LESOUND

V2 Pro

User guide
BEFORE WE GET STARTED

Thank you for buying or trying AudioRain. 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.

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INTRODUCTION

AudioRain is a synthesizer dedicated to the emulation of rain sounds. The synthesizer is entirely based on Le Sound’s dynamic modeling technology and uses neither sampling nor wavetables. That is, it produces sounds by solving, on the fly, mathematical equations modeling the different components of the rain approximations developed by Le Sound. 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 re-design).

System requirements

AudioRain is compatible with the following standard

* AAX 32bits is compatible with Pro Tools 10 and AAX 64bits is compatible with Pro Tools 11 or 12. Please refer to Avid for precise system compatibility.
INSTALLATION

Windows

Double-click on audiorain*setup.exe (or the one for the trial version) 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** 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 plugin. Please do not hesitate to try your own recordings!
- **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 exclusively. This won’t work on older versions of Pro Tools. If you previously installed the 32-bit version and switched later to Pro Tools 11, don’t forget to uninstall/remove the old 32-bit AAX (you can do the same for all your other 32-bit plugins as only 64-bit AAX plugins will work on Pro Tools 11)

The following screens of the installer will allow you to choose custom locations for common files, VSTi 64-bit, RTAS 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 audiorain*setup.pkg (or the one for the trial version) 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 (for Logic and other compatible hosts)
- **AAX 64-bit** will install the AAX plugin for Pro Tools 11 and above.

**Default installation paths**
Common files and databanks: “/Applications/LeSound”
64-bit VSTi plug-in: “/Library/Audio/Plug-Ins/VST”
64-bit AU plug-in: “/Library/Audio/Plug-Ins/Components”
64-bit AAX plug-in: “/Library/Application Support/Avid/Audio/Plug-Ins”

Note: With the exception of VSTi, AU and AAX plugins are universal binaries. This means your host will automatically load the right version, depending on its architecture. For example, if you launch Pro Tools 10, it will load the 32-bit AAX and if you launch Pro Tools 11 or 12, it will see the 64-bit AAX.

**Activation**
AudioRain uses iLok license activation. When you purchase AudioRain, an iLok license is associated and you need to transfer it to your iLok. Please enter your iLok account name while registering Le Sound.

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

AudioRain General Architecture

If you consider the Rain as some drops in the air, it doesn’t make sound by itself. Drops make sounds when they touch the ground. What we usually call rain sound is the sound generated by all the drops when in contact with different kinds of surfaces. The number and type of impacts of the drops is also modulated by the wind.

The chosen model tries to simulate all the above mentioned aspects and give access to some of the simulation parameters:

- First of all we model the **Rain Behavior** through its instantaneous strength related to the wind. The strength is injected in the rumble module. Consequently, this module will generate sounds that can depend on the global instantaneous speed.
- The **Rumble** module synthesizes the drops when they hit a hard surface.
- The **Shower** module synthesizes the background sound of the rain.
- The **LiquidOne** module synthesizes the sounds of drops when they hit softer surfaces including water (on a puddle for ex.).
- The **LiquidTwo** module also synthesizes liquid sound and can be use for the sound generated by water running on the ground.

The influence of the rain strength on the rumble module can be control by a local/global slider.

- When the global/local slider is up, the rumble sound is modulated by the wind.
- When the global/local slider is down, the rumble sound is modulated by an internal source controlled by the Density knob.
Global Rain Behavior

The rain behavior block controls the Instantaneous rain strength.

Instantaneous rain strength is a mix between the manual “control" knob and the automatically calculated speed adjusted using the 4 knobs of the auto section.

Automatically calculated speed is driven by Attack, Rate, Min and Max knob.

The Manual/Auto slider drives the mix:

- When it is up the instantaneous speed is driven by the control knob. Use this scenario to automate precisely the rain strength.
- When it is down the instantaneous speed is automatically calculated. Use this scenario to create a “living” rainy atmosphere that can evolve freely in the limits you have chosen.
- By putting the slider anywhere in the middle positions, you’ll generate a “living” rainy atmosphere, but keep some control depending on the position of the slider (the closer to manual the more control you get and conversely).

**Strength**: Manual Control of rain strength

**Actual Strength**: Allow to see the amount of Instantaneous rain strength.

**Manual/Auto slider**: Mix between manual control and automatic control of rain strength

**Attack**: Attack time ratio for the automatic control of rain strength

**Rate**: Variation Rate for the automatic control of rain strength

**Min**: Minimum Amplitude for the automatic control of rain strength

**Max**: Maximum Amplitude for the automatic control of rain strength

**Refresh**: Allows you to reset the rain cycle from its starting point.
Rain Synthesis Components

Rumble

The **Rumble** module synthesizes the drops when they hit a hard surface.

- **Global/Local slider**: Mix between global rain behavior and local Rumble behavior: setting it to "global" will make the Density knob ineffective as it will be controlled by the global source

- **Density**: Rumble Density (unused when density is driven by the rain behavior)

- **NotchQ**: Rumble Notch Q factor

- **Level slider**: Main Level of the Rumble
- **HiCut**: Rumble low-cut filter frequency
- **LoCut**: Rumble high-cut filter frequency
Shower

The **Shower** module synthesizes the background sound of the rain.

**Color:** Shower Color

**Level slider:** Main level of the Shower  
**LowCut:** Shower low-cut filter frequency  
**HighCut:** Shower high-cut filter frequency
**Liquid One**

The **Liquid One** module synthesizes the sounds of drops when the hit softer surfaces like water (a puddle for ex.), It can synthesize liquid sound and can be used for the sound generated by running water.

**Density:** Amount of Drops per time unit for Liquid 1

**Color:** Drops Color for Liquid 1

**Visc.:** Drops Viscosity for Liquid 1

**Min:** Drops Tone low bound for Liquid 1

**Max:** Drops Tone high bound for Liquid 1

**Level slider:** Main Level of Liquid 1

**LoCut:** Liquid 1 low-cut filter frequency

**HiCut:** Liquid 1 high-cut filter frequency
**Liquid Two**

The Liquid Two module synthesizes the sounds of drops when the hit softer surfaces like water (a puddle for ex.). It can synthesize liquid sound and can be used for the sound generated by running water.

**Density**: Amount of Drops per time unit for Liquid 2

**Color**: Drops Color for Liquid 2

**Visc.**: Drops Viscosity for Liquid 2

**Min**: Drops Tone low bound for Liquid 2

**Max**: Drops Tone high bound for Liquid 2

**Level slider**: Main Level of Liquid 2

**LoCut**: Liquid 2 low-cut filter frequency

**HiCut**: Liquid 2 high-cut filter frequency
LFE (Low Frequency Effect)

**LFE:** Main Level of the Low Frequency Effect

**LFEHighCut:** Low Frequency Effect highcut filter frequency

Master

**Level:** knob control the main volume of the generated rain sound

**Compute Sound:** activate/de-activate synthesis
Preset Manager

The preset manager allows you to do every basic preset operation, from the obvious « save » to the « import » preset files. So, you can easily create your own bank and manage it the way you want. Here’s a quick overview of what you’ll be able to do and how!

When you’ll first open your new Le Sound plug-in, you’ll probably open some factory presets. Simply double click a factory preset to load it. Get mad and turn every single button from the min to the max value. Don’t worry, we all do that. However, if the rain goes too wild or if you want to go back to a clean preset you can double click the default preset to go back to the default state. It’s very useful to start a new preset from nothing. Once you’ve sculpted the sound you were looking for, simply click on the “New Preset” button, enter some text in the popup window that appears, and your own settings will be saved. (Please remember that your custom presets only exist in the scope of your current session, it will only be permanently saved if you save the project inside your host and re-open it later. Any saved presets inside an un-saved project won’t be restored)

To access to preset menu, perform a right-click on any of the slots. You’ll find different options described below:

- **Load**: Loads the selected preset (Sets the different knobs values from the preset). You can also double click directly on an existing preset.

- **Save**: As soon as you get the best rain sound ever, press the save button to keep your amazing settings safe in the manager. A little box appears and allows you to give a very useful preset name (“BestRainEver” for ex.). Once you press ok the currently selected preset will be overwritten. Beware, if you don’t want to lose the currently selected preset, prefer using the “New Preset” button, in order to save your preset in a new slot without overwriting any previously saved preset.

- **Rename**: You may have guessed what this does? Just in case: it renames your preset (yes you can). It’s very useful if you want to organize your preset library and make it clear.

- **Import**: Import preset files from the location you choose on the disk. The standard Le Sound preset extension is “.ag”.

- **Export**: If you want to be able to use your best presets in different projects, just hit export and choose the disk location where you want to stock it. **Note that the export function only exports the saved state of your preset.** If you have un-saved settings, you first have to save them to your preset in the manager before exporting.

- **Delete**: Erase the name of the preset and rename it as an “Empty slot”.

For a factory preset, you’ll only be able to **Load or Export** the preset, as well as the following:

**Duplicate as new User Preset**: Creates a copy of this factory preset inside the category “User”. It will keep the original name but you can rename it just after the copy is done.
Random

Located on the right upper corner, “Random” generates a new random parameter setting (preset). You can click on the button as much as you want until you hear a sound that suits you.

Menu Options

Click on the “MENU” button to see several options:

- **The audio options**: Here you will be able to manage several parameters related to the audio output. First, the MIDI part allows you to manage the midi output of AudioRain. Indeed, you have the possibility to use the shape of the wind to generate midi values and associate them to either the modulation or the pitch wheel parameter of another plugin. You choose the midi channel you want to send the midi information to (channel 1 to 16). Example: Open AudioRain in your favorite DAW. Open a midi track. Choose AudioRain as midi in. Connect another plug-in to the midi out. Choose the channel 1 and the modulation control.

  “Enable sound computing only when host’s “Play” button was hit”: 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 configuration”: 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.

- **Presets**: There are several options available. The first one, “Import .agbank package”, allows you to select on your disk an official Le Sound package (whose extension is “.agbank”), containing a set of new presets. A new category will automatically be created in the Presets Manager.
The option “import .agp presets” allows you to select multiple .agp files and import them in the Preset Manager, by automatically filling the first empty slots that are found. If you don’t have any free slot ready, you’ll have to delete some presets before proceeding. The last option, ‘export all presets” asks you to select a directory on your computer, where the whole set of presets will be saved as separate .agp files (including the factory presets)

- About us: Useful (or not) information about our amazing team!
OPEN SOUND CONTROL

AudioRain is an OSC friendly plugin, meaning that you can use any OSC enabled device or software you want to control it. We also provide fully functional templates for TouchOSC users on iPad.

You can find the files on http://lesound.io/related-downloads/

TouchOSC Setup Guide

The following guide covers the installation and configuration of TouchOSC on iPad for AudioRain.

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 AudioRain 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 Connection section and turn the Enabled switch on.

The host should be the IP address of the computer running AudioRain, please scroll to the next section if you don’t know how to find your IP address. AudioRain is, by default, configured to send on port 8000 and receive on port 9001.

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 AudioRain preferences (see below). Once the configuration is done, go back to the main menu in TouchOSC and tap the Layout row. The AudioRain 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.

**Lemur Setup Guide**

The following guide covers the installation and configuration of Lemur on iPad for AudioRain. Lemur is an OSC app available on the App Store, you can search the App Store or go to liine.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 Lemur from this list and a new list of Lemur related document should appear. You can now add the AudioRain template by dropping it into that list or by clicking the Add button.

Next you will need to start Lemur on your iPad and tap on the gear icon in the upper-right corner of the screen and tap the More settings... row

In the OSC section, tap the Add Target and fill the Host field with the IP address of the computer running AudioRain, please scroll to the next section if you don’t know how to find your IP address. The incoming port of the Lemur app is set to 8000 and can’t be changed, you can only customize the outgoing port which should be set to 9001 if you want to use AudioRain’s default port configuration. If you want to use another outgoing port, just make
sure that this port isn’t already used by any other process on your computer and to reflect your configuration in the AudioRain preferences. When you’re done, your OSC Targets should look like this:

![OSC Targets](image)

Tap the Done button to close the Settings panel and once again tap the gear icon in the upper-right corner of the screen and tap on the Project row. The AudioRain template should appear in the list and tapping it will make it the current active template.

**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 and your IP address should appear.

If you’re a Windows user, click the Start button, 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 IP Address.

![Network Connection Details](image)

AudioRain OSC Setup Guide

To enable OSC, open AudioRain preference by clicking the Menu button. Go to the OSC and check the Enabled box, the Remote IP field and Port should now be editable. The Remote IP should be the IP Address of your iPad which can be found in the configuration page of both Lemur and TouchOSC we have seen previously. If you are having trouble finding this IP you can still open the Settings app on your iPad, go to the Wi-Fi tab and tap the blue arrow next to the network you’re currently connected. If you configured Lemur or TouchOSC with our default port values, you shouldn’t need to go any further. Otherwise, make sure you reflect the exact same port configuration on both the computer and the iPad.

![AudioRain Options](image)

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

If you followed this guide but still aren’t able to control your AudioRain, 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.
LINK AUDIOWIND AND AUDIORAIN WITH MIDI

AudioWind and AudioRain allow the use of their Global Control parameter to generate MIDI values and associate them to either the modulation or the pitch wheel.

- Add two tracks in Reaper
- Insert AudioWind in one track and AudioRain in the other
- In AudioWind go in Menu/Midi Options

- Tick Enable Midi Output
- Select your MIDI Message (Mod Wheel or Pitch Wheel)

- Select your MIDI Channel
- On AudioWind Track click on I/O

- Add a Send to AudioRain Track
  - Select: Audio: None and Midi: Your channel (same as the one you selected in AudioWind)

- On AudioRain Track insert ReaControlMIDI plug-in

- Select your MIDI Channel
  - Click on Showlog to check if you actually receive MIDI informations
  - In Control Change section tick Enable
  - In Control Change again, select in a box your AudioWind MIDI parameter (Mod Wheel or Pitch Wheel)
- Check if the slider move when you move Global Control in AudioWind (if Global Control is Auto, slider will move automatically).

- Now display AudioRain plug-in window
- Click on Param on the top of the plug-in window
- Go to FX Parameter List/Parameter modulation and select the AudioRain parameter that you want to control with AudioWind.
- Pop-up window will open
- Tick Enable parameter modulation
- Tick Link from parameter

And select ReaControlMIDI/Mod Wheel
- Your AudioRain parameter is now linked with AudioWind Global Control

MIDI Link works with AudioRain Global Control
**PRESET LIST**

**Inside**
- Umbrella Low
- Umbrella Med
- Umbrella High
- Covered Playground Low
- Covered Playground High
- Car Low
- Car High
- Log Cabin Low
- Log Cabin Med
- Log Cabin High

**Outside**
- Jungle Low
- Jungle Med
- Jungle High
- City Low
- City Med
- City High
- Lake Low
- Lake Med
- Lake High
- Mountain Low
- Mountain Med
- Mountain High
- End Rain
- Summer low
- Summer Med
- Summer High
- Autumn
- Winter
- Village Low
- Village Med
- Village High
- Under Tree

**Strong rain**
- Shower Low
- Shower Med
- Shower High
- Monsoon Low

- Monsoon High
- Storm

**Waterfall / torrent**
- torrent

**FX**
- Make Me Wet
- Hot sausage
- Singin' in the Rain
- Plane in the sky
- Radio Interference
- ET Radio
- Psychedelic Rain
- Geiger
- pipe
- pressure
- Plastic pipe
- Acid Raindrops

**Tutorial**
- Move Global Manual Control
- Move Global Attack & Rate
- Move Rumble Density
- Move Shower Color
- Move LiquidOne Visc
- Move LiquidTwo Density

**Countryside**
- Balcony Symphony
- Cottage Drops
- Danger Flood
- Hardly a Shower
- Makeshift Shelter
- Outside Tarps
- Park High
- Park Med
- Park Low
- Under Tents
- Wet Leaves
TROUBLESHOOTING

About sample rate and block size

If you encounter audio problems, such as noise, please check your host configuration. AudioRain should work with any block size. In most hosts it is not possible to configure the block size, but you can in hosts such as Reaper or Pro Tools. If you are using a high sample rate like 96kHz, make sure that the block size is high enough. In Reaper, for a sample rate of 96kHz, the block size should be at least 512 samples. Below that, you might hear noise.