VC31 & WMT-H28 / WMT-C28

3 Input 1 Output
Video Conferencing Switch

USER MANUAL

Table of Contents

1 PRECAUTIONS

1.1 Important Remark

WARNING: SHOCK HAZARD - DO NOT OPEN

AVIS: RISQUE DE CHOC ÉLECTRIQUE - NE PAS OUVRIR

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING (If applicable): The terminals marked with symbol of “ ” may be of sufficient magnitude to constitute a risk of electric shock. The external wiring connected to the terminals requires installation by an instructed person or the use of ready-made leads or cords.

WARNING: To prevent fire or shock hazard, do not expose this equipment to rain or moisture.

WARNING: A device with Class I construction shall be connected to a mains socket- outlet with a protective earthing connection.

WARNING: This product must not be discarded, under any circumstance, as unsorted urban waste. Take to the nearest electrical and electronic waste treatment centre.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

1.2 Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this device near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other device (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at the plugs, convenience receptacles, and at the point where they exit from the device.
11. Only use attachments/accessories specified by the manufacturer.
12. Unplug the device during lightening sorts or when unused for long periods of time.
13. Refer all servicing to qualified personnel. Servicing is required when the device has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the device, the device has been exposed to rain or moisture, does not operate normally, or has been dropped.
14. Disconnecting from mains: When switching off the POWER switch, all the functions and light indicators of the unit will be stopped, but fully disconnecting the device from mains is done by unplugging the power cable from the mains input socket. For this reason, it always shall remain easily accessible.
15. Equipment is connected to a socket-outlet with earthing connection by means of a power cord.
16. The marking information is located at the bottom of the unit.
17. The device shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on device

1.3 Cleaning

Clean the unit with a soft, dry clean cloth or slightly wet with water and neutral liquid soap only, then dry it with a clean cloth. Be careful that water never gets into the unit through any hole. Never use alcohol, benzine, solvents or abrasive substances to clean this unit.

Grastron Technology Co.,Ltd. accepts no liability for any damage that may be caused to people, animal, or objects due to failure to comply with the warnings above.

Thank you for choosing our device VC31/WMT-H28 /WMT-C28 Wireless Conferencing and Presentation Switcher ! We appreciate your trust.

It is VERY IMPORTANT to carefully read this manual and to fully understand its contents before any connection in order to maximize your use and get the best performance from this equipment.

To ensure optimal operation of this device, we strongly recommend that its maintenance be carried out by our authorised Technical Services.

2. Packing Contents

- VC31
- Antenna(3units).Not pre-mounted to avoid damages.
- Power Adaptor

3. Description and Features

The VC31 is a high-performance 3x1 BYOM (Bring Your Own Meeting) Presentation Switcher designed to simplify and enhance your meeting or presentation experience. This device supports both HDMI and Type C wired inputs with resolutions up to 4K60 4:4:4, ensuring high-quality video output. It also features wireless presentation capabilities via Miracast, Airplay, Chrome Cast, and optional Wireless Dongles, making it suitable for various applications. The VC31 provides dynamic or manual USB host switching, split screen presentation in wireless mode, extensive EDID and HDCP management, audio de-embedding, and a Web-UI for easy configuration and management. Additionally, it supports 1G Ethernet to USB Host,touch display,and reverse control of connected PCs, making it a versatile solution for modern presentation needs. Its fan-less design and easy installation options make it ideal for meeting rooms, educational settings, and collaborative areas.

3.1 Main Features

• 3x1 BYOM Presentation Switcher.

• HDMI and USB-C wired inputs up to 4K60 4:4:4 resolution

• Dynamic or manual USB host switching for wired sources in conferencing applications that utilize room USB peripherals

• Wireless presentation via Miracast, Airplay, Chrome Cast, App, and/or optional Dongles

• Enable wireless BYOM with both Windows PC and Macbook

• Supports split screen presentation in wireless mode

• Extensive EDID and HDCP management

• Secure AES-256Bit + RSA-1024Bit encrypted wireless transmission

• Audio de-embedding to balanced analog output

• Web-UI for configuration and management3x1 BYOM switcher with wireless presentation

• Open API for external control system

• Management and mass-deployment software

• 1G Ethernet to USB Host

• Touch display support

• Reverse control of connected PC via USB, Miracast, or Dongle from touch display or keyboard and mouse

• Built-in whiteboard and annotation for wireless presentation

• Easy installation beneath a table or desk with included mounting brackets

• User customizable welcome screen

• Fan-less design

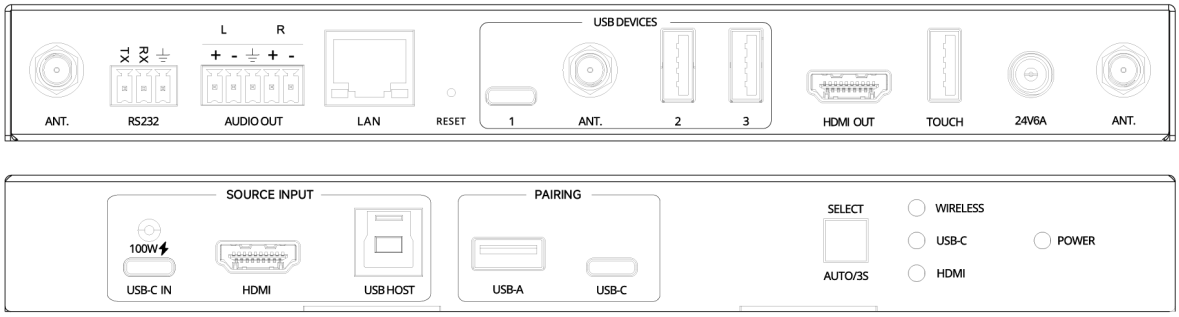
3.2 Optional Accessories

Wireless Dongle：WMT-H28 and WMT-C28，used for plug & play wireless mirroring from personal PC or mac desktop to the main screen.

WMT-H28 is a 4K HDMI wireless Dongle that allows participants to easily share content from a laptop or HDMI device to the VC31 base unit. Power is supplied by an auxiliary USB Type A connector. It is designed as a cross platform and plug and play device with no additional driver installation needed. This technology allows you to start a transmission and begin sharing content by just connecting the wireless Dongle into the source and pushing the surface. An LED indicator allows the user to know the status of the wireless Dongle at any time.

WMT-C28 is a 4K USB-C wireless Dongle that allows participants to easily share content from a laptop or USB-C video device to the VC31 base unit.Power is supplied directly through the same connector. It is designed as a cross platform and plug and play device with no additional driver installation needed. This technology allows you to start a transmission and begin sharing content by just connecting the wireless Dongle into the source and pushing the surface. An LED indicator allows the user to know the status of the wireless Dongle at any time.

3. 3 Mechanical Diagram



4 Install & Connect

4. 1 Wall Mount Install

The VC31 can be installed on the wall or flat surface. At the bottom of VC31, there are two mounting holes that can be fixed to a surface using flat screws.

Mounting screws are not included in the VC31 box. The type of screws depends on the type of wall (stone, wood, plasterboard, ...) you are mounting the Base Unit VC31 to. Make sure the head of the screw is not larger than the hole in the bottom of base unit VC31.

For optimal performance, install the VC31 close to the display and avoid obstacles between the VC31 and the Dongles.

Antenna Placement

The antennas should be oriented vertically, so perpendicular to the ceiling and parallel to the walls.

The antennas should be installed far enough (at least 50cm/1.6ft) from metallic surfaces to avoid unwanted reflections and far enough (at least 1m/3.3ft) from other radio equipment that operates in the same frequency range, e.g. other WiFi access points, cordless telephone,microwave ovens, etc. It is also best to install antennas at least 15 cm (6 inches) from concrete walls.

The most favourable situation is a direct line of sight between antennas and buttons. Any obstruction will cause the signal to follow a longer propagation path, which can result in performance degradation.

Due to the particular radio pattern of the dipole antennas, the antennas should not be placed just above potential positions of VC31 users. As a result, the advised position for the antennas is at the side of the meeting room.

4. 2 Front Panel

1. **USB-C IN:**Connect a USB-C source device supporting DP Alt mode for video.
2. **HDMI In：** Connect an HDMI source device for video input.
3. **USB HOST：** USB3.2 Gen 1 Type-B port for USB data from the HDMI source
4. **USB-A：** For pairing WMT-H28 and VC31
5. **USB-C:** For pairing WMT-C28 and VC31
6. **Channel switch button:** Used to manually switch the video signal input source display (wireless, USB-C, HDMI), the switching interval is 3s.
7. **Source LEDs：** Indicates current source selection by illuminating green.
8. **Power LED:**Indicates standby mode, illuminates red when in standby mode.

4.3 Rear Panel

1. **RS232:** 3-pin terminal block for control VC31 or 3 rd party devices
2. **AUDIO OUT**: 5-pin terminal block for balanced line audio output
3. **NETWORK：** RJ45 port for 10/100/1000 Base-T network connection
4. **RESET**: Factory reset button, press at least 2s reset unit
5. **USB-C**:(1)USB3.2 Gen 1 Type-c port for connecting USB-C devices
6. **USB-A：** (2)USB 3.2 Gen 1 Type-A ports for USB devices
7. **USB-A：** (2)USB 3.2 Gen 1 Type-A ports for USB devices

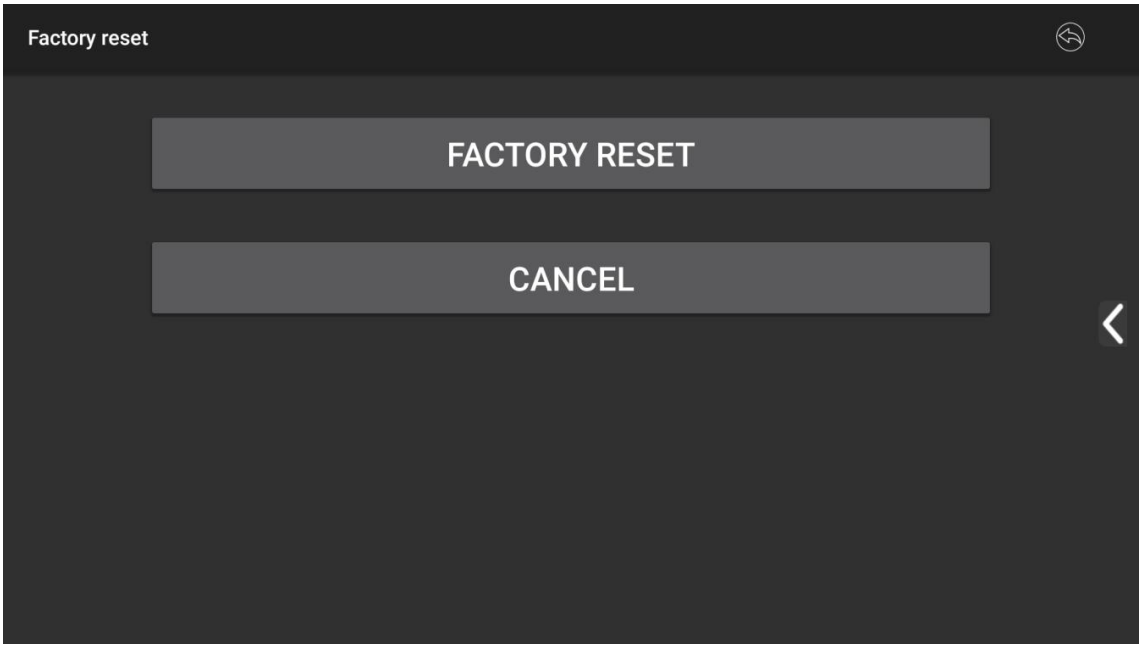
8. **HDMI Out:** HDMI2.0 Output
9. **USB-A：** USB2.0 port for touch screen connection.

10. **Power：** DC connector for 24V power supply.
11. **ANT**:(3) Antennas

Restoring factory settings using the rear panel buttons

By using this function, all previous settings will be lost and you will need to set them up again.

When the VC31 is powered on and the home screen is displayed, press the reset button on the rear panel of the VC31. Use a pointed object (such as an unbent paper clip) to press this button for at least 2 seconds until the "Factory Reset" page is displayed, as shown below



VC31 will reboot to default configuration after 3 seconds

If the VC31 HDMI output is not connected to a display and no image is available, press and hold the reset button until the red LED on the top surface of the VC31 illuminates to perform the reset process.

4.4 Power Connection

- **Local power supply**

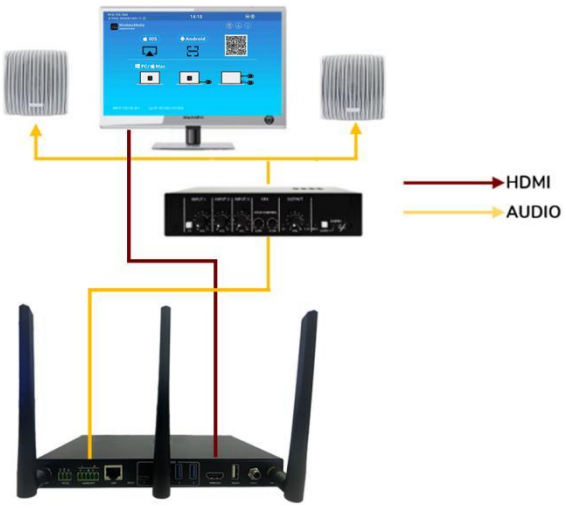
  Plug the power connector to the power adapter to the power input connector of the Base Unit VC31. Connect the power cable plug into the wall outlet.

4.5 Video Connection

Connect the HDMI Output of VC31 to a 4K or Full-HD display by a HDMI cable. After starting up, the system displays the home page, as shown below

4.6 Audio Connection

Connect an audio cable with Phoenix Terminal connector into the audio of the VC31. Connect the other side to the meeting room's sound system.



WMT-H28 and WMT-C28 can transmit audio to the VC31 base unit when the audio output of the source device is selected.

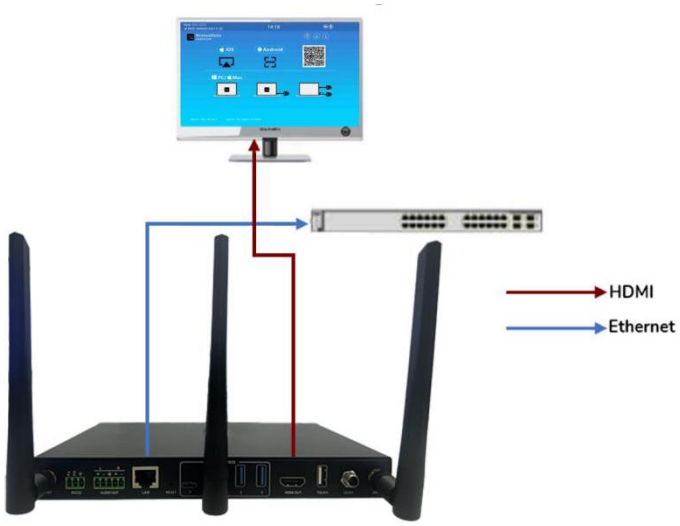
4.7 LAN Connection

Connect a network cable with RJ-45 connector into the LAN port of Base Unit VC31. Connect the other side to LAN. DHCP on the VC31 switch is enabled per default.

a) If there's a DHCP server in the network, an IP address will be assigned automatically.

b) If there is no DHCP server in the network, VC31 will require to manually configure a static IP address. For further information, see chapter Ethernet Configuration.

⚠ Wireless Direct Mode is enabled by default. In this network mode, VC31 generates its own wireless SSID with IP address 192.168.43.1. For further information on how to properly configure the network settings according to the needs of the application.Please refer to the chapter Network Mode .



The LAN connection can be used for:

- Network integration of VC31 in guest or company network.
- TCP control the VC31.
- Maintenance purpose.
- Over-The-Air -Update (OTA) of firmware of VC31.

4.8 USB Control Devices Connection

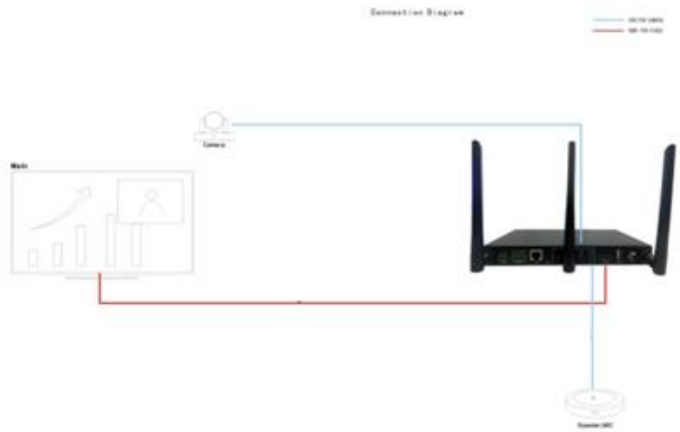
If the user connects an USB Mouse or Touchscreen, the following features will be available:

- **Moderator tab to manage the active users sharing content with the VC31.**
- **Whiteboard or Annotation during a presentation.**

- **USB-HID function for laptop control and click function of a touchscreen**:
  - **USB mouse:**
    - Single click to select.
    - Right-click to back to the Home Page.
  - **Touch screen:**
    - Click to select.
    - Long press to open the contextual menus, as double-click or click the right button of a USB mouse.

4.9 USB Conferencing Devices Connection

VC31 supports USB Camera and USB speakerphone through USB-C, USB-B and wireless sharing to start meetings with conferencing software such as Skype, Zoom, Microsoft Teams, etc. For further information on how to properly configure the settings according to the needs of the application. see chapter Video Conferencing Mode Chapter.



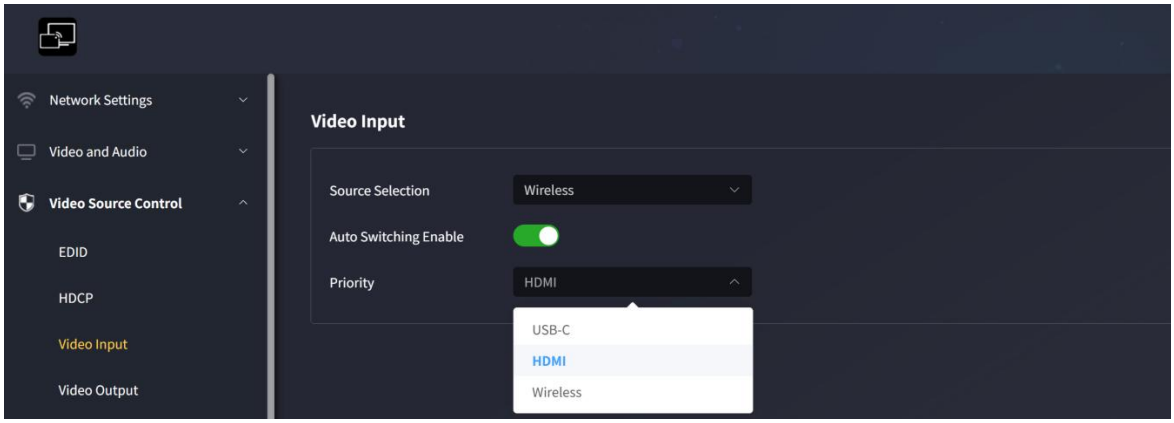
5 Start-up and Operation

5.1 Video Source Switching

5.1.1 Automatic Switching

Supports switching selection of video signal input sources, mainly including:

USB-C, HDMI and Wireless



It is set to automatic mode by default, allowing automatic switching to the "on" state. The switch will perform switching according to the following rules:

Priority：

- When HDMI is selected as the default priority, the priority of HDMI is the highest. When there is HDMI signal, the priority of type C/wireless is lower and cannot be "taken over" for switching. Only the input source with higher priority is allowed to switch. The priority order is HDMI > USB-C > Wireless
- When USB-C is selected as the default priority, the priority order is USB-C > HDMI > Wireless

- When wireless is selected as the default priority, when connecting HDMI and Type-C at the same time, the "first detected access source first" logic is followed, and the priority order is wireless > USB-C > HDMI

New Source Input： When the VC31 detects a new input, it will automatically select the new input based on priority.

Restart： If the VC31 restarts, it will automatically reconnect the input, giving priority to the source with the highest priority.

Source Removed： When an input source is removed, the VC31 will change the input source based on the priority order. If the corresponding source is active, it will be switched to the input source; otherwise, the VC31 will automatically switch to the Wireless input source.

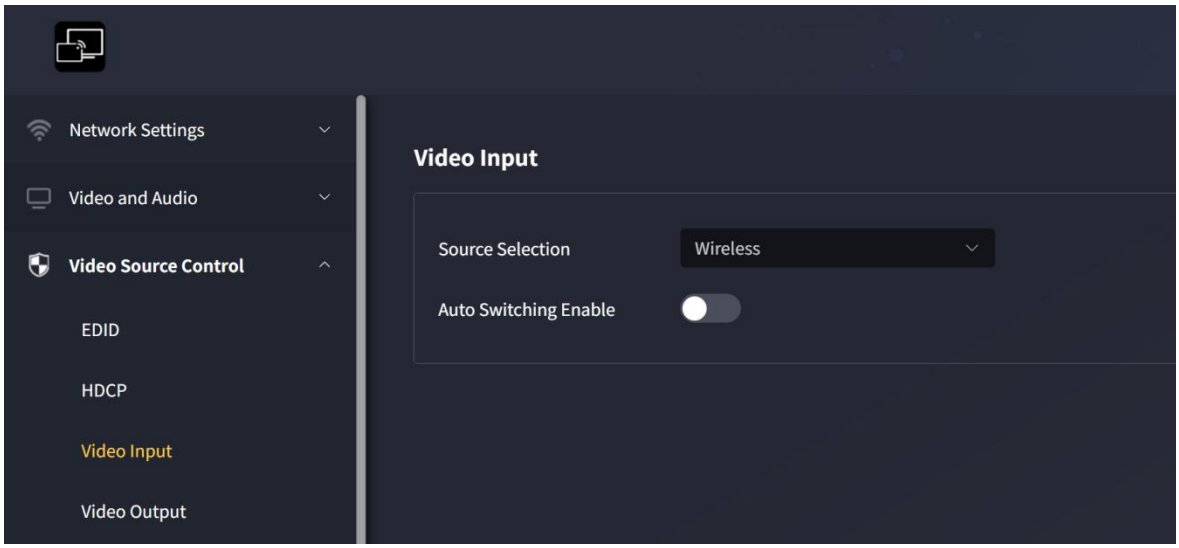
5.1.2 Manual Switching

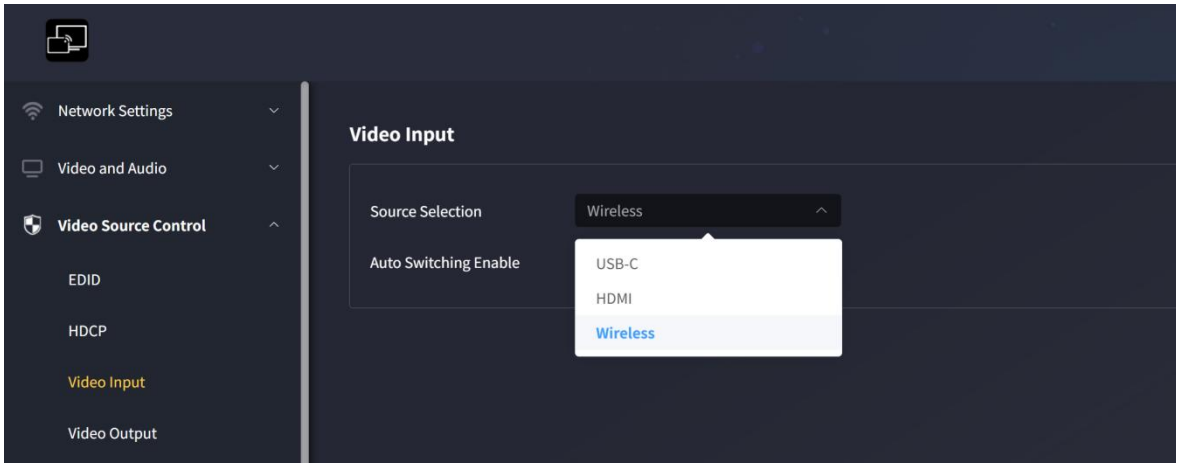
1.Front Panel

When the switch is in manual switching mode, if you need to change the input source, press the front panel key of the device directly. The corresponding LED light will flash for three seconds and then turn green.

2. Web setting

Automatic switching is disabled, and the switcher is in manual switching mode. Select the input source you need to change, and the manual switching will be successful, with simultaneous synchronization of the front panel button selection.



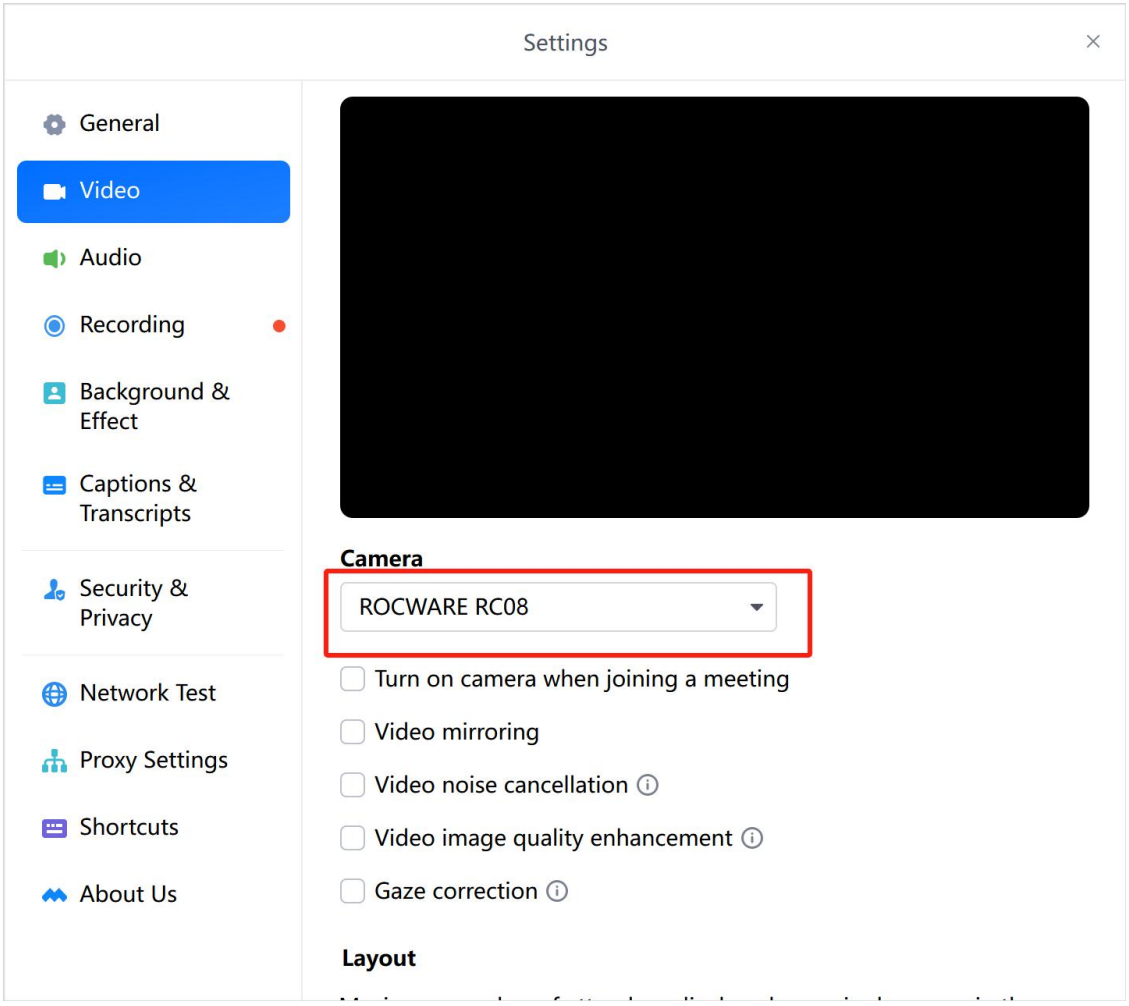


5. 2 Video Conference and Screen Sharing via type C

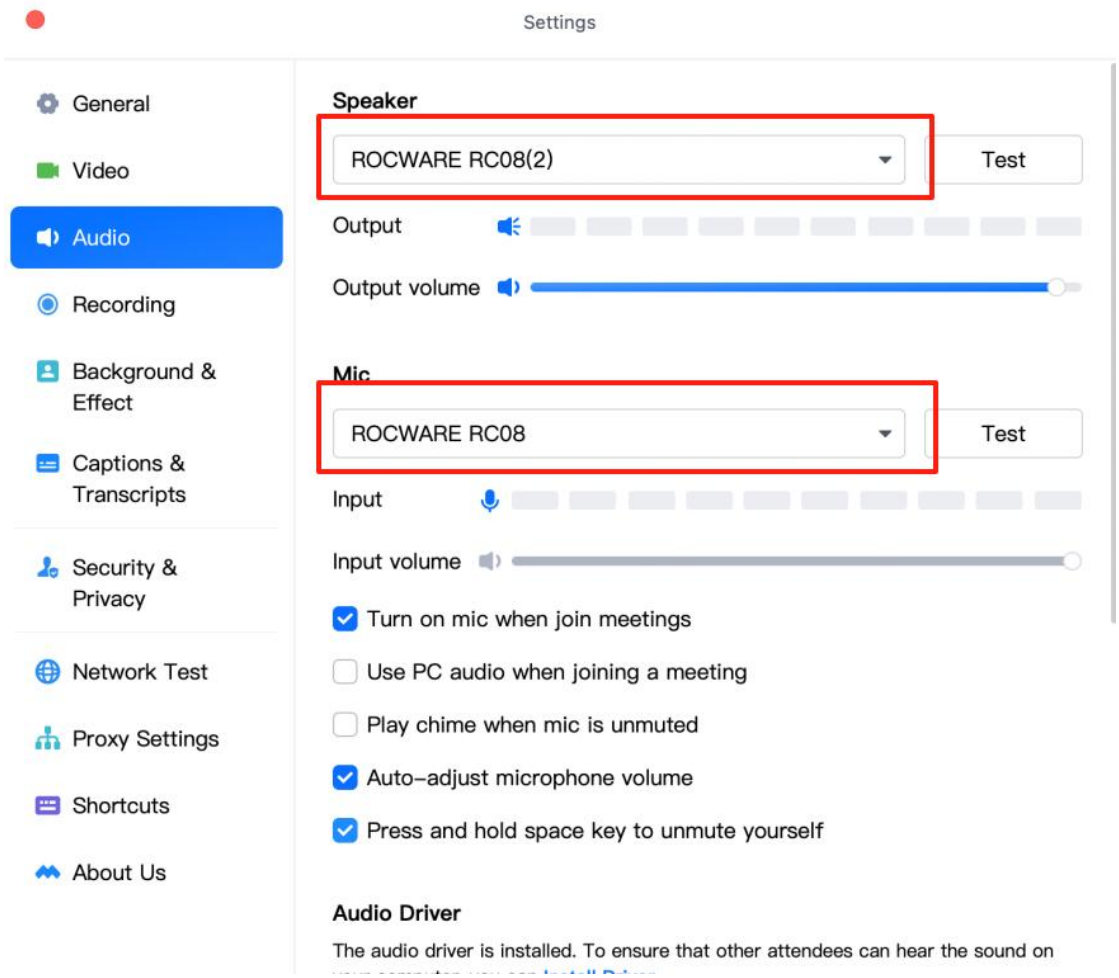
VC31 allows video conferencing using USB conferencing devices via wired type C. This can be done by following the steps below:

1. Connect a Type C conferencing device to the VC31 USB port. The camera and microphone icons will appear in the status bar on the main screen.
2. Connect one end of the Type C cable to the VC31 Type C port and the other end to the PC Type C port.
3. Switch the input source to Type C, project the desktop content to the monitor, and connect the USB TOUCH cable to project the screen for touch transmission
4. Launch the video conferencing application, using Tencent Meeting and ROCWARE camera as an example:

   ·After starting the meeting, enter the meeting settings, and on the video page, select the connected camera device name "ROCWARE RC08" as the video device



- **On the audio page, select "ROCWARE RC08" for the speaker and "ROCWARE RC08" for the microphone.**



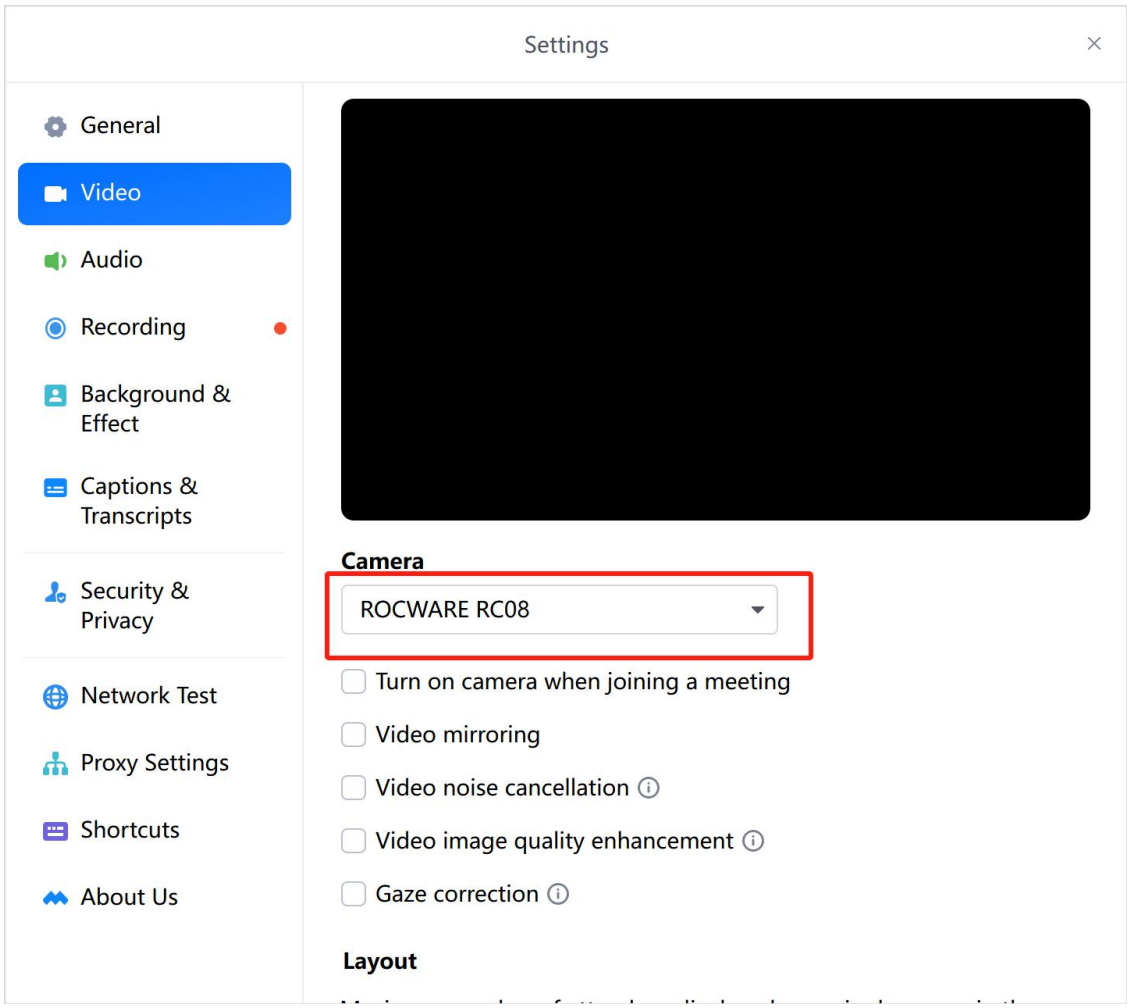
3. Turn on the camera and the video screen will appear. The camera and microphone icons in the status bar of the main screen will turn green (green icons indicate that the USB camera and speaker/microphone are connected and in use).

5.3 Video Conference and Screen Sharing via HDMI

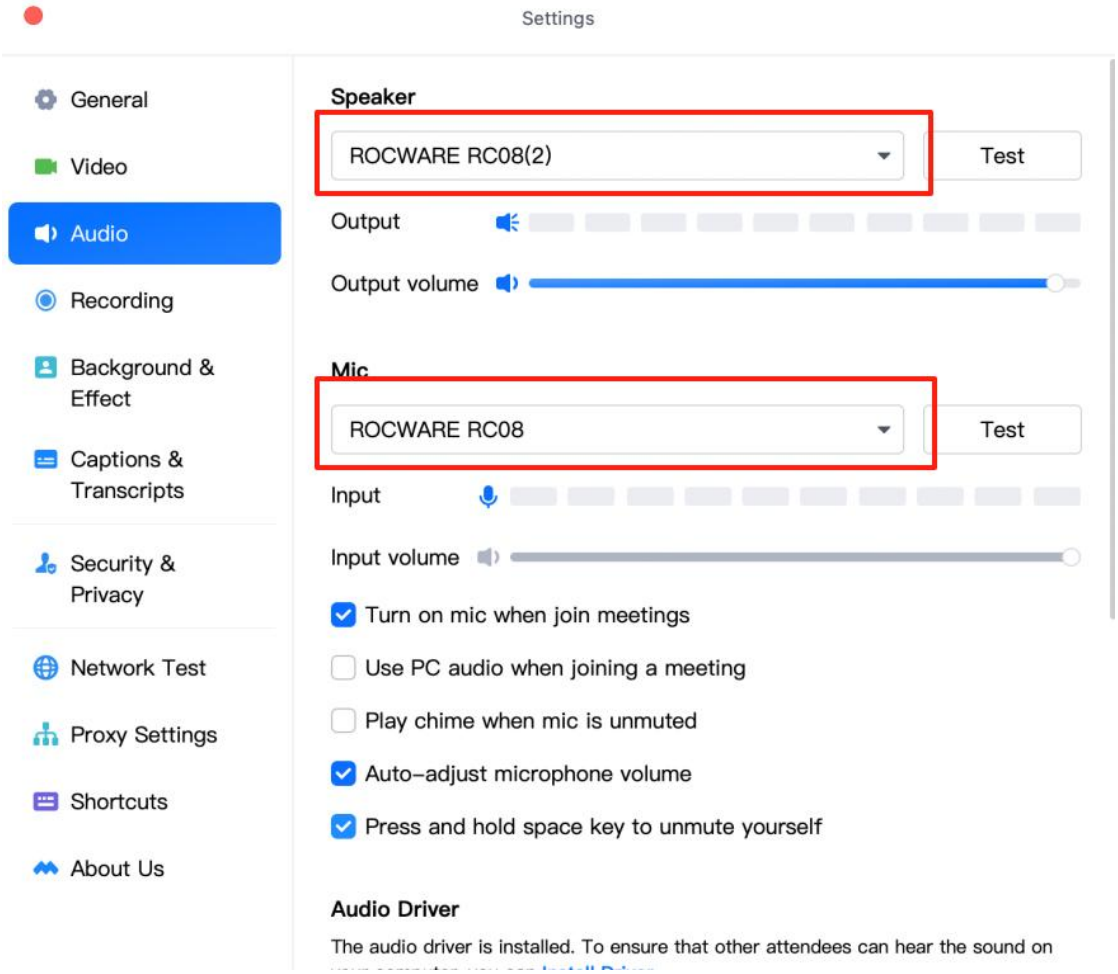
VC31 allows you to use USB conference devices for video conferencing via wired HDMI & USB HOST. You can do this by following the steps below:

1. Connect a USB conferencing device to the VC31 USB port. The camera and microphone icons will appear on the status bar of the main screen.
2. Connect one end of the USB HOST cable to the VC31 USB HOST port and the other end to the PC USB port. The USB HOST cable is used to detect the camera microphone. Connect one end of the HDMI cable to the VC31 front panel HDMI port and the other end to the PC. It is mainly used for screen projection.
5. Switch the input source to HDMI, and the display is HDMI projection. Connect the USB TOUCH cable to the screen and transmit the touch screen back.
3. Launch the video conferencing application, using Tencent Meeting and ROCWARE camera as an example:

   ·After starting the meeting, enter the meeting settings, and on the video page, select the connected camera device name "ROCWARE RC08" as the video device



- **On the audio page, select "ROCWARE RC08" for the speaker and "ROCWARE RC08" for the microphone.**



4. Turn on the camera and the video screen will appear. The camera and microphone icons in the status bar of the main screen will turn green (green icons indicate that the USB camera and speaker/microphone are connected and in use).

5.4 Wireless Presentation Mode and Video Conference

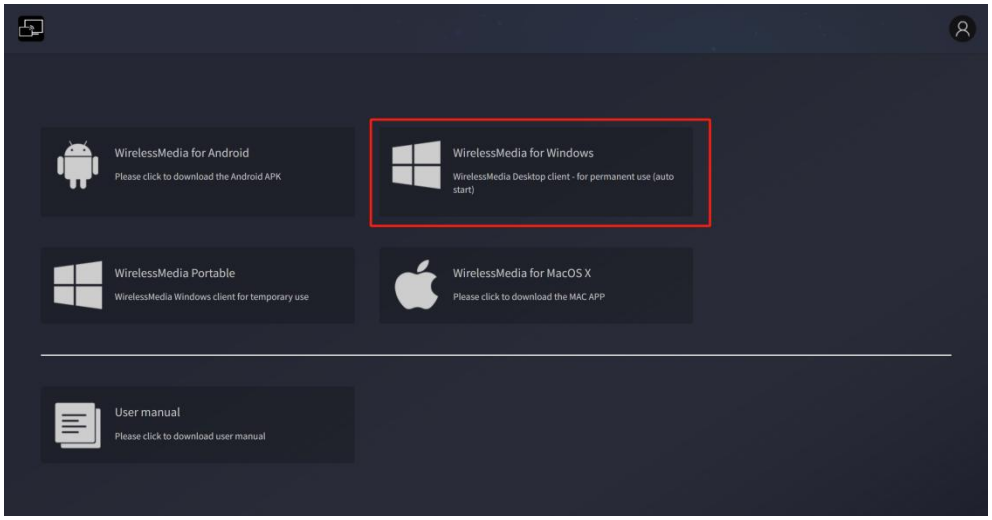
5.4.1 Screen Sharing Using WirelessMedia App

The WirelessMedia application is a launcher that users can run by simply copying the launcher to the internal storage of a Windows or Mac computer.

There are two ways to get the WirelessMedia desktop application:

1. **Download from the Web**

By connecting your computer device to the same network as the VC31 host, you can download the application from the website.



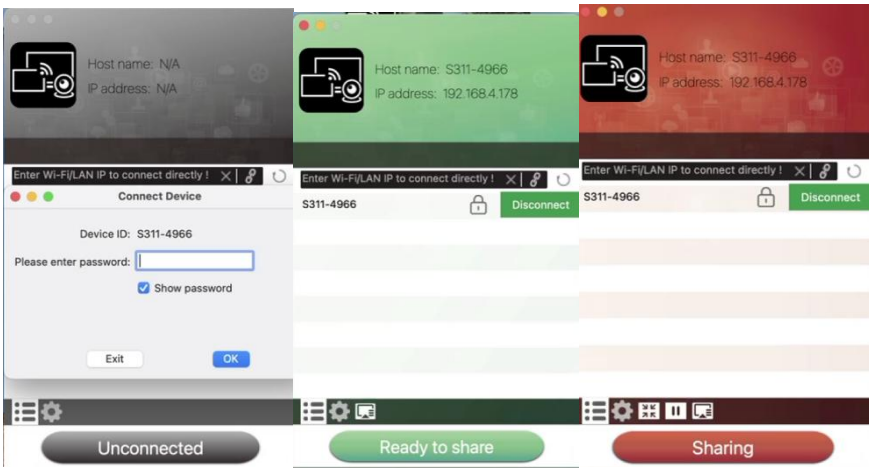
2. **Automatically create startup programs**

By connecting the U disk, click the download icon on the main page to download the application to the root directory of the U disk, and then copy the application to the computer.

- Launching and operating the WirelessMedia application

Once you have copied the WirelessMedia application to your laptop's local storage, it is ready to use.

1.Open the WirelessMedia app on the source device. The available VC31 switch will show whether the source device and the switch are on the same network.



2.Connect your laptop to the WiFi network shown on the home screen (Guest, Staff), or to the LAN on your network using a network cable.

3.Double-click the WirelessMedia application. A list of all available VC31 base units on the same network will be displayed. Select the device to connect to. The connection is password protected (lock icon).

4.Enter the VC31 password and click "Connect" to start sharing the system.

Note: If the VC31 receiver is not displayed, you can also manually connect by entering the name (SSID) or IP address (click the icon)

5.The WirelessMedia application layout will turn green. Clicking "Shareable" will start sharing content with the primary display connected to the VC31's HDMI output. Connecting a USB TOUCH port allows for touch-screen playback. When the window is static red, the desktop is mirrored to the primary screen.

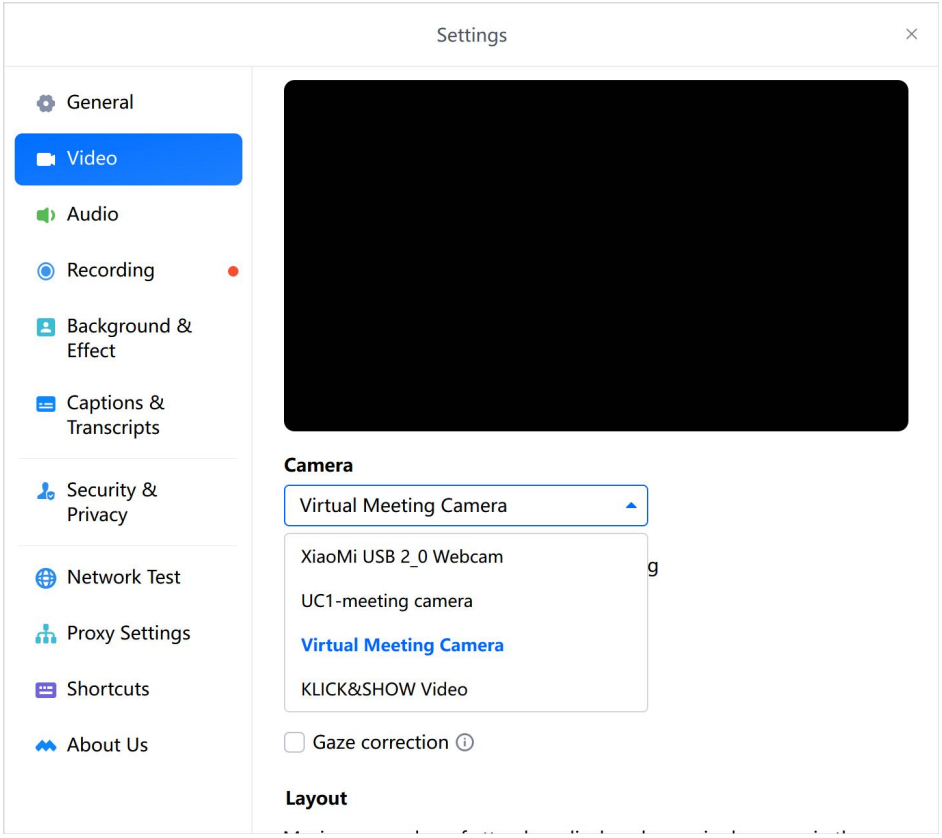
6.Clicking "Sharing" will stop sharing content. The window will turn to a static green color again.

5.4.2 Video Conference using WirelessMedia APP

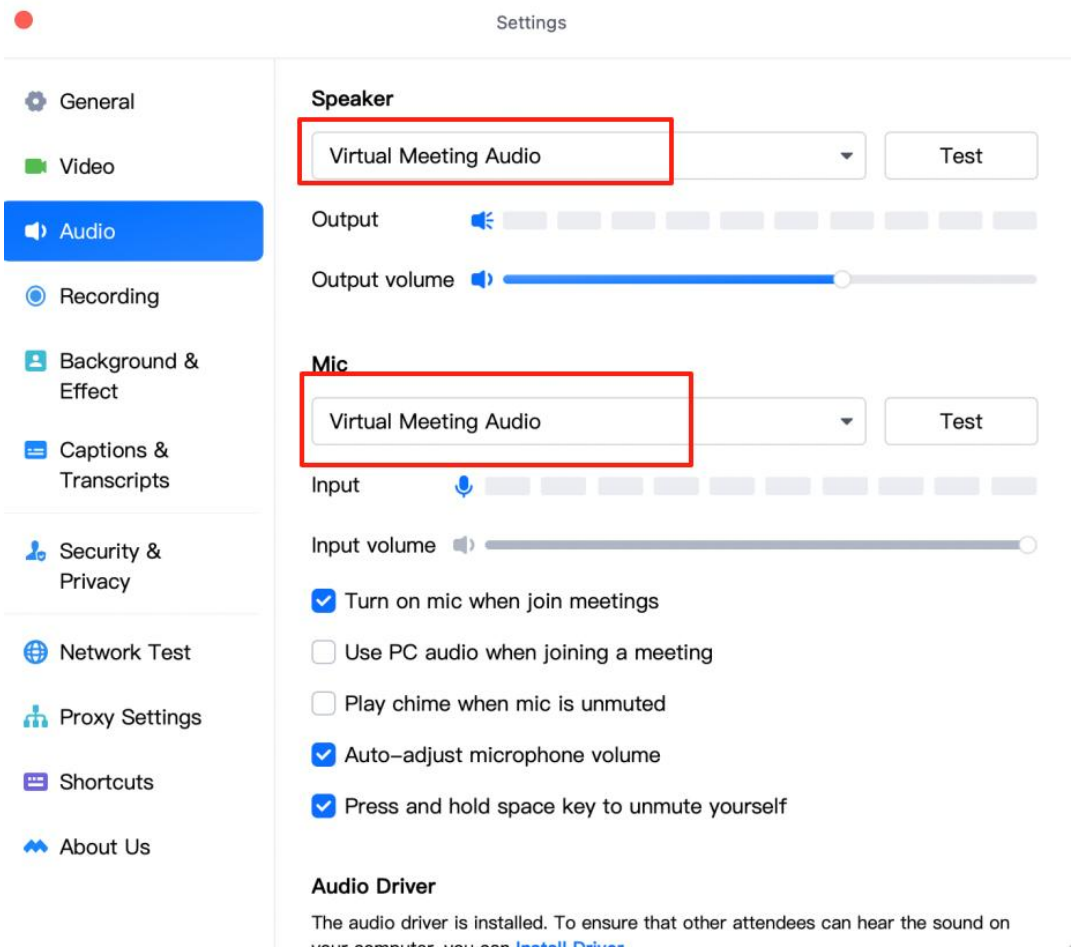
1. Connect a USB conferencing device to the VC31 USB port. The camera and microphone icons will appear on the WirelessMedia control bar.
2. Run the WirelessMedia app
3. After the connection, the application will show the white icon of the camera and microphone,indicating that the USB camera and speaker/microphone are connected.

4. Start the video conferencing application, taking Tencent Meeting as an example：

·After starting the meeting, go to the meeting settings and select "Virtual Meeting Camera" as the video device on the video page.



- On the audio page, select "Virtual Meeting Audio" for speakers and "Virtual Meeting Audio" for microphones.

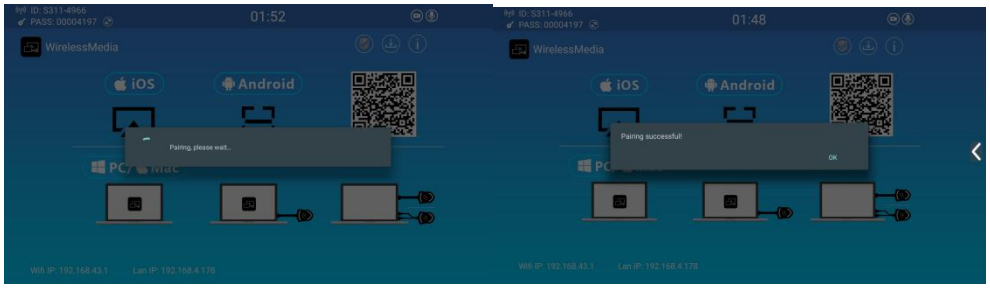


5. When you open the camera, the video screen will appear and the camera and microphone icons in the WirelessMedia application will turn green.

Green Icon： Indicates that a USB camera and speaker/microphone are connected and in use by any given application

5. 4. 3 Screen Sharing using WMT-H28 and WMT-C28

1. To pair the WMT-H28 or WMT-C28 with the VC31, connect the WMT-H28 (HDMI wireless Dongle) to the USB Type-A port or the WMT-C28 to the USB-Type-C port. The pairing process will automatically begin. A message will appear while the Dongle is plugged in and pairing is in progress, indicating that the wireless Dongle is connecting. Once pairing is complete, the message sheet will display "Pairing Successful!" on the homepage. You can then unplug the Dongle and use it for screen sharing.



2. Plug the WMT-H28 into the USB-A port and HDMI port, or the WMT-C28 into the USB-C port, of the device whose content you want to share.
3. When ready, the LED indicator will turn solid green. Press the center button to start wireless presentation. The LED indicator will turn solid red. Connect the USB TOUCH cable to the screen and transmit the touch screen back.
4. Press the middle button again to stop the wireless display and the LED indicator will return to static green.

5. When the LED is static red, the content will be mirrored to the main screen connected to the VC31 receiver

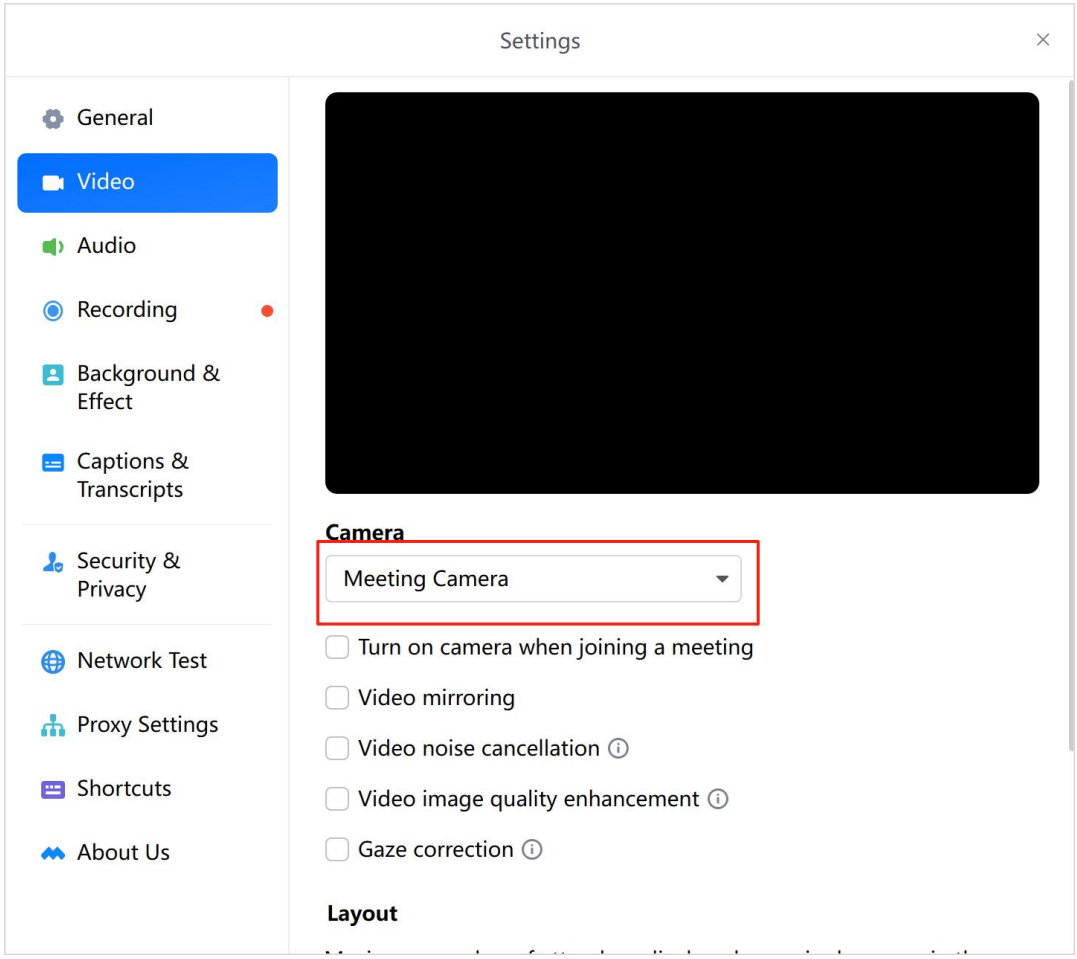
5.4.4 Video Conference using Dongle

VC31 allows video conferencing using conference room USB conferencing devices over WiFi

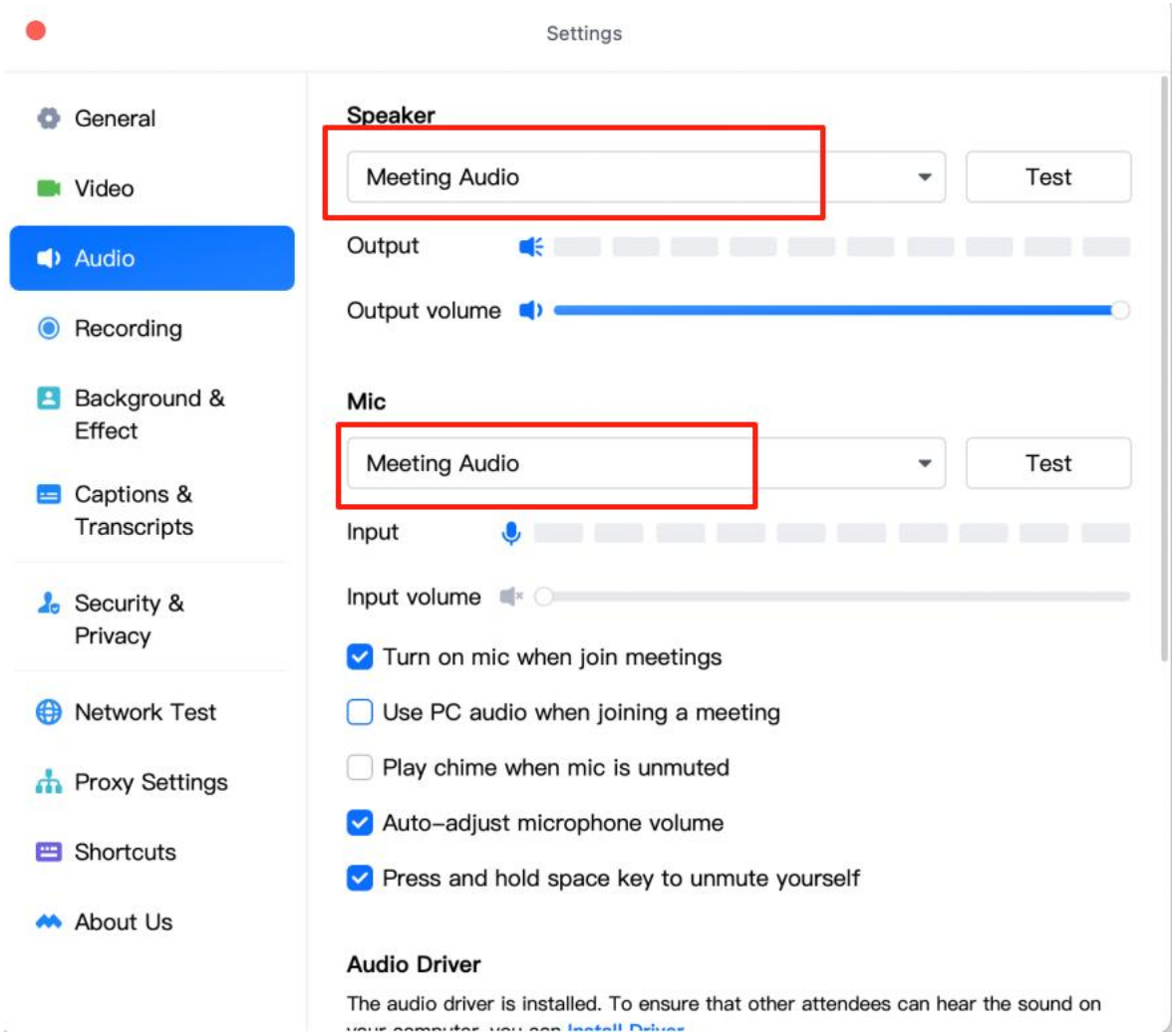
1. Connecting a USB conferencing device to the VC31 USB port

2. Connect the paired Dongle to the computer and run the conference APP for video conference after the connection is successful.

· After starting the meeting, go to the meeting settings and select "Meeting Camera" as the video device on the video page.



• On the audio page, select "Meeting Audio" for speakers and "Meeting Audio" for microphones.



3. Turn on the camera and the video screen will appear. The camera and microphone icons in the status bar of the main screen will turn green (green icons indicate that the USB camera and speaker/microphone are connected and in use).

5.5 HDCP and EDID Management

5.5.1 HDCP

HDCP (High-bandwidth Digital Content Protection) prevents digital audio and video content from being illegally recorded or intercepted by encrypting the transmission link. It is applicable to high-definition digital interfaces such as HDMI and Display Port.

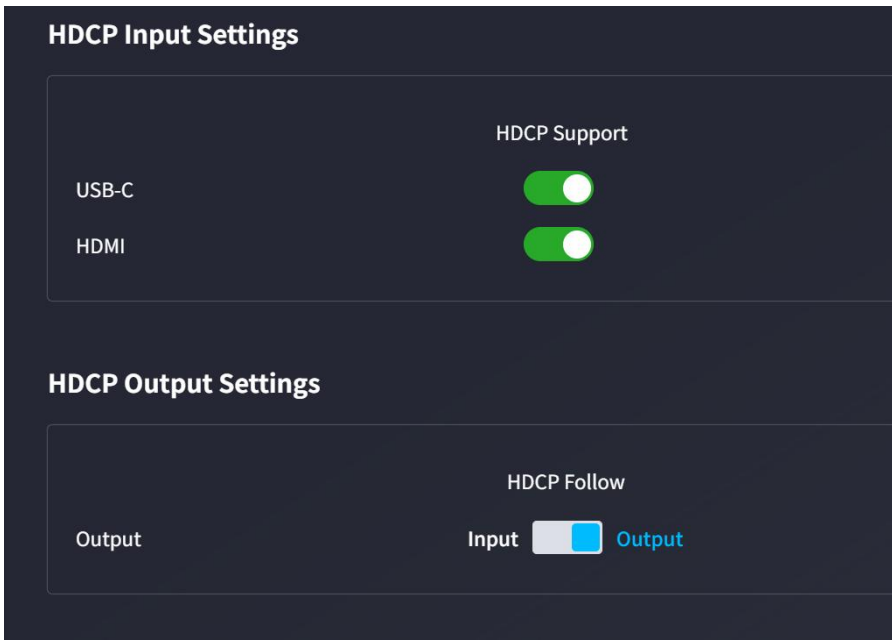
HDCP Input Setting： Whether the digital content input by the port is protected by HDCP encryption or not

HDCP Enable (default): Tells the source that the device supports HDCP

HDCPDisable: Tells the source that the device does not support HDCP

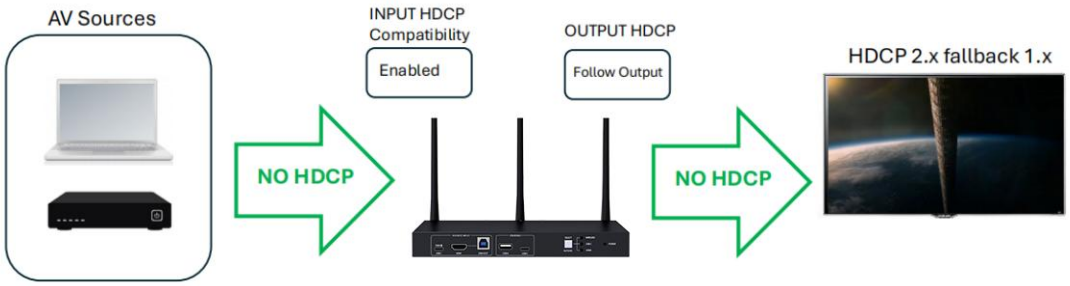
HDCP Output Settings: This setting allows the user to select whether HDCP protection follows the status of the input port or the output port.

Output (default): If the source carries encrypted HDCP, the output should adapt to the downstream unit's preferred HDCP version Input: If the source carries encrypted HDCP, the output follows the same version as the source.

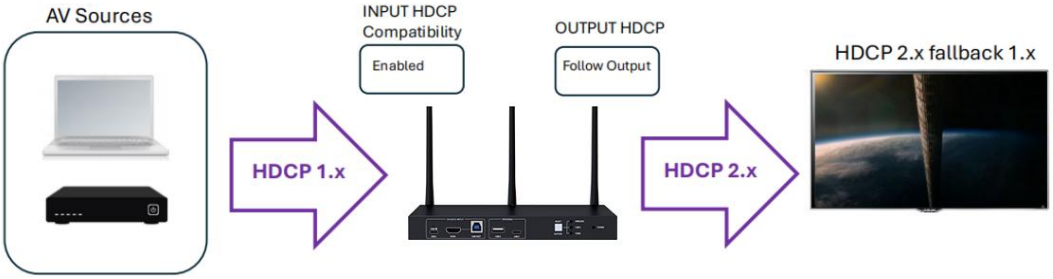


If the HDCP input port is set to enabled and the HDCP output port is set to output, the output will be in accordance with the following rules:

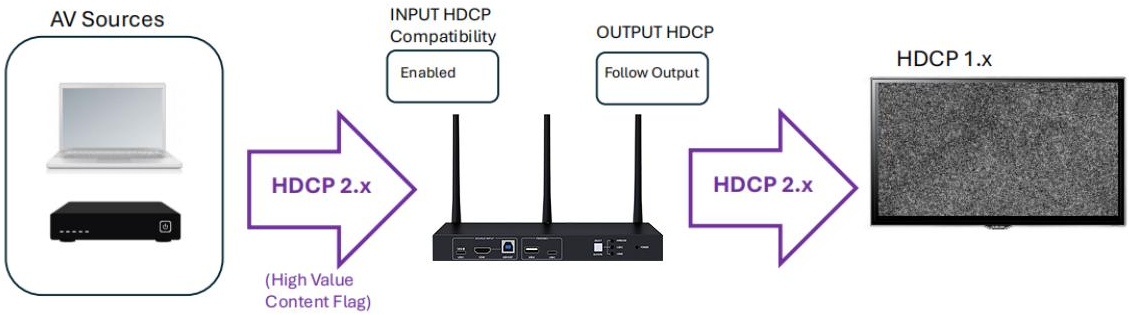
•Input source does not carry HDCP -> Output carries HDCP2.X&1.X -> No HDCP output, monitor output is normal



•HDCP2.XInput source carries HDCP1.X -> Output carries HDCP2.X&1.X -> Output HDCP2.X follows the output source

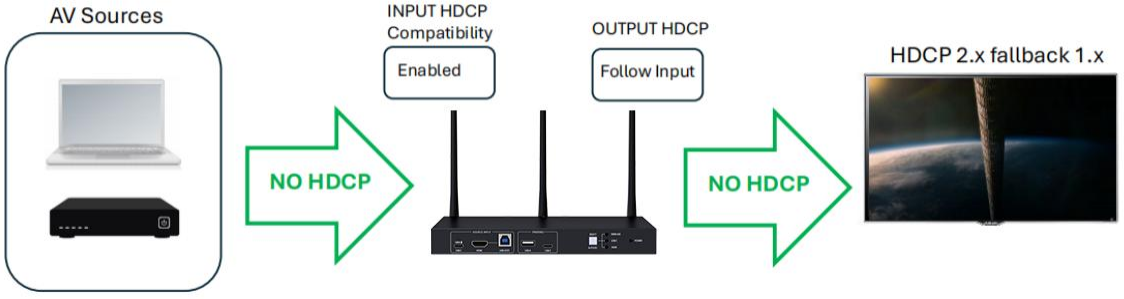


•The input source carries HDCP2.X -> the output carries HDCP1.X -> the display output is abnormal and does not display

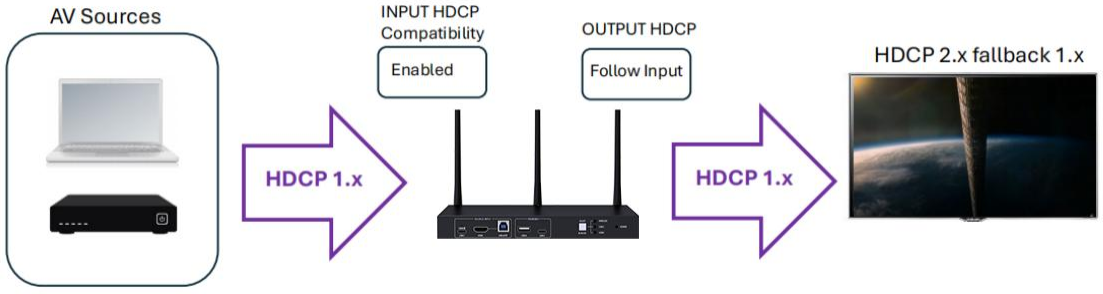


The input source carries HDCP2.X -> the output carries HDCP1.X -> the display output is abnormal and does not display

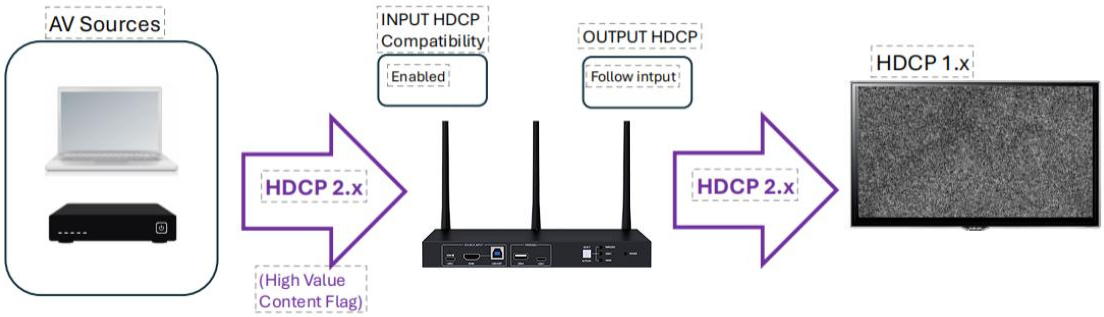
•Input source does not carry HDCP -> Output carries HDCP2.X&1.X -> Follow source does not output HDCP, and the display output is normal



•Input source carries HDCP1.X -> Output carries HDCP2.X&1.X -> Output follows input source HDCP1.X

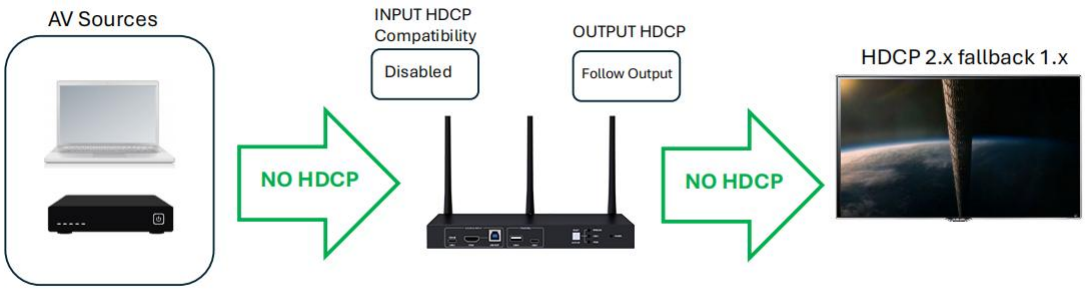


•The input source carries HDCP2.X -> the output carries HDCP1.X -> the display output is abnormal and does not display



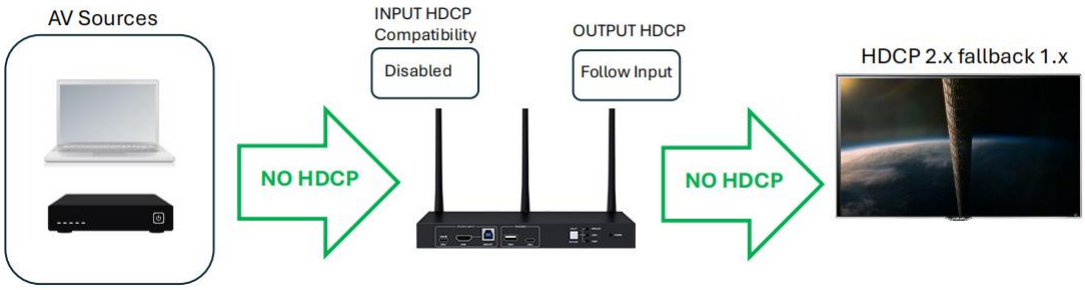
If the HDCP input port is set to off and the HDCP output port is set to output, the output will be in accordance with the following rules:

•Input source does not carry HDCP -> Output carries HDCP2.X&1.X -> Follow source does not output HDCP, and the display output is normal



If the HDCP input port is set to off and the HDCP output port is set to input, the output will be in accordance with the following rules：

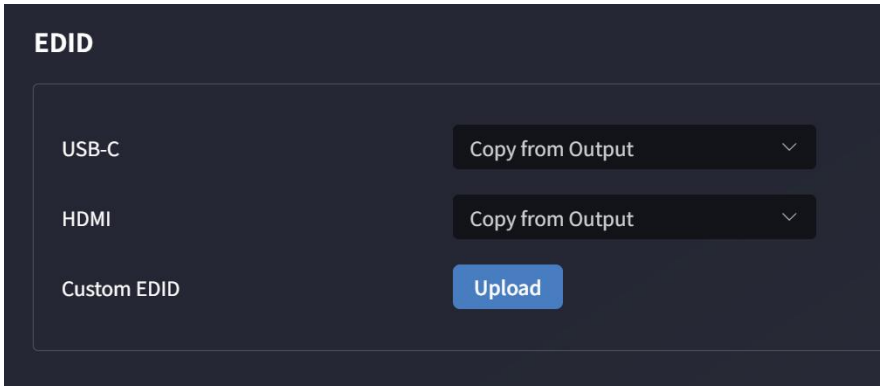
•Input source does not carry HDCP -> Output carries HDCP2.X&1.X -> Follow input does not output HDCP, and the display output is normal



5.5.2 EDID

EDID(Extended Display Identification Data) is used by the source device to match its video resolution to the connected display. By default, the source device obtains its EDID

from the first connected display. As displays with different capabilities are connected to the switcher, the built-in fixed EDID value can be used.



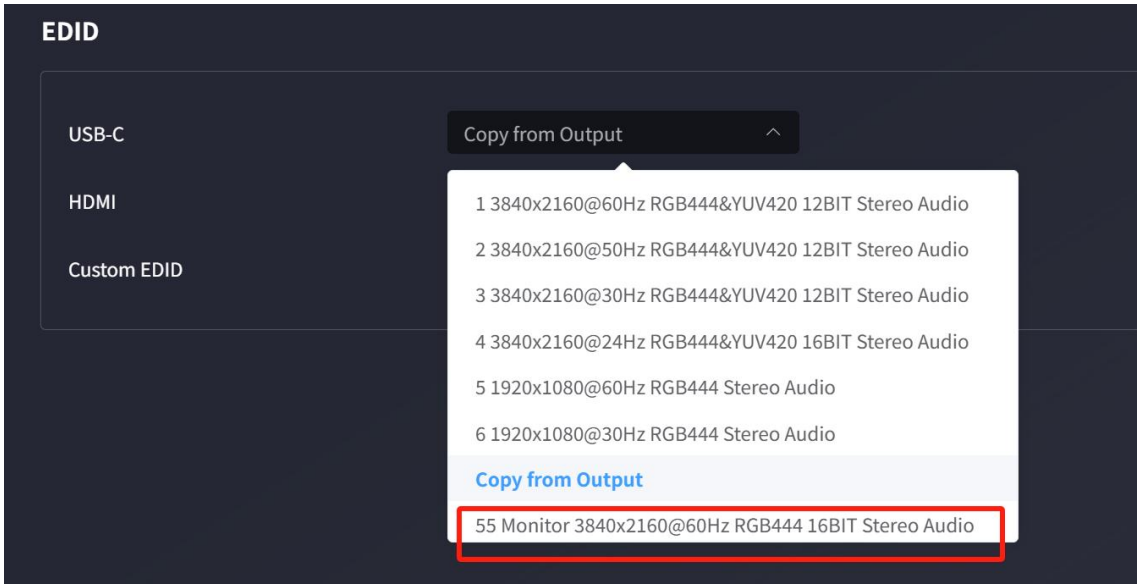
Built-in EDID: This tab allows you to select 7 built-in EDID values.

- Copy from output port
- 1 3840x2160@60Hz RGB444&YUV420 12BIT Stereo Audio
- 2 3840x2160@50HzRGB444&YUV420 12BIT Stereo Audio
- 3 3840x2160@30HzRGB444&YUV420 12BIT Stereo Audio
- 4 3840x2160@24Hz RGB444&YUV420 16BIT Stereo Audio
- 5 1920x1080@60Hz RGB444 Stereo Audio
- 6 1920x1080@30Hz RGB444 Stereo Audio

User-defined EDID: Only one EDID value is supported and can be customized in the following ways

Steps: Prepare EDID file (.bin) on PC --> Click Upload EDID --> Select EDID file (.bin) --> Success

You can view the custom uploaded EDID value in the EDID list



5.6 Whiteboard and Annotation

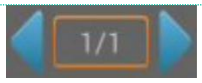
Whiteboard and Annotation requires an USB HID compatible device, such as interactive white board, touch screen or mouse. There are two different modes：

5.6.1 Whiteboard

A white board is brought up that will let the user to write notes, draw content. It allows different figures, colours and background. To start Whiteboard mode, click the whiteboard icon under the sidebar menu

Use the toolbar to select one of the following functions.

ID	Icons	Function

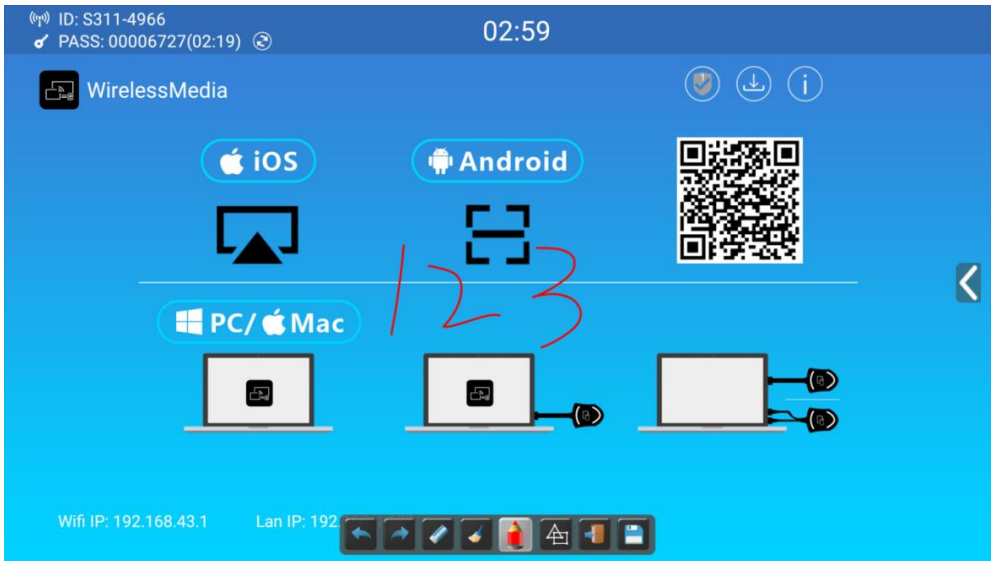
Tool Bar 1		Add an empty page
		Delete current page
		Display previous or next page
Tool Bar 2		Undo: one step backward in changes
		Redo: one step forward in changes
		Erase part of drawings or annotation, change diameter by a longer tap
		Clear the entire drawing/writing on the screen
		Pen allows writing/drawing in different colors
		Draw basic geometric shapes
		Select color of board, the drawing will be kept.
Tool Bar 3		Will pop up, when “Pen” or Draw shape or Select colour of board is selected, for individual change of size of Pen, Shape or colour.
Tool Bar 4		Save the current screenshot on local storage (PNG+WMN).
		Close Whiteboard to go back to Home Screen

File options 		• Open WMN-file from local storage and continue/edit an older project. • New project • Save as WMN on local storage in unit, it will be erased after POWER-OFF. • Import from U disk stored project(WMN). • All pages are saved as PDF on local storage. • Clear History, delete all files on local storage

5.6.2 Annotation

Allows the user to draw or write annotations in overlay within the presented content of the active sharing devices. It allows different figures, colors, and background.

To start comment mode, click the Annotate icon under the sidebar menu. 



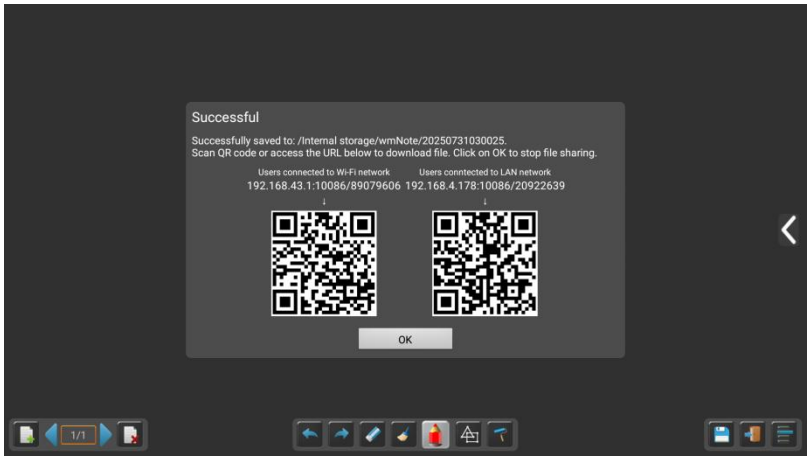
Use the toolbar to select one of the following functions.

ID	Icons	Function
		Undo:one step backward in changes
		Redo:one step forward in changes

Tool Bar 1		Erase part of drawings or annotation, change diameter by a longer tap
		Clear the entire drawing/writing on the screen
		Pen allows writing/drawing on the screen
		Draw basic geometric shapes
		Close whiteboard to go back to Home screen, actual project can be saved on local storage(WMN).
		Save the current screenshot on local storage(PNG).

Download Annotation to connected users

When saving a screen of Whiteboard or Annotation modes into internal storage of VC31, scanning the QR code or entering the given IP address in a browser will allow the user to download the saved files.



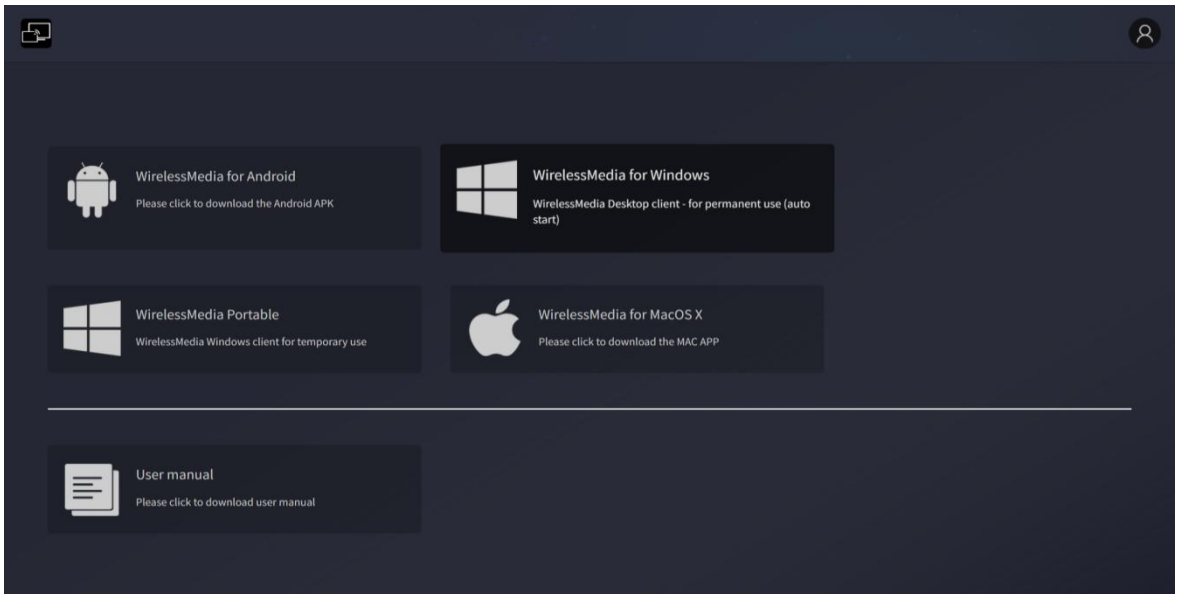
Data can be copied to a USB disk and after connecting it to the VC31, it can be imported into the Whiteboard section with "Import from U disk".

5.7 Quad view mirroring

VC31 base unit can mirror 4 sources onto main display simultaneously, which supports PC/Laptop and mobile devices.

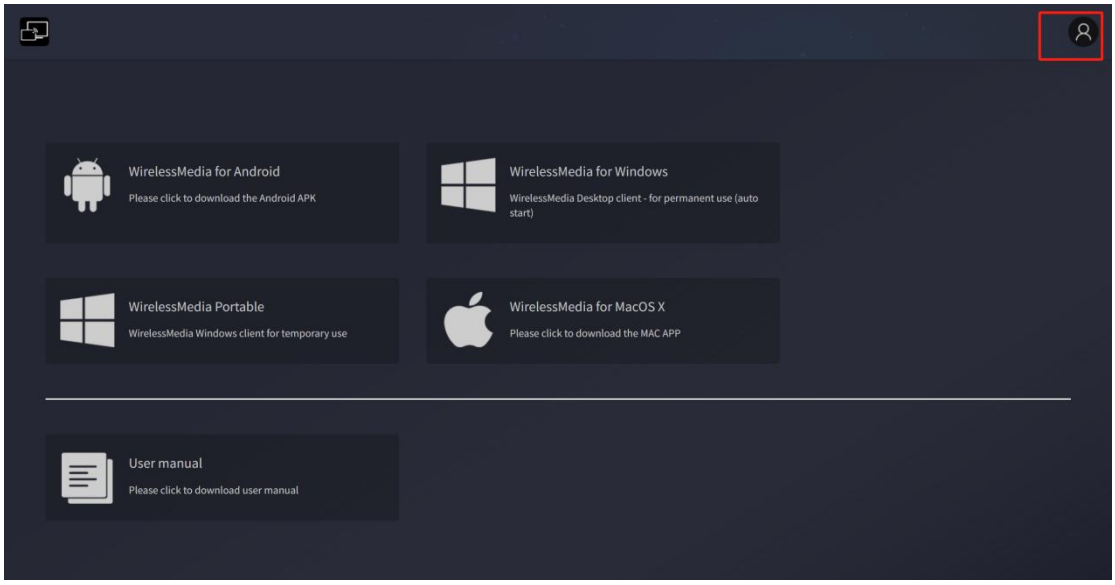
6 WebGUI Setting Management & Configuration

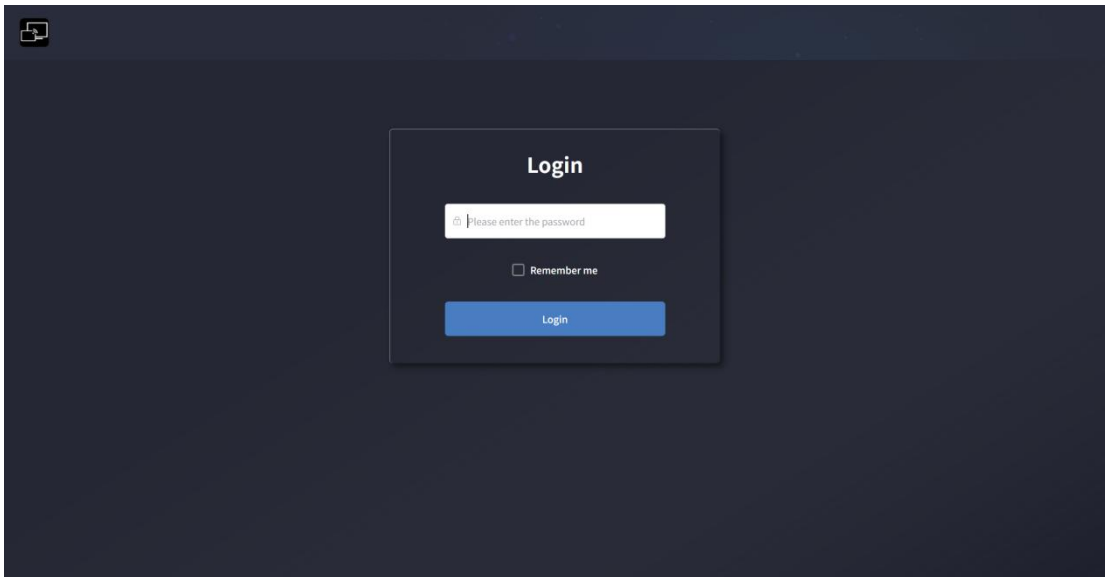
To access VC31 WEB settings it is necessary to enter the base unit IP address in an internet browser. The first page displayed will let the user download WirelessMedia app for all platforms.



If VC31 is on “Wireless direct Mode”, first access VC31 SSID and enter current password on Home Screen page. IP address is 192.168.43.1. For further information on how to configure network, see chapter Network Settings.

Click on the top right corner to enter into WEB settings menu.





Login page will appear. Default password: admin

Entering Login credentials will give access to the main WEB settings page where it will be able to configure Network settings, Display & Audio, Home screen, Device Control, UCC-Device Manager, System settings, Security settings, Firmware upgrade, Other settings, About device.

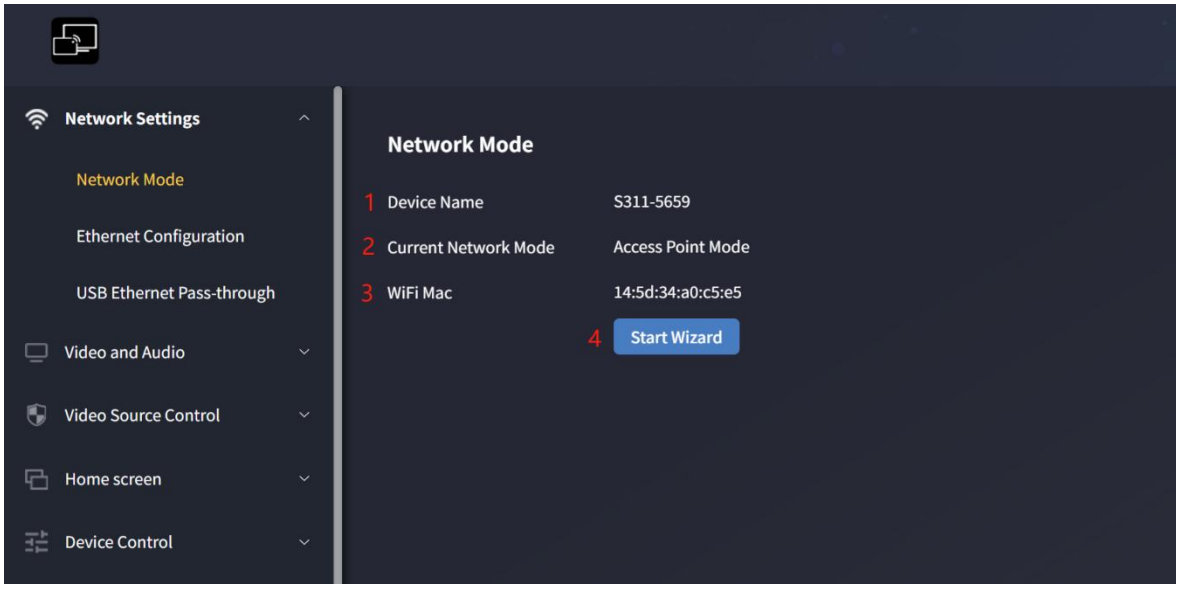
6.1 Network Settings

To take the full benefit of VC31 features, it is important to configure and integrate the base unit network settings according to the needs of the application required. VC31 includes two independent wired LAN and a WiFi network card.

The following sections can be accessed in Network Settings page:

6.1.1 Network Mode

This section allows the user to set the network working mode of VC31.

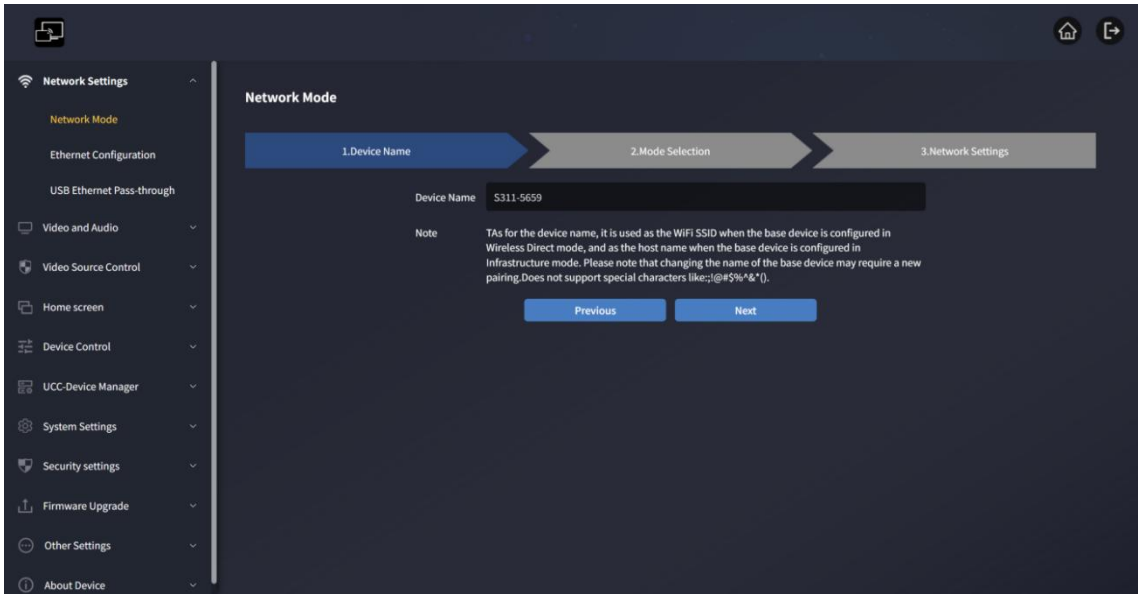


1. **Device Name**：This parameter indicates current name assigned to VC31
2. **Network Mode**： this parameter tells the user which network working mode is currently configured.
3. **WiFi Mac**：this parameter shows the Mac address assigned to the VC31 network card.
4. **Start Modifying**： Click to enter a network setup wizard is available to change network working mode to properly integrate VC31 into an exciting wireless infrastructure.

⚠ Any change to Network mode will need WMT-H28 and WMT-C28 to be paired again with VC31 base unit.

Network Mode Configuration

1. Device Name: This item will be used as the WiFi SSID when the host is configured in Wireless Direct mode, and as the host name when the host is configured in Bridge mode. Please note that changing the device name may require re-pairing the dongle. Please do not use special symbols, such as: ;! @#$%^&*()



2. **Mode Selection:** ”Select the desired network mode and click”next step”

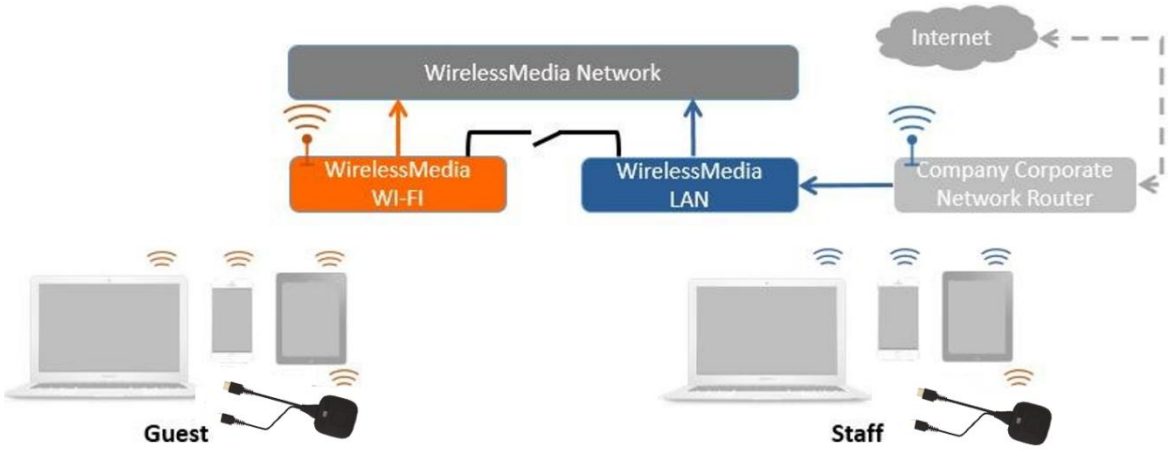
- **Wireless Direct Mode**

  VC31 unit starts up in the default standalone “Wireless direct mode” configuration after a factory reset or the first time it’s being used. The base unit creates its own

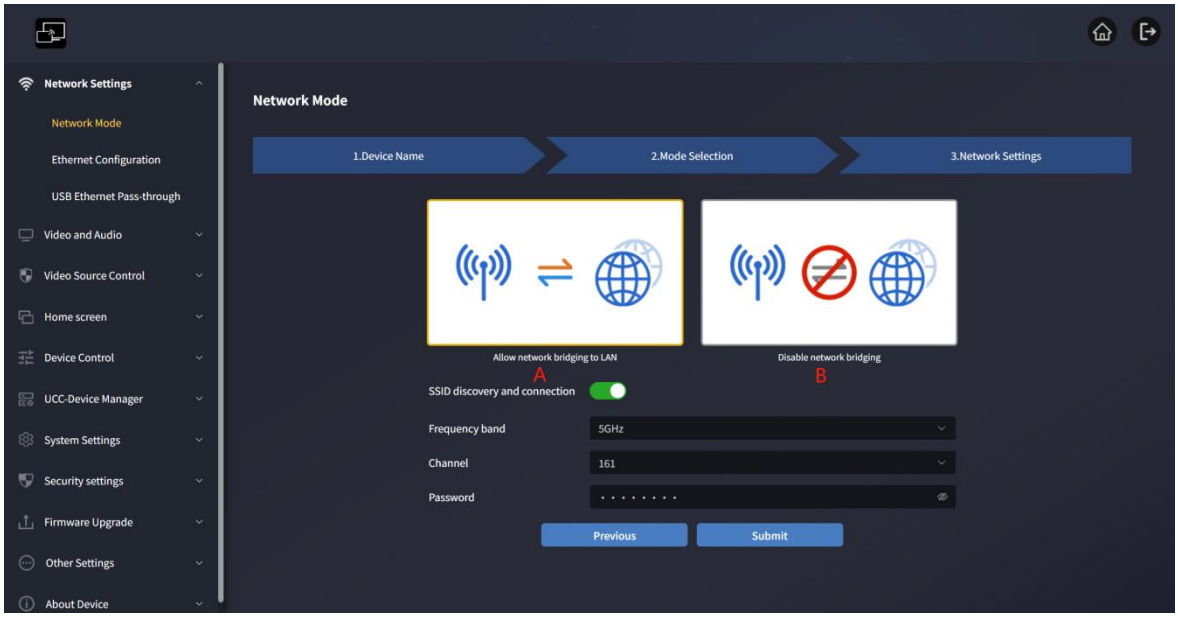
wireless access point, which all devices need to connect in order to share content with base unit.

This option is best for temporary operation, small installations, and rooms without network access or networks that do not allow network access for Guests, due to strict security concerns, and are completely separated from the corporate network.

Under this mode, VC31 can work without any other wireless network configuration. Just pair WMT-H28 / WMT-C28 with VC31 base unit, connect to VC31 internal hotspot and open WirelessMedia app or use Airplay, Miracast or Chromecast wireless casting protocols.



1. **Click"Next Step" to set up WiFi Access Point**



- **There are two ways of connecting to Internet through VC31 in “Wireless Direct Mode”：**

  a) **Allow Internet access(bridging) via LAN：** The source device is able to connect to internet if LAN1 port is available.

  b) **Disable internet access:** the source device is not able to connect to internet if this mode is activated.Sometimes it is for safety requirements.

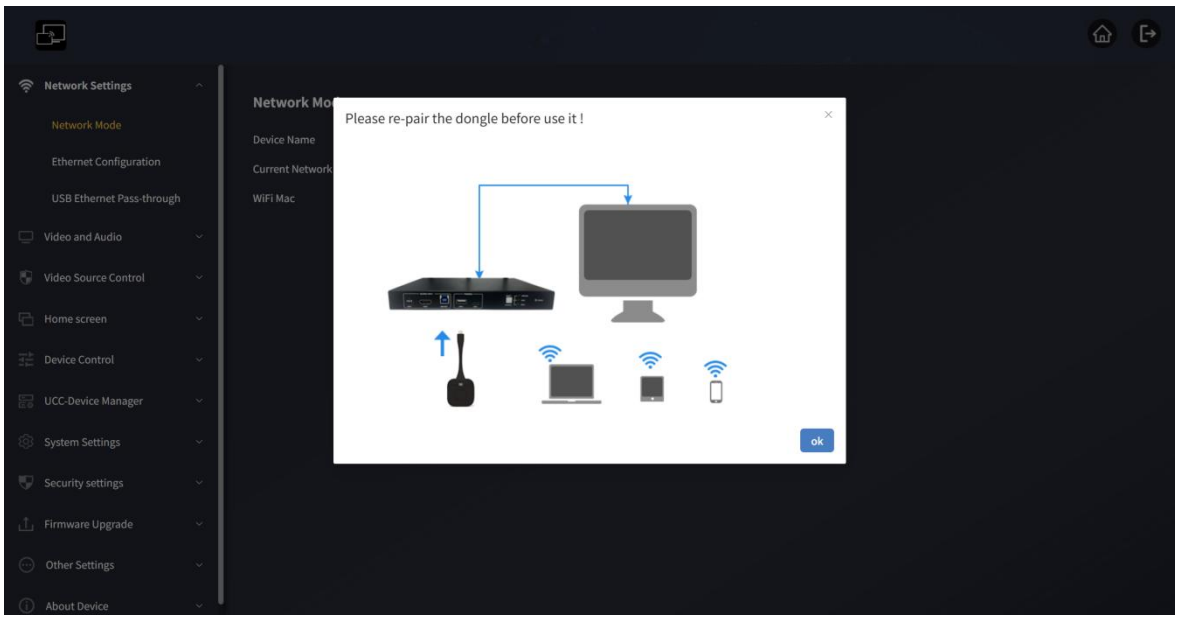
- **Allow VC31 SSID to be discovered and connected:** Select "Yes" to allow the VC31 SSID to be found normally, select "No" to hide it
- **Band:** Click to select 2.4 GHz or 5 GHz WiFi band. The default value is 5 GHz
- **Channel:** Click to select the WiFi channel. The default value is 5 GHz, channel 36. If you change the WiFi channel, re-pair the Dongle is not needed
  - **2.4 GHz ：** Channels 1、2、3、4、5、6、7、8、9、10、11,
  - **5 GHz：** The default value is 5 GHz, 36 channel
- **Channels supported by different regions：**

  Europe： Only 36、40、44、48

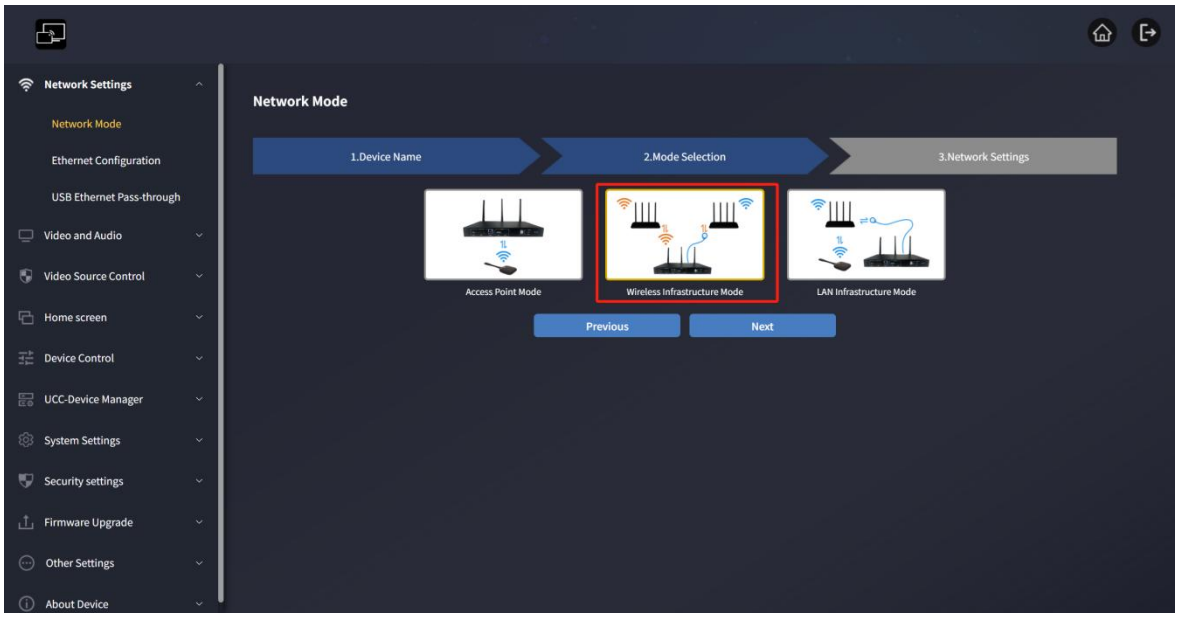
  USA and China： 36、40、44、48、149、153、157、161

  Since 36 channels are supported all over the world, the default channel is 36.
- **Password:** Click in the input field to fill in the appropriate password of 8 characters in length

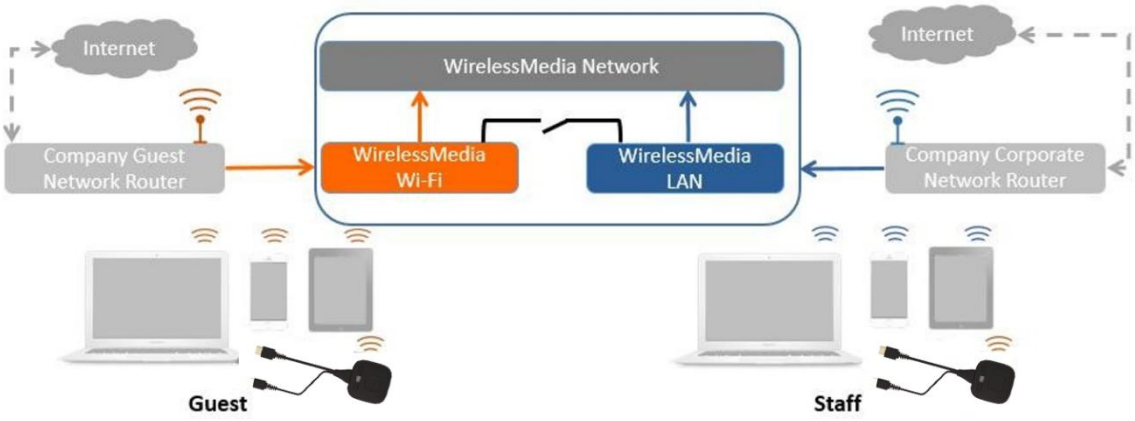
2. **Click "Submit Settings" to complete the configuration. Then, pair the wireless Dongle with VC31 again.**



- **Network Mode**



The VC31 can connect to both wired and wireless networks simultaneously. The receiving end remains firmly connected to the corporate network via the LAN. Guest users connect to the Wi-Fi "Guest Network" for access. Employees connect to the corporate network access point without having to change Wi-Fi. A wireless "Guest" network is provided for external visitors, while a wired "Employee" network is provided for employees. Guest users cannot access any resources on the internal corporate network.



The VC31 wireless network is connected to the guest's Wi-Fi network (Guest Mode). The indicator icon shows the actual signal strength. The receiving end is still connected to the company's internal network via an Ethernet cable.

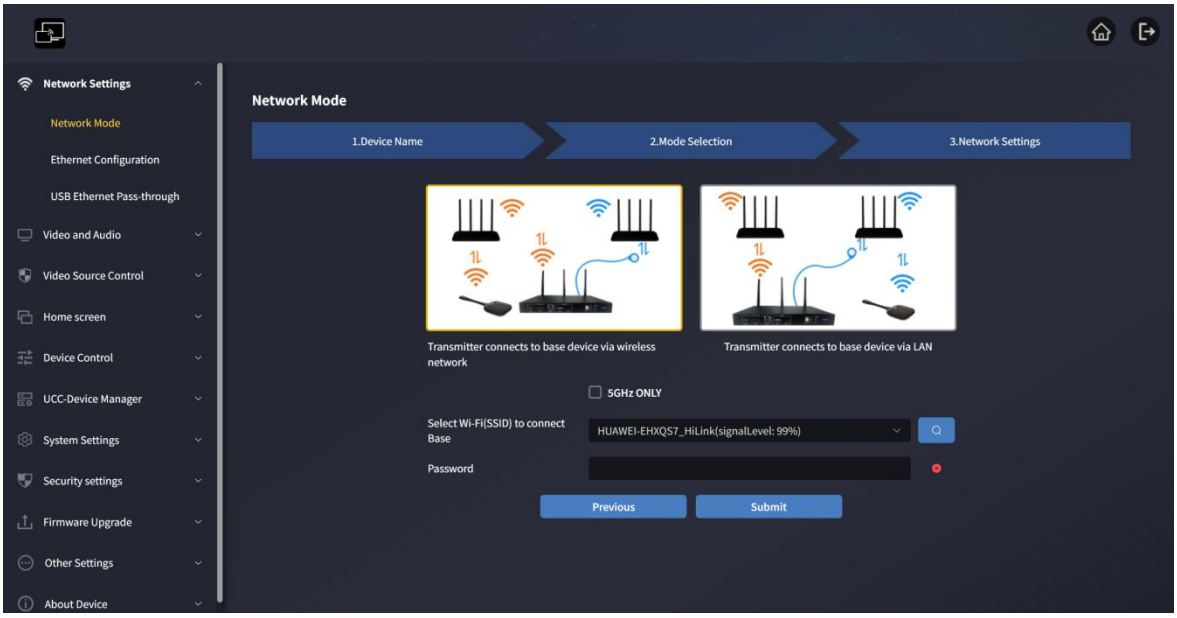
PC users can use the WirelessMedia PC program (Windows or MacOS) with or without a Dongle.

Android users can share their content by installing the apk, and IOS users can use AirPlay to share content (Apple only)

Click "Next" to enter the configuration of this network mode

1. Dongle connects to base unit via wireless network

Choose a wireless network separate from your company network for guest use

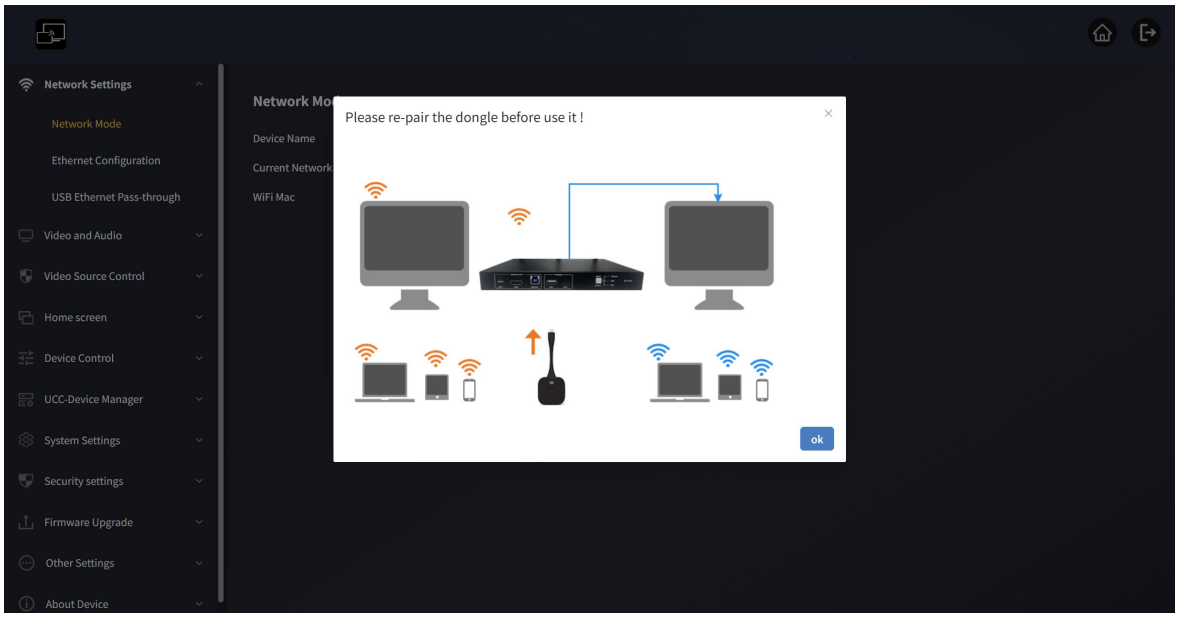


Only 5G channel: If you check this option, you can only search for 5G networks. If you do not check this option, you can search for all networks.

Select a router for the host to connect to: Select a guest network that needs to be connected to the receiving end.

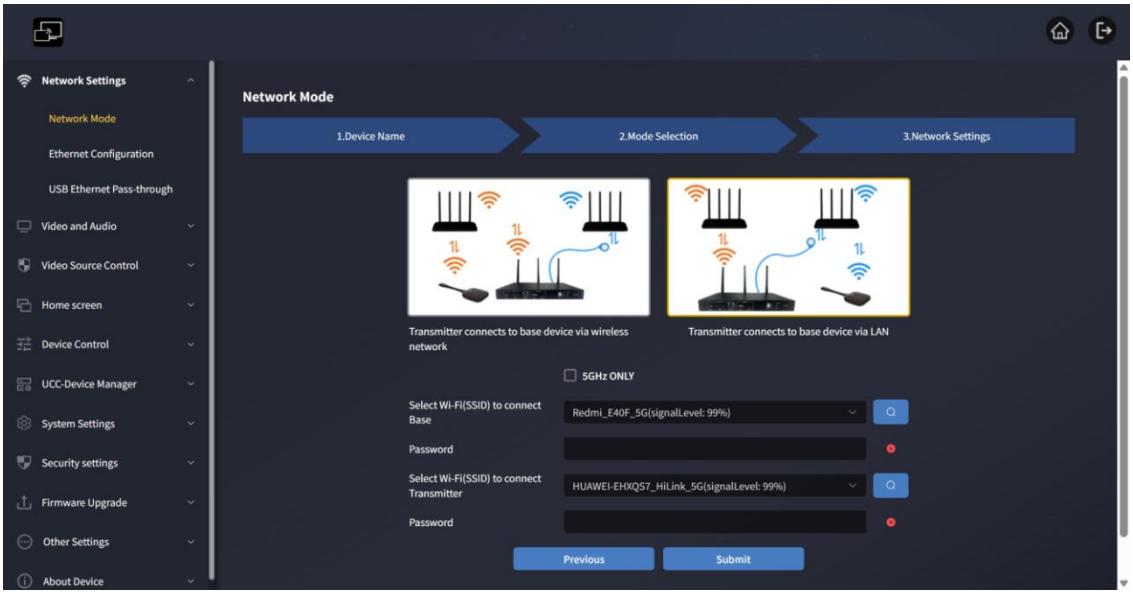
Password: Enter the connection password:

Click "Submit Settings" to complete the configuration. Then pair the wireless Dongle with VC31 again.



2.Dongle connects to base device via LAN：

Select a wireless network for guests and a wired network for company employees.

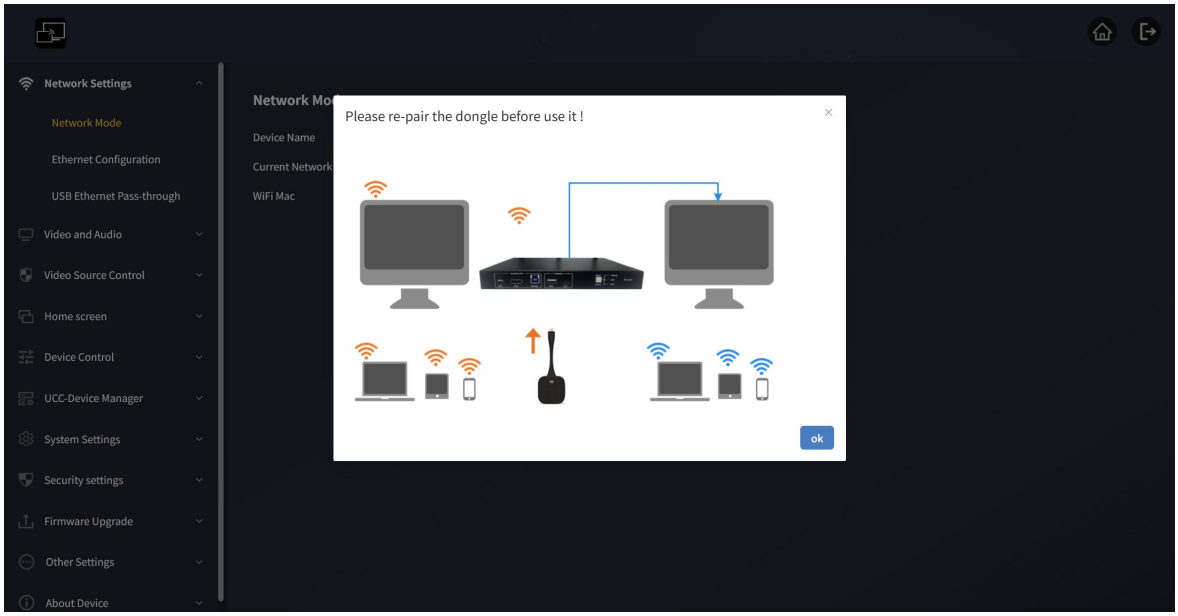


Only 5G channel: If you check this option, you can only search for 5G networks. If you do not check this option, you can search for all networks.

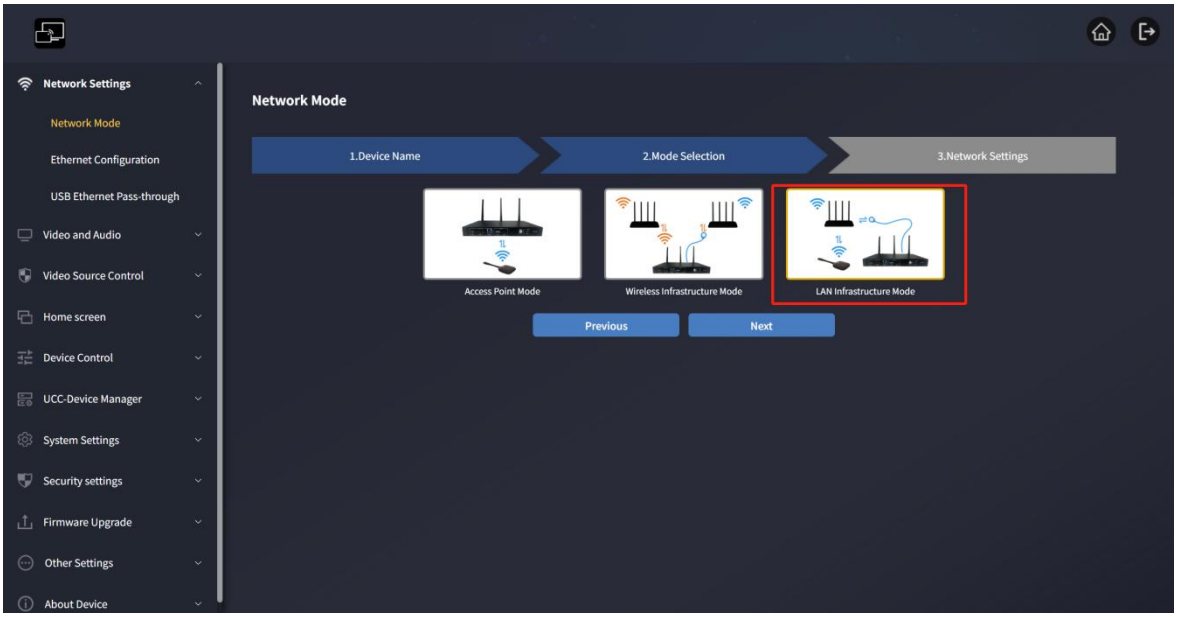
- **Select a router for the host to connect to:** Select a wireless network for the guest to connect to the VC31 receiver.
- **Password:** Enter the connection password.
- **Select a router for the Dongle to connect to:** Select the company wired network that the VC31 is connected to, and pair the Dongle with the receiver (note that the selected network must be consistent with the wired network connected to the network port, otherwise the paired dongle will not be able to connect and use).
- **Password:** Enter the connection password

Note: Usually in this mode, the sender is paired to the company network for employees to use, which will be more secure.

Click "Submit Settings" to complete the configuration. Then pair the wireless Dongle with VC31 again.

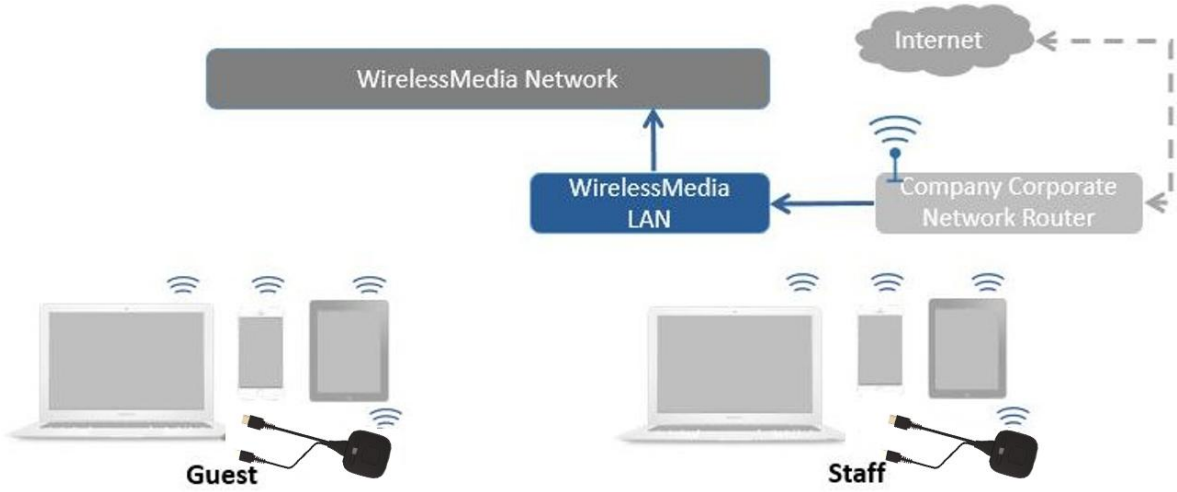


- **LAN Infrastructure Mode**



In this configuration, the VC31's built-in WiFi access point is disabled.

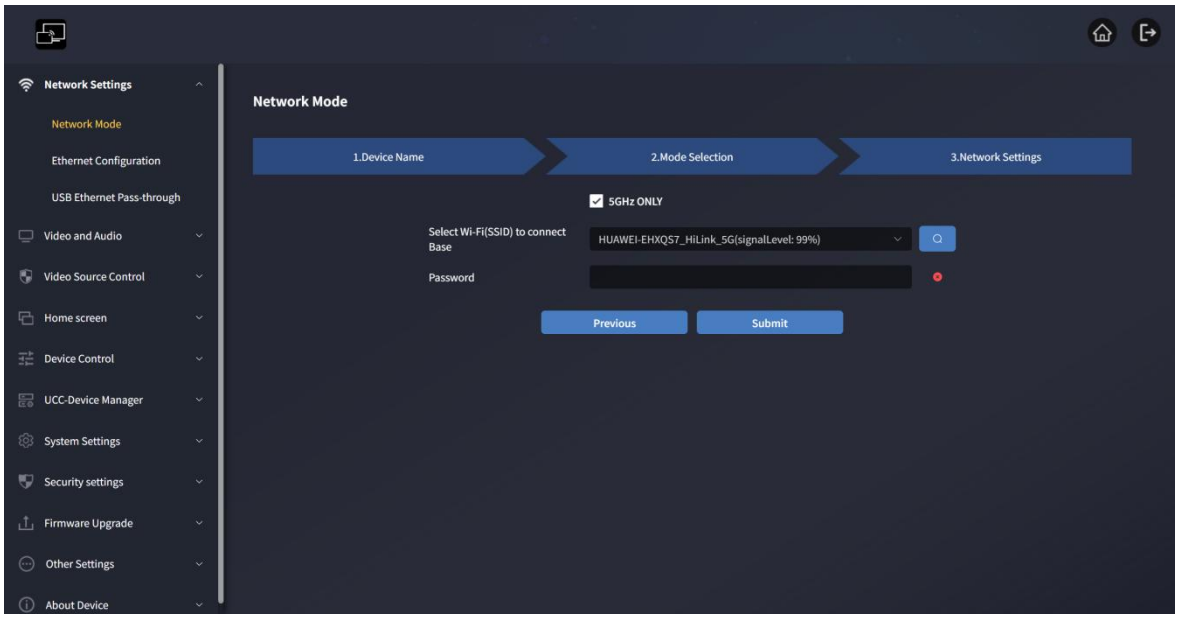
The Dongle and mobile devices can connect to the company network. The VC31 receiver will be connected to the company's wired network via Ethernet cable.This mode is primarily used when the guest network is disabled and only the employee network is used.



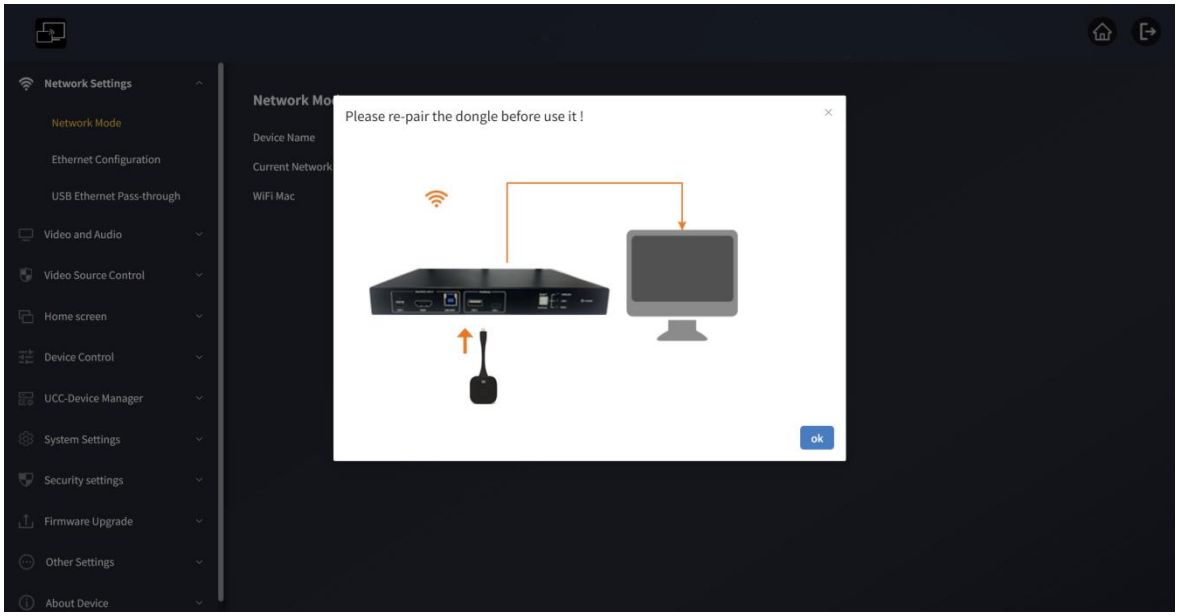
- Click "Next" to select the LAN network for company employees and pair the wireless Dongle to the network again.

- Select a router for the host to connect to: Select the wired network used by employees (the same as the wired network connected to the LAN port)

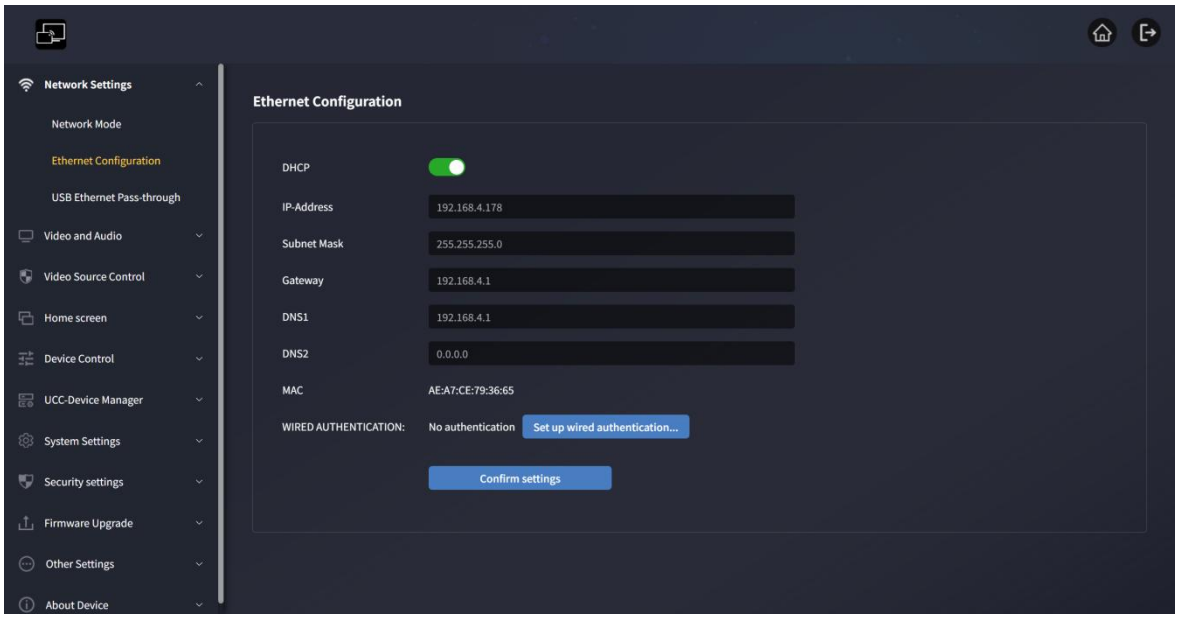
- Password: Enter the connection password



- After successful submission, please pair the wireless dongle with VC31 again.



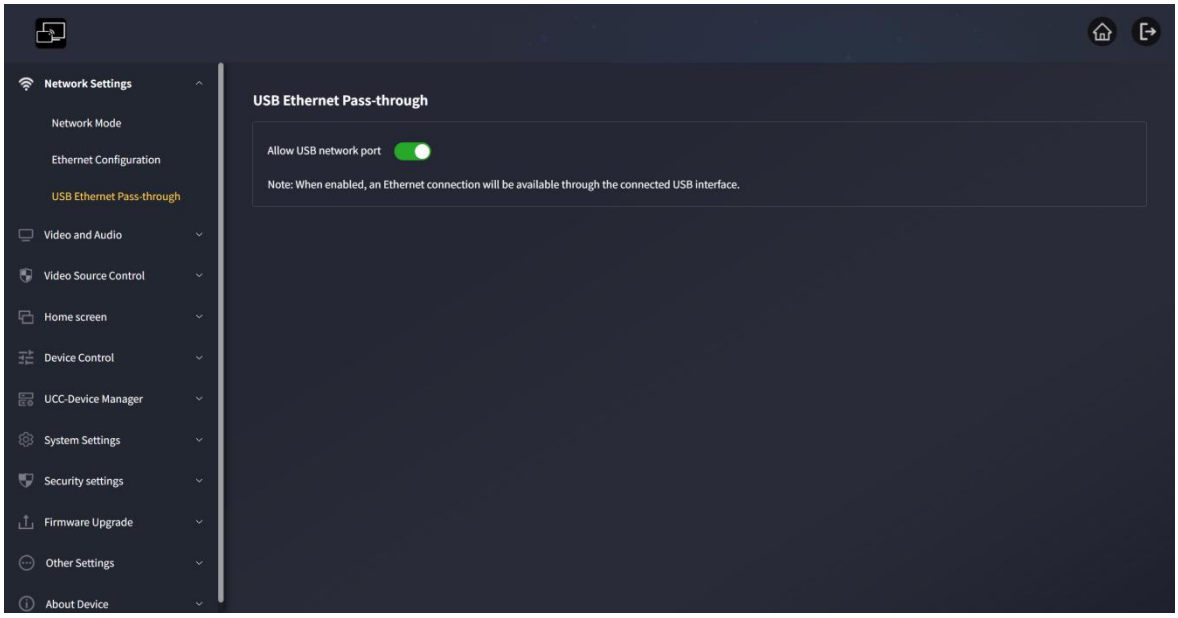
1.1.1 Wired Network Configuration (Allows the user to configure wired LAN settings)



- **DHCP**：If there is a DHCP server in the network, this parameter allows users to enable automatic IP address assignment. To configure a fixed IP address, this parameter should be disabled first.
- **Subnet Mask**：This parameter allows users to input the required network subnet mask.
- **Gateway**：This parameter allows users to input the required IP gateway.
- **Domain Name 1-2**：This parameter allows users to input the required DNS servers.
- **Wired Authentication Status**：Establish wired authentication (No Authentication, EAP-TLS, EAP-TTLS, PEAP)

1.1.2 USB Network Port

When this function is enabled, the USB port connected to the computer will simulate a network connection.



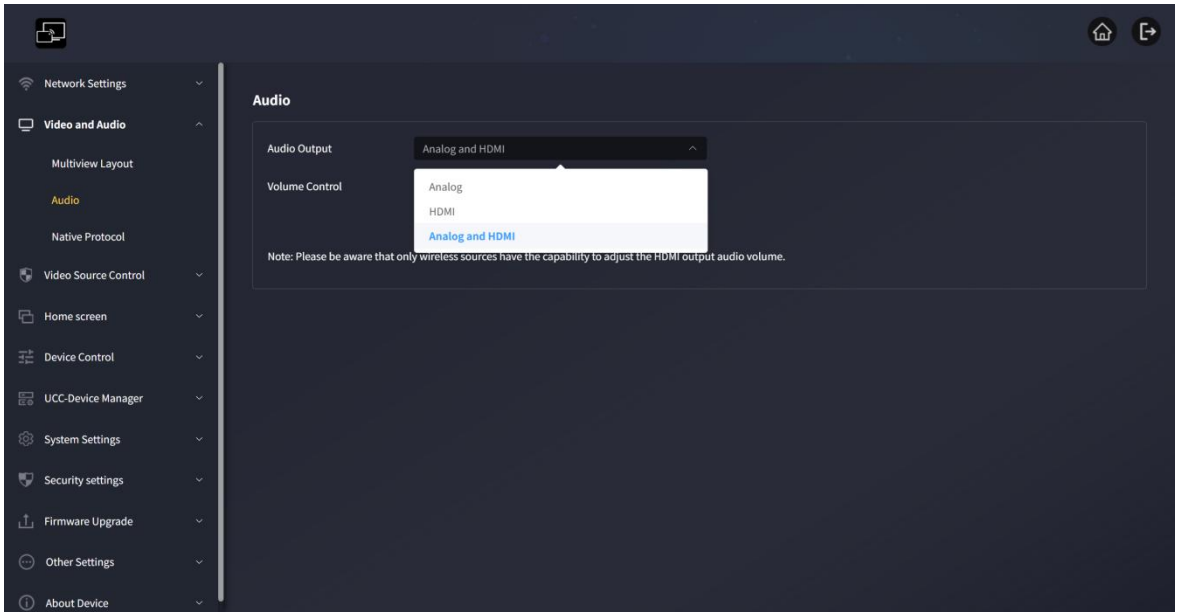
- Enable USB Simulated Network Connection: According to the previous USB port settings, the computer connected to the currently switched video signal input source will simulate a wired network connection (i.e., can access the Internet directly).

- Disable USB Simulated Network Connection: No simulated network connection will be provided for any video signal input source.

1.2 Display and Sound

1.2.1 Sound

Allows users to select the audio output source.

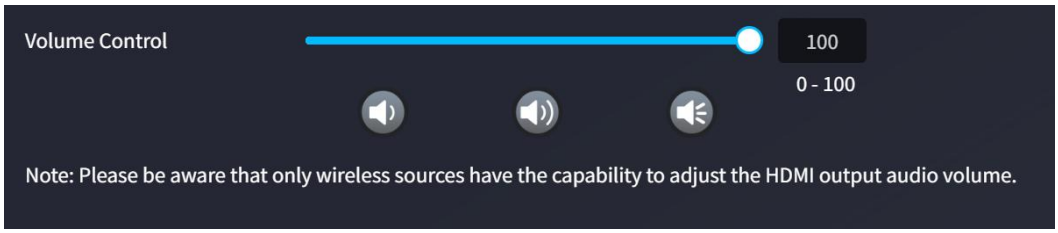


1. **Audio Output**:

- **Analog Audio Output:** Only outputs audio from the balanced audio output.
- **HDMI:** Only outputs HDMI audio.
- **Analog Audio Output & HDMI (Default)**: Outputs audio from the jack and HDMI.

2. **Volume Control:** The volume can be adjusted between 0 and 100, with a default v alue of 100. There are 3 buttons for adjustment: decrease volume, increase volum e, and volume switch.

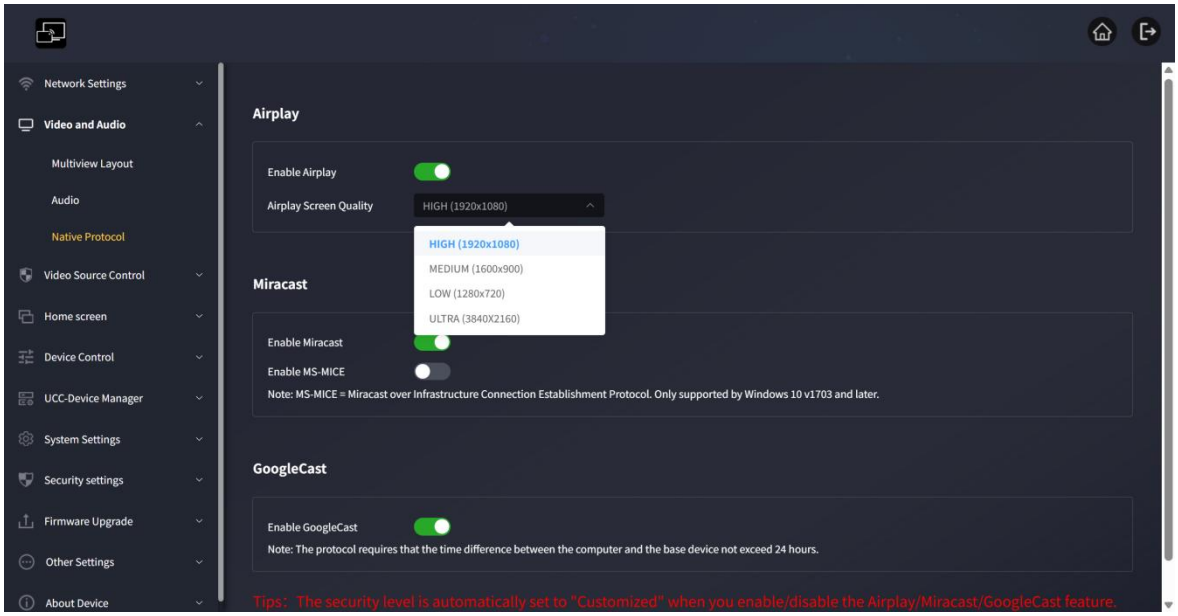
***Note**: Only wireless sources can adjust the HDMI output volume.*



1.2.2 Native Protocols

6.2.2.1 Airplay

AirPlay allows screen mirroring via Mac computers, iPhones, and iPads. If the switch is turned off, AirPlay mirroring cannot be performed.



AirPlay Switch: Enabled by default.

Airplay Mirroring Resolution：

High（1920*1080）

Medium（1600*900）

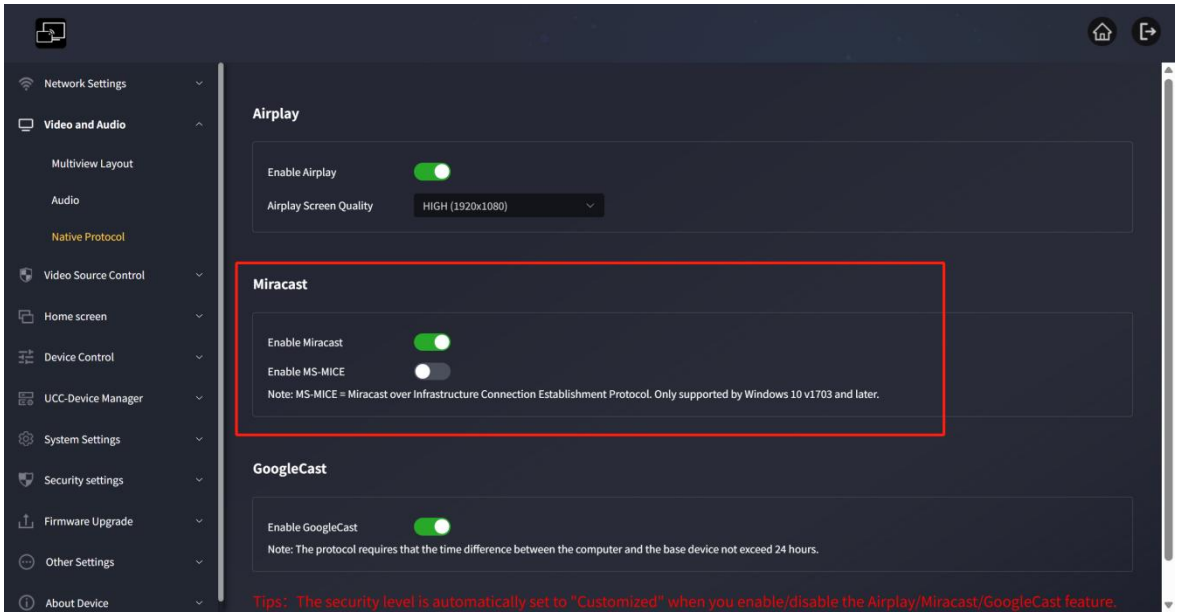
Low（1280*720）

4k（3840*2160）

Note: *Higher resolution results in clearer images but also causes greater latency. This function requires the source device and this device to be on the same local ar ea network.*

6.2.2.2 Miracast

The device supports two Miracast protocols, enabling Miracast mirroring via computers and mobile phones.



- **Miracast Switch：Enabled by default.**

Miracast uses the P2P protocol by default, with a maximum supported resolution of 1080p. In this mode, the computer and the receiver base unit do not need to be on the same network. Simply press Windows+K to enable Miracast, find the VC31 device in the searched Miracast devices, and click to connect to start mirroring.

- **Disable MS-MICE Switch: Default value.**

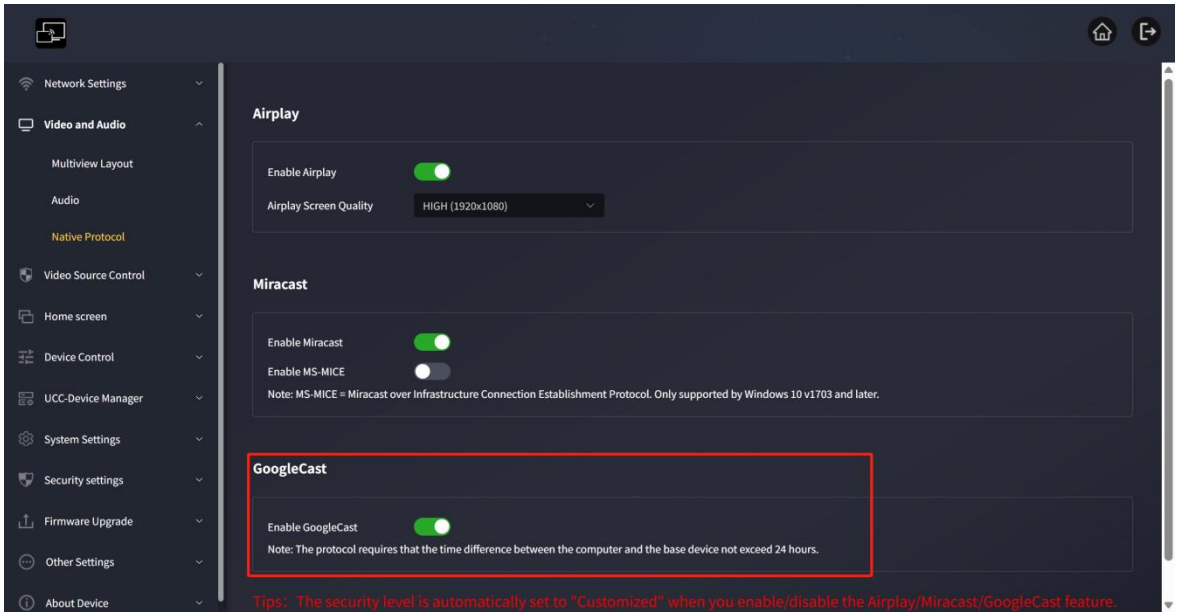
- **Enable MS-MICE Switch**

The MS-MICE protocol is an extension of the P2P protocol. Enabling this protocol requires the PC and VC31 to be on the same local area network. Device search still uses the P2P protocol, but video streaming transmission uses the local area network. There is no difference in usage compared to when the MS-MICE protocol is not enabled.

Note: *The MS-MICE function requires the source device and this device to be on the same local area network.*

6.2.2.3 GoogleCast

Google Cast allows screen mirroring via the Chrome browser. If the switch is turned off, mirroring cannot be performed.



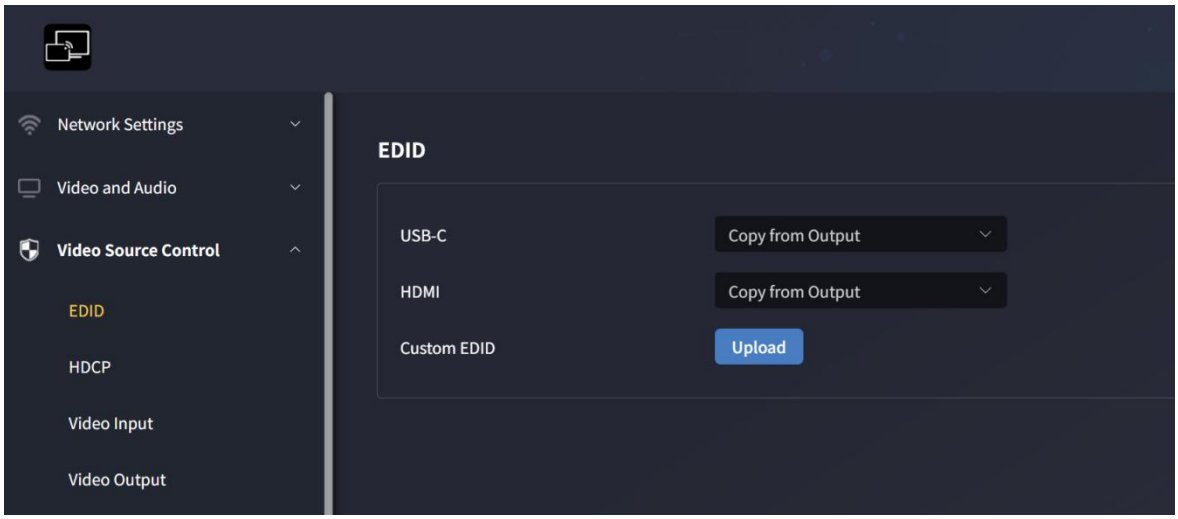
- **Google Cast Switch：Enabled by default.**

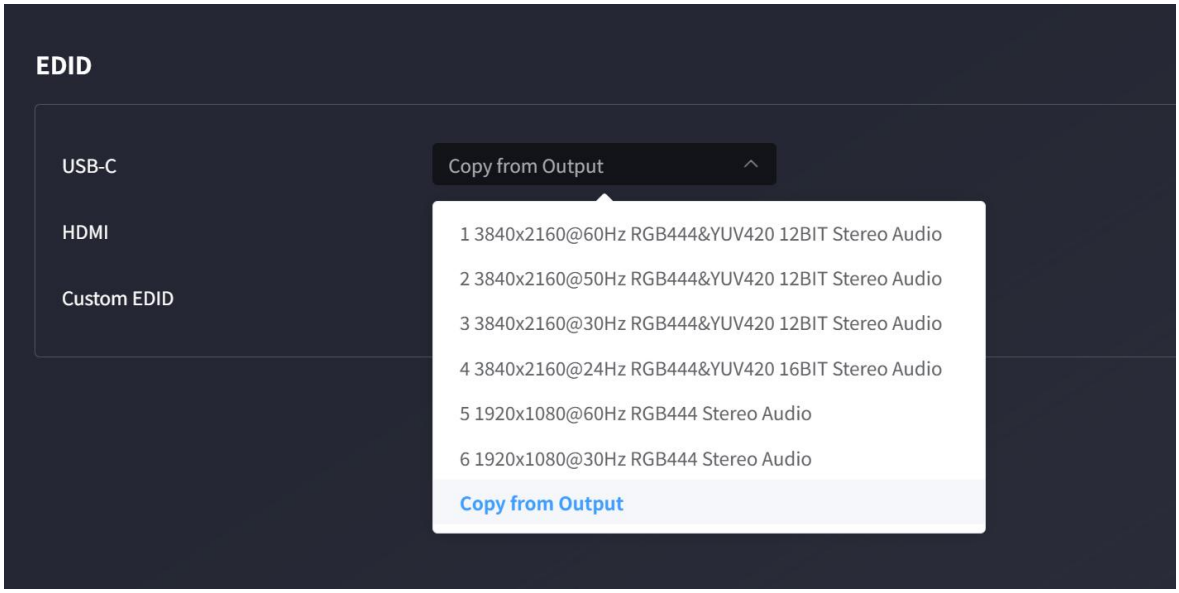
Note: *This protocol requires the time difference between the computer and the base unit to be no more than 24 hours. The Google Cast function requires the source device and this device to be on the same local area network.*

1.3 Video Source Control

1.3.1 EDID

By storing key parameters of the display such as resolution, refresh rate, and color space, it ensures that output devices (such as computers and set-top boxes) automatically adapt to the optimal display mode, avoiding display abnormalities caused by signal incompatibility.

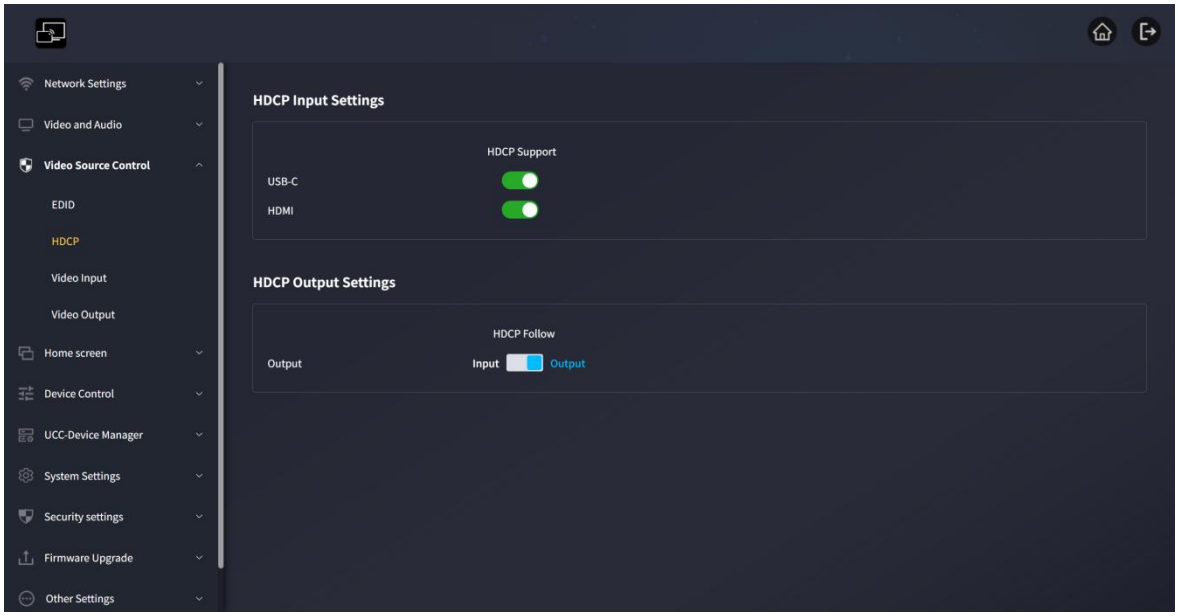




- USB-C and HDMI ports are default slave input ports, which automatically copy the EDID information of the source device and force the output signal to be completely synchronized with the input source (including resolution and color depth).
- 6 sets of EDID are preset, supporting copying from HDMI out to any input port.
- Click the "Upload EDID" button to support custom EDID upload.
  (For details, refer to 5.6.2)

1.3.2 HDCP

HDCP (High-bandwidth Digital Content Protection) encrypts the transmission link to prevent illegal recording or interception of digital audio and video content, applicable to high-definition digital interfaces such as HDMI and Display Port.



- HDCP Input Port Settings:

  Enabled (Default): Informs the source that the device supports HDCP.

  Disabled: Informs the source that the device does not support HDCP.

- HDCP Output Port Settings:

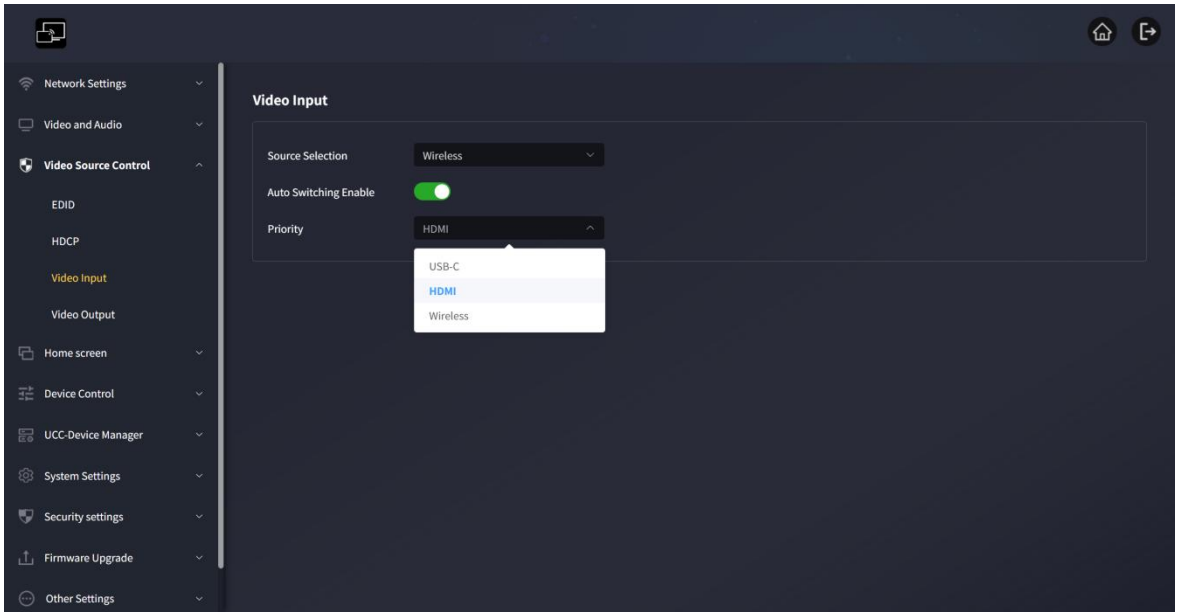
  Output (Default): If the source carries encrypted HDCP, the output should adapt to the preferred HDCP version of the downstream unit.

  Input: If the source carries encrypted HDCP, the output follows the same version as the source.

  (For details, refer to 5.6.1)

1.3.3 Video Input

Supports switching of video signal input sources, mainly including: USB-C, HDMI, and Wireless.

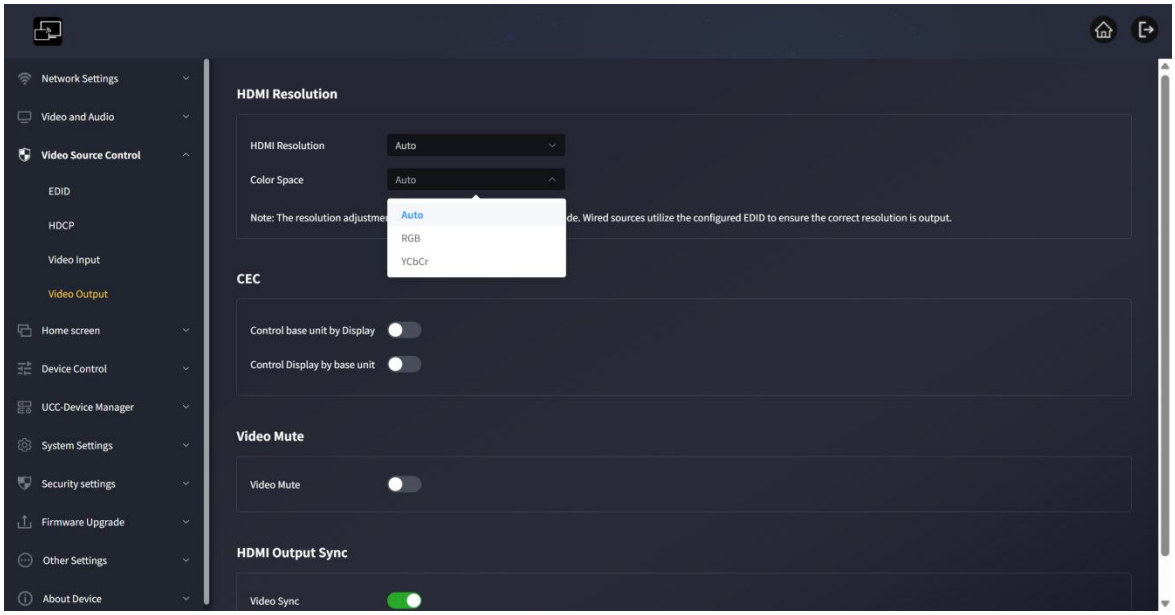


- Input Source Selection: This is for manual switching of input signal sources, including USB-C, HDMI, and Wireless options, synchronized with the front panel button selection, with the highest priority.
- Allow Auto Switching: Enable to automatically switch input signal sources, combined with priority options. The trigger condition is when 2 or more input signal sources are connected simultaneously (including power-on and plugging/unplugging actions).
- Priority: Priority setting for auto switching, including USB-C, HDMI, and Wireless options.

1.3.4 Video Output

1.3.4.1 HDMI Resolution Settings

Sets the color space and output resolution of the HDMI display.



1. **Color Space**

- **Auto:** The system dynamically selects the optimal color space (such as automatically adapting to RGB/YCbCr) according to the input signal type or display device characteristics.
- **RGB:** Generates colors by mixing the three primary colors of Red, Green, and Blue, directly corresponding to the physical light-emitting units of the display device. Each color channel ranges from 0-255 (8-bit encoding), and the combination can present approximately 16.77 million colors.
- **YCbCr:** Decomposes colors into luminance (Y) and chrominance (Cb/Cr) components:

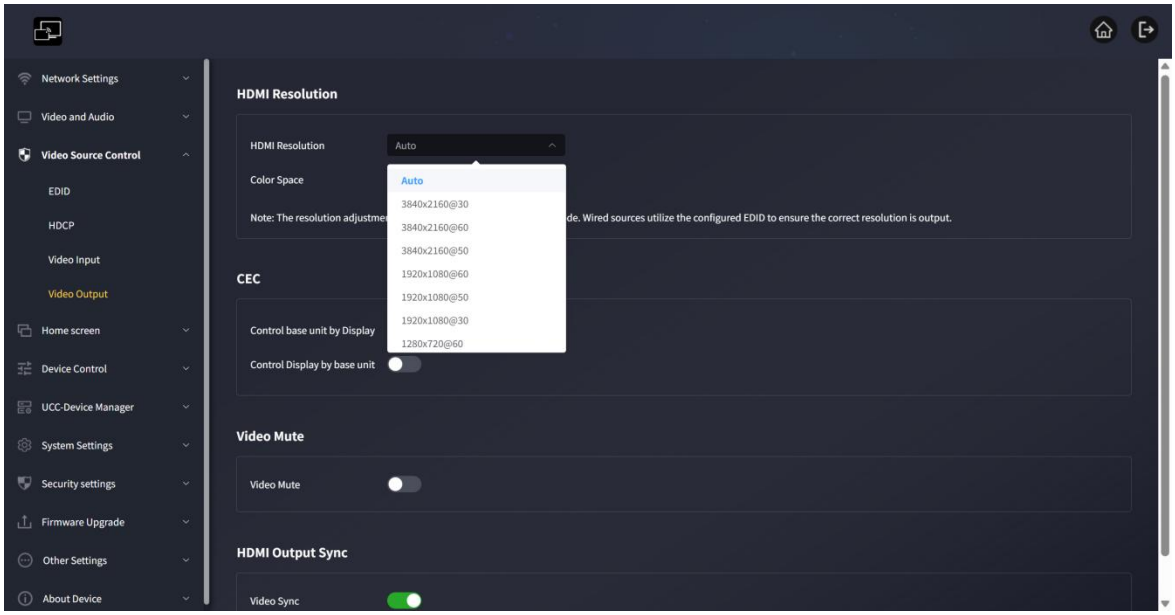
  Y: Grayscale information, dominating the brightness levels of the image.

  Cb: Blue chrominance offset.

  Cr: Red chrominance offset.

  Reduces data volume and improves transmission efficiency by reducing chrominance resolution (such as 4:2:0 sampling).

2. **Select the HDMI output resolution of the receiver, which automatically obtains th e resolutions supported by the display, for example:**

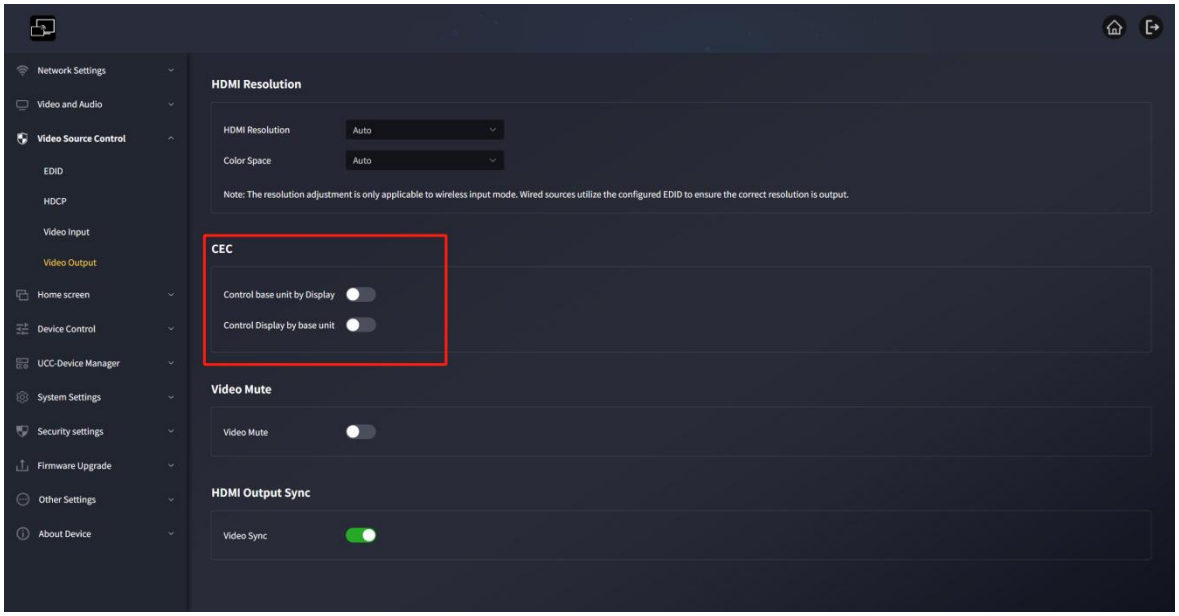


- Auto
- 3840x2160@60Hz
- 3840x2160@50Hz
- 3840x2160@30Hz
- 1920x1080@60Hz
- 1920x1080@50Hz
- 1920x1080@30Hz
- 1280x720@60Hz
- 1280x720@50Hz

If the display only supports FULL HD, 4K resolutions will not be displayed in the resolution list..

1.3.4.2 HDMI CEC Settings

If the connected display supports CEC function, VC31 supports CEC function.



- **Allow Display to Control Base Unit**

With this option, you can choose whether the connected VC31 receiver automatically enters standby mode immediately after the display is turned off.

On: Once the display is turned off, the VC31 receiver will also turn off automatically.

Off (Default): The display is turned off, but VC31 will not turn off automatically.

- **Allow Base Unit to Control Display**

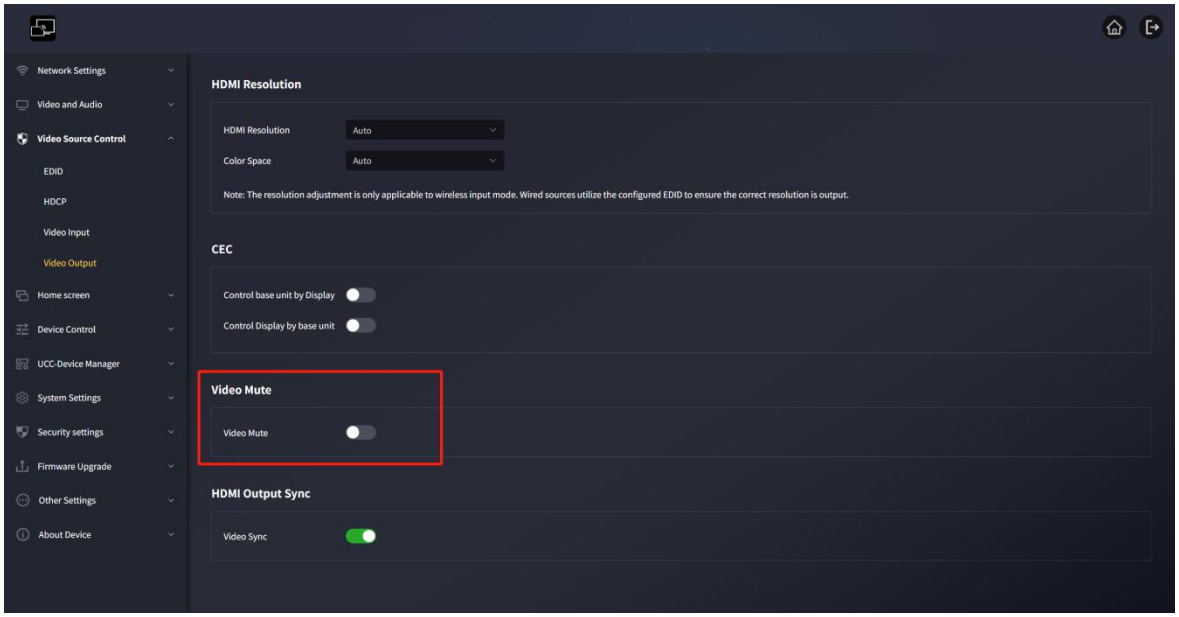
With this option, you can choose whether the connected display automatically enters standby mode immediately after the VC31 receiver is turned off.

On: Once VC31 is turned off, the connected display will also turn off automatically.

Off (Default): When VC31 is turned off, the display will not turn off automatically.

1.3.4.3 Disable Video Output

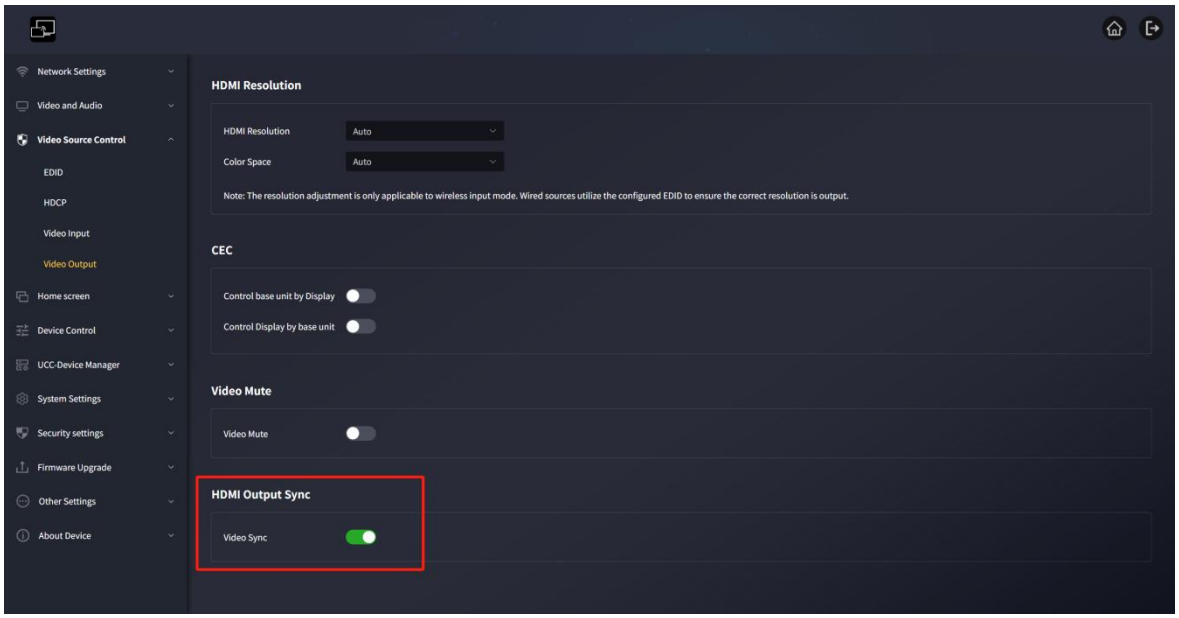
Supports enabling and disabling video display output.



- Enable Disable Video Output: Turns off the display output (shows a black screen).
- Disable Disable Video Output: Turns on normal display output.

1.3.4.4 HDMI Output Signal Synchronization

Video Synchronization = Hot Plug Detection Control



Many Pro AV devices use HPD for automatic switching or standby, etc.

- Enable Video Signal Synchronization:

-HPD (5V) is always sent from the output end, even if no source is connected to the selected input end.

-Keeps downstream devices in working state or standby state.

- Disable Video Signal Synchronization:

-When no source is connected to the selected input end, the output end does not send HPD.

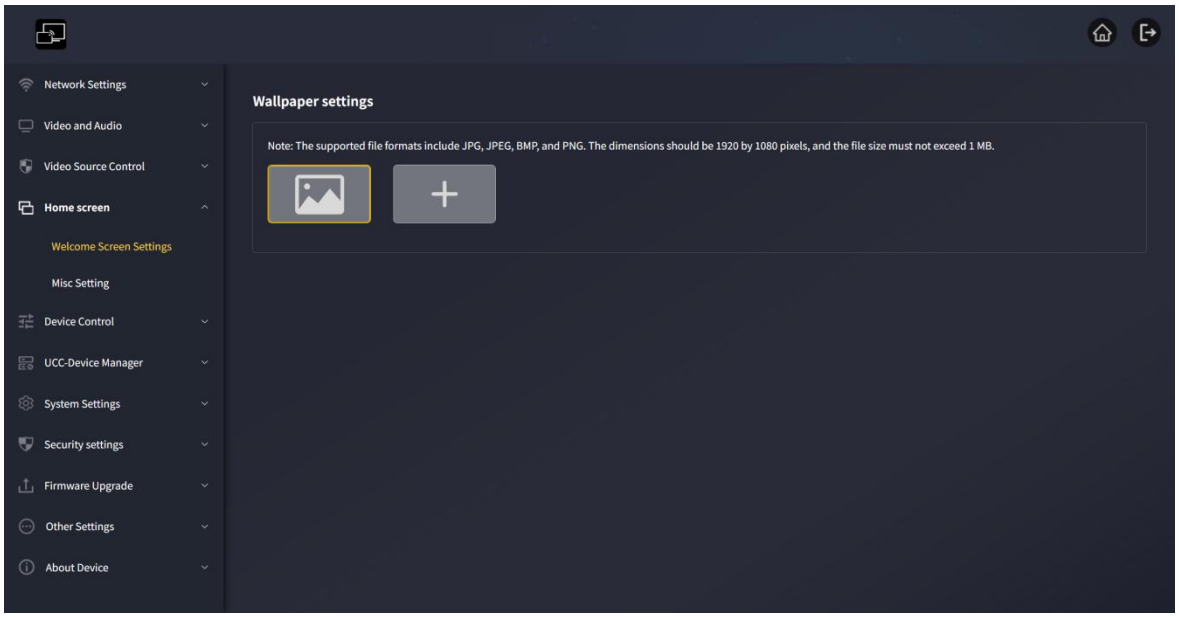
-Downstream devices can automatically switch and/or enter standby mode.

1.4 Welcome Screen

1.4.1 Customize welcome Screen

Support customizing the main screen background image. Click "+" to add local images as the main screen background.

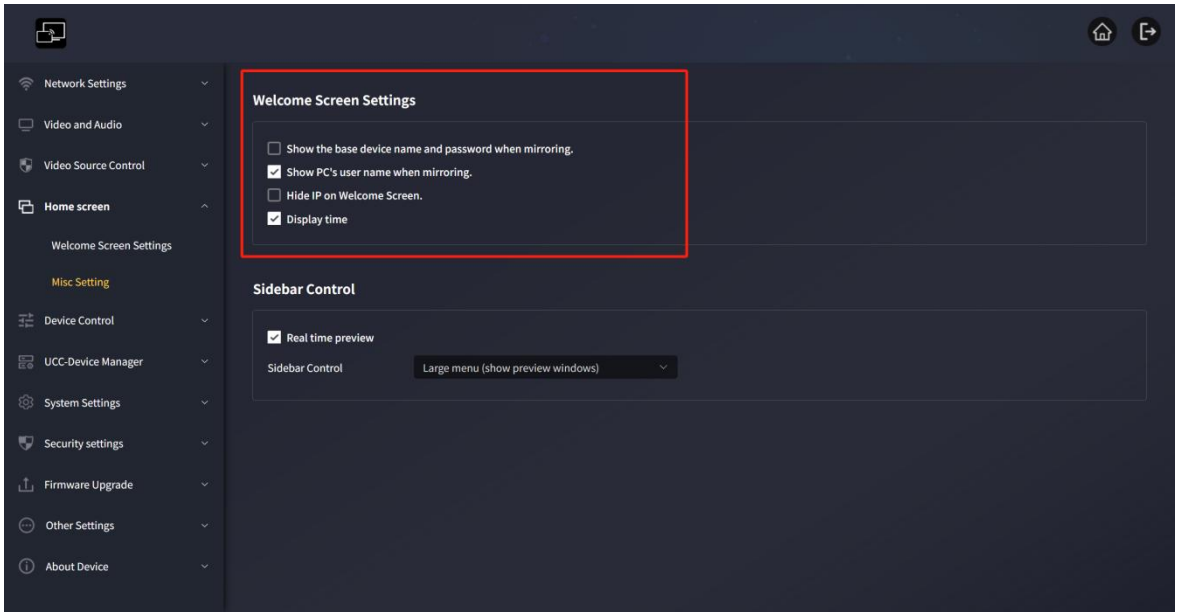
*Note: Currently supported image formats are: JPG/JPEG/BMP/PNG, with a maximum resolution of 1920*1080 and a file size within 1MB.*



1.4.2 Other Settings

1、Welcome Screen Settings

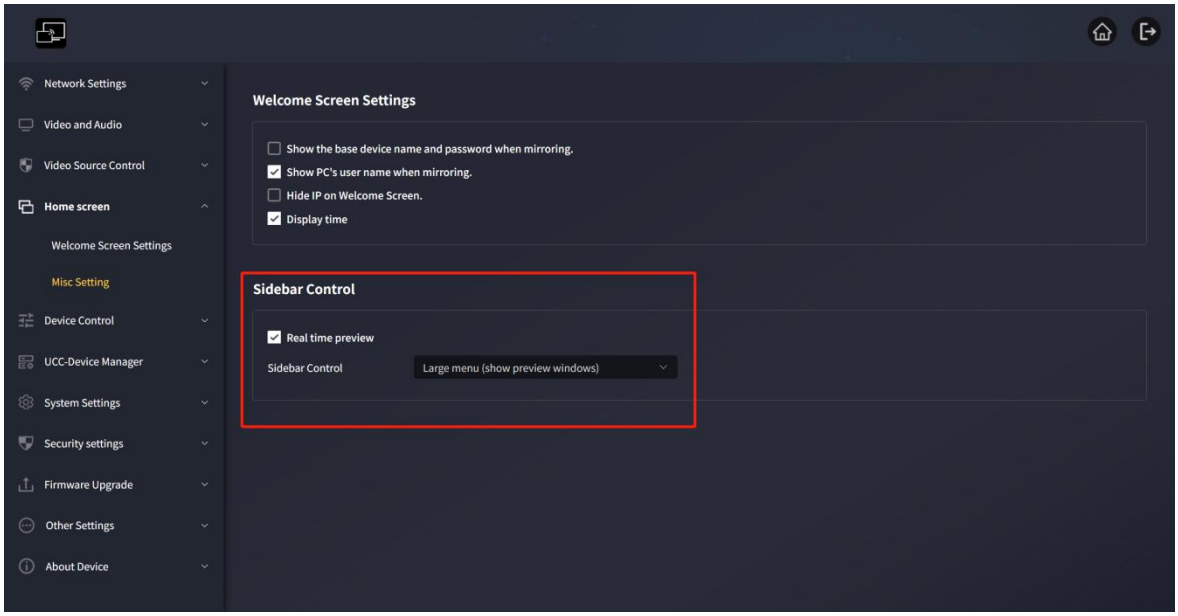
This setting is mainly used for customizing the display information status of the device welcome screen.



- **Still display device name and password when sharing the screen:** When checked, the device ID and password of VC31 will not disappear during mirroring.
- **Display computer username during mirroring:** When checked, the PC username will be displayed during mirroring.
- **Hide IP when using non-default background image:** When checked, the PC username will be displayed during mirroring.
- **Display Time:** When checked, the main screen displays the time.

2、Sidebar Control

Mainly used to set the display status of the sidebar on the main interface of the device, with three options: Fully hide the sidebar (including the arrow), Small menu (without preview window), and Large menu (with preview window).



Real-time Preview: Checked by default, displays the real-time screen of the mirroring device.

a. Fully hide the sidebar (including the arrow): The main screen does not display the sidebar at all.

b. Small menu (without preview window): The sidebar is displayed as a small menu (including whiteboard, annotation, and i information icons).

c. Large menu (with preview window): The sidebar is displayed as a large menu, showing the mirroring preview window.

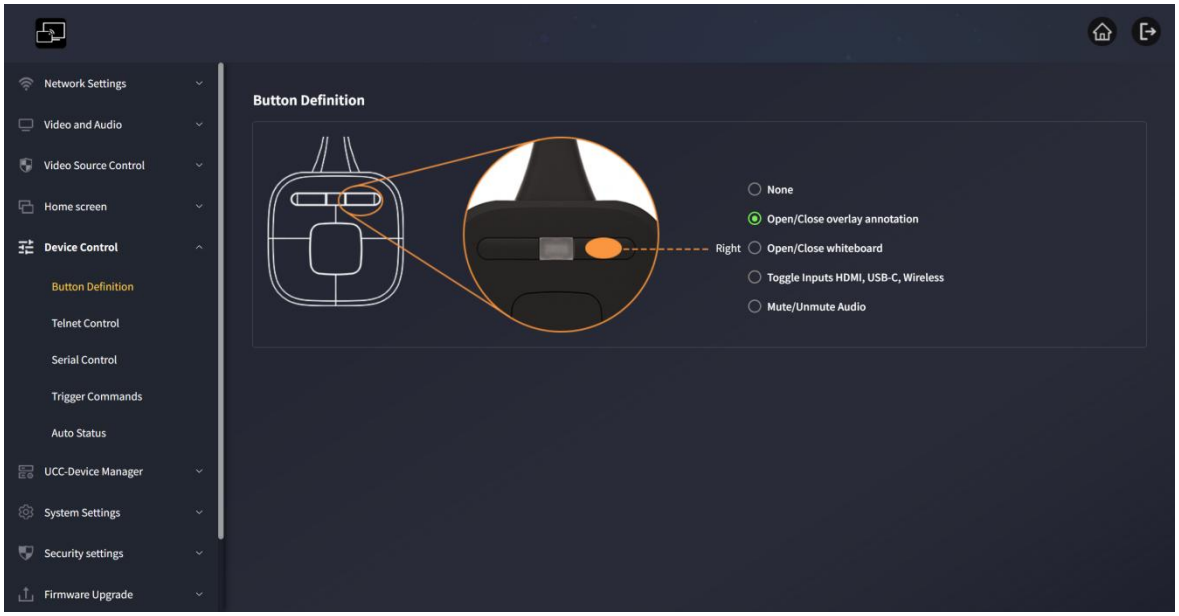
1.5 Device Control

1.5.1 Key Function Definition

Support customizing the right-click function of the dongle.

1. None: Clicking the custom key has no response.
2. Enable/Disable Annotation (Default): This function enables the annotation mode in the wireless channel, allowing users to draw or write annotations on the presented content of the active shared device.
3. Enable/Disable Whiteboard: This function opens a whiteboard in the wireless channel, allowing users to take notes and draw content.

4. Cycle Switch Between HDMI, USB-C, and Wireless Input Sources: This function realizes cycle switching of three signal sources, which can be quickly switched through the custom key.
5. Mute/Unmute Audio: This function plays audio and video during wireless channel mirroring, and mutes/unmutes when the custom key is clicked.



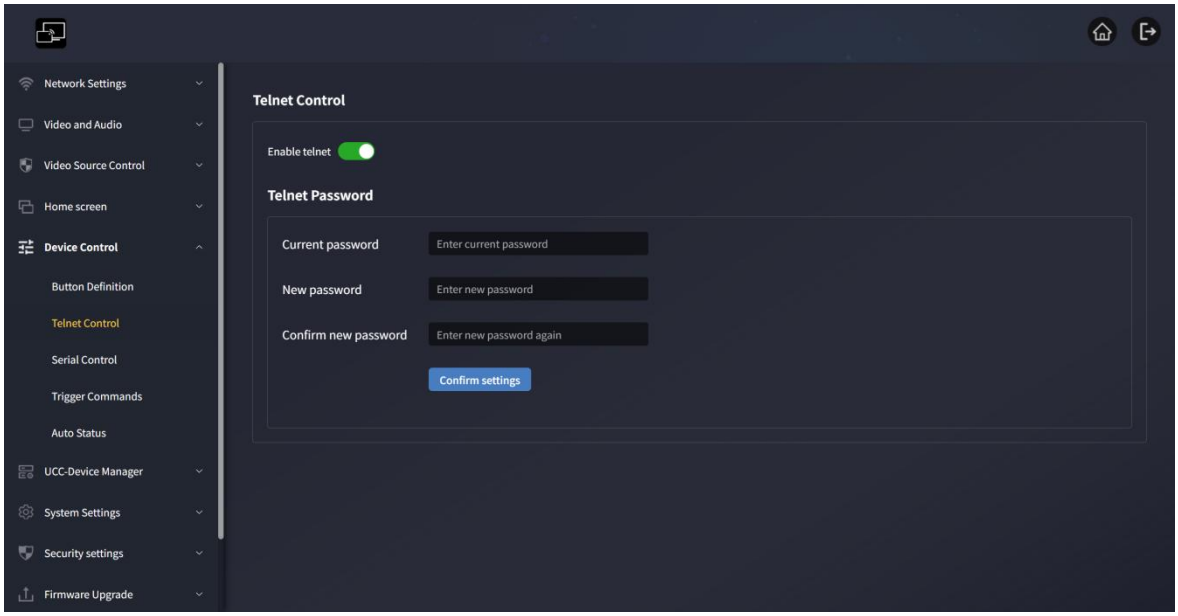
1.5.2 Remote Login (Telnet) Control

Allow Remote Login (Telnet) Function: Enabled by default. This switch needs to be turned on for Telnet commands to control the device.
Turning off the switch will disable the use of Telnet commands to control VC31.

• For Telnet communication via TCP commands, enter the current VC31 receiver IP address and port: 23.

• For commands containing multiple words, spaces are required between each word.

• Commands are case-insensitive.



This section allows users to change the password to access Telnet control of the device. The default password is "admin".

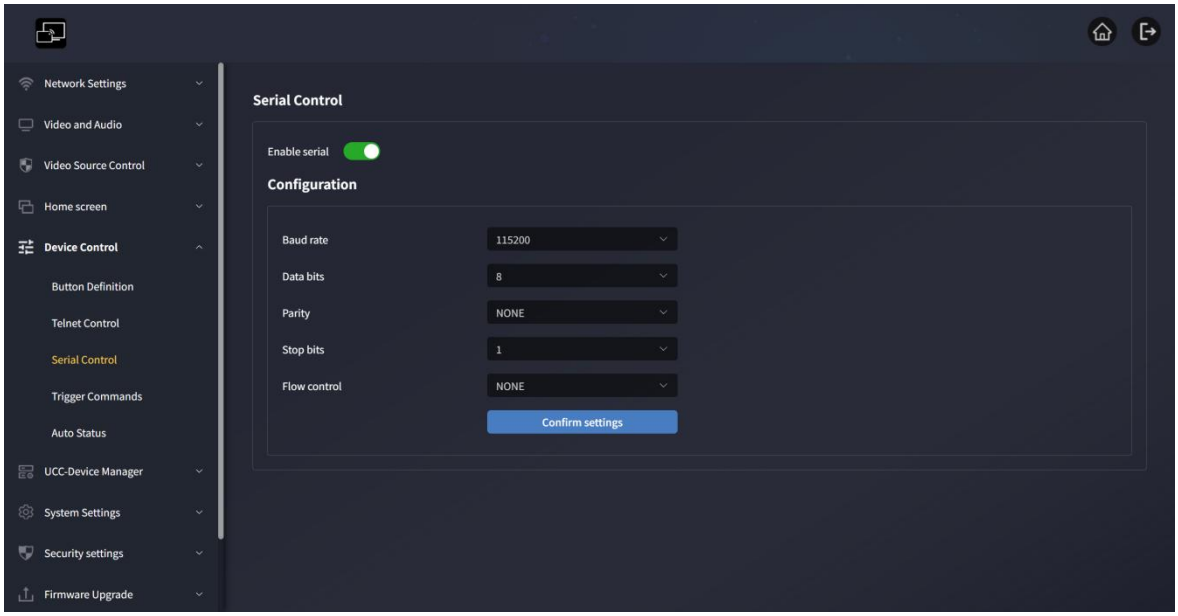
- Current Password: Enter the current login password of the device.
- New Password: Enter the new password you want to set.
- Confirm New Password: Enter the set new password again.

1.5.3 Serial Port Control

The serial port function is enabled by default. Turning it off will disable the use of RS-232 commands to control VC31.

Set the baud rate, data bits, parity, stop bits, and flow control as needed.

- For RS-232 serial communication, as mentioned above, enter your selected parameters on the serial port setting screen.



1.5.4 Trigger Commands

The command trigger function is disabled by default. When enabled, it will report the status information of three operations of VC31 input source connection, disconnection, and device restart.

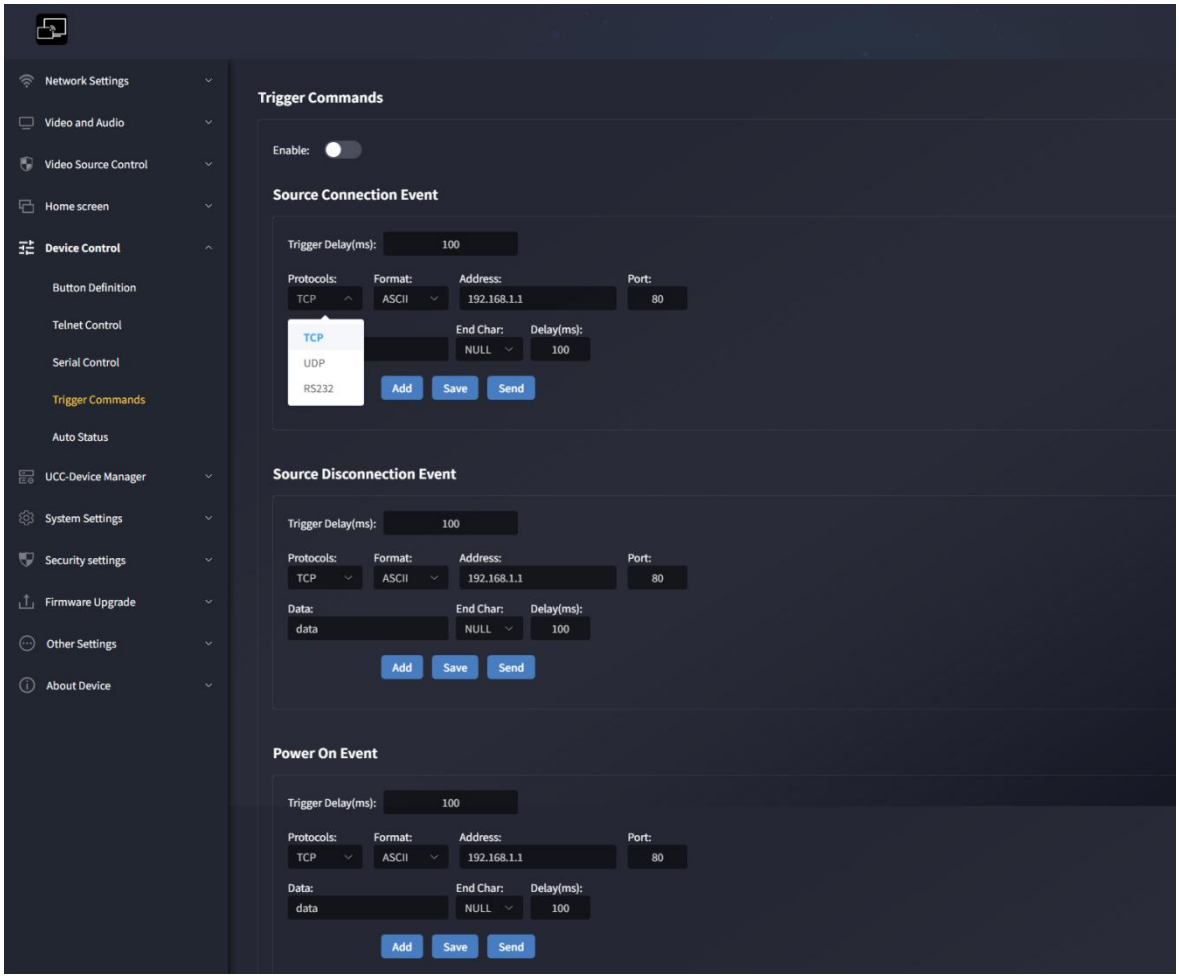
Set the delay trigger time, protocol, format, address, port, data, terminator, and delay time as needed.

• For TCP protocol, as mentioned above, the PC and the device are on the same local area network. Use the tool to enter your selected parameters on the TCP Server port setting screen.

• For UDP protocol, as mentioned above, the PC and the device are on the same local area network. Use the tool to enter your selected parameters on the UDP port setting screen.

• For RS232 protocol, as mentioned above, enter your selected parameters on the serial port setting screen.

The computer's firewall needs to be turned off for normal data reporting.

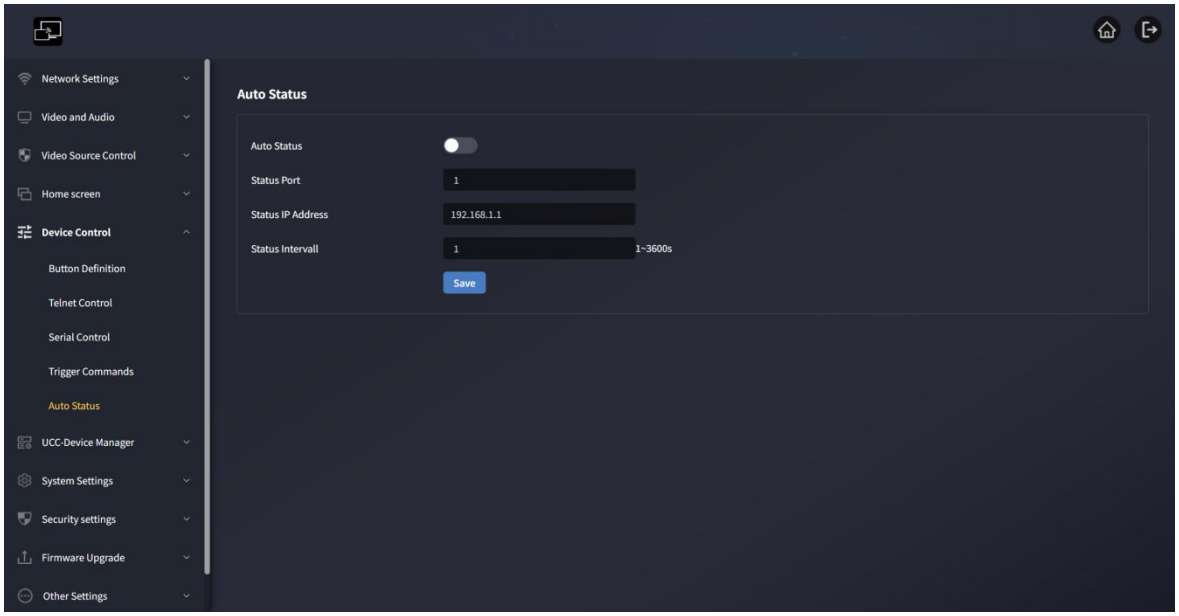


1.5.5 Automatic Status Report

The automatic status report function is disabled by default. When enabled, it will report VC31 status information.

Set the target IP address port, target IP address, and sending interval as needed.

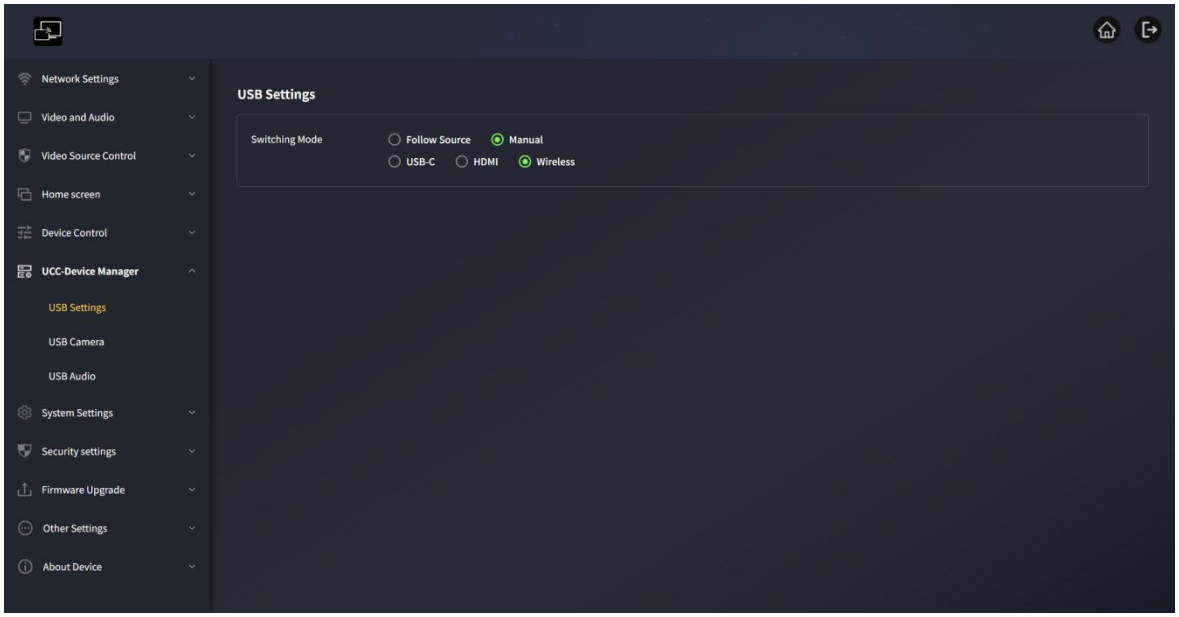
- As mentioned above, use the tool to configure and enter your set parameter information on the UDP port setting screen.



1.6 UCC Device Management

1.6.1 USB Port Settings

USB port settings are mainly used to manage the access permissions of the device to USB interfaces (rear panel USB DEVICES interface).



There are two USB switching modes:

- Follow Source: Switch USB interface devices (such as cameras/microphones, etc.) to be accessed by the current video signal input source.

- Manual: Switch USB interface devices (such as cameras/microphones, etc.) to be accessed by the manually selected video signal input source (regardless of whether it is the currently displayed signal source), including HDMI, USB-C, and Wireless three video signal input sources.

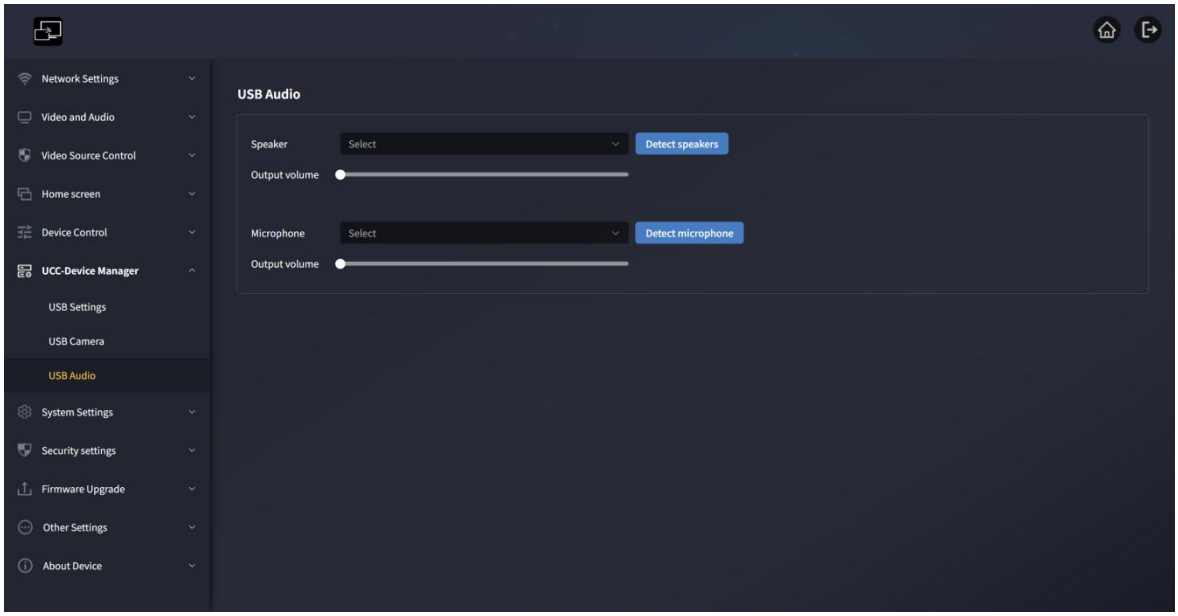
1.6.2 USB Camera

Allows users to select and monitor UVC and UAC devices connected to the VC31 receiver.

Allows users to select and view the preview of the current USB video device. When multiple cameras are connected, you can switch the camera to use here.

1.6.3 USB Audio

Allows users to select and view the preview of the current USB audio device. When multiple microphones are connected, you can switch the microphone to use here.



- **Test Speaker:** Click this button to test if the audio device outputs sound normally; click again to cancel.
- **Test Microphone:** Click this button to test if the audio device inputs sound normally; click again to cancel.

1.7 System Settings

1.7.1 Date & Time

1. Date & Time

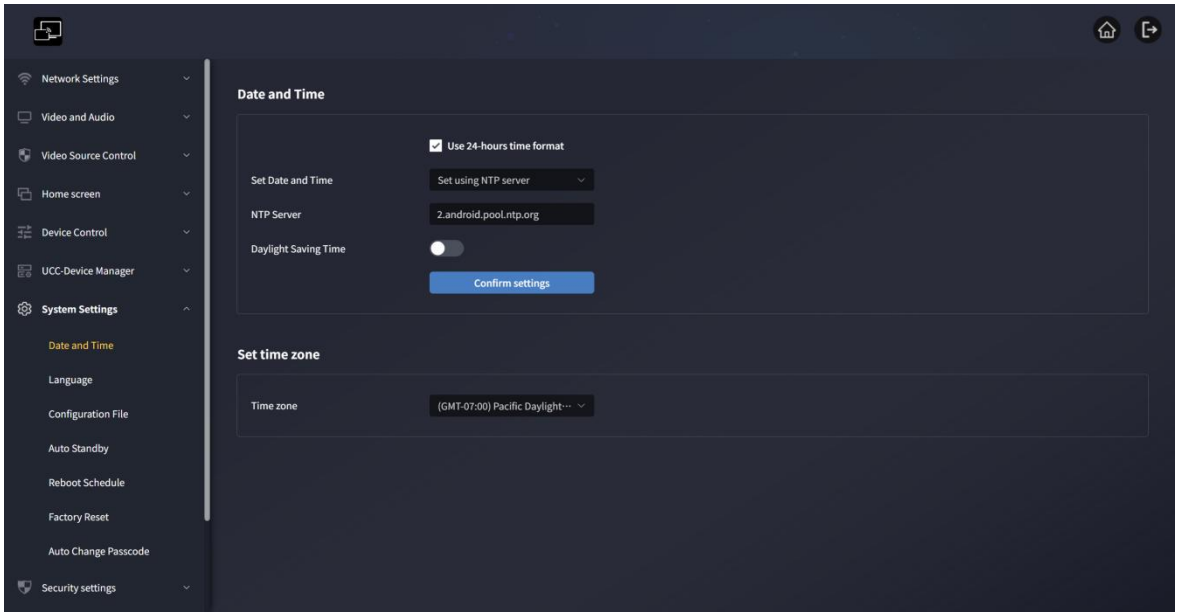
Use 24-hour Time Format: When checked, the time will be displayed in 24-hour format; otherwise, it will be in 12-hour format.

Time Server Address: 2.android.pool.ntp.org

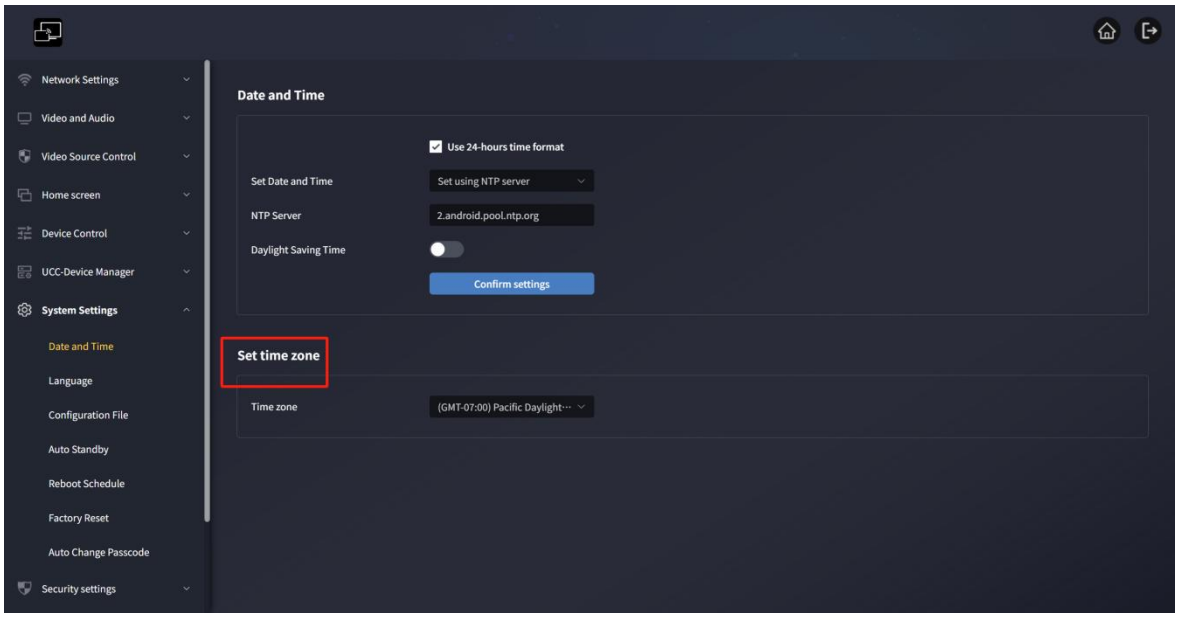
Set Date & Time:

• **Use Network Time:** Check to use the time provided by the NTP time server as the system time.

• **Off:** After turning off network time, you can set the date and time manually.

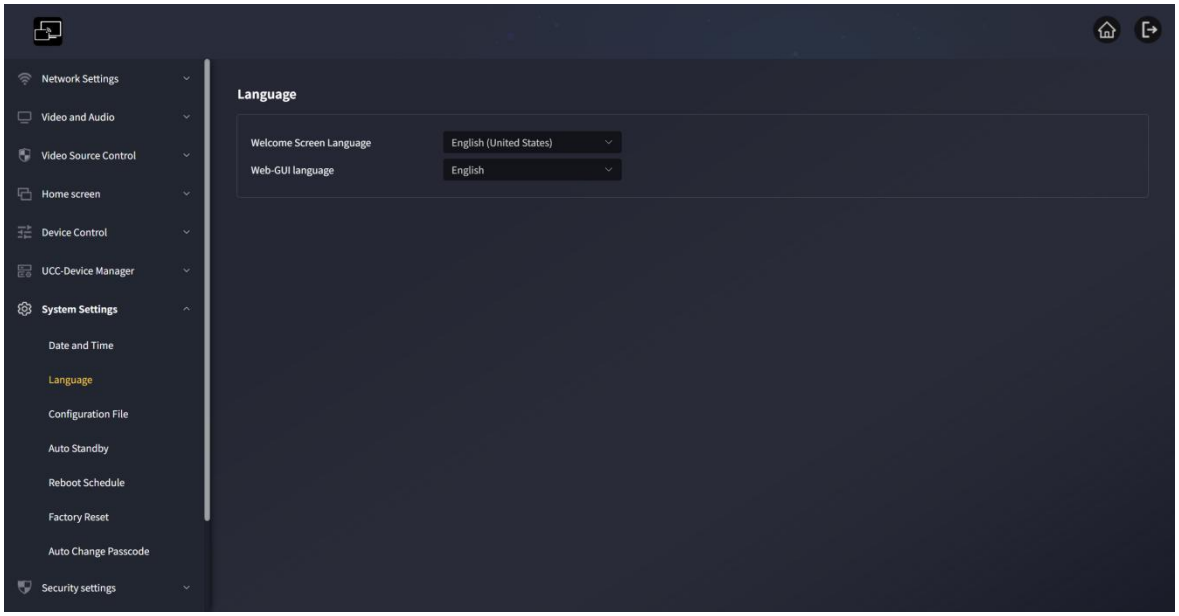


- 2. **Time Zone**: Click the "Time Zone" tab to select the appropriate time zone.



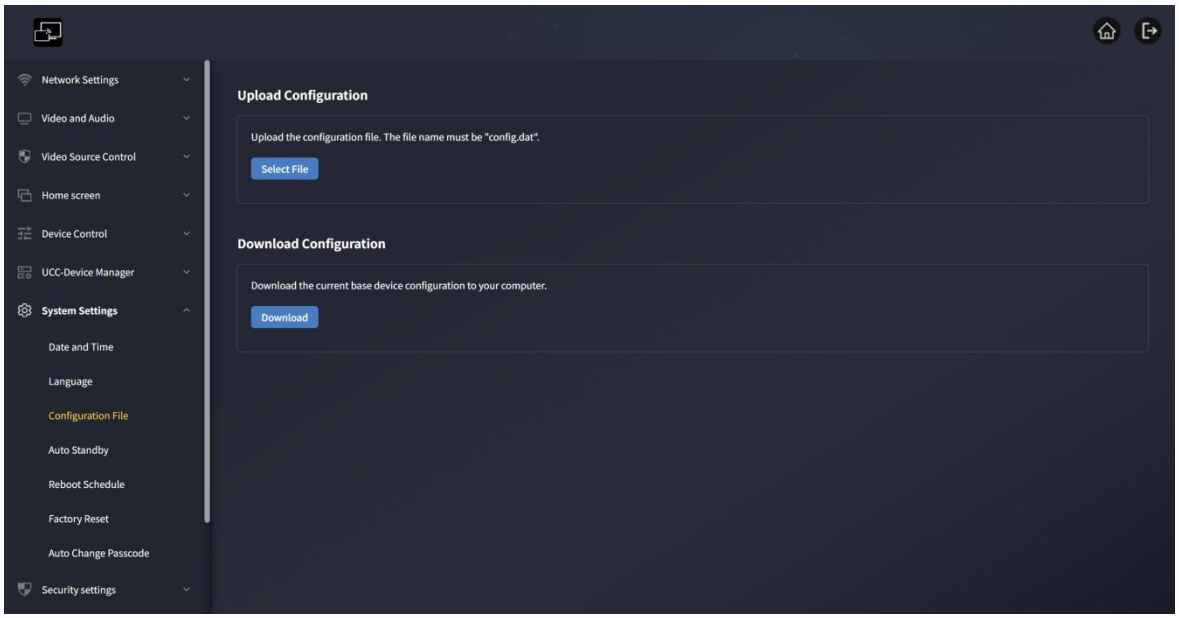
1.7.2 Language

Allows users to select the display language for the homepage and web page: The default homepage language is English, and the default web page language is English.



1.7.3 Configuration File

A configuration file is a downloadable preset that saves all configured parameters so that they can be loaded onto other devices.

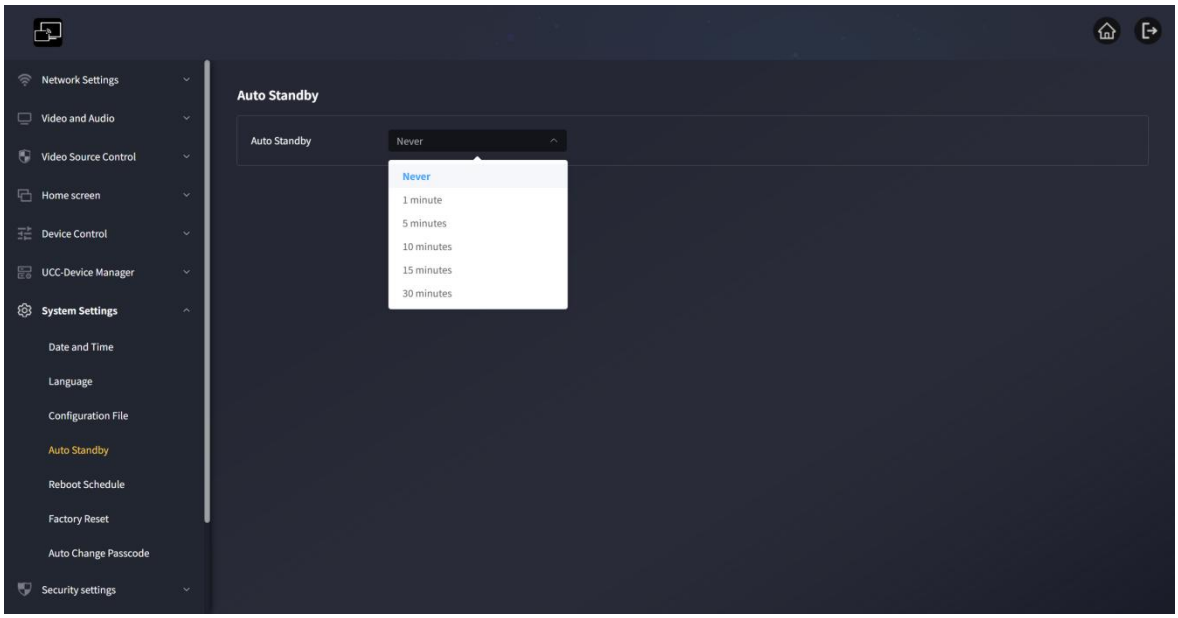


Upload Configuration: Upload the configuration file. The file name must be "config.dat".

Download Configuration: Download the current device configuration to your computer.

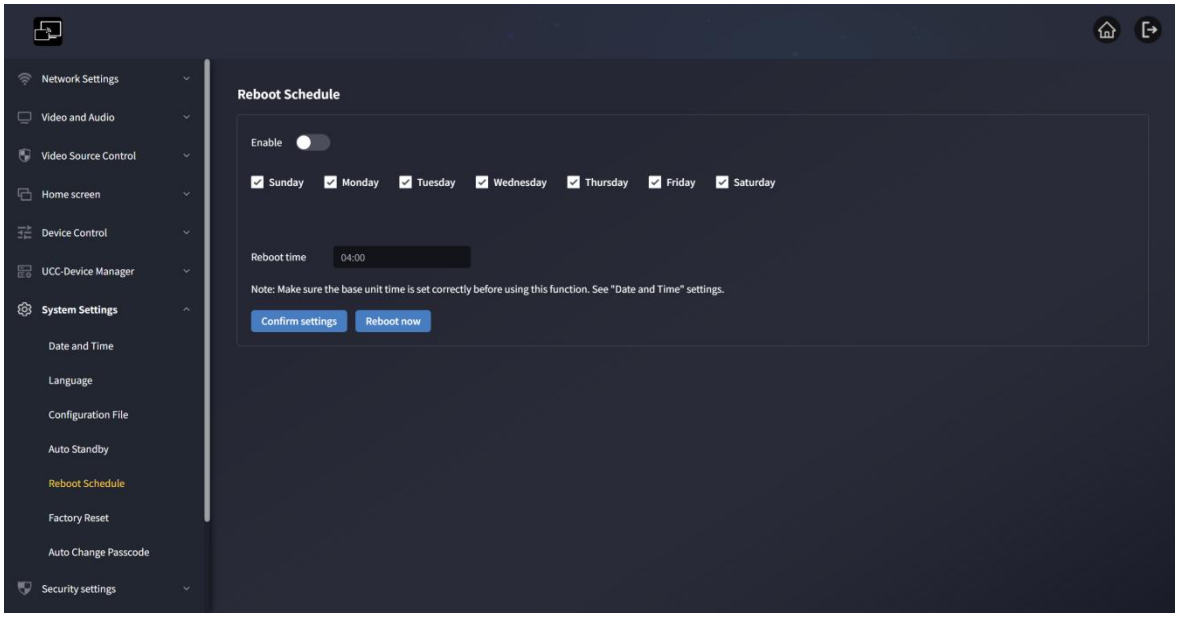
1.7.4 Auto Standby

If the auto standby mode is activated, VC31 will automatically switch to power-saving mode after an optional time following the last wireless dongle disconnection, or when the mobile device's WiFi is disconnected, or when there is no system operation. The time can be selected from "Never" up to 30 minutes. In standby mode,
the green LED on the front panel will turn to red, and the HDMI output is turned off.



1.7.5 Scheduled Reboot

Allows users to perform scheduled reboots and arrange weekly reboot routines.



Enable Scheduled Reboot Switch:

1. Support setting the scheduled reboot time for the VC31 receiver, and select any days you need to reboot (from Monday to Sunday).

2. Manually set the reboot time.

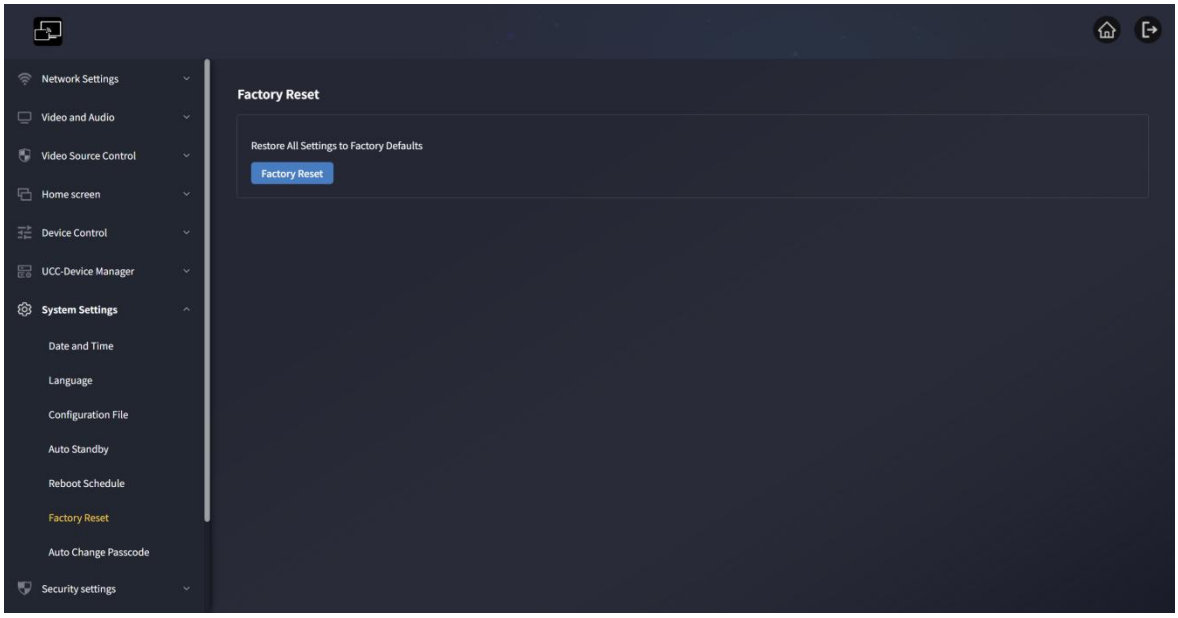
3. After confirming the settings, the VC31 receiver will reboot at the set date and time.

Regardless of whether scheduled reboot is enabled, you can click "Reboot Now" to reboot the device immediately.

Note: Before using this function, ensure that the base unit time is set correctly. For convenience, the base unit time can be automatically corrected by connecting the base unit to the Internet.

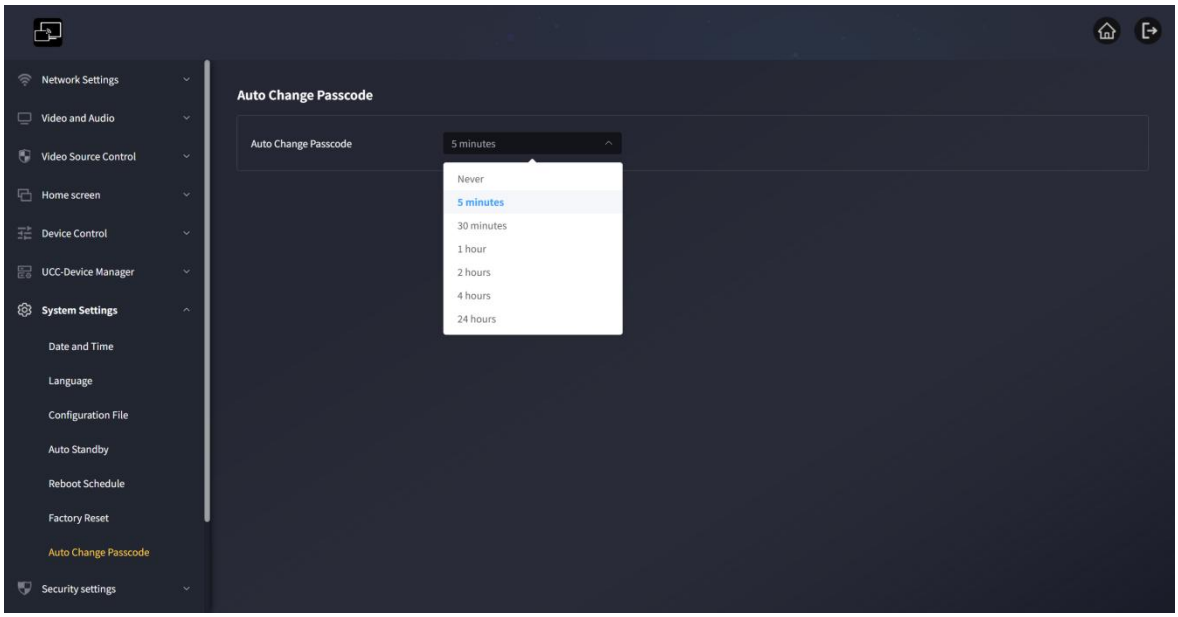
1.7.6 Restore Factory Settings

Allows users to perform factory reset to restore the device to default settings.



1.7.7 Auto Change Password

The passwords of all meeting participants remain unchanged while at least one wireless dongle or mobile device is connected to the VC31 receiver. After users disconnect, a configurable timeout will start. If the password is changed, users do not need to re-pair the dongle.



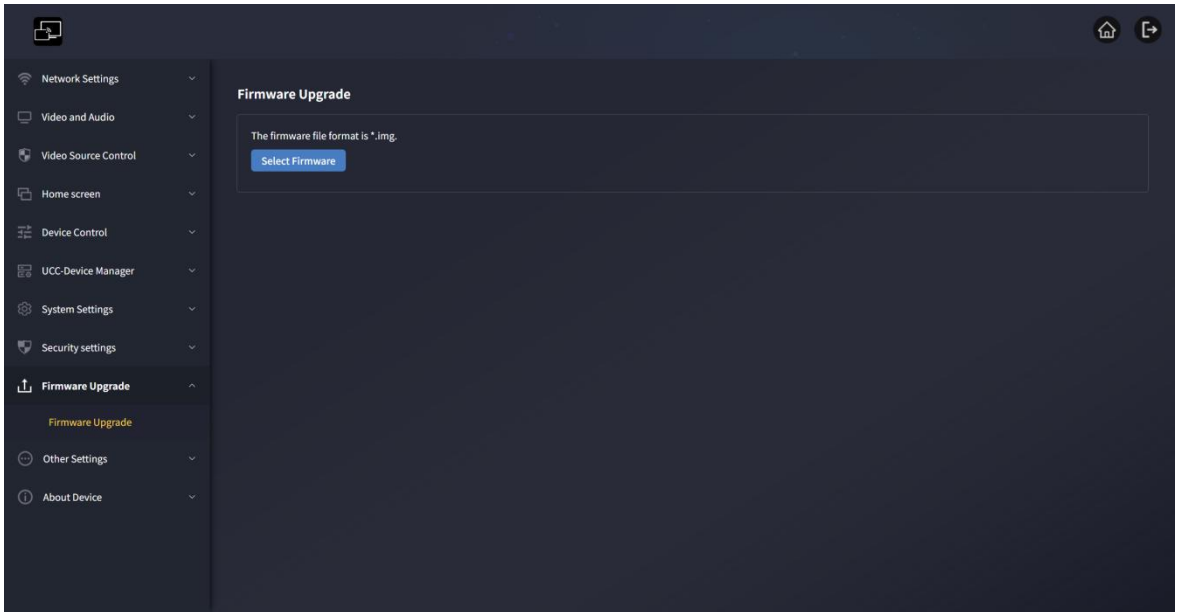
Options for auto changing password:

- Never: Never change the WiFi password (even after POWER-OFF).
- 5 Minutes: Change the WiFi password every 5 minutes.
- 30 Minutes: Change the WiFi password every 30 minutes.
- 1 Hour: Change the WiFi password every 1 hour.
- 2 Hours: Change the WiFi password every 2 hours.
- 4 Hours: Change the WiFi password every 4 hours.
- 24 Hours: Change the WiFi password every 24 hours.

1.8 Firmware Upgrade

1.8.1 Firmware Upgrade

Users can upload local update files to upgrade VC31. The firmware file format is *.img.



1.9 Security Settings

1.9.1 Security Level

According to user needs, three different security levels can be set to meet different security requirements.

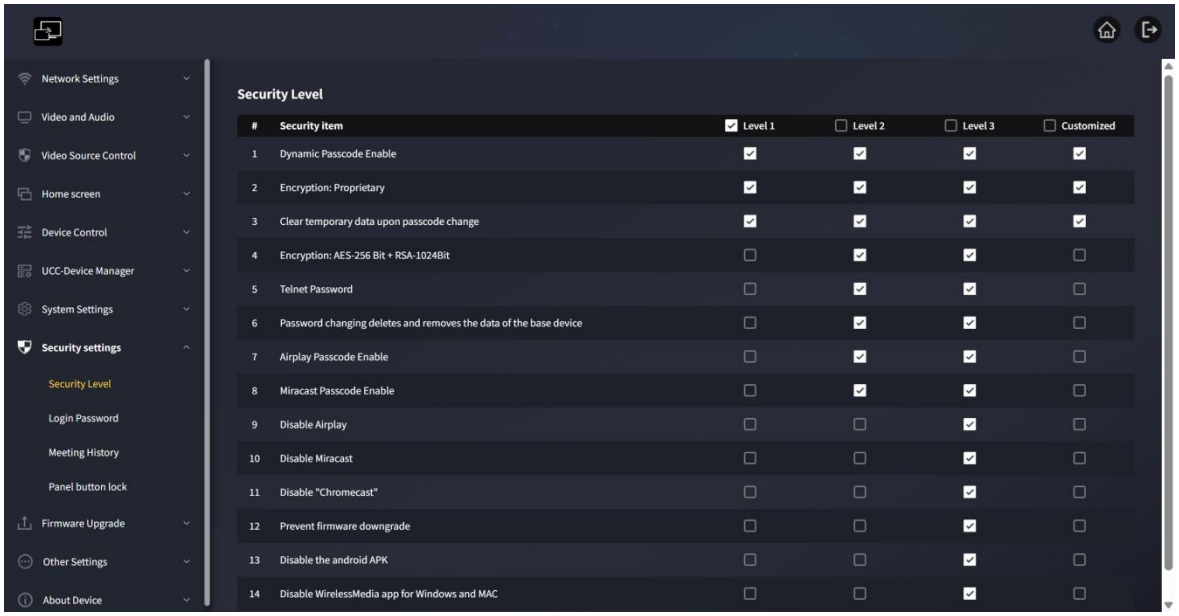
Click the corresponding item in the menu to adjust the corresponding security functions. The default setting is Level 1.

- **Level 1:** Normal Security; Maintains normal and daily security for any organization (such as classrooms, regular meeting rooms, etc.).
- **Level 2:** Higher Security; Provides higher security for companies, organizations, government agencies, etc., through strong audio and video data encryption; other security functions include restricting "AirPlay" transmission by introducing passwords.
- **Level 3:** For strict security requirements of companies, organizations, authorities, and banks.

This level includes all "Level 2" security measures; in addition, all mobile applications and Web settings GUI will be blocked. Moreover, firmware downgrade will be impossible.

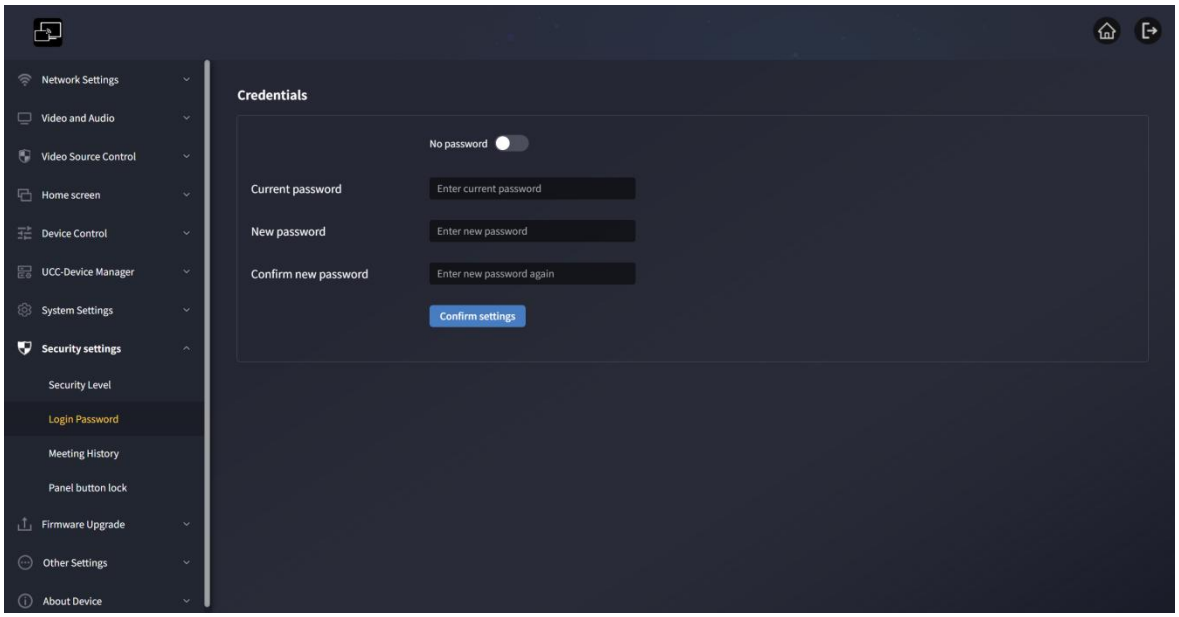
- **Custom:** The user can check security level options as needed.

The security level will be displayed on the main screen; click the icon. 



1.9.2 Login Password

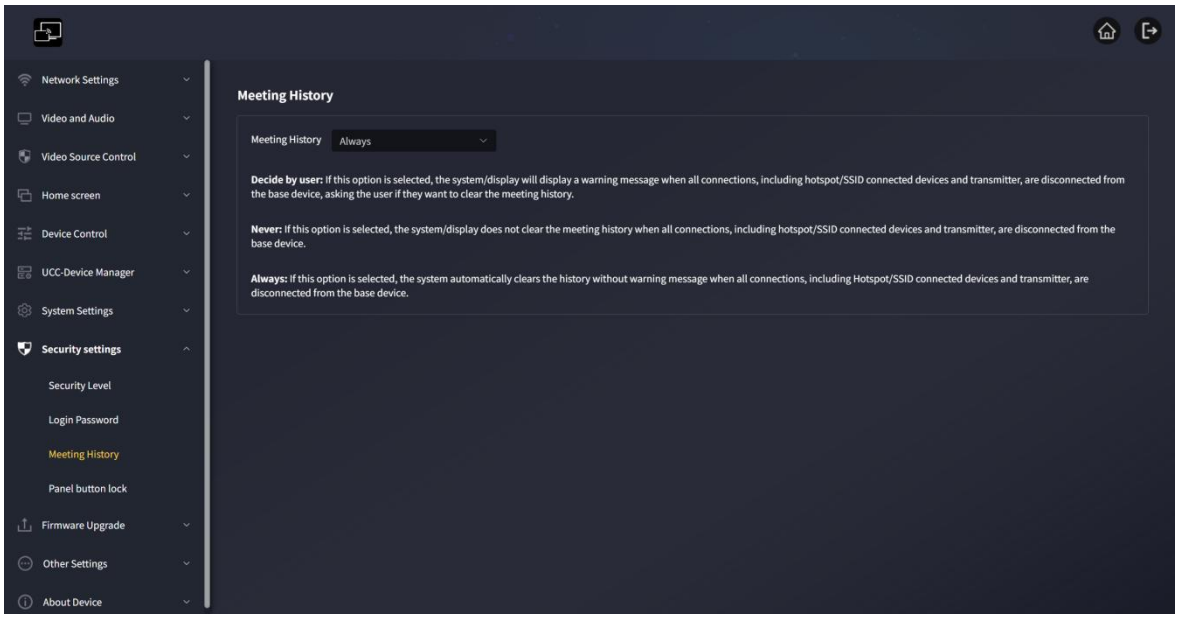
This section allows users to change the password to access the web settings GUI. The default password is "admin".



- No Password: After checking the setting, the user can log in to the web terminal directly without entering a password in the future.
- Current Password: Enter the current login password of the device.
- New Password: Enter the new password you want to set.
- Confirm New Password: Enter the set new password again.

1.9.3 Clear Records After Meeting Ends

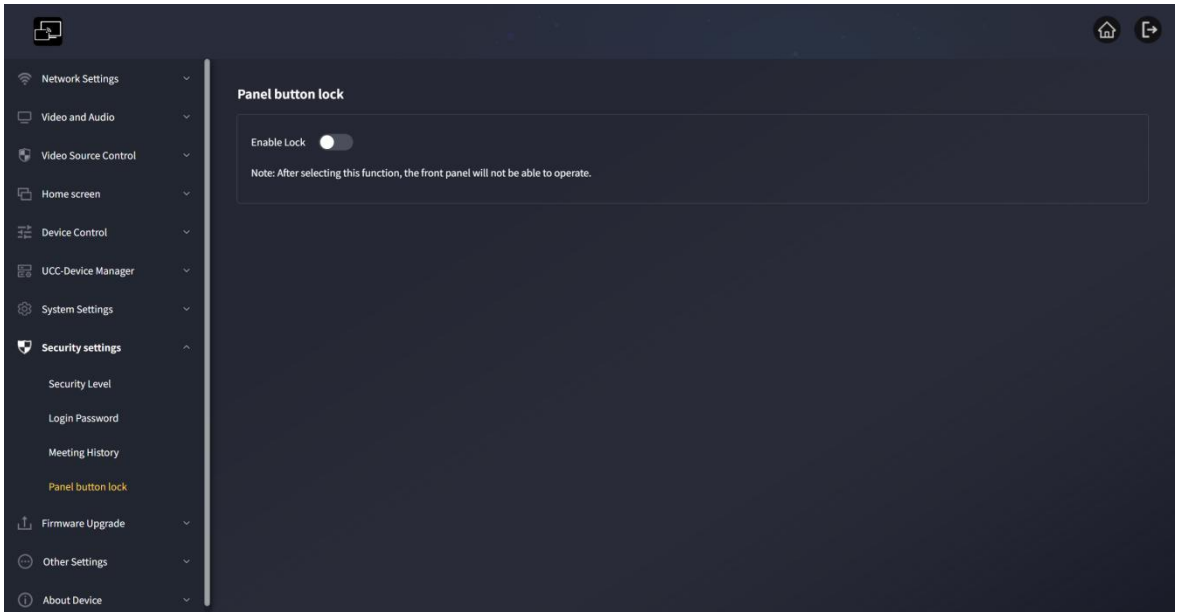
Pictures, videos, and music from mobile devices will be stored in the memory of the Base unit. At the end of the meeting, when the wireless dongle is removed from the laptop/PC, you can choose to clear this memory.



- **Let User Decide:** When all connected devices are disconnected from the receiver, the display will pop up a warning message asking the user whether to clear the meeting history.
- **Never Clear:** When all device connections to the receiver are disconnected, the system will not clear the meeting history.
- **Always Clear:** When all devices connected to the receiver are disconnected, the system will automatically clear the history without displaying a warning message.

1.9.4 Panel Button Lock

The front panel lock switch is a physical or software switch used to control the operation permissions of the device's front panel. It protects the device configuration security and prevents misoperation by restricting users' access or modification permissions to the front panel controls.

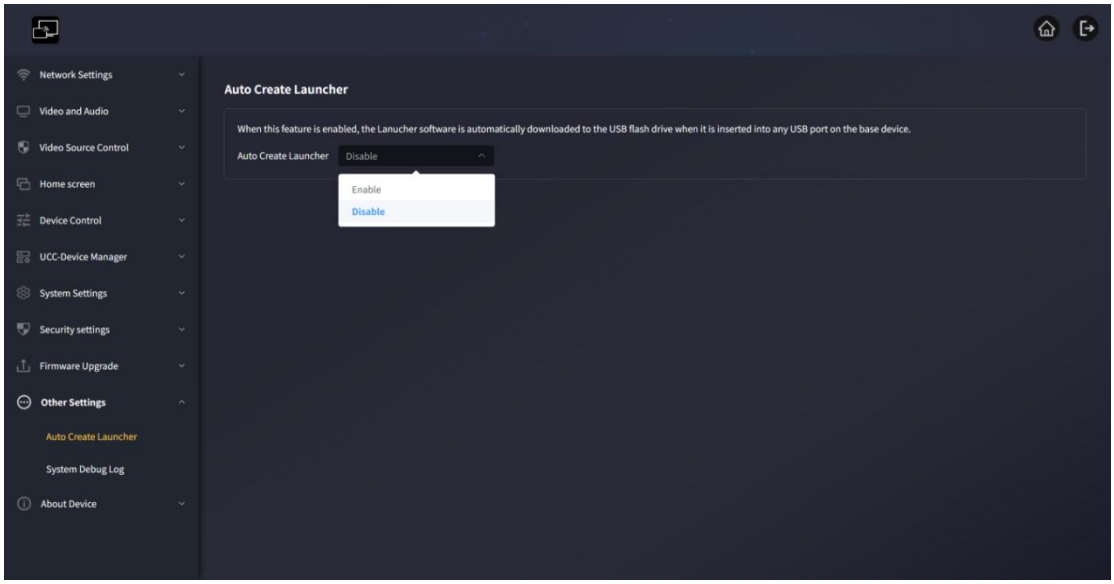


- **Off (Default):** Press the front panel selection key to switch USB channels (wireless/USB-C/HDMI).
- **On:** Pressing the front panel keys has no response, and USB channels will not be switched.

1.10 Other Settings

1. 10. 1 Auto Create Launcher

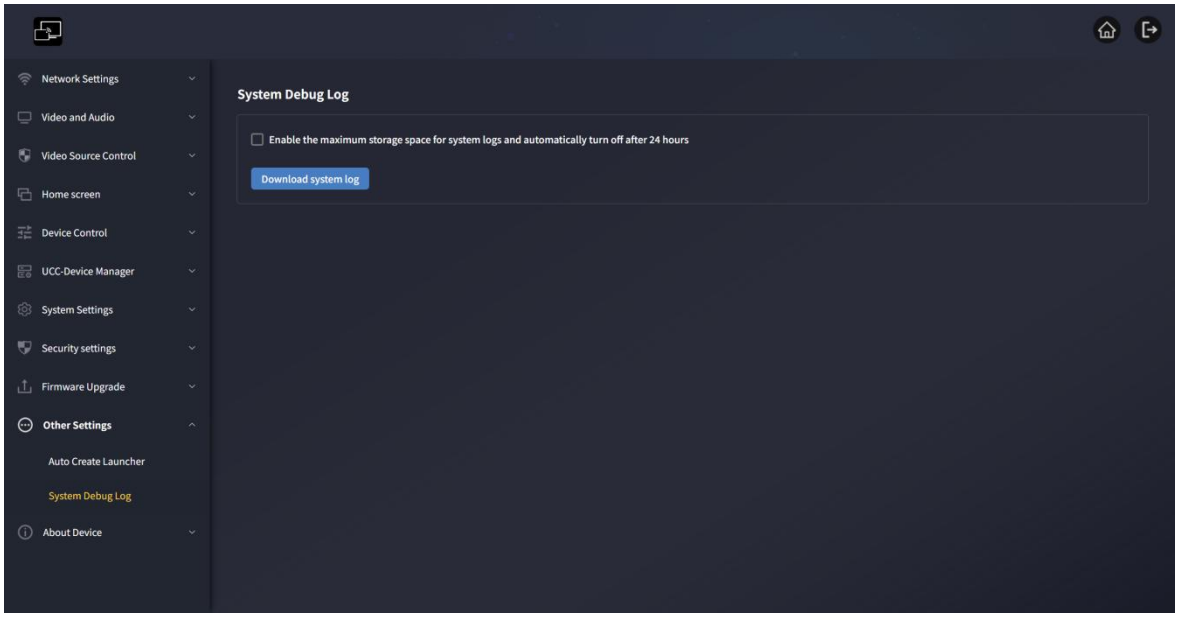
After enabling this function, the Launcher software will be automatically downloaded to the USB flash drive when a USB flash drive is inserted into any USB port of the base unit.



- **On:** Windows and Mac applications WirelessMedia, user manual, and Android APK will be automatically copied to the USB storage when a USB flash drive is connected to the receiver.
- **Off:** Windows and Mac applications WirelessMedia, user manual, and Android APK will not be automatically copied to the USB storage. If needed, you can only manually click the download button on the main screen to download and save to the USB flash drive when a USB flash drive is connected to the receiver.

1.10.2 Developer Tools

Used to capture logs when issue occur.



Log collection Method:

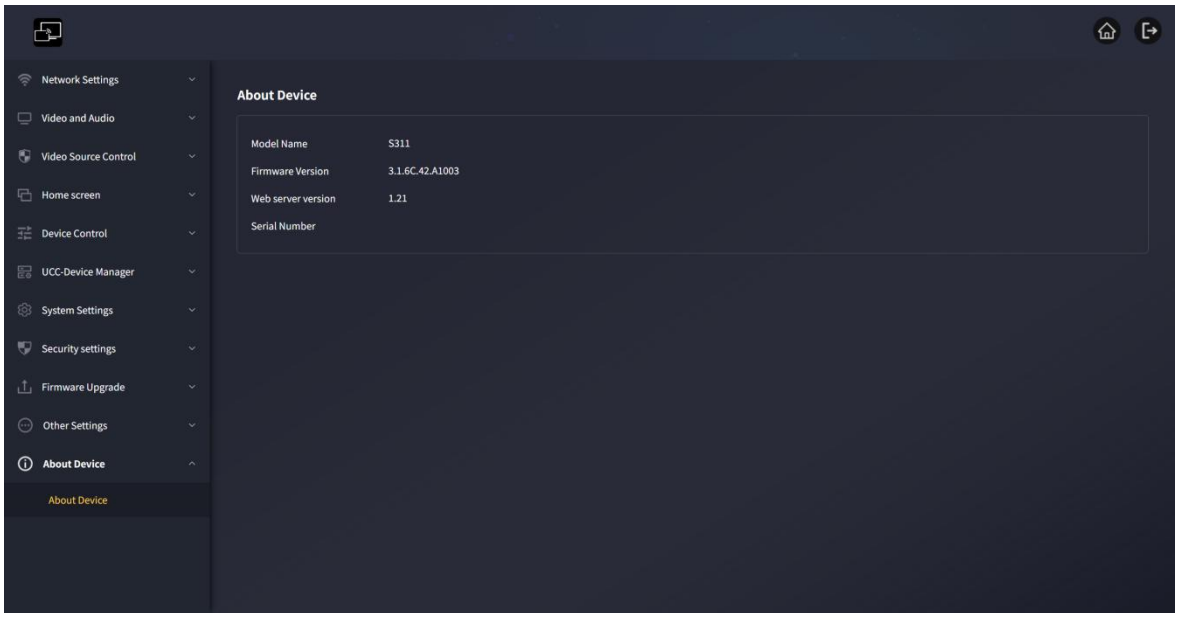
After the issue occurs, enter this page and click "Download System Logs"; the system will automatically start downloading the log files.

After the download is complete, you can open and view the log files on the computer; you can send the downloaded log files to after-sales service, and they will provide you with technical support.

1.11 About Device

1.11.1 About Device

Displays information including device model, firmware version, web server version number, and serial number.



1.12 Firmware Update

There are three different elements that may require firmware updates:

- Receiver VC31
- Wireless dongle WMT-H28
- Wireless dongle WMT-C28

Note: All software is stored in the VC31 receiver and then transmitted to other components. After updating the VC31 receiver, you need to check if other components also need updates.

1.12.1 Upgrade VC31 Firmware Version

- **External USB Storage Drive Method:**

1. Copy the update file "update.img" to the root directory of the USB drive.

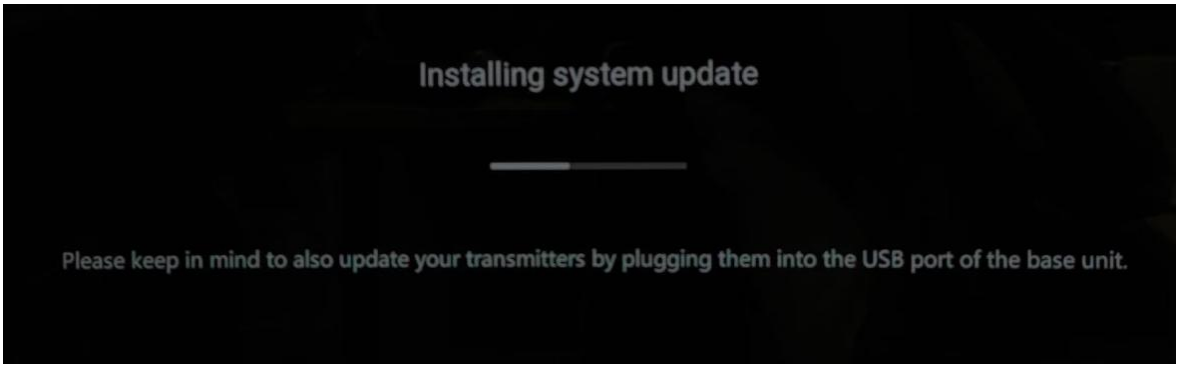
2. Connect the USB drive to the port next to USB 2.0 of the VC31 receiver.

3. VC31 automatically recognizes the "update.img" file in the inserted USB flash drive and starts the "Full Update" program. You can stop the update by removing the USB flash drive within 10 seconds.

Note: Do not disconnect the power during the upgrade. Otherwise, the device firmware will be damaged.

4. The upgrade progress is shown as in the figure. VC31 will automatically restart after the update is completed. During the update, the screen may darken temporarily.

Note: If the progress bar stays at 1%, please use another USB flash drive, as this USB flash drive may be defective.

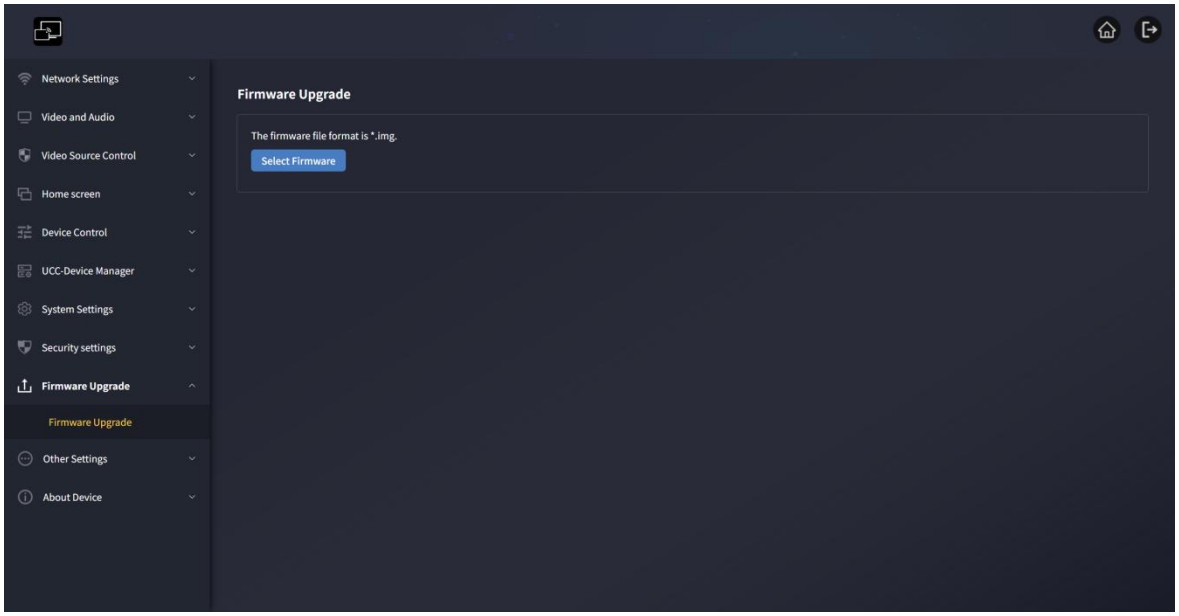
- 

5. After the device starts up normally and displays the main screen, you can disconnect the USB flash drive.

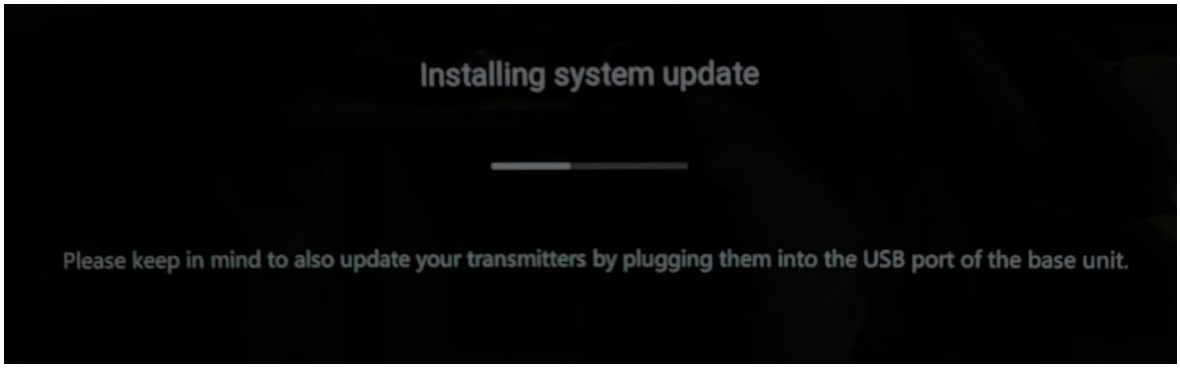
6. Perform "Restore Factory Settings" after the firmware update is completed.

- **Web Upgrade Method:**

Users can upload local update files on the web configuration page to upgrade the base unit firmware. The firmware file format is *.img.

- 

1. Enter the "Firmware Upgrade" option in "Web Settings".
2. Select the "update.img" file.
3. The upgrade progress is shown in the figure below. VC31 will automatically restart after the update is completed.

- 

1. The device starts up normally and displays the main screen.
2. Perform "Restore Factory Settings" after the firmware update is completed.

1.12.2 Upgrade WMT-H28 / WMT-C28 Firmware Version

1. Insert WMT-H28 / WMT-C28 into the corresponding front USB port of VC31 for update. It will automatically display a message indicating whether the firmware installed on the wireless dongle is outdated and needs to be upgraded.

2. The upgrade progress starts automatically from the progress bar.

- 

3. It will automatically complete "pairing" with the VC31 receiver afterward.

- 

4. The upgrade progress is completed. Remove the wireless dongle (WMT-H28 / WMT-C28), and it is now ready for use.

7. Technical Specification

Video	
Video Input	(1) HDMI 2.0b, (1) USB-C 2-lane DisplayPort alt mode, DisplayPort 1.4a, (1) Wireless
Input Connector	(1) Type-A female HDMI, (1) USB Type-C
HDMI input Resolution	Up to 4K@60Hz 4:4:4
USB-C Input Resolution	Up to 4K@60Hz 4:4:4
Video Output	(1) HDMI2.0b
Output Connector	(1) Type-A female HDMI
HDMI Output Resolution	Up to 4K@60Hz 4:4:4
HDCP Version	HDCP 2.x/1.x
AirPlay Resolution	Up to 4K@30Hz
Miracast Resolution	Up to 4K@30Hz
WirelessMedia APP Resolution	Up to 4K@30Hz
WirelessMedia dongles WMT-C28/WMT-H28 Resolution	Up to 4K@30Hz
Audio	
HDMI Embedded Audio Fommat	PCM 2CH
Audio Output Connector	(1) 5-pin terminal block. Balanced line audio output.
Frequency Response	-0.02~+0.08 dB(20Hz~20KHz)
Max Output Level	±0.9V
THD+N	-85dB
SNR	106dB
Crosstalk Isolation	100dB
L-R Level Deviation	0dB
Output Load Capability	2K Ω

USB Standard	
USB Host	(1) USB-C: USB 3.2 Gen 1, (1) USB-B: USB 3.2 Gen1
USB Devices	(2) USB-A: USB 3.2 Gen 1, (1) USB-C: USB 3.2 Gen 1, (1) USB 2.0
USB Devices Power	5V@4A (20W) Shared
Control	
Control ports	(1) RS232, (1) TCP/IP
RS232	(1) 3 pin Phoenix connector TX-RX-GND BAUD 2400-115200
TCP/IP	(1) RJ45 port, 10/100/1000Base-T auto negotiation.
Network	
LAN	(1) RJ45 port, 10/100/1000Base-T auto negotiation.
WiFi Standards	IEEE 802.11a/b/g/n/ac
WiFi Frequency Bands	2.4 GHz / 5 GHz
WiFI Antennas	(3) Antennas, MIMO 2x2 and MIMO 1x1
WiFi Encryption	AES, WPA, WPA2, PSK
Security	IEEE 802.1x, HTTPS, TLS, PEAPITTLS
General	
Operation Temperature	0~40℃C
Storage Temperature	-20°C~ 60℃C
Relative Humidity	0~85% relative humidity, non-condensing
External Power Supply	24V16A
Max Power Consumption	130W (Fully loaded)
Power Consumption Standby	5.95W
USB-C Power Charging	100W PD3.0
Dimension (W*H*D)	215x152x25 mm

Net Weight	1000g (not including the 700g power adapter)
Shipping Dimension	345x265x77mm
Shipping weight	2200g
Safety Compliance	FCC.CE-RED
Environmental Compliance	ROHS, REACH, WEEE

8. Troubleshooting

Here you can find some fundamental problems and possible causes which can be happen during the operation of VC31. Find out the problem in the table below and apply the indicated solution.

Problem	Cause	Solution
Using VC31 for Android application in Android device or Airplay on iOS device, it can't find VC31 device.	WiFi password of VC31 changed when android or iOS device is connected to the WiFi of VC31.	Reconnect the mobile by entering password displayed on welcome screen.
	The quality or length of the cable between the VC31 and the display or the connection between these two.	• Replace the cable • Use another cable. • Check the cable to be fasten properly

Image quality on the main display screen is not good.	Improper resolution for the main screen.	Change the resolution on the setting configuration and match it to the native resolution of the main screen. Refer to the 'Display and Audio' section of the 'Resolution' chapter.
Bad wireless connection. The connection between the Dongle and the VC31 is not stable.	WiFi problems • Interference in the radio channel. • Overload in the radio channel. • VC31 does not automatically jump to other channels when there are changes in the RF environment.	• Use a WiFi scanner to find a free wireless frequency and channel and select it via the setting configuration. • Regularly check the RF environment if there are frequently changes in WiFi networks in your environment.
	Low signal strength: • Metal cabinets, walls, construction elements, can cause reflections deteriorating the wireless signal. • Obstacles between the wireless Dongle and VC31 cause lowering of the wireless strength and quality.	• Put the VC31 closer to the main screen. • Change the orientation of the antennas at the rear panel of VC31 to the Dongle direction. • Remove or limit as much as possible all obstructions between the Dongle and VC31. • Avoid placing the Base-unit in (metal) cabinets, suspended ceilings, under tables or in adjoining rooms.

Low video performance (sharpness, audio and video dropouts, video stream is jerking, …)	• The media-player is not ideal. • The video quality also depends on the laptop power of the PC / laptop and the interaction and CPU load with other running software applications. • A laptop in battery mode can be switched to reduced laptop power, to save energy. The transmission of HD video requires a certain amount of CPU power to guarantee the optimum quality of the transmission.	• Use another media-player (VLC player…), another browser. • Update the software of your Video-player to the latest version. • Reduce the CPU usage of other software applications. • Lower the screen resolution of the laptop. • Update driver of graphic card. • End low power mode at laptop.
The video is not shown on screen	The content use HDCP	The VC31 input does not support displaying HDCP sources. If possible, connect the source device to the VC31 native HDMI input.
	The display cable (HDMI) is not correctly connected.	Insert the display cable to the display and the Base-unit
	The displays are switched off.	Switch on the display.
	The VC31 base-unit is in standby mode, “Power-LED” is red color.	Power off and on again or insert a dongle into laptop.
When using Windows 7, the following occurs	The connection to VC31 is lost.	Safely ignore this message and select "Keep the current color

regarding the Window Aero color scheme: “Windows has detected that your computer is performing slowly. This may be because these resources are insufficient to run the Windows Aero color scheme. In order to improve...”		scheme".
Nothing is shown on the display at all. No LAN connection to the VC31.	The displays are switched off.	Switch on the display
	The display cable is not correctly connected.	Insert the display cable to the display and the VC31.
	The VC31 is in standby mode.	power off and on again the VC31.
	Wrong IP address.	• IP address is not within LAN range. • DHCP is not enabled.
No WiFi connection between mobile devices and VC31.	Wrong WiFi frequency.	Check mobile device to select the correct 2.4GHz or 5GHz
	Wrong SSID and password	Enter the correct SSID.

No audio when transmit local file to VC31.	Unsupportive audio format, including Dolby MS11, DDCO、DTSLBR, DTS, SRS-THEATERSOUND, DTS_StudioSound3D, DTS_HD.	If possible, reformat it to the other audio format, like DD, DD+, HE-AAC, DTS DMP, WMA, DRA, COOK

There is no sound at main display.	No connected audio device.	Make sure the audio is turned on.
	Volume is set to OFF.	Adjust the volume level at Options in menu of VC31.
	The volume level is set too low in the options of the app program on PC.	Adjust the volume in the app on PC.
	Audio signals may be muted.	Click with right-mouse button at speaker icon in the taskbar and switch on.
	The volume level is set too low.	Adjust the volume level at Options in menu of VC31.
	Audio is muted in mixer of volume in taskbar.	Right-mouse click at speaker icon in taskbar, open mixer and unmute VC31 or “Video Playback”.
	The software of used Video-player is not actual.	Update Video-player. Try another player.
	An active virus scanner can block the Audio.	Check the filter-settings in Virus scanner. Deactivate the player for a check.
There is no sound with MacBook.	Problem of sound-flower App, which is integrated into driver app.	• You need Admin-password. • Go to the macOS System Preferences and select the “Security & Privacy” tab. Find the "allow to run/install the sound-flower" there click on “Allow” next to “Matt Ingalls”, to allow this sound-flower to install on the Mac Book. • Run the app again, it’ll auto-install the sound-flower to the MacBook.

There is no sound via AirPlay	The volume is set too low, on the mobile device.	Increase the volume on the mobile device.
There is no sound at main screen, when mirroring a video by the App for Android".	Due to the limit of the Android system, Android doesn't provide an interface to capture the audio. In this case, there is no sound when mirroring the video.	Use wireless Dongle or Apple Airplay to do mirroring when necessary
Can not update firmware of the VC31.	Flash disk format is NTFS.	Please re-format the flash disk to be FAT format to update it.
Can not work airplay with MacBook / iPhone/ iPad.	Operation System Requirement Mac OS 10.9 iOS 8.0 and later (app).	• To use AirPlay, you must connect the iOS device to the WiFi of VC31 and enable the AirPlay feature in the Control Center. • Update the iOS device to a newer operating system.
Poor Video-quality with AirPlay	There are 2 states for AirPlay: a) Mirroring: 1: 1 copy of the screen b) Streaming: Videos (Internet, Youtube). The image will not be displayed on the iOS device. => The picture is jerky.	Reduce "Quality" in settings of Youtube, for example from "Automatic" to 720p.
Can not work with Android device.	Operation System Requirement Android 2.3 and later (app).	Update to the latest OS.