

# **CelWOS User Guide**

**(V4.2.9)**

**CelAudio (Beijing) Technology Inc.**

# CelAudio Software Overview

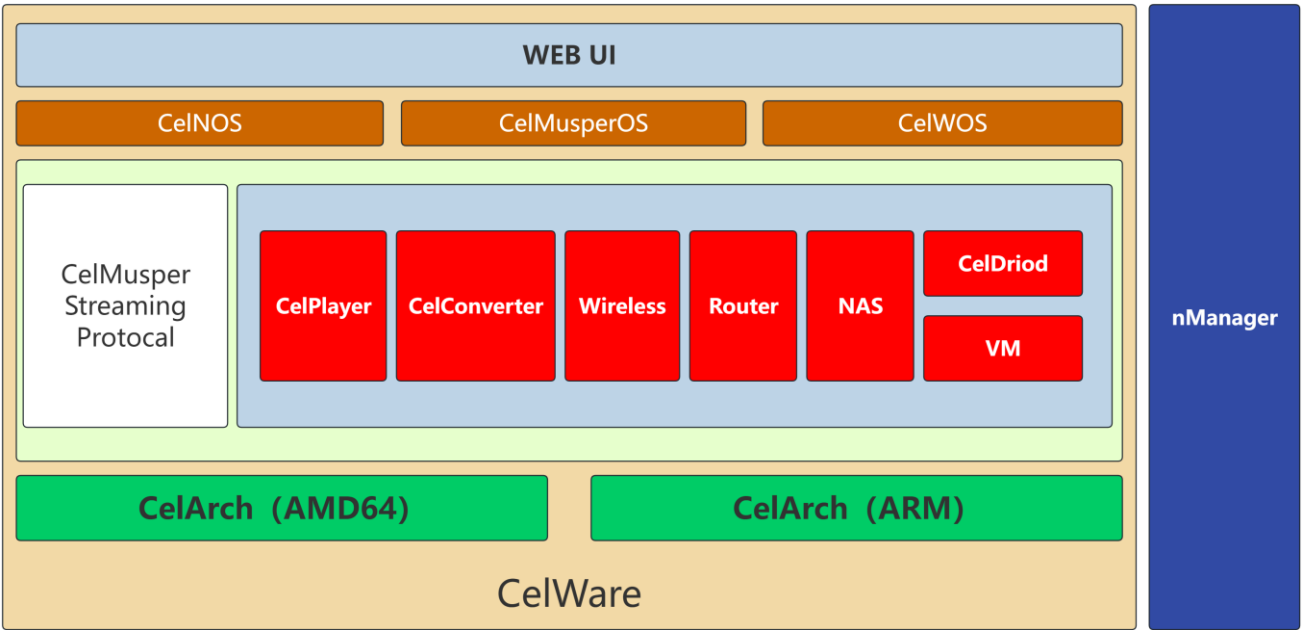
CelWare is a software suite developed by CelAudio (Beijing) Technology Inc. specifically for HiFi applications. It is built on the underlying CelArch Linux, which is a more lightweight Linux system derived from in-depth optimization of ArchLinux, specially designed for HiFi network and streaming playback. Inheriting the "Keep It Simple, Stupid" design philosophy of ArchLinux, the CelArch system is simple and concise, with a kernel deeply customized for music playback or HiFi network systems.

CelWare includes three branch systems: CelMusperOS, CelNOS, and CelWOS. All the above three operating systems can be managed by CelAudio's unified management App nManager, with a consistent operation interface style, which can greatly reduce the management complexity of streaming applications.

Currently, the wireless products available on the market for home and industrial use are not designed for HiFi applications. Their software mainly caters to internet applications or industrial applications. The configurations are either too simple or too complex, and they do not take into account the usage scenarios of HiFi networks. Based on this situation,all wireless HiFi devices launched by CelAudio, including NA3, NA3S, and subsequent products, adopt the self-developed CelWOS system.

The CelWOS system is a branch of CelWare music operating system framework, specially designed for HiFi wireless network devices. It is used to simplify configuration complexity, highly align with HiFi applications, and provide functions for HiFi applications that do not exist in other wireless or network operating systems, so as to meet the needs of higher sound quality.

It should be noted that compared with CelMusperOS used in NS series products, the CelWOS system focuses more on network stability and signal transmission quality. Therefore, although CelWOS provides some music bridge functions to meet the needs of some customers for setting up bedside or other secondary playback areas, its sound playback level is significantly different from that of CelMusperOS.



## **Precautions for CelWOS**

After the system is restarted upon completion of configuration or after switching modes, terminals such as mobile phones may connect to other previously saved WiFi networks. This will make subsequent operations impossible.

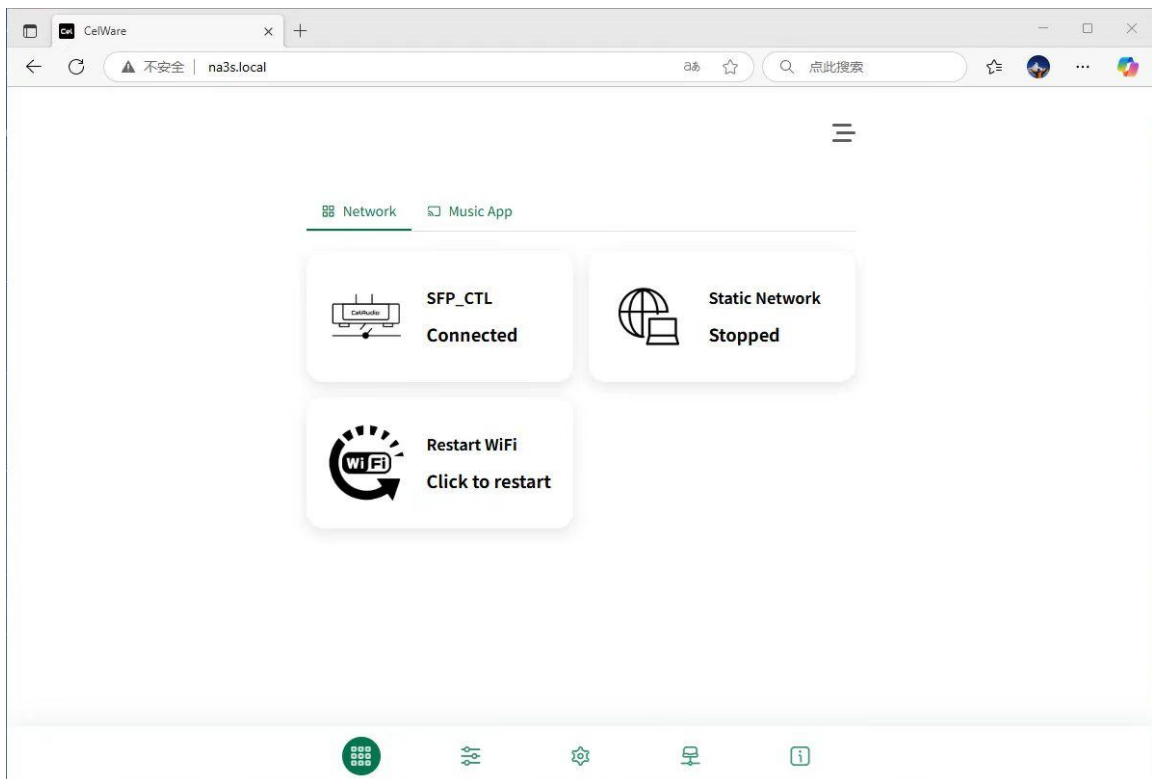
When connection failure occurs, please be sure to check the correctness of the currently connected WiFi network.

If possible, it is recommended to use an idle mobile phone or tablet and only configure it to connect to the CelWOS WiFi network to avoid the above situation.

## Access the CelWOS Configuration Page

**PC :** For Windows, macOS, and Linux desktop systems, use a browser to access <http://<hostname>.local>. For example, in the default factory setting of NA3S, please enter <http://na3s.local> to open the CelWOS configuration page.

If the hostname has been changed, enter the modified hostname. For instance, if the hostname is set to "audioroom", access <http://audioroom.local>.



**Android:** Open a browser and visit the CelAudio official website or directly access the URL: <http://www.celaudio.com/download/nManager/com.nmanger.app2025041401.apk> to download nManager. After installation, you can discover and access CelWOS devices.

**iOS :** Search for and download nManager from the APP Store.


**Note:** As of the release of CelWOS 4.2.4, nManager has not yet passed the APP Store review. Please follow the CelAudio official website for updates on its availability.


# Usage Guide for nManager

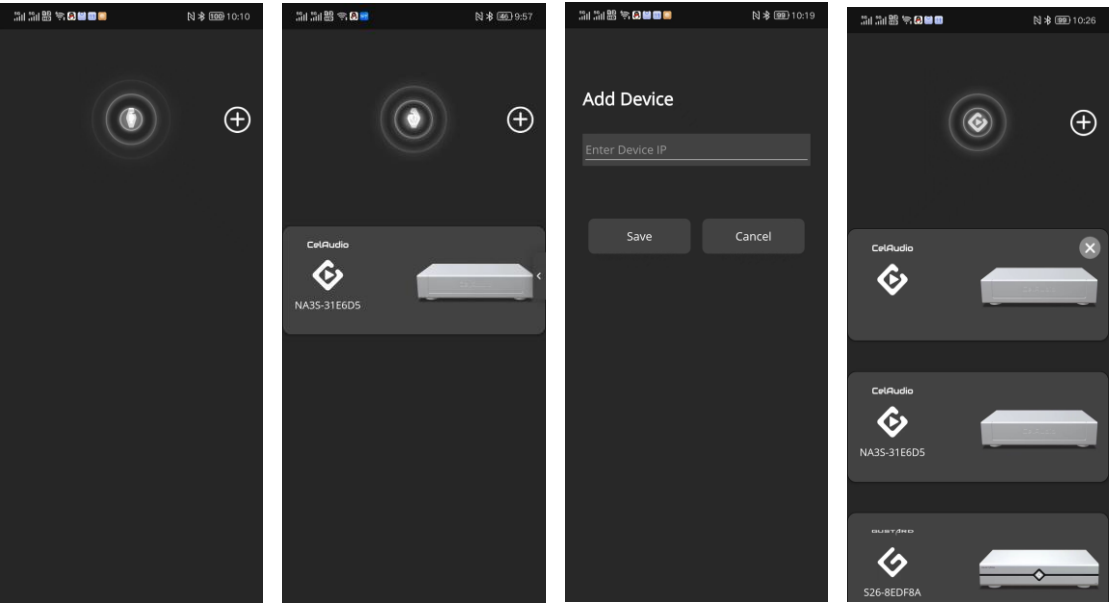


nManager

After installing nManager, an APP icon will appear on the desktop. Click the icon to open the nManager, then nManager will start searching for all CelWare devices in the network, including those using CelWOS. The search results will be displayed in the search bar. Click on a specific device to access its configuration and usage interface.

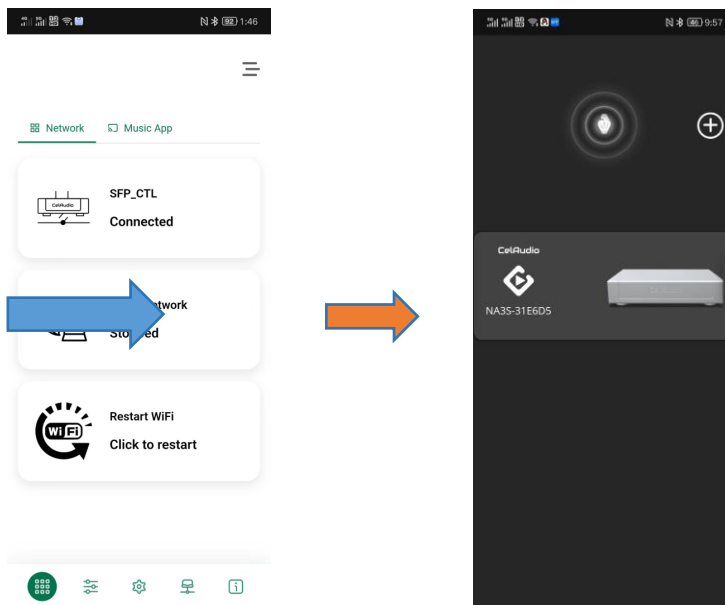
Click the icon  on the upper right side of the screen to open the manual device addition page. Enter the IP address and click "Save" to manually add a CelWare device.

Manually added devices can be deleted by clicking the icon  in the upper right corner of the device box.



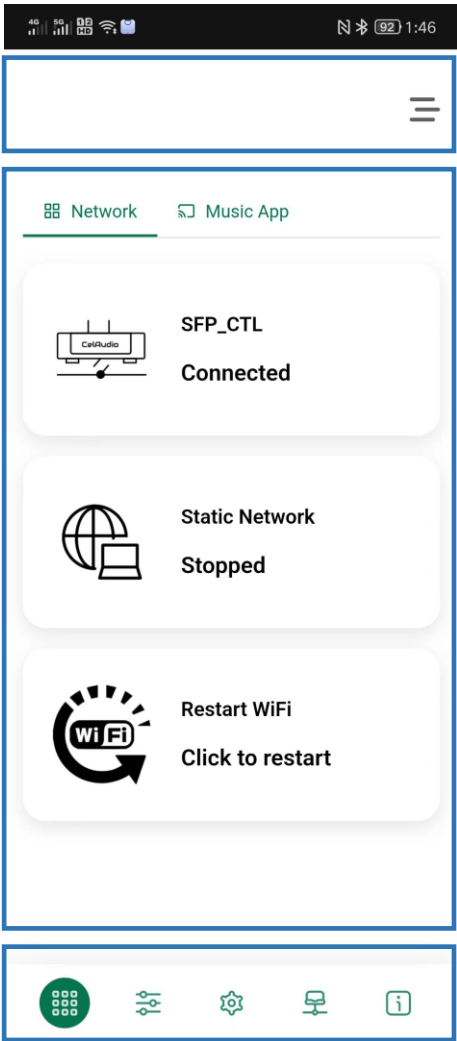
## Usage Guide for nManager

On any page, swipe the screen to the right from outside the screen to return to the device discovery page, allowing for quick switching between devices to be managed.



# CelWOS Configuration Page

After clicking on the device box, you will enter the CelWOS configuration page. The configuration page consists of three parts: the top menu bar, the function area, and the bottom shortcut menu.




The top menu bar

The function area

The bottom shortcut menu

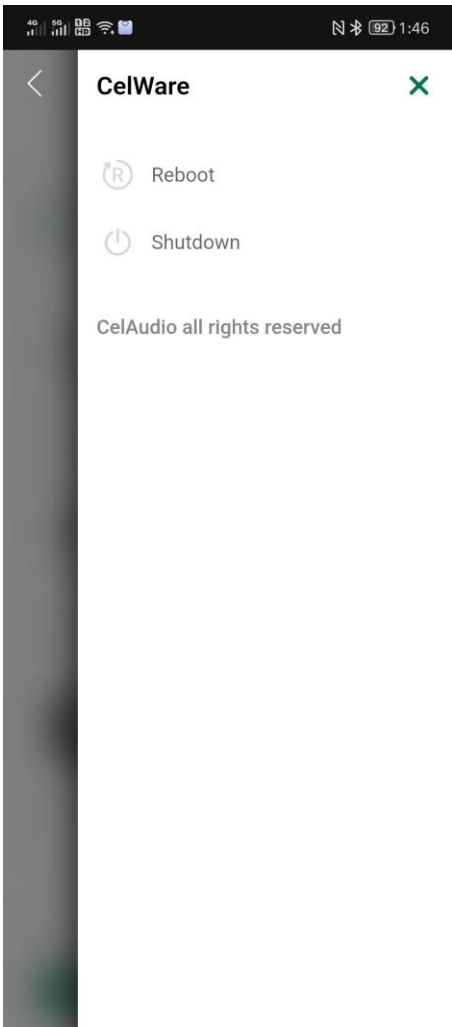
# The Top Menu Bar

The top menu bar contains only one shortcut icon  . Clicking this icon will display the system restart or shutdown menu, which is used to reboot or shutdown the hardware.

It is recommended to use the top menu bar to shutdown the hardware under normal circumstances.



The top menu bar

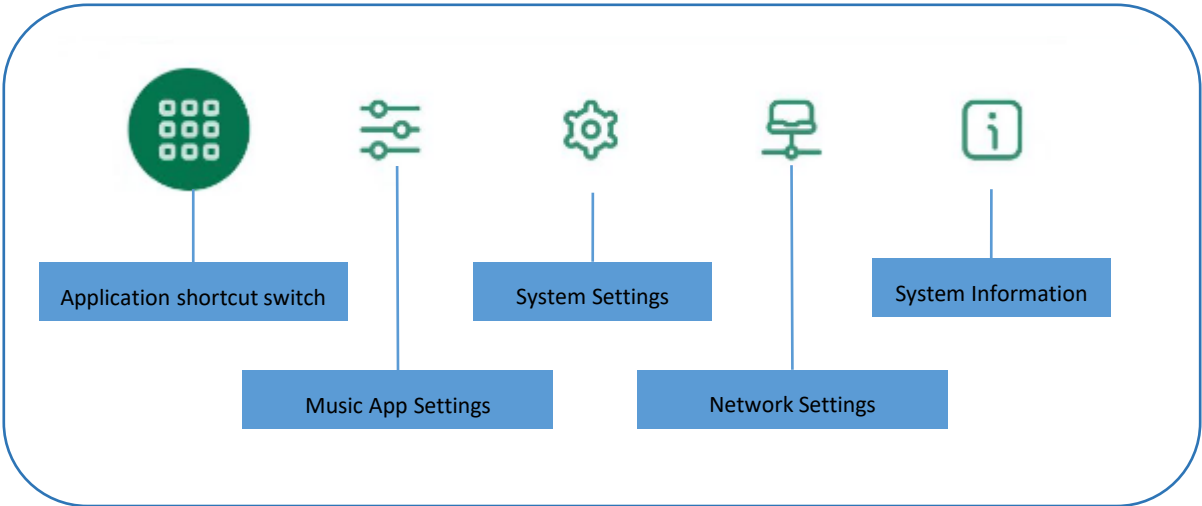


Reboot or Shutdown




# The Bottom Shortcut Menu

The bottom shortcut menu has five icons corresponding to different menu items. The background of the selected menu is green, and the icon is displayed in white. The unselected menus have a white background and green icons. The five icons correspond to the following functions respectively:




⌵ Network


📶 Music App



SFP\_CTL  
Connected



Static Network  
Stopped

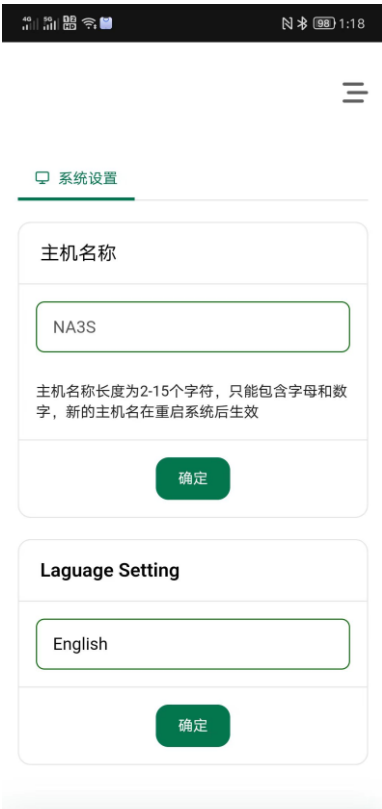


Restart WiFi  
Click to restart

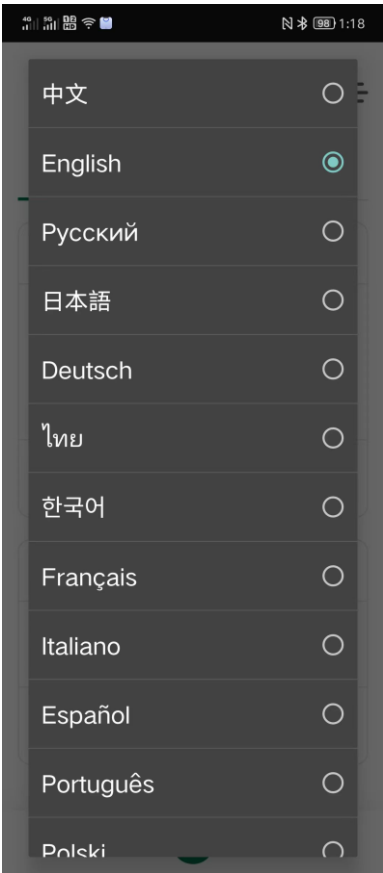


The bottom shortcut menu

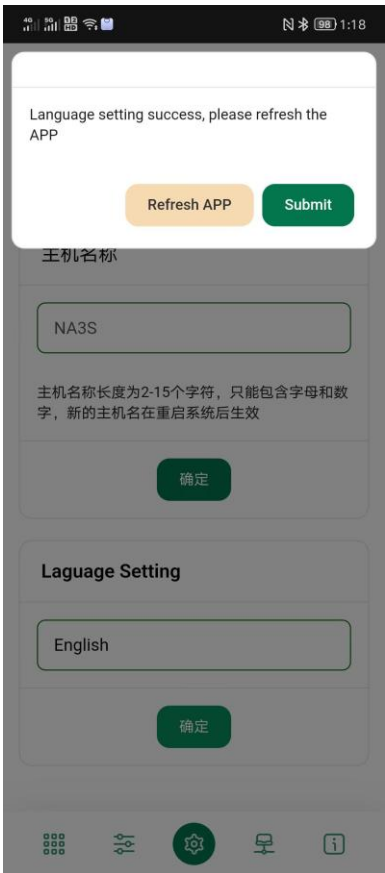
# Change Language



Enter system setting page



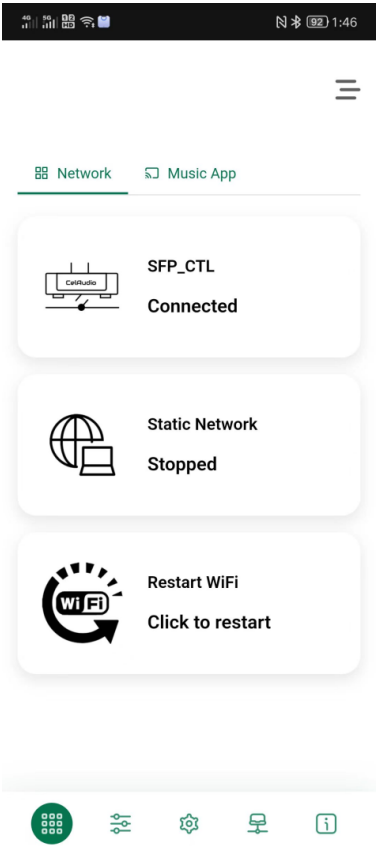
Select language



Refresh APP

# Function Shortcut Switch — Network

The functions of the network shortcut switch are as follows:



**SFP\_CTL switch**

**Static IP network switch**

**Restart WiFi network**

**SFP\_CTL Switch:** The function of this switch varies in different networking modes. For details, please refer to the product hardware user guide. Some hardware products, such as NA3, do not have the SFP\_CTL function, so this item will not be displayed on the interface.

**Note 1:** In AP mode, if the SFP\_CTL switch is set to disconnect from the home network, the IP address of NA3S will change when the switch is turned on and off. Therefore, after clicking the switch, you need to reload the web page or rediscover the device from the nManager homepage.

**Static IP Network Switch:** This switch is only displayed in AP mode. When set to AP mode, CelWOS starts in the dynamic IP address acquisition mode. After startup, clicking this switch allows you to manually switch to a static IP address.

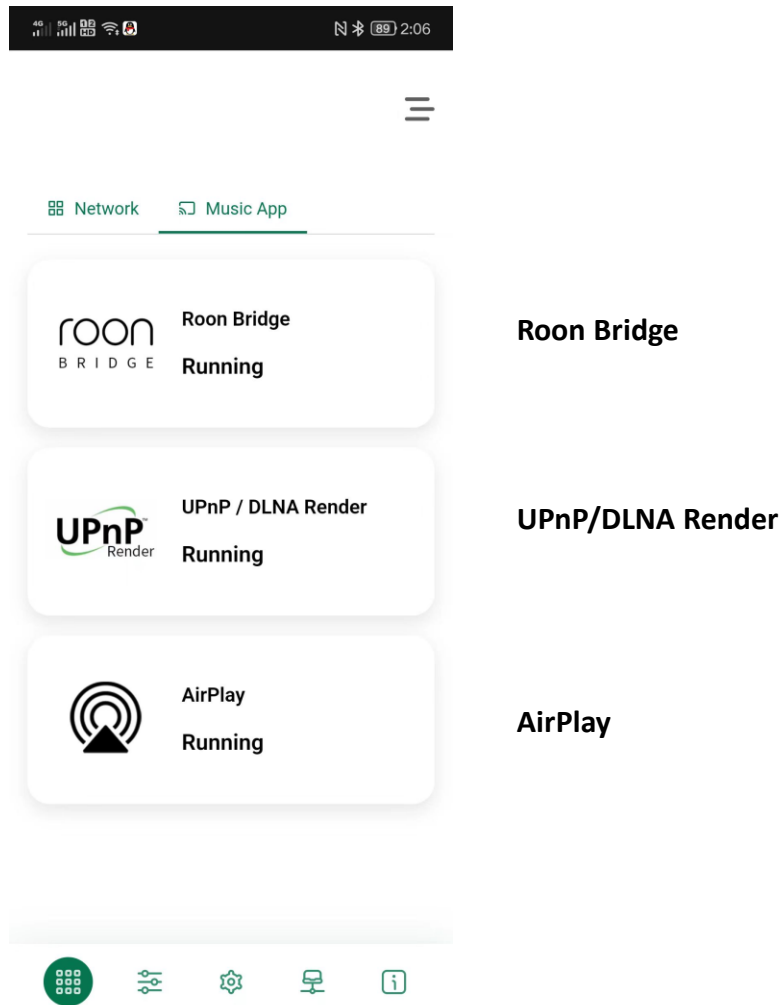
**Note 1:** You need to complete the static IP address setting in AP mode first.

**Note 2:** The static IP address status cannot be switched when the SFP\_CTL in the disconnected state.

**Restart WiFi:** The stability of the WiFi is affected by multiple factors. If the performance of the WiFi suddenly degrades, consider restarting the WiFi. The hardware will automatically reselect the working channel to avoid strong interference.

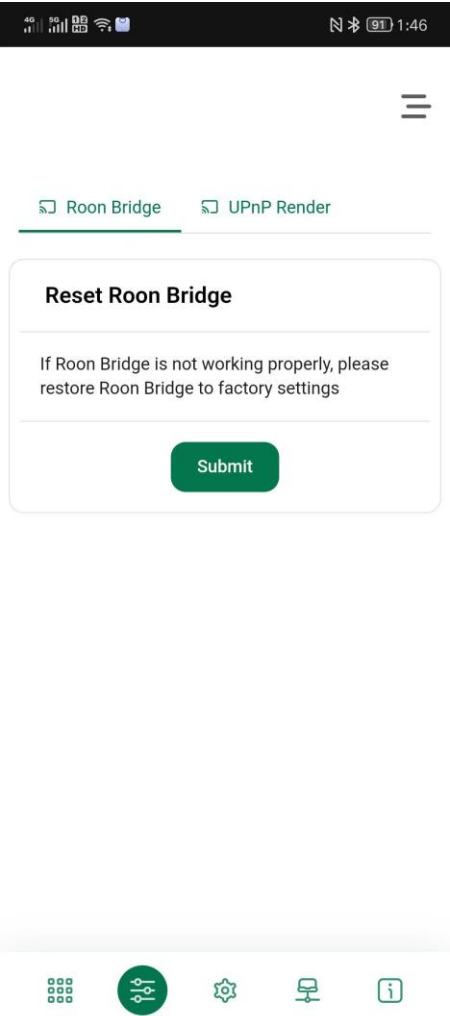
# Function Shortcut Switch — Music

The functions of the music shortcut switch are as follows: :



In the CelWOS system, Roon Bridge, UPnP/DLNA Render, and AirPlay music applications are supported. All music services are disabled by default. If you need to use a certain music application, you can click the switch to turn it on. It is recommended to turn on as few music applications as possible to avoid affecting network performance.

# Music Application Settings — Roon Bridge

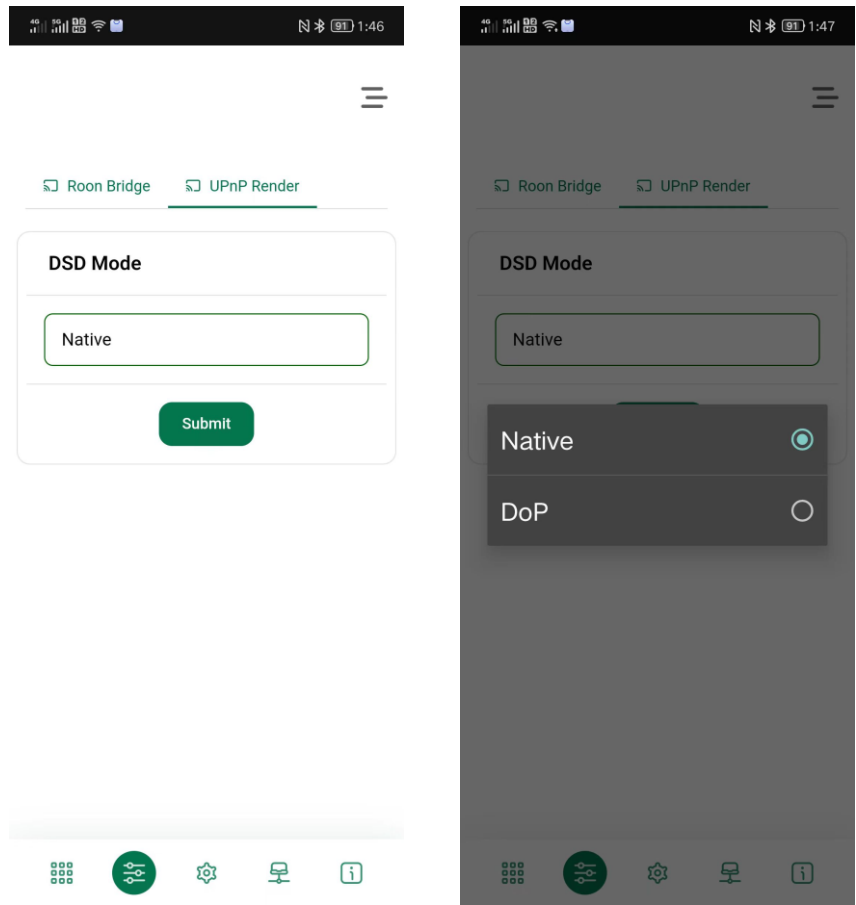


## Reset Roon Bridge

As Roon Bridge performs operations like automatic updates during its runtime, an unexpected shutdown caused by factors such as a sudden power failure during the automatic update process may render Roon Bridge unable to start. In such cases, you can restore Roon Bridge to its factory version using the reset button.

# Music Application Settings — UPnP Render

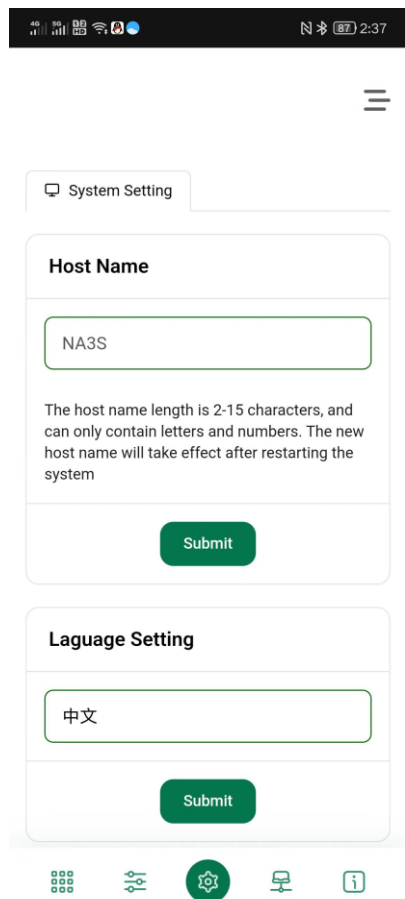
Set the DAC's DSD support capability.



CelWOS devices support the UPnP Render function, which allows streaming music to be played on external DAC. In this case, additional settings for the DAC's DSD support capability are required. The options include DSD Native and DoP, with DSD Native being the default.

**Note:** CelWOS does not support the DSD to PCM conversion function.

# System Settings



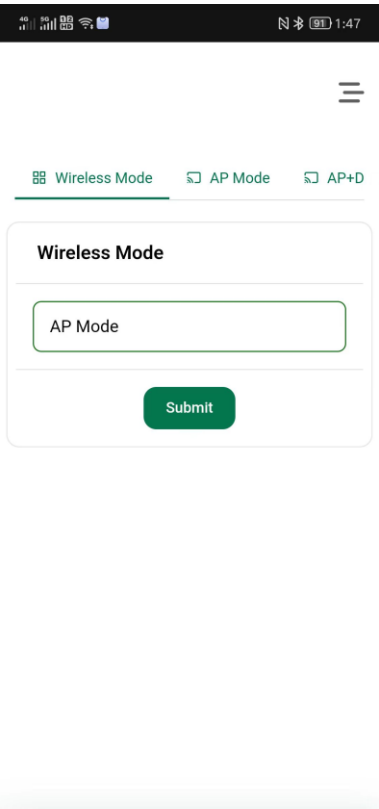
Host name

Language

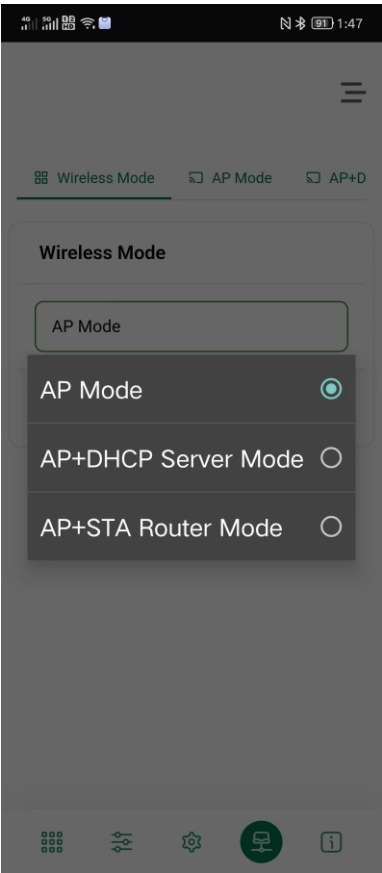
**Host Name Setting:** The default host name of CelWOS at the factory is the device model. If there are multiple devices of the same model in the network, the host name needs to be reset. Note that the change of the host name will take effect after restarting the system.

**Language Setting:** CelWOS supports multiple languages, with Chinese as the default language at the factory, and can be set to other languages. Note that the language setting will take effect after refreshing the configuration.

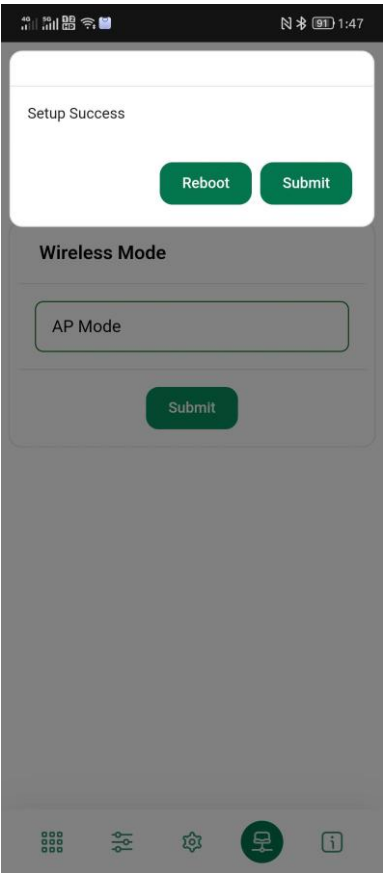
## Network Settings — Wireless Network Mode



Current working mode



Set working mode



Restart the system

**Note 1:** Choose the AP+STA router mode, you must first complete the necessary configuration for the STA part.

**Note 2:** After making your selection, be sure to restart the system for the changes to take effect. When switching between different wireless modes, the IP address of NA3/NA3S may change after restarting the system. Please search for the IP address again to log in, or rediscover the device in nManager. If the wireless AP settings differ between modes, ensure you connect to the correct WLAN.



# Network Settings — AP Mode



ireless Mode   AP Mode   AP+DHCP Ser

## Choose AP mode

### Wireless AP Setting

#### SSID

CelAudio

SSID length is 1-32 characters, only numbers, letters and hyphens are allowed

#### Password

Please input password

Password length is 8-63 characters, only numbers, letters and special characters "@%?-+" are allowed

Submit

### SSID setting

### Password setting

### Static Network Setting

#### IP Address

192.168.50.95

#### Subnet Mask

255.255.255.0

#### Gateway

192.168.50.1

#### DNS

192.168.50.1

Submit

### Set static IP address (optional)

**Note 1:** This setting will not change the actual wireless working mode of CelWOS.

**Note 2:** After filling in the wireless network information, click "Confirm" and wait for the setting result. If the setting is successful, the device needs to be restarted to take effect.

**Note 3:** SSID requirements: 1-32 characters, which can only include letters, numbers, and the hyphen "-". The hyphen "-" cannot be used as the first character.

**Note 4:** Password requirements: 8-64 characters, which can only include letters, numbers, and the special characters within the quotation marks "@%?-+".

## Network Settings — AP Mode(continued)

SFP\_CTL Mode

Disconnect Home Network

\* Please read the user manual carefully to understand the function of the SFP\_CTL interface in pure AP mode

Submit

Set SFP\_CTL



**Note 1:** In AP mode, the SFP\_CTL can be connected in multiple ways, and the hardware connection must be consistent with the software configuration. Otherwise, it may cause abnormal network operation. For details on hardware connection, please refer to the specific hardware user guide. Devices that do not support the SFP\_CTL , such as NA3, will not display this configuration.

# Network Settings — AP + DHCP Server Mode

4G 5G 91 1:48

Mode 

AP+DHCP Server Mode

AP+ST

Wireless AP Setting

SSID

CelAudio

SSID length is 1-32 characters, only numbers, letters and hyphens are allowed

Password

Please input password

Password length is 8-63 characters, only numbers, letters and special characters "@%?-+" are allowed

Submit

## Choose AP+DHCP Server Mode

## SSID setting

## Password setting

- Note 1:** This setting will not change the actual wireless working mode of CelWOS.
- Note 2:** After filling in the wireless network information, click "Submit" and wait for the setting result. If the setting is successful, the device needs to be restarted to take effect.
- Note 3:** SSID requirements: 1-32 characters, which can only include letters, numbers, and the hyphen "-". The hyphen "-" cannot be used as the first character.
- Note 4:** Password requirements: 8-64 characters, which can only include letters, numbers, and the special characters within the quotation marks "@%?-+".
- Note 5:** This mode cannot connect to other networks; otherwise, it may cause IP address confusion and prevent normal operation.
- Note 6:** For AP+DHCP server mode, please manually add 10.1.10.1 in nManager to manage NA3/NA3S.

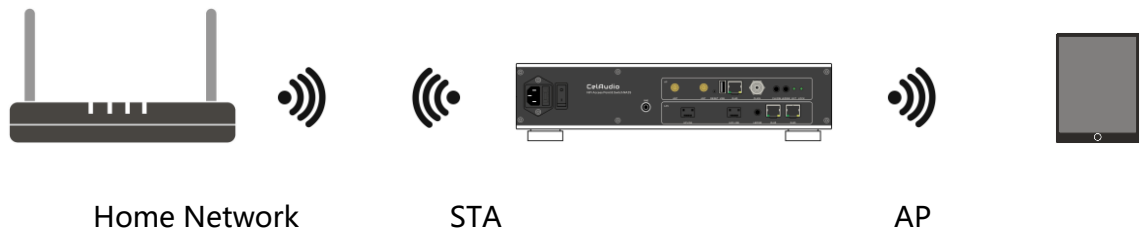
Network Settings — AP + STA Router Mode

Naming Conventions:

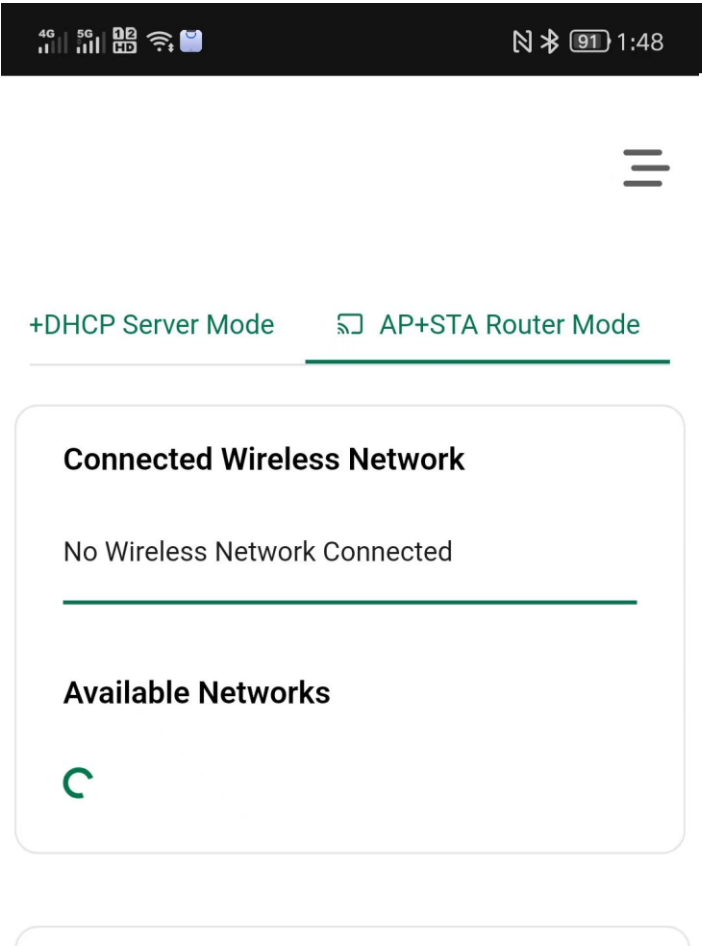
**Home Network:** The WiFi network emitted by a home router is referred to as a home network.

**STA:** The sub-interface of a device running CelWOS that is used to connect to the home router's WiFi network is called STA.

**AP:** The sub-interface of a device running CelWOS that is used to transmit wireless signals for other devices to connect to is called AP.



Step1: Scan nearby WLANs



Choose AP+STA router mode

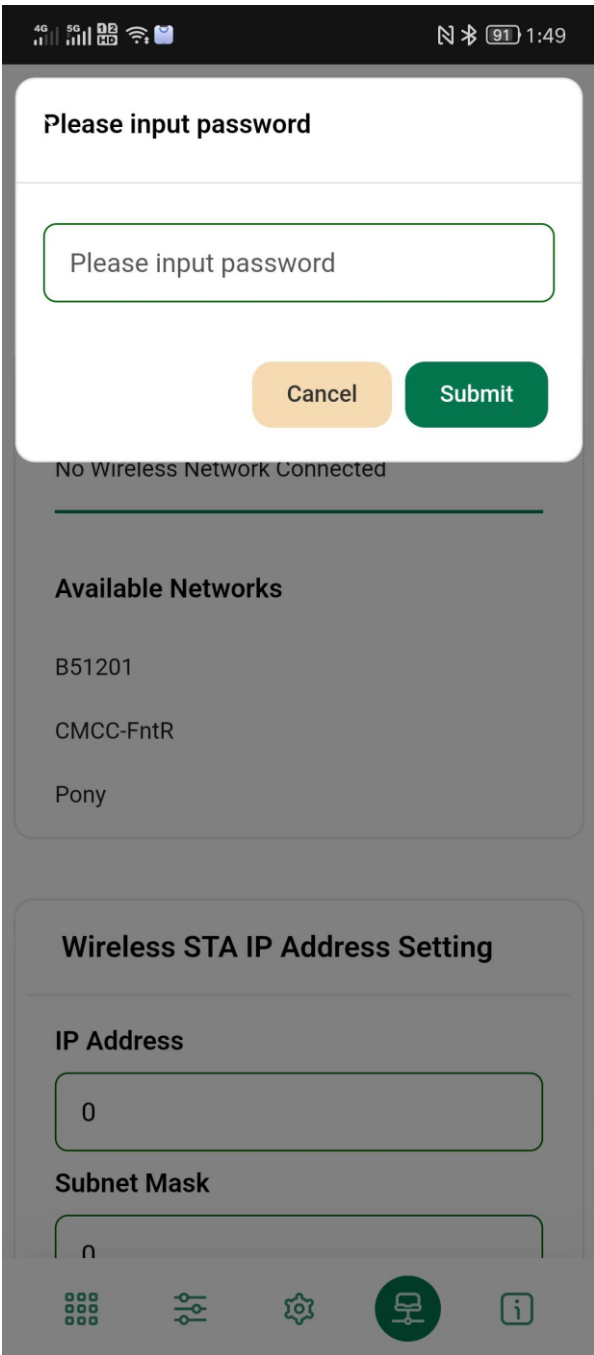
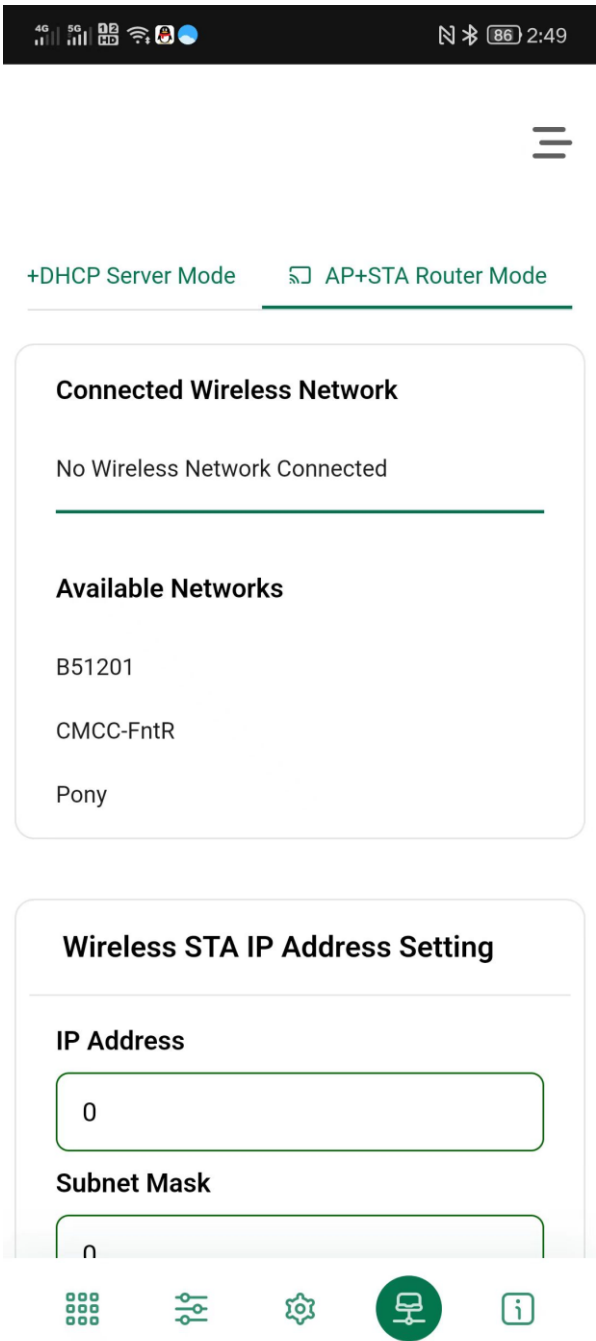
Currently connected WLAN

Scanning nearby WLANs...

**Note 1:** No action is required in this step; simply wait for nearby WLANs to be scanned.

# Network Settings — AP + STA Router Mode(continued)

## Step2: Connect to a nearby WLAN



The nearby WLANs found through scanning will be displayed line by line. Click the name of the WLAN you need to connect to, enter the password in the pop-up dialog box, and click “Submit”. Wait for the system to connect to the WLAN. If the connection fails, please repeat this step.

**Note 1:** This setting will not change the actual wireless working mode of CelWOS.

# Network Settings — AP + STA Router Mode(continued)

## Step3: Set STA and AP information

Wireless STA IP Address Setting

IP Address

0

Subnet Mask

0

Gateway

0

DNS

0

Submit

Wireless AP Setting

SSID

CelAudio

SSID length is 1-32 characters, only numbers, letters and hyphens are allowed

Password

Please input password

Password length is 8-63 characters, only numbers, letters and special characters "@%?-+\*" are allowed

Submit

Wireless AP IP Address Setting

IP Address

10.1.10.1

Subnet Mask

255.255.255.0

Submit

STA static IP setting: In AP router mode, the STA address must be configured using the static IP method, and this address should be in the same IP address segment as the connected WiFi.

AP SSID

AP Password

**AP IP address:** The default IP address is configured as 10.1.10.1, and the subnet mask is configured as 255.255.255.0. It is not recommended to modify this configuration unless the IP network segment conflicts with the STA and the IP address segment of the WLAN accessed by the STA cannot be changed.

**Note 1:** This setting will not change the actual wireless working mode of CelWOS.

**Note 2:** All options for setting the STA static IP address are mandatory. After filling in all the information, click “Submit” and wait for the setting result. If the setting is successful, the device needs to be restarted to take effect. Setting the STA IP address and connecting the STA to a nearby WLAN are necessary conditions for using the AP+STA router mode.

**Note 3:** SSID requirements: 1-32 characters, which can only include letters, numbers, and the hyphen "-". The hyphen "-" cannot be used as the first character.

**Note 4:** Password requirements: 8-64 characters, which can only include letters, numbers, and the special characters within the quotation marks "@%?-+\*".

# System Information



System Infomation

Model Name

NA3S

Host Name

NA3S

**Product model**

**Host name, which is the same as the product model by default**

Firmware Version

CelWOS 4.2.9 ( build 1983 )

Check Update

**CelWOS Version**

**Check for software updates**

Playback Infomation

USB DAC

Current Playback Application

None

**DACs connected to the CelWOS device**

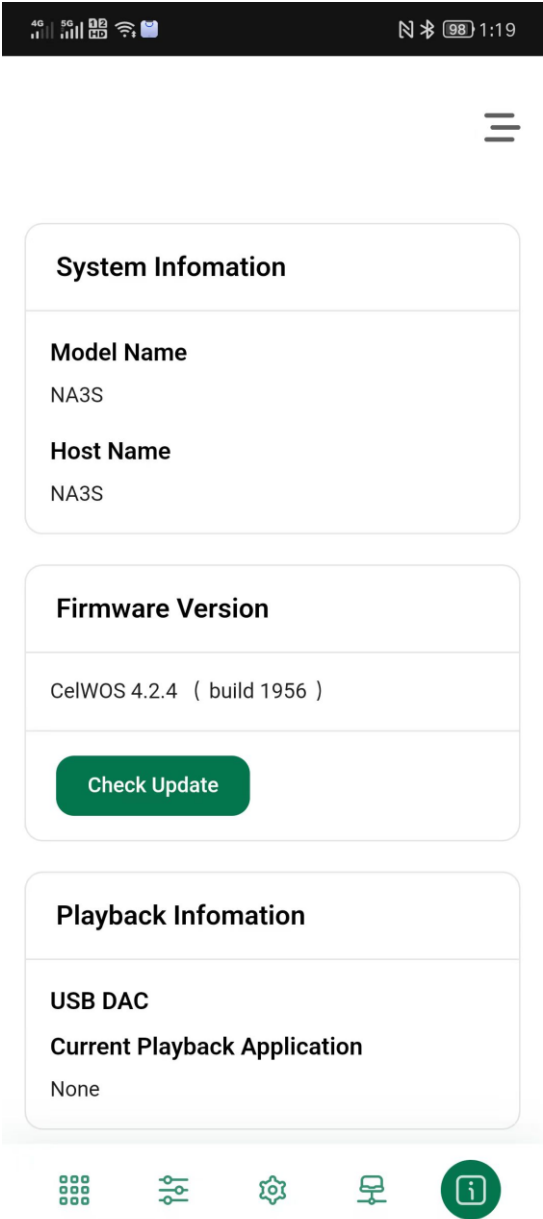
**Currently playing application**



CelWOS can support most mainstream DACs. If playback fails, please check whether the DAC is displayed here. If it is not displayed, ensure that the USB cable is properly plugged in and that the DAC is set to the USB input position.

# System Update

Step1: Check for software updates

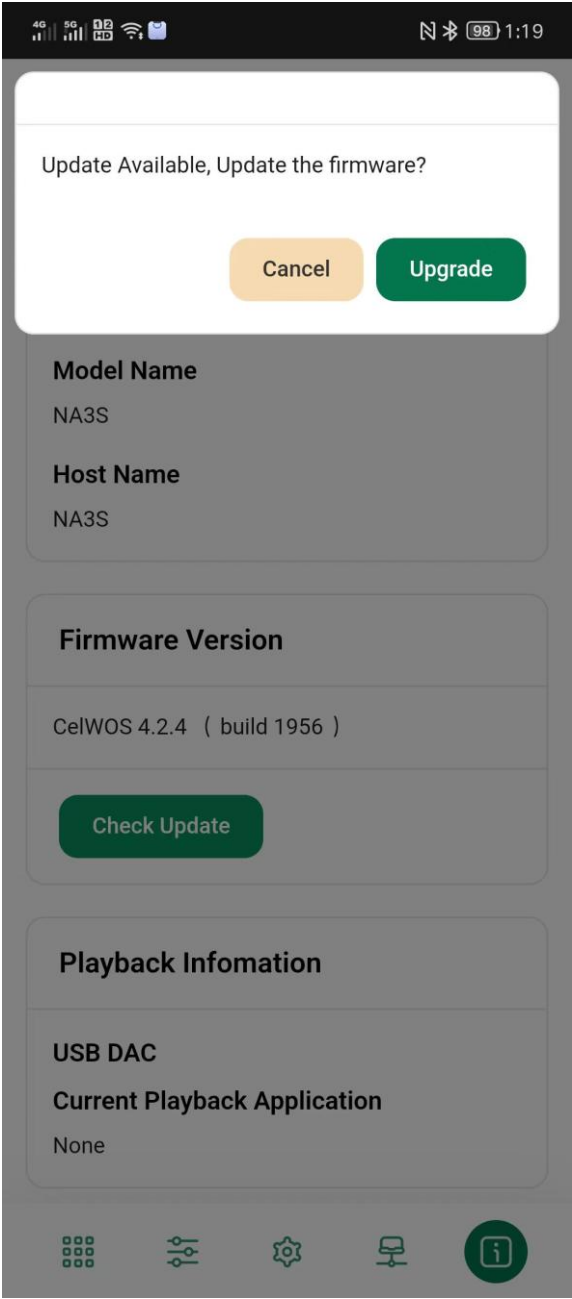
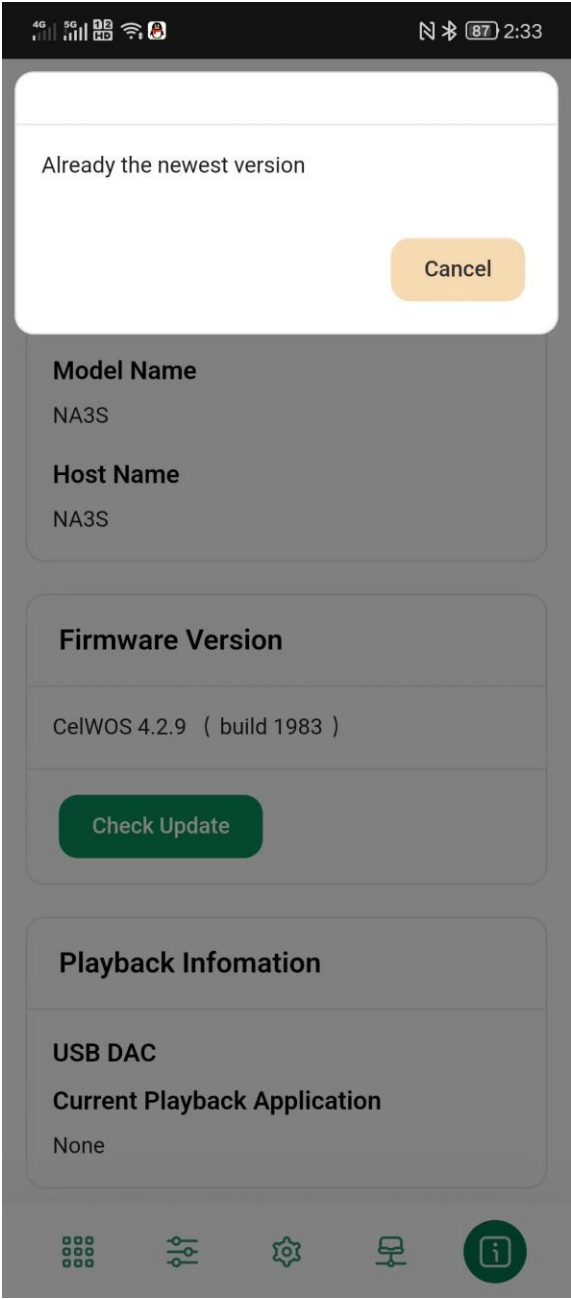


Click "Check Update" to confirm if there is a new software version



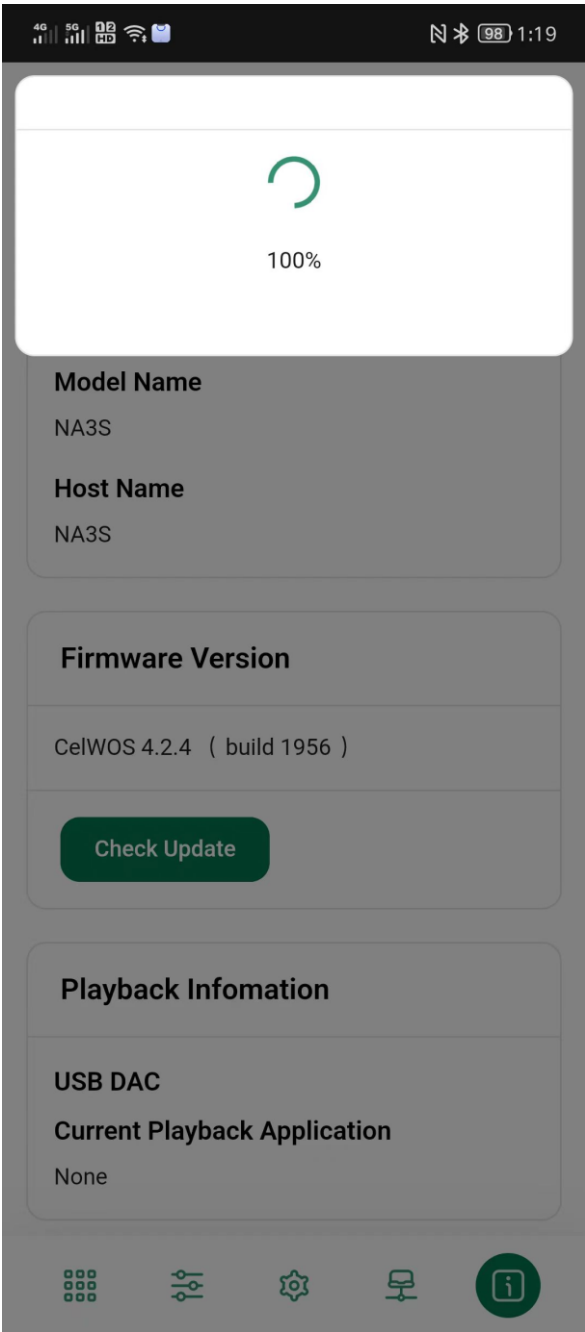
# System Update (continued)

**Step 2:** Confirm whether there is an upgrade version. If there is an upgrade version, click the “Upgrade” button to proceed with the upgrade; click the “Cancel” button to abandon the upgrade.



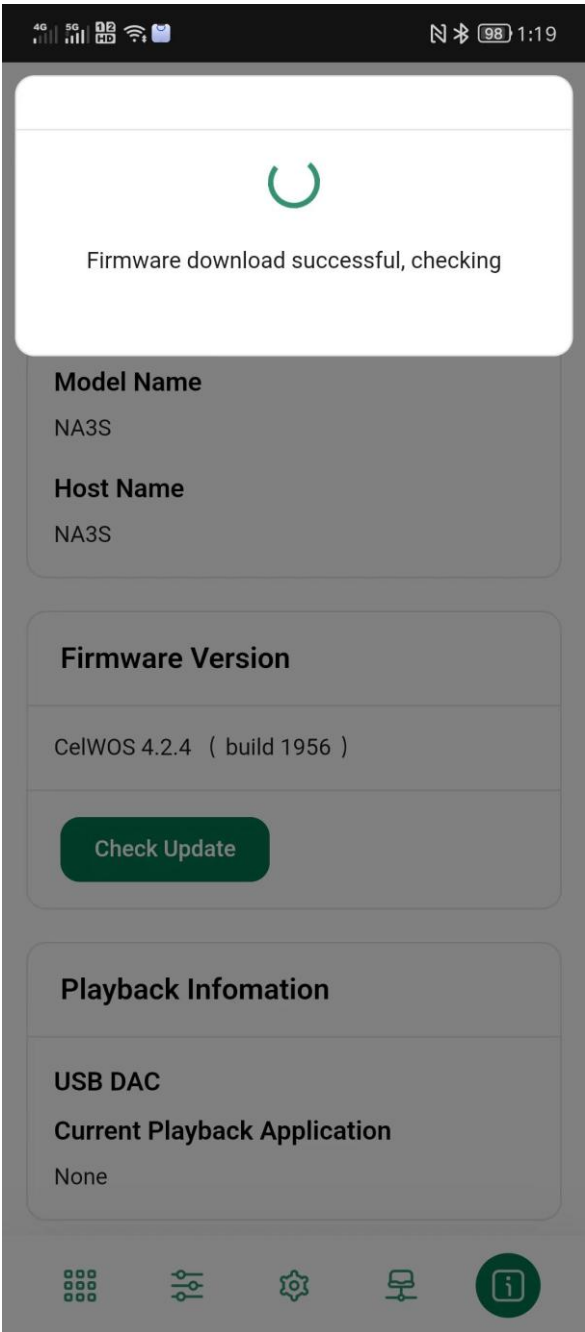
# System Update (continued)

**Step 3:** Wait for the download of the upgrade firmware to complete. No action is required in this step.



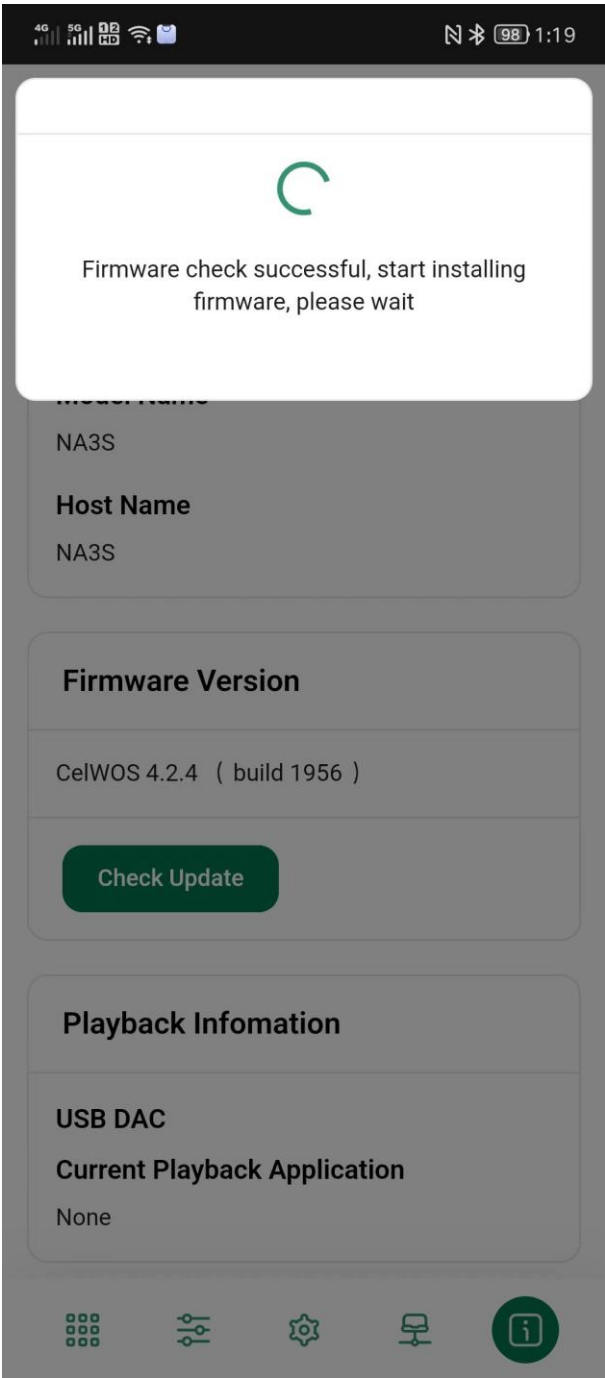
# System Update (continued)

**Step 4:** Wait for the verification of the integrity of the downloaded firmware to complete. No action is required in this step.



# System Update (continued)

**Step 5:** If the verification is successful, wait for the installation to complete. If the verification fails, a verification failure dialog box will pop up. Click "Cancel" and restart the upgrade process from Step 1.



# System Update (continued)

**Step 6:** After the firmware upgrade is successful, please click "Reboot" and then "Submit" in sequence. The system will restart automatically.

