro Tools Ultimate panner, use these parameters:

Space Controller (Copy)	Pro Tools | Ultimate Panner (Paste)
Ch # -> Front Pos, Rear Pos	front pos
Ch # -> Front Pos, Rear Pos	rear pos
Ch # -> F/R Pos	f/r pos
Ch # -> Height	height

Nuendo instructions:

1. Set Space Controller plugin as the surround panner of the track.

2. In plugin window, click in the Write Automation button to activate it.

3. Start playback and perform the desired movements with Space Controller app.

4. Show the automation tracks to be copied by right clicking the track with space controller and select Show Used Automation (selected track).

5. Select the automation tracks that corresponds to the same parameters of the panner being used on the object track – don't forget to have automation tracks with the same order on both tracks

6. Copy the automation from the track with the Space Controller. Paste the previously copied automation into the object track as shown in the table below.

    If you are using a Dolby Atmos Music Panner, use these parameters:

Space Controller (Copy)	Dolby Atmos Music Panner (Paste)
Ch # -> Pan X	Pan X
Ch # -> Pan Y	Pan Y
Ch # -> Pan Z	Pan Z

    If you are using Nuendo VST MultiPanner, use these parameters:

Space Controller (Copy)	Nuendo VST MultiPanner (Paste)
Ch # -> Left-Right Pan (X)	Left-Right Pan (X)
Ch # -> Front-Rear Pan (Y)	Front-Rear Pan (Y)
Ch # -> Bottom-Top Pan (Z)	Bottom-Top Pan (Z)

Logic Pro X instructions:

1. Create a track and insert Space Controller plugin as an Audio FX

2. Activate the "Show Automation" button and set the automation mode to create new automation

3. Click on show automation subtracks arrow to show plugin used parameters

4. Choose the automation parameters that need to be copied to the track with 3D Object Panner

5. With Marquee Tool select the automated region and copy it. Select the track with the with 3D Object Panner or Dolby Atmos Music Panner and paste the automation from Space Controller as shown in the table below.

   If you are using a Dolby Atmos Music Panner, use these parameters:

Space Controller (Copy)	Dolby Atmos Music Panner (Paste)
Ch # -> Pan X	Pan X
Ch # -> Pan Y	Pan Y
Ch # -> Pan Z	Pan Z

   If you are using **Logic Pro 3D Object Panner**, use these parameters:

Space Controller (Copy)	Logic Pro 3D Object Panner (Paste)
Ch # -> Left/Right	Left/Right
Ch # -> Back/Front	Back/Front
Ch # -> Elevation	Elevation

6. On the "Orphaned Automation!" alert that appears click in the "Keep Data" button

7. New unused Automation Parameters were added to the object track

8. Select one of the unused Automation Parameter from the Automation parameter pop-up menu

9. With Command key pressed, open Automation parameter pop-up menu and select to the correspondent Object parameter of the 3D Object Panner/Dolby Atmos Music Panner

10. On the alert that appears click in the "Convert" button

11. Repeat the steps from 5 to 10 for the remaining unused parameters.

Tips

Knobs:

- Double click or Alt-click resets to the default value;
- Command, Ctrl or Shift while dragging enables fine-tune.

VU meter:

- Click on one channel clears its clipping led;
- Double click and press 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.

Dome:

- Shift while dragging a handle to apply negative elevations.
- Use Ctrl or Command while dragging a handle to give it rounded values (snaps to a 5° grid).

Tooltip's bar:

- This version of Space Controller has a bar at the bottom of the interface that shows short definitions of each element of the plugin.

Additional Notes

Avid S6 Support

Space Controller (AAX) can have its parameters controlled through various control surfaces, including AVID S6.

Check for updates

If the plugin 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.

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

SOUND PARTICLES SPACE CONTROLLER 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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