Starting Eunhasu

Eunhasu

Eunhasu is a web-based GUI to control network music players which was made on Linux OS. It has an easy and simple to use functions via a web GUI. Eunhasu can be used with PCs or various apps in smart devices.

Eunhasu features

- Web GUI
  - Easy system configuration
  - Selectable music player applications
  - Selectable and configurable USB audio devices
  - Network share folder and USB storage device setting
- Roon Ready
- Roon Server sMS-1000SQ feature
- MinimServer sMS-1000SQ feature
- DLNA audio renderer, OpenHome support
- MPD (Music Player Daemon)
- LMS (Logitech Media Server)
- Squeezelite
- HQPlayer Network Audio Adapter
- Shairport
- LibreSpot
- Multi-zone network playback

Models available with Eunhasu

- sMS-200
- sMS-200ultra
- sMS-1000SQ

Services

Please click a link to show a description of each service.

sMS-200 and sMS-200ultra services

- Roon Ready
- Squeezelite / Logitech Media Server
- MPD / DLNA renderer

- HQPlayer NAA
- Shairport
- LibreSpot

sMS-1000SQ services

- Roon Server
- Squeezelite / Logitech Media Server
- MPD / DLNA renderer
- HQPlayer NAA
- Shairport
- MinimServer
- LibreSpot
- CD Ripping

Eunhasu usage

Connection

Open the web browser on a PC or smart device and connect to http://eunhasu. On Apple® devices, connect to http://eunhasu.local. You can get the Eunhasu device’s IP address or link from http://sotm-audio.com/my if you’re using Android device. It works based on an IPv4 network. If either of the above paths do not make the connection to Eunhasu Web GUI, check the router setup to find out the IP address of your device(e.g. sMS-200 or sMS-1000SQ). And then enter your device's IP address like http://xxx.xxx.xxx.xxx directly into the browser to connect to the Eunhasu Web GUI. If you still can’t access the Eunhasu Web GUI, you will need to check that your network status or power connection is okay. If you connect to Eunhasu Web GUI successfully, you will see the home screen as like the image below.

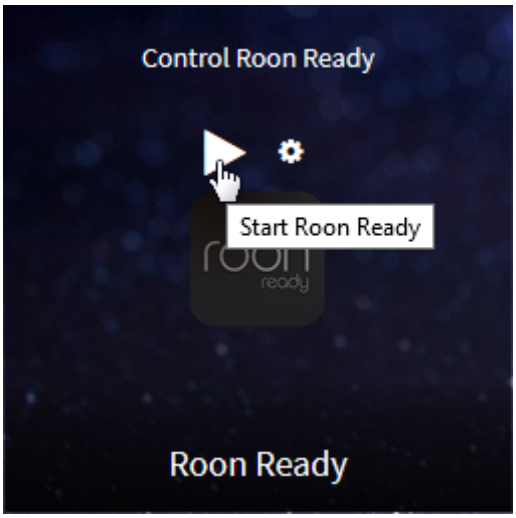


Select functions

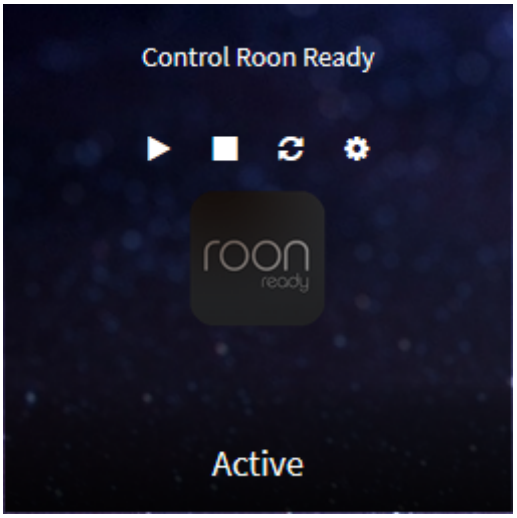
To select a function on the Web GUI, mouse over the desired icon and action buttons( ) will appear. On smart devices, touch the desired player icon and then the action buttons will appear like when using a mouse.



For example, in the case of the Roon Ready service, you can change states to 'Active' by icon click.



'Active' states. Not only Roon Ready service but other services have a similar screen.



If you're facing an abnormal states screen or a continuous loading animation, please reload the page.

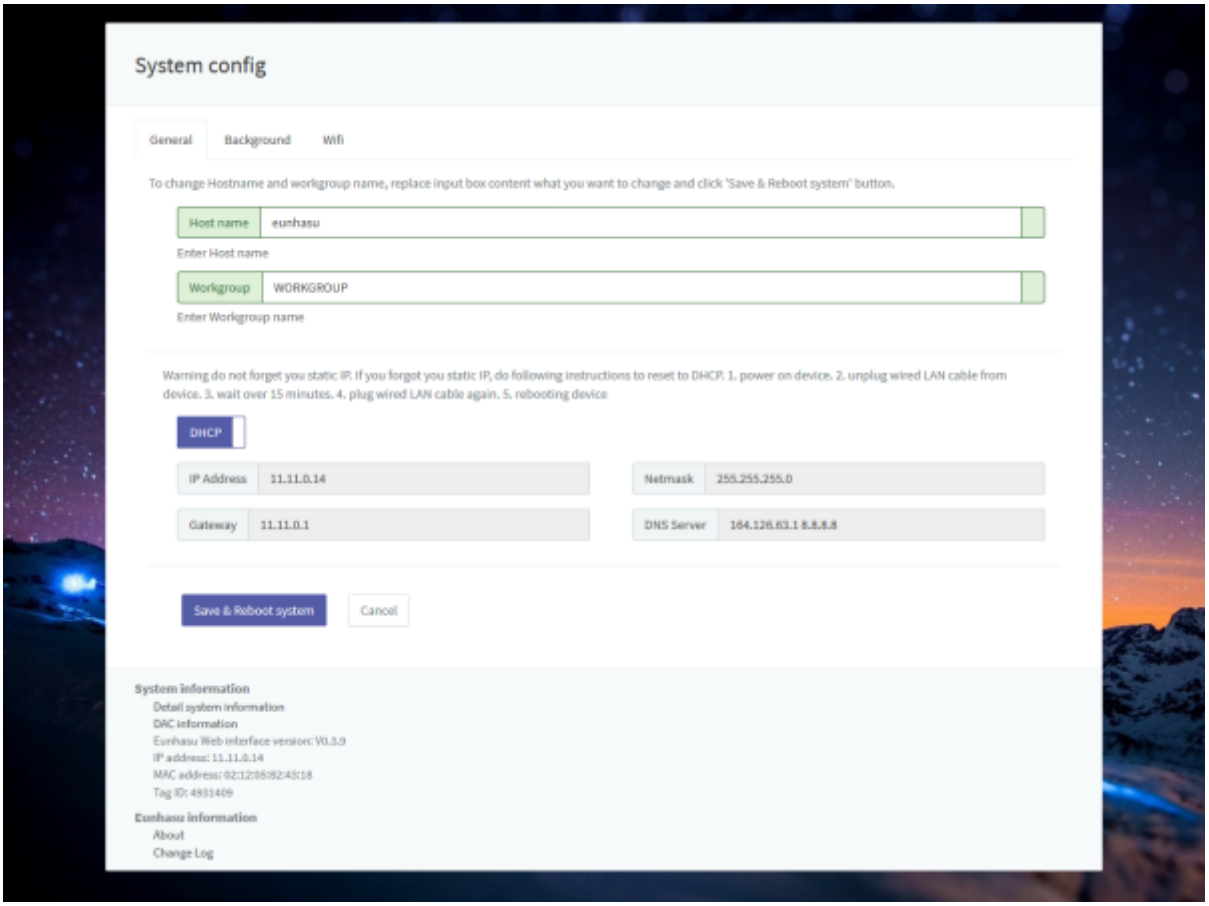
Screenshots may be different because new services and features are occasionally added.

One of the controller apps should be tested and chosen per the chosen function/service for proper use.

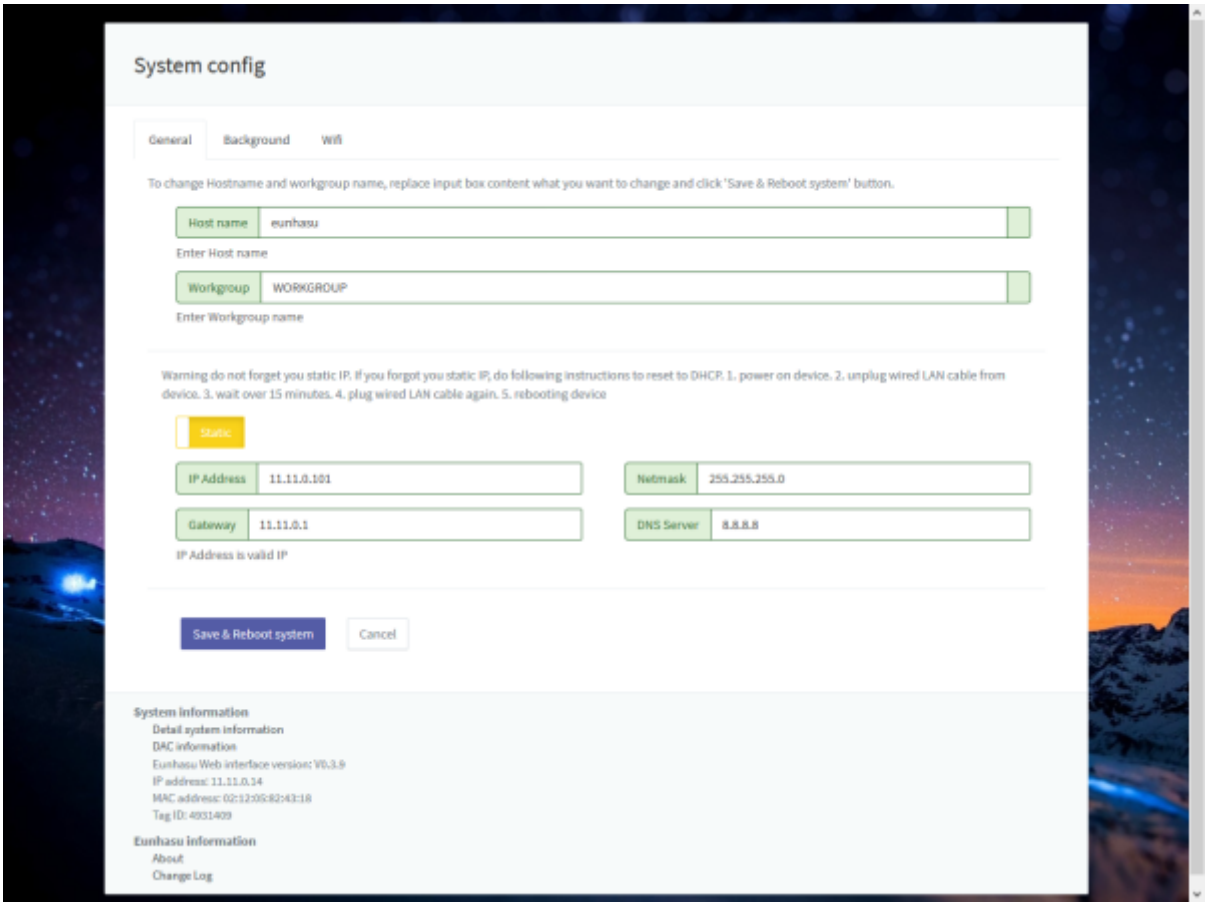
System setup

Here you can change the system name and background image, setup wifi, adjust library settings, perform a system upgrade, reboot or power off.

Change general config



- **Host name**: The name of the sMS-200 which appears on the network. If you use multiple Eunhasu-enabled device on the network, you will need to use a different host name for each device. English only and no spaces are allowed for the name.
- **Workgroup**: A workgroup name for shared folders on the network, normally “WORKGOUP” is used, but can change if required. English only and no spaces are allowed for the name.
- **IP**: Dynamic and static IP settings.



Do not forget the static IP address. If you forgot the static IP address, please use the following instructions.

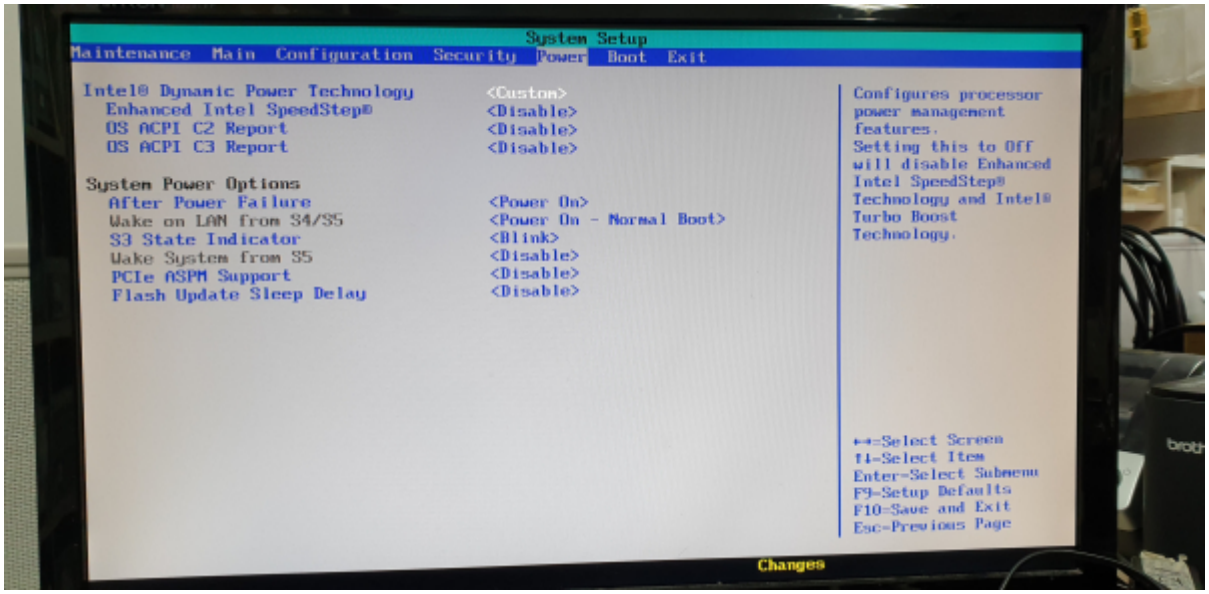
1. connect the lan cable to the device.
2. boot the device.
3. disconnect the lan cable and re-connect the lan cable within 5 minutes.
4. then, the static IP address information would be removed and changed to DHCP.
5. reboot the device.

If the above instruction won't work, reburn the micro SD card to reset.

- **Save & Reboot system**: Save the information and reboot the product.
- **Cancel**: Go back to the home screen.

CPU frequency feature

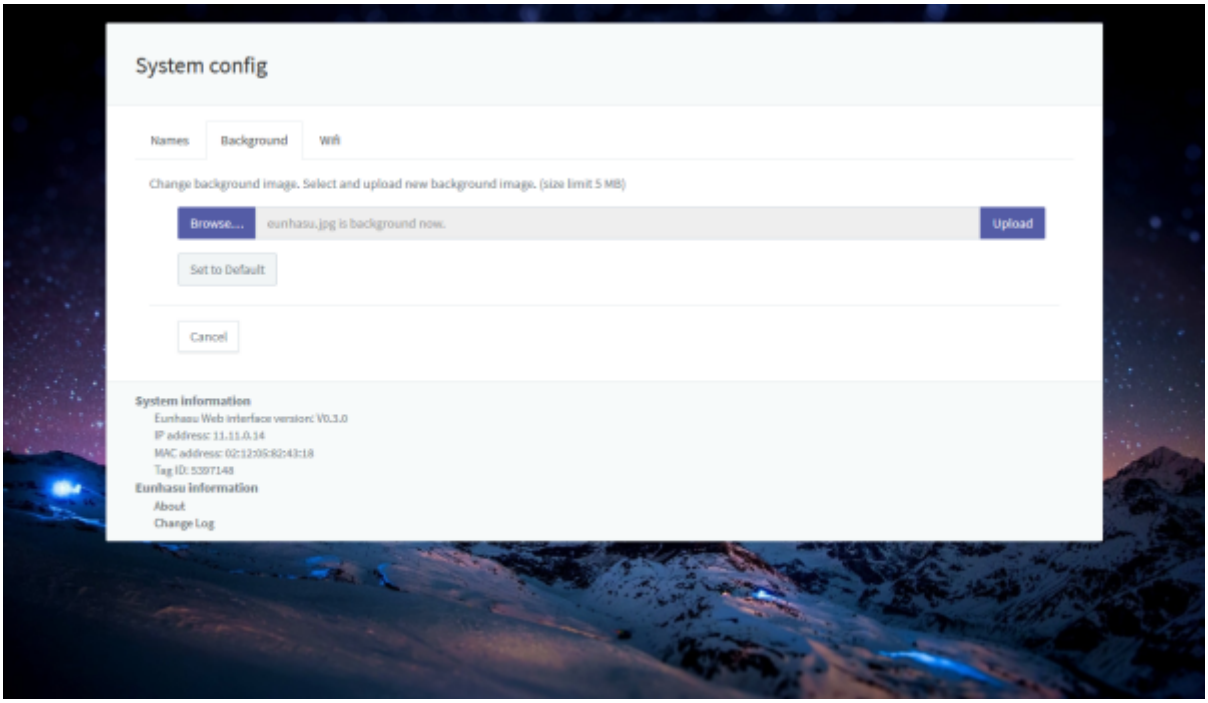
This feature works for sMS-200, sMS-200ultra and sMB-Q370 from the Eunhasu firmware version no.5.51. The sMS-1000SQ can be supportive as well by enabling SpeedStep feature in the BIOS mode, refer to the image below.



If the device is not supportive to use CPU frequency feature, this feature will be auto-disabled from the Eunhasu firmware version no.5.51.

Change background

To change background, only jpeg and png formats are allowed. If it's not applied after uploading a file, that could be caused by web browser cache feature. Plase reload the page.

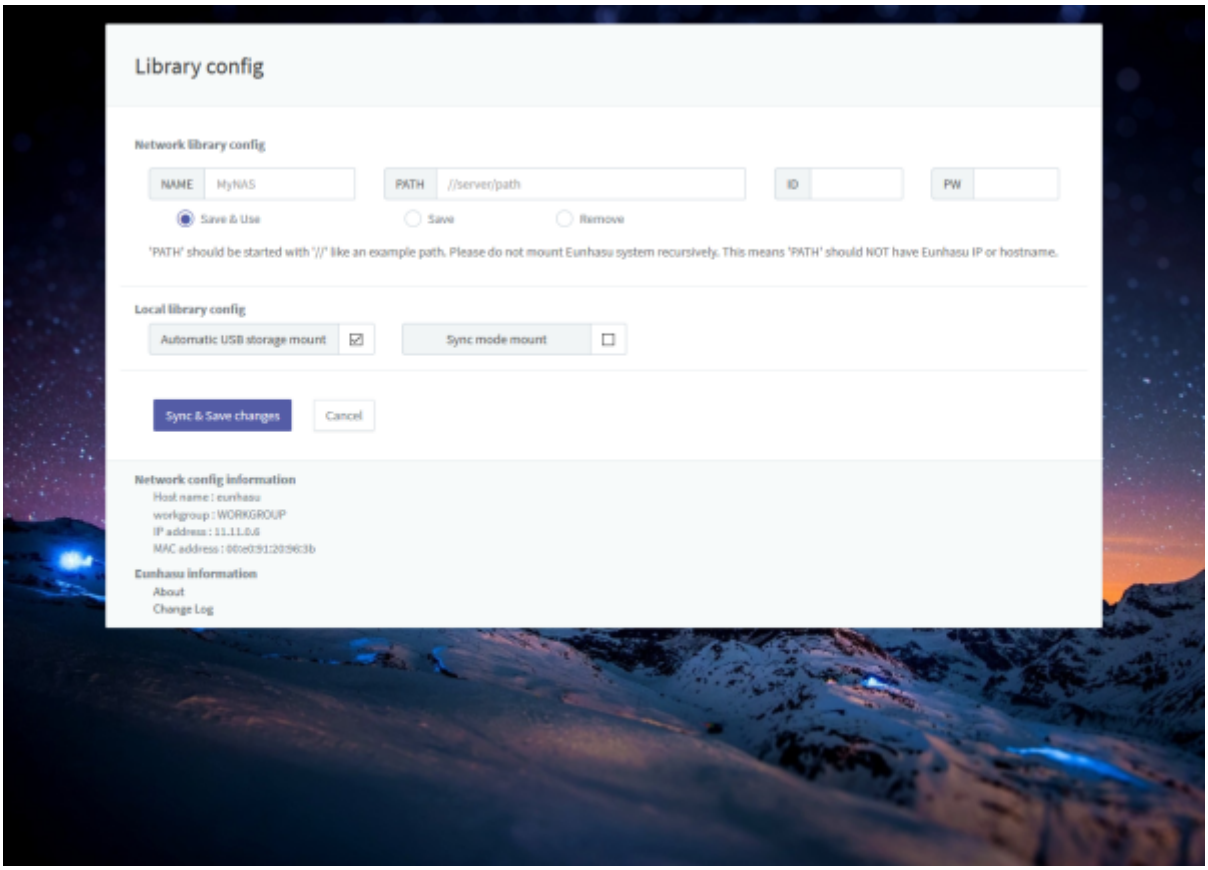


Wifi setup

Please refer to how_to_use_wifi_in_eunhasu page.

Library setup

Set up the path for the network library and enable the USB storage device to use.



- **NAME**: A library folder name appearing on Logitech Media Server or MPD. Only English, no spaces or numbers.
- **PATH**: A network sharing folder path. The path should be formatted like the screen shot.
- **ID**: Enter an ID if it is required to access the network sharing folder.
- **PW**: Enter a password if it is required to access the network sharing folder.
- **Save & Use**: Save the information you entered and use it.
- **Save**: Save the information you entered but not use it.
- **Remove**: Remove the information you entered.
- **Automatic USB storage mount**: Enable or disable the USB storage device, up to 2 USB storage devices can be used.
    - Check 'Automatic USB storage mount' to be enabled. The USB storage device will be auto-recognized and assign as the music folder on Logitech Media Server or MPD as the USB1 or USB2 folder.
- **Sync mode mount**: Enable or disable sync mode when storage is mounted.
    - Check 'Sync mode mount' to be enabled, the USB storage device will be mounted as sync mode. It is synchronous attachment which makes files in the storage more safety but might be slow system.
- **Save changes**: Save the new or modified information you entered.
- **Cancel**: Go back to the home screen.



The new network share folder information can be added after saving the current entered information. Eunhasu only supports SMB protocol with no-spaced-path name

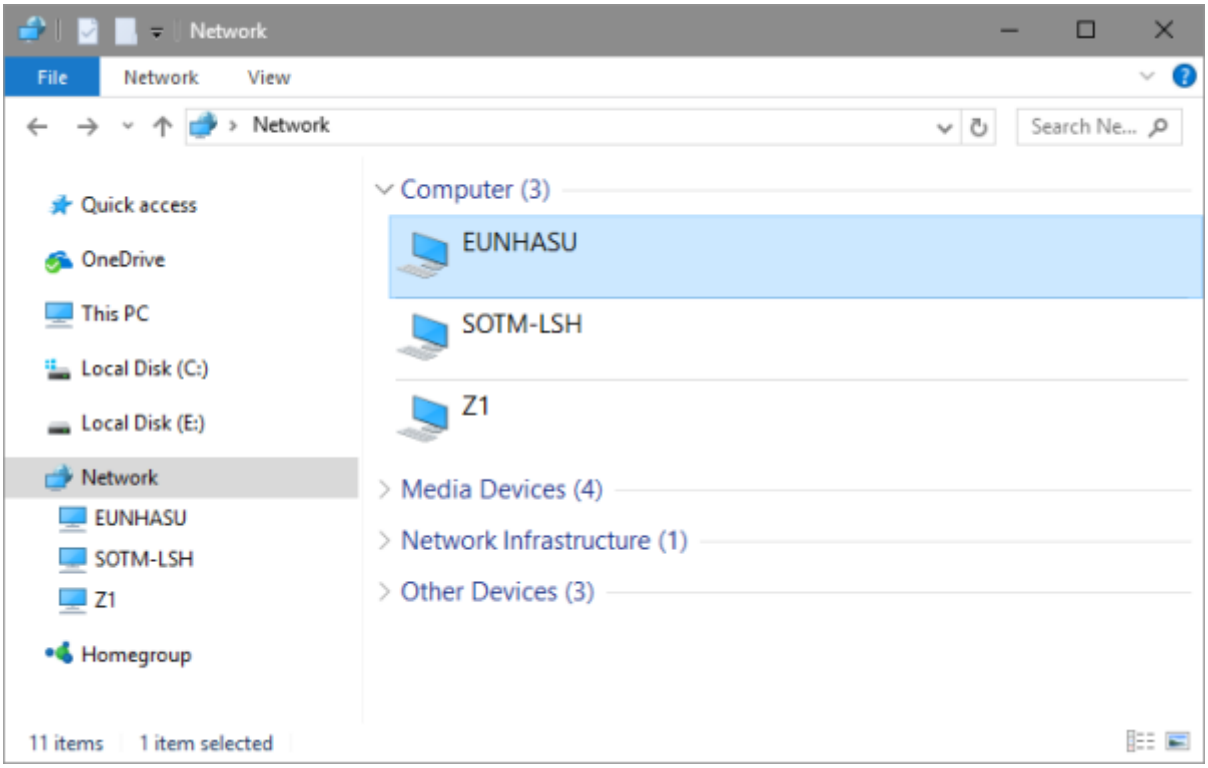
1. Do not mount Eunhasu itself recursively. It makes system operation slow because music files would be duplicated during the making of the library. e.g.) /eunhasu/music/USB1 ✘
2. In case of sMS-1000SQ, do not mount the same point with RoonServer. That makes the Roon library unavailable.

- An external USB storage device in exFAT format is supportive from Eunhasu V0.2.7. And multi partitions cannot be mounted normally, we recommend connecting a 1 partition USB storage device.

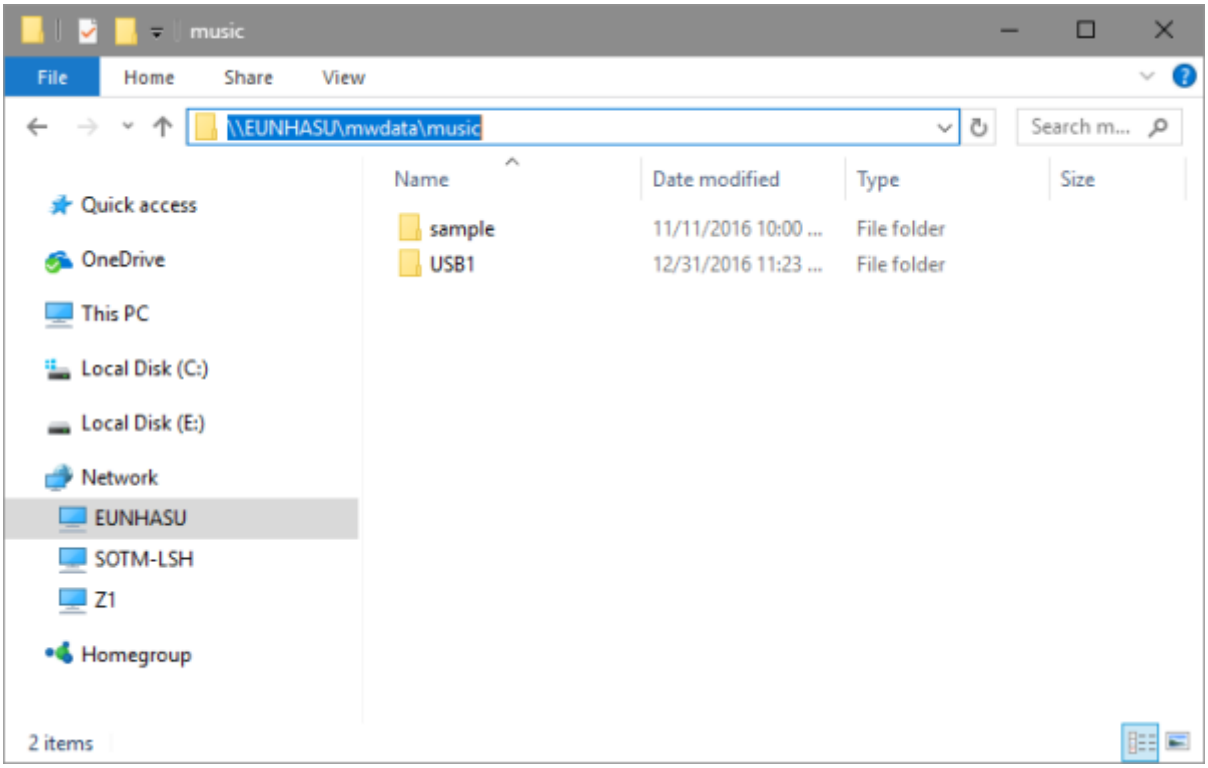
Access Eunhasu folder

Windows

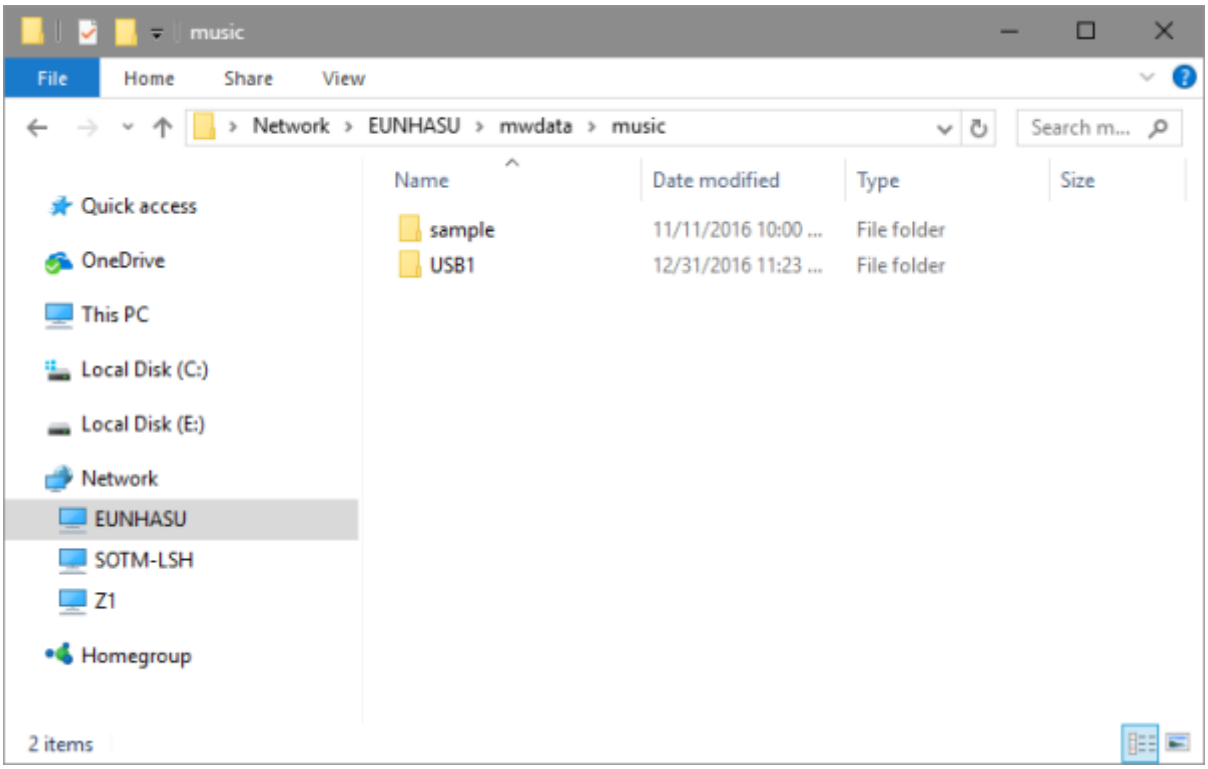
You can access the Eunhasu share folder to manage music files. Select 'EUNHASU' in the 'Network' part of Explorer. If you have serveral Eunhasu-enabled devices, please change system name because it could cause conflict in the network.



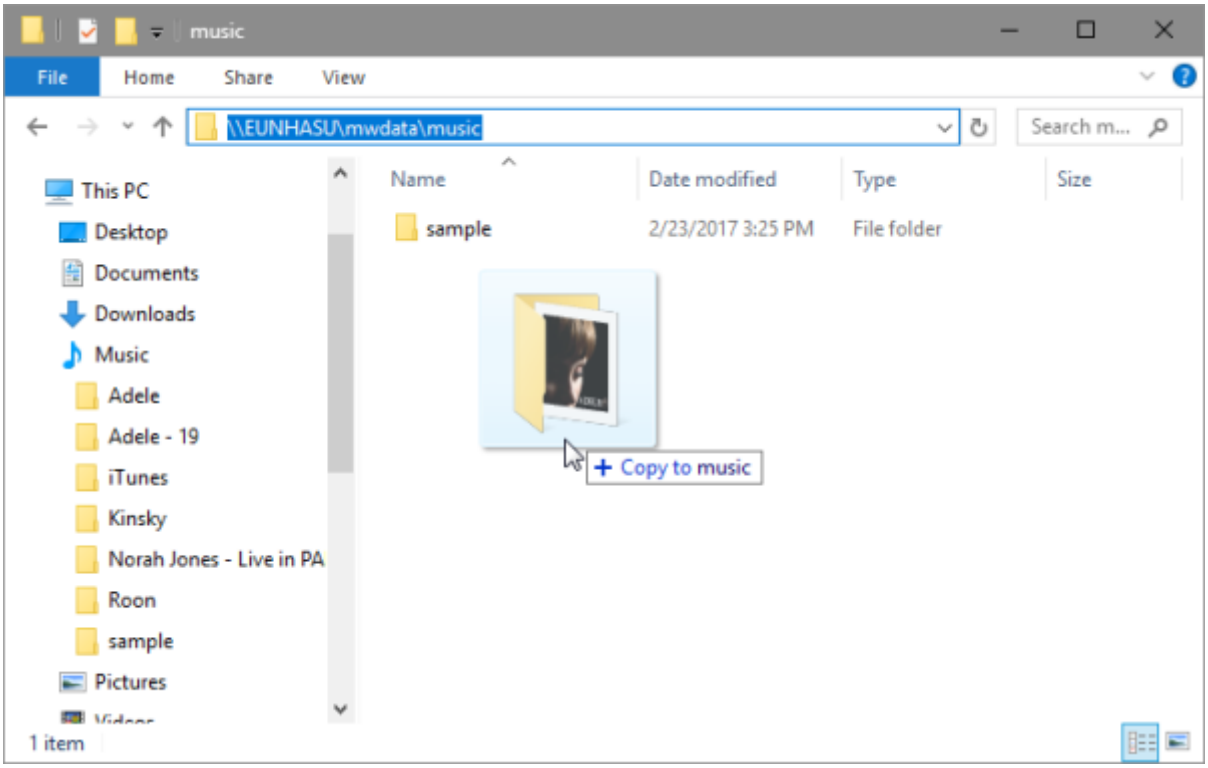
You can access by the direct path, \\EUNHASU\mwdata\music



The image below shows the screen after you enter 'mwdata'. ;mwdata' is a name of share folder in Eunhasu.



If you want to copy files into the sMS-1000SQ music directory, drag and drop files to the path, \\EUNHASU\mwdata\music, like the screen shot below:

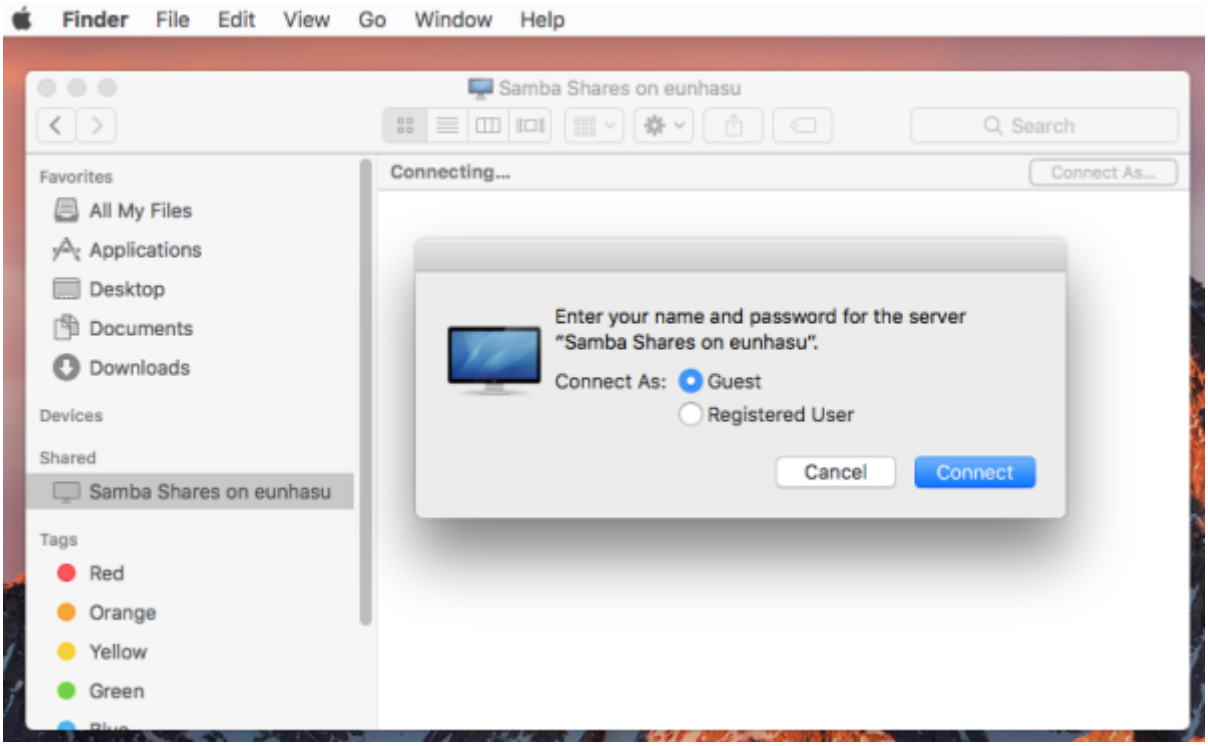


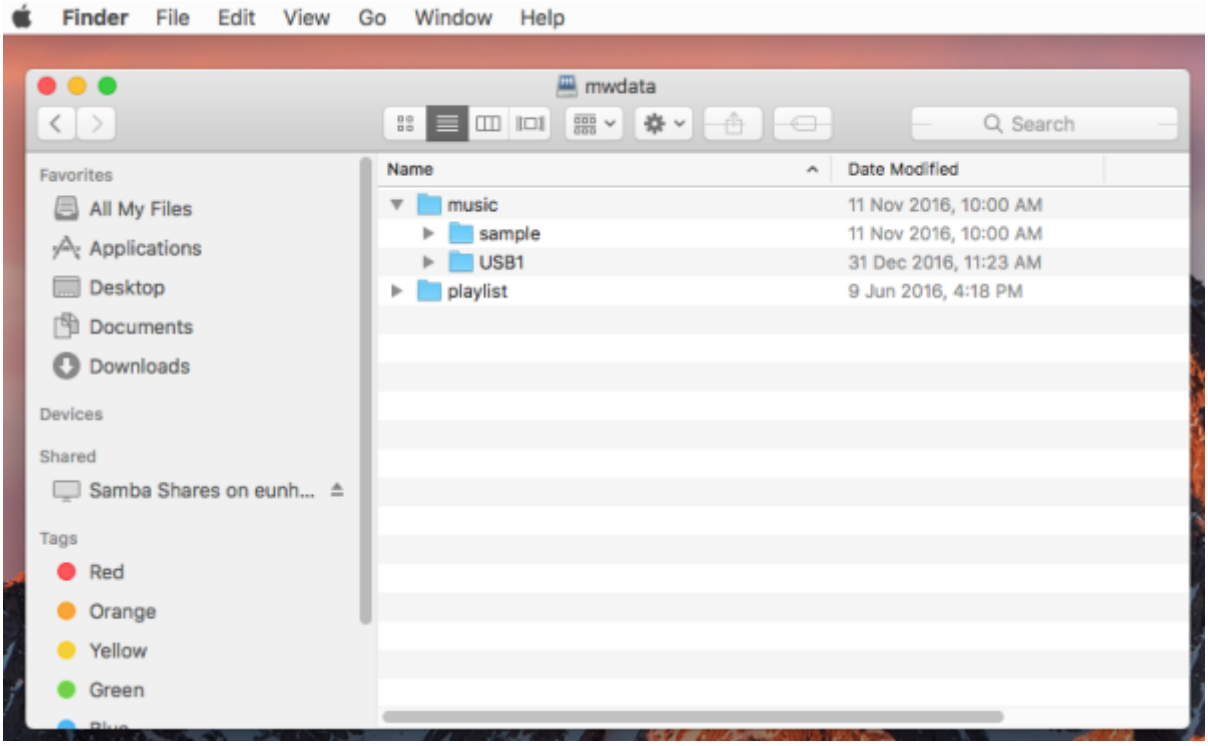
If you want to copy files into the sMS-1000SQ music directory which has the additional internal storage drive installed, drag and drop files to the path, \\EUNHASU\mwdata\music\HDD1

If you want to check the music files in the external USB storage drive connected into sMS-1000SQ, please check the path, \\EUNHASU\mwdata\music\USB1

Mac OS

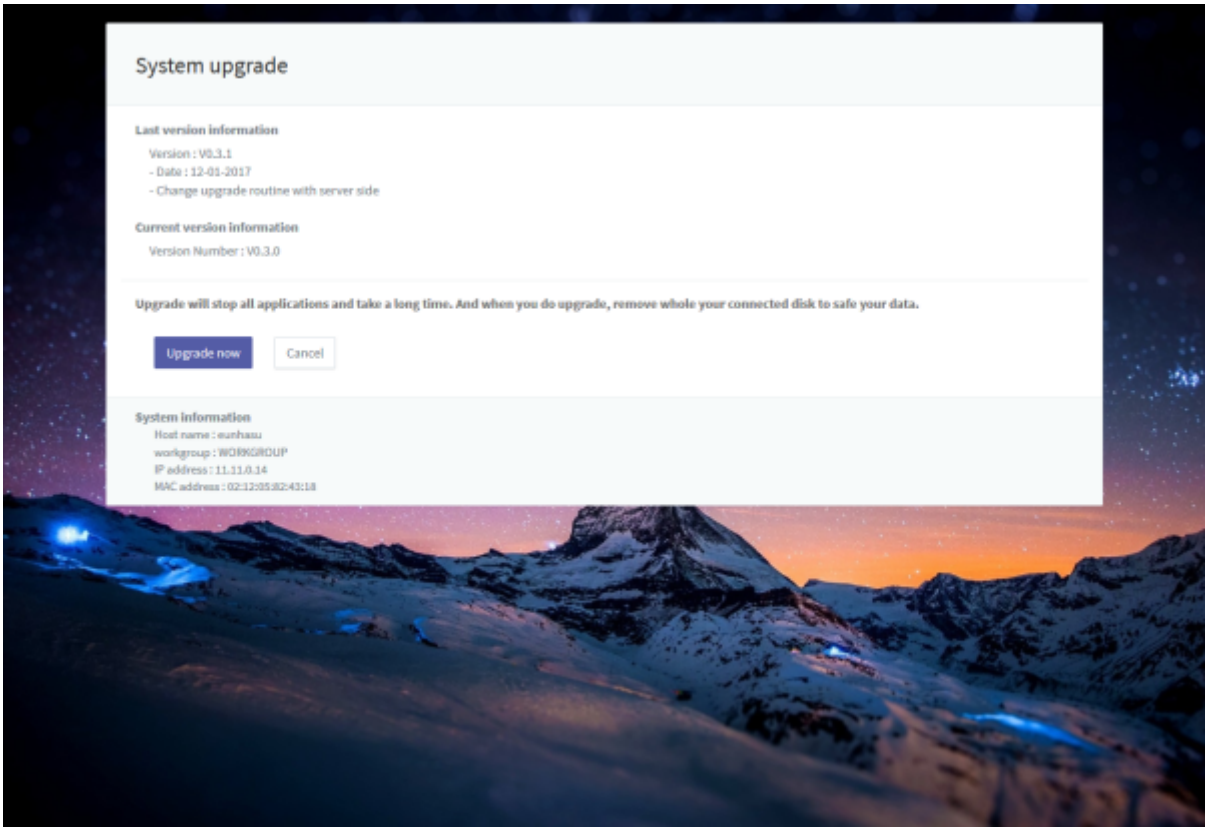
You can access Eunhasu share folder by Finder. Please connect as 'Guest' id to access.





System upgrade

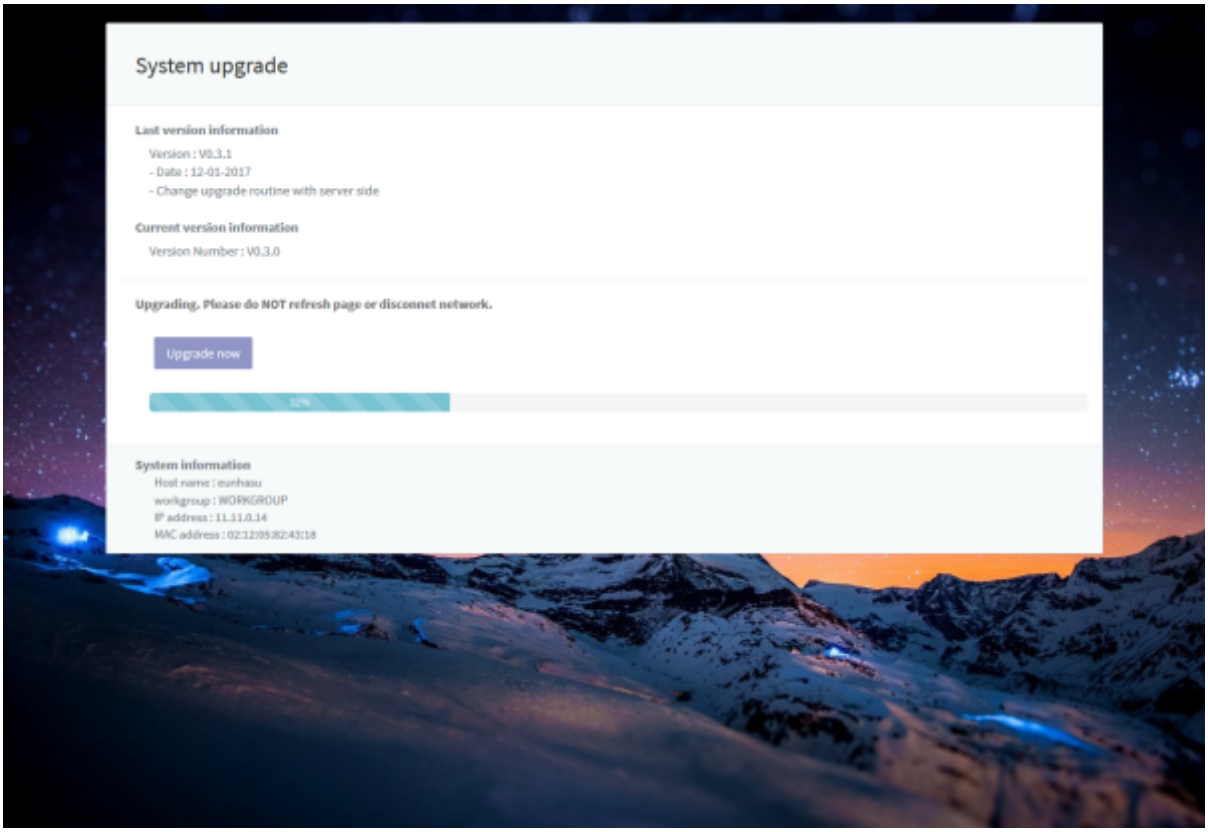
Upgrade your system.



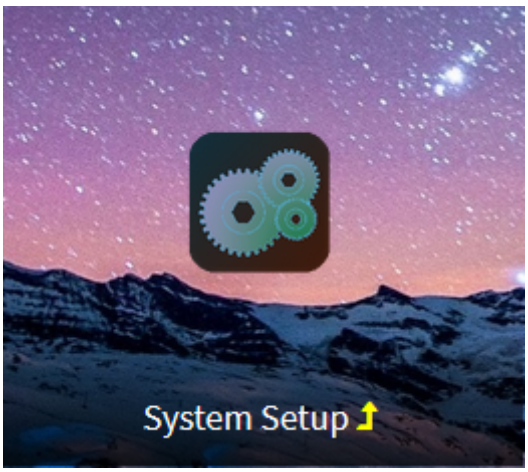
- Upgrade now: It stops all services and upgrade the software.
- Cancel: Go back to the home screen.

- The upgrade may require a long time, the power should be on while upgrading. You have to follow **recovery instruction**if the upgrade failed by forced power off or non-system environment.
- To safe your data, please remove your attached storage before starting the upgrade .

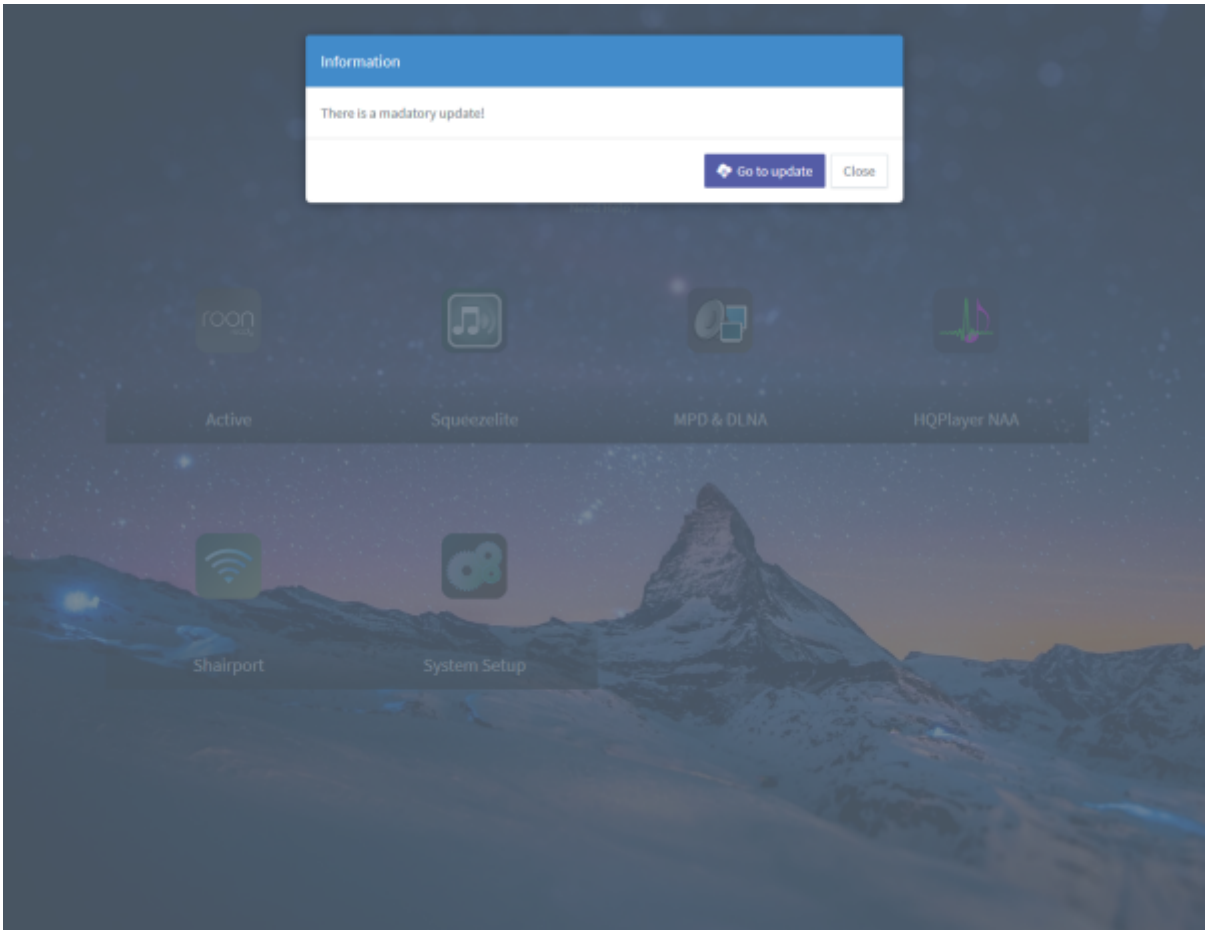
The progress bar of the upgrading would be shown when the upgrade starts.



If an upgrade is available, the yellow icon shows up at right of “System Setup”.



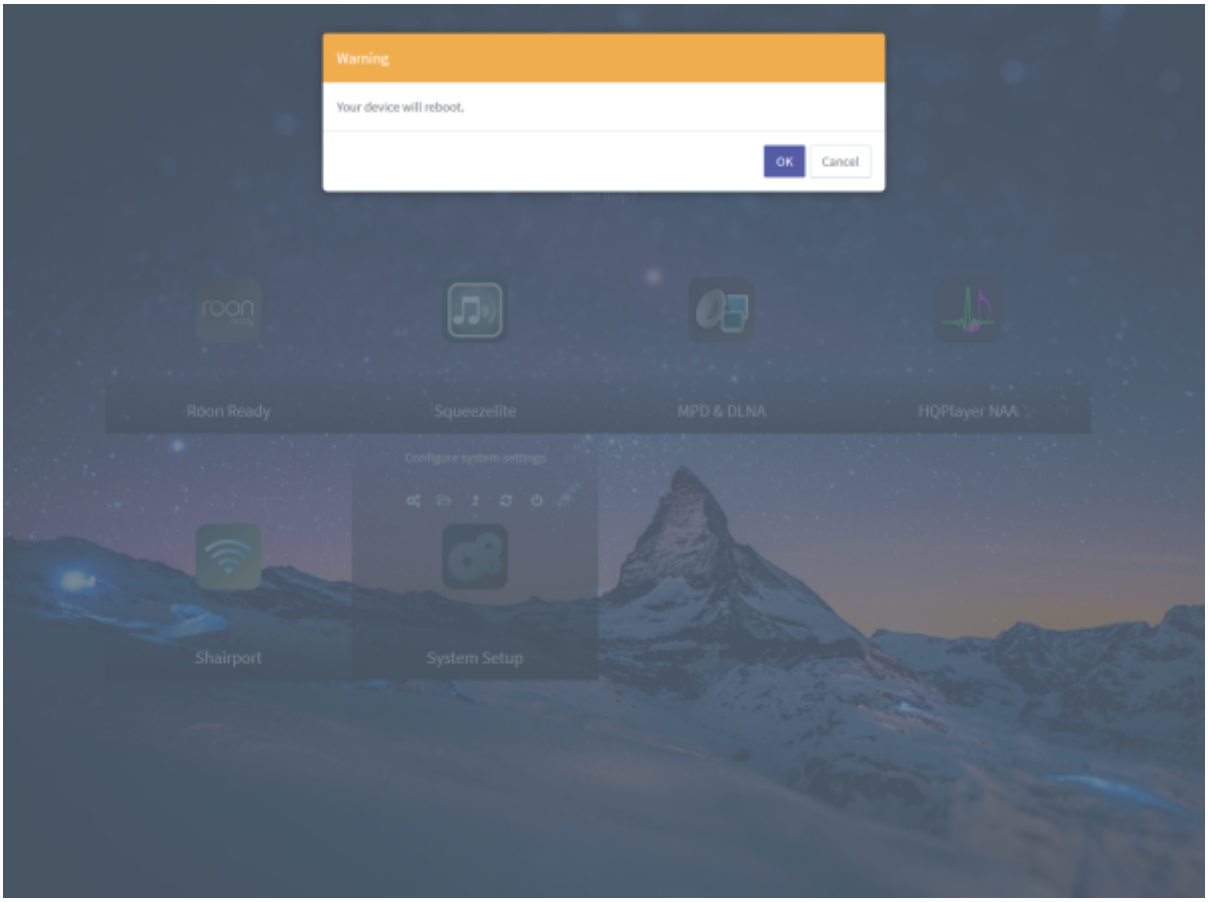
If there is a mandatory upgrade, Eunhasu shows a pop-up window to notify.



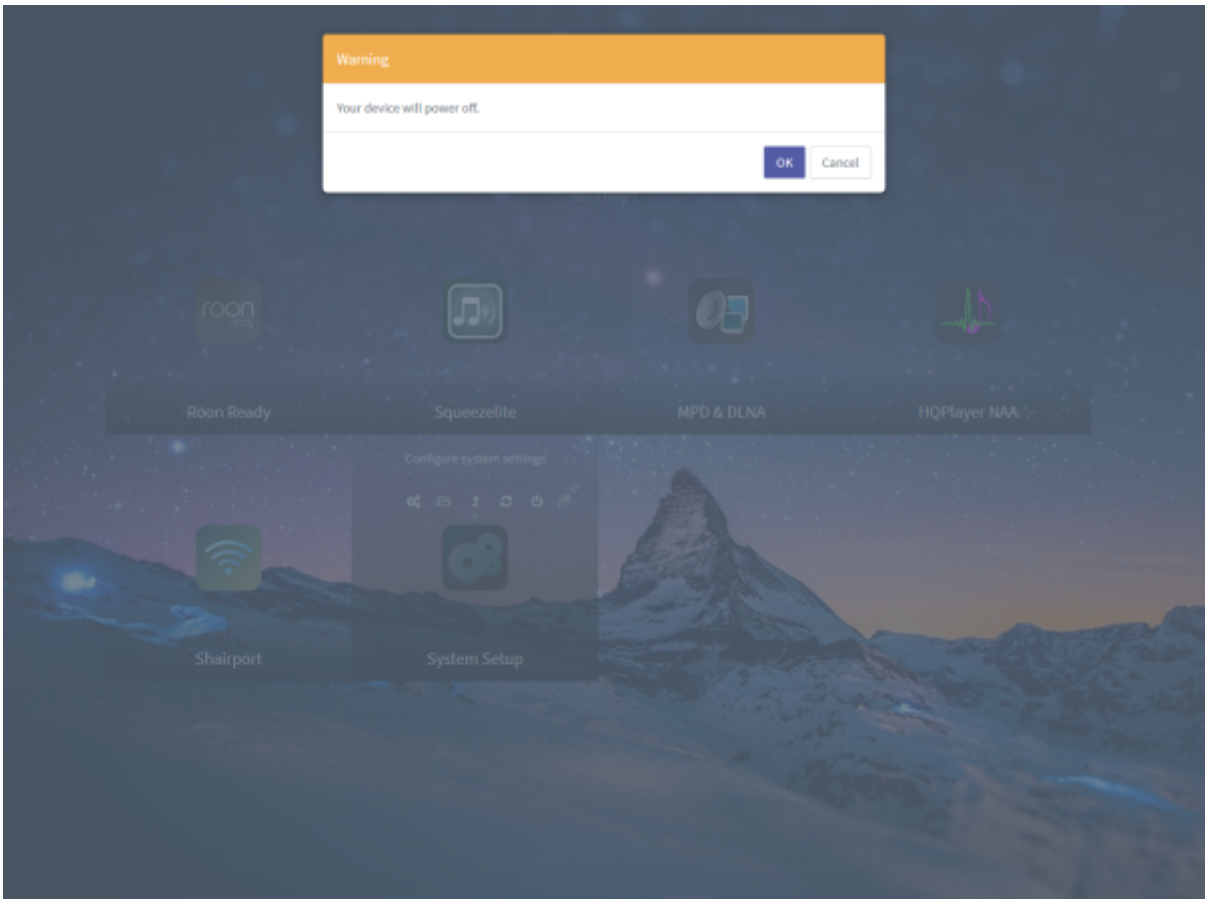
Reboot and power off

Reboot and power off system.

Reboot will take 2~3 mins. It depends on device settings like connection storage or other accessories.



'power off' will not work immediately. It takes a few seconds. If you unplug the power cord, your storage device might be damaged. Please use the 'power off' function when you need to power off the device.



Precautionary statement



- Eunhasu-enabled devices (e.g. sMS-200 or sMS-1000SQ) and control devices such as PC or smart device must be connected to the same local network.
- Check the USB connection before using the unit.
- When using an external storage device, we recommend using an external hard drive which is powered separately.
- For stability, we recommend using an externally powered USB storage device and upto 2TB external storage. In our test case, a 4TB storage is working. However, for the stable operation, recommend using up to the 2TB storage.
- An external HDD should be one partition and NTFS or FAT filesystems are recommended.
- We recommend using only one of the USB ports. If you use several USB ports at the same time, sound quality may be degraded.
- Eunhasu may not work on an IPv6 network. It was developed and tested in an IPv4 network environment.
- If the mwdata folder space is 100% full, the main system will be in an abnormal state and will not operate normally. External USB storage devices are not applicable.
- An external USB storage device can be used in the Squeezelite or MPD/DLNA feature.

Additional tips

Direct connection for Windows

- dhcp_server_for_windows
- direct_connection

File Tag Encoding and Display Issues

https://kb.roonlabs.com/FAQ:Some_characters_are_not_displaying_properly

Re-burning SD Card

Only for sMS-200(or sMS-200ultra), to initialize whole system.

- Burning mSD card image

Installing Eunhasu_x86 for sMS-1000SQ

Only for sMS-1000SQ, to initialize whole system.

- Installing Eunhasu x86

IckStream in LMS (not supported since May 2019)

- how_to_install_ickstream_app_in_lms



LMS should be restarted when you reboot Eunhasu because IckStream plugin could not get the login information just after the reboot.

Additional information

Supported Native DSD DAC list

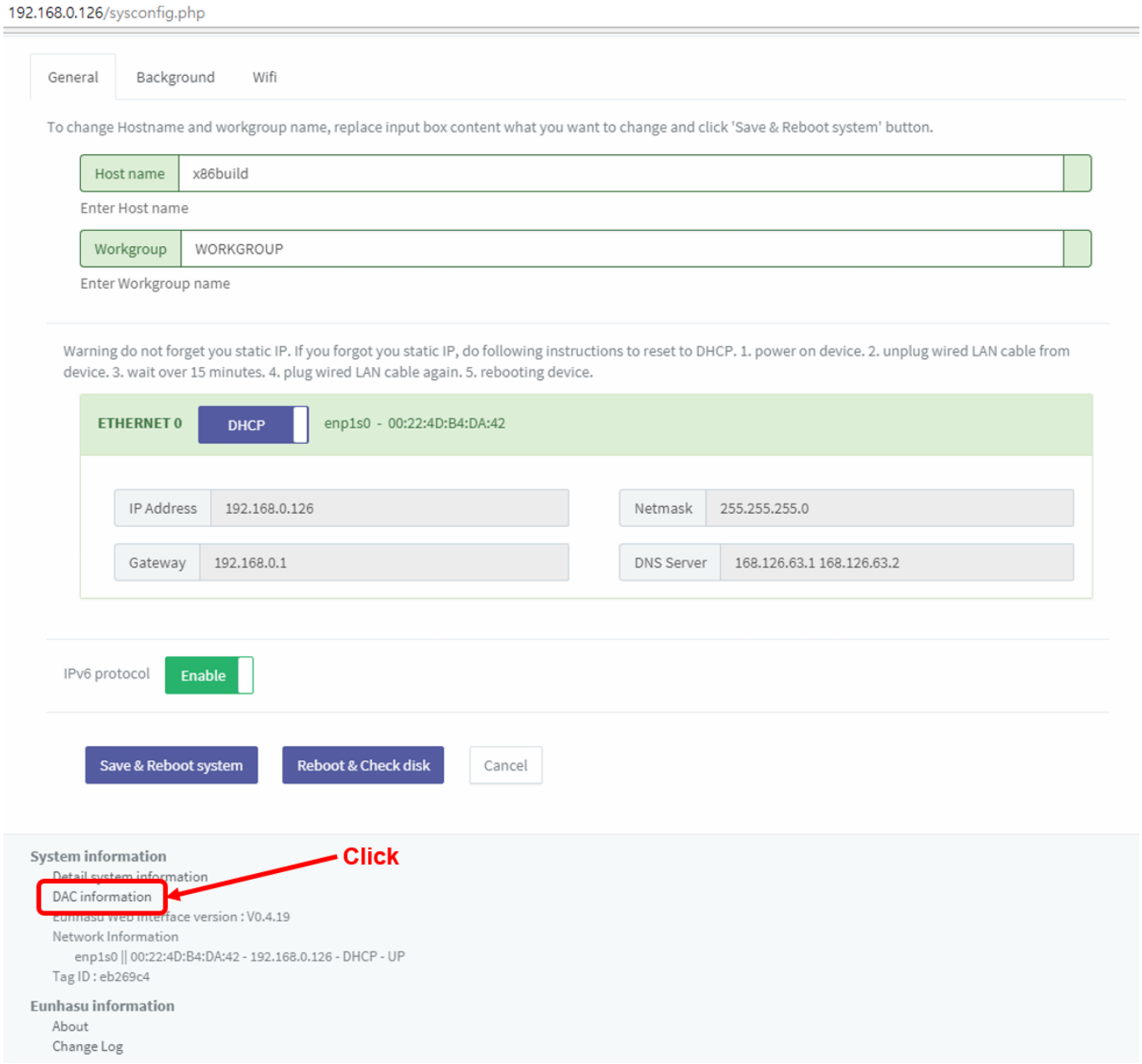
Below chart is the Native DSD DAC list supported in Eunhasu.

Model	**USB ID**
Playback Designs	0x23ba
AURALiC VEGA	0x1511, 0x0037
Wyred 4 Sound DAC-2 DSD	0x20b1, 0x0002
iFi Audio micro/nano iDSD	0x20b1, 0x3008
Matrix Audio X-Sabre	0x20b1, 0x2008
Matrix Audio Quattro II	0x20b1, 0x302a
Matrix Audio Mini-i Pro	0x20b1, 0x300a
Matrix Audio X-SPDIF 2	0x20b1, 0x2004
Pro-Ject Pre Box S2 Digital	0x2772, 0x0230
OPPO HA-1	0x22d9, 0x0416
LH Labs Geek Out 1V5	0x2522, 0x0007
OPPO Sonica	0x22d9, 0x0436
LH Labs VI DAC Infinity	0x2522, 0x0012
LH Labs Geek Pulse X Inifinity 2V0	0x2522, 0x0009
Mytek Brooklyn DAC	0x25ce, 0x001f
Mytek Brooklyn DAC+	0x27f7, 0x1301
Mytek Manhattan DAC	0x25ce, 0x0021
Mytek Liberty DAC	0x25ce, 0x801e/0x001e
NuPrime DAC-10	0x16b0, 0x06b2
NuPrime Audio HD-AVP/AVA	0x16d0, 0x06b4
NuPrime IDA-8	0x16d0, 0x09d8
NuPrime Audio DAC-9	0x16d0, 0x09db
ENCORE mDSD	0x16d0, 0x09dd
Bryston BDA3	0x1db5, 0x0003
WaveIO USB Audio 2.0	0x20a0, 0x4143

Model	USB ID
Gustard DAC-X20U	0x20b1, 0x000a
Denafrips DAC	0x20b1, 0x2005
DIYINHK DSD DXD 384kHz USB to I2S/DSD	0x20b1, 0x2009
OKTO RESEARCH DAC8PRO	0x20b1, 0x2009
JLsounds I2SoverUSB	0x20b1, 0x2023
Engineered Electronics Stereo Playback Interface	0x20b1, 0x300f
Eastern El. MiniMax Tube DAC Supreme	0x20b1, 0x3021
Aune X1S 32BIT/384 DSD DAC	0x20b1, 0x3023
Unison Research Unico CD Due	0x20b1, 0x302d
Holo Springs Level 3 R2R DAC	0x20b1, 0x3036
Soekris dac1101	0x20b1, 0x3073
Singxer F-1 converter board	0x20b1, 0x3086
CH Precision C1 DAC	0x20b1, 0x307b
OPPO HA-2	0x22d9, 0x0426
HDTA Serenade DSD	0x22e1, 0xca01
PS Audio NuWave DAC	0x2616, 0x0106
Audiolab 8300 CDQ	0x2622, 0x0041
Audiolab M-DAC+	0x2622, 0x0041
Mutec MC3+ USB	0x29a2, 0x0086
Cayin iDAC-6	0x2d87, 0x000a
MSB Technology	0x6b42, 0x0042
W4S DAC-2v2SE	0x27f7, 0x3002
Amanero Combo384	0x16d0, 0x071a
JAVS X6-DAC	0x2573, 0x8201
iFi Neo iDSD	0x20b1, 0x3009
iFi Pro iDSD	0x20bi, 0x3008
OPPO UDP-205	0x22d9, 0x0461
Topping D50, D70, D30 Pro	0x152a, 0x8750
Hegel HD12 DSD	0x0d8c, 0x0316
Furutech ADL Stratos	0x16d0, 0x0733
M2Tech Young MkIII	0x249c, 0x9326
M2Tech hiFaceTWO	0x249c, 0x930b
W4S DAC-2v2SE	0x27f7, 0x3002
Rotel 1592	0x278b, 0x5100
sDP-1000EX	0x30b1, 0x2102
T+A USB HD Audio 1	0x2ab6, Any
T+A USB HD Audio 2	
T+A SD 3100 HV	
Denon DA-300USB	0x154e, 0x1003
Denon DCD-1500RE	0x154e, 0x1002
Denon XMOS USB Audio Device	0x154e
Marantz HD-DAC1, Marantz NA11-S	0x154e, 0x3005
Marantz SA-14S1	0x154e, 0x3006
Luxman DA-06	0x1852, 0x5065
TEAC UD-501/UD-501V2/UD-503/NT-503	0x0644, 0x8043

Model	**USB ID**
Esoteric D-05X	0x0644, 0x8044
TEAC UD-301	0x0644, 0x804a
Mola Mola Makua	0x20b1, 0x3089
Peachtree nova500	0x29c5, 0x0022
Gustard USB audio GSD audio	0x292b, 0xc4b3
Lindemann USB Audio 2.0	0x2305, 0x0010
D&M holdings Inc. PMA-2500NE	0x154e, 0x1007
Quad Artera DAC	0x2622, 0x0002
Quad XU1 Audio	0x2622, 0x0001
Mission XU1 Audio	0x2622, 0x0010
Luxman XU1 Audio	0x2622, 0x0020
Wharfedale XU1 Audio	0x2622, 0x0030
Audiolab XU1 Audio	0x2622, 0x0040
Ekco XU1 Audio	0x2622, 0x0050
IAG XU1 Audio	0x2622, 0x0060
Mission Audio	0x2622, 0x0011
Luxman Audio	0x2622, 0x0021
Wharfedale Audio	0x2622, 0x0031
Ekco Audio	0x2622, 0x0051
IAG Audio	0x2622, 0x0061
Accuphase DC-950 / DP-560 / DC-37 / DP-430 / DAC-50	0x21ed, 0xd37a
Auralic Vega G2.1	0x1511, 0x0052
Marantz SA10S1	0x154e, 0x3008
ARCAM irDAC II	0x25c4
DA2 McIntosh	0x2afd, 0x000b
Aqua USB Audio 384	0x31c1
Using XMOS XU208 chipset	0x25d0, 0x0002
Auralic Sirius G2.1	0x1511, 0x0058
MCS Evolution DAC-2	0x16d0, 0x0e5
NuPrime Evolution DAC-2	0x16d0, 0x0e5
Accuphase DAC-60	0x21ed, 0xd75a

To check whether your DAC natively supports DSD playback in Eunhasu, please follow the steps below. Click the DAC information link at the bottom side of System config page.



Check the USB ID of the DAC that is connected to the Eunhasu device at DAC Information page.

```
**** List of PLAYBACK Hardware Devices ****
card 0: Audio [iFi (by AMR) HD USB Audio], device 0: USB Audio [USB Audio]
  Subdevices: 1/1
  Subdevice #0: subdevice #0

--------------------------------------------------------------------------------

Bus 004 Device 001: ID 1d6b:0001 Linux Foundation 1.1 root hub
Bus 002 Device 003: ID 20b1:3008 XMOS Ltd
Bus 002 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
Bus 001 Device 001: ID 1d6b:0001 Linux Foundation 1.1 root hub
Bus 003 Device 004: ID 0781:5583 SanDisk Corp.
Bus 003 Device 002: ID 05e3:0610 Genesys Logic, Inc. 4-port hub
Bus 003 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub

--------------------------------------------------------------------------------

 0 [Audio          ]: USB-Audio - iFi (by AMR) HD USB Audio
                      iFi (by AMR) iFi (by AMR) HD USB Audio at usb-1c1c000.usb-1, high speed

--------------------------------------------------------------------------------

iFi (by AMR) iFi (by AMR) HD USB Audio at usb-1c1c000.usb-1, high speed : USB Audio
```

If there is a matching USB ID in Supported Native DSD DAC list, it means it supports Native DSD playback.

If there is no matching USB ID in Supported Native DSD DAC list, please email us the request with the DAC information page. After checking the DAC information, we will make the Native DSD playback available on Eunhasu.

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