

CD Playback and Ripping Feature

How it Works

Just as with AURALiC's Lightning file streaming, our unique CD playback feature uses the same advanced, jitter-reducing Memory Playback technology. CD data is first read and compared several times for accuracy into the system cache before playing or ripping. The result is elimination of potentially induced jitter from the transport, canceling any negative effects from the quality of your chosen CD drive, potentially improving performance beyond what's offered from high-quality CD players. You can choose to play a CD, rip a CD while playing, or just rip.

While ripping, multiple-stage data verification technology ensures accuracy. This simply means that each data sector is read twice, compared, and then stored if the two "sector reads" match. If a read doesn't match, the sector is read again eight more times, at a lower speed. After calculating and storing the most accurate reading, the process continues, providing you with the most faithful digital file possible.

Supported AURALiC Products

You will be able to enjoy the CD playback and ripping feature on the following products with firmware 7.0 and above installed:

- ARIES G-series
- ARIES Femto & LE
- ALTAIR G-series

- ALTAIR
- POLARIS

Supported USB Optical Drives

Any USB optical drive that is compatible with a Windows or Mac computer will work with your AURALiC streamer. The optical drive, however, will need to have an external power supply for proper operation. Most USB optical drives require more than 1.5A/5V of power, which is beyond the USB power capability of any AURALiC product.

The USB optical drive's external power supply quality will dramatically affect playback sound quality due to the fact that noise may be injected into the streamer hardware. We suggest you buy a good quality external power supply in order to optimize playback sound quality; an audiophile grade linear power supply unit is highly recommended. If you have a limited budget to spend on this, please consider spending more money on the external power supply rather than the USB optical drive itself.

The following USB optical drives will provide superior playback sound quality when used in conjunction with a good quality linear power supply unit:

- Melco D100
- Pioneer X12J-UHD
- ASUS BW-16D1X-U

System Set-Up

1. Please connect one side of a USB cable to the port labeled “HDD” or “USB” on the back of your streamer. To avoid serious damage to your device, please do not connect to “DAC” port.

CONNECTING AN OPTICAL DRIVE TO THE “DAC” PORT WILL RESULT IN PERMANENT HARDWARE DAMAGE, SUCH DAMAGE IS NOT COVERED BY WARRANTY

1. For a USB optical drive with its own dedicated power supply port, please connect the other side of USB cable to the optical drive, then connect the external power supply.

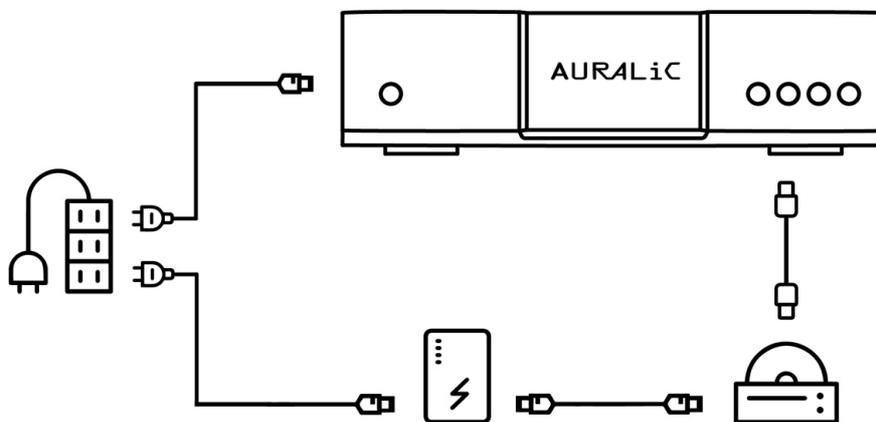


Figure.1: USB optical drive with dedicated power supply port

2. For a USB optical drive without its own dedicated power supply port, a self-powered USB hub is required for proper operation. Please connect the other side of the USB cable to the USB hub then use another USB cable to connect the USB hub to the USB optical drive. Connect the external power supply to the USB hub. In this

setup, the quality of the USB hub will affect general operation stability and sound quality; not all USB hubs will be compatible.

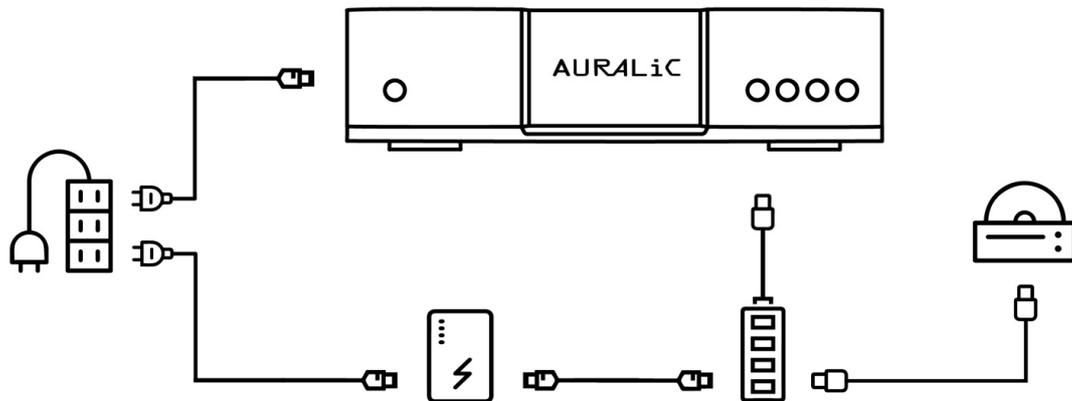


Figure 2: USB optical drive with self-powered USB hub

3. The alternative option for a USB optical drive without an external power supply port is to use a 'Y' split USB cable. Please connect the data port to the "HDD" port on your streamer and the power port to the external power supply; connect the other side of the USB cable to the optical drive. Check the manufacturer's instructions to learn which lead is for power and which is for data.

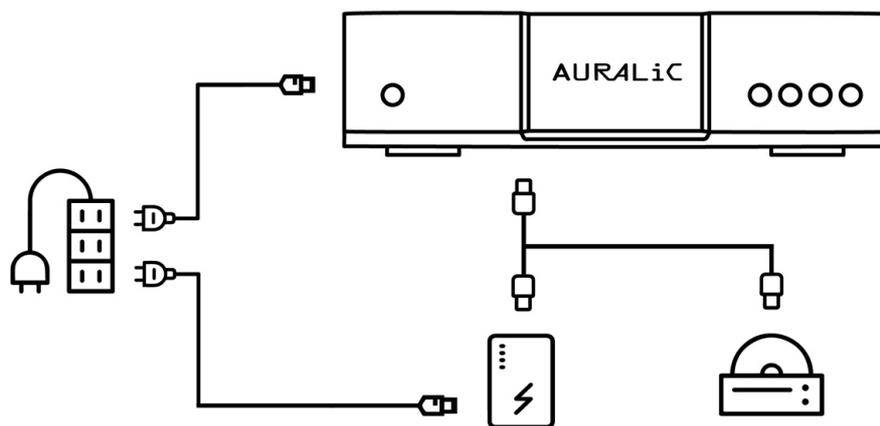


Figure 3: USB optical drive with "Y" split USB cable

CD Playback

Insert a CD into the drive. When the CD is detected, the Lightning DS app will display a dialog box asking if you would like to play now, click yes to play the disk. You should also see this message on your G-series product's front display.

In order to browse CD Audio within Lightning DS, your currently selected music library must be the Lightning Server in the device to which the CD drive is attached. In this example, we have selected the Lightning Server in the ARIES G2 with an optical drive connected:

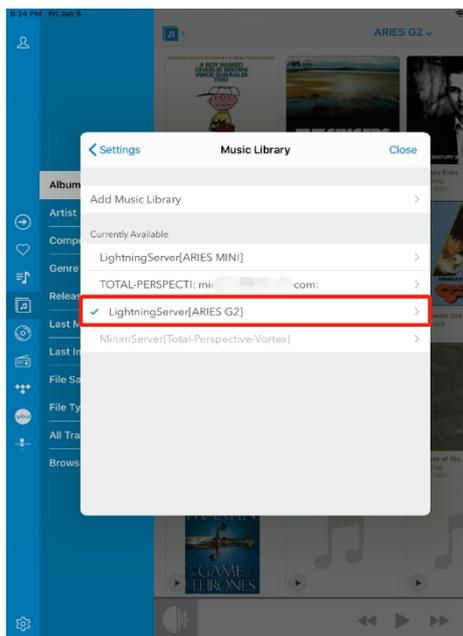


Figure 4: Lightning Server selection

After you have confirmed Lightning Server as your selection, you will be able to choose Audio CD from the main blue menu in Lightning DS. This will take you to the CD album page, where you can choose to play any, or all tracks. The Audio CD icon will not show up unless the correct Lightning Server has been selected as the music library and an Audio CD has been detected by your streamer.



Figure 5: CD Audio Menu

For G-series products, you can also select a CD album by viewing the front screen menu and selecting **Library** → **Browse Library**, and scrolling down to **CDROM** to select CD track(s). The Menu can be accessed with buttons, the rotary knob, or the remote control, depending on which product you have.

You may configure your device to play a CD automatically when inserted. The settings can be accessed either by typing the IP address of your streamer into any web browser, or from the Lightning DS app by tapping the Settings button (gear icon) on the bottom of the left (blue) column, then tapping **Lightning Device** → (*device with drive connected*) → **Additional Operations** → **Library Setup**. In the Audio CD Playback section, turn on “Auto Playback”:

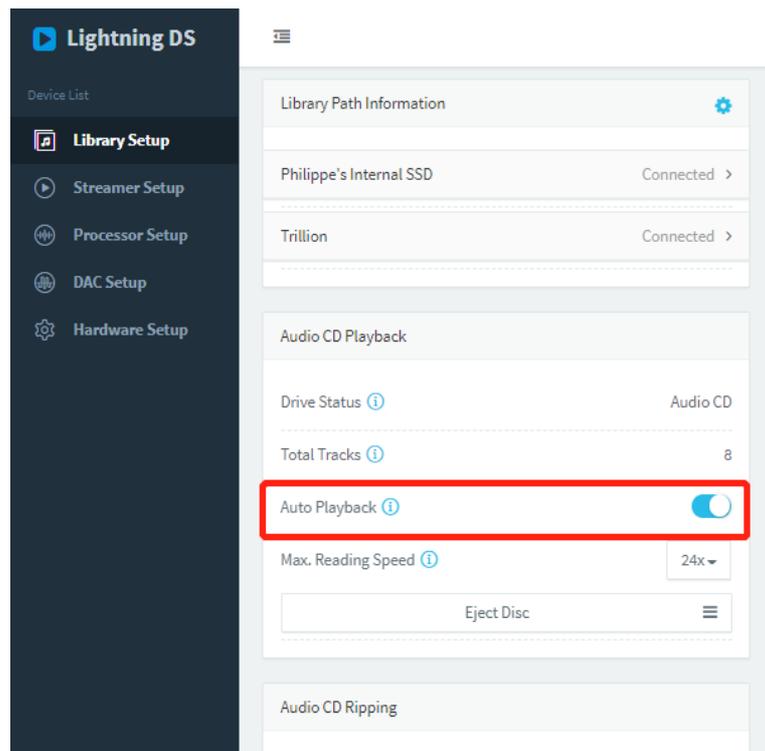


Figure 6: CD Audio Playback Configuration

For compatible AURALiC devices that are not G-series, you can use Auto Play mode to start playback, and the IR remote to control the CD transport.

CD playback may also be accessed from some OpenHome compatible control programs, such as BubbleUPnP, LUMiN, and Kazoo. When a CD is inserted into the attached drive, you will find an additional category in your Lightning Server library called “**CDROM**” where you can access the CD, just as you would with any other stored album:

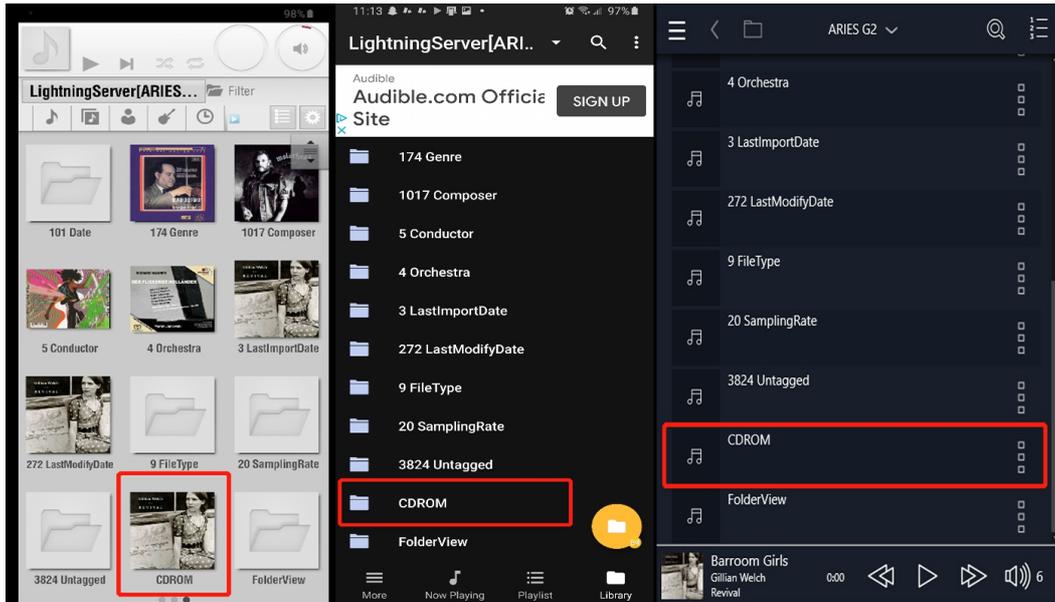


Figure 7: To play CD Audio via LUMIN, BubbleUPnP and Kazzo

CD Ripping

To rip CDs, you will need to add a valid music library path within the Lightning Server setup. The library path can be a USB drive, internal storage, or a network shared folder. The settings can be accessed either by typing the IP address of your streamer into any web browser, or from the Lightning DS app by tapping the Settings button (gear icon) on the bottom of left (blue) column, then tapping **Lightning Device** → (*device with drive connected*) → **Additional Operations** → **Library Setup**.

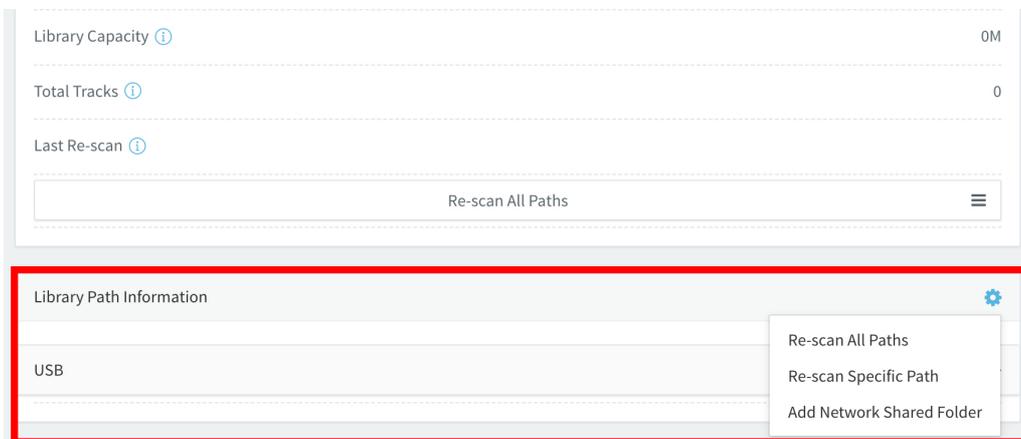


Figure 8: Music Library Path

In the Audio CD Ripping section, turn on Enable Ripping, and choose a Storage Path.

Note: The Audio CD Ripping menu will not show up unless there is at least one music library path with 'Connected' as its status.

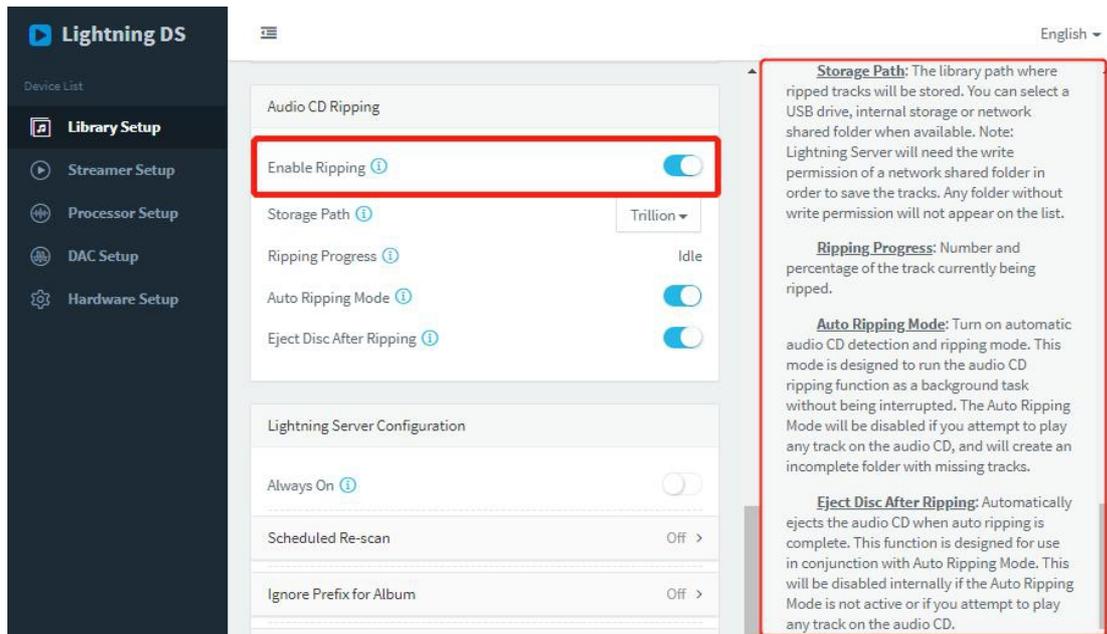


Figure 9: Audio CD Ripping Configuration

Please read the information column on the right-hand side, there are detailed descriptions of each Audio CD Ripping option. On small screen iOS devices, this info can be found by scrolling below the settings.

When ripping is enabled, the process takes place during CD playback, in real-time. In this mode, only CD tracks that are played all the way through will be stored. If you stop playback, or skip to another track, the rip of that track may not be stored.

The Storage Path is the drive where ripped files will be saved. This can be done on internal storage, a USB drive, or a network shared folder on your NAS.

Auto Ripping Mode

With Auto Ripping Mode selected, when a new CD is inserted, it is automatically ripped in the background, and saved to your storage path. You can enable “Eject Disc After Ripping” in order for the streamer to remind you when ripping is complete. IMPORTANT: Auto Ripping Mode will be disabled if you attempt to play any track on the audio CD, and will create an incomplete folder with missing tracks. You can play any other stored files or streaming sources during the auto-ripping process.

Highlights & Reminders

- The CD playback feature is unique to AURALiC, allowing you to first play a CD, then rip it on the fly, if you like.
- CD audio is “recorded” first into the memory cache before being played back. You might find that the error and jitter-reduction from this process may result in CD sound quality that is comparable to, if not better than, some high-end CD transports.
- If you configure upsampling in your processor setup, you will be able to take advantage of upsampling during CD playback mode. The ripped file will be saved in its original format.
- The USB optical drive you choose does not have to be expensive, but it will need a high quality external power supply. The quality of this power supply can dramatically affect the sound quality of CD playback. The USB 2.0 standard .5A current on AURALiC streamers is not sufficient to power any optical drive.
- If you choose to rip to a network share or NAS, make sure the folder has write permission.