

LESOUND

AUDIOSPACE 

User's Guide



The interface features the following sections and controls:

- AUDIOSPACE** (top left) and **RANDOM** / **PRESET** (top right) buttons.
- SPACE** section: BASE FREQ, LOW END, EMPHASIS, FOCUS, FOCUS, BASS BOOST.
- PLANET** section: CARRIER, BANDWIDTH, FOCUS, TIME, BASS BOOST.
- STATION** section: POWER, WHISTLING, HIGH RANGE, MID RANGE, TECH NOISE.
- PROPELLER** section: DISTANCE, BOOST, ANGLE.
- LIVELINESS** section: RATIO, INTENSITY, RANGE.
- SONAR** section: SUS FREQ, ATK FREQ, MODULATOR (ON/OFF), WINDOW, DELAY.
- MASTER** section: MAIN PITCH, DEGRADATION, and level meters for SPACE, PLNT, STAT, PROP, SONAR, L, R, C, RL, RR, LFE.

BEFORE WE GET STARTED

Thank you for buying or trying AudioSpace. Your support is greatly appreciated and be sure that any means we have goes directly into R&D and product enhancement. If you encounter any problem or simply if you want to give us a feedback, feel free to send us a mail at support@lesound.io, we will be happy to read from you and/or help you if needed. Information in this manual is subject to change without notice and does not represent a commitment on the part of Le Sound. The software described in this manual is furnished under a license agreement. The software may be used only in accordance of the terms of this license agreement. It is against the law to copy this software on any medium except as specifically allowed in the license agreement. No part of this manual may be copied, photocopied, reproduced, translated, distributed or converted to any electronic or machine readable form in whole or in part without prior written approval of Le Sound.

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INTRODUCTION

AudioSpace is a synthesizer dedicated to the emulation of space ambiance sounds. The synthesizer is based on Le Sound's dynamic modeling technology and uses no sampling. That is, it produces sounds by solving, on the fly, mathematical equations modeling multiple aspects of what could be the rumble made by different kinds of large ships. This complex synthesis engine responds dynamically to the control signals it receives and exposes high-level controls carefully mapped to the low-level synthesis model.

Procedural audio

In the video game world, procedural audio refers to the computational process of generating audio from nothing, or almost nothing. The goal is to use almost no .wav data (pre-recorded audio files), but rather models that generate in real-time the equivalent audio data that would be contained in pre-recorded files. Procedural audio has many advantages: it saves memory by using code instead of .wav data; it's flexible (computation can depend on all game parameters); it can lighten the burden of specific tedious tasks (sounding hundreds of interacting objects or animations) and it brings flexibility to the pipeline (since sound is directly linked to game parameters, changes will modify audio generation accordingly to keep it synced, avoiding the need for sound redesign).

System requirements

AudioSpace is compatible with the following standard : VST, AAX, AU

*AAX 64bits is compatible with Pro Tools 11 and above. Please refer to Avid for precise system compatibility.

INSTALLATION

Windows

Double-click on audiospace*.exe to launch installation wizard. Click on “Next” to go to the next screen. You have to read and agree to the End User License Agreement before proceeding. On the following screen you’ll be able to choose the components you want to install:

- Common files regroup all documentation related to this product
- VSTi 64-bit will install the 64-bit VST instrument
- AAX 64-bit: the 64-bit version of the AAX plugin for Pro Tools 11 and above exclusively.

The following screens of the installer will allow you to choose custom locations for common files, VSTi 64-bit and AAX. Default installation paths :

Common files and databanks: “C:\Program Files\LeSound”

64-bit VSTi plug-in: “C:\Program Files\Vstplugins”

64-bit AAX plug-in: “C:\Program Files\Common Files\Avid\Audio\Plug-Ins”

You may have to install Microsoft Visual C++ redistributables. If you don’t have them already installed on your computer, select “Yes” when the installer asks you if you want to install the package. Otherwise, you can click on “No”. The installation is then complete.

Mac OS X

Double-click on audiospace*.pkg to launch installation wizard. Please read and accept the End User License agreement in order to proceed. By default, the installer is set on “automatic” mode and you won’t have anything to do, but you can also choose a “custom” installation mode and you’ll be able to select which component you want to install and where to install it. The different choices are:

- Common files – regroups all documentation related to this product - Databanks – embedded banks of sounds, they are provided as examples/demos of what you can do with the plug-in. Please do not hesitate to try your own recordings !
- VSTi 64-bit will install the VST instrument
- AudioUnit 64-bit will install the Audio Unit instrument
- AAX 64-bit will install the AAX plugin for Pro Tools 11.

Default installation paths are :

Common files and databanks: “/Applications/LeSound”

64-bit VSTi plug-in: “/Library/Audio/Plug-Ins/VST”

64-bit AUi plug-in: “/Library/Audio/Plug-Ins/Components”

64-bit AAX plug-in: “/Library/Application Support/Avid/Audio/Plug-Ins”

Activation

AudioSpace uses iLok license activation. When you purchase AudioSpace, an iLok license is associated and you need to transfer it to your iLok. Please enter your iLok account name while registering LeSound.



If you encounter any problem with the activation process, please don't hesitate to send us an email at support@lesound.io.

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MODULES DESCRIPTION

Space

Combining multiple low pass filters and band pass filters, the Space module combines multiple oscillators to create rumble sounds that could come out of a spaceship. It can be used for any of your sci-fi space ambiance needs as well as any other production where you might need a deep rumble sound.



Base Freq : This parameter will control the main frequency of your sound giving it his overall color.

Emphasis : The emphasis knob will let you boost a part of your base frequency.

Focus OSC 1: The focus knob related to the OSC1 allows you to mix between both oscillators.

Low End : This parameter also controls the main frequency but will affect mostly the low end part of it.

Focus OSC 2: The focus knob related to the OSC2 allows you to mix between both oscillators.

Bass Boost : Boost the low frequencies off the overall sound.

Planet

The Planet module signature effect is the sweep that will give it a more “alien” and strange planet feel. The controls will allow you to change the background sound as well as the sweep properties.



Carrier : The carrier knob is the parameter that you’ll want to change for the overall color of your sound.

Focus : The focus parameter is here to let you control the mix between the sweep and the background sound.

Bandwith : The bandwidth parameter is related to the sweep only and gives you control over the frequency range of your sweep.

Time : Similar to the bandwidth parameter, the time parameter is only related to the sweep and allows you to control how long will it take your sweep to reach the maximum frequency.

Bass Boost : Boost the low frequencies off the overall sound.

Station

The station module combines multiple oscillators and uses a similar technology to the Space module. Instead of giving you space sounds, this module simulate more “technological” sounds allowing you to simulate a massive sci-fi space station or spaceship.



Power : The power button will allow you to boost the overall strength of your sounds making it from smooth to heavy.

Whistling : This parameter is used to change the pitch of the background whistling sound which changes the overall color of your station sound.

High Range : The high range knob control the filters related to the high frequencies of the sound and will allow you to shape the pitch of your station.

Mid Range : The mid range knob control the filters related to the mid frequencies of the sound and will allow you to shape the pitch of your station.

Tech Noise : This knob allows you to control the volume of the "tech noise" sound, which is made of multiple high pitched sounds.

Propeller

The Propeller module combines multiple oscillators and uses bandpass filters to recreate the sound of a propeller. Using a combination of the parameters available will allow you to sculpt the sound to fit every needs you might have for this kind of sound.



Distance : This parameter will allow you to change the overall sound by filtering in or out high frequencies.

Boost : This parameter will boost the overall power of your sound.

Angle : This parameter filter the sound to give you a different color for your overall sound.

Sonar

The Sonar module combines multiple filters and effects allowing you to recreate any "beeps" from a regular sonar sound to extremely distorted sounds. To do this you get controls over the two main oscillators.



Sustain Frequencies : For each oscillators, these parameters will change the frequency of the sustained part of the sound.

Attack Frequencies : For each oscillators, these parameters will change the frequency of the attack part of the sound.

Main Pitch : This slider controls the overall pitch of the sonar module from -12 to 12 semi-tones.

Degradation : This slider controls the overall degradation of the sound by adding distortion to it.

Modulator : This section is controlled by the On/Off toggle and allows you to further change the overall sound of the sonar module.

Modulator - Pitch : Changes the pitch but also the overall texture of the sound.

Modulator - Window : Allows you to control the window for the modulator transformations.

Modulator - Delay : Adds delay to the sound.

Liveliness

The Liveliness module affects every module in the plug-in allowing you to have more variety to the sounds by shifting the frequency of the multiple oscillators according to a range and a step.



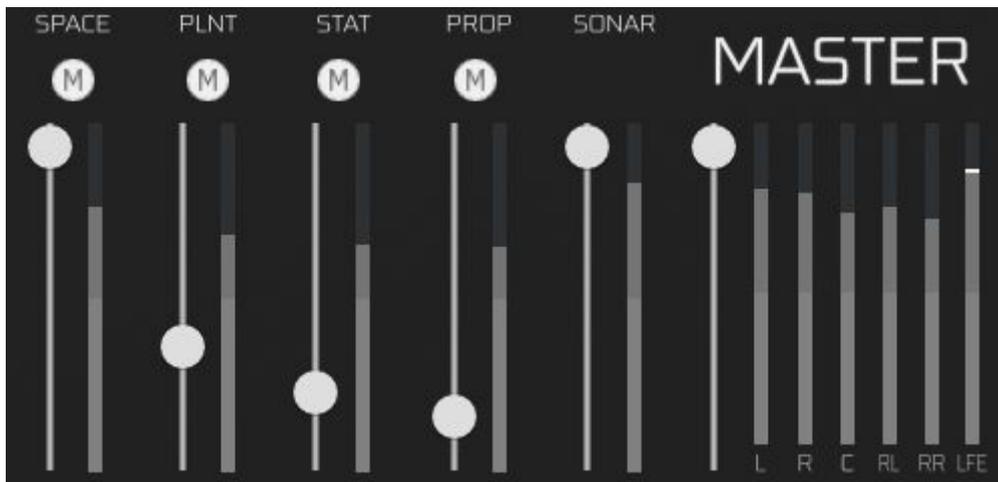
Ratio : Controls the frequency change steps. A bigger value means bigger jumps from one frequency to another.

Intensity : Controls the speed of the changes. A bigger value means the frequency will change faster according to the Range and Step values.

Range: Controls the frequency window of the changes. A bigger value means bigger ranges meaning the frequencies can go lower and higher (the center frequency being the original one).

Mixing Module

The Mixing module is a regular mixing tool allowing you to blend multiple modules together by controlling their volume, for even more variety. You can also mute one or multiple modules.



OTHER FUNCTIONALITIES

Click on the “AUDIOSPACE” logo to see several options menu.

Audio Options

Link to host ‘Play’

When the tickbox is checked, sound will be produced only when your host is playing. When you hit “Stop”, sound computing will stop too. By default, this tickbox is unchecked so you should always hear sound.

Speakers arrangement

Here you can select your favorite mapping for your outputs. Be sure to have configured your host correctly if you have a surround system, so that your outputs are mapped correctly. If your system only has two outputs, you will only be able to select “Mono” or “Stereo” for instance. The combobox allows you to switch between “Music” or “Cinema” mapping for surround systems.

Open Sound Control (OSC)

AudioSpace is an OSC friendly plugin, meaning that you can use any OSC enabled device or software you want to control it. We also provide a fully functional template for TouchOSC users on iPad. You can find the file here: <http://lesound.io/download/>

TouchOSC setup guide

The following guide covers the installation and configuration of TouchOSC on iPad for AudioSpace. TouchOSC is an OSC app available on the App Store. Search it in the App Store or go to hexler.net to download it on your computer. Once the app is installed, please plug your iPad, start iTunes and go to your device’s “Apps” tab. Scroll to the File Sharing section where you will find a list of Apps. Select TouchOSC from this list and a new list of TouchOSC related document should appear. You can now add the AudioSpace template by dropping it into that list or by clicking the Add button.

Next you will need to start TouchOSC on your iPad and tap on the OSC row in the Connections section of main menu and turn the Enabled switch on.



The host should be the IP address of the computer running AudioSpace, please scroll to the next section if you don't know how to find your IP address. AudioSpace is, by default, configured to send on port 9000 and receive on port 8000.



You can of course customize the ports to be used. Please make sure that those ports are not already occupied by any other process on your computer and to reflect your configuration in the AudioSpace preferences (see section "AudioSpace OSC Setup Guide" below). Once the configuration is done, go back to the main menu in TouchOSC and tap the Layout row. The AudioSpace template should appear in the list, tapping it will make it the current active template.



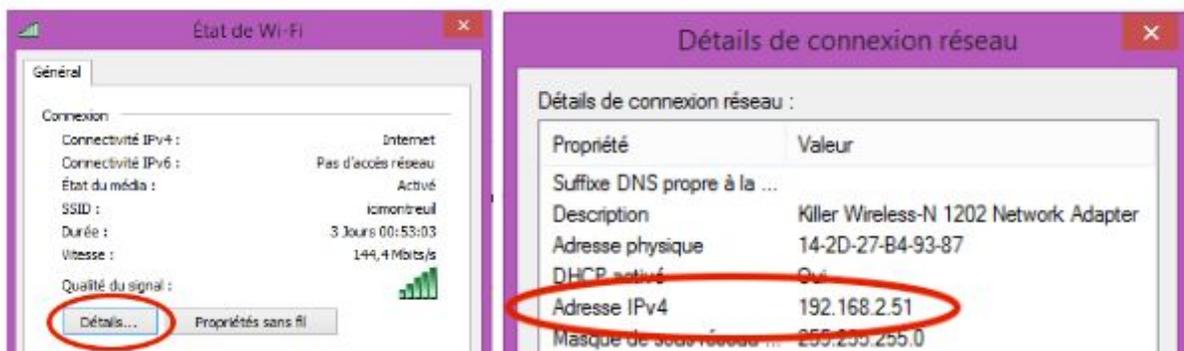
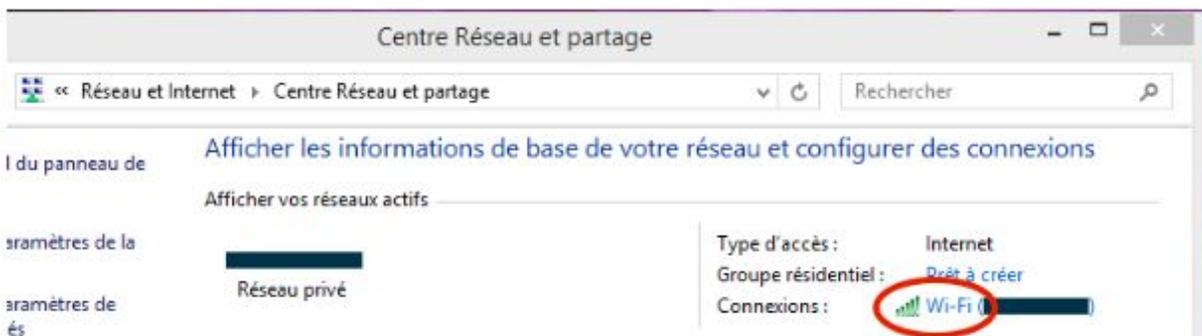
The TouchOSC configuration is now over you can go back to the main menu and tap the Done button in the upper-right corner of the iPad.

How to know my computer's IP address

If you're a Mac user click to the Apple icon on the upper-left corner of the screen and select System Preferences. Go to the Network button which should be on the third row. Then in the left-side list click on your WiFi connection and your IP address should appear.



If you're a Windows user, click the Start Menu (right click if you are on Windows 8.1), open the Control Panel and go to Network and Internet, then go to Network and Sharing Center. You should see your network under View Your Active Networks. Click the name of your network next to the Connections label on the right and then go to Details. Your computer's IP address should appear in the value column next to IPv4 Address.



AudioSpace OSC setup guide

To enable OSC, open AudioSpace preference by clicking the AUDIOSPACE title of the plugin interface. Go to the OSC line and check the Enable OSC box, the IP field and input/output ports should now be editable. The IP should be the IP address of your iPad which can be

found in the configuration page of the TouchOSC we have seen previously. If you configured TouchOSC with our default port values, you shouldn't need to change anything else. Otherwise, make sure you reflect the exact same port configuration on both the computer and the iPad.



Click on the apply button to validate and come back to the plugin interface.

If you are having trouble finding the IP address to set you can open the Settings app on your iPad, go to the Wi-Fi tab and tap the circled-blue i next to the network you're currently connected.

Congratulations! Now you should be able to control AudioSpace with your iPad !

Random

Located in the upper right corner, the RANDOM button generates a new set of parameters for all the modules of the plugin. You can click on the button as much as you want until you hear a sound that suits you. If you need, you can reset to default parameters or other configurations with the PRESET menu next to it (see next section).

Presets

Preset Manager

The PRESET button located in the upper right corner allows you to display the preset manager which handles every basic preset operation.

There are two dropdown preset lists : *Factory presets* showing different usage of your AudioSpace and *My presets* containing the presets you will save. To unroll the lists, click on the small white square on the left of the lists name. Then, load some factory preset by double clicking a its name.

After getting mad and turning every single button from min to max value, you can go back to the default state of the plugin by recalling the “Reset” preset.

Once you’ve sculpted the sound you were looking for, simply click on the SAVE button at the bottom of the preset manager to add a new preset corresponding to the current state of the plugin. The newly created preset will appear at the bottom of *My presets* list. You can rename it by double clicking on its name to recall it then click once more on it to get the typing cursor.

To delete a preset, double click on its name (which will recall it) then click the DELETE button at the bottom of the preset manager.

Factory Presets List

The factory presets are organised by modules. Each preset of the list changes only the parameters of the module involved, leaving the other modules intact except for the their volume. Here is the list of all the factory presets :

- Space :
 - Cold Void
 - Asteroids
 - BlazeTrails
 - Loud Calm
 - Deep Void
 - Gravity
 - Slow Fall
 - Stasis
 - Lone Star
 - Kuiper Anthem

- Planet :
 - Alien Base
 - Revolve
 - Solar Winds
 - Reactor
 - Ascendency
 - Tame Artefact
 - Orbit
 - Gamma Ray
 - Silica Sail
 - Space Port

- Station :
 - Pressure
 - Dark Energy
 - Lifeform Scan
 - Dizzy Stardust
 - Steel Fleet
 - Rattleship
 - Nuke Silo
 - Swift Scout
 - Red Steel

- Propeller :
 - Going up
 - Cruising
 - Mining Ship
 - Escape Pod
 - Fuel Shower
 - Engine Room
 - Cabin
 - Landing
 - Zero Ken

- Sonar :
 - Gentle Pulse
 - 56k Blip
 - Beacon
 - Abyss
 - Forbidden
 - Harsh Signal
 - 2 Taps

- Twang
- Corroded
- Classic

- All modules :
 - Nostromo
 - Screamers
 - Engineers
 - Hostile
 - Beast Belly
 - Castaway
 - Continuum
 - Rescue Mission
 - Moon Base
 - Olympus Mons

Automation

All the parameters from your AudioSpace plugin are available for automation in your favorite host including separate modules volumes and master volume. Simply go to the host automation menu or panel and all of them should appear, ordered alphabetically.

TROUBLESHOOTING

If you followed this guide but still aren't able to control your AudioSpace, you can try the following suggestions: - Try another port configuration. - Try closing other programs that are currently using your network. - Try to reboot devices, maybe a process is still bound to the port you're trying to use. If you're still experiencing troubles please do not hesitate to contact us at <http://lesound.io/support/>

Thank you!