Wavelight Server

WLS

Owner's Manual

--preliminary--

About this document

This manual is aimed at the end user of the Rockna Wavelight Server (WLS). It containsan overview of the device's internal architecture, specific handling details, functional description, safety precautions and product warranty details. This document is not meant for service or repair operations, as these must be carried out only by qualified personnel.

More information regarding Rockna Audio products can be found on-line at the website owned and operated by the company:

https://www.rockna-audio.com

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Thank you for choosing the Rockna Wavelight Server as your music source. The WLS was designed to give you countless hours of musical enjoyment.

Package Contents

- Wavelight Server
- User manual
- (Warranty Card)

Note: the package does not contain the mains cable. Please use an audio grade power cord in order to get the best sonic results from WLS.

Safety Precautions

1) This device is meant for indoor use only.

2) Protect device from excessive heat, humidity and liquid filled objects, such as vases.

3) Clean only with dry cloth.

4) Do not remove product cover while the device is plugged in the mains outlet.

5) Use earth grounded outlet if available.

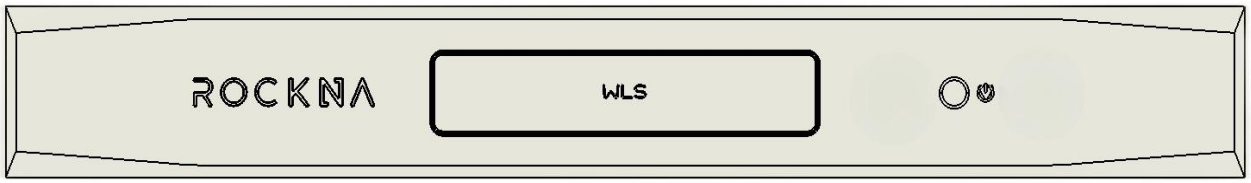
6) Do not move the device while operational.

7) Lightning or static electricity can affect normal operation of the device. Make sure that it is unplugged during a thunderstorm.

8) Make sure the unit is unplugged if it is not to be used for a long period of time.

Functional Description

Front view:



Legend:

1. Power switch
2. WLS LED illuminated logo

The connectors on the back panel are self-explanatory. There is one LAN port, 3 USB ports (1 x USB 3.0, 2 x USB 2.0) and the digital outputs : I2S, Toslink, SPDIF and AES/EBU. The USB ports are mainly for connecting external storage, but can be used to connect a USB DAC or a WI-FI repeater. On the right there is the mains AC input. Note: the WLS comes from factory with either 230VAC or 110VAC setting. For 110VAC version, there is a sticker with "110v" right under the power socket. Note 2: you can manually change the input voltage from 230V to 110V and viceversa; please check procedure from page 19 of this manual. Do not attempt to change the voltage if you don't know what you are doing! If not sure, please contact your seller or a technician.

You can connect the WLS to a digital-to-analogue converter (DAC) using one of the following methods:

WLS Port	Cable Specifications
HDMI - I2S	HDMI cable, 0.5-2m length
AES/EBU	AES/EBU cable 110 Ohm
SPDIF	S/PDIF cable 75 Ohm
Optical	TOSLINK optical cable
USB	USB cable 0.5-2m length

NOTE: If a DAC is connected via USB to WLS, it will not benefit from WLS hardware upsampling audio engine.

Powering UP

Plug in power cord and the LAN cable which is connected to your local network*. The WLS will start to initialize itself. The WLS center logo will slowly pulsating with turquoise-blue light while during the boot process. Please check the table below for various indications of the WLS logo by changing it's color.

WLS logo	Status
Off	Unit is powered off
Pulsating turquoise	Boot sequence
Red	Network cable unplugged
Orange	Network IP address not acquired
White	Connected and Ready

After the boot process is done and WLS is properly connected to your local network, the WLS logo should stay white (meaning normal operation) until shut-down. If, by motives independent of WLS, the connectivity is lost, the color of the WLS logo will change accordingly.

To power off the unit press briefly on the power button. Wait until logo light is off. Do not remove power cord / press again to power up until the logo light is off.

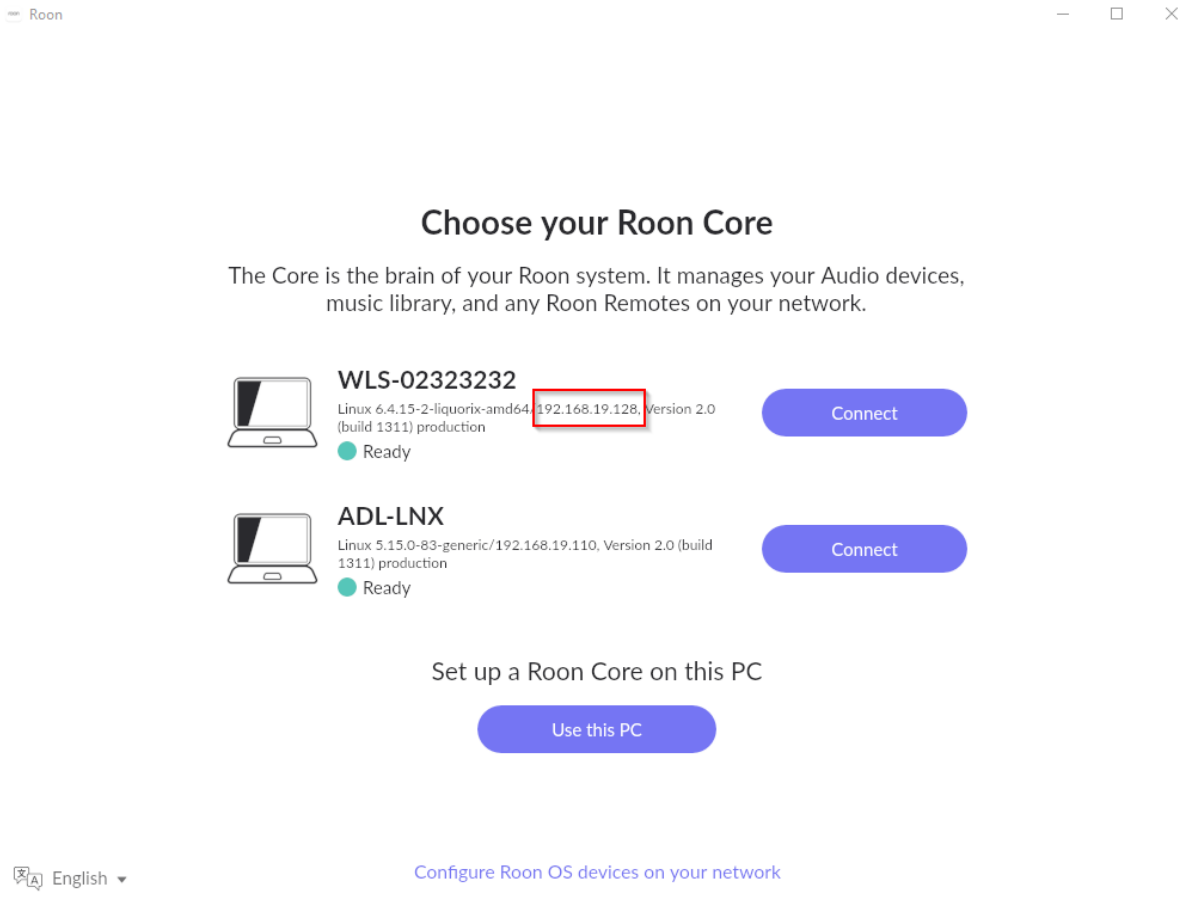
*Your local router should be set to DHCP (this is the default setting for most routers) – meaning the WLS can acquire its local IP address automatically. If your router is not set to DHCP, please configure your router with DHCP enabled.

Accessing WLS control interface

After your WLS is connected (logo is white), it's control interface can be accessed by typing in your browser **wls-xxxxxxx.local** (where x's will be replaced by your serial number, located on the back of the device) or via the local IP address. In order to find out the WLS IP, there are more methods, and we recommend two of them.

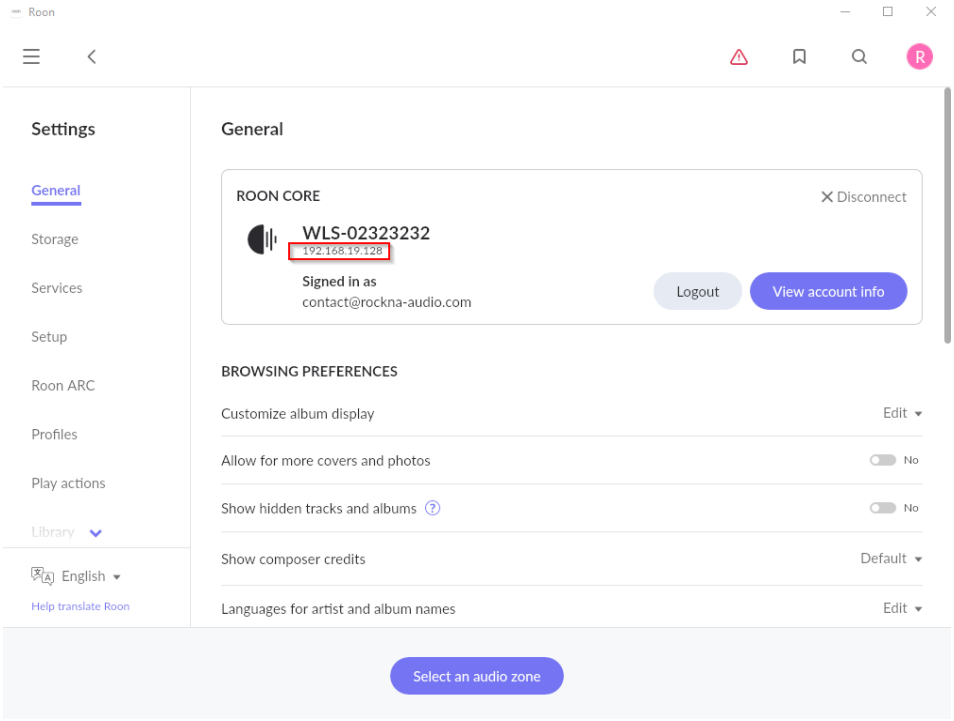
a) Using Roon

By default, Roon core is enabled on WLS. Open Roon or Roon remote and look for Roon cores. You will find out WLS IP under it's name – see example below.



In this example, we can see that local IP of the WLS is 192.168.19.128. Typing this value into app or web browser will directly route to WLS control interface.

If you are already logged in Roon, you can find out the WLS IP from Settings – General:

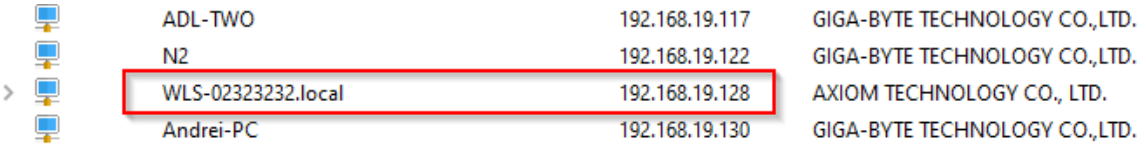


b) Using an IP scanner program

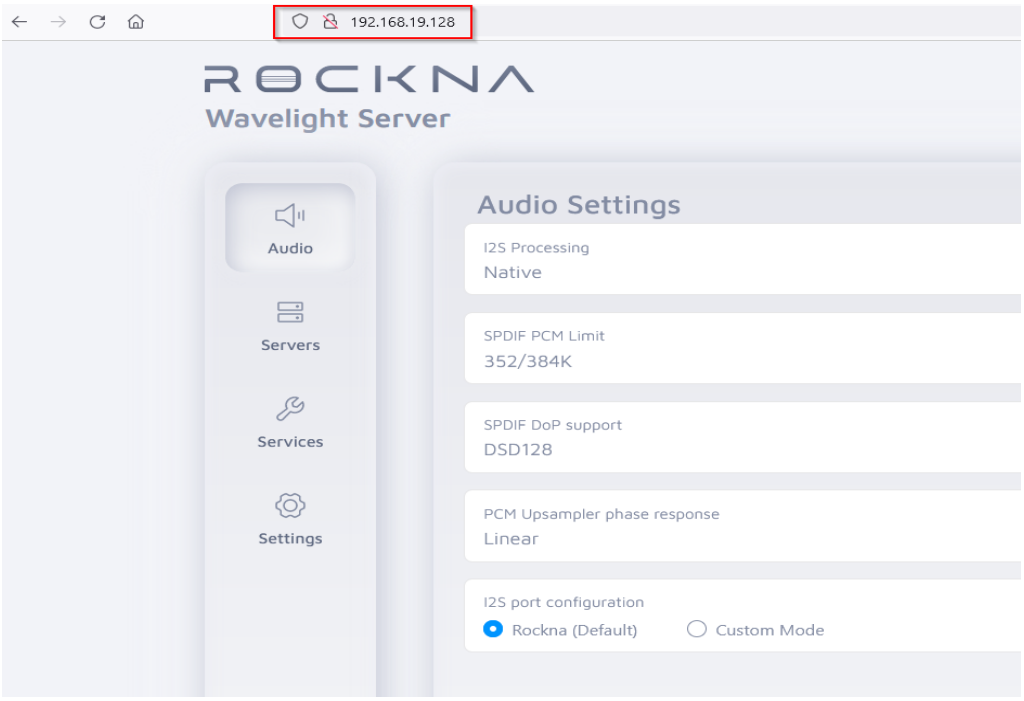
Download and install a network IP scanner, for example: www.advanced-ip-scanner.com/download/

Run the program and find WLS as WLS-xxxxxxx, where "xxxxxxx" is serial number.

We will find the same IP – 192.168.19.128. Please note, this is just an example, not your actual IP.



Once the WLS IP is known, you can access the control interface by typing it in your web browser or into the mobile app. Detailed explanation of the WLS control interface can be found below.



WLS interface accessed via web browser – note the address bar, where is exactly the WLS IP.

Description of the control interface

WLS graphical interface is clean and easy to navigate. There is a left justified column with main sections. When selected, one section will reveal it's own settings, horizontally on the right.

The structure and options available will grow in time, so make sure you have WLS updated to latest version.

The main sections are :

Audio – with subsections :

-I2S processing – can set the output to a desired rate or format:
- Native (same sample rate and format as the file)
- 352/384KHz PCM
- DSD256
- DSD512

- SPDIF PCM limit – some dacs will not work properly if on input the rates are higher than 192KHz. Please check your dac capability to set the limit. Options are:
- 384 KHz
- 192 KHz

- SPDIF DoP support – some dacs will accept DSD on spdif compatible inputs. Please check your dac capability before setting the right option:

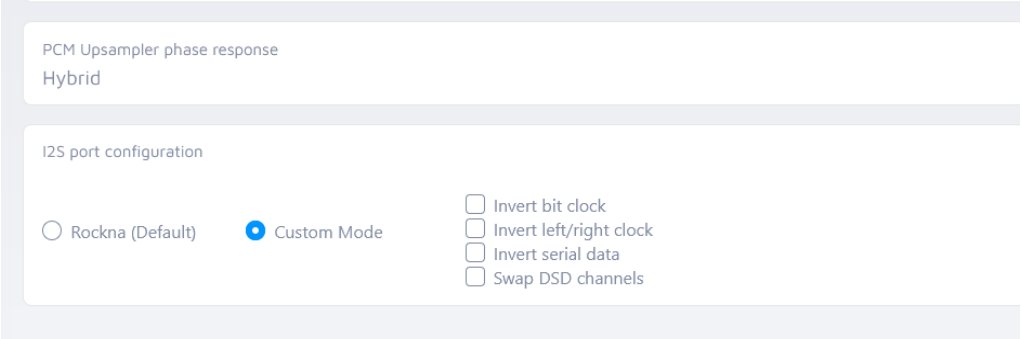
- DSD64
- DSD128
- no DoP supoort

- PCM Phase response – this parameter will configure the impulse response of the WLS hardware audio engine when PCM upsampling is enabled:

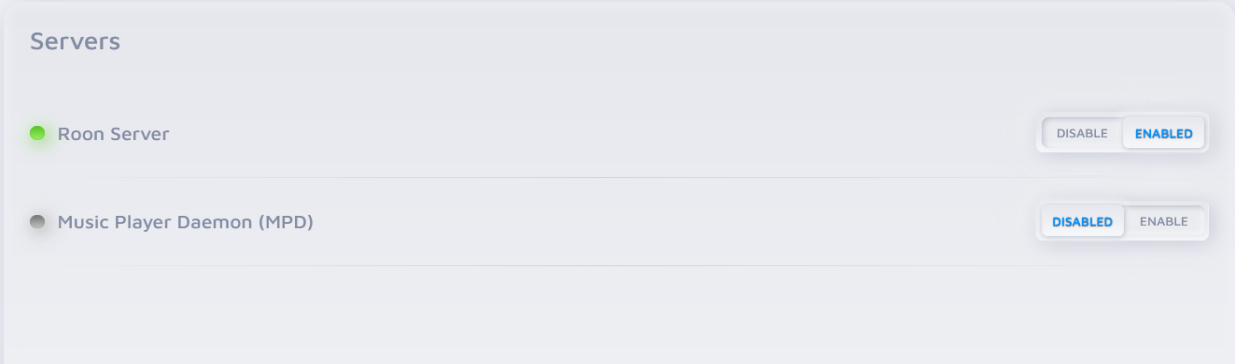
- Linear
- Minimum phase
- Hybrid phase

- **I2S mode** – for extended compatibility with other I2S input dacs, any combination with the inverted signals is available. There are 2 major modes :

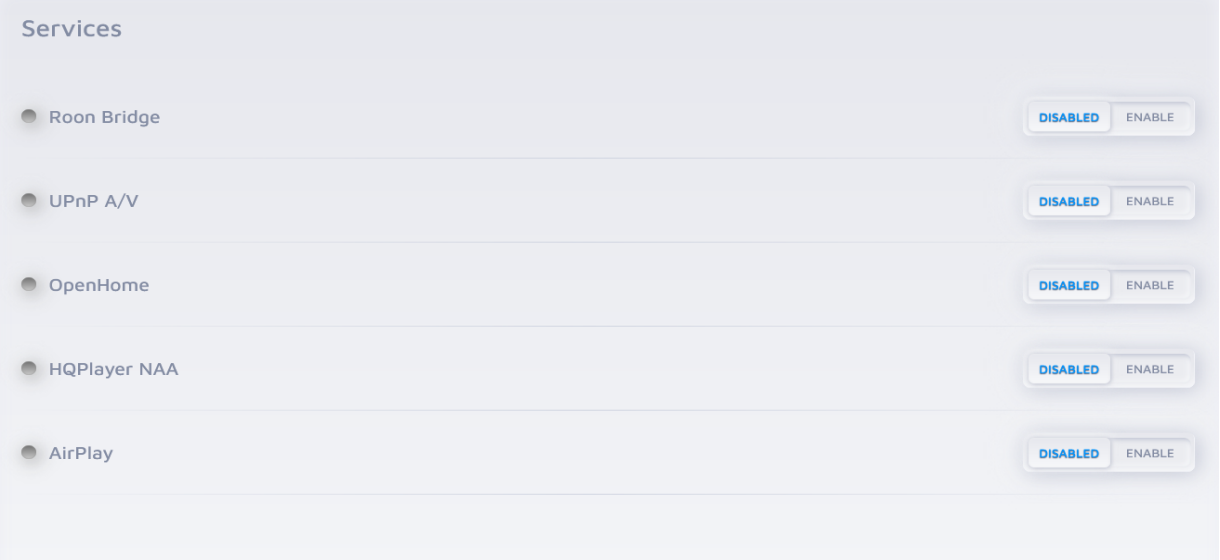
- Rockna mode (to be used with any Rockna dacs by default)
- Custom mode (bit-clock, left/right clock, serial data and dsd data can be inverted)



Servers – currently Roon and MPD servers are pre-installed on WLS.

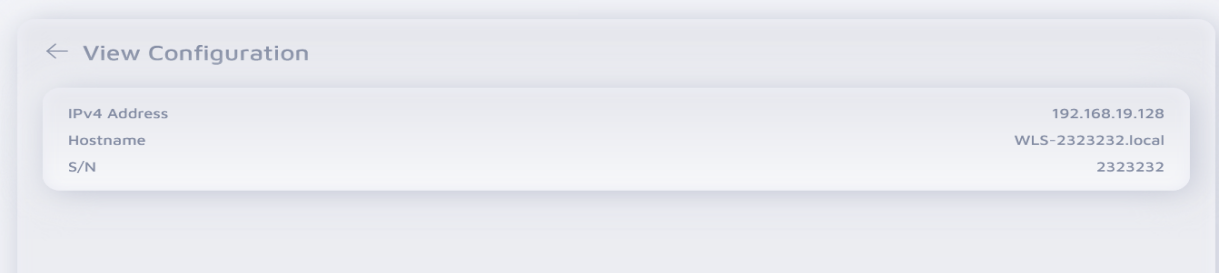


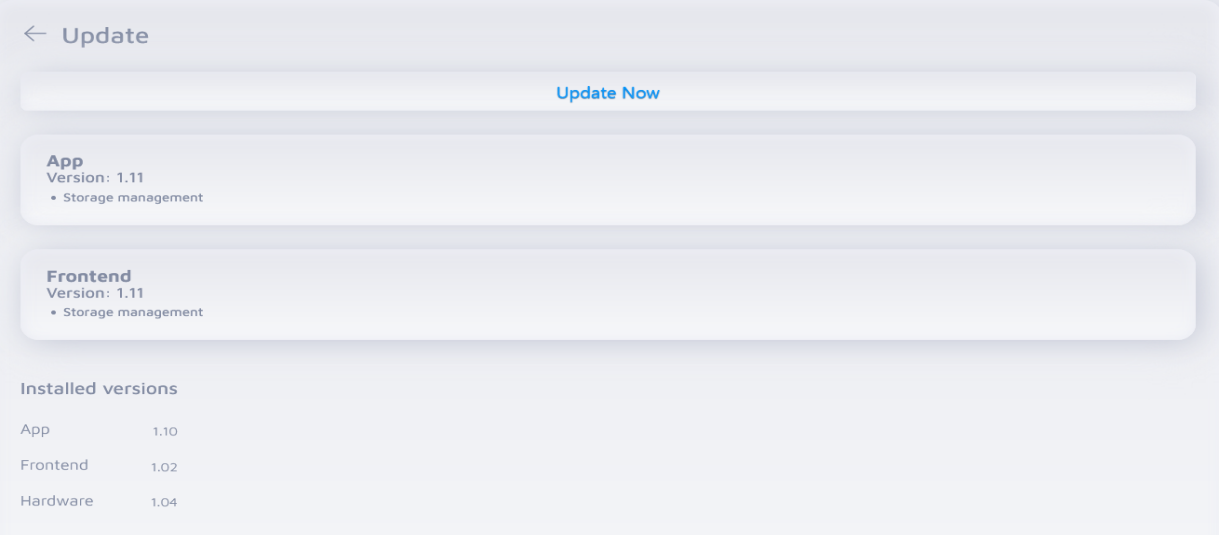
Services – as WLS can work as audio endpoint, not only as a server. Currently installed services are : Roon Bridge, Upnp, OpenHome, Hqplayer NAA, Airplay (Airplay password is “WLS”)



Important note : Once a server or service is enabled, all others will be disabled.

Settings – here you can view WLS configuration (IP, hostname, serial number) and you can manage system updates.





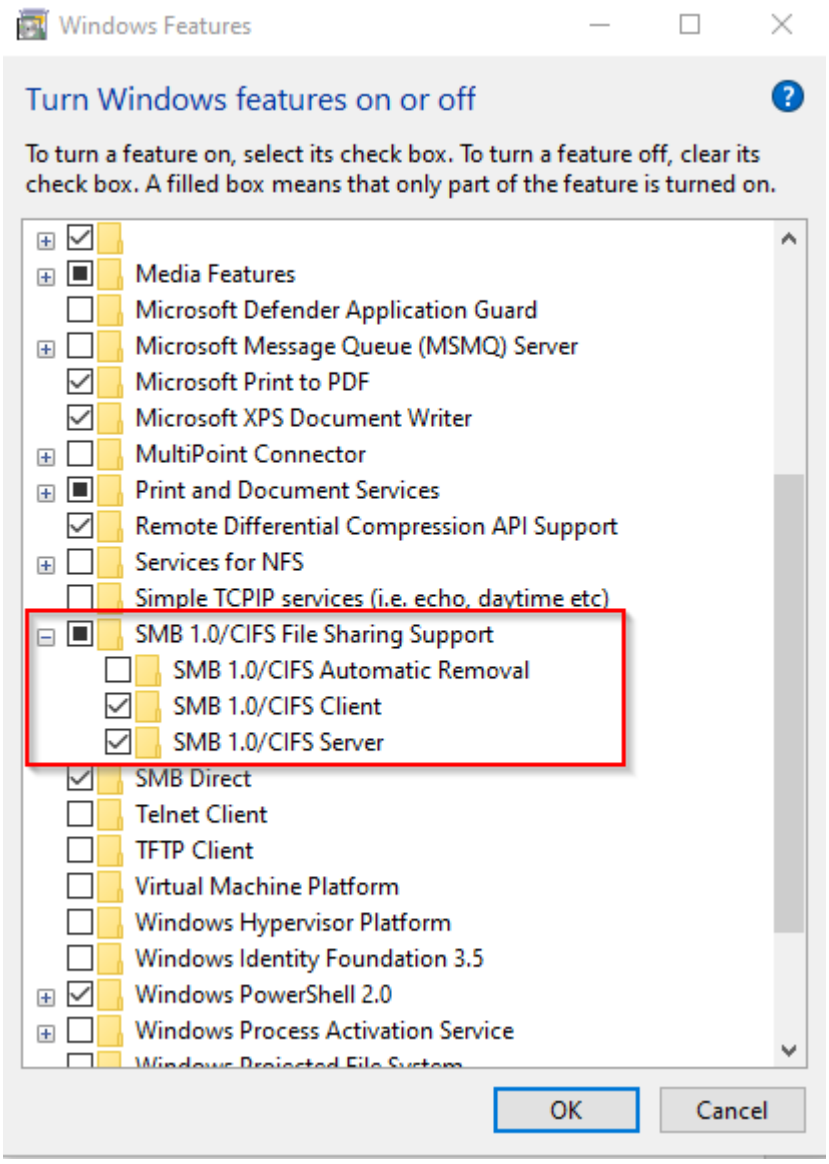
If any updates are available, the Update Now button will be active. Press it and wait until update process is done. Note: is recommended to stop music playback before updating the WLS.

Adding music to WLS internal storage

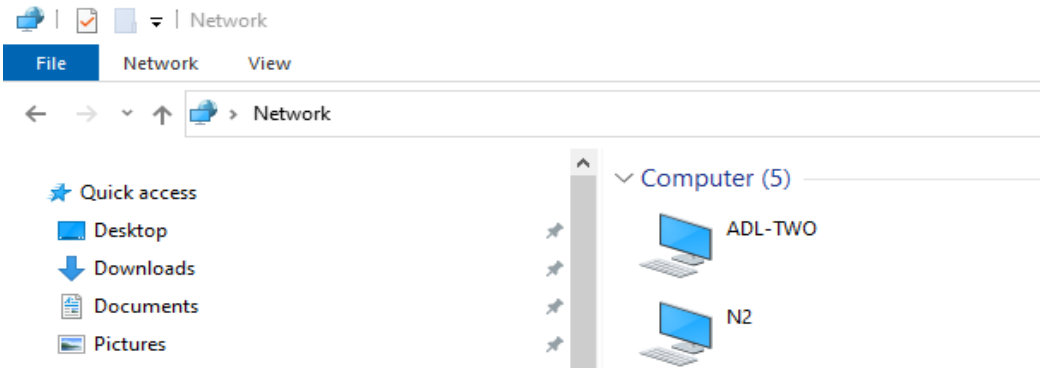
In order to add music to internal storage, a PC or a Mac computer connected to the same network with the WLS is required.

For PC, follow the actions below :

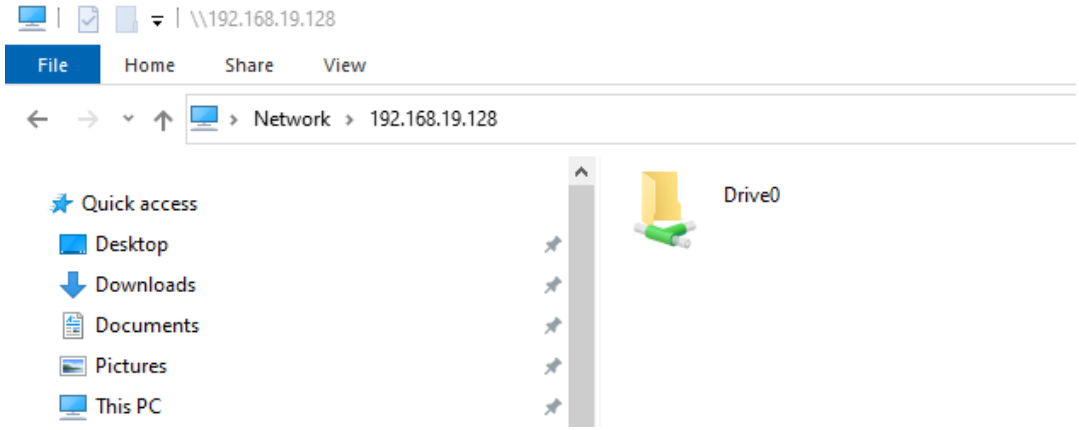
- In search bar, type turn Windows features on or off and access this setting
- Check if SMB 1.0/CIFS File Sharing Support is enabled; if not, enable the features like in the red rectangle below and restart your computer.



- After the step below, access the File Manager by going on the Network section.



- Type over “Network” the WLS IP using double backslash character (in our example we found out the IP before) : \\192.168.19.128 ; the WLS internal drives will reveal. *Note : use your own IP, not the one above, which is just a example!*



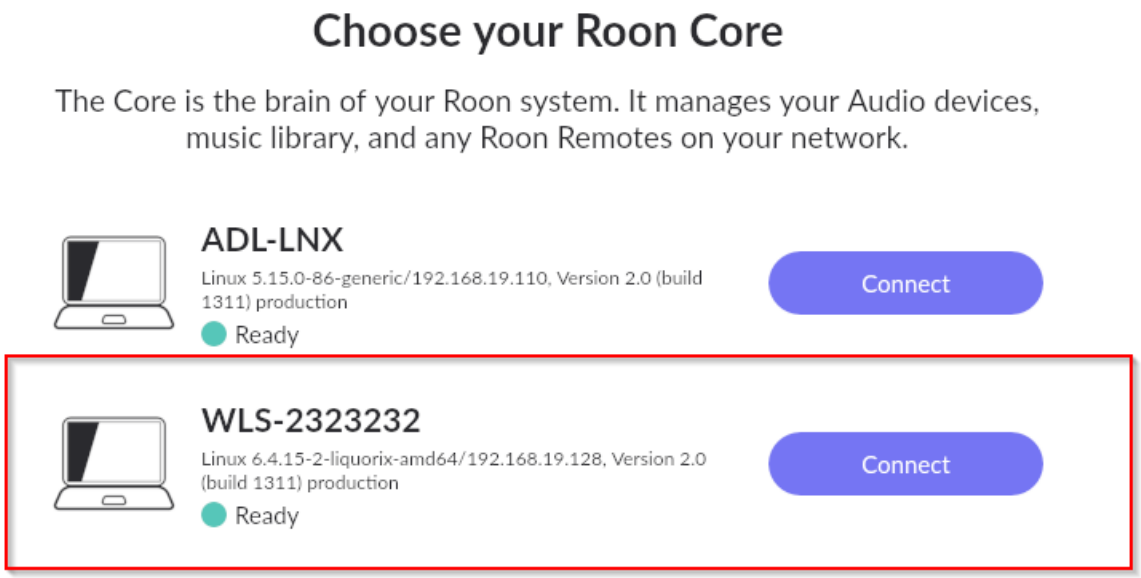
- Double click on “Drive0” or “Drive1” to see their content, copy or delete music files.

  For Mac computers :

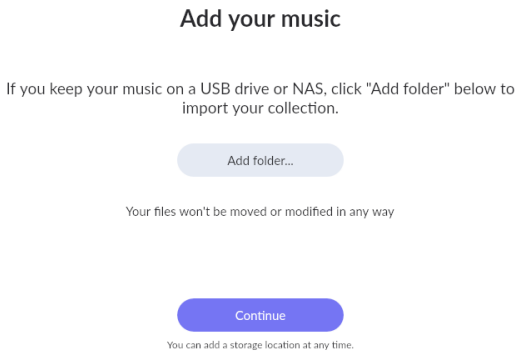
Setting Roon

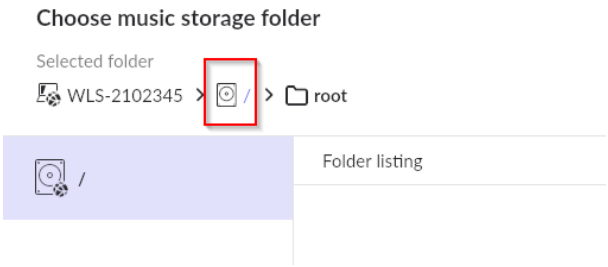
The WLS is preinstalled with Roon core which is enabled by default. This means you can immediately use it if you have any roon control app installed on your tablet/phone or computer.

Open the control app and choose your Roon core, by selecting the WLS Roon core , which will appear as “WLS-xxxxxxx” , where x’s are your serial number, like in the example below, by pressing “Connect”.

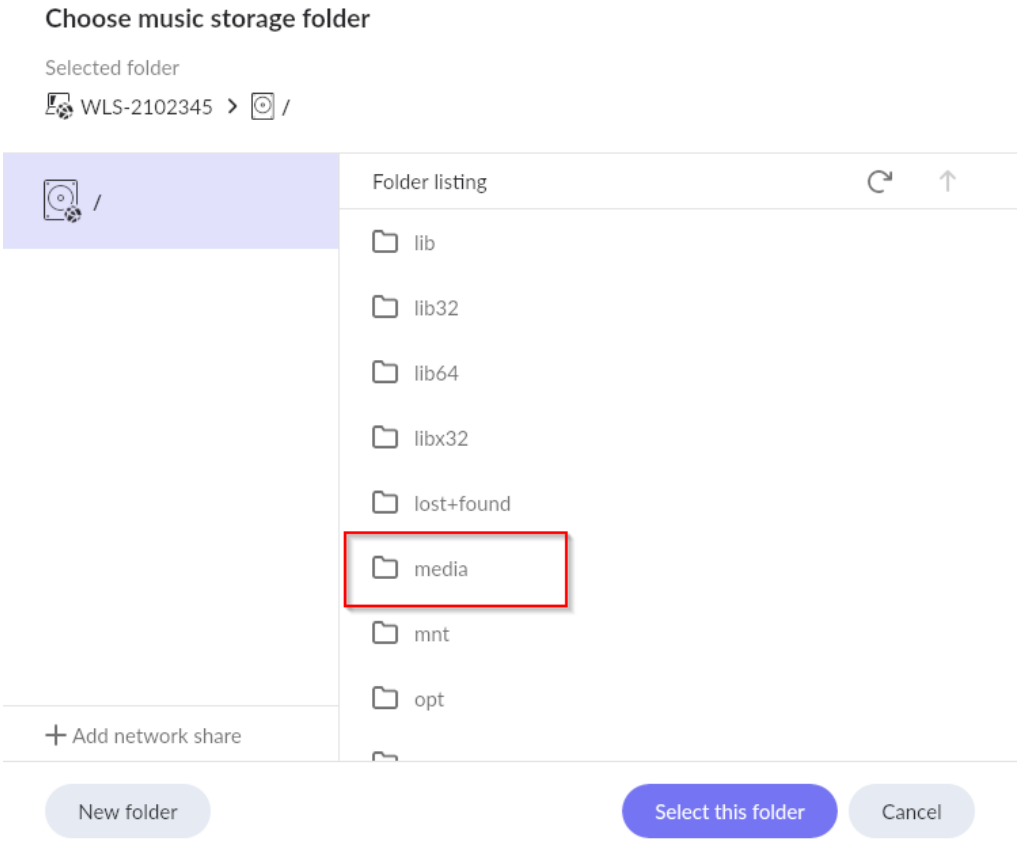


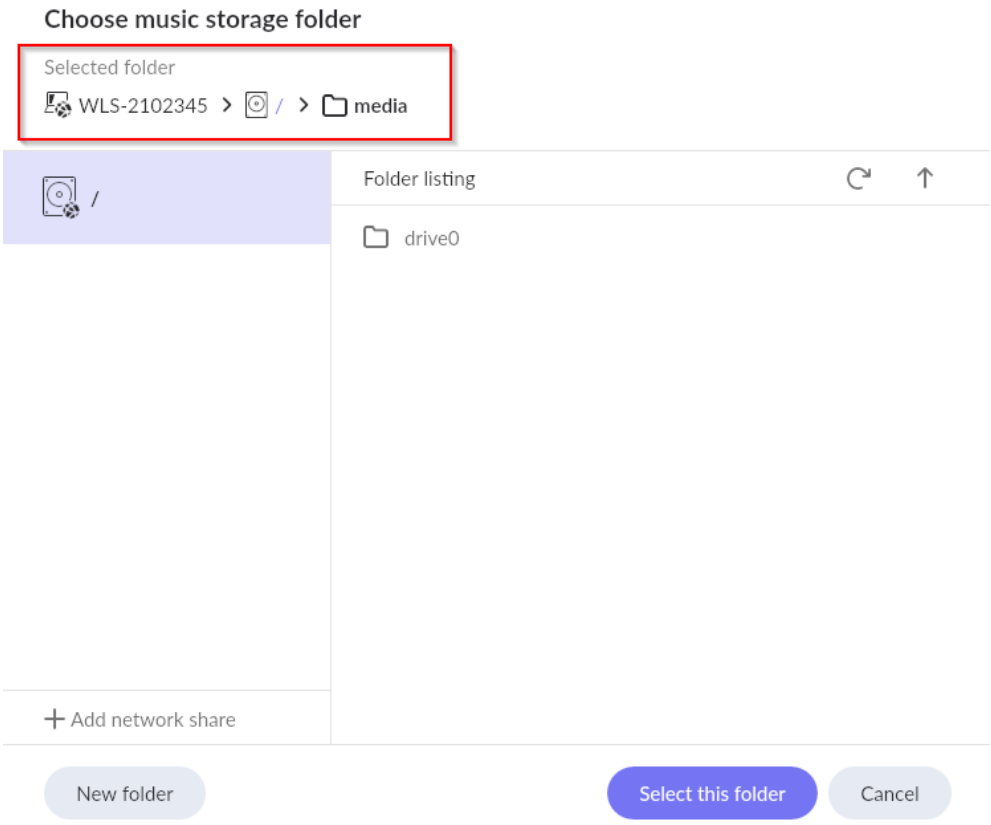
Roon will prompt for a username and password. You will need a Roon active account in order to use it on the WLS. After log-in, a dialog for adding music will appear . Press “Add folder” and select the icon showing a disk drive.



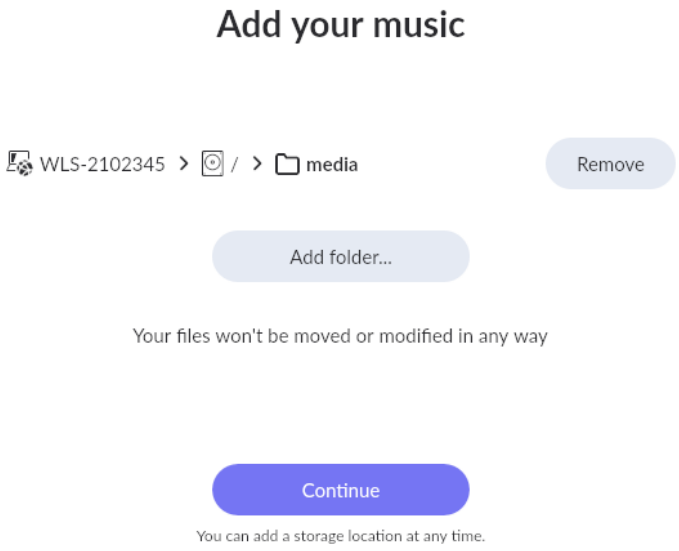


From the list that opens, choose “Media” and check in the next screen if the path looks like in the example below.

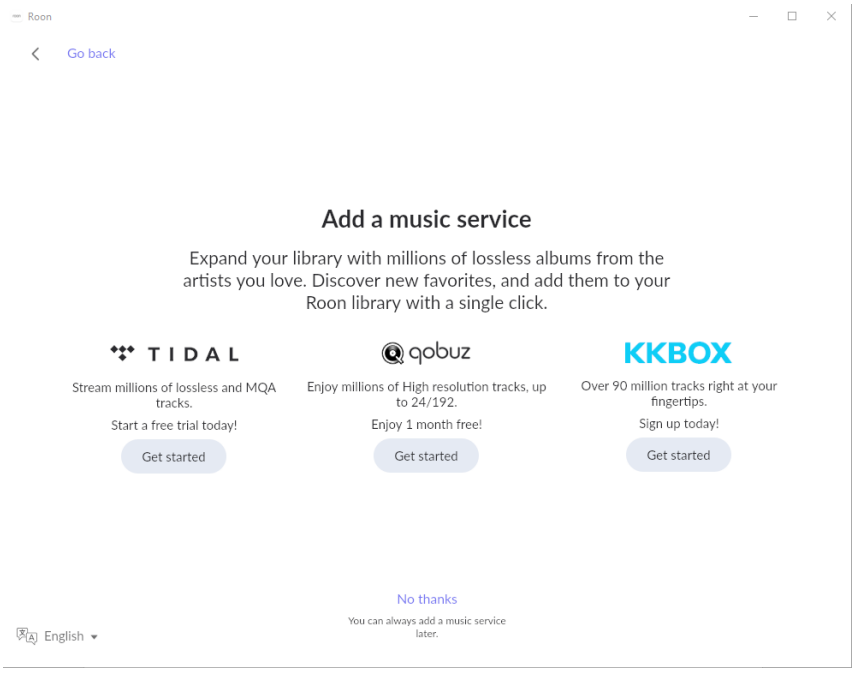




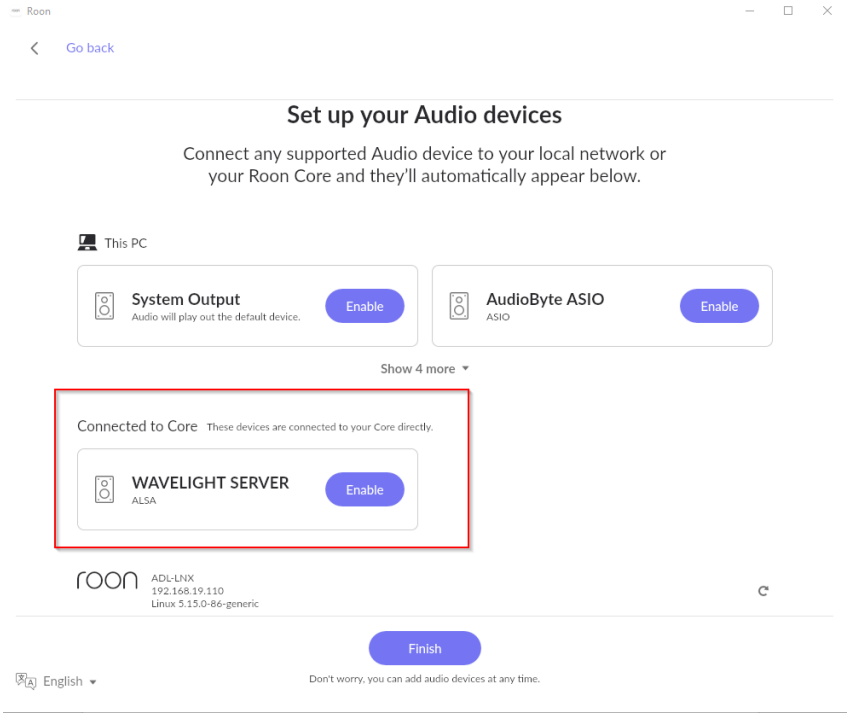
This is the correct path and Roon will automatically index everything from the internal WLS drives; you can now press “Select this folder” button.
If all good, the next screen will look like below and you can press “Continue”.



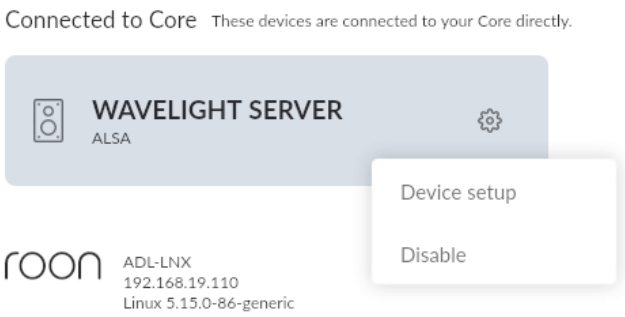
In the next screen Roon will ask you about existing accounts from streaming services like Tidal, Qobuz or KKBOX. You can set those now or anytime later.

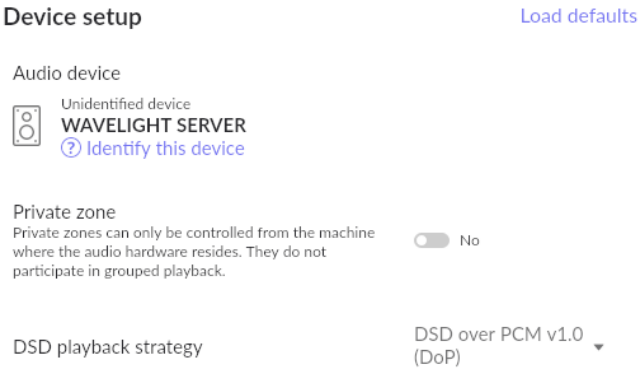


Final step is setting the WLS as Roon audio device. Under “Connected to Core” section, you will find “WAVELIGHT SERVER – ALSA” , which has to be enabled.

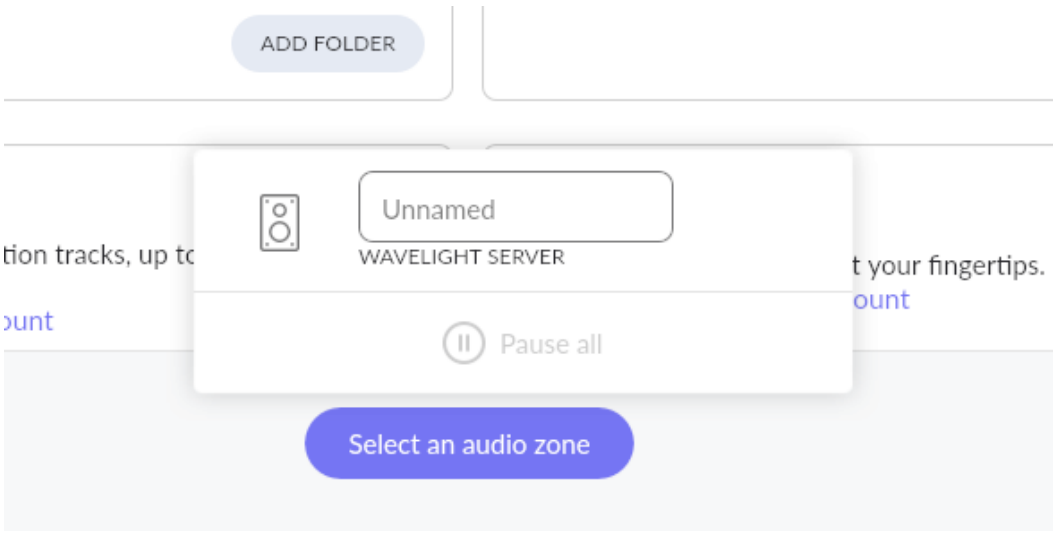


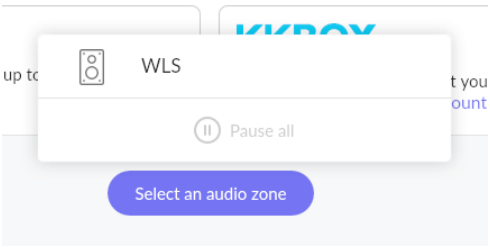
After enabling, you need to set up the device like to DSD over PCM v1.0 like below, then press Finish.





Finally, you have to select and give a name to WLS as audio zone:

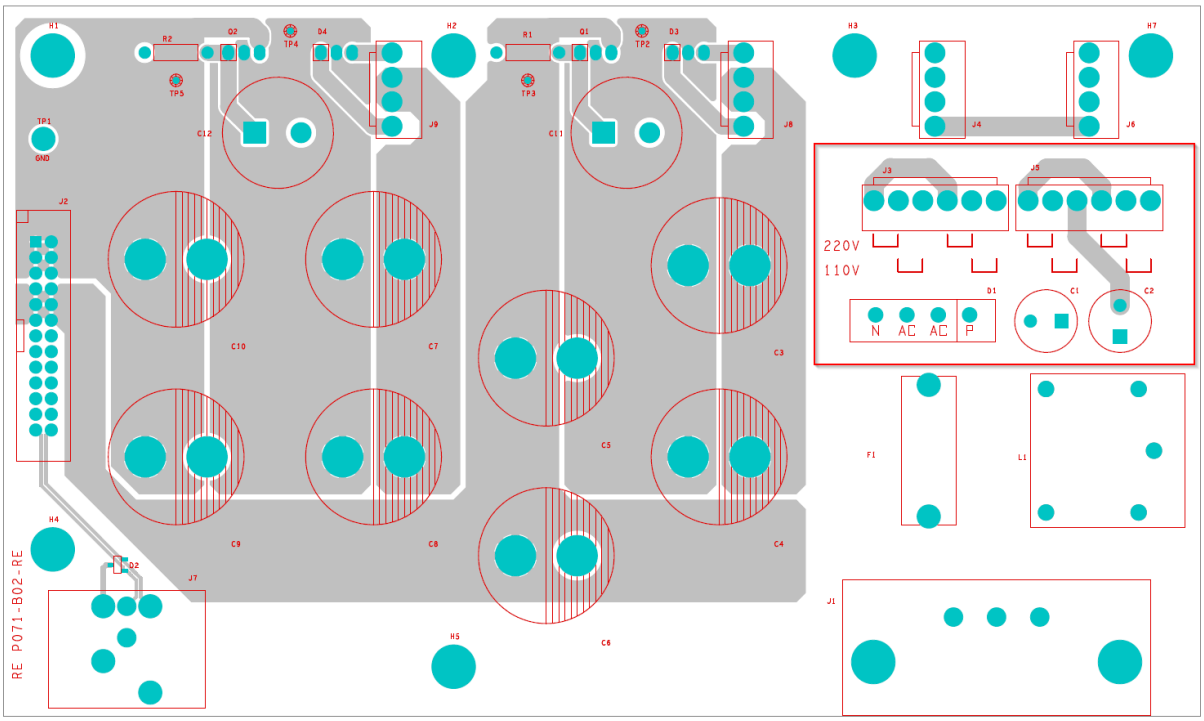




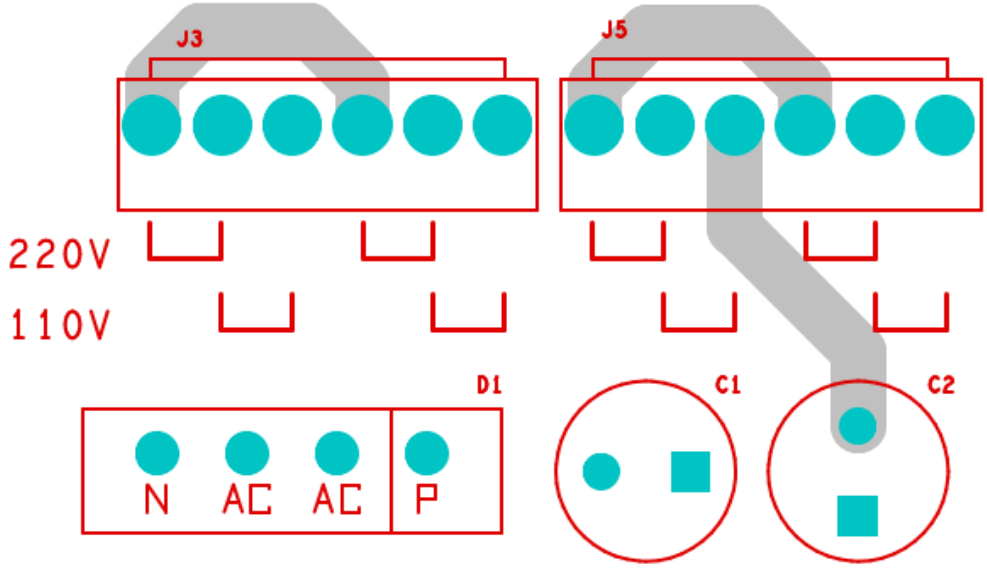
All set! The music on the mounted drives (internal, external, network) are now automatically indexed by Roon and ready to play.

Changing mains AC voltage compatibiliy

a. Remove WLS top panel
b. Locate J3 and J5 connectors from the power supply board



c. Note the position of the installed jumpers; for 230v they start right from left of J3, J5 ; for 110v, the first pin is open.
d. To change from 230v setting to 110v setting, translate the jumpers 1 position to the right;
e. To change from 110v setting to 230v setting, translate the jumpers 1 position to the left.



---to be continued--