LightSound Computer Interface User Guide

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Getting Started

To start the LightSound Computer Interface, navigate to the folder where your program is. It may be in your Downloads folder, but we recommend moving it to a location where you can easily find it, such as your Desktop or Documents.

The compiler used to create the standalone Windows and Mac versions of the LightSound computer interface can occasionally trigger a security warning from your operating system. As long as you download it from a reputable source (see Security Note below), it is safe to continue past these warnings. The instructions for opening the program on Windows and Mac computers are given below as well.

> **Security Note:** For the standalone programs (i.e., ones that you do not need to install Python for), make sure that you **only download** the LightSound Computer Interface ZIP archive from the **LightSound GitHub** or **links that point to one of the following URLs**:
>
> - Mac:
>   https://github.com/soleyhyman/LightSound2.0/raw/main/LightSound-Computer-Interface/LightSound-Interface-Mac-OSX/LightSound-Interface-OSX.zip?download=
> - Windows:
>   https://github.com/soleyhyman/LightSound2.0/raw/main/LightSound-Computer-Interface/LightSound-Interface-Mac-OSX/LightSound-Interface-OSX.zip?download=

Windows

1. To start the program, **double click** on the LightSound-Interface-Windows.exe icon.
2. If this is your first time starting the program, you may get a warning that says something like "Windows protected your PC." Click the "More info" text link and click "Run anyway."
3. A black terminal will open up while the program loads. The LightSound Computer Interface can take a little bit of time (10-30 seconds) to start, so be patient!

Mac

1. To run the program on a Mac computer, **right click** on the LightSound-Interface-OSX.exe icon and choose the **Open with Terminal** option.

2. If this is your first time starting the program, you may get a warning that says something such as 'macOS cannot verify the developer of "LightSound-Interface-OSX." Are you sure you want to open it?' You can then click the "Open" button to continue running the program. Depending on your permissions, you may need to change override your security preferences by entering your username and password.

3. Sometimes, you may need to reopen it via the **Open with Terminal** option after entering your password. You may get another dialog that says '"LightSound-Interface-OSX" is a Unix app downloaded from the Internet. Are you sure you want to open it?' Click "Open"

4. A white or black terminal window will open up while the program loads. The LightSound Computer Interface can take a little bit of time (10-30 seconds) to start, so be patient!

5. When you exit the program, the terminal window often will stay up. You can safely close it.

Using Python

For Linux users or other advanced users who would prefer to use the pure Python code instead of the standalone executable, please follow the [Python Setup Information](#) on the LightSound GitHub.

Quick Start Guide

While the LightSound Computer Interface has several different controls for customization, you can get started by clicking one of the four 'Mode' buttons in the 'Choose Mode Type' section.

Choosing your Mode

The first section of the main interface ('Choose Mode Type') presents four different ways you can use this program:

- Mode 1: This mode saves (i.e., logs) the LightSound readings in a separate window and saves them to a text file. There is no visual feedback from this.
- Mode 2: This mode plots the LightSound data as it comes in. The axes of the graph will automatically adjust as new data comes in. This mode will automatically save the plot, although you can disable that in the 'File Saving Preferences' section below, if desired.
- Mode 3: This mode combines Mode 1 and Mode 2 and will always save the data log and the resulting plot.
- Mode 4: This mode allows you to select a LightSound data file and plot it. If you use Mode 1, you can use this mode after you finish logging data to produce a plot.

Serial Port

If you start the LightSound Computer Interface with your LightSound already connected to your computer, this program should automatically find the serial port (i.e., the name of the USB port that you have plugged the LightSound into).

If you get a serial port error or there is nothing in the Choose serial port dropdown menu under Serial Port Information, check your cable connection, and use the "Click to refresh serial port list" button.

Optional: File Saving Preferences and Time zone Information

These sections are automatically filled -- you do not need to touch these if they are confusing! All you really need to know is that all data and plot files are saved in the same LightSoundData folder where this program is located (i.e., wherever you clicked on the icon to run the LightSound Computer Interface).

Keyboard Shortcuts for screen reader users (Windows Only)

This program has a few keyboard shortcuts that you can use. They are as follows:

- Ctrl+W: Use this to close any popup window or dialog window
- Ctrl+Q: Use this to exit the program
- Alt+M: This selects/opens the Menu
- Tab: Use your Tab key to traverse across the application
- Enter: Use your Enter key to click any button
- Space: Use your Space key to click the Start/Stop button for liveplotting in Modes 2 and 3

Troubleshooting

Below is a guide to troubleshooting some common issues with the LightSound Computer Interface. If these do not solve your problem, please see the Additional Help section.

Interface Issues

Issue:	Try:
Cannot exit program	- On Windows: Press Ctrl + Q on keyboard - On Mac: Press Cmd ⌘ + Q on keyboard
Cannot close window	- On Windows: Press Ctrl + W on keyboard - On Mac: Press Cmd ⌘ + W on keyboard
Pop-ups not showing up	Go to Menu and click on "Reset settings for popup dialogs"

LightSound Connection Issues

Issue:	Try:
No Valid Serial Port Found	1. Click the "Click to refresh serial port list button" in the "Click to refresh serial port list" section and check if the serial port is now populated. 2. If you have a PCB LightSound, make sure it is switched ON. 3. Check that the micro-USB cable is properly connected to both the LightSound's micro-USB and the USB port of your computer. 4. Try a different USB port on your computer. 5. Check that the micro-USB cable is capable of data transfer. 6. Check that your LightSound is producing sound via plugging in a pair of headphones or speakers.

Plots and File Saving

Issue:	Try:
Overwrite Warning	Click the "Click to refresh timestamp for default save location" button in the File Saving Preferences section.
Cannot find saved data files or plots	Find the where the LightSound Computer Interface application is located. There should be a folder called LightSoundData where your files are located.
Data file or plot is empty	PCB LightSound: check that your LightSound is switched ON

Additional Help

If you find a bug or typo in this interface, or if you need additional help, please submit an issue via our GitHub or our Google Form.

Note: The LightSound Computer Interface is developed and maintained by one volunteer person who does this in their spare time. Response times may vary, and we do not guarantee that all problems can be fixed. Please be kind!
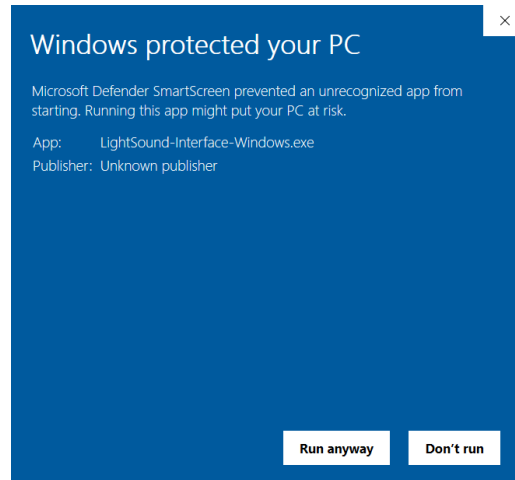
Sample Screenshots

Opening the Windows standalone program for the first time
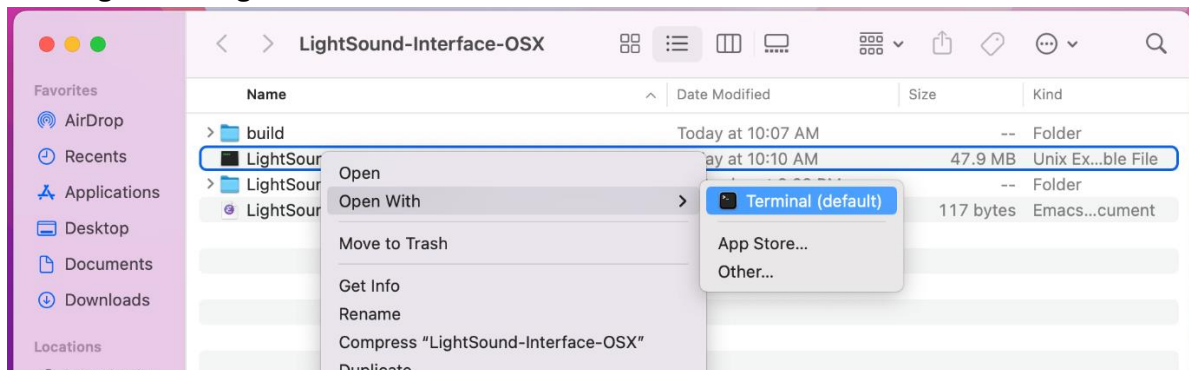
Sample of warning popup:

Sample of window after clicking "More info":

Opening the Mac standalone program for the first time

Sample screenshot showing how to get to the **Open with Terminal** option after right-clicking on the LightSound-Interface-OSX Unix Executable File.

Sample of warning window when opening Mac LightSound-Interface-OSX for the first time: