SOUND PARTICLES



Space Controller OSC
Reference Manual

January 2022
v 1.0



Welcome Note

Welcome to “Space Controller OSC”

Before the release of Space Controller, we started to talk with some DAW companies, to see how we could integrate it with Dolby Atmos, especially to control audio objects. For us, having this wonderful way to pan sounds in 3D and not being able to use it with objects (the solution that give you the best space resolution) was almost a pain for us. Steinberg had the faster solution, since they already allow objects to be controlled by OSC. As such, we decided to create a custom version of Space Control, with a mobile app to send OSC messages. With Space Controller OSC you can now control 3D panning directly in Nuendo and SPAT Revolution.

In the meanwhile, we will continue to work with other DAW companies, trying to find ways to control objects. The traditional plugin architectures don’t support objects, and as such, special workarounds must be found. But we didn’t give up – we will continue to work hard to allow Space Controller to control all 3D panners out there.

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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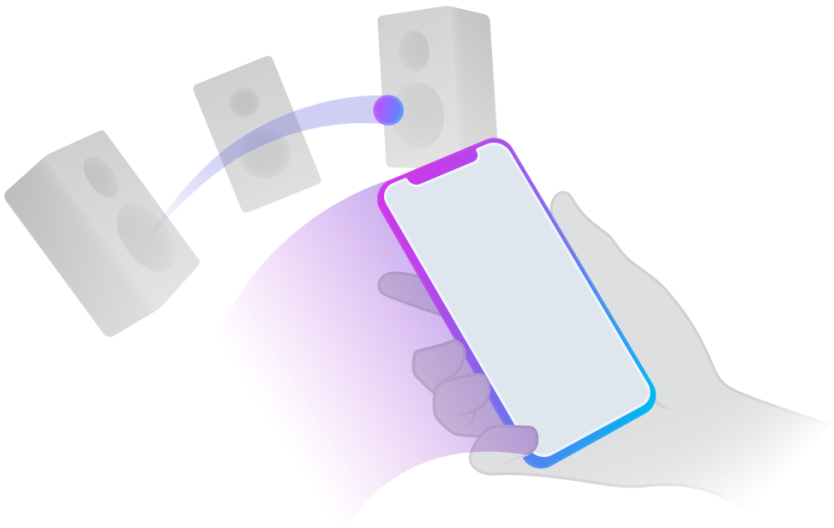
Space Controller OSC

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

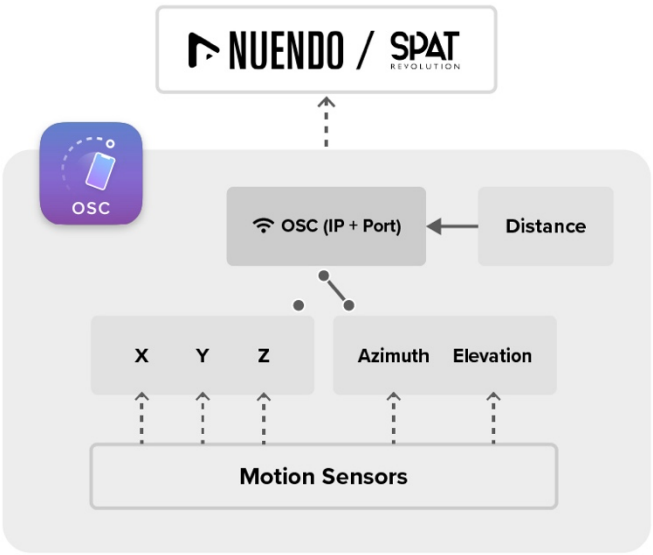
Space Controller OSC is committed to change the way you place sounds in space, by making this mixing process intuitive. By taking advantage of mobile device motion sensors, this application can be connected to Nuendo or SPAT Revolution allowing the control of sounds sources movement easier than ever by using real-life motions. Designed to be simple and quick to use, Space Controller OSC has two different modes of operation — SPAT Revolution and Nuendo — enabling the user to have a faster and more intuitive control of all sound sources. Whether to add motion to sound effects or to creatively mix instruments, this controller app will change the way you pan sounds around you.

Space Controller OSC brings the easiest panning solution to your workflow. Allows you to move and position sounds around intuitively and change the distance of the sound source to easily add depth to your mixes.

Go through this manual and get the best out of Space Controller OSC!



Space Controller OSC diagram



Space Controller OSC overview

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

The Space Controller OSC app for iOS and Android enables the user to move and positioning sounds by pointing the mobile device to any virtual position as well as setting the distance from the listener to the sound source by sliding the virtual fader on the main button of the app.

The Space Controller OSC mobile app has a section of communication links to set which object/track is 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 Touch to Pan button is used to set the smartphone ON/OFF panning control state.



Open Sound Control (OSC) is a protocol for networking computers, and other multimedia devices to send accurate wireless messages to control audio effects and other audio related parameters or gestures.
Space Controller OSC can currently control sound sources in these DAW/host:
Nuendo (VST MultiPanner) and SPAT Revolution.

Quick start

This is a short description with the required steps to install the Space Controller OSC app on your mobile device.
Follow the steps below according to your mobile device operating system — iOS or Android.

Mobile setup — iOS

1. Go to the App Store.

2. Search for the Space Controller OSC App.

3. Purchase & Install the Space Controller OSC application.

Mobile setup — Android

1. Go to https://soundparticles.com/products/spacecontroller-osc

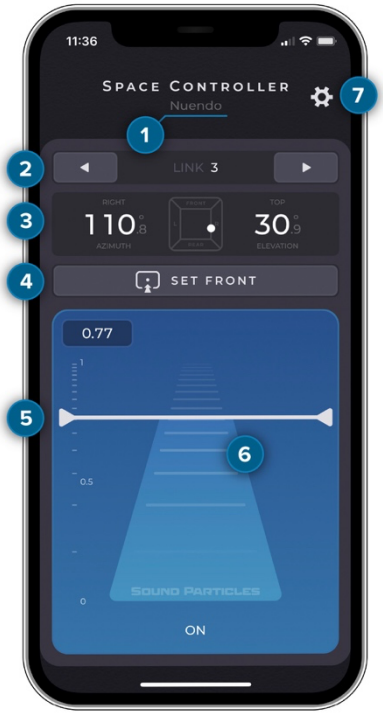
2. Search for the Space Controller OSC download link.

3. Purchase & Install the Space Controller OSC application.

After downloading and installing the application follow the steps in the following chapter to connect the application with the desired software, Nuendo or SPAT Revolution.

App controls

Main window



1) **Mode label** – Shows the selected mode: Nuendo/SPAT Revolution.

2) **Communication links** – There are up to 128 links which allow the user to control individual objects/tracks. 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 and related Azimuth and Elevation angles.

4) **Set Front** – Button to calibrate the 0° Azimuth (front) direction to be considered by the app.

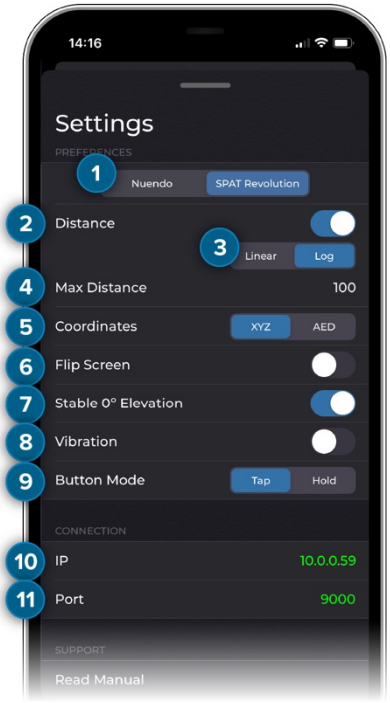
5) **Touch/Tap to Pan** – Main button that activates/deactivates the remote panning control.

6) **Distance** - The user can also change the distance of the sound source (when "Distance" option is activated in Settings) as well as having visual feedback of the distance value in the top left corner of the main button. Drag the virtual fader upwards to increase the distance of the sound source and move the fader downwards to get the source closer to the listener. On the left side there is a vertical scale for reference.

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

Settings window

Preferences and Connection sections



1) **Nuendo/SPAT Revolution mode** – Allow the user to change between Nuendo and SPAT Revolution mode depending on the host being used.

2) **Distance toggle** – Activates/Deactivates the distance parameter in the main button.

3) **Linear/Log** – This option allows the user to have the Distance virtual fader in Linear or Logarithmic scale.

4) **Max distance –** Sets the maximum Distance of the sound source to the center position **(only available in SPAT Revolution mode).**

5) **Coordinates** – This toggle allow the user to change between XYZ and AED coordinates, respectively Cartesians and Spherical.
Nuendo mode uses XYZ by default, since is the coordinates system used. Is possible to change to AED, which will result in the radius between the source and listener to be constant. SPAT Revolution mode uses AED by default, still is possible to change the app to send XYZ coordinates instead.

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

7) **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°.

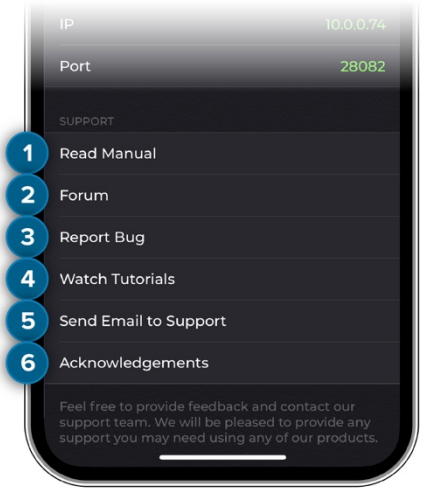
8) **Vibration –** When Vibration mode is on, the phone will vibrate every time it points to the speaker position of 5.x.x or 7.x.x related speaker layouts.

9) **Button Mode toggle** – User can choose between Hold and Tap gestures to enable/disable the Touch/Tap to Pan button in the app.

10) **IP Address** – Displays the current selected network and allows the user to type other available network IP address.

11) **Port** – Shows the Wi-Fi connection port number and allow the user to type other port number to be used by the app.

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 app related posts or comments.

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

4) **Watch Tutorials** – Opens a webpage with the Space Controller OSC related tutorials.

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

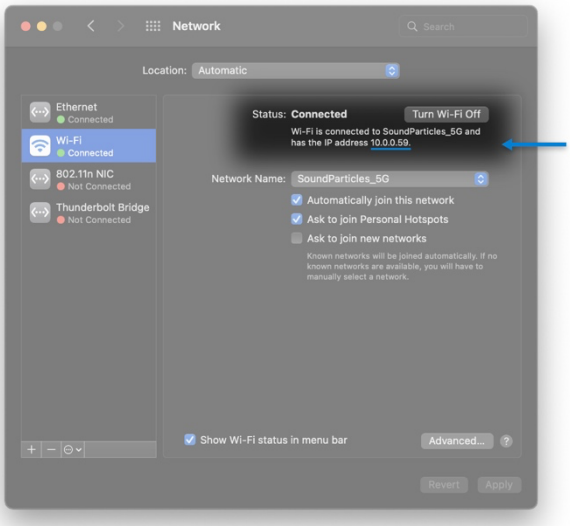
6) **Acknowledgements** – Opens a PDF with acknowledgements of third-party rights, licenses as well as the terms and conditions.

Connection setup

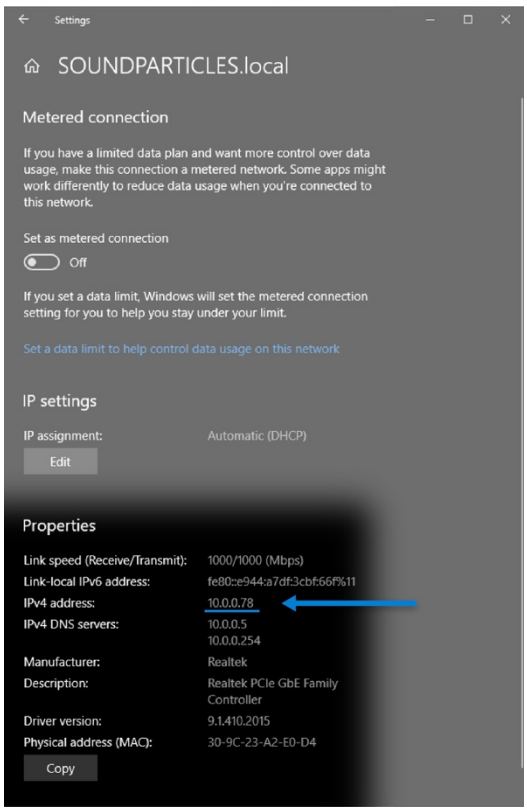
Nuendo VST MultiPanner

Start by check in your computer the **IP address** to introduce in the app, which can be found in:

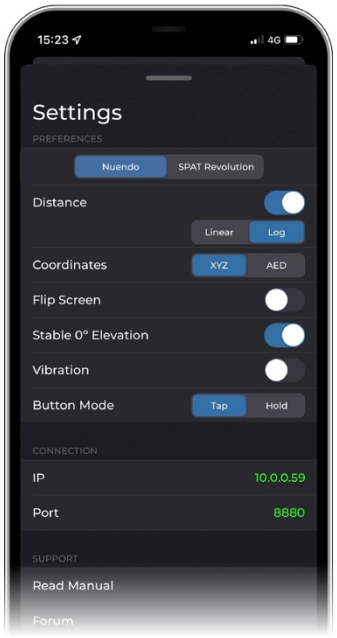
- <u>Mac:</u> **System Preferences** > **Network** > Look for the **IP address** of your Ethernet or Wi-Fi connection.



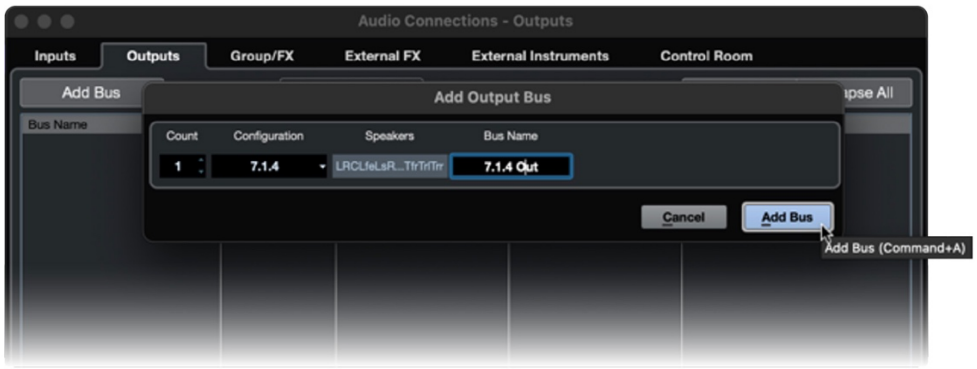
- <u>Windows:</u> **Settings** > **Network & Internet** > **Properties** > Look for the **IPv4 address**.



Now in the Space Controller OSC app go to **Settings** and select **Nuendo mode** at the top. By default, the Coordinates are set to XYZ. Under the **Connection** tab set the **Port** to the same as Nuendo **Tracking Port,** which is by default Port 8880 in both app and Nuendo. Still, you can change to other Port number if needed.



Now, to use Space Controller OSC in Nuendo, first the user needs to create a surround output bus (in case it doesn't already exist).
To do this go to **Studio** > **Audio Connections** and under the **Outputs** tab click **Add Bus**.
Select the desired surround configuration, give it a name, and confirm by pressing **Add Bus**.



After creating your audio tracks in the project, to open the OSC Object Position Tracking dialog by selecting **Studio** > **OSC Object Position Tracking.** Then **Activate** the **Object Position Tracking** under the **Network section**.
Make sure Wi-fi is turned on in your phone and the Port Number is the same in both app and Nuendo.



On the **Track Mapping** section, assign each audio track to the desired **Incoming OSC Object**.
Note that each OSC Object will be controlled by the corresponding Link in the Space Controller OSC app: Object 1 by the Link 1, Object 2 by the Link 2 and so on.

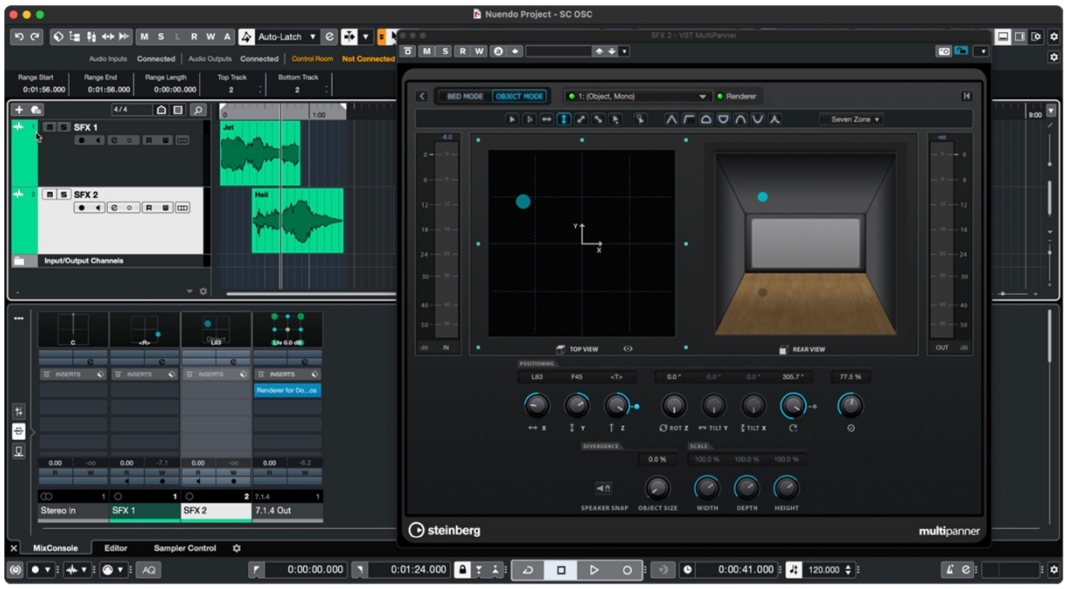


Now the audio tracks added as **Destination Tracks** can be controlled by Space Controller OSC.

Remember that **Nuendo VST MultiPanner** should be the panner selected in the tracks to be controlled with Space Controller OSC app.

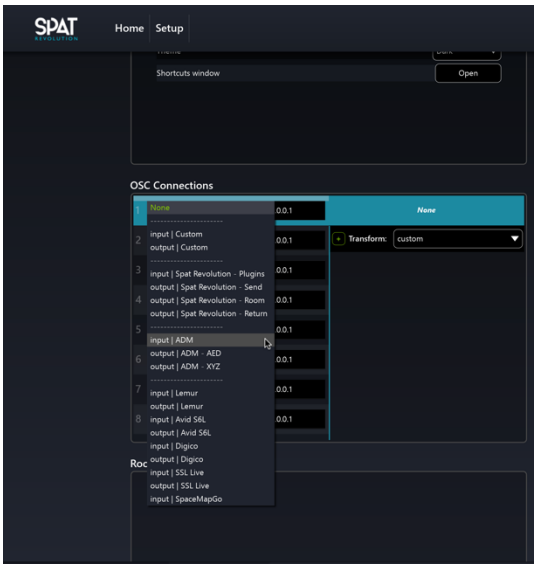
Note you can control **Objects** and **Beds** for Dolby Atmos integration, with Nuendo MultiPanner.

You can now start to positioning sounds around more intuitively with Space Controller OSC!

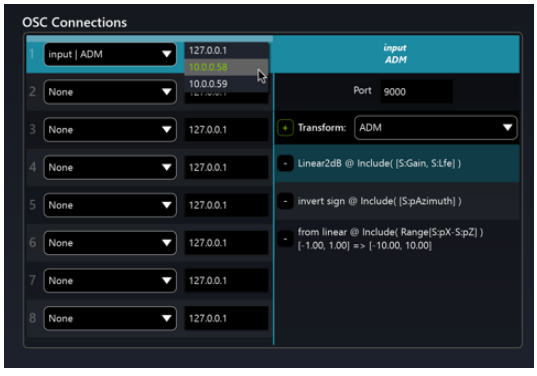


SPAT Revolution

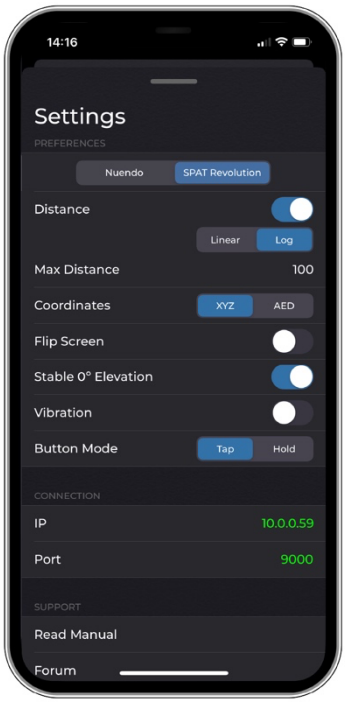
To connect Space Controller OSC with SPAT Revolution open the **Preferences** menu in SPAT Revolution (top right corner) and look for the **OSC Connections** tab.
Click the drop-down menu in one of the eight connections available and select the **input | ADM** preset.
This will create an input for the OSC messages being sent from Space Controller OSC to SPAT Revolution.



Right next to this dropdown menu you should see a menu with the list of IP addresses of the Ethernet/Wi-Fi connections available in your computer.
Please select the IP address you are using in the computer.
Port number is 9000 by default in both SPAT Revolution and Space Controller OSC app, although you can change it if needed.

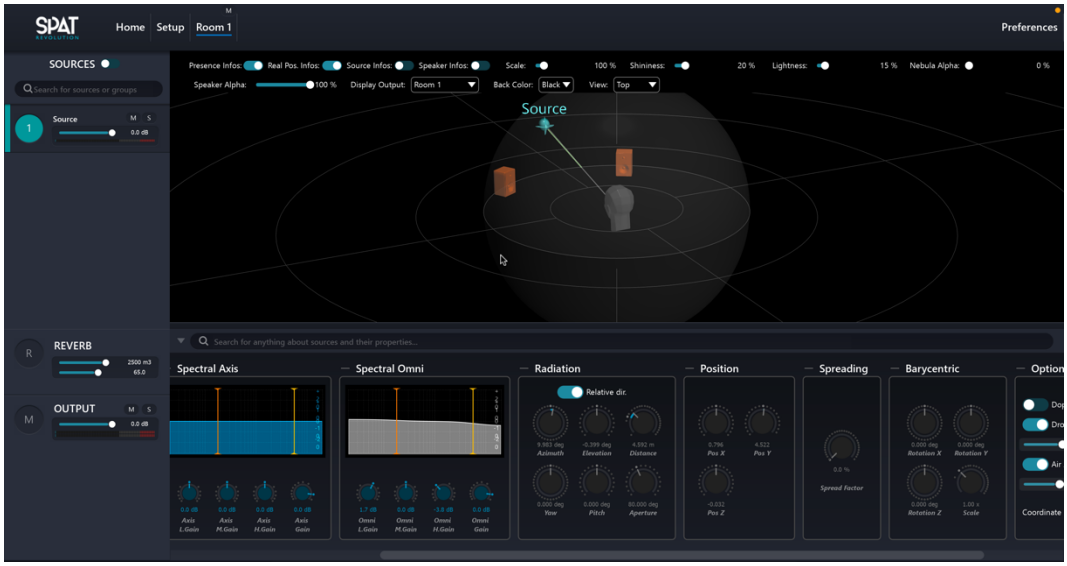


Now in the Space Controller OSC app, change the mode to **SPAT Revolution** and set the **IP address** and **Port** number to the same as you previously set in SPAT Revolution.



The connection should now be established.
To check the connection in SPAT Revolution, go to **Setup** (top left corner), create a **Source** and a **Room** on the left panel. Open the recently created room and you should be now able to control the Source position by using Space Controller OSC.
Note that each SPAT Revolution source will be controlled by the corresponding Link in the app, Source 1 by the Link 1, Source 2 by the Link 2 and so on.

Note that Space Controller OSC can be used in most common SPAT Revolution workflows such as DAW integration and Live Console Integration as well. Enjoy!



Additional Notes

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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