

WU-20 Lite& DG-H28 / DG-C28

Wireless Conferencing and Presentation Switcher



USER MANUAL

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5. PRECAUTIONS

5.6. 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 WU-20 Lite/DG-H28 /DG-C28!
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

- WU-20 Lite
- Antenna(3units).Not pre-mounted to avoid damages.
- Power Adaptor
- RS232 connector

3. Description and Features

The WU-20 Lite is a wireless conferencing and presentation switcher with one HDMI input and one HDMI output, supporting up to 4K60Hz resolution. It supports sharing PC content to displays via dongle, Windows, macOS, and native protocols such as Airplay, Miracast, and Chromecast. It also supports wireless connection of compatible USB devices such as webcams and microphones to the PC via Windows and macOS. Four devices can be displayed simultaneously in a multi-view layout. All features can be configured and managed through a powerful WebGUI management console.

3.1 Main Features

- One HDMI output, supporting up to 4K@60Hz
- One HDMI input, supporting up to 4K@30Hz
- Supports EDID management
- Two USB-A 3.0 ports, supporting one camera for video conferencing
- Supports HDMI capturing as Camera function
- Supports ultrasonic and Bluetooth near-field discovery technology
- Two Gigabit Ethernet ports, one of which supports Power over Ethernet (802.11at compliant, supporting up to 15W)
- 3.5mm headphone audio input
- 3.5mm headphone unbalanced stereo analog audio output
- One RS232 port, supporting both receiving commands to control the device and sending commands to control other devices
- Wireless input up to 4K@30Hz video resolution
- Supports native wireless mirroring protocols such as AirPlay, Chromecast, and Miracast for seamless presentations
- Supports screen sharing function with the included Dongle (including the latest 4K dongle and previous 1080p dongle)
- A continuously updated WirelessMedia PC client (currently supported up to Windows 11 and macOS 15) supports screen mirroring function and wireless transmission of camera video data to a computer
- Powerful WebGUI backend management
- Supports Telnet control of the device

- An additional security layer for encrypted wireless transmission
- Supports up to 4 split-screen displays and up to 16 participants to be previewed
- Supports custom background images for the main screen
- Supports wireless touch for the interactive screen, as well as whiteboard and real-time annotation tools
- Local 12V DC power supply

3.2 Optional Accessories


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


- DG-H28 is a 4K HDMI wireless Dongle that allows participants to easily share content from a laptop or HDMI device to the WU-20 Lite 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.
- DG-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 WU-20 Lite 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.

4. Install & Connect

4.1 Wall Mount Install

The WU-20 Lite can be installed on the wall or flat surface. At the bottom of WU-20 Lite, there are two mounting holes that can be fixed to a surface using flat screws.

 Mounting screws are not included in the WU-20 Lite box. The type of screws depends on the type of wall (stone, wood, plasterboard, ...) you are mounting the Base Unit WU-20 Lite to. Make sure the head of the screw is not larger than the hole in the bottom of base unit WU-20 Lite.

 For optimal performance, install the WU-20 Lite close to the display and avoid obstacles between the WU-20 Lite and the Dongles.

 *Antenna Placement

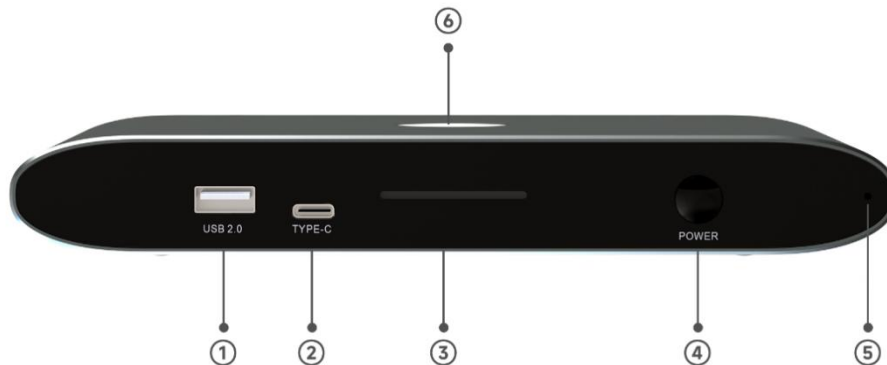
*The antennas should be oriented vertically, so perpendicular to the ceiling and parallel to the walls.

*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.

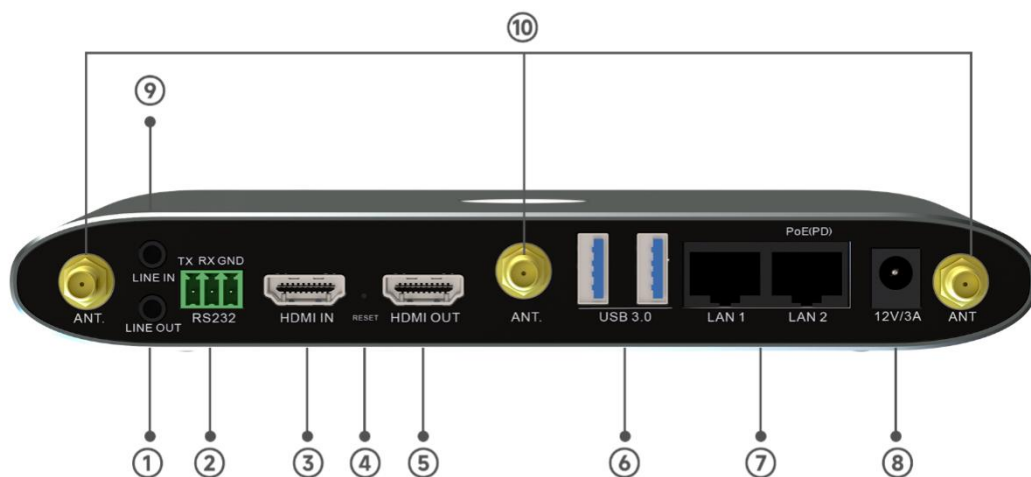
*Due to the particular radio pattern of the dipole antennas, the antennas should not be placed just above potential positions of WU-20 Lite users. As a result, the advised position for the antennas is at the side of the meeting room.

4.2 Front Panel



- USB 2.0 port: For pairing the DG-H28 with the WU-20 Lite, and can also connect a USB flash drive or mouse
- Type-C port: For pairing the DG-C28 with the WU-20 Lite
- Indicator light 1
- Power button: Turns the device on and off
- Ultrasonic speaker: Sends ultrasonic signals
- Indicator light 2

4.3 Rear Panel

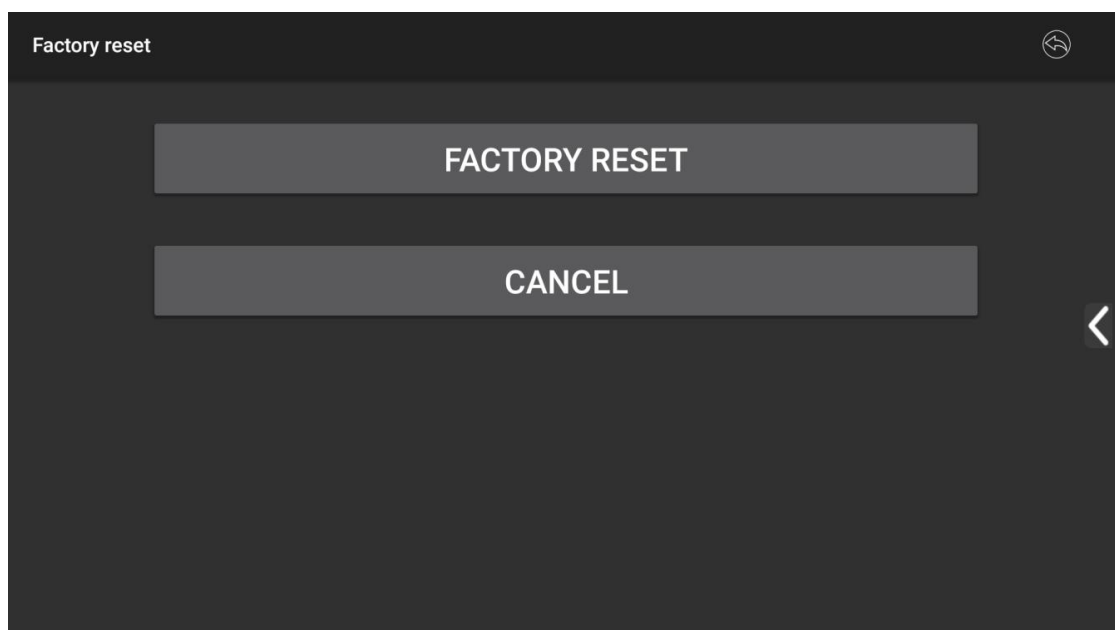


- LINE IN: 3.5mm headphone unbalanced stereo analog audio input
- LINE OUT: 3.5mm headphone unbalanced stereo analog audio output
- RS-232:Simple RS-232 interface for receiving and sending serial commands to control this unit or other slave devices
- HDMI IN: HDMI video input, supporting up to 4K@30Hz
- RESET: Reset button to factory default settings
- HDMI OUT: HDMI output, supporting up to 4K@60Hz
- Two USB 3.0 ports: Connect compatible cameras and microphones for video conferencing, or connect a mouse, touchscreen, etc.
- LAN Ethernet Ports:
 - LAN1: 1000Mbps. Connect an Ethernet cable between this jack and a LAN to connect this unit.
 - LAN2: 1000Mbps, Connect an Ethernet cable between this jack and a LAN to connect this unit. Power over Ethernet (PoE) is supported
- DC Power Jack: Local 12V DC power supply
- Antenna ANT: Connect the three provided antennas to use Miracast and built-in WiFi


4.3.1 Restoring factory settings using the rear panel button

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

When the WU-20 Lite is powered on and the home screen is displayed, press the reset button on the rear panel of the WU-20 Lite. 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:

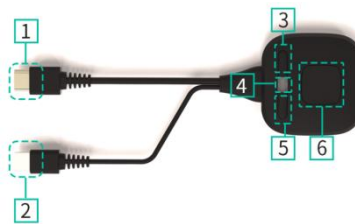


WU-20 Lite will reboot to default configuration after 3 seconds.

 If the WU-20 Lite 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 WU-20 Lite illuminates to perform the reset process.

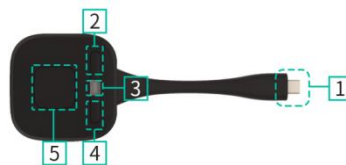
4.4 Wireless Dongle

4.4.1 DG-H28



1. HDMI Port: Connects to a PC/laptop to share the screen.
2. USB Connector: Provides power to the transmitter or connects to the WU-20 Lite for pairing or upgrading.
3. Sub-Button 1 - Left Button: Freezes the projected screen. Pressing this button while projecting freezes the screen.
4. LED Indicator: Indicates the button status. For more information, see the LED Indicator section.
5. Sub-Button 2 - Right Button: Displays device information(status bar)while projecting.
6. Main Button: Pressing this button while the indicator light is solid green will start displaying the contents of the PC/laptop screen on the main screen. Pressing the button again during a meeting will toggle screen sharing.

4.4.2 DG-C28



1. Type-C (DP) Connector: Use the button on the Type-C (DP) connector to plug in a PC/laptop to share your screen.
2. Sub-Button 1 - Left Button: Freezes the projected screen. Pressing this button while projecting freezes the screen.
3. LED Indicator: Indicates the button's status. For more information, see the LED Indicator section.
4. Sub-Button 2 - Right Button: Displays device information (status bar) while projecting.

5. Main Button: Pressing this button while the indicator light is solid green will start displaying the contents of the PC/laptop screen on the main screen. Pressing the button again during a meeting will toggle screen sharing.

DG-C28 is a full-featured Type-C interface that complies with the DP Alt mod standard and supports audio and video transmission.

4.4.3 LED Indicator Light



DG-H28-4K



DG-C28-4K



DG-H28-4K



DG-C28-4K

• Connecting the DG-H28 / DG-C28 to the WU-20 Lite:

First, connect the DG-H28 / DG-C28 to the WU-20 Lite receiver:

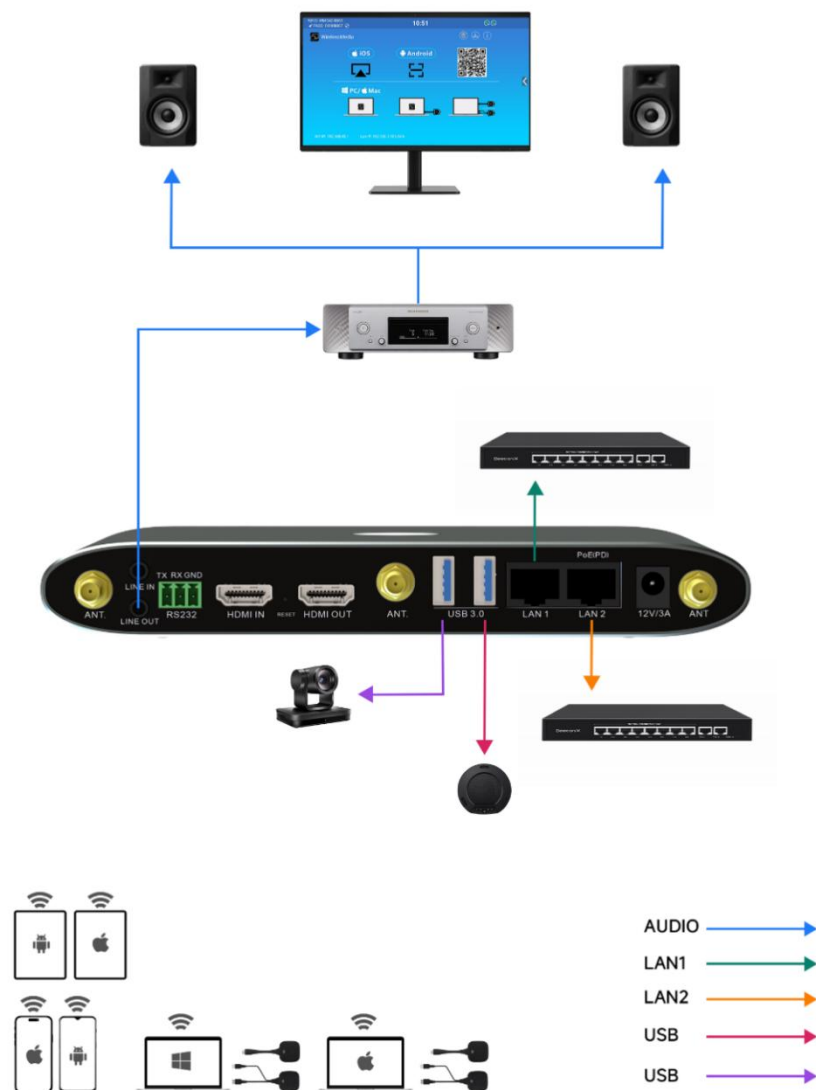
- When the LED indicator flashes green: The DG-H28 / DG-C28 is pairing with the WU-20 Lite receiver or undergoing a firmware upgrade.
- When the LED indicator is solid red: Pairing is complete. The DG-H28 / DG-C28 can be unplugged and is ready for use.

• Connecting the DG-H28/DG-C28 to a source device::

First, you need to connect the DG-H28 / DG-C28 to a source device. For example, to a PC:

- When the LED indicator is flashing green: The DG-H28/DG-C28 is plugged into the laptop and initialized.
- When the LED indicator is solid green: The PC desktop is ready to be mirrored on the main screen connected to the WU-20 Lite's HDMI output.
- When the LED indicator is static red: The PC desktop is mirrored on the screen.

4.5 Application Connection Diagram

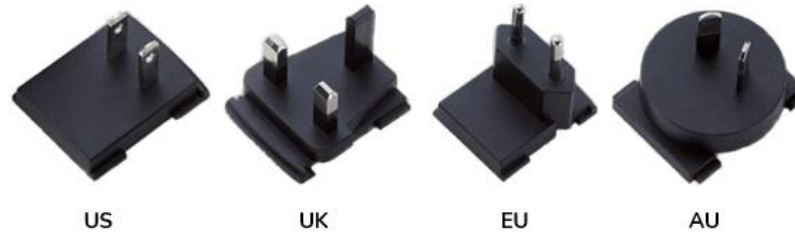


4.6 Power Connection


• Local power supply

1. Plug the power connector of the power adapter into the power input connector of the Base Unit WU-20 Lite, which supports 12V/3A.

2. Select the appropriate power plug (US, UK, EU or AU) and install it on the power adapter.



Connect the power cord plug to a wall outlet.

 After the WU-20 Lite is powered on, it is recommended to use the POWER button on the front of the WU-20 Lite to turn it on or off.

•POE

If your LAN Ethernet switch supports PoE (Power over Ethernet), you can use the LAN 2 port to power the Base unit WU-20 Lite instead of using an external power adapter. (The LAN2 port of this unit supports PoE.)

4.7 Video Connection

Connect the WU-20 Lite's HDMI output to a 4K or Full HD monitor via an HDMI cable.

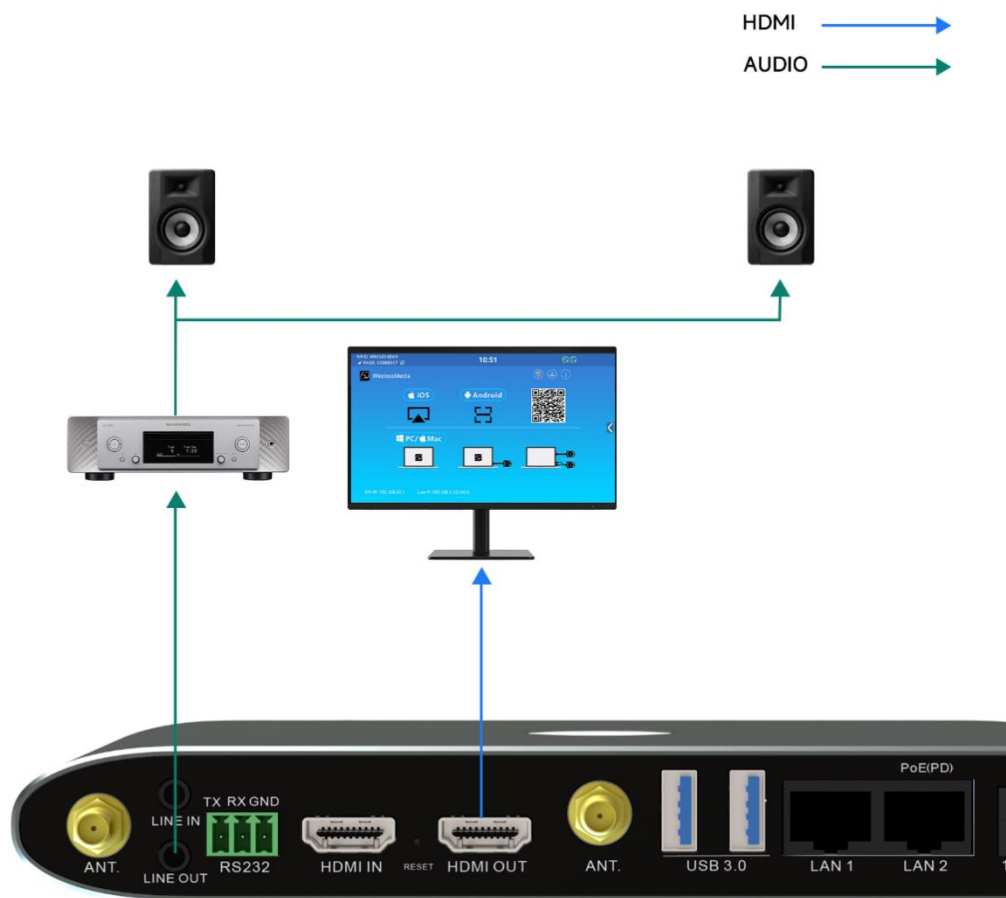
After powering on, the system will display the home page, as shown below

HDMI →



4.8 Audio Connection

Connect an audio cable with a mini-jack 3.5mm connector to the WU-20 Lite's audio line. Connect the other end to the conference room's sound system.





💡 When the audio output of the source device is selected, the DG-H28 and DG-C28 can transmit audio to the WU-20 Lite receiver.

4.9 LAN Connection


Connect an Ethernet cable with an RJ-45 connector to the LAN 1 or LAN 2 port on the WU-20 Lite Base Unit. Connect the other end to your router. DHCP is enabled by default on the WU-20 Lite console.

- a) If there is a DHCP server on the network, an IP address will be automatically assigned.
- b) If there is no DHCP server on the network, the WU-20 Lite will require manual configuration of a static IP address. For more information, refer to the "Network Settings" chapter.

 If the LAN Ethernet switch supports PoE (Power over Ethernet), the WU-20 Lite's LAN 2 port allows you to power the switch instead of using the included external power adapter.

 Wireless Direct mode is enabled by default. In this network mode, the WU-20 Lite generates its own wireless SSID with an IP address of 192.168.43.1. For more information on how to properly configure the network settings for your application, refer to the "Wireless Networking" chapter.



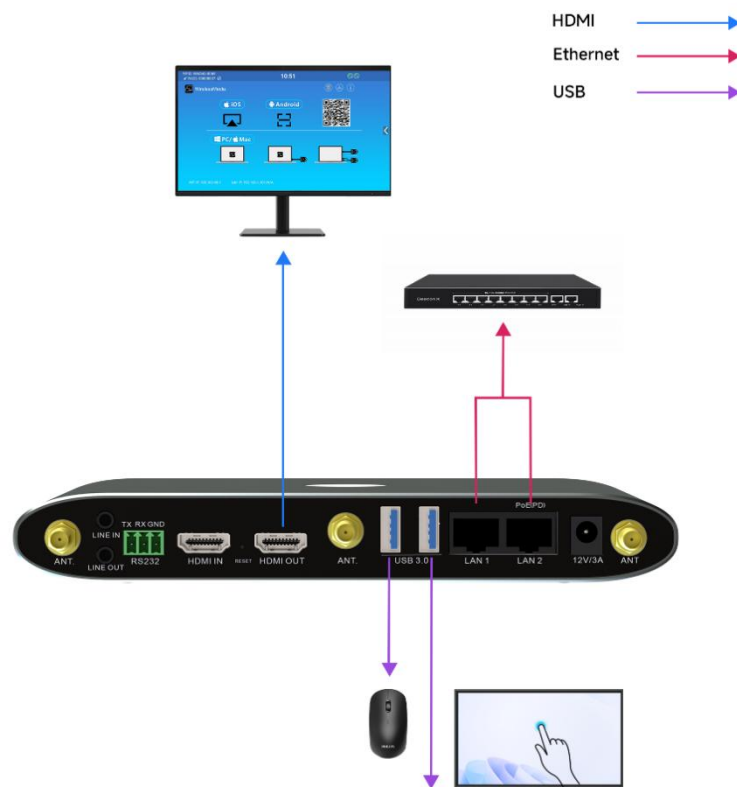
 LAN connection can be used for:

- Network integration of the WU-20 Lite in guest or corporate networks.
- Telnet control of the WU-20 Lite.
- Maintenance purposes
- Over-the-air (OTA) updates of the WU-20 Lite firmware.

4.10 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 WU-20 Lite.
- 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.



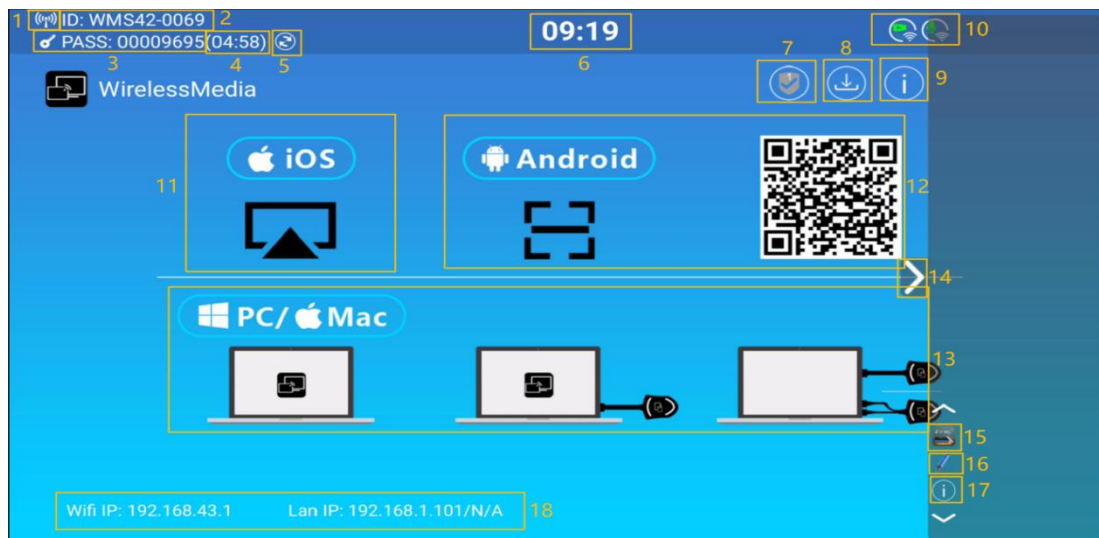
4.11 USB Conferencing Devices Connection

The WU-20 Lite supports sharing USB cameras and USB speakerphones via WiFi to start meetings using conferencing software such as Skype, Zoom, and Microsoft Teams. For configuration and operation, refer to the "Wireless Video Conference Mode" chapter.

5. Start-up and Operation

5.1 Main Screen

When the user boots up the WU-20 Lite receiver normally and connects it to an HDMI display, the following main screen will be displayed:



ID	Name	Description
1	Wi-Fi indicator icon	Wi-Fi Direct Mode: Internal access point available Wi-Fi Network Mode: "Guest Mode" - The Wi-Fi router has been established. The icon shows the current signal strength. Wi-Fi is now established. Or the connection to the router's Wi-Fi fails. Wi-Fi unavailable Wired networking mode: Access point is closed
2	ID	Wi-Fi name or the name of the access point of the receiving device
3	Password	Receiver Wi-Fi password
4	Password change timer	Display only, when timer is enabled, automatically counts down until password is automatically changed
5	Refresh Wi-Fi Password	Manually generate a new password
6	Clock	If the receiver is connected to a local area network, the time will be displayed on the home page. Even if the receiver is disconnected from the local area network, the time will still be displayed on the home page until the power is turned off.
7	Security Level	Security levels 1-3 are displayed on the main page only and are not operational. Clicking this icon displays detailed security level information. This setting can be changed in the web console menu.

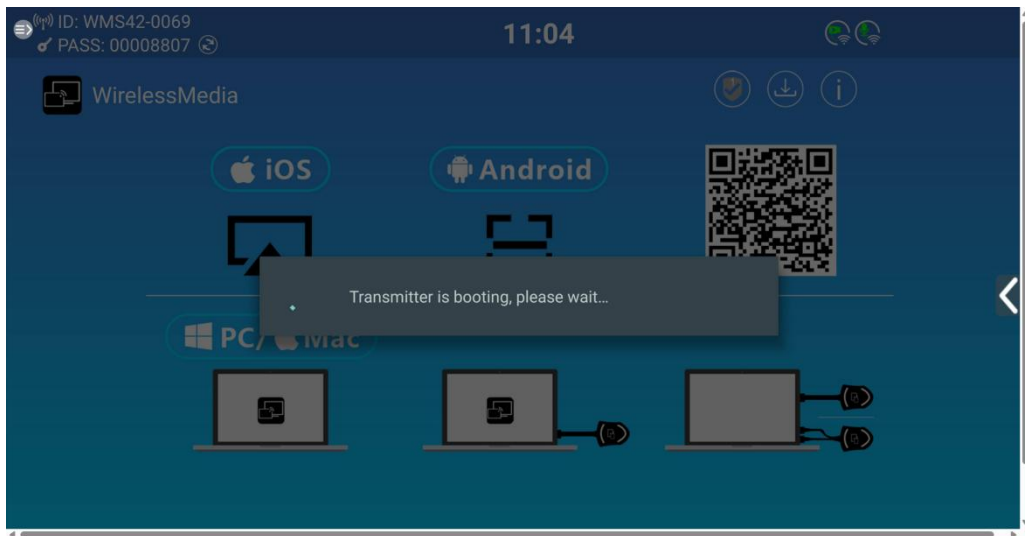
ID	Name	Description
8	Download button	Create or update the Windows startup program "WirelessMedia.exe" and the user manual to a USB drive.
9	Information	Click to show/hide items 1-6 on the main page
10	Microphone, camera	When an external USB camera or microphone is connected to the receiver, an icon will appear to indicate the connection status.
11	iOS Quick Start Guide	Using AirPlay to Cast Screen on iOS Devices
12	Android Quick Start Guide	Scan the QR code on your Android device to install the screen projection app "WMedia2"
13	Windows/MacOS Quick Start	Guide on how to mirror your PC screen to a monitor
14	Preview window function, whiteboard and annotation function buttons	Preview screens of all connected devices and access whiteboard annotation functions here.
15	Whiteboard	Click here to open the whiteboard function
16	Information Display	When casting the screen, you can click this button to view the ID and password to connect
17	Annotation	Click here to open the annotation function
18	Wi-Fi IP Local IP	The Wi-Fi IP address of the receiving end in the wireless network. Specified IP: The IP address of the receiving end on the local area network; "N/A" = No network connection

Pairing the Dongle with the WU-20 Lite

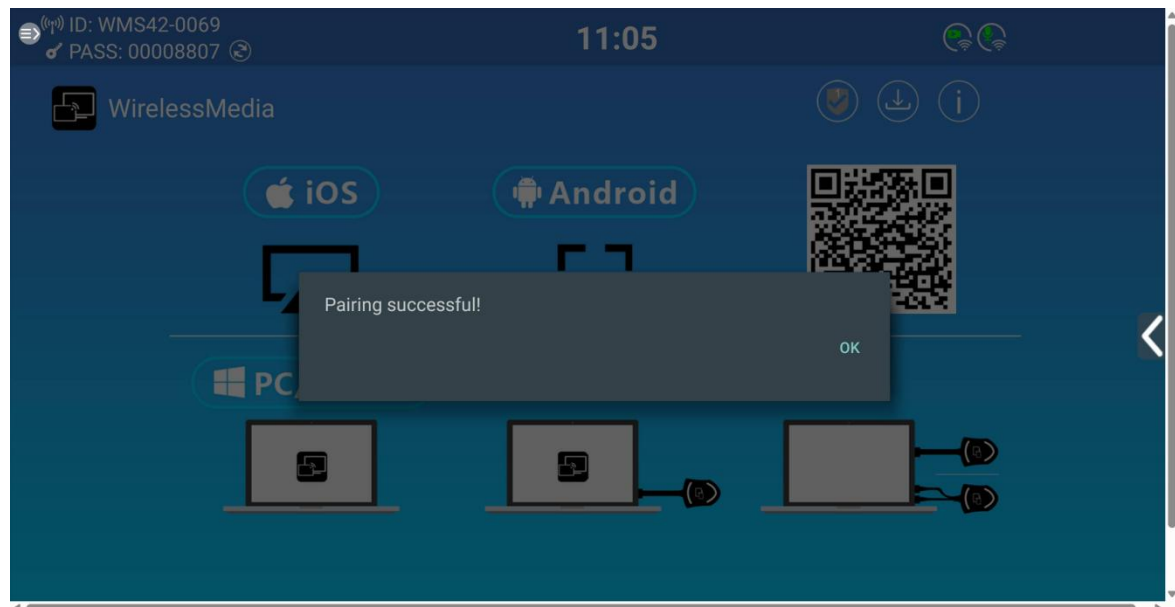
Connecting the DG-H28 (HDMI Wireless Dongle) to the front panel's USB Type-A port or the DG-C28 to the USB Type-C port will automatically initiate the pairing process.

! The Dongle can only be paired with one receiver and will always reconnect to the last paired receiver(base unit).

After plugging in the transmitter, a message will be displayed indicating that the wireless transmitter is connecting, as shown below:



After pairing is completed, the message sheet displays "Pairing successful! " on the home page. You can then unplug the Dongle and use it to screen share content.



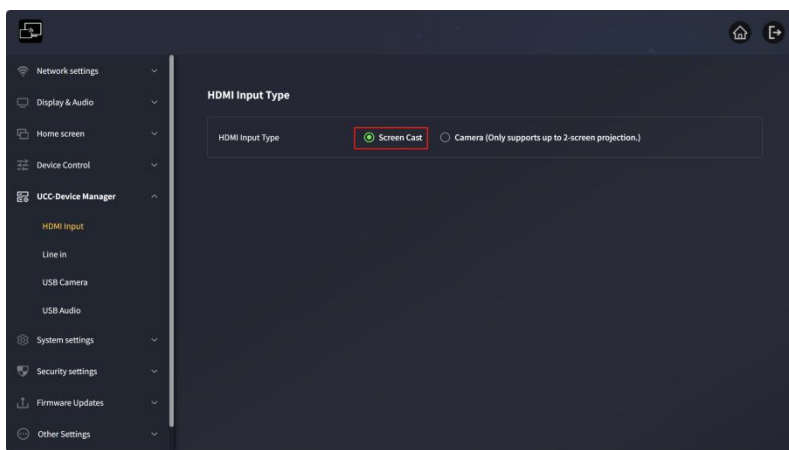
! If the error message "Configuration Failed" is displayed, check that the USB/type-C connection is stable and try again.

! After changing the SSID/WiFi channel or reconfiguring the network, all dongles must

be re-paired. Dongles that need to be assigned to another WU-20 Lite receiver must be re-paired.

5.2 Wired Presentation Mode

WU-20 Lite supports HDMI IN wired screen sharing. Use an HDMI cable, plug one end into the HDMI IN port of the device, and the other end directly into the computer to directly share the screen. Set up as shown below:



5.3 Wireless Presentation Mode

The WU-20 Lite can be used to wirelessly share the screen of AV sources. The WU-20 Lite can simultaneously mirror up to four sources onto the display, supporting PCs/laptops and mobile devices.

5.3.1 Screen Sharing using Dongle

1. Pair the DG-H28 or DG-C28 with the WU-20 Lite receiver. See Pairing the Dongle with the WU-20 Lite.
2. Plug the DG-H28 into the USB-A and HDMI ports of the device whose content you want to share, or the DG-C28 into the USB-C port.
3. When ready, the LED indicator will turn solid green. Pressing the middle button will start wireless presentation, and the LED indicator will turn solid red.
4. Pressing the middle button again will stop wireless presentation, and the LED indicator will return to solid green.



DG-H28-4K



DG-C28-4K

5. When the LED is solid red, the content will be mirrored to the home screen connected to the WU-20 Lite receiver.



DG-H28-4K



DG-C28-4K



For more information on the LED status, see section LED indicator light.

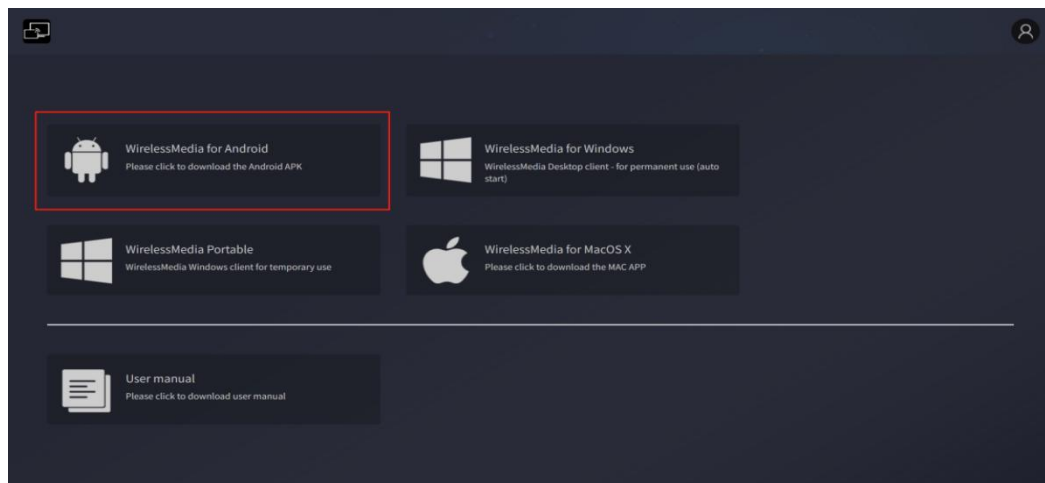
5.3.2 Screen Sharing using WirelessMedia APP

5.3.2.1 Download the WirelessMedia desktop app

The WirelessMedia application is a launcher that allows users to run the WirelessMedia application from any source device hosting it (Mac, PC). Simply copy the launcher to the internal storage and the user can run the WirelessMedia application.

To set up WirelessMedia, there are two ways to obtain the WirelessMedia desktop application:

1. Download from the website You can download the app from the website by connecting your device (laptop/Android) to the same network as the WU-20 Lite controller.




2. Automatically create a startup program

Connect a USB drive and click the download icon on the main page to download the application to the root directory of the USB drive. Then copy the application to your computer.



When a user connects a laptop to the WU-20 Lite via WiFi for the first time, when the

application detects that the device is connected to a camera, microphone, and speakers, it will pop up a message bar to instruct to install a virtual driver to activate the USB over WiFi function so that a video conference can be started through the WU-20 Lite.

 The virtual driver is only used for video conferencing and can be mirrored without installation. If the WU-20 Lite is not connected to a camera, microphone, or speakers, it will not prompt for driver installation and can still mirror the desktop.

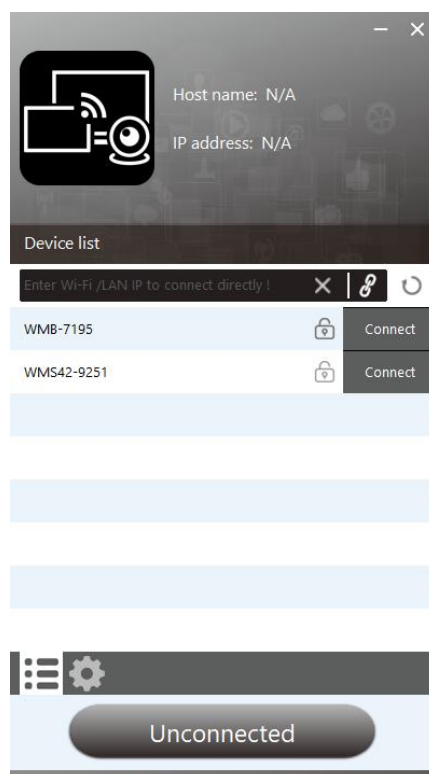
5.3.2.2 Manually connect the WirelessMedia desktop application

Copy the WirelessMedia app to your laptop's local storage to start using it.

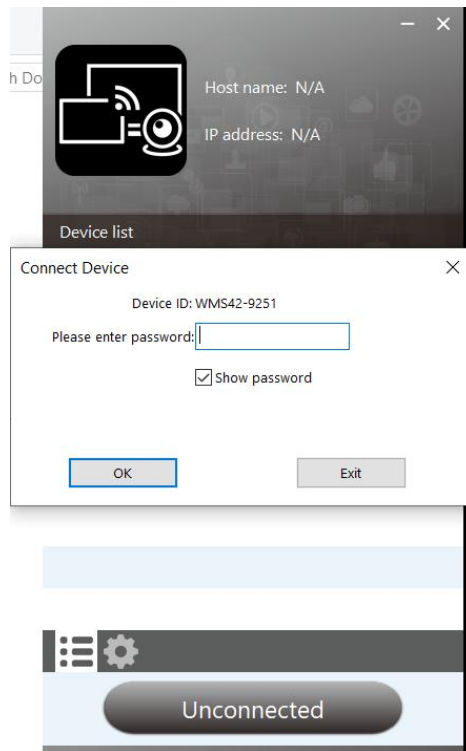
If near-field device discovery is disabled, you'll need to manually connect: (See the near-field discovery settings on the web page for details.)

1. Start the WirelessMedia app on the source device. Available WU-20 Lite switches will indicate whether the source device and switch are on the same network.

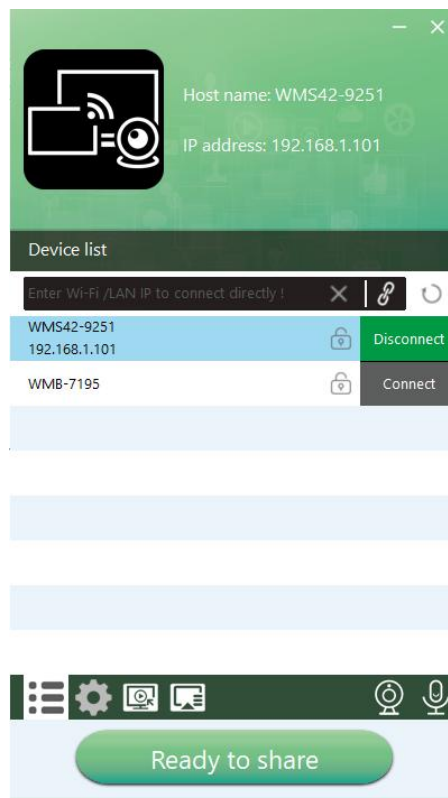
Connect your laptop to the WiFi network (Guest, Staff) displayed on the home screen, or connect to the LAN on your network using an Ethernet cable.




2. Double-click the WirelessMedia application. A list of all available WU-20 Lite base units on the same network will be displayed. Select the device you want to connect to. The connection is password-protected (lock icon).



3. Enter the WU-20 Lite password and click "Connect" to start sharing the system.



If the WU-20 Lite receiver is not displayed, you can also connect manually by entering the name (SSID) or IP address  (click the icon).

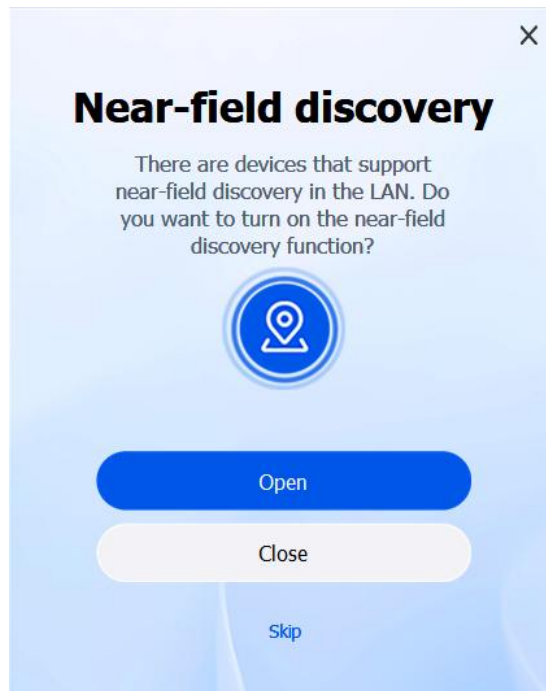
5.3.2.3 Automatic connection method: Introduction to near-field discovery

- The WU-20 Lite supports near-field discovery. Near-field discovery is a smart device detection technology that automatically identifies nearby devices (such as the WU-20 Lite) using wireless signals (such as Bluetooth Low Energy (BLE) and ultrasound). This allows:
 - Quick Device Discovery: Automatically finds nearby ultrasound-enabled devices and prioritizes them.
 - Secure Authentication: No need to manually enter a device connection password.
 - Automatic Connection and Screen Mirroring: Fully automated operation, connection, and screen mirroring.
- The value of this technology:
 - Efficiency improvement: Reduces the time spent on manual password entry, shortening the operation process by over 70%.
 - Lowered entry barriers: Especially suitable for visitors who are unfamiliar with devices.

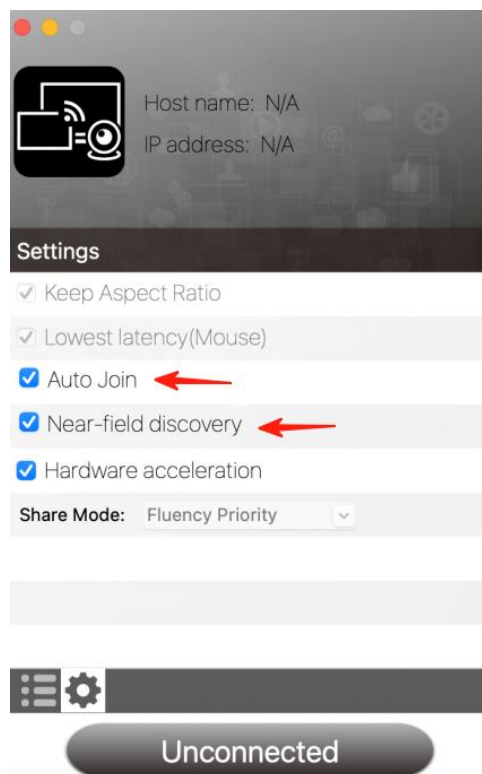
5.3.2.4 Automatically connect to the WirelessMedia desktop application

Automatic connection is possible when near-field device discovery is turned on: (See the web page for details on near-field discovery settings.)

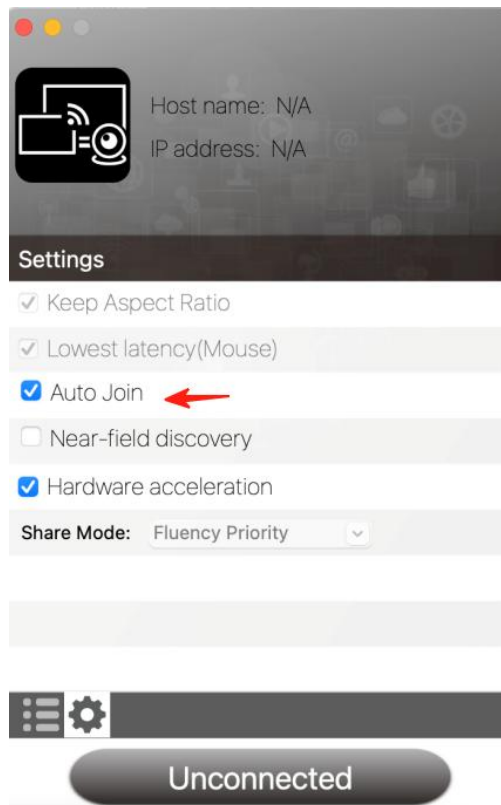
1. Start the WirelessMedia application on the source device. The available WU-20 Lite switcher will show whether the source device and the switcher are on the same network.
2. Connect your laptop to the WiFi network shown on the home screen (Guest, Staff), or to the LAN on your network using a network cable.
3. Double-click the WirelessMedia app to display a list of all available WU-20 Lite base units in the same network. If a device in the searched device list supports near-field discovery, the app will prompt you to turn on near-field discovery.



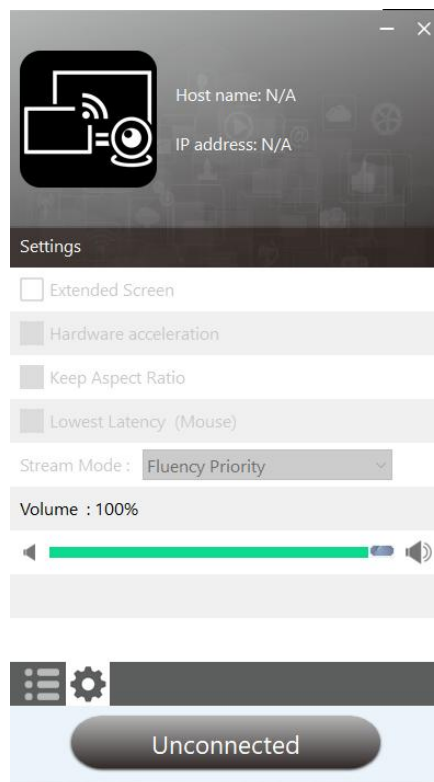
After choosing to turn it on, the app will display the near-field discovery functions "Auto-join" and "Near-field discovery" in the system settings and check them by default.



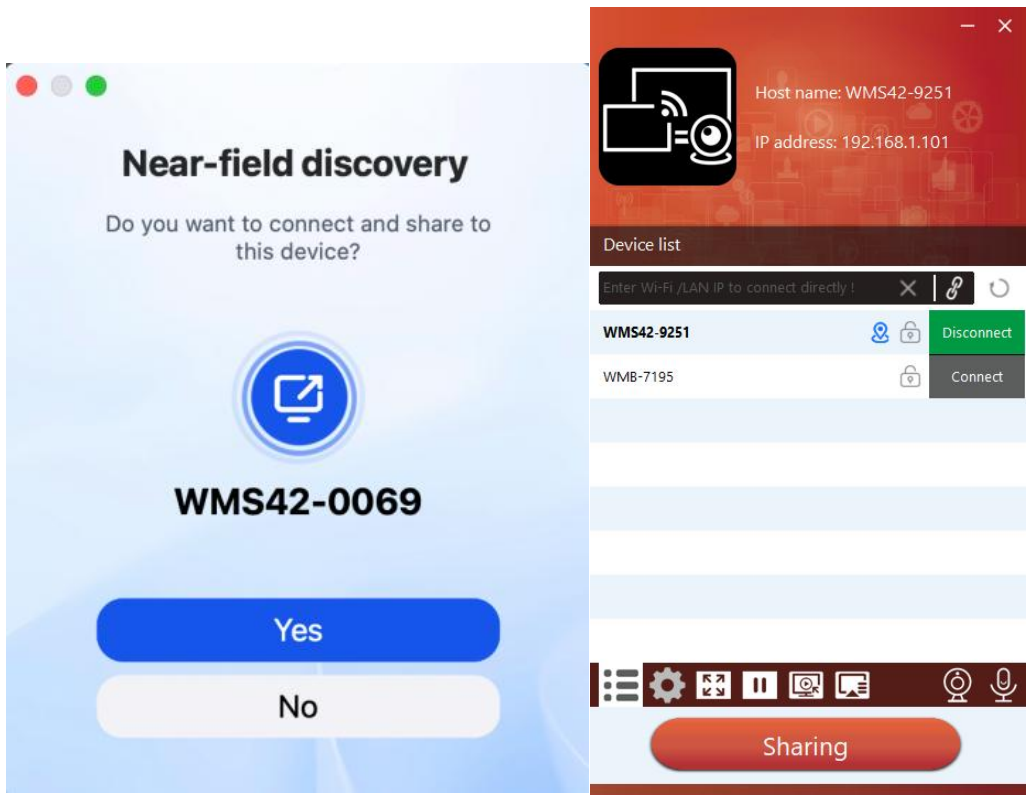
After choosing to turn off, the app will display the near-field discovery function "Auto-join" and "Near-field discovery" in the system settings, and "Auto-join" will be checked by default.



Click Skip to ignore it, and the near-field discovery switch will not be displayed in the system settings.



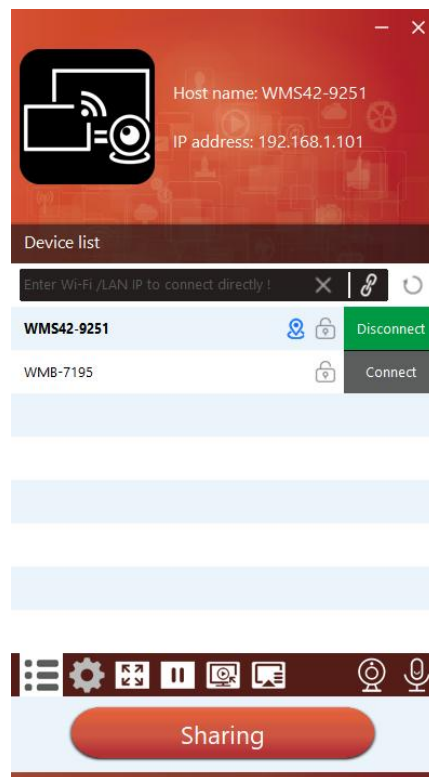
This section explains how to use automatic connection, using the example of selecting "Open" when launching the WirelessMedia app for the first time. When both Auto-Join and Nearby Device Discovery are enabled, the app will display a pop-up asking you to share your screen when it detects an ultrasonic device. Clicking "Yes" will automatically connect and start casting.



If you click "No", you need to manually click "Connect" to successfully connect without entering a password, and the system can be shared.



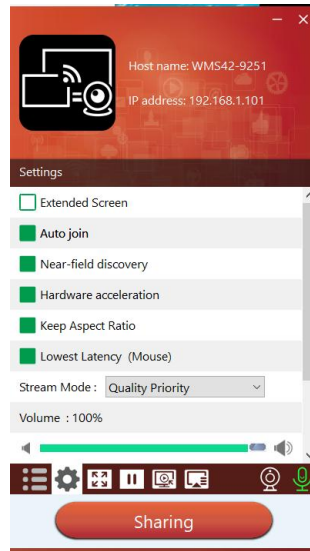
The WirelessMedia application layout will turn green. Clicking "Shareable" will start sharing content with the primary display connected to the WU-20 Lite's HDMI output. When the window color is static red, the desktop is mirrored to the primary screen.



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

Note: Connecting to an ultrasonic device does not require a password. When the icon is blue, click Connect in the device list to automatically connect. This feature is only supported on devices that can detect ultrasonic signals. If a device can only detect Bluetooth signals, the nearby device icon will not turn blue. Bluetooth signals are currently used primarily for searching for devices across VLANs. After enabling near-field discovery, the app will no longer automatically detect Bluetooth status upon opening (no prompt to turn on Bluetooth will appear the first time the app is run).

·WirelessMedia Settings



System Setting:

1.Options

·Get Extended Screen:

Transmit the extended desktop of the active source.

Main Screen (1) Displayed on the laptop, and the virtual extended screen (2) Displayed on the main screen. If the PC is already connected to an extended screen, the extended screen (3) Will always be displayed on the main screen.

When using the "Extended Screen" function for the first time, click "Extended Screen" and a message will pop up indicating that the "Extended Display" driver has been installed. Click "Yes" to continue. After the installation, the extended screen function will be available.

If the Extend Screen feature is selected, Windows automatically switches to Extend Mode. If you stop streaming using WirelessMedia (Pause), Windows remains in Extend Mode until you press Windows Key + P on your laptop to select PC Screen Only mode.

In macOS, extending the desktop (Use Separate Display) via AirPlay only works when "Show on WirelessMedia App" is enabled.

Automatically join:

After launching the WirelessMedia app, a prompt will pop up asking, "Do you want to connect and share your desktop to this device?" Click Yes to automatically connect and cast your screen.

·Near-field discovery: Easier to find nearby projection devices, primarily used for searching for devices across VLANs.

·Hardware Acceleration:

Use hardware acceleration to improve image quality and reduce latency, delivering enhanced screen projection.

·Keep aspect ratio:

This parameter will use the original aspect ratio of the main screen.

·Ultra-Low Latency Mouse:

This setting applies uniquely to each WirelessMedia host device. The mouse pointer's shape matches the shape in the application being used. This parameter significantly improves mouse responsiveness (approximately less than 20 milliseconds).

·Screen Mirroring Mode:

This parameter adjusts performance to suit the desired application:


o Smoothness first: image transmission delay is short, image resolution will be lower, suitable for PPT presentation mode.

o Image quality priority (default): The image resolution is relatively high, but when the image content is complex, the transmission delay will be relatively large. It is suitable for watching videos.


·Volume:

This parameter adjusts the playback volume of the main screen when using Presentation Mode (not available in macOS).


2. Full Screen:

Click the full screen icon  on the PC UI, or long-press the wireless transmitter to fully display the content. Another short press returns the screen to quad-view mode.

3. Freeze:


Click the freeze icon  on the PC UI or press the left button on the dongle to freeze the projected content. Click again to unfreeze.

4. Replay

Clicking the replay icon  on the PC UI will open the replay window, where you can see the contents of the screen.



4. Cast Window

Click the Cast Window icon  on the PC UI to select the desktop or window to display the casted screen.

1. Use the camera and microphone icons on the PC software to switch the camera and microphone to use.



5.3.3 Screen Sharing using Airplay

On iOS and macOS devices, users can wirelessly transmit screen content or sound to the WU-20 Lite receiver via the Airplay protocol.

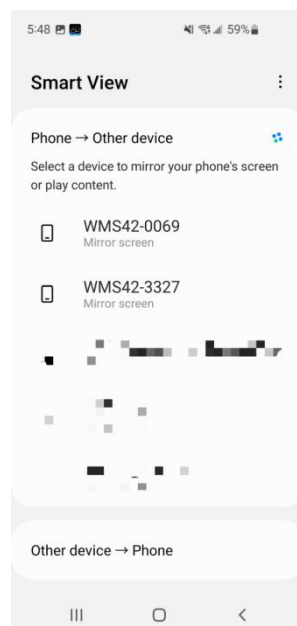
1. Connect your iOS or macOS device to the same WiFi network as the WU-20 Lite.
2. Display the Control Center. Click the Airplay icon on your iOS and macOS devices and select the target WU-20 Lite to start sharing content with the WU-20 Lite.



5.3.4 Screen Sharing using Miracast

Android Device

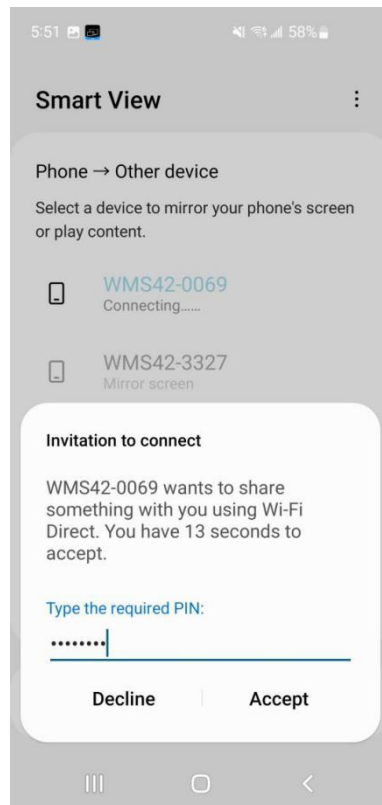
1. Wi-Fi must be enabled.
2. Go to Connections & Sharing in your phone's settings and tap "Mirror Phone Screen."
3. Search for devices, select the WU-20 Lite SSID, and tap Connect.



In Security Level 1 mode, you can connect without entering a password.


In Security Level 2, you must enter the password on the WU-20 Lite home screen to connect and start casting.

In Security Level 3, Miracast is disabled.



4. After entering your password, your phone's content will appear on the display.
5. Click the "End Screen Mirroring" icon to stop mirroring.

.PC

1. Wifi must be enabled.
2. Press  K and then click "Connect to a wireless display" in the pop-up window.



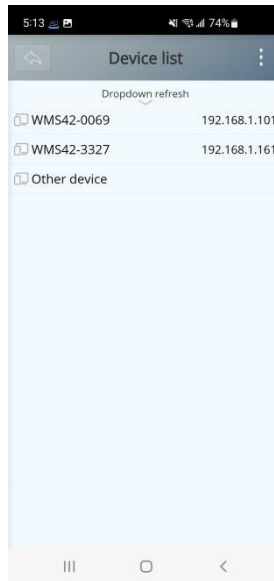
! In Security Level 1 mode, you can connect without entering a password. In Security Level 2, you'll need to enter a password on the WU-20 Lite home screen to connect and mirror. After entering the password, your mobile content will appear on the display. In Security Level 3, Miracast is disabled.

5.3.5 Screen Sharing using Android apk

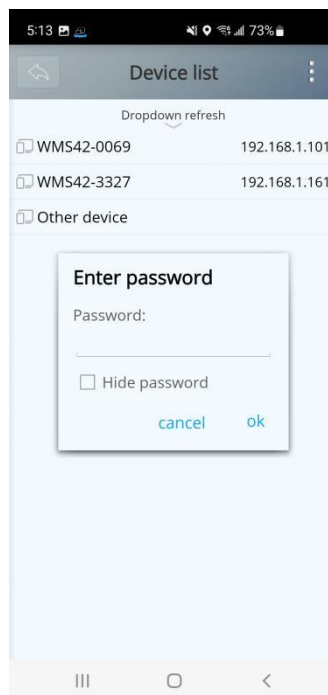
• Android Device



1. Download the WirelessMedia app (see the WebGUI Setup Management and Configuration chapter).
2. Connect your Android device to one of the displayed WiFi networks.
3. Open the WirelessMedia app on your Android device and pull down to refresh the device list.



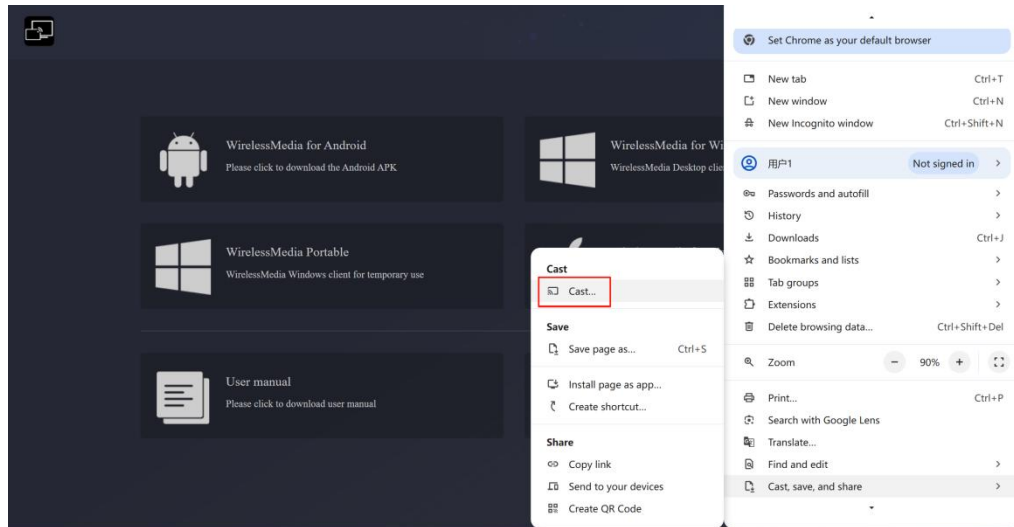
4. Select the WU-20 Lite you want to connect to and enter the password to start screen sharing.



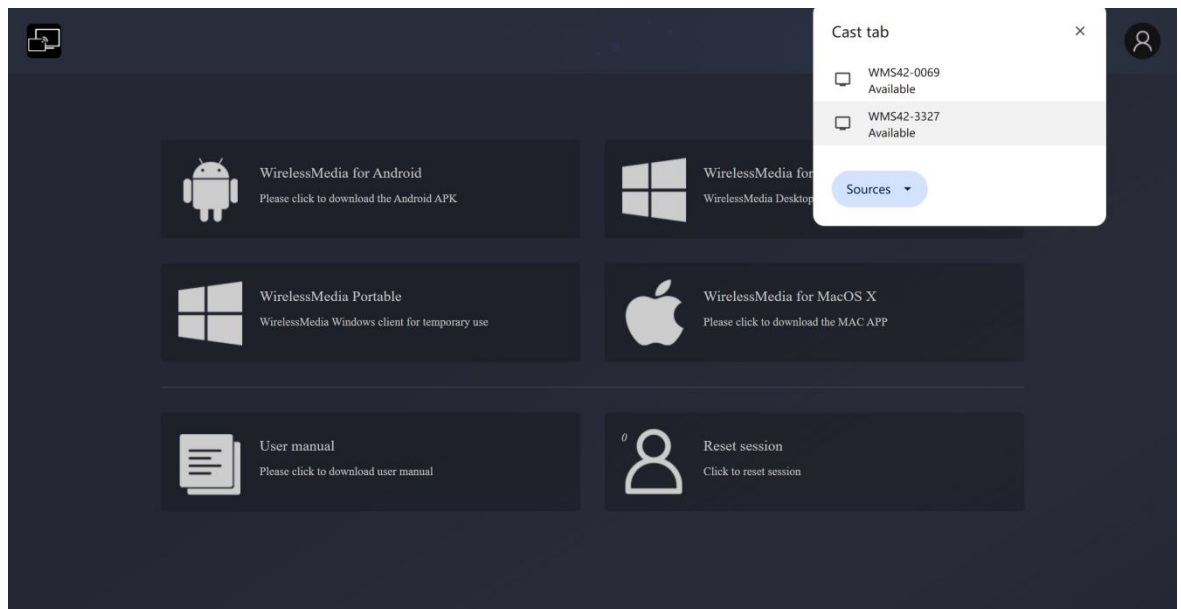
5. Click the Share Screen button again to stop mirroring.

5.3.6 Screen Sharing using Chromecast

1. Connect your PC and WU-20 Lite to the same network.
2. Open the Chrome browser.
3. Click "Cast" to connect to the Chromecast function.



4. Click the WU-20 Lite SSID to start sharing content



5. Click the WU-20 Lite SSID again to stop sharing content.

5.4 Wireless Video Conference Mode

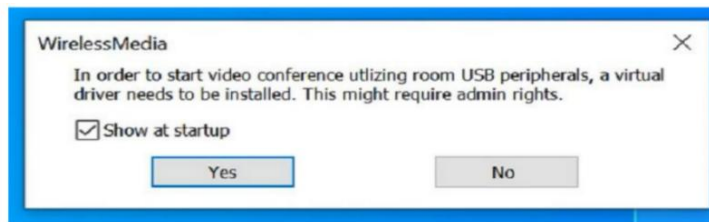
The WU-20 Lite allows video conferencing using conference room USB conferencing devices over WiFi.

5.4.1 Installing Conference Driver

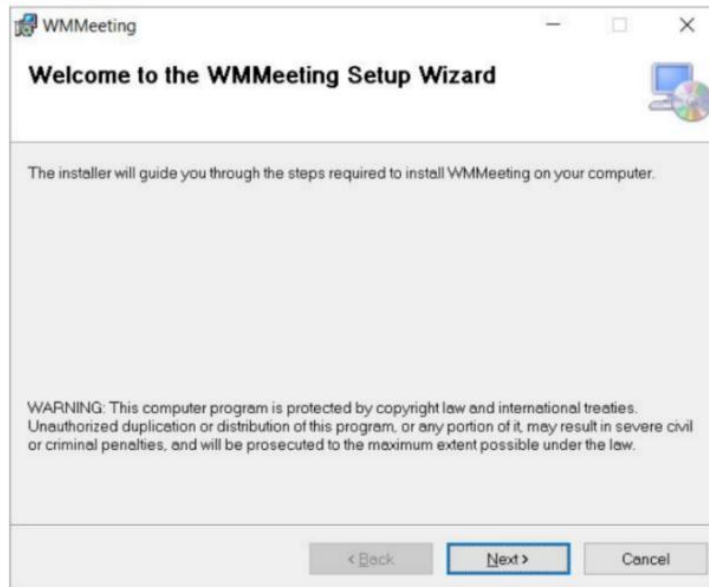
The WMMeeting virtual driver must be installed on your PC to support USB over Wi-Fi.

Note: You only need to install the driver for the first time.

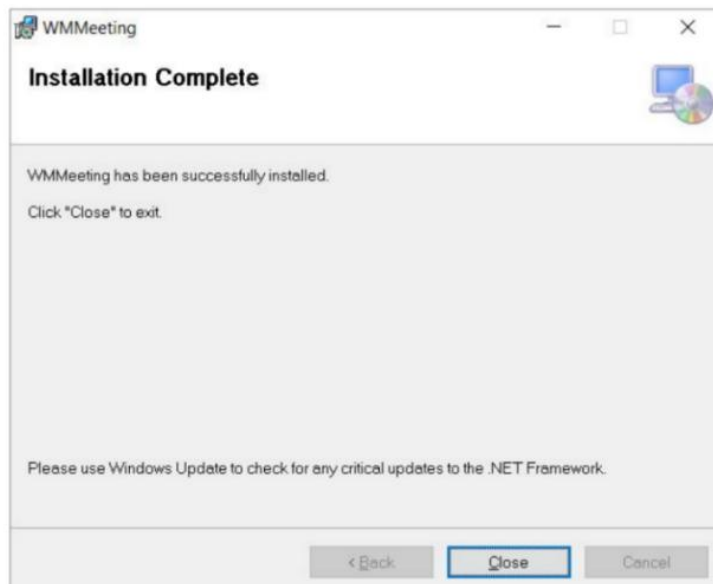
The first time you run the WirelessMedia application or connect to the Dongle, a prompt will pop up to install the driver:



Click Yes to install.



Click Next to continue the installation.



The installation is complete.

5.4.2 Video Conference via WirelessMedia

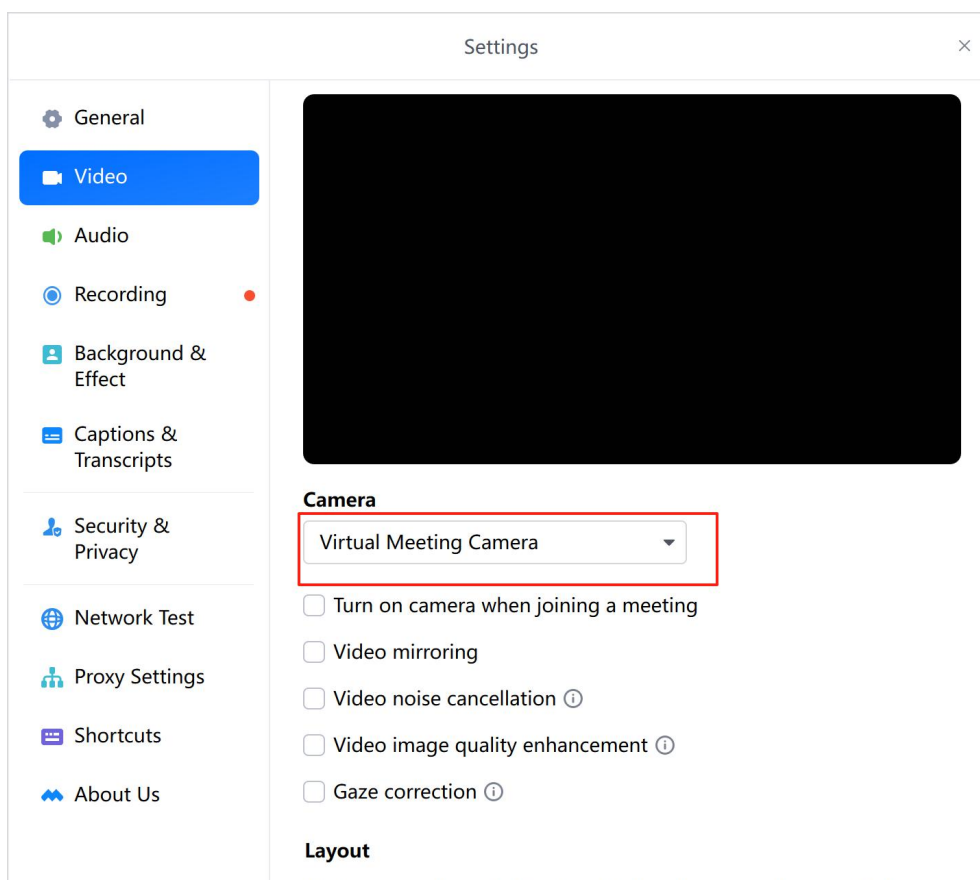
3. Connect a USB conferencing device to the WU-20 Lite USB port. The camera and microphone icons will appear on the WirelessMedia control bar.

4. Run the WirelessMedia application to connect (see the chapter "Screen Sharing Using WirelessMedia APP" for how to enable the connection).

After the connection, the camera and microphone icons will appear in the application. The white icon indicates that the USB camera and speaker/microphone are connected.

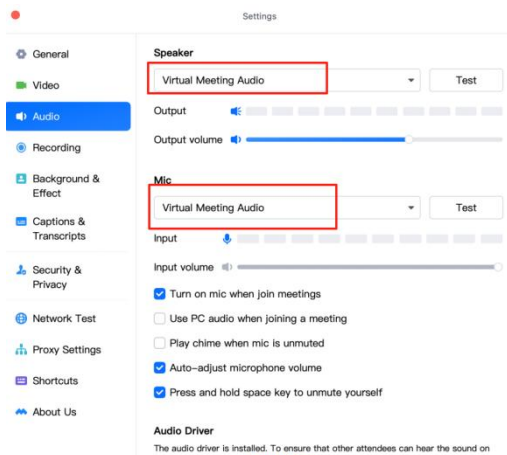


5. Launch a video conferencing application, such as Tencent Meeting:
 - After starting the meeting, go to the meeting settings and select "Virtual Meeting Camera" as the video device on the video page



- On the audio page, select "Virtual Meeting Audio" for the speaker.

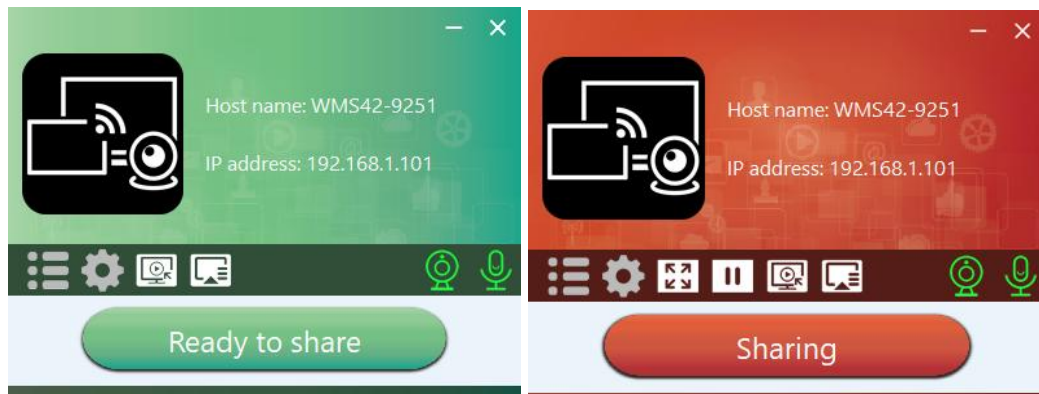
- "Microphone, select "Virtual Meeting Audio"



- Turn on the camera and the video will appear. The camera and microphone icons in the WirelessMedia app will turn green.

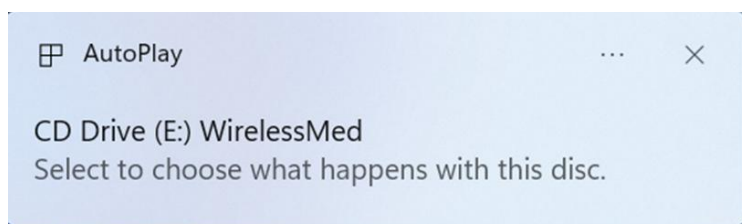
Green icons: Indicates that the USB camera and speakers/microphone are connected and in use by any given application.

6. Click the "Shareable" button in the WirelessMedia application to start wireless conference sharing

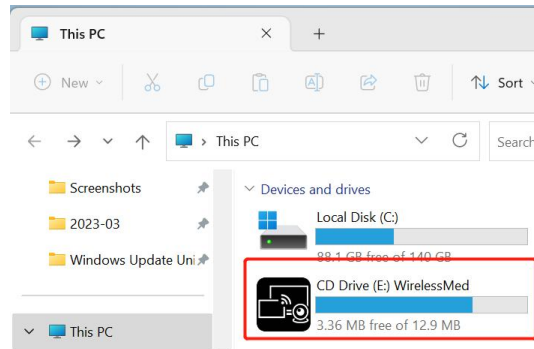


5.4.3 Video Conference via Dongle

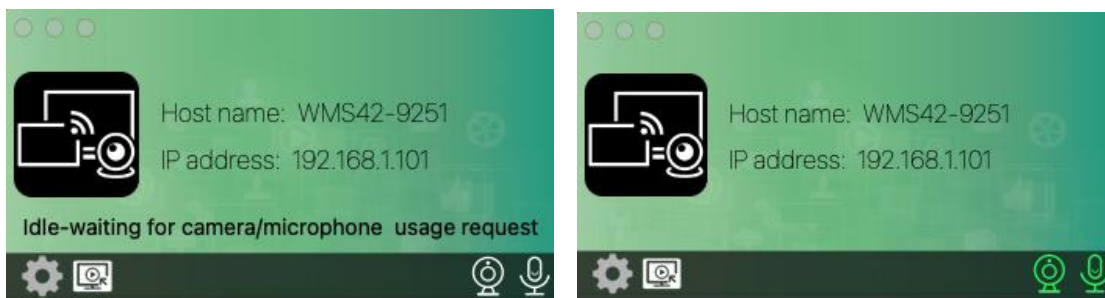
1. Connect the USB conferencing device to the WU-20 Lite USB ports
2. Connect the paired Dongle to your computer. When Dongle is plugged into the computer, the "WirelessMedia" CD drive will automatically pop up on the PC desktop. Click the "WirelessMedia" CD drive



You can also double-click the "WirelessMedia" CD-ROM drive in your computer to run the application for the first time use only. The application will automatically run in your PC for the next use without having to perform this step again

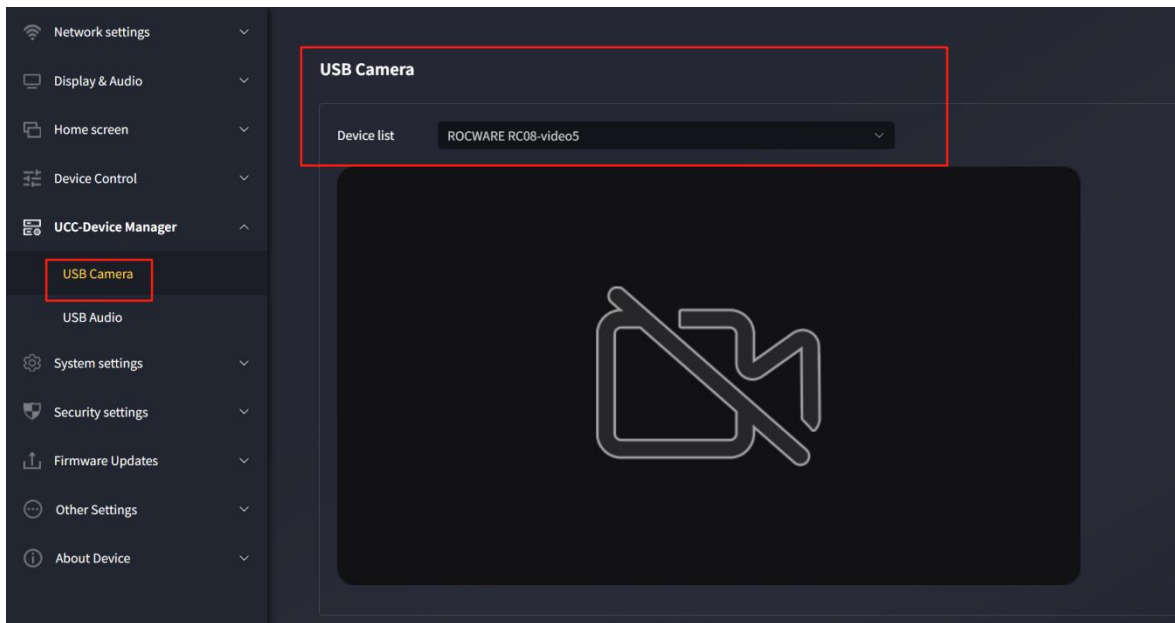


3.Start the meeting to conduct a video conference (same as using the WirelessMedia application to conduct a conference, see the previous section 5.4.1 for operation)



5.4.4 Switching Cameras in a Wireless Conference

1.Switch via Web GUI. Click USB Camera, then you can select cameras from the device list and preview them



5.4.5 Share Screen to Remote Party

Shared content on the local screen, including annotations and whiteboards, can also be shared with remote participants via the PC hosting the wireless conference.

1. Open the WirelessMedia app in the background and tap the Replay button

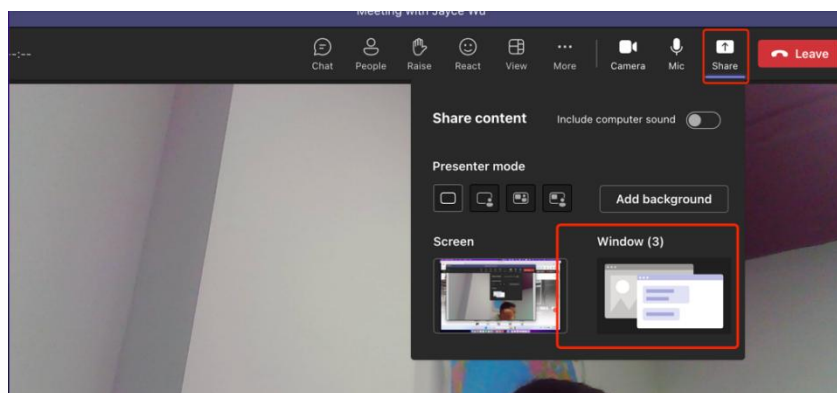


Note: This function will not work when the number of screens exceeds 2.

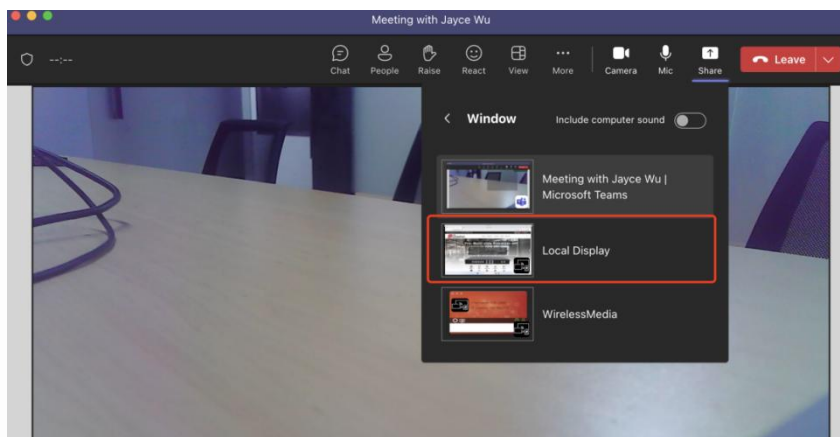
2. You will get a window that captures what's on your screen



3. Return to the VC app like Teams, click the Share button, click Window



4. Select "Local display" so that remote participants can see the shared content on your local screen



5.4.6 HDMI IN to Camera

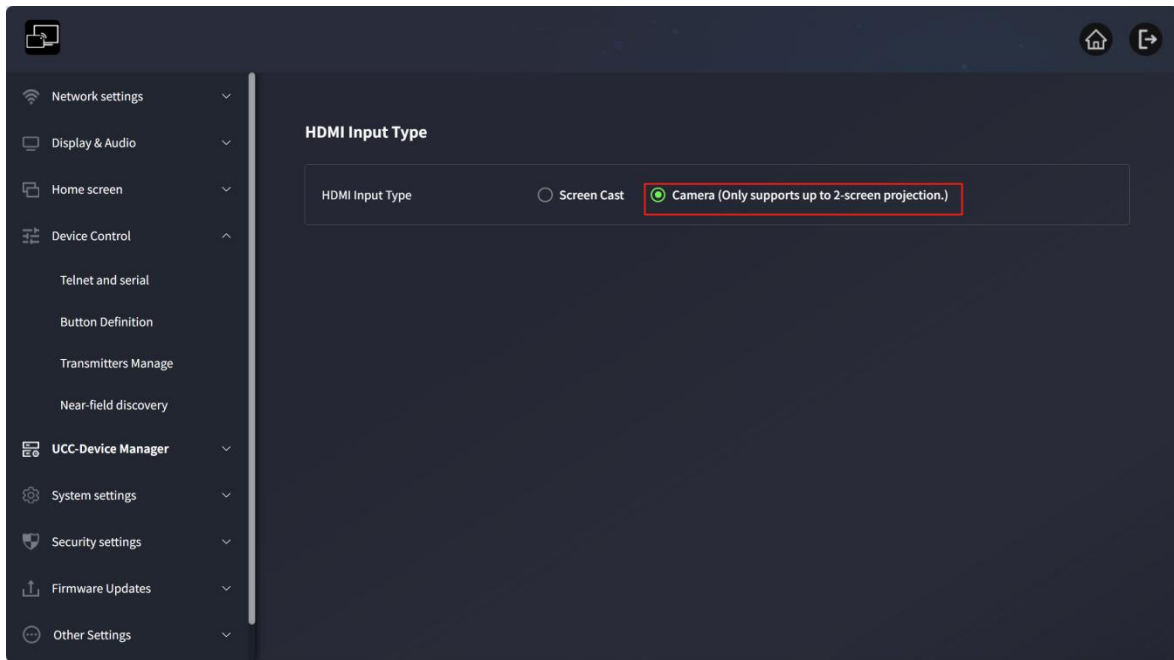
The WU-20 Lite supports the HDMI IN to Camera function, converting the signal source connected to the HDMI IN input into camera data. During video conferencing, it can be directly transmitted and displayed as camera data.

This feature has limitations: it can only be used for maximum dual-screen projection.

Web settings are as follows:

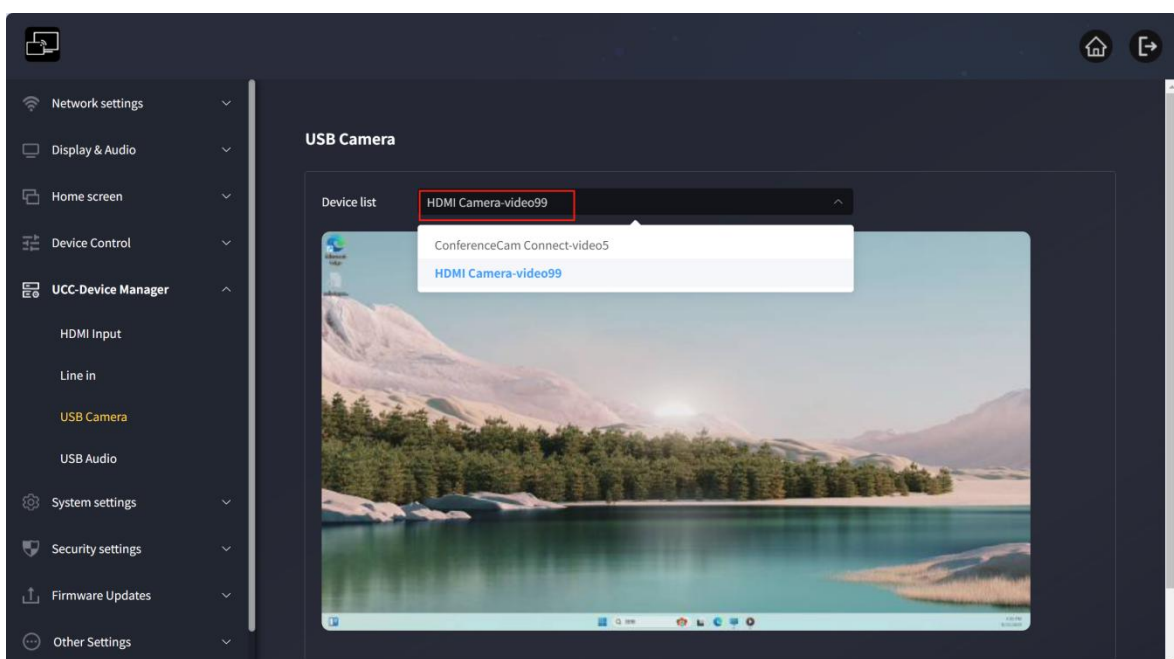
Limitation of this function: Only maximum dual-screen projection can be used.

Step 1: Set the HDMI input type to camera on the web, as shown below:



Step 2: Use an HDMI cable, plug one end into the HDMI IN port of the device, and the other end directly into the computer as the camera signal source.

Step 3: Set the USB camera as HDMI Camera in the web, as shown below:



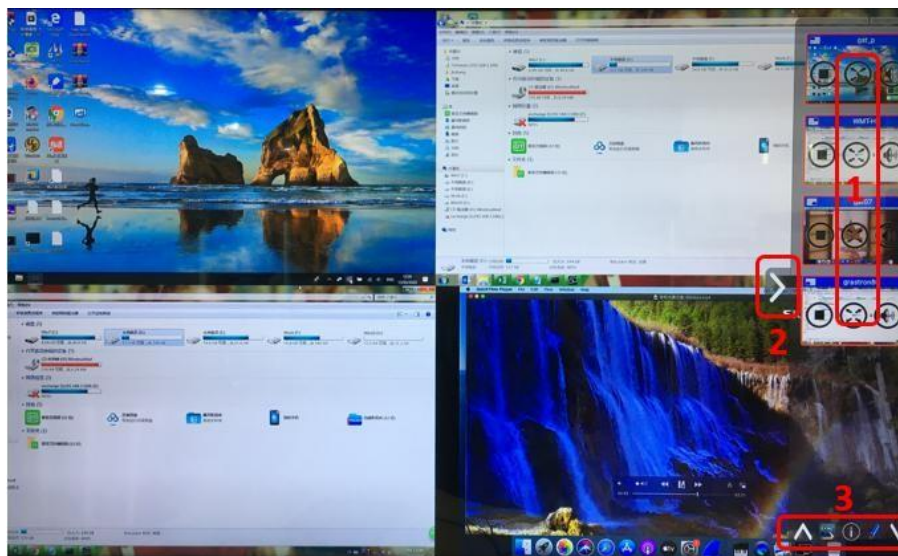
5.5 Home screen preview window s

The WU-20 Lite includes a moderator preview window that allows users to choose which online devices appear on the home screen, turn wireless casting on and off on any device, or control volume playback.

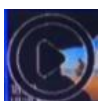
! In order to show, hide or manage the moderator tab, a USB HID compliant device (touch screen, mouse, ...) connected to the WU-20 Lite receiver is required.

A window previewing all connected Dongles, WirelessMedia application users and Airplay/Miracast/Chromecast screen sharing devices will appear on the tab. Various window prefix layouts can be selected in the Moderator section of the WEB settings, see the Moderator Layout chapter.

💡 Allowing 4 users to be on screen simultaneously, an additional 14 users can connect to the WU-20 Lite receiver while it is on standby.



1、 Preview control buttons:



Click to start screen casting



Click this to stop screen casting



Click to make this device full screen



Click to mute the screencaster's volume

- 2、 Arrow showing preview tab
- 3、 Whiteboard and annotation. See below for details

5.6 Whiteboard and Annotation

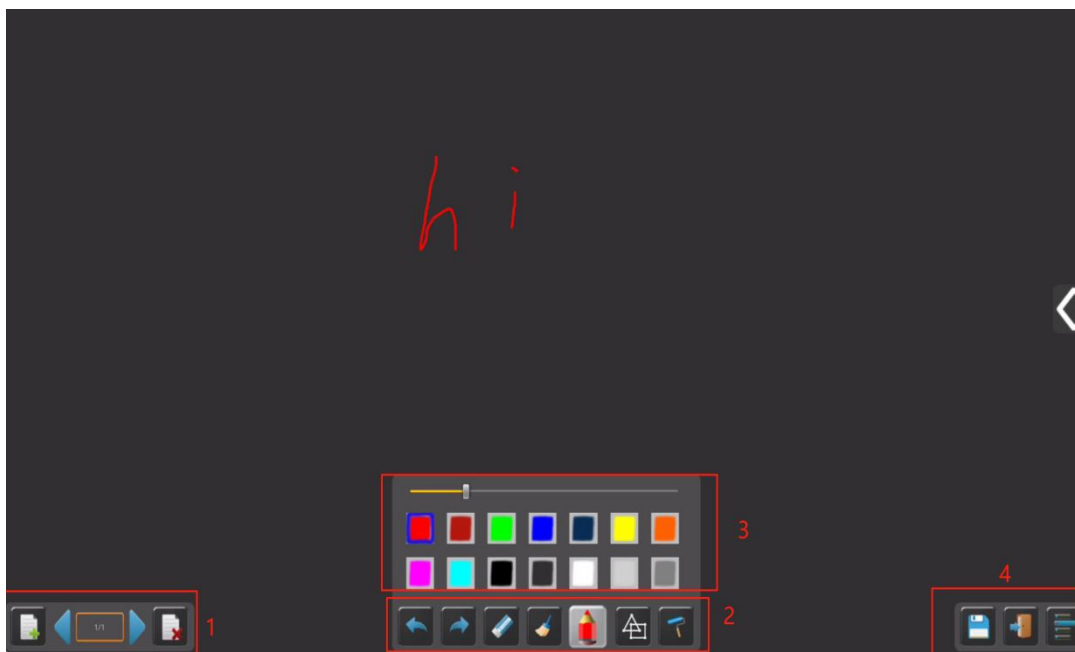
Whiteboard and annotation requires a USB HID-compliant device, such as an interactive whiteboard, touchscreen, or mouse. There are two different modes:

5.6.1 Whiteboard

Opens a whiteboard that allows users to write notes and draw content. It allows different graphics, colors and backgrounds. To launch the whiteboard, click the whiteboard icon
















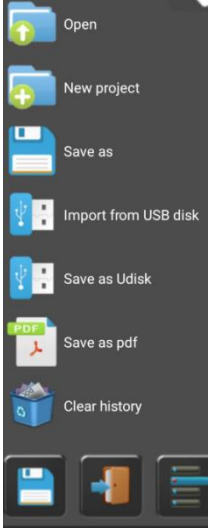
under the sidebar menu




Use the toolbar to select one of the following functions:

ID	Icon	Function
Toolbar 1	An icon of a document with a green plus sign, representing a blank page.	Add a blank page

		Delete current page
		Display the previous or next page
Toolbar 2		Undo: Change one step back
		Rework: A step forward in change
		Erasing part of a drawing or annotation
		Clear the entire drawing/text on the screen
		Pens allow writing/drawing in different colors
		Drawing basic geometric shapes
		Select the color of the artboard and the drawing will be kept
Toolbar 3		A pop-up window will appear when "Pen" or "Draw Shape" or "Select Artboard Color" is selected to change the pen size, shape or color.
Toolbar 4		Save the current screenshot to local storage (PNG+WMN).
		Close the whiteboard and return to the main page.


<p>File Options</p> 	 <ul style="list-style-type: none"> Open New project Save as Import from USB disk Save as Udisk Save as pdf Clear history 	<ul style="list-style-type: none"> • Open WMN files from local storage and continue/edit old projects • Create new projects • Save as WMN files to local storage and delete them after power failure • Import projects (WMN) from a USB drive • All pages are saved as PDF files to local storage • Delete history - delete all whiteboard and annotation files on local storage
--	---	--








5.6.2. Annotations

Users are allowed to draw or write annotations on the content displayed by active sharing devices. It supports various graphics, colors, and backgrounds. To activate the annotation mode, click the annotation icon  in the sidebar menu.



Use the toolbar to select one of the following functions:


ID	Icon	Function
Toolbar 1		Undo: Revert the last change

	Redo: Reapply the last undone change
	Erase part of the drawing or annotation
	Clear all drawings/text on the screen
	Pen: Allows writing/drawing with different colors
	Draw basic geometric shapes
	Close the annotation function and return to the main page. Save the current document (WMN) to a local file.
	Save the current screenshot to local storage (PNG).

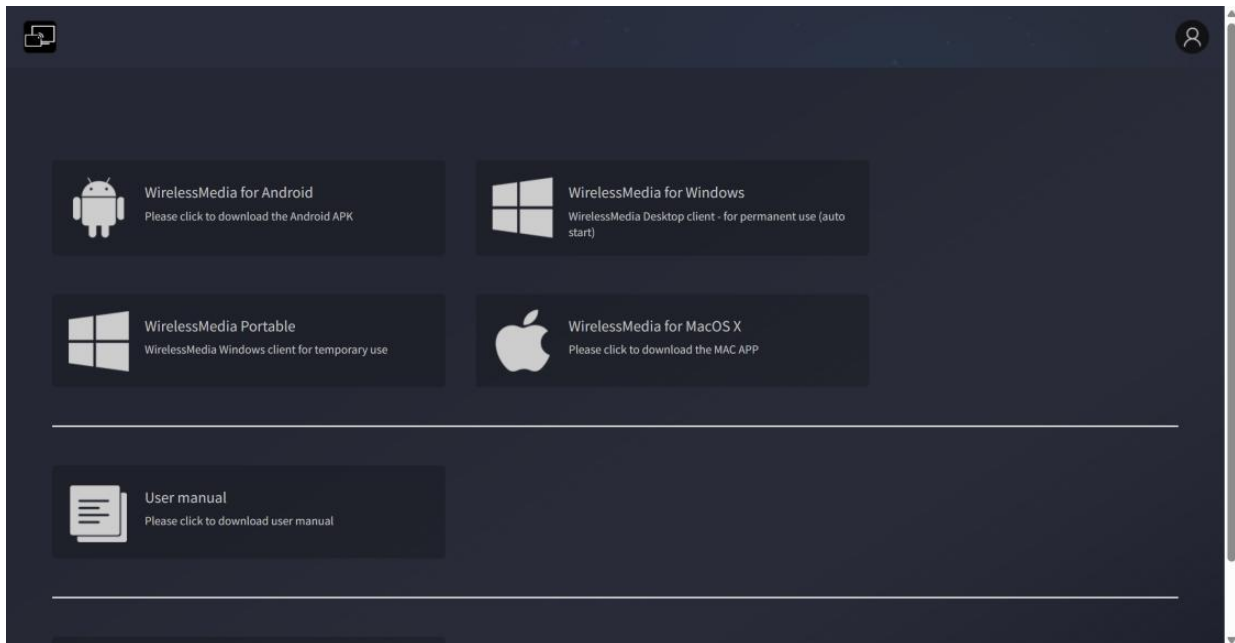
- Download drawings to connected users


When the whiteboard or annotation screen is saved to WU-20 Lite internal storage, users can download the saved file by scanning the QR code or entering the provided IP address in a browser.




 Data can be copied to the USB flash drive. After connecting to WU-20 Lite, it can be imported into the whiteboard section via "Import from USB flash drive".

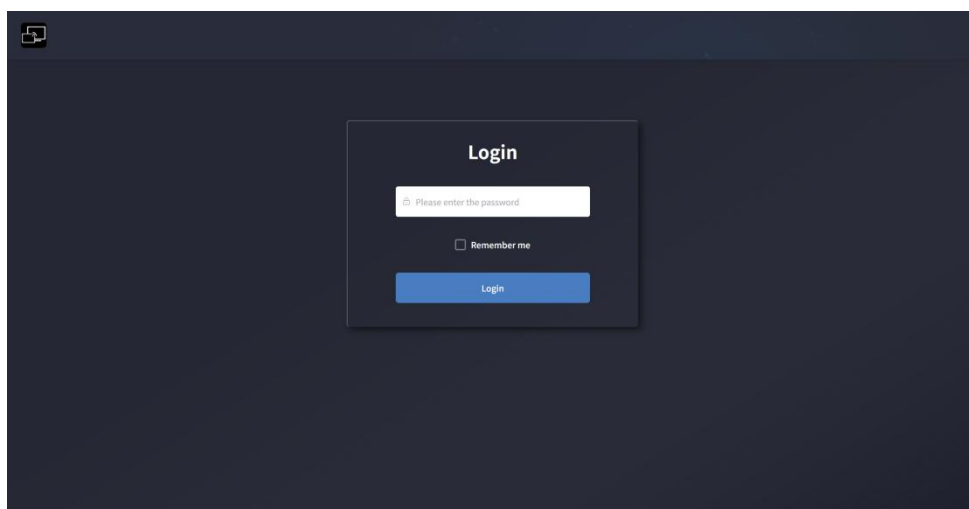
browser. The first displayed page allows users to download the WirelessMedia application for all platforms.




 If WU-20 Lite is in "Wireless Direct Mode", first connect to the WU-20 Lite SSID and enter the current password on the main screen. The IP address is 192.168.43.1. For detailed network configuration instructions, refer to the "Network Settings" chapter.

Click the icon  in the upper right corner

The login page will appear, with the default password: admin



 Entering login credentials grants access to the main WEB settings page.

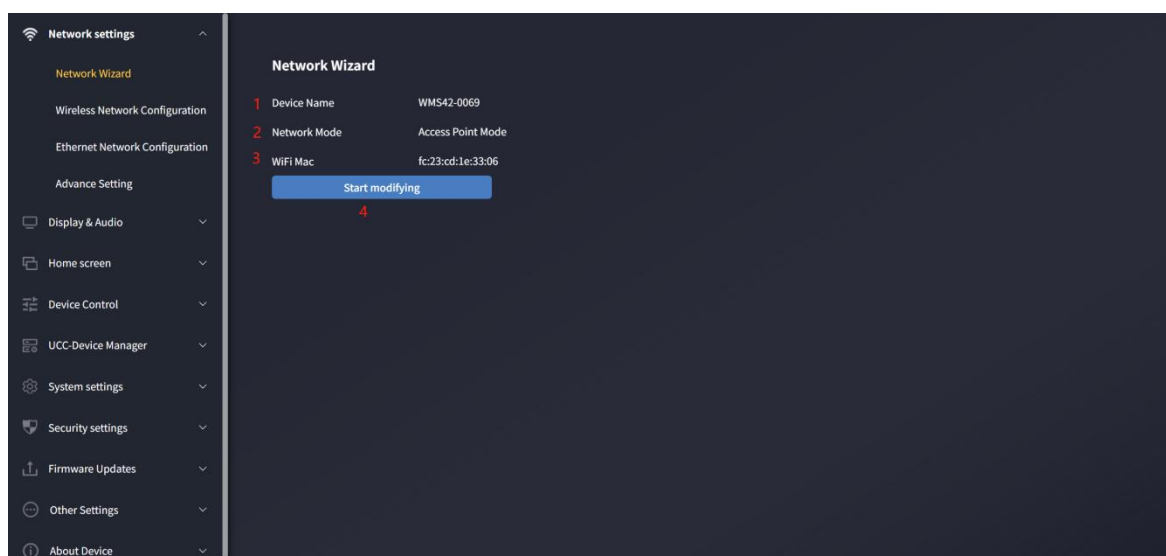
6.1. Network Settings

To fully utilize WU-20 Lite features, configuring and integrating the receiver's network settings according to application requirements is crucial. WU-20 Lite includes two independent wired LANs and one WiFi network card.

The following sections are accessible in the "Network Settings" page:

6.1.1. Network Wizard

This section guides users through setting up WU-20 Lite's dual-network operating mode.



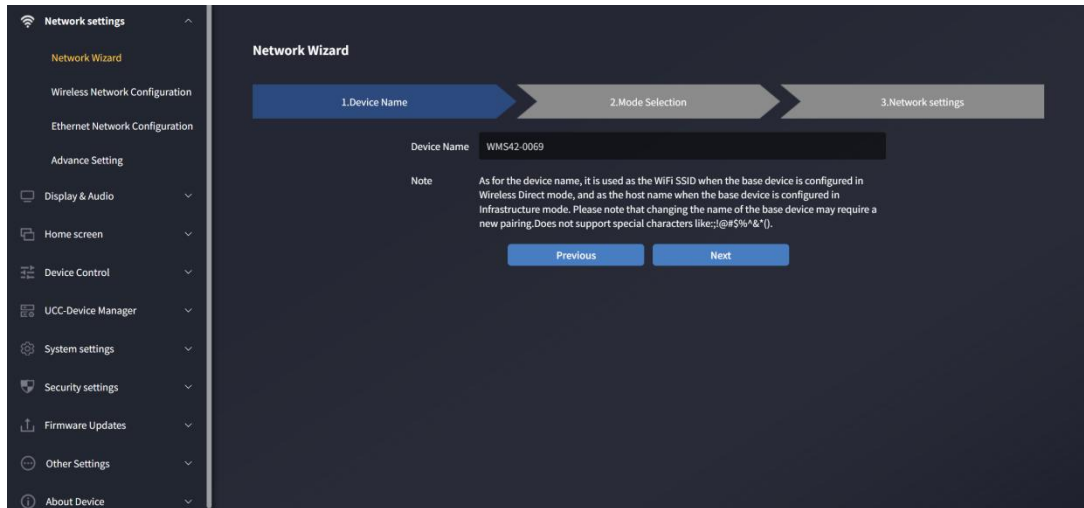
1. Device Name: Indicates the current name assigned to WU-20 Lite.
2. Network Mode: Shows the currently configured network operating mode.
3. WiFi Mac: Displays the MAC address assigned to WU-20 Lite's network card.
4. Start Modification: Click to enter the network setup wizard, where you can change the network mode and properly configure WU-20 Lite into existing network infrastructure.



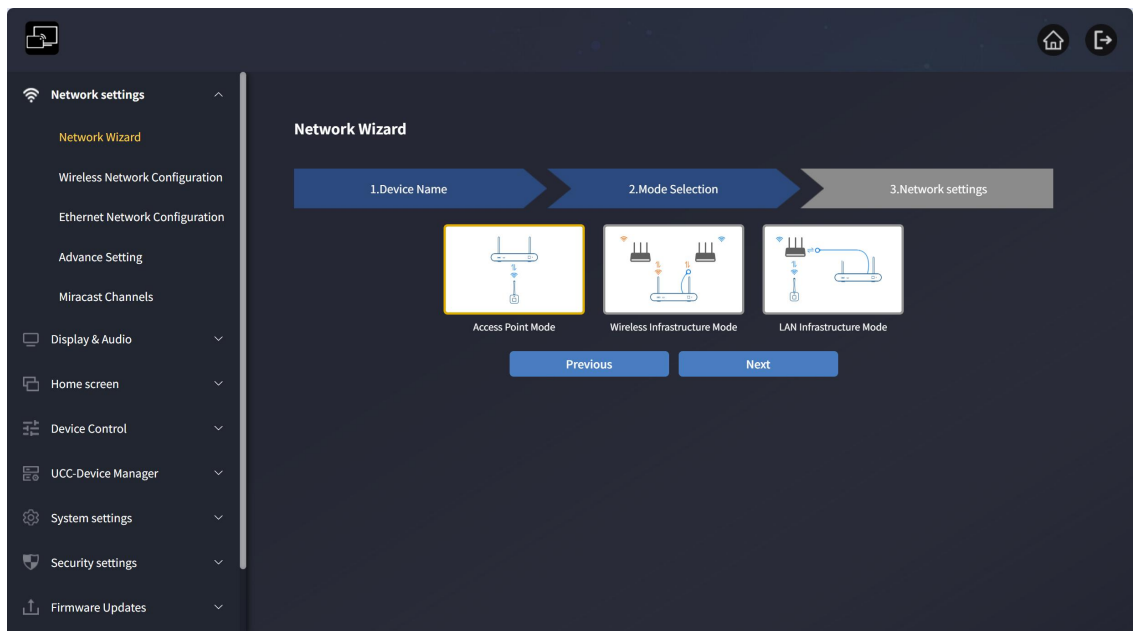
Any change to the network mode requires the dongle to re-pair with the WU-20 Lite receiver.

6.1.1.1. Network Mode Configuration

1. **Device Name:** When the base unit is configured in Wireless Direct Mode, this name serves as the WiFi SSID; in Bridge Mode, it functions as the base unit name. Note that changing the device name may require re-pairing the dongle. Do not use special symbols such as: ;!@#\$\$%^&*()



2. **Mode Selection:** Choose the desired network mode and click "Next".

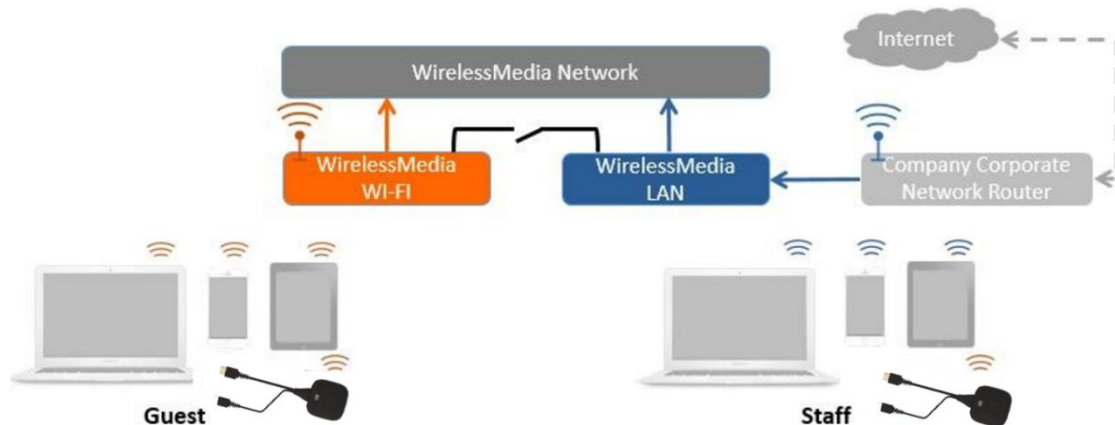


• Direct Mode

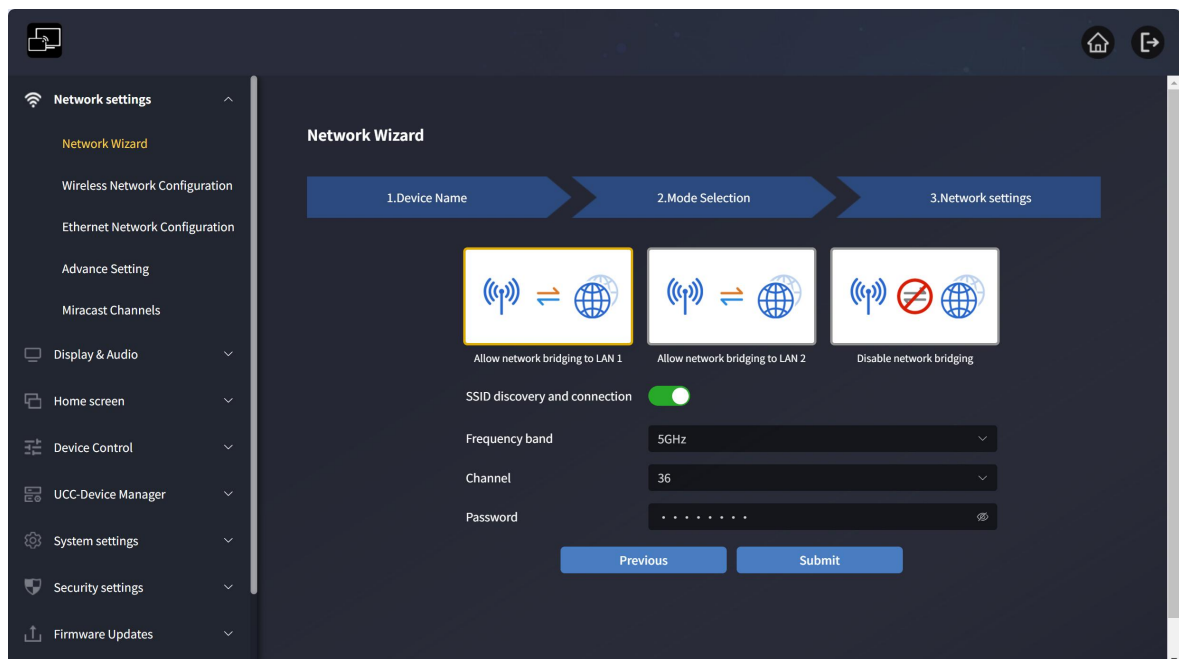
WU-20 Lite starts with the default independent "Wireless Direct Mode" after factory reset or first use. The receiver creates its own wireless access point, and all devices must connect to it to share content with the receiver. This option is ideal for temporary operations, small installations, rooms without network access, or networks where guest

access is restricted due to strict security policies, being completely isolated from the corporate network.

In this mode, WU-20 Lite operates without additional wireless network configuration. Simply pair the dongle with the WU-20 Lite receiver, connect a computer to WU-20 Lite's internal hotspot and open the WirelessMedia app, or use native wireless protocols like Airplay, Miracast, or Chromecast.



3. Click "Next" to set up the WiFi access point.

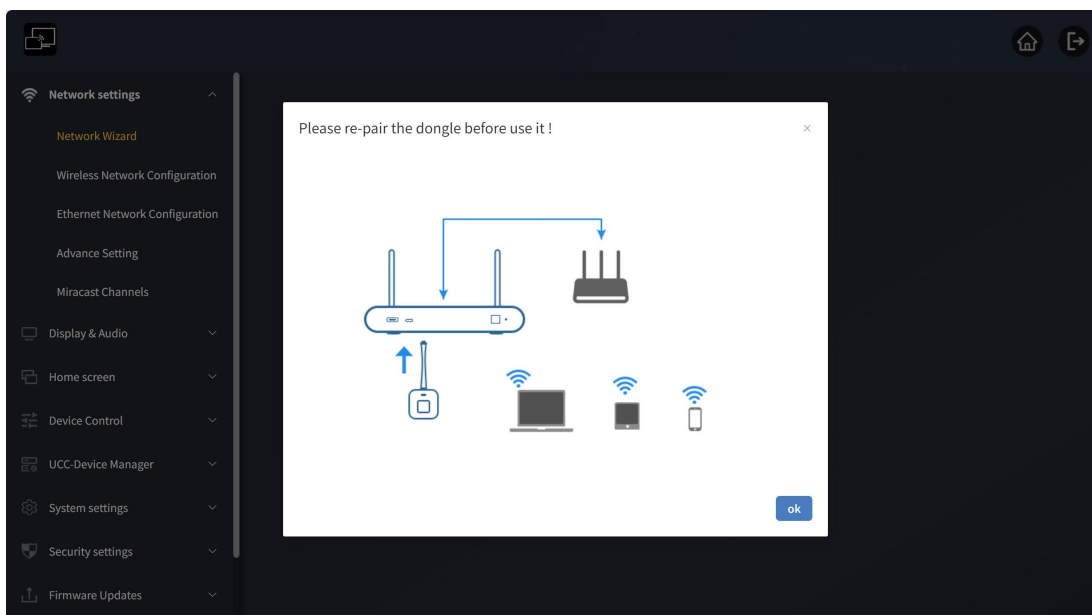


- Three ways to connect to the internet via WU-20 Lite in "Wireless Direct Mode":
 - a) Internet access via LAN 1 port: The hotspot can communicate with Ethernet port 1, allowing internet access through LAN1 when connected to the hotspot.
 - b) Internet access via LAN 2 port: The hotspot can communicate with Ethernet port 2, allowing internet access through LAN2 when connected to the hotspot.

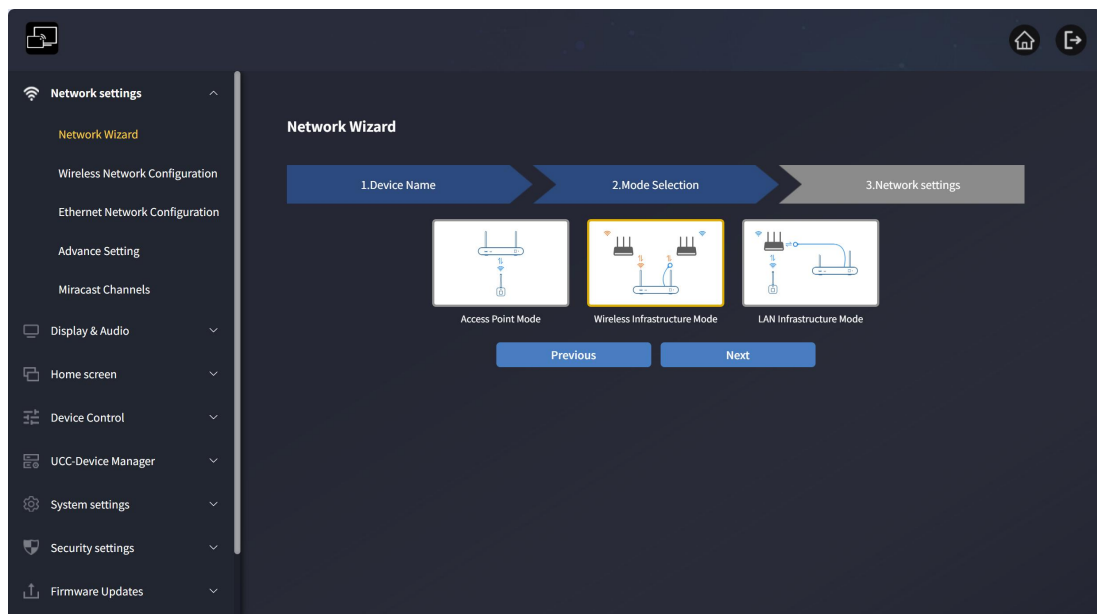
c) Disable internet access: No internet access when connected to the hotspot (for security).

- Allow base unit SSID to be discovered and connected: Select "Yes" to make the WU-20 Lite SSID searchable; select "No" to hide it.
- Frequency Band: Click to select 2.4 GHz or 5 GHz WiFi. Default is 5 GHz.
- Channel: Click to select the WiFi channel. Default is 5 GHz, channel 36. Changing the WiFi channel does not require re-pairing the dongle.
 - o 2.4 GHz band: Channels 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
 - o 5 GHz band: Default is 5 GHz, channel 36
- Region-specific supported channels:
 - Europe: Only 36, 40, 44, 48
 - USA and China: 36, 40, 44, 48, 149, 153, 157, 161
 - Channel 36 is globally supported, so it is set as the default.
- Password: Click the input field to enter an 8-character password.

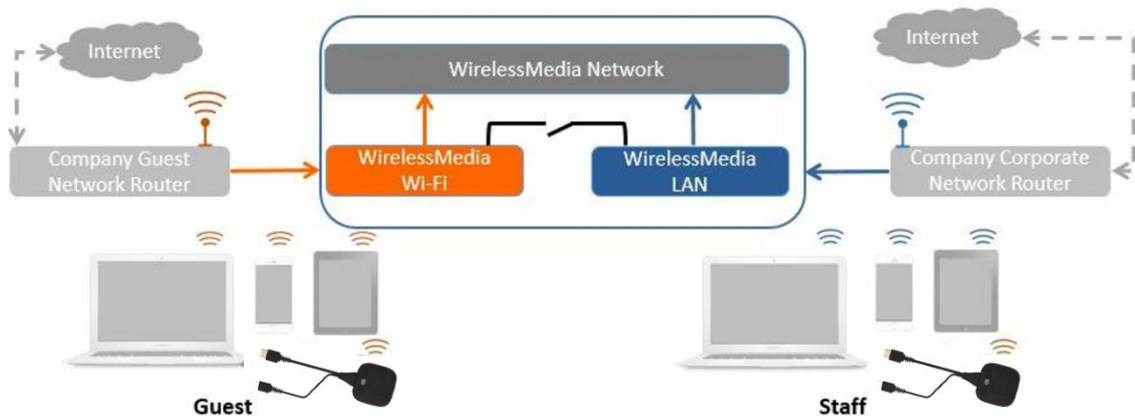
4. Click "Submit Settings" to complete configuration. Then re-pair the wireless dongle with WU-20 Lite.




- Wireless Bridge Mode



WU-20 Lite can connect to both wired and wireless networks simultaneously. The receiver is securely "connected to the corporate network" via LAN. Guest users connect to the Wi-Fi "guest network", while employees access the corporate network access point without switching Wi-Fi. A wireless "guest" network is provided for external visitors, and a wired "employee" network for staff. Guest users cannot access any resources on the corporate internal network.



WU-20 Lite's wireless network connects to the guest's Wi-Fi network (guest mode), with the indicator icon. 

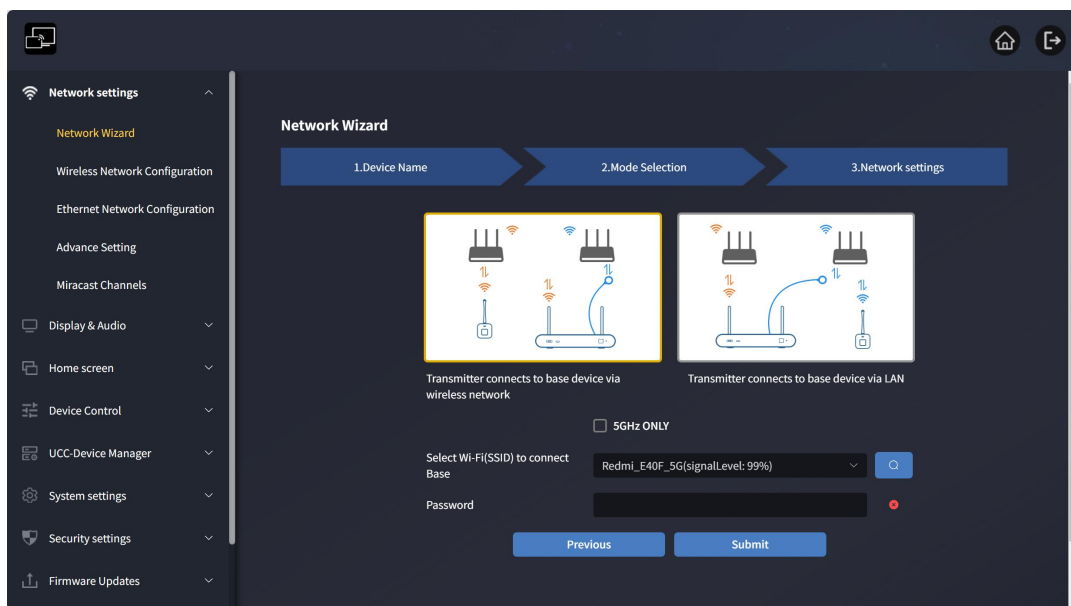
PC users can use the WirelessMedia PC program (Windows or MacOS) with or without a dongle.

Android users can share content by installing the APK, and iOS users can use AirPlay (Apple only).

Click "Next" to configure this network mode:

1. Dongle and base unit connected via wireless network

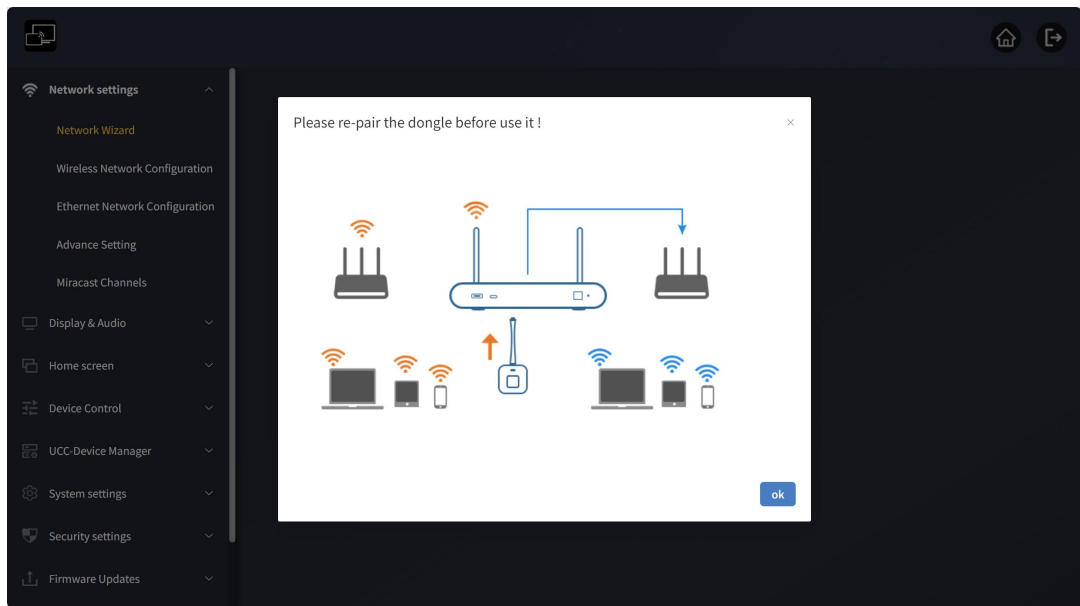
Select a wireless network separate from the corporate network for guests.



Only 5G channels: Check to search only 5G networks, uncheck to search all.

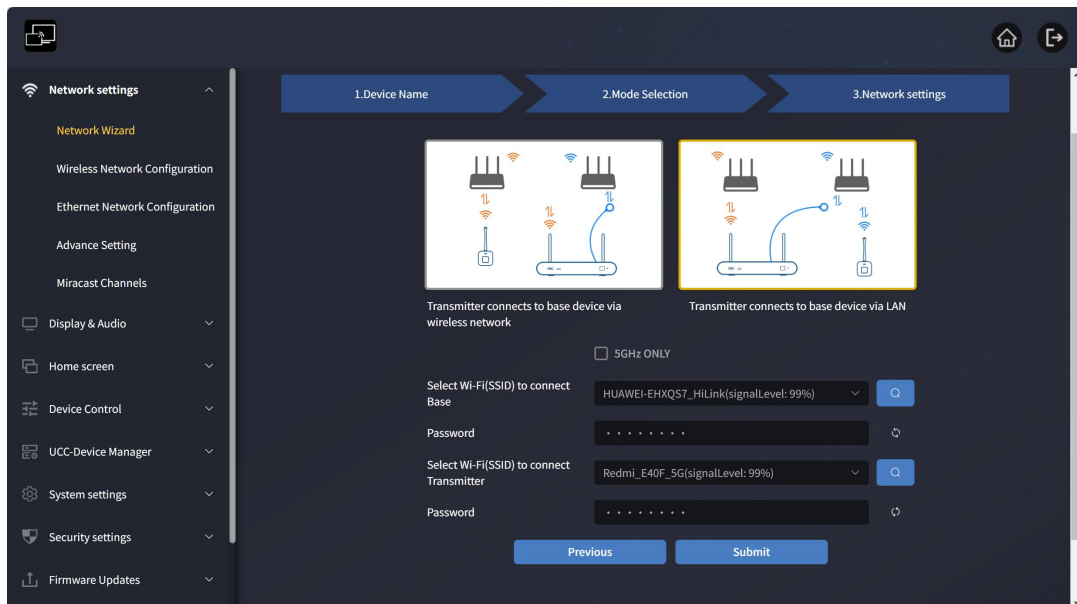
- **Select a router for the base unit to connect:** Choose a guest network to access the receiver.
- **Password:** Enter the connection password.

Click "Submit Settings" to complete configuration. Then re-pair the wireless dongle with WU-20 Lite.



1. Dongle and base unit connected via wired network:

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



Only 5G channels: Check to search only 5G network, uncheck to search all.

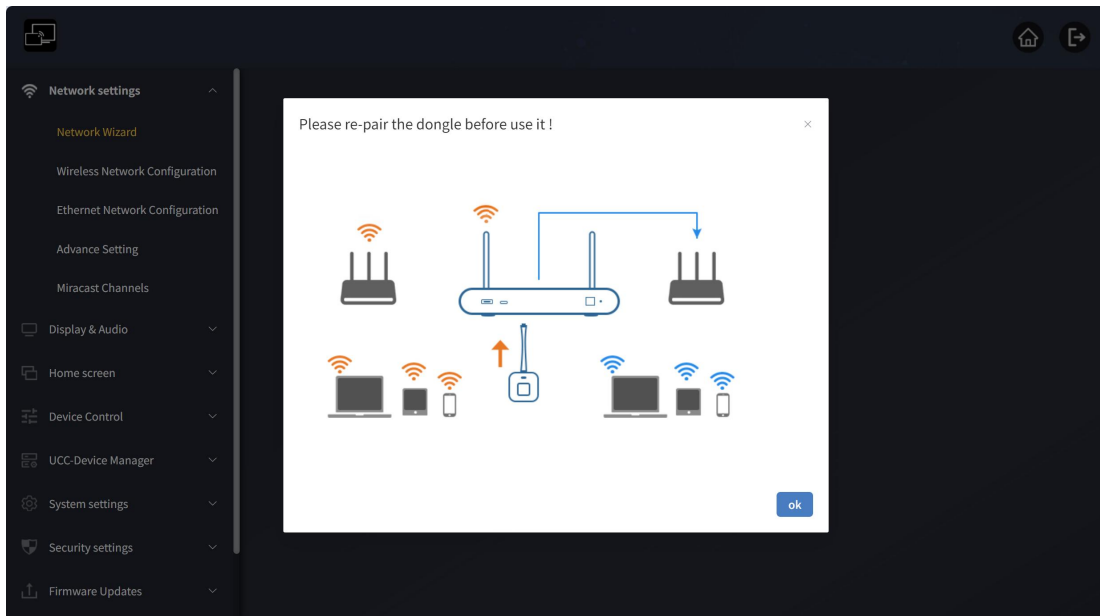
- **Select a router for the base unit to connect:** Choose a guest wireless network to connect to the WU-20 Lite receiver.
- **Password:** Enter the connection password.
- **Select a router for the dongle to connect:** Choose the corporate wired network connected to WU-20 Lite, and pair the dongle with the receiver (Note: The selected

network must match the wired network connected to the LAN port; otherwise, the paired dongle will not work).

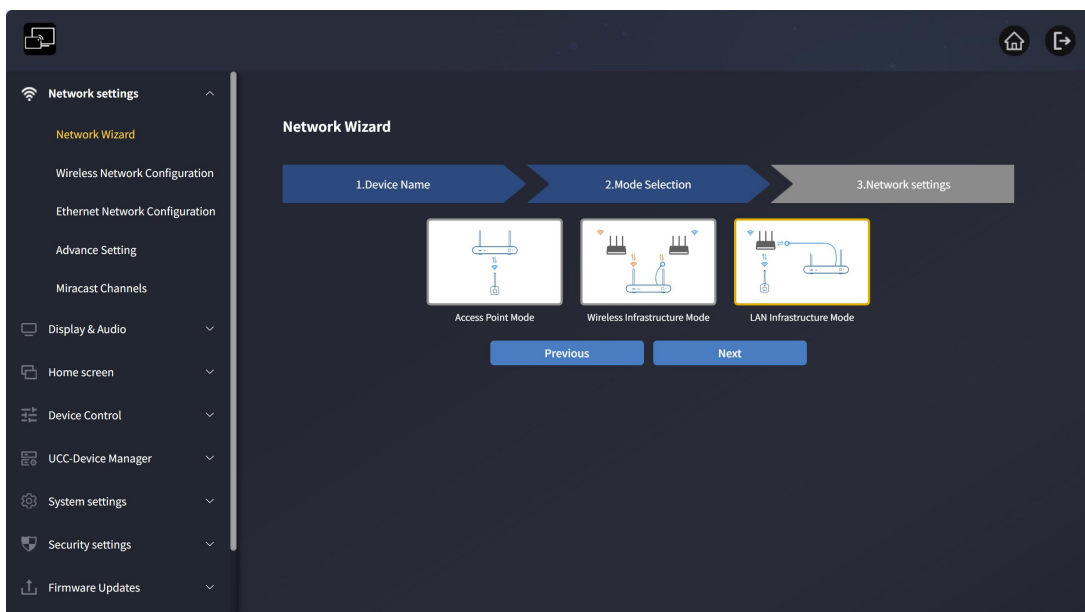
- **Password:** Enter the LAN password.

Note: Typically in this mode, the dongle is paired to a dedicated employee network within the corporate network for enhanced security.

2. Click "Submit Settings" to complete configuration. Then re-pair the wireless dongle with WU-20 Lite.



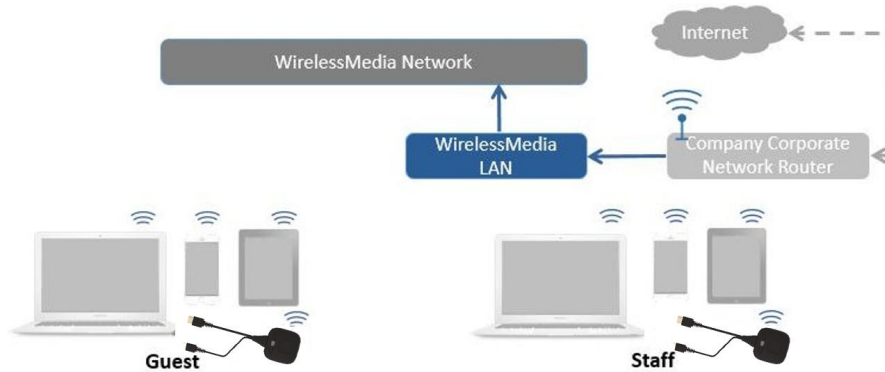
•Wired Bridge Mode



In this configuration, WU-20 Lite's built-in WiFi access point is disabled.

Dongle and mobile devices can connect to the corporate network. The WU-20 Lite receiver connects to the company's wired network via an Ethernet cable.

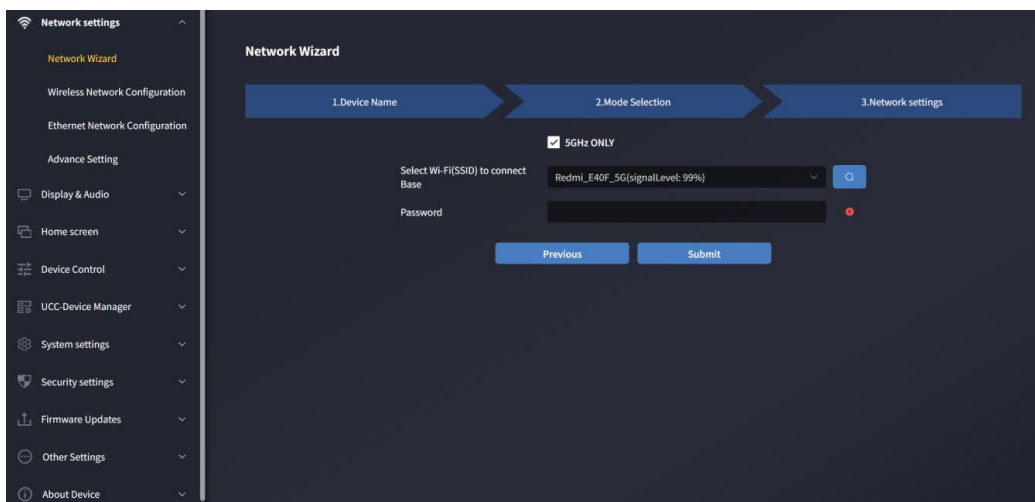
This mode is mainly used when the guest network is disabled, and only the employee network is in use.



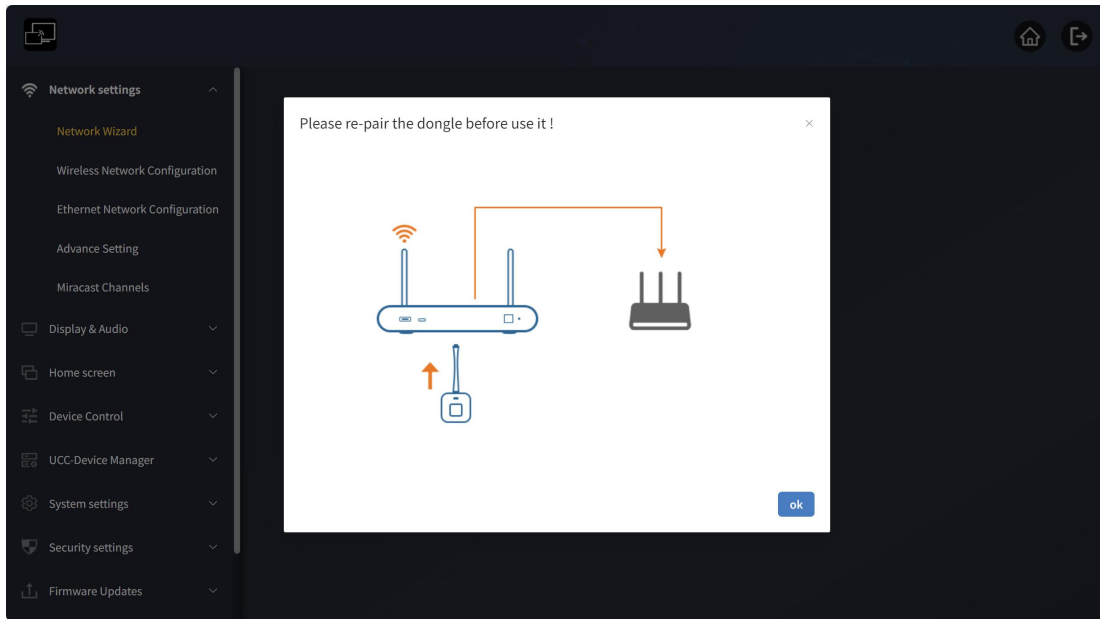
1. Click "Next", select the LAN network for company employees, and re-pair the wireless dongle to this network.

Select a router for the base unit to connect: Choose the wired network used by employees (matching the wired network connected to the LAN port).

Password: Enter the connection password.

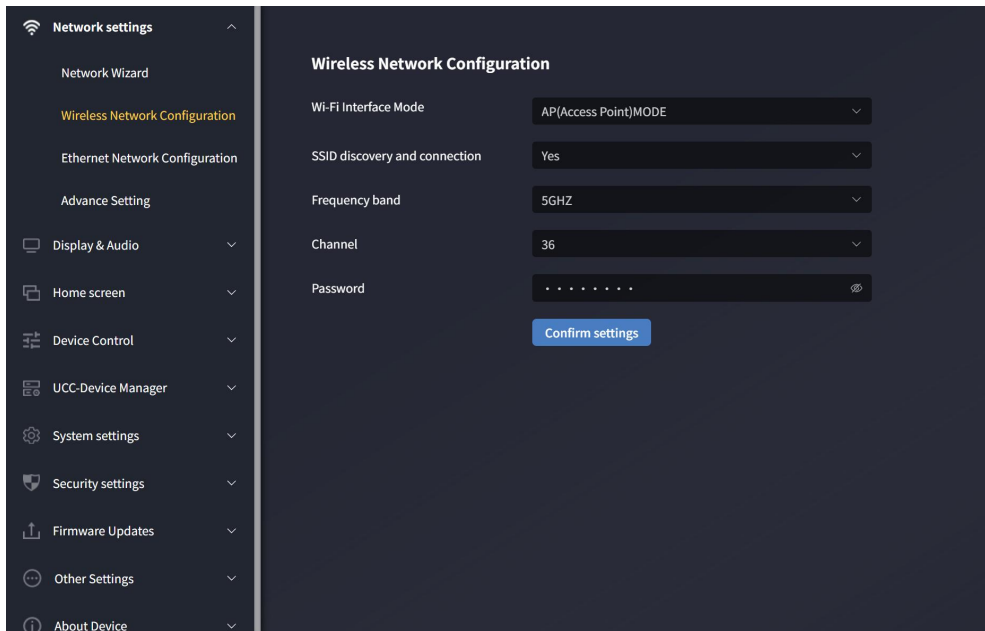


2. After successful submission, re-pair the wireless dongle with WU-20 Lite.



6.1.2. Wireless Network Configuration

For detailed configuration of the three modes on this page, refer to the "Network Wizard" section above.



Wireless operating modes: Hotspot Mode, Station Mode, Off.

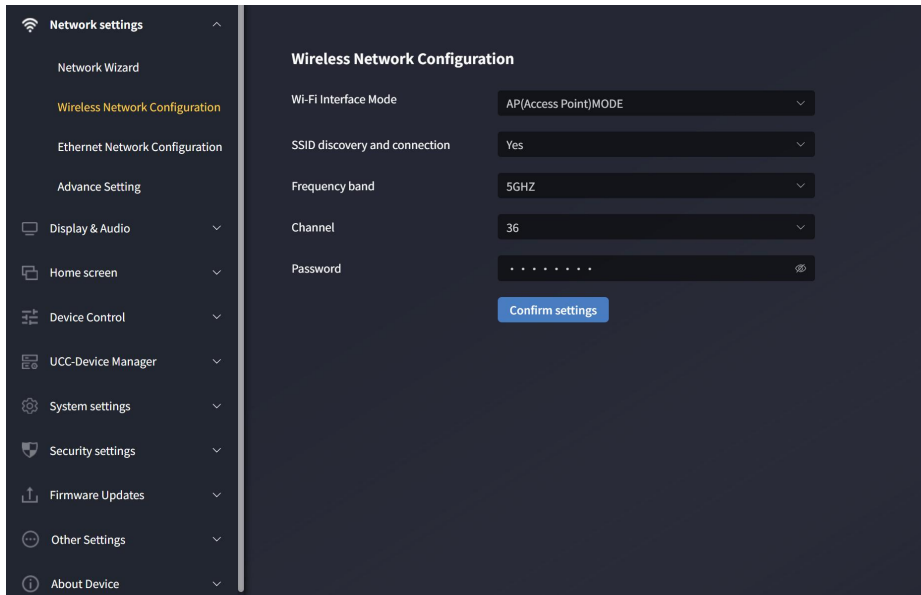
You can directly set the network mode here as: Wireless Direct, Wireless Networking, or Wired Networking.

The network mode set in the Network Wizard page will sync to this page, and vice versa.

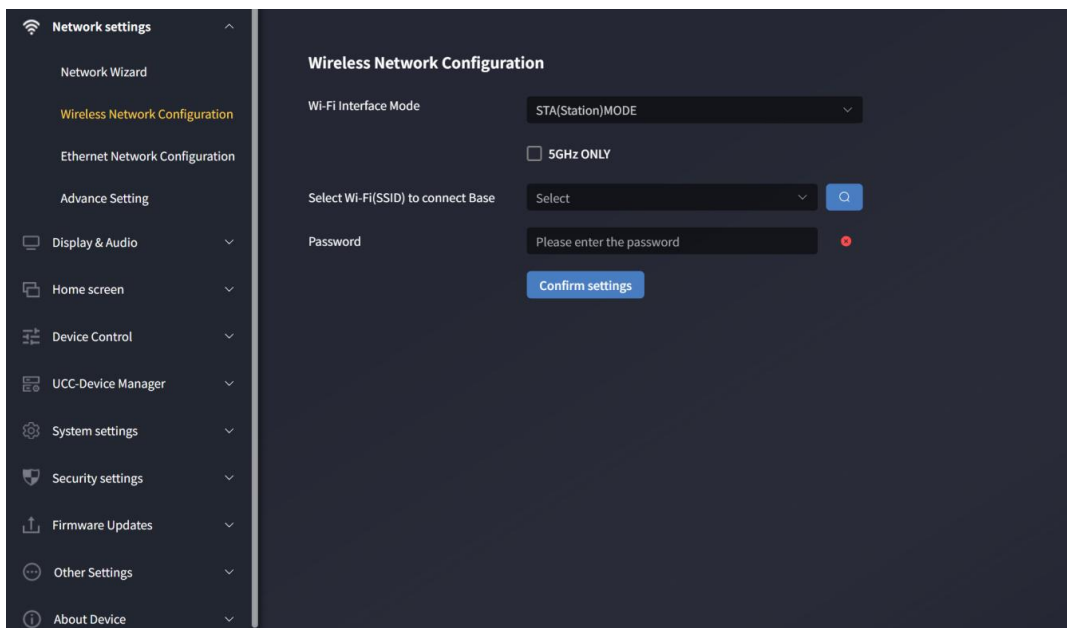
6.1.2.1. Hotspot Mode

This page displays Hotspot Mode when the network mode is set to Wireless Direct.

In Hotspot Mode, you can directly configure settings for Wireless Direct Mode.

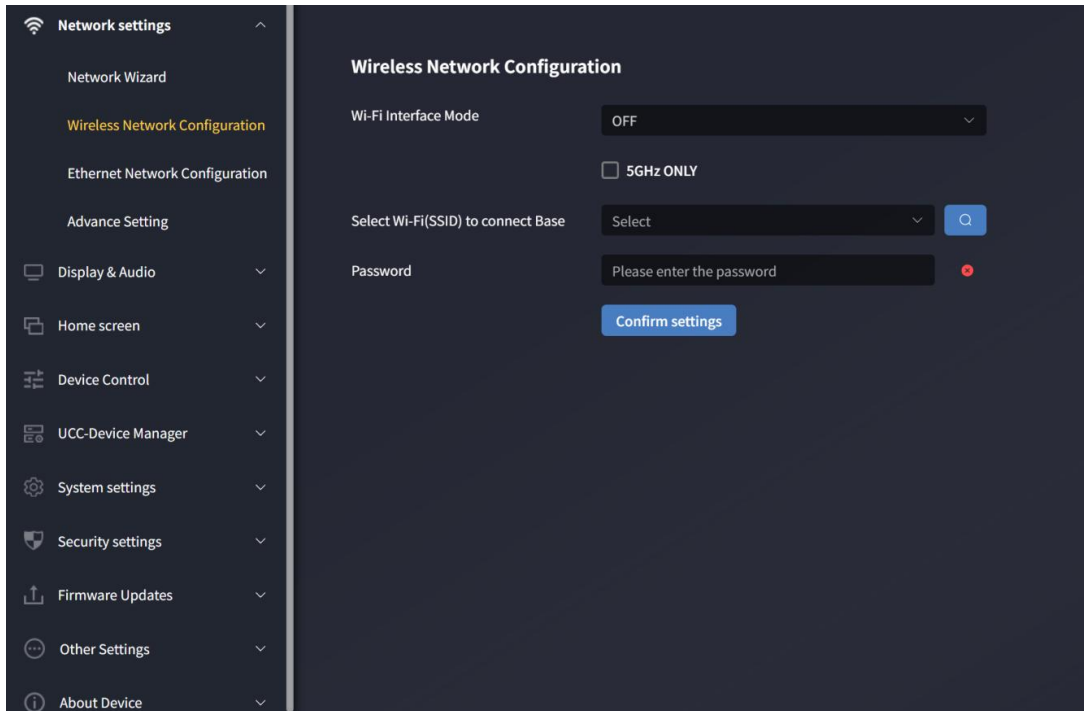


6.1.2.2. Station Mode



This page displays Station Mode when the network mode is set to Wireless Bridge. You can directly configure the network connected in Wireless Bridge Mode here.

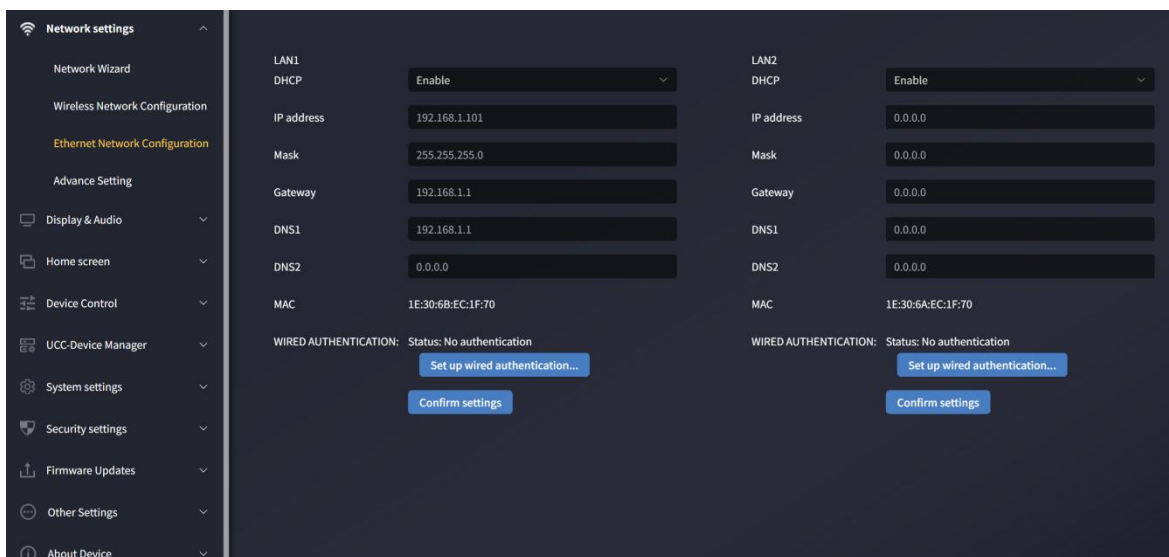
6.1.2.3. Off



This page displays "Off" When the network mode is set to Wired Bridge.

You can directly configure the wired network connected in Wired Bridge Mode here.

6.1.3. Wired Network Configuration (Allows configuration of wired LAN 1 and LAN 2 settings)



- DHCP: If a DHCP server exists on the network, this enables automatic IP address assignment. To configure a static IP, disable this first.
- Subnet Mask: Allows entry of the required network mask.
- Gateway: Allows entry of the required IP gateway.
- DNS1-2: Allows entry of required DNS servers.

- **Wired Authentication Status:** Configures wired authentication (None, EAP-TLS, EAP-TTLS, PEAP).

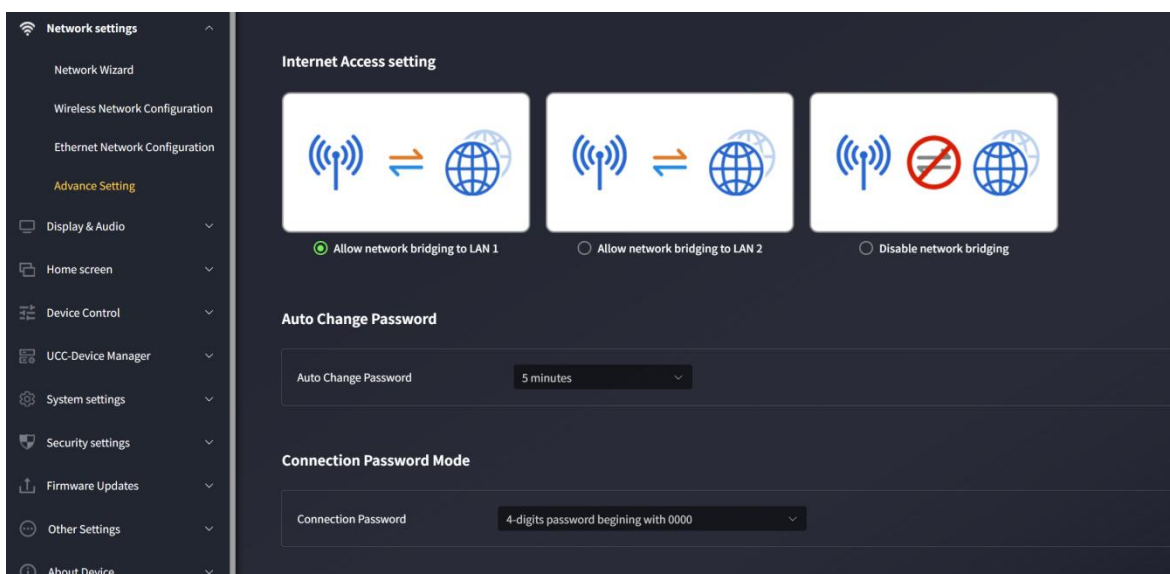
6.1.4. Advanced Settings

6.1.4.1. Internet Access Settings

In Wireless Direct Mode, you can directly change WU-20 Lite's internet connection methods here:

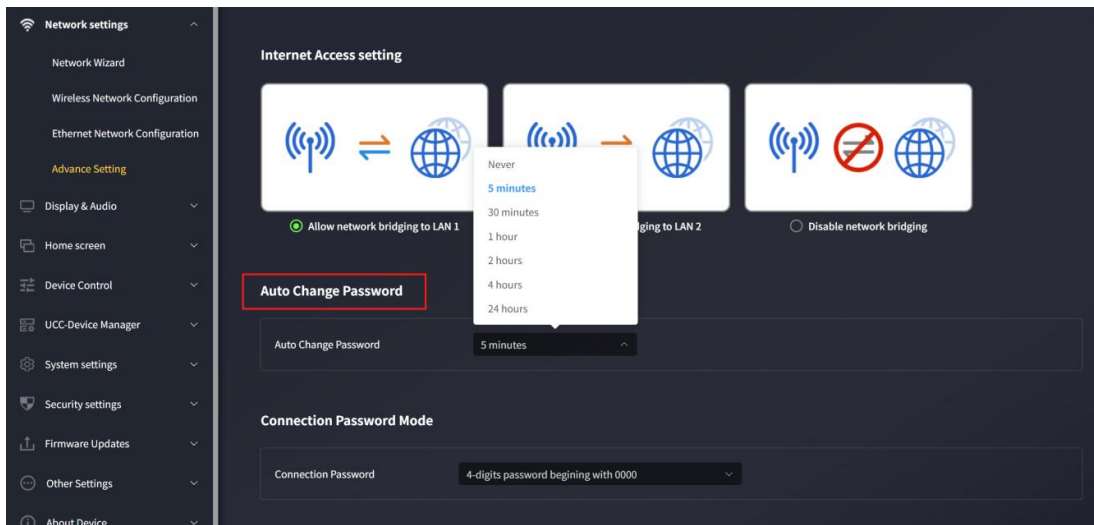
1. Allow base unit internet access via LAN 1 port
2. Allow base unit internet access via LAN 2 port
3. Disable internet access

For detailed configuration and functions, refer to the Wireless Direct Mode settings in the "Network Wizard" section.



6.1.4.2. Auto-change Password

The password for all meeting participants remains unchanged while at least one wireless dongle or mobile device is connected to the WU-20 Lite receiver. A configurable timeout starts after the user disconnects. If the password is changed, users do not need to re-pair the dongle.



1. Configure to automatically change the WiFi password to a random number at regular intervals.

2. Click to set the configuration:

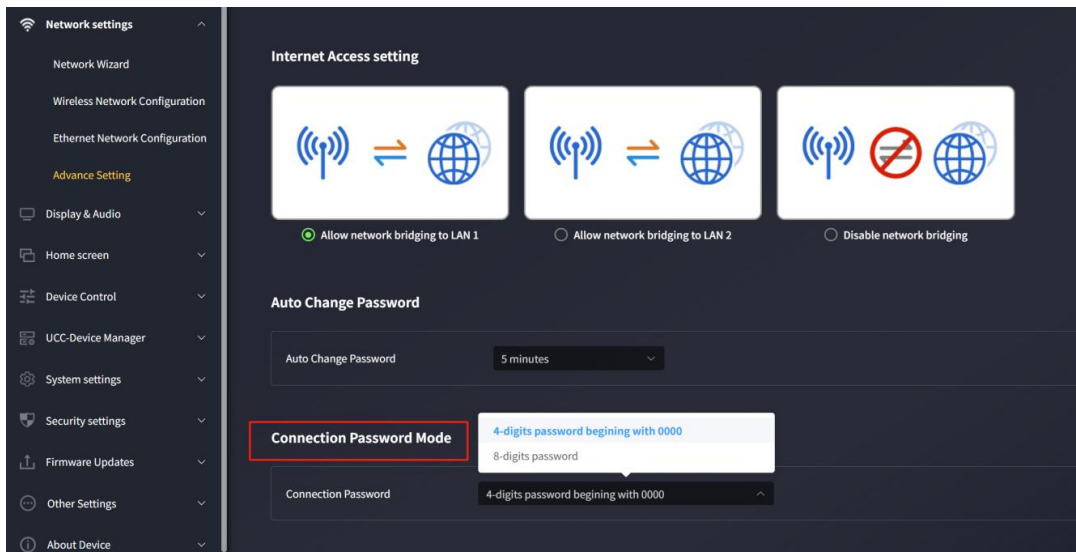
Never: Never change the WiFi password (even after power-off).

- 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.

6.1.4.3. Connection Password Mode

Two password formats can be displayed on the main screen:

- 4-digit password, starting with 0000
- 8-digit password

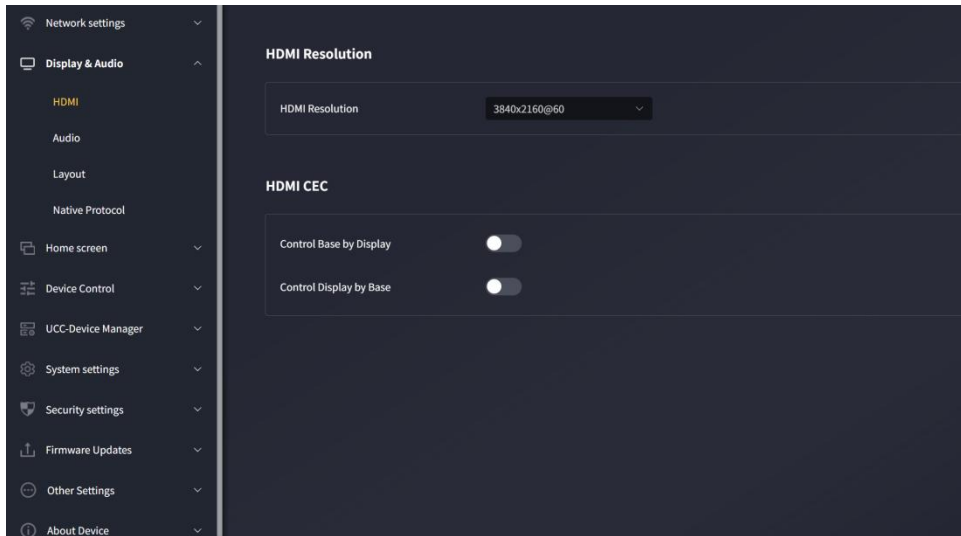


6.2. Display and Sound

6.2.1. HDMI

6.2.1.1. HDMI Resolution Setting

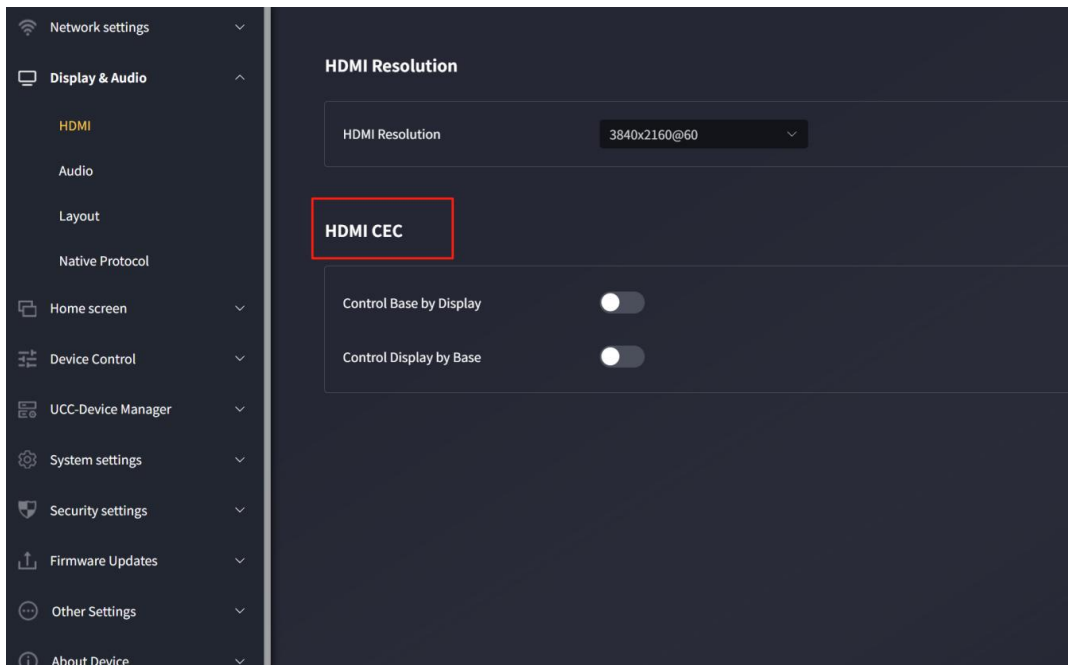
- Select the HDMI output resolution of the receiver.
- Auto
- 3840x2160@30
- 4096x2160@60
- 4096x2160@50
- 4096x2160@30
- 4096x2160@25
- 4096x2160@24
- 3840x2160@60
- 3840x2160@50
- 3840x2160@30
- 1920x1080@60
- 1920x1080@50
- 1920x1080@30
- 1280x720@60
- 1280x720@50



If the display only supports Full HD, 4K resolutions will not appear in the list.

6.2.1.2. HDMI CEC

If the connected display supports CEC, WU-20 Lite supports CEC functionality.



- Allow display to control the base unit

With this option, you can choose whether the connected WU-20 Lite base unit automatically enters standby mode immediately after the display is turned off.

- On: Once the display is turned off, the WU-20 Lite base unit also turns off automatically.

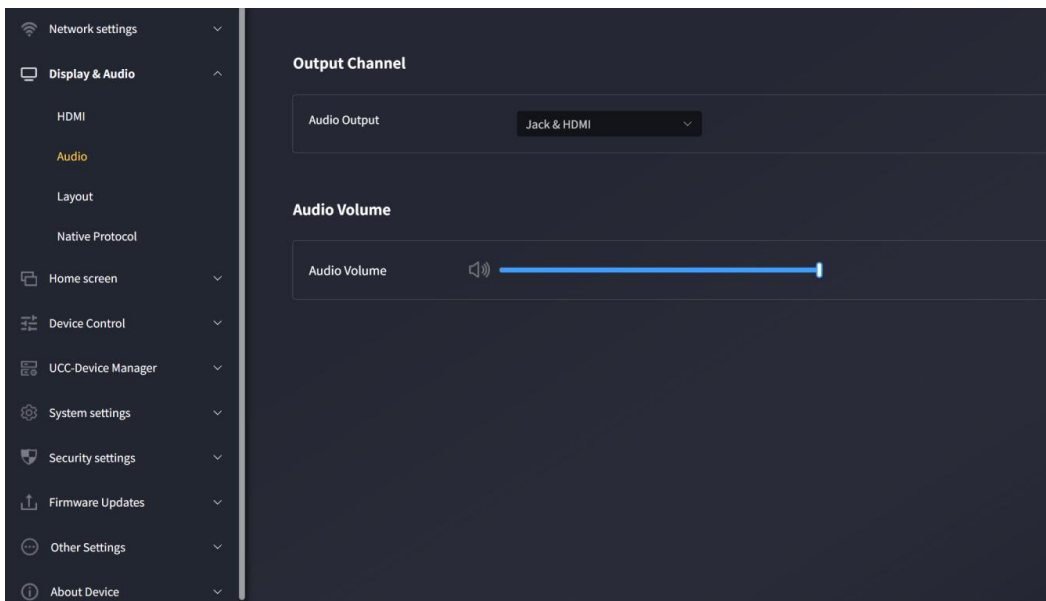
- o Off (default): The display is turned off, but WU-20 Lite does not turn off automatically.
- Allow base unit to control the display

With this option, you can choose whether the connected display automatically enters standby mode immediately after the WU-20 Lite base unit is turned off.

- o On: Once WU-20 Lite is turned off, the connected display also turns off automatically.
- o Off (default): When WU-20 Lite is turned off, the display does not turn off automatically.

6.2.2. Sound

Allows users to select the audio output source.



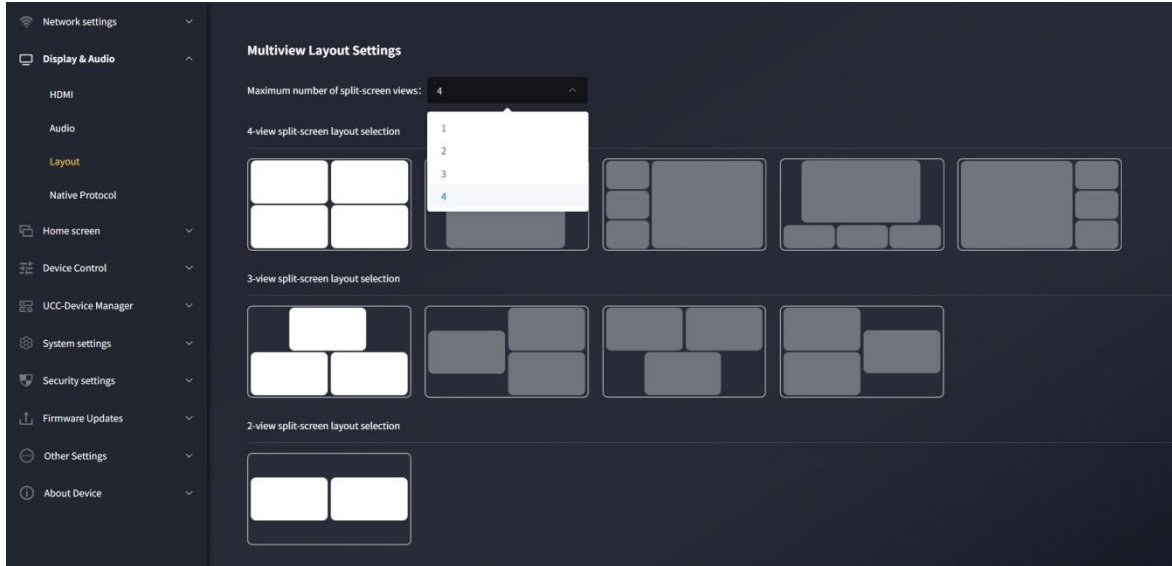
1. Audio Output:

- Jack: Outputs only 3.5mm mini-jack audio.
- HDMI: Outputs only HDMI audio.
- Jack&HDMI (default): Outputs both jack and HDMI audio.

2. Sound Volume: Adjustable from 0~100, default is 100.

6.2.3. Layout Setting

Allows various fixed window layout presets to display participants on the main screen. A maximum of 4 screens can be displayed simultaneously.



Maximum number of allowed screens: 1, 2, 3, 4

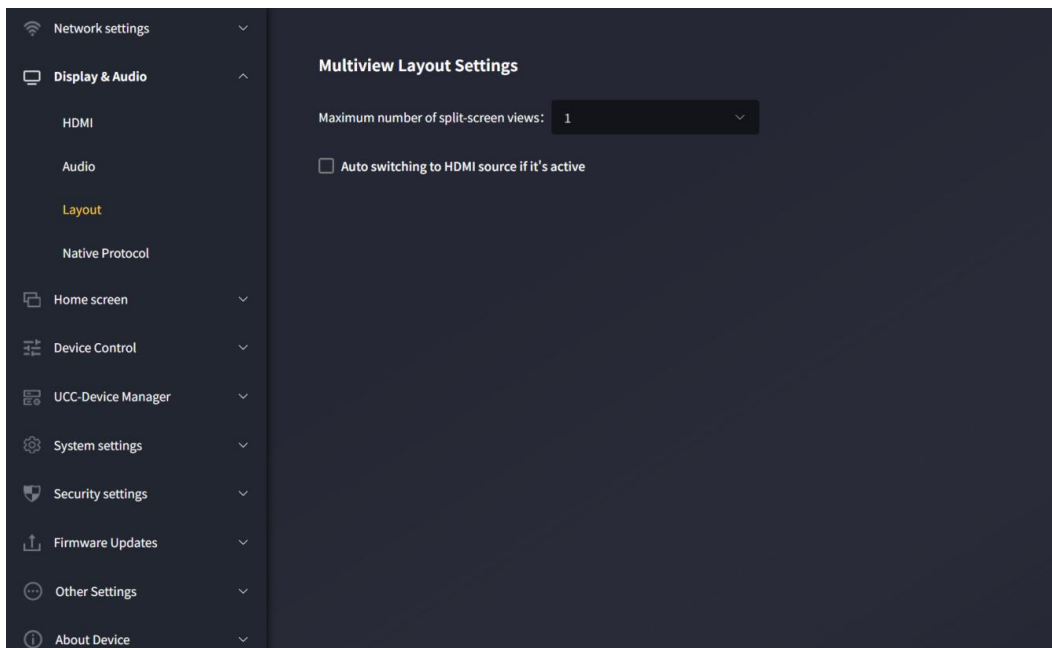
You can manually select the number of allowed casting screens. For example, selecting 4 allows up to 4 screens with a 4-split layout; selecting 3 allows up to 3 screens, and so on for 1 or 2.

Example: Selecting a maximum of 1 screen:

You can check "Automatically switch to HDMI source if HDMI source is active".

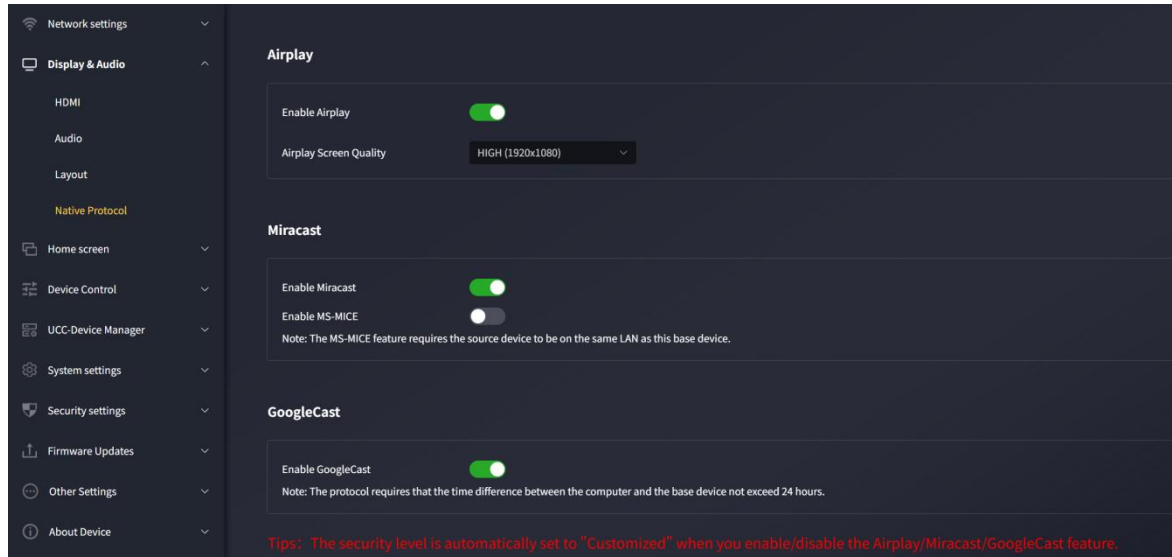
Checked: When the HDMI source is active and no casting source is available, it automatically switches to the HDMI source.

Unchecked: Returns to the homepage when no casting source is available.



6.2.4. Native Protocol Support

Enabling/disabling third-party protocol casting adjusts the security level to custom.



6.2.4.1. Airplay

Enable the Airplay switch to allow Airplay casting from Macbook, iPhone, and iPad. If the switch is turned off, AirPlay projection cannot be performed.

Airplay switch: Enabled by default

Airplay casting resolution:

High (1920*1080)

Medium (1600*900)

Low (1280*720)

4k (3840*2160)

Note: Higher resolution means better clarity but also greater latency.

6.2.4.2. Miracast

Miracast switch: Enabled by default

Miracast uses the P2P protocol by default, supporting a maximum resolution of 1080p. In this mode, the computer and receiver do not need to be on the same network. Simply press Windows+K to activate Miracast, find the WU-20 Lite device in the search results, and click to connect to start casting.

Miracast MICE protocol switch: Disabled by default

MS-MICE is an extension of the P2P protocol. Activating this protocol requires the PC and WU-20 Lite to be on the same LAN. Device search still uses P2P, but video streaming uses the LAN. Operation is identical to when MS-MICE is disabled.

Note: MS-MICE requires the source device and this device to be on the same LAN.

6.2.4.3. Google Cast

Google Cast switch: Enabled by default

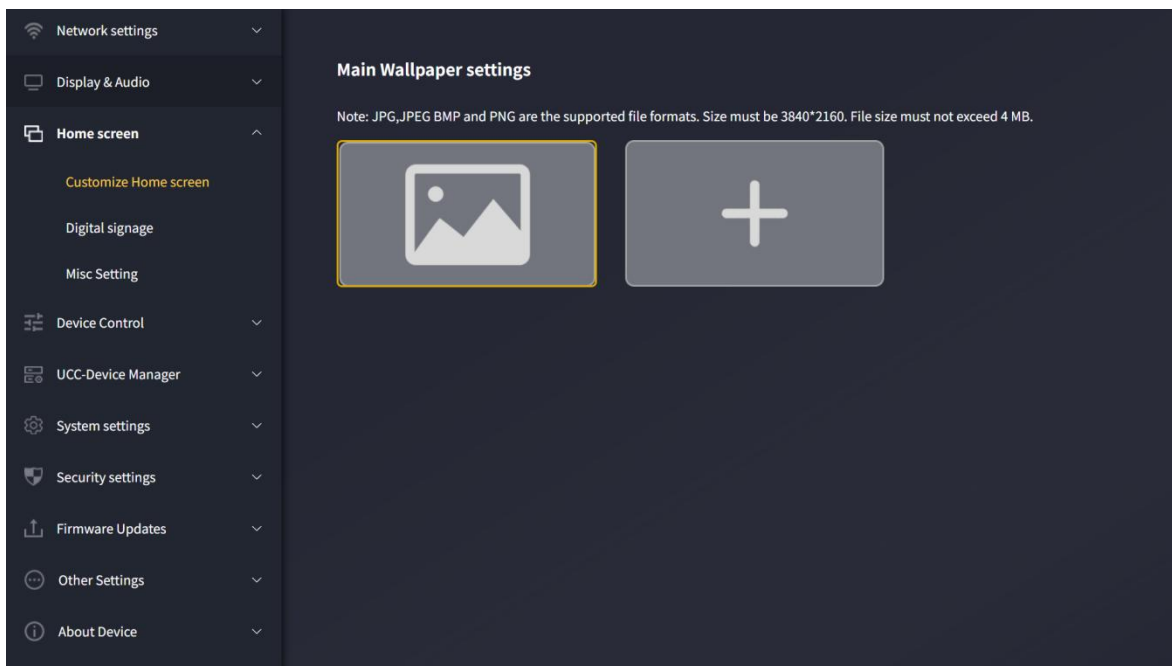
Note: This protocol requires the time difference between the computer and host to be within 24 hours.

6.3. Wallpaper

6.3.1. Custom wallpaper

Allows customization of the main screen background. Click "+" to add a local image as the background.

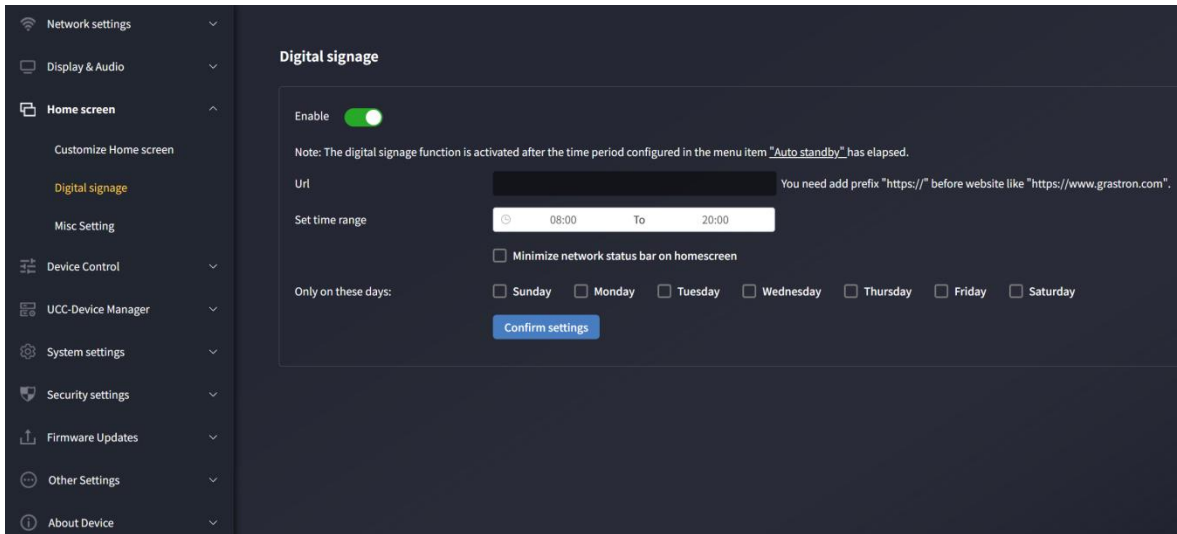
*Note: Currently supported image formats are: JPG/BMP/PNG. The maximum resolution is 3840*2160, and the file size must be within 4MB.*



6.3.2. Digital Signage

This function displays desired web content when the device is in sleep mode.

Note: The digital signage function activates when preparing for "auto-standby".



Switch: Disabled by default.

URL: Enter the desired URL.

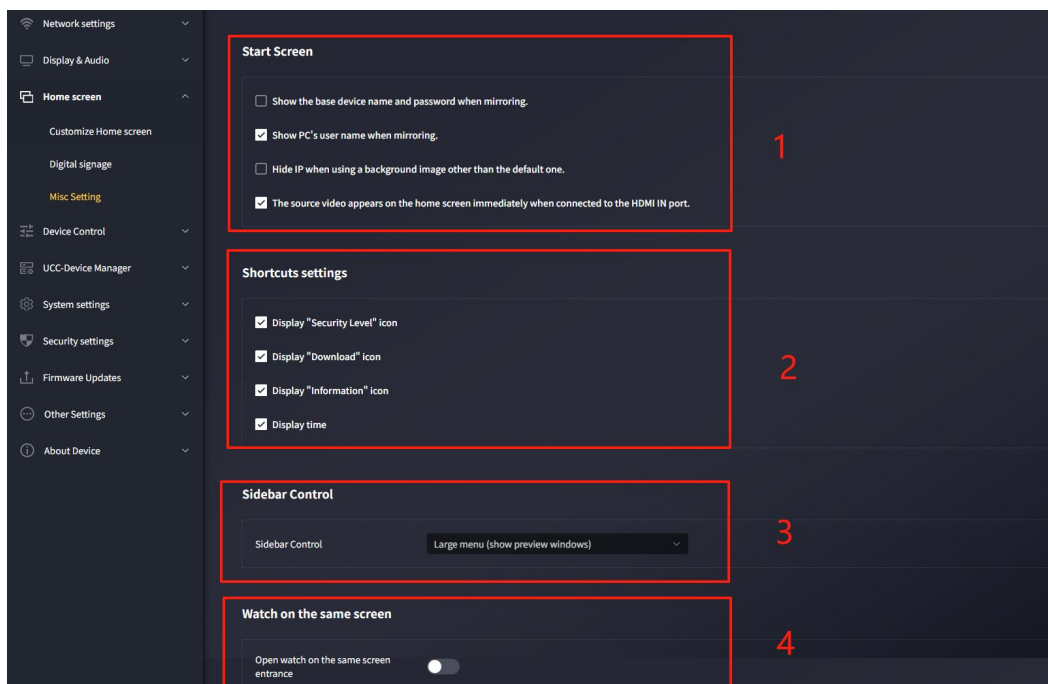
Set time range: Define the period during which the display shows content from the set URL while in sleep mode.

Activate only on these days: Customize the days (Monday to Sunday) for display.

You can click "Auto-standby" in the prompt on this page to jump to the auto-sleep settings.

If the current time is within the set period, pressing the power button on WU-20 Lite enters the digital signage page; pressing it again exits to the main page.

6.3.3. Additional Settings



1. Startup Screen:

- Show device name and password while sharing the screen: When checked, WU-20 Lite's device ID and password remain visible during casting.
- Show computer username during casting: When checked, the PC username appears during casting.
- Hide IP when using non-default background: When checked, the IP address is hidden during casting.
- Auto-cast when HDMI source is inserted: When checked, inserting an HDMI source into WU-20 Lite's HDMI IN port triggers automatic casting.

2. Shortcut Settings:

- Show "Security Level" icon: When checked, the security level icon appears on the main screen; otherwise, it is hidden.
- Show "Download" icon: When checked, the download icon appears on the main screen; otherwise, it is hidden.
- Show "Info" icon: When checked, the info icon appears on the main screen; otherwise, it is hidden.
- Show "Time": When checked, time information appears on the main screen; otherwise, it is hidden.



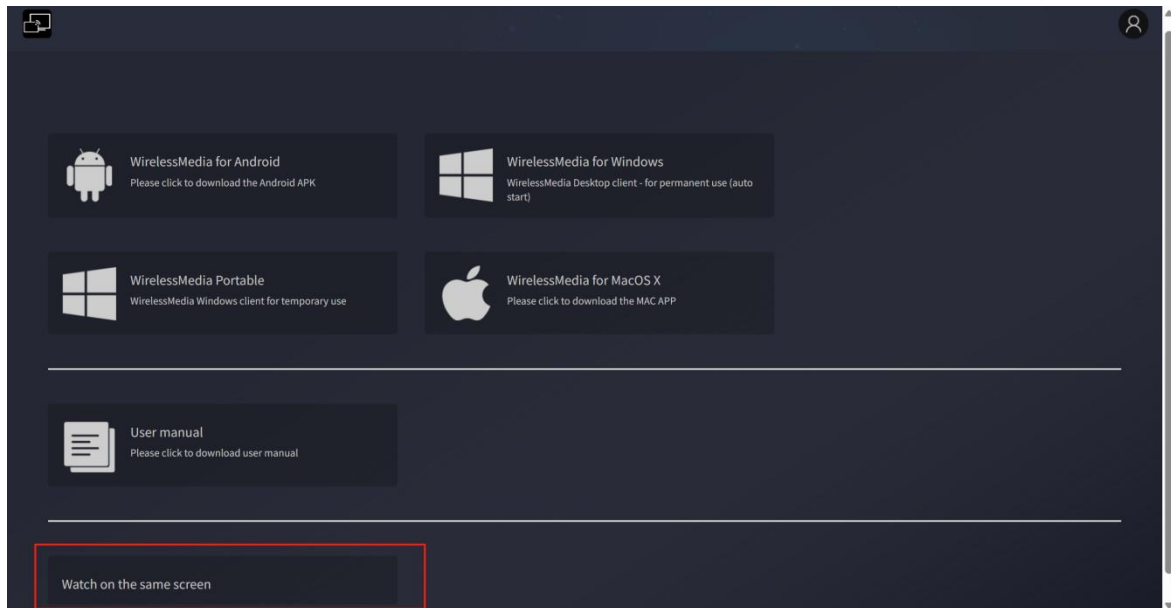
3. Sidebar Control:

- Fully hide sidebar (including arrow): The main screen shows no sidebar.
- Small menu (no preview window): The sidebar displays as a small menu (including whiteboard, annotation, and info icons).

- Large menu (with preview window): The sidebar displays as a large menu, showing a casting preview window.

4. Screen Sharing View:

- Enable screen sharing entry: Disabled by default.
- When enabled, a "Screen Sharing" option appears on the web page, which captures on-screen content into a window for remote sharing.

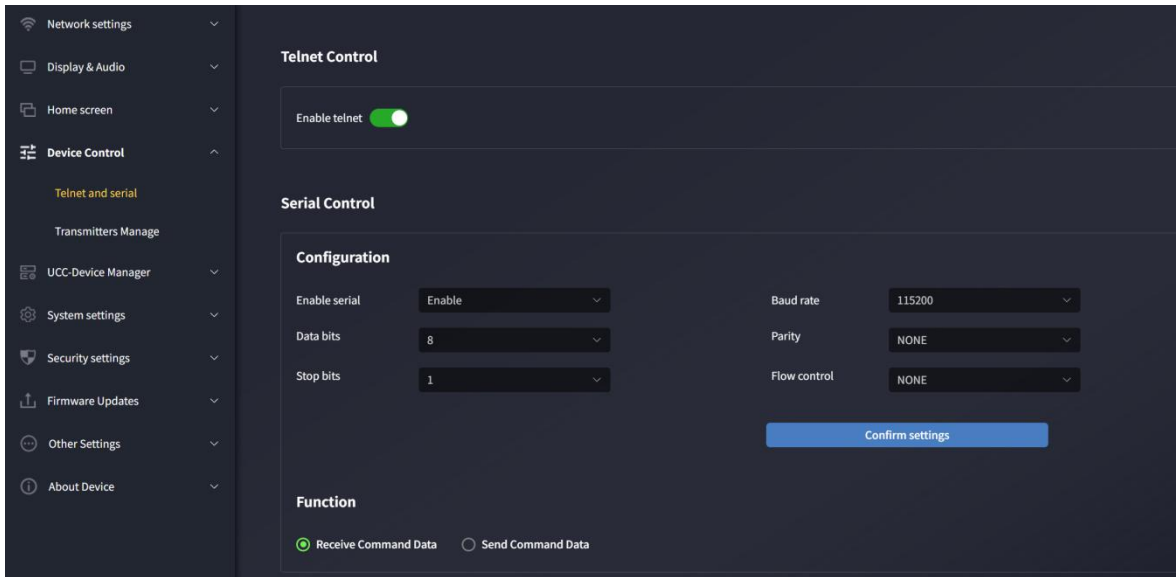


6.4. Device Control

6.4.1. Remote Login (Telnet) and Serial Port

This allows configuration of Telnet and RS-232 commands to control WU-20 Lite.

Contact the supplier for the command list. Additionally, RS232 supports simple commands (e.g., power on/off, cascaded device control) for basic central control.



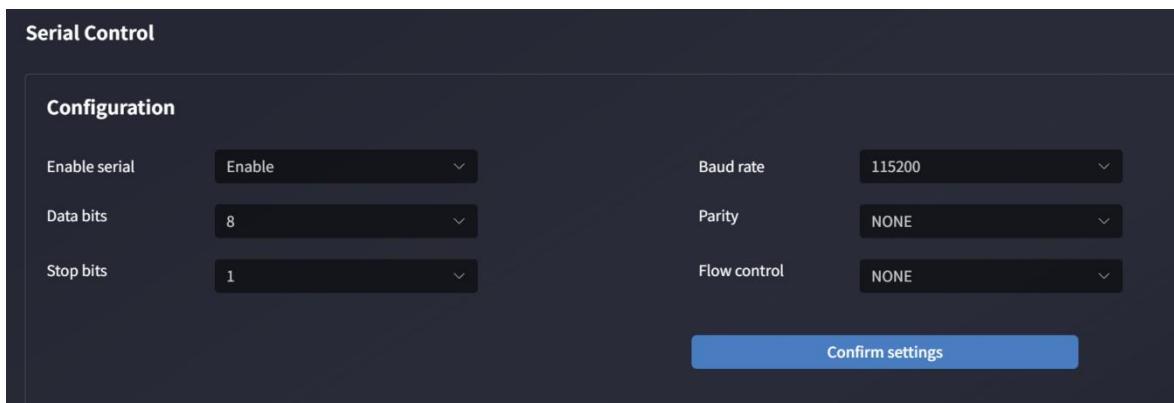
6.4.1.1. Remote Login (Telnet) Control

Allow remote login (Telnet): Enabled by default. This switch must be on for Telnet commands to control the device.

Disabling the switch blocks Telnet control of WU-20 Lite.

- For Telnet communication via TCP commands, enter the current WU-20 Lite base unit's IP address and port: 23.
- For multi-word commands, separate words with spaces.
- Commands are case-insensitive.

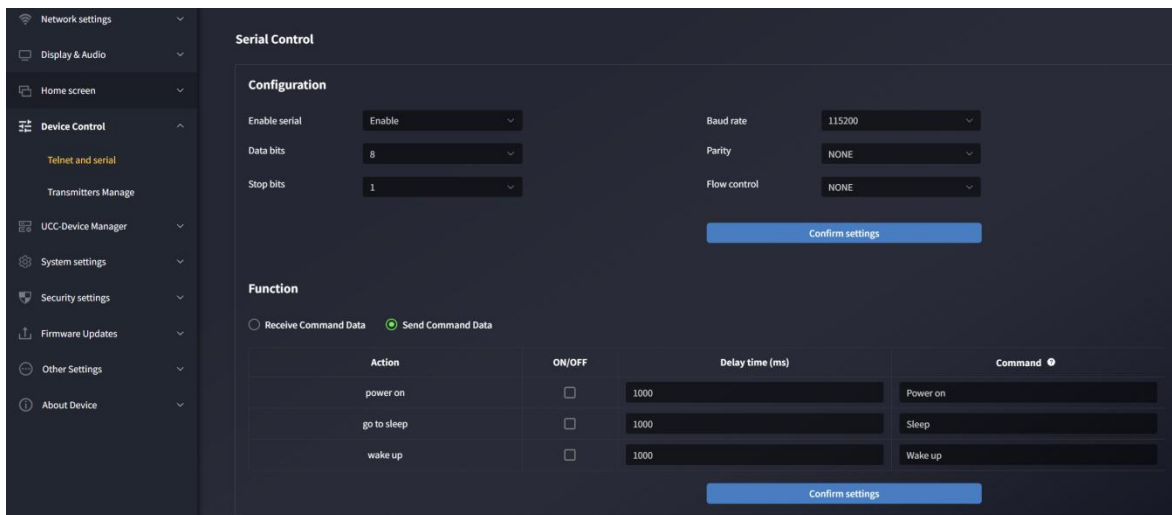
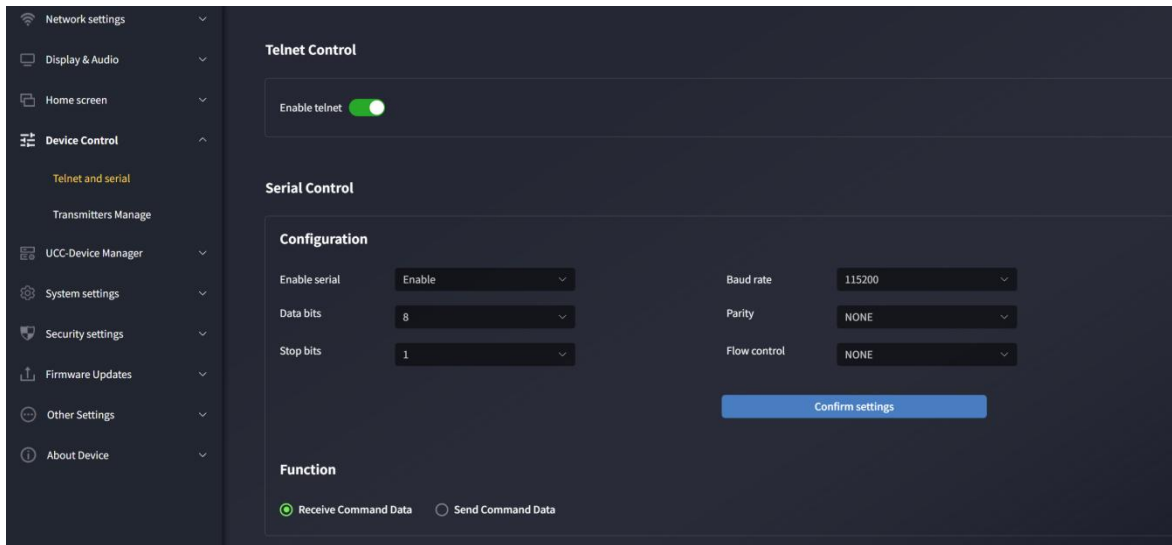
6.4.1.2. Serial Port Settings



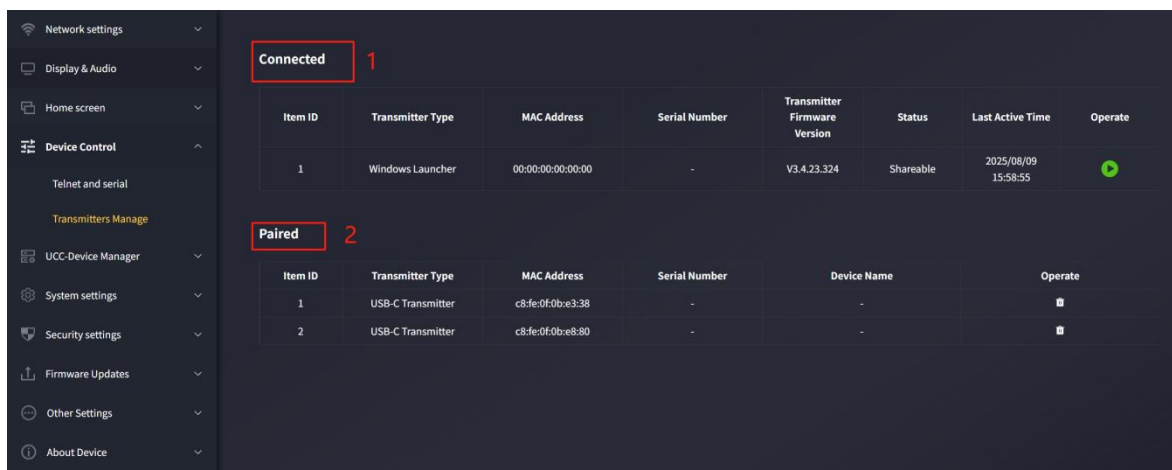
Serial port function: Enabled by default. Disabling it blocks RS-232 control of WU-20 Lite.

Configure baud rate, data bits, parity, stop bits, and flow control as needed. For RS-232 communication, enter your chosen parameters on the serial port settings screen.

6.4.1.3. Serial port mode



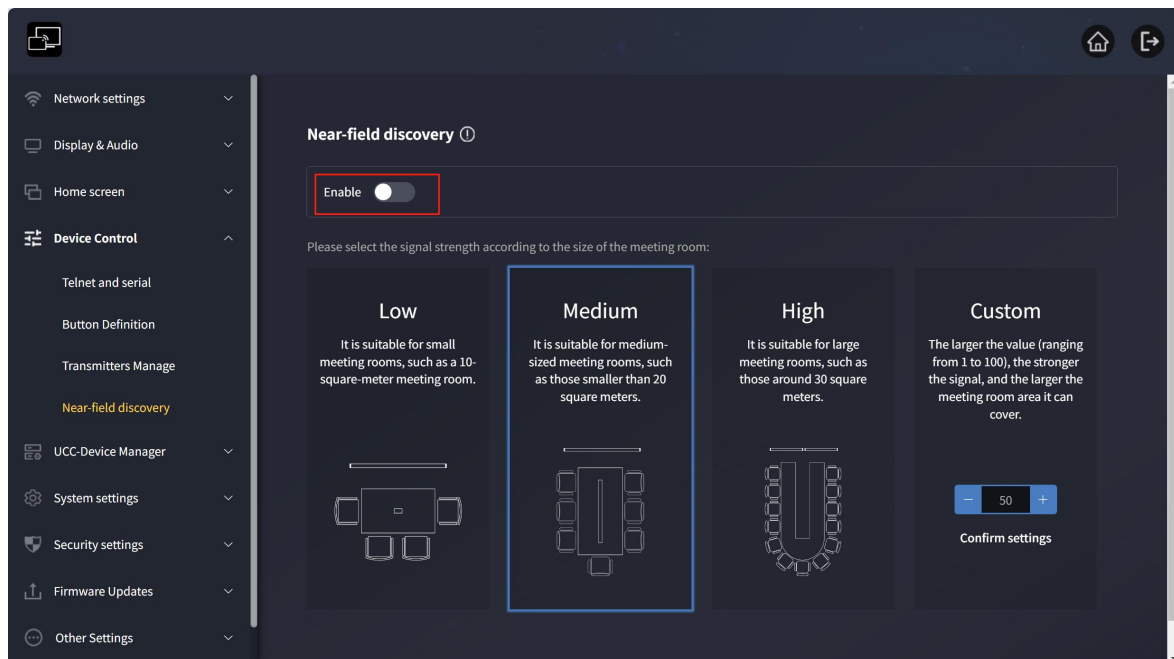
6.4.2. Dongle Management



1. Currently connected dongle: Displays devices connected to WU-20 Lite, including details like serial number, firmware version, status, last operation time, and controls (cast/stop casting).
2. Paired dongle: Displays devices successfully paired with WU-20 Lite, including details like MAC address, serial number, device name, and controls (delete connected devices).

6.4.3. Near-Field Discovery Settings

Near-field device discovery: Enabled by default.



When enabled, nearby base units are discovered via Bluetooth and ultrasound for one-click casting and meetings.

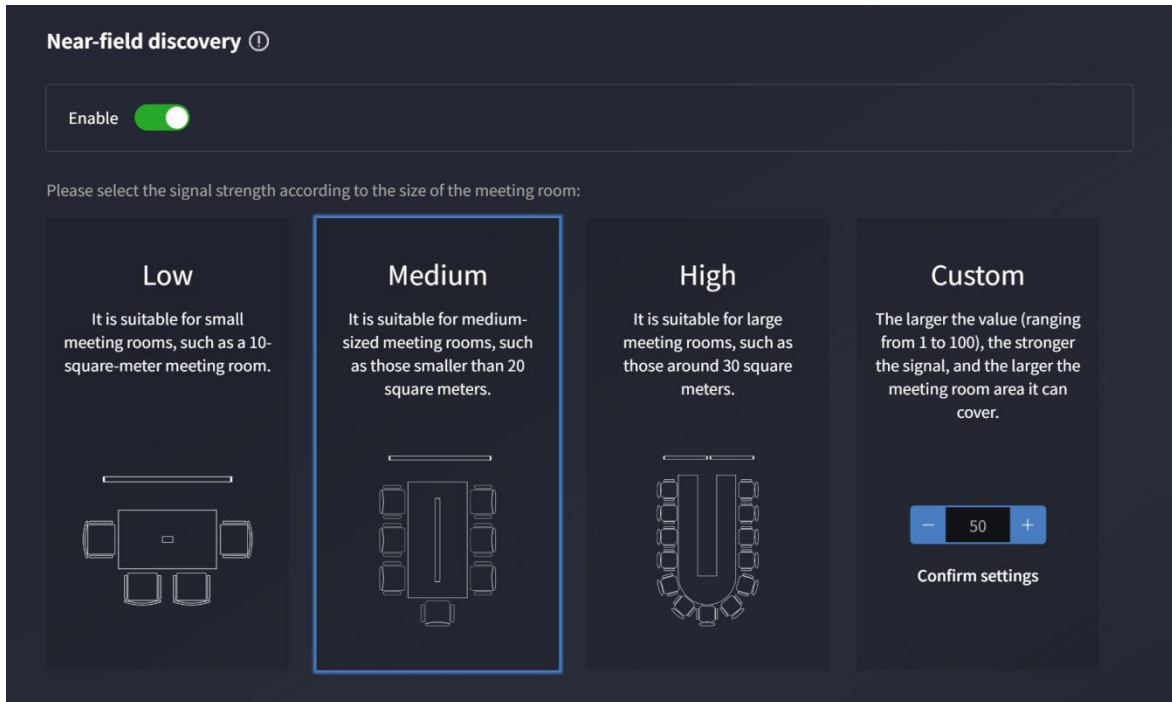
The web page offers 4 signal strength options: Low, Medium, High, Custom.

Different values correspond to different ranges:

- Low: Suitable for small meeting rooms (e.g., 10 m²).
- Medium: Suitable for medium meeting rooms (e.g., 20 m²).
- High: Suitable for large meeting rooms (e.g., 30 m²).

Custom: Adjust values (1-100) as needed; higher values mean stronger signals and larger coverage.

Note: If meeting room interference is severe, try a higher power level.

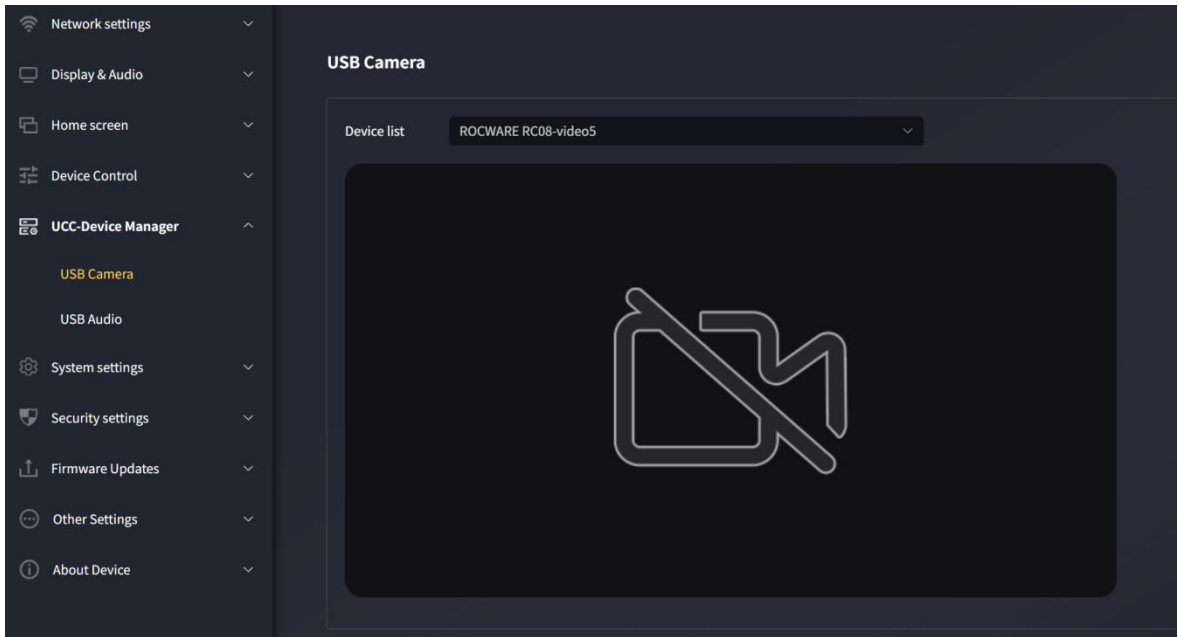


6.5. UCC-Device Manager

6.5.1. USB Camera

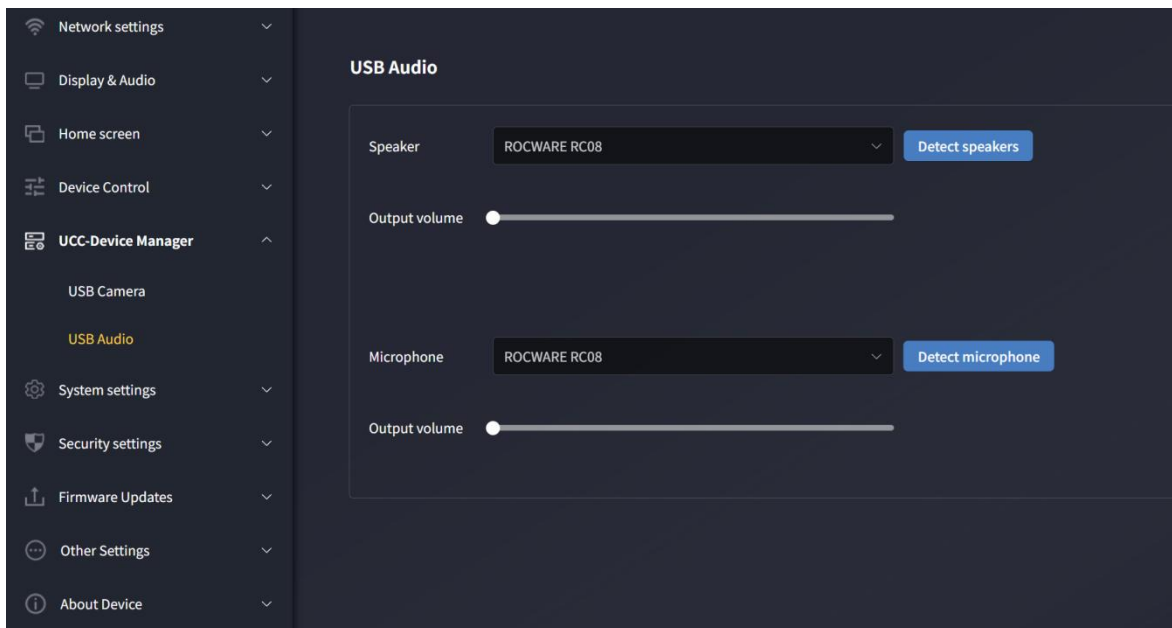
Allows selection and monitoring of UVC/UAC devices connected to the WU-20 Lite base unit.

Users can preview and switch between multiple connected USB cameras.



6.5.2. USB Audio

Allows selection and monitoring of USB audio devices. Users can switch between multiple connected microphones.



Test Speaker: Click to test audio output, click again to stop.

Test Microphone: Click to test audio input, click again to stop.

6.6. System Settings

6.6.1. Date & Time

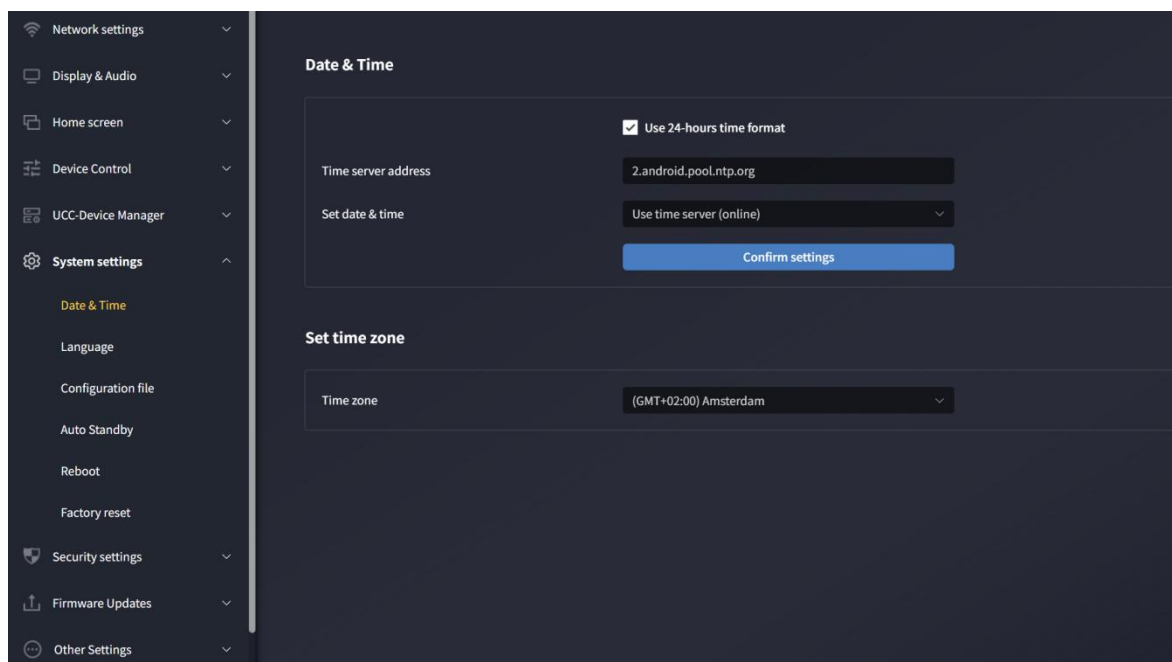
1. Date & Time

Use 24-hour format: When checked, time displays in 24-hour format; otherwise, 12-hour format is used.

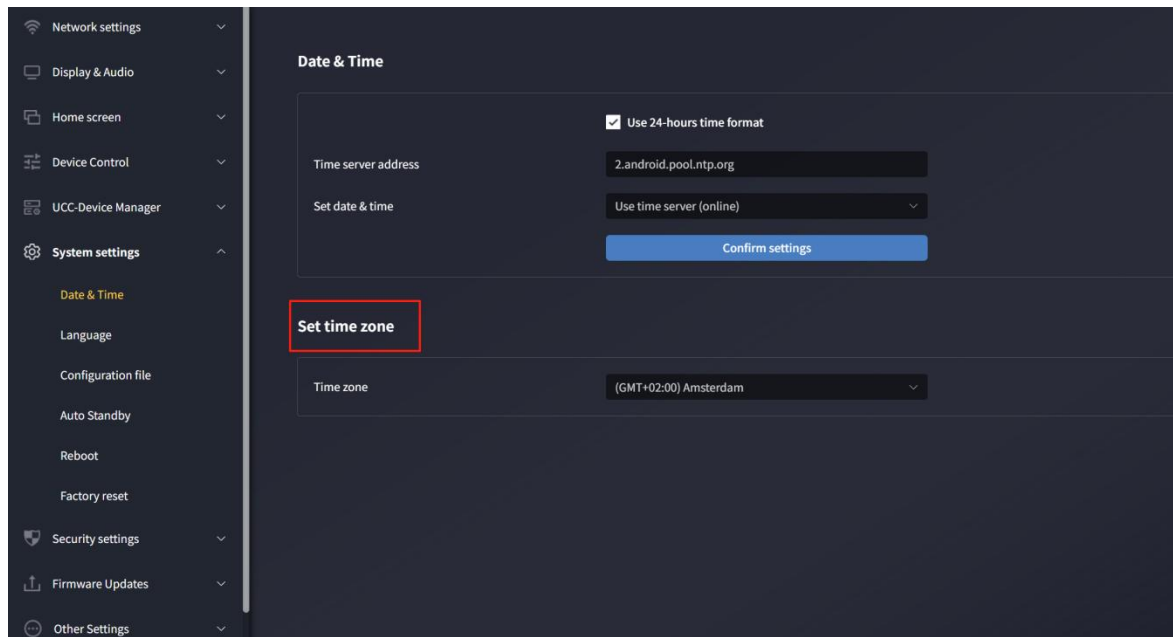
Time server address: 2.android.pool.ntp.org

Set date & time:

- Use network time: Check to sync time with the NTP server.
- Off: Disable network time to set date and time manually.

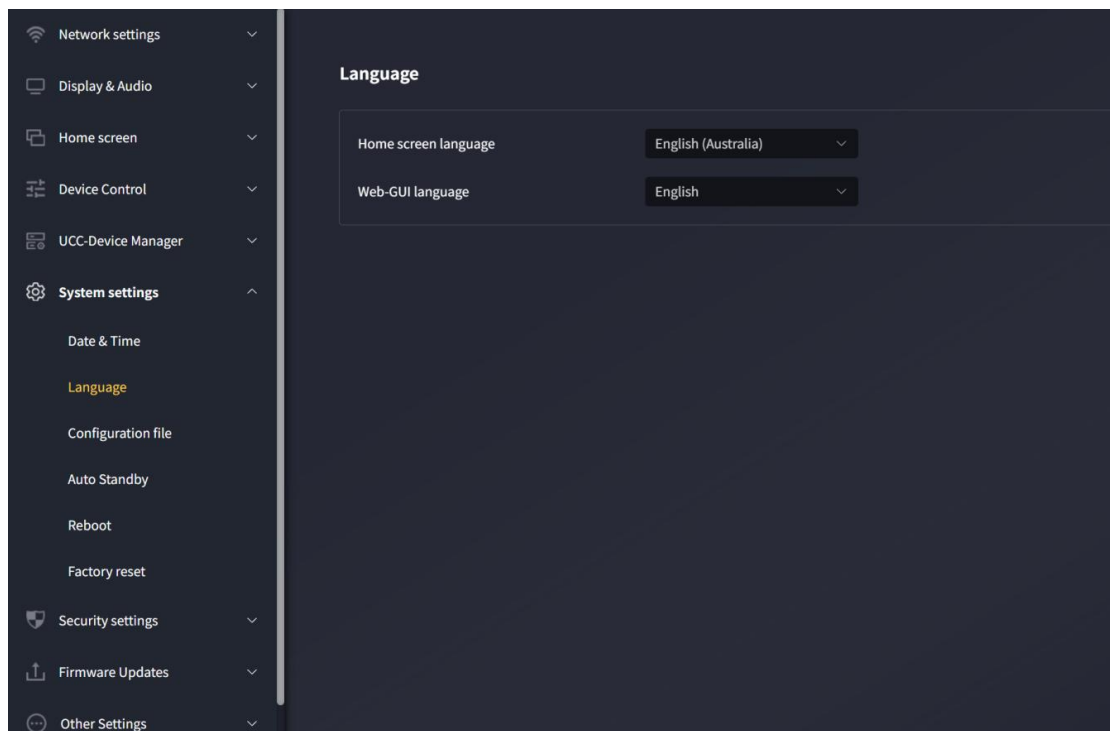


2. Time Zone: Click the "Time Zone" tab to select the appropriate time zone.



6.6.2. Language

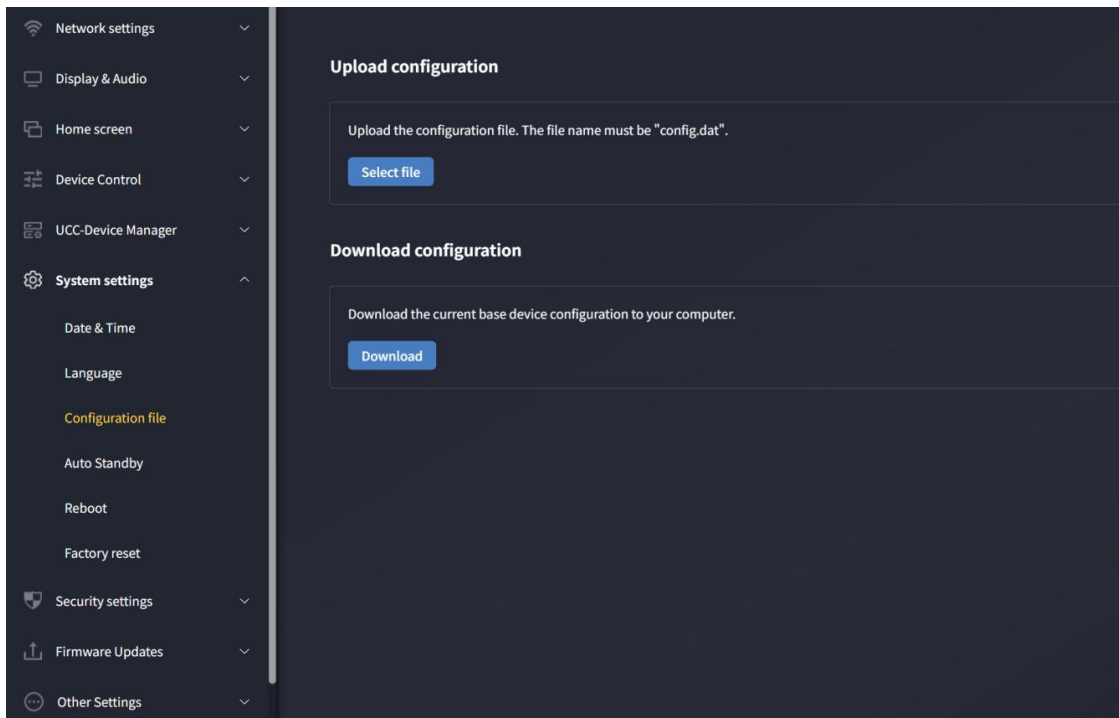
Allows selection of display languages for the main screen and web page. Default main screen language is Chinese; default web language is Chinese.



6.6.3. Configuration Profiles

A downloadable preset that saves all settings for deployment to other devices.

- Upload configuration: Upload a configuration file (filename must be "config.dat").
- Download configuration: Save the current device configuration to your computer.

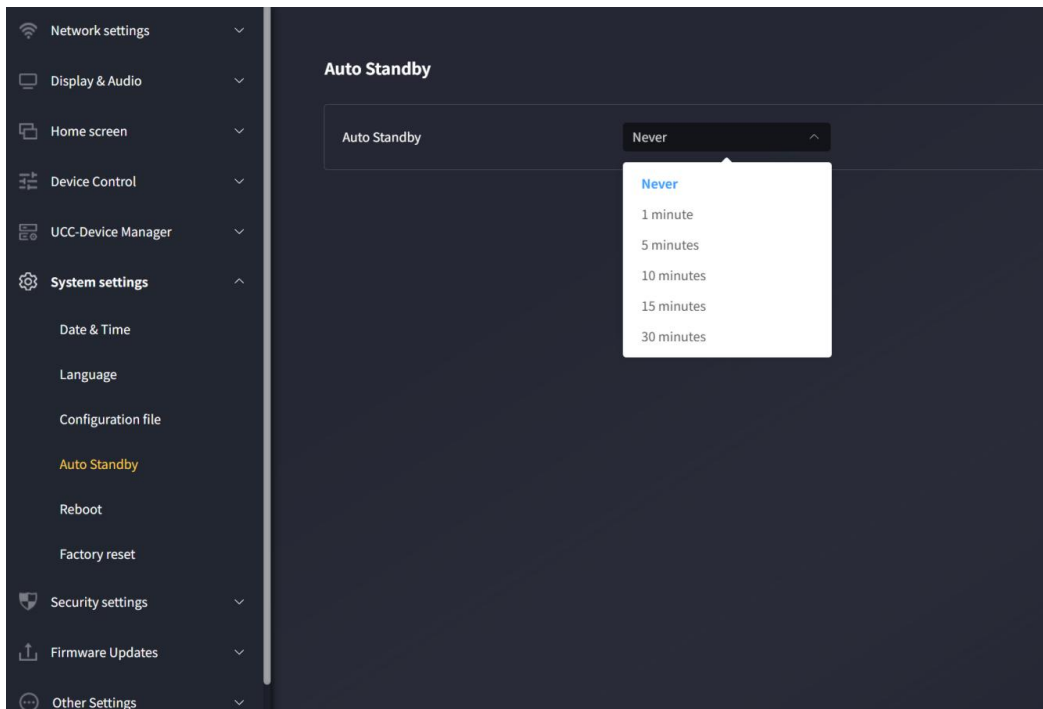


6.6.4. Auto-Standby

If auto-standby is activated, WU-20 Lite switches to power-saving mode after a configurable period of inactivity (no wireless transmitter, disconnected mobile device WiFi, or no system operations). The maximum period is 30 minutes. In standby, the green LED on WU-20 Lite's top flashes, and HDMI output is disabled.

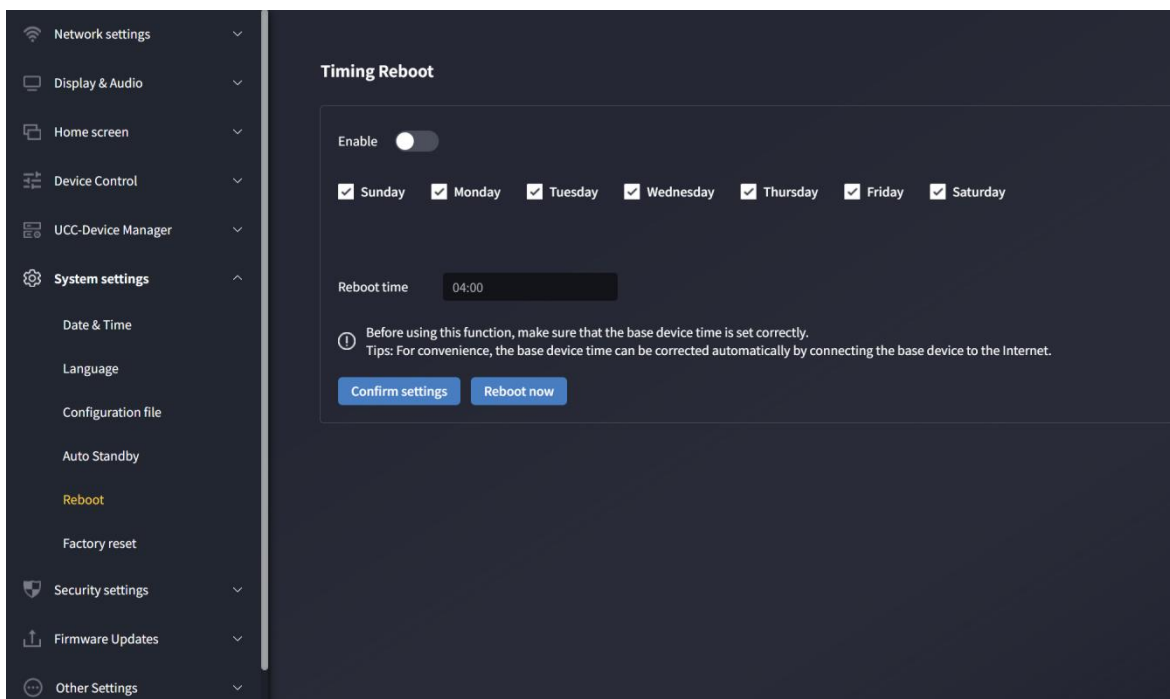


- The device wakes when DG-H28/DG-C28 is inserted/connected or a mobile device connects.
- Moving the mouse in WU-20 Lite USB input also wakes the device.



6.6.5. Restart

Allows scheduled restart and weekly restart routines.



Enable scheduled restart:

1. Set the restart time for WU-20 Lite and select days (Monday to Sunday).
2. Manually set the restart time.

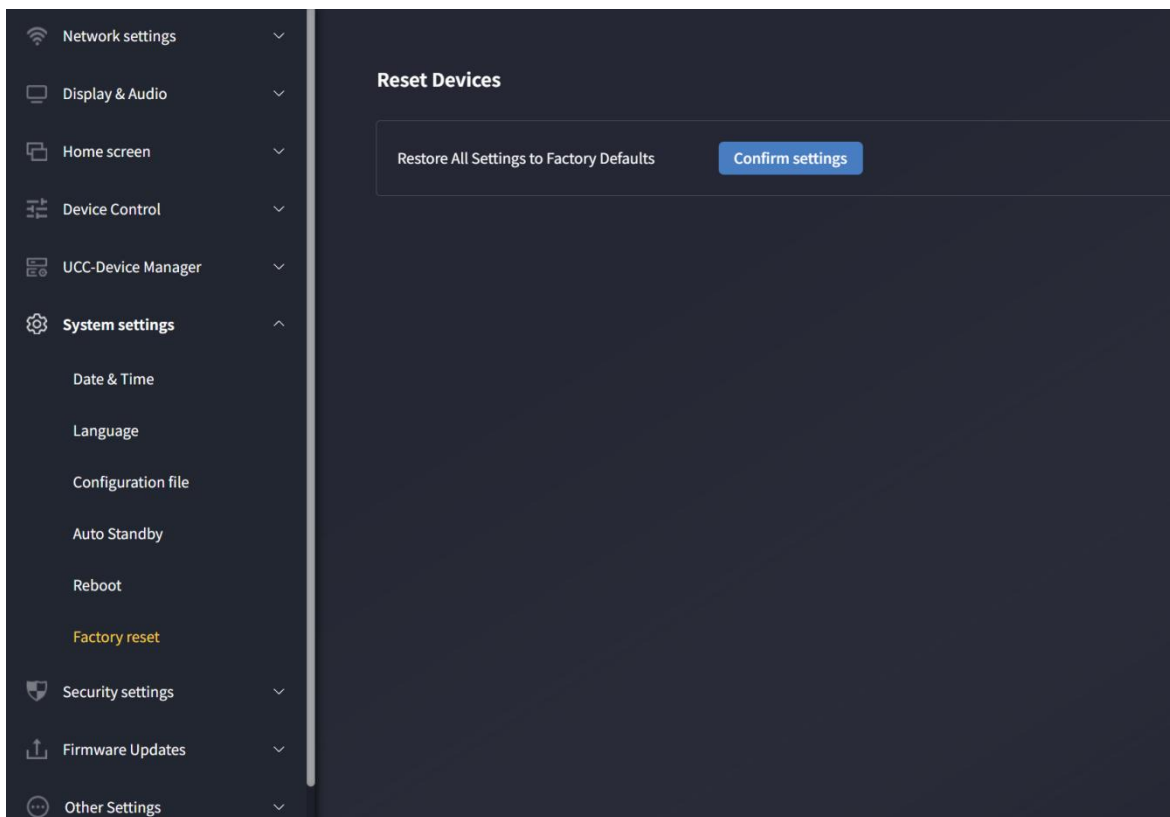
3. After confirmation, WU-20 Lite restarts at the set time. The "Restart Now" button triggers an immediate restart regardless of scheduled settings.



Ensure the base unit time is correct before using this function. Tip: Connect the base unit to the internet for automatic time correction.

6.6.6. Factory Reset

Allows restoration of default device settings.



6.7. Security Settings


6.7.1. Security Level

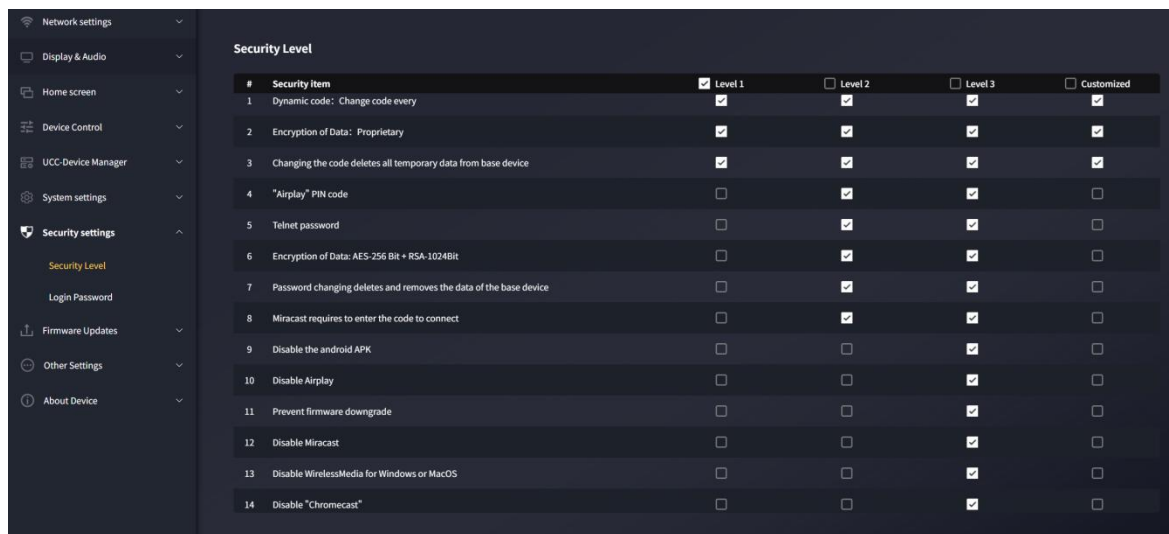
Three security levels are available to meet different needs.

Click corresponding menu items to adjust settings. Default level is 1.

- Level 1: Normal security, suitable for daily use in classrooms, regular meeting rooms, etc.
- Level 2: Higher security, includes strong audio/video encryption for companies, organizations, and government agencies. Additional features: password-restricted AirPlay.

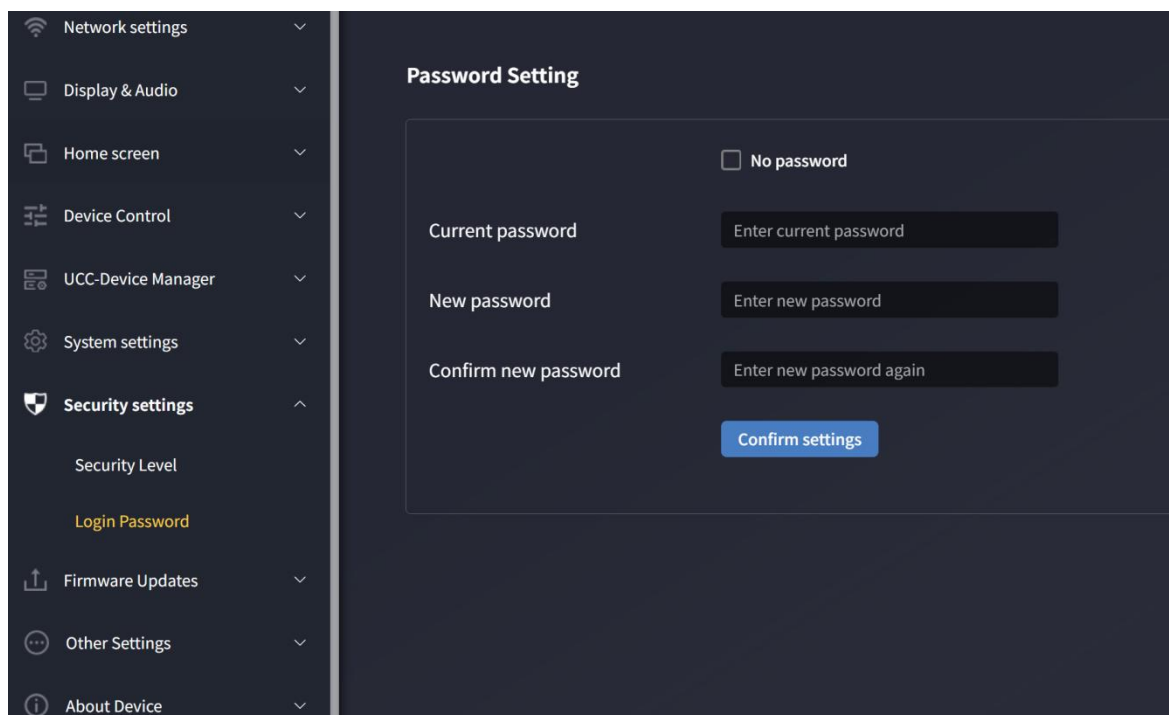
- Level 3: Strict security for corporations, authorities, and banks. Includes all Level 2 measures, plus blocked mobile apps and web GUI access. Firmware downgrades are disabled.
- Custom: Manually select security options.

The security level displays on the main screen. Click the icon 



#	Security Item	Level 1	Level 2	Level 3	Customized
1	Dynamic code: Change code every	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2	Encryption of Data: Proprietary	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3	Changing the code deletes all temporary data from base device	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4	"Airplay" PIN code	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	Telnet password	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	Encryption of Data: AES-256 Bit + RSA-1024Bit	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7	Password changing deletes and removes the data of the base device	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8	Miracast requires to enter the code to connect	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9	Disable the android APK	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10	Disable Airplay	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11	Prevent firmware downgrade	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12	Disable Miracast	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
13	Disable WirelessMedia for Windows or MacOS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
14	Disable "Chromecast"	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

6.7.2. Login Password



Password Setting

No password

Current password

New password

Confirm new password

Allows changing the password for web GUI access. Default password is "admin".

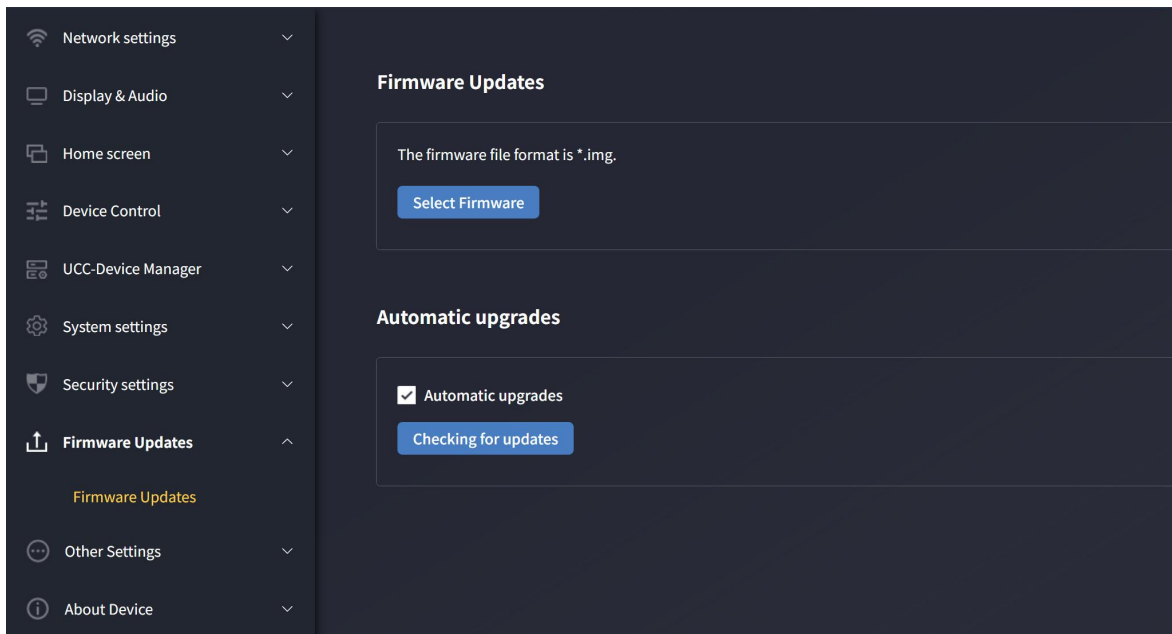
- No password: When checked, web login requires no password.

- Current password: Enter the current login password.
- New password: Enter the new password.
- Confirm new password: Re-enter the new password.

6.8. Firmware Update

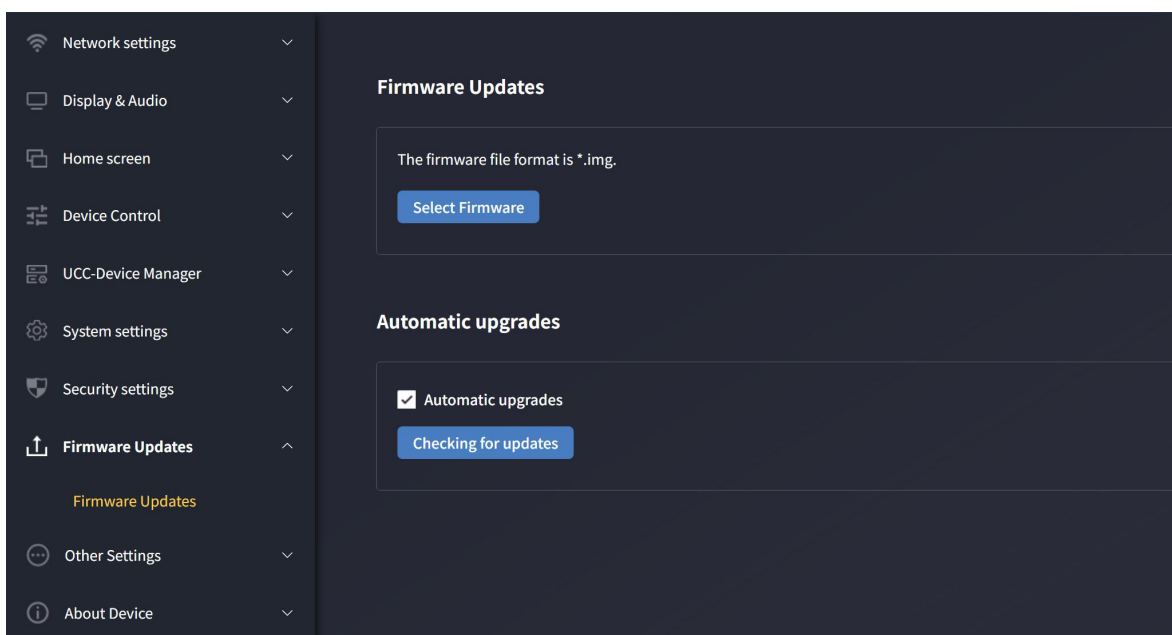
6.8.1. Firmware Update

Users can upload a local update file to upgrade WU-20 Lite (file format: *.img).



6.8.2. Auto-Upgrade

Check to enable automatic detection and update during early morning hours; uncheck to manually check for updates.



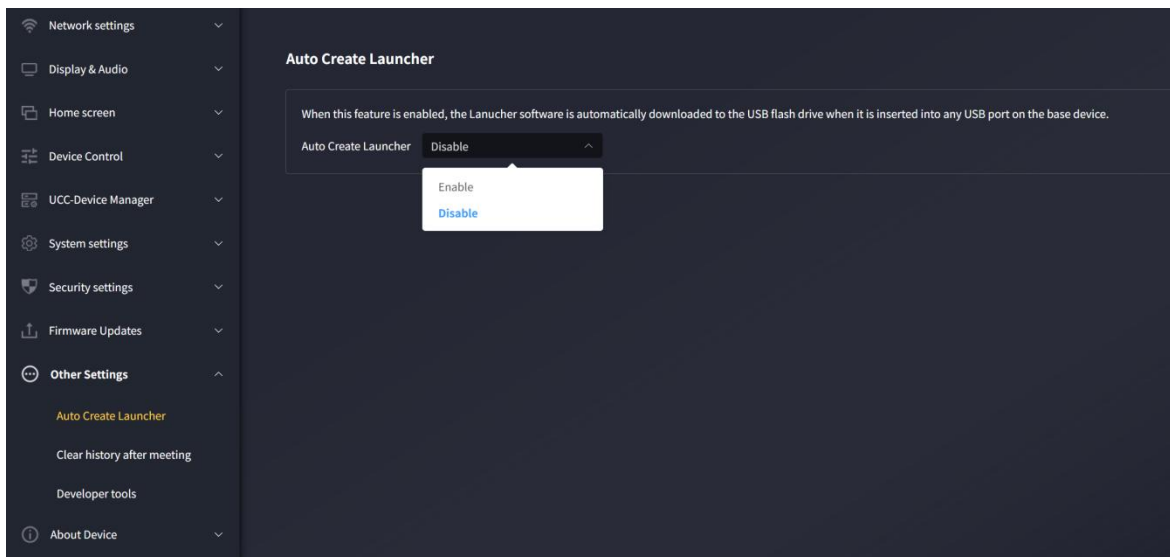
6.9. Other Settings

6.9.1. Auto-Create Launcher

After this function is enabled, inserting USB flash drive into any USB port of the base unit will trigger the automatic download of the Launcher software to the USB flash drive.

On: When USB drive is connected, Windows/Mac WirelessMedia apps, user manuals, and Android APK are copied automatically.

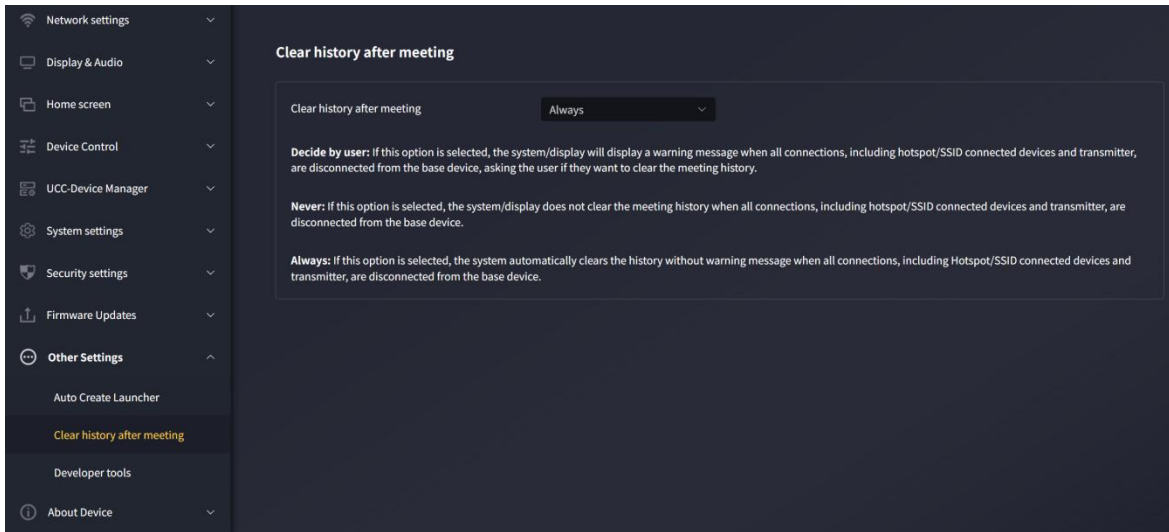
Off: No automatic copying. Manual download via the main screen button is required.



6.9.2. Clear Records After Meeting

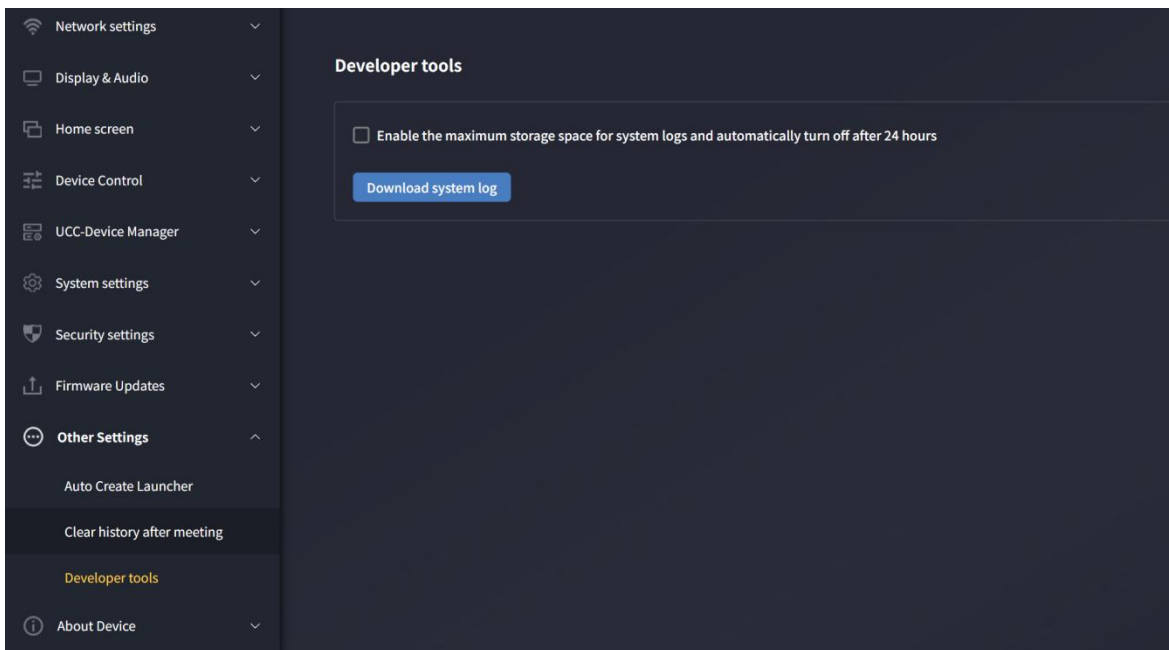
Mobile device images, videos, and music are stored in the base unit memory. You can choose to clear this memory when the wireless transmitter is removed from a laptop/PC after a meeting.

- Let user decide: A warning prompts the user to clear history when all devices disconnect.
- Never clear: History remains when all devices disconnect.
- Always clear: History clears automatically without a warning when all devices disconnect.



6.9.3. Developer Tools

Used to capture logs for troubleshooting.

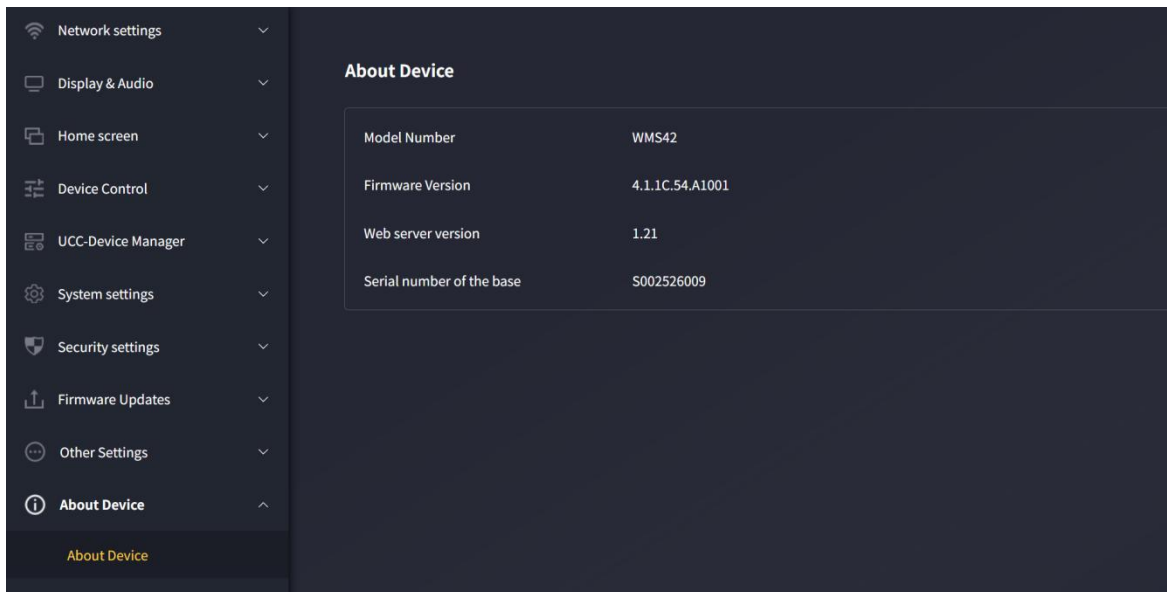


Log capture method:

- After an issue occurs, access this page and click "Download System Logs" to start downloading.
- Open the log file on your computer after download. Provide the log to technical support for assistance.


6.10. About the Device

Includes device model, firmware version, web server version, and serial number.




Three components may require firmware updates:

- Base Unit
 - WU-20 Lite
- Dongle
 - DG-H28
 - DG-C28

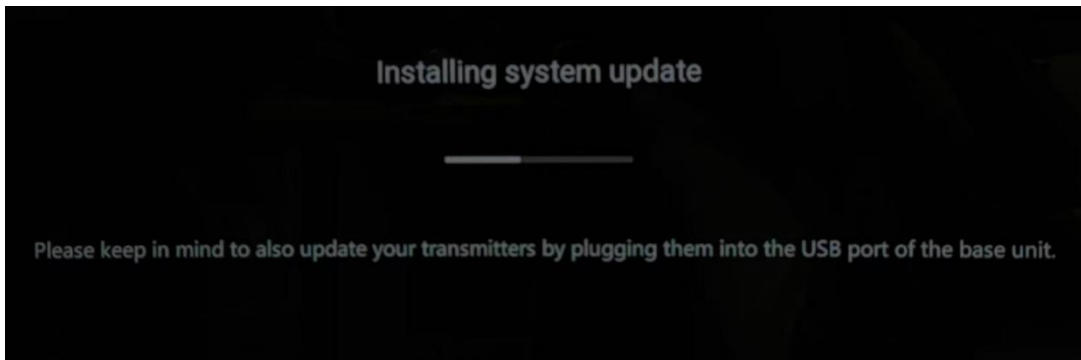
 All software is stored in the WU-20 Lite base unit and transmitted to other components. After updating WU-20 Lite, check if other components need updates.


7.1. Upgrading WU-20 Lite Firmware

- External USB Storage Drive:
 1. Copy the update file "update.img" to the root directory of a USB drive.
 2. Connect the USB drive to the port next to WU-20 Lite's USB 2.0 port.
 3. WU-20 Lite automatically detects "update.img" and starts the "Full Update" process. Remove the USB drive within 10 seconds to stop the update.

 Do not disconnect power during the upgrade; this may corrupt the firmware.

4. The upgrade progress is displayed. WU-20 Lite restarts automatically after completion

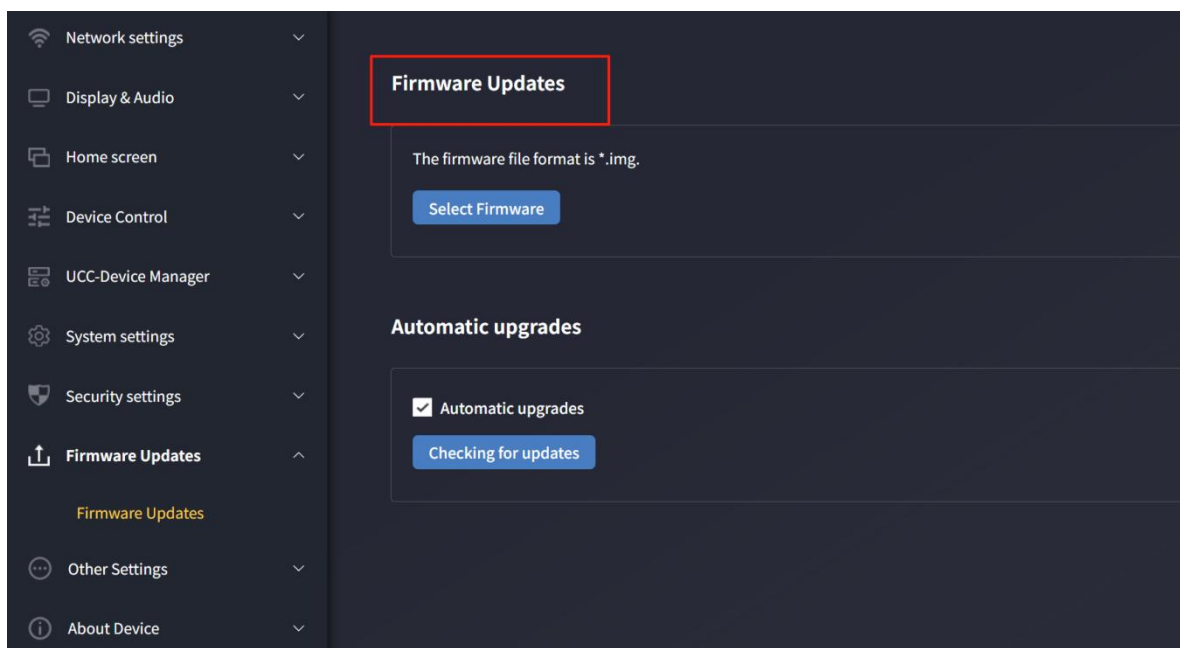


 If the progress bar stalls at 1%, try a different USB drive (the current drive may be faulty).

5. Disconnect the USB drive after the device boots to the main screen.
6. Perform a factory reset after firmware update.

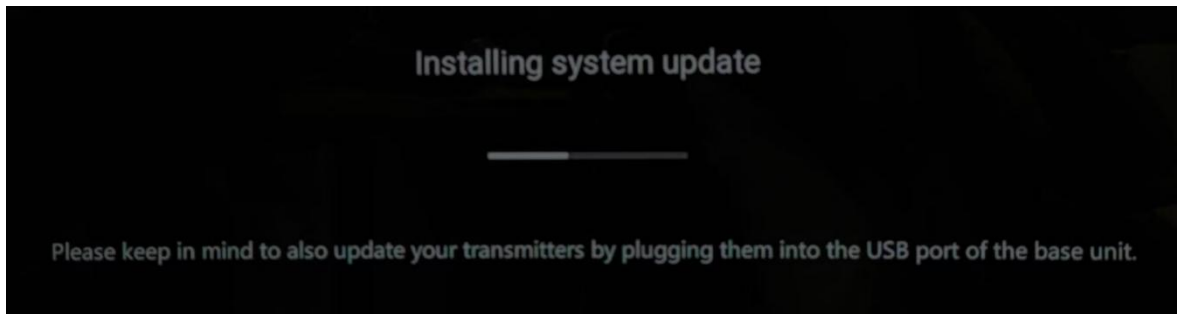
• Web Setting:

1. Navigate to "Firmware Update" in "Web Settings".



2. Select the "update.img" file.

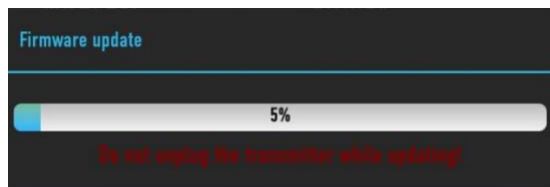
- The upgrade progress is displayed. WU-20 Lite restarts automatically after completion.



- Confirm the device boots to the main screen.
- Perform a factory reset after firmware update.

7.2. Upgrading DG-H28 / DG-C28 Firmware

- Insert DG-H28/DG-C28 into the corresponding front USB port of WU-20 Lite. A message automatically indicates if the transmitter's firmware is outdated and needs upgrading.
- The upgrade progress starts automatically via the progress bar.



- Pairing with the WU-20 Lite base unit completes automatically afterward.



- Once the upgrade finishes, remove the wireless transmitter (DG-H28 / DG-C28) for use.

8. Troubleshooting

Below are common issues, causes, and solutions for WU-20 Lite.

Issue	Cause	Solution
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<p>Android devices cannot find WU-20 Lite via the Android app.</p> <p>iOS devices cannot find WU-20 Lite via the AirPlay.</p>	<p>WU-20 Lite WiFi password changed while the Android/iOS device was connected.</p>	<p>Reconnect the Android/iOS device using the password displayed on the main screen.</p>
<p>Unstable wireless connection between the Dongle and WU-20 Lite.</p>	<p>WiFi issues:</p> <ul style="list-style-type: none"> • Interference in the wireless channel. • Channel overload. • WU-20 Lite does not auto-switch channels when the RF environment changes. 	<ul style="list-style-type: none"> • Use a WiFi scanner to find free frequencies/channels and configure them in settings. • Regularly check the RF environment if WiFi networks change frequently.
	<p>Low signal strength:</p> <ul style="list-style-type: none"> • Metal cabinets, walls, and building components may cause reflection, thereby reducing the wireless signal. • Obstacles between the dongler and WU-20 Lite will lead to a decrease in wireless strength and quality. 	<ul style="list-style-type: none"> • Position the WU-20 Lite close to the main screen. • Adjust the direction of the antenna on the rear panel of the WU-20 Lite to face the transmitter. • Clear or restrict all obstacles between the transmitter and WU-20 Lite as much as possible. • Avoid placing the Base unit inside (metal) cabinets, suspended ceilings, under tables, or in adjacent rooms.
	<p>If using the WU-20 Lite on a laptop or a visitor's device for the first time, you must first copy the starter program "WirelessMedia" to your laptop/PC. Run this starter program. The Starter App can be operated without</p>	<p>There are two ways to load the starter program WirelessMedia; please refer to the "System Settings" chapter. The optimal method is as follows: Download the application via the Base-unit's LAN or WiFi. Once the Launcher program is pre-installed,</p>

WirelessMedia fails to run when the dongle is inserted into a laptop.	administrator privileges.	WirelessMedia can be used immediately thereafter.
	Poor USB port connection on the laptop.	<ul style="list-style-type: none"> • Reconnect to the USB port. • Try a different USB port. • Restart the laptop.
	<ul style="list-style-type: none"> • Corporate policies block certain USB devices. • The USB port settings on the laptop may restrict the use of high-power USB devices when operating on battery power. 	Adjust USB port policies on the laptop if possible.
Poor video performance (blurriness, audio/video loss, stuttering).	<ul style="list-style-type: none"> • Suboptimal media player. • Video quality depends on PC/laptop processing power, CPU load from other apps. • A laptop in battery mode can switch to reduced power consumption to save energy. The transmission of high-definition videos requires a certain amount of CPU capability to ensure optimal transmission quality. 	<ul style="list-style-type: none"> • Use another media player (e.g., VLC) or browser. • Update video player software. • Reduce CPU usage of other apps. • Lower laptop screen resolution. • Update graphics drivers. • Disable low-power mode on the laptop.
No video on the screen.	Content uses HDCP.	WU-20 Lite inputs do not support HDCP sources. Connect the source to WU-20 Lite local HDMI input if possible.
	HDMI cable is loose.	Connect the HDMI cable to the display and Base Unit.

	Display is off.	Turn on the display.
	When the WU-20 Lite receiver is in standby mode, the "Power-LED" of the WU-20 Lite flashes, which may be due to a lack of power supply.	<ul style="list-style-type: none"> • Power cycle the device. • Insert the dongle into the laptop.
When using Windows 7, the following message regarding the Windows Aero color scheme may appear: "Windows has detected that your computer is performing slowly. This might be because there are insufficient resources to run the Windows Aero color scheme. To improve..."	Lost connection to WU-20 Lite.	Safely ignore the message and select "Keep current color scheme".
The content will disappear from the display, and the LED on the dongle button will be flashing.	Lost connection to WU-20 Lite.	<ul style="list-style-type: none"> • WU-20 Lite attempts to restore the connection. If failed, the button's LED flashes red. • Remove the dongle from the laptop and try a new one.
No display output.	Display is off.	Turn on the display.
	Display cable is loose.	Connect the cable to the display and WU-20 Lite.
	WU-20 Lite is in standby mode.	Press the standby button on WU-20 Lite or power cycle the device.
No LAN connection to WU-20 Lite.	Incorrect IP address.	<ul style="list-style-type: none"> • IP address is outside the LAN range.

		<ul style="list-style-type: none"> • DHCP is disabled.
No WiFi connection between mobile devices and WU-20 Lite.	Incorrect WiFi frequency.	Ensure the mobile device uses the correct 2.4GHz or 5GHz band.
	Wrong SSID or password.	Enter the correct SSID and password.
No audio when transferring local files to WU-20 Lite.	Unsupported audio formats (e.g., Dolby MS11, DDCO, DTSLBR, DTS, SRS-THEATERSOUND, DTS_StudioSound3D, DTS_HD).	Reformat to supported formats (e.g., DD, DD+, HE-AAC, DTS, DMP, WMA, DRA, COOK) if possible.
No sound on MacBook.	Issues with the Soundflower application, which is integrated in the driver WirelessMedia application.	<ul style="list-style-type: none"> • Admin password is required. • Go to macOS System Preferences > Security & Privacy. Allow "Soundflower" by clicking "Allow" next to "Matt Ingalls". • Relaunch WirelessMedia to auto-install Soundflower.
No AirPlay sound.	Mobile device volume is too low.	Increase the Mobile device volume.
No sound on the main screen when mirroring via "WirelessMedia for Android".	Android limits audio capture, so mirrored videos have no sound.	Use Dongle or Apple AirPlay for audio if needed.
Cannot update WU-20 Lite firmware.	USB drive is formatted as NTFS.	Reformat the USB drive to FAT.
Cannot use AirPlay on	OS requirements: Mac OS 10.9+, iOS 8.0+	<ul style="list-style-type: none"> • Connect the iOS device to WU-20 Lite's WiFi and

MacBook/iPhone/iPad.	(WirelessMedia app).	enable AirPlay in Control Center. <ul style="list-style-type: none"> • Update the iOS device to a newer OS.
Poor AirPlay video quality.	AirPlay has two modes: a) Mirroring: 1:1 screen copy. b) Streaming: Video (internet, YouTube), no iOS device display. → Stuttering video.	Lower YouTube quality (e.g., from "Auto" to 720p).
Cannot use with Android devices	OS requirement: Android 2.3 or higher (WirelessMedia app)	Update to a higher version of the operating system

9. Technical Data

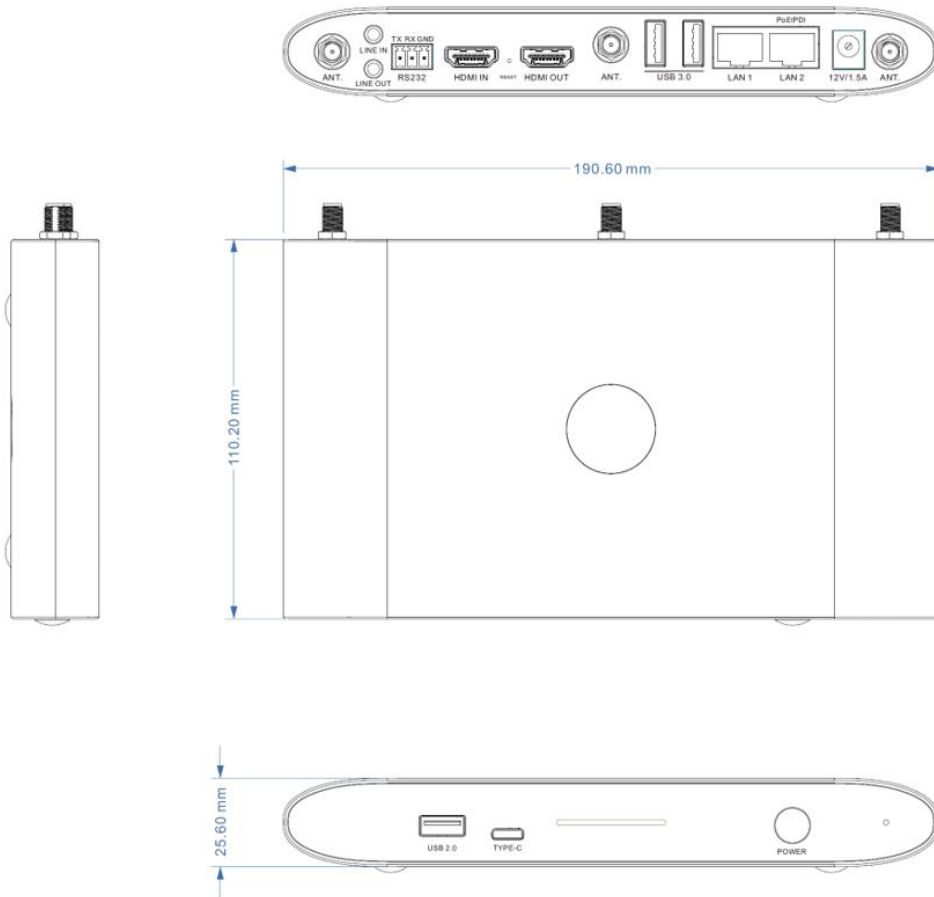
9.1. Specification

Specification	
HDMI output	1x HDMI 19-pin female connector
HDMI Output Resolution	3840x2160@60Hz,3840x2160@30Hz, 1920x1080@60Hz, 1280x720@60Hz
HDMI Format Compliance	HDMI1.4/HDMI2.0
Video Capacity:	1080P @ ≤60Hz for Airplay, Miracast, Chromecast
	4K @ ≤30Hz "WirelessMedia" app
	4K @ ≤30Hz for HDMI show-me button
	4K @ ≤30Hz for USB-C show-me button
	4K @ ≤30Hz for HDMI input
HDCP	HDCP1.4/HDCP2.2
HDMI Input	1x HDMI 19-pin female connector
HDMI Input Format Compliance	HDCP1.4
HDMI Input Resolution	3840x2160@30Hz,31920x1080@60Hz, 1280x720@60Hz
Analog Audio Output	1x 3.5mm PC audio female jack
Analog Audio Input	1x 3.5mm PC audio female jack
LAN port	RJ45 x2: 1000Mbps x2
USB interface	USB3.0: Type A x2; USB2.0: Type A x1, Type C x1
Audio Input	AirPlay, Miracast, Chromecast, Windows/MAC App, WMH, WMC, USB(MIC)
Audio output	Jack, HDMI, Jack + HDMI, USB(Speaker)
Control connectors	3.5mm Phoenix terminal/ RS232 interface
Number of window simultaneous on screen	≤ 4+12 (4 main windows+12 thumbnail windows)
Number of simultaneous connections	≤ 16
Video Playback Frame Rate	20-60 FPS

Latency	< 100ms , Min 20ms
WIFI Data rate	Up to 1200Mbps
Wireless transmission protocol	WIFI IEEE 802.11 a/b/g/n/ac/ax , Bluetooth: 5.2
Found nearby devices	support
Frequency band	2.4 GHz & 5 GHz
WIFI Antenna	MIMO 2x2, MIMO 1x1

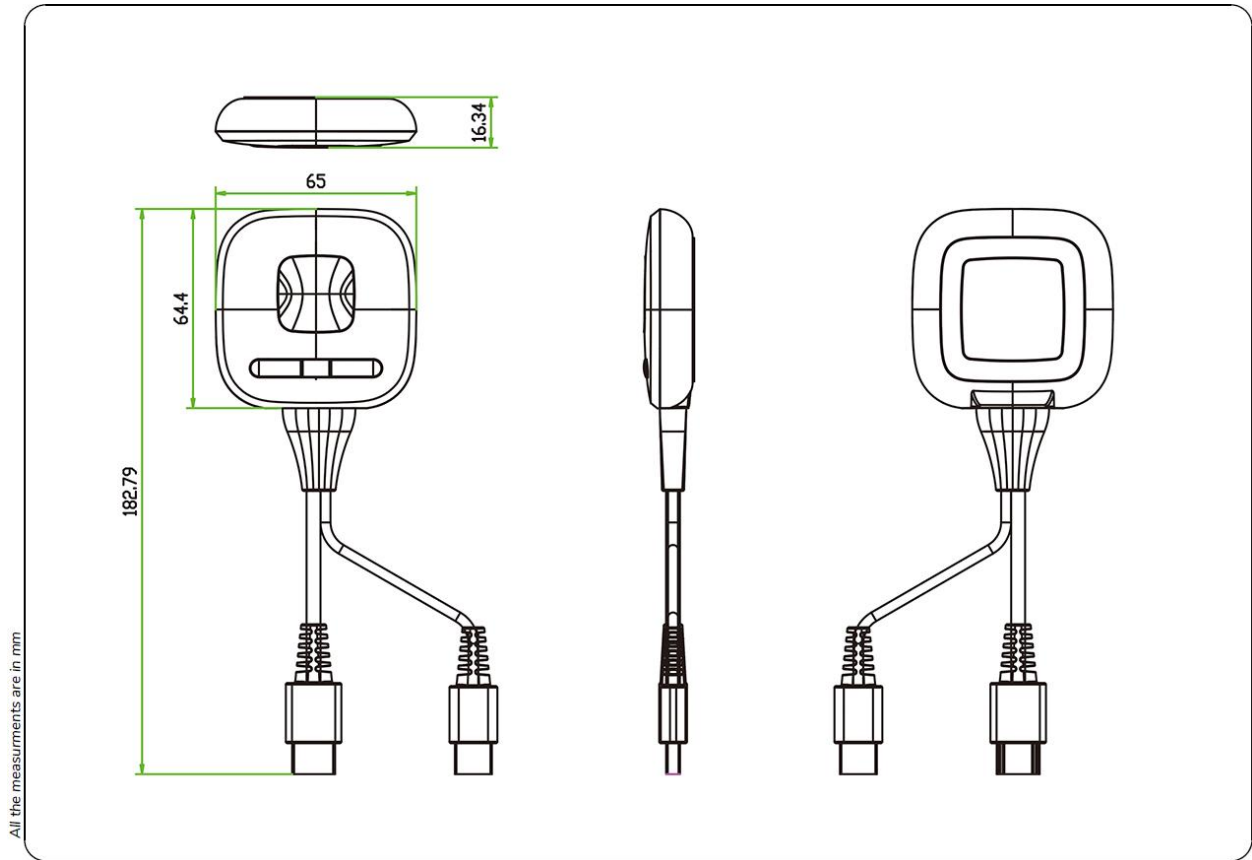
9.2. Mechanical Drawings

WU-20 Lite



↶

DG-H28



DG-C28

