



MG300 v2 Video Media Gateway

USER MANUAL

Changsha KILOVIEW Electronics CO., LTD.

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1 Product introduction

The MG300 v2 is an embedded multi-functional media gateway that integrates core functions such as protocol conversion, streaming distribution, multi-channel video decoding, and Multi-view. It combines decoding and gateway characteristics to solve the interconnection problems of video content from different systems, manufacturers, types, and encoding, providing an integrated solution for the entire process of video transmission, processing, and display.

In terms of core functions, the product features multi-channel video decoding capability, supporting mainstream video encoding formats. Paired with the video Multi-view function, it supports custom layouts such as grid, Picture-in-Picture, and free drag-and-drop, meeting monitoring and display needs. Simultaneously, it is equipped with a protocol conversion module, enabling bidirectional conversion of mainstream IP media transmission protocols like NDI, SRT, RTMP/RTMPS, HLS, etc., breaking down system protocol barriers and ensuring smooth connectivity in heterogeneous video networks. Additionally, it has a built-in streaming media distribution service, supporting up to 50 concurrent accesses, enabling efficient distribution and sharing of video content, and is compatible with multi-terminal access.

Leveraging its functional integration and adaptability, the MG300 v2 embedded multi-functional media gateway is applied in fields such as broadcast television, government/enterprise surveillance, multimedia conferences, and exhibition displays, realizing format conversion, protocol conversion, decoding output, and segmented display for various types of video content. It supports real-time video preview and "What You See Is What You Get" (WYSIWYG) layout configuration. Furthermore, it offers a complete HTTP API, meeting the system integration and secondary development needs of professional users.

Like other Kiloview products, the MG300 v2 media gateway can seamlessly connect with Kiloview KiloLink Server Pro and RF02. Through the platform, users can centrally manage a large number of MG300 v2 devices and other Kiloview devices, monitor device status in real-time, and perform batch configuration and upgrades, further enhancing system management efficiency and providing users with a cost-effective, highly stable integrated video solution.

2 Packing List and Interface Description

2.1 Packing List

	Item	Unit	Qty
	MG300 v2 Main Unit	Unit	1
	DC12V/1A Power Adapter	Pcs	1
	Quick Start Guide	Copy	1
	Certification and Warranty Card	Copy	1

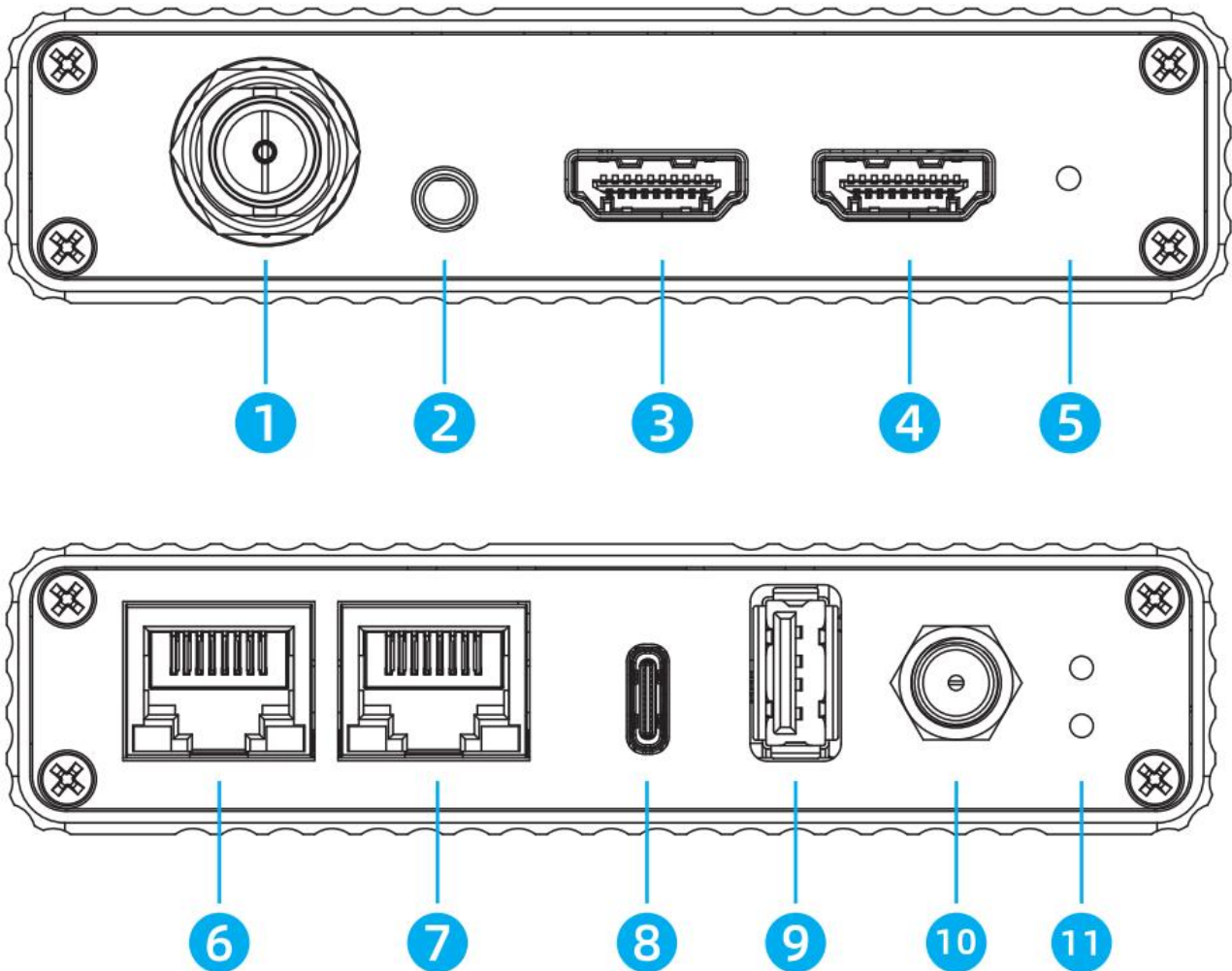
2.2 Signal LED Indicators

Component	Name	Color	Description
LED Indicator	Red	Steady On	Power is connected
		Off	Power is off or faulty
	Green	Blinking	Device operating normally
		Steady On/Off	Device abnormal or not started

3 Installation and Connection of Device

3.1 Connect Power and Video Signal

Use the standard power adapter (DC12V/1A) included with the main unit to connect the DC power to the main unit. After powering on, the power indicator light will be steady on. Connect an SDI or HDMI cable to the corresponding terminal on the device (both can be connected simultaneously; the device supports simultaneous output of two signals), and connect the other end to a display device such as a monitor or electronic screen.



(1) 3G-SDI Output	(2) LINE OUT Audio Output	(3) HDMI Output 1
(4) HDMI Output 2	(5) Reset Button	(6) 1000M Ethernet Port 1
(7) 1000M Ethernet Port 2	(8) USB 3.0 Type-C Expansion Port	(9) USB 3.0 Type-A Expansion Port
(10) DC 12V1A Power Interface	(11) Power/Operation Status Indicator Light	



Note: Please use the standard power adapter equipped with the device for power supply. Using other unqualified power supplies may damage the device.

3.2 Connect Analog Audio Signal

If analog audio output is required, connect the analog audio interface; if not needed, it is not necessary to connect.

3.3 Connect Network

Connect one end of the network cable to the device's 100/1000M Ethernet port, and the other end to a network switch. It can also be directly connected to the computer's network port. Both Ethernet ports can work normally.

4 Login and network configuration

4.1 Login to Web page

First, connect the device and computer to the same switch, or connect the device directly to the computer's network port. Then, configure the device and computer to be on the same network segment so that the computer can access the device's web Web UI.

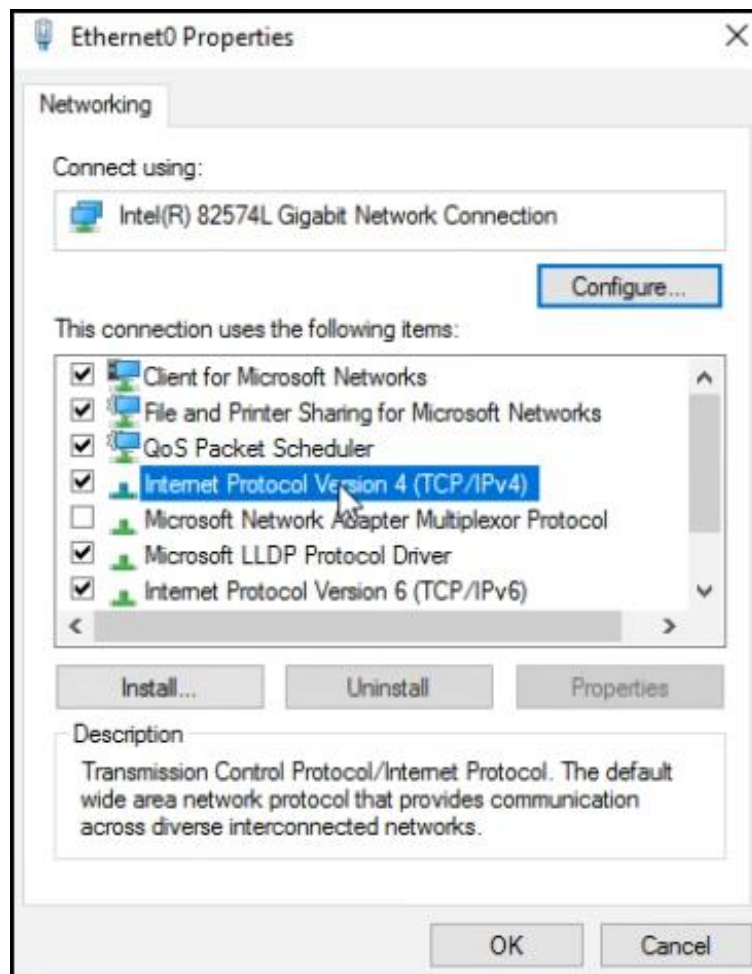
The default IP of decoder network port 1 is 192.168.1.168. If the computer IP is not 192.168.1.* network segment, it is necessary to set the computer network port IP to 192.168.1.* network segment. The specific steps are as follows (using Win10 as an example; operations for other Windows versions are similar to Win10):

1) Right-click the network icon in the lower right corner of Windows, click "Network and Internet Settings", then click to open "Network and Sharing Center".

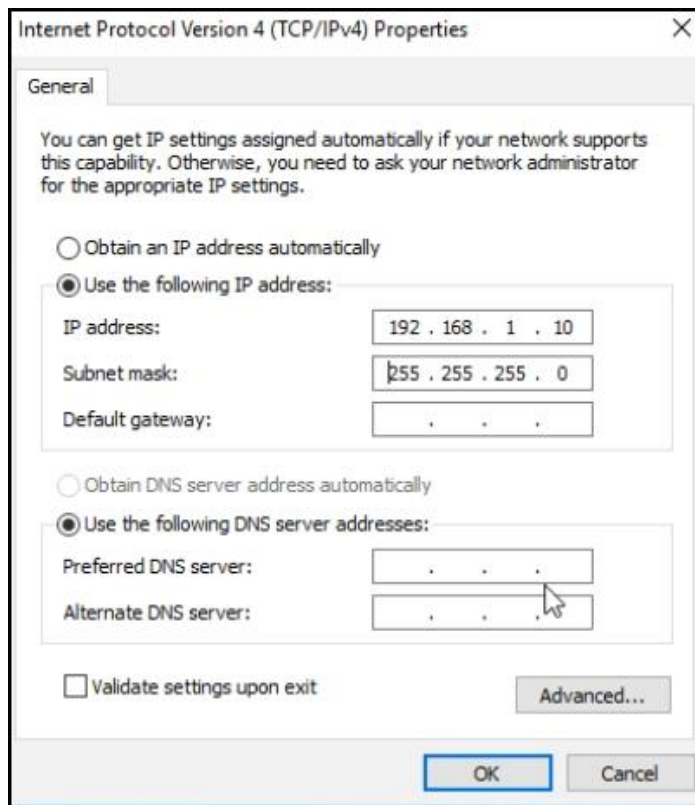


2) A networking panel will pop up. Left-click on "Ethernet".

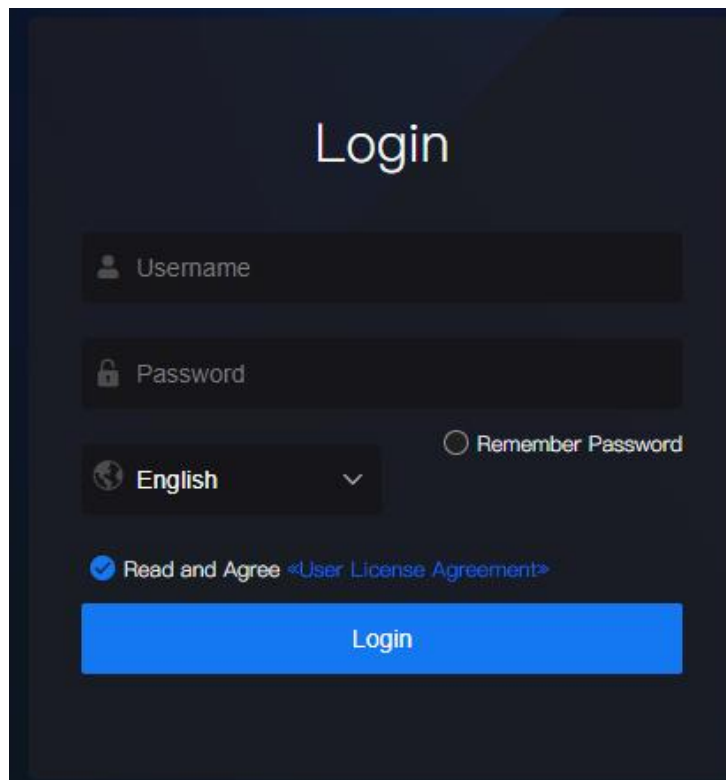
3) In the popped-up Ethernet status bar, click the "Properties" button, then left-click double-click the "Internet Protocol



Version 4 (TCP/IPv4)" option.

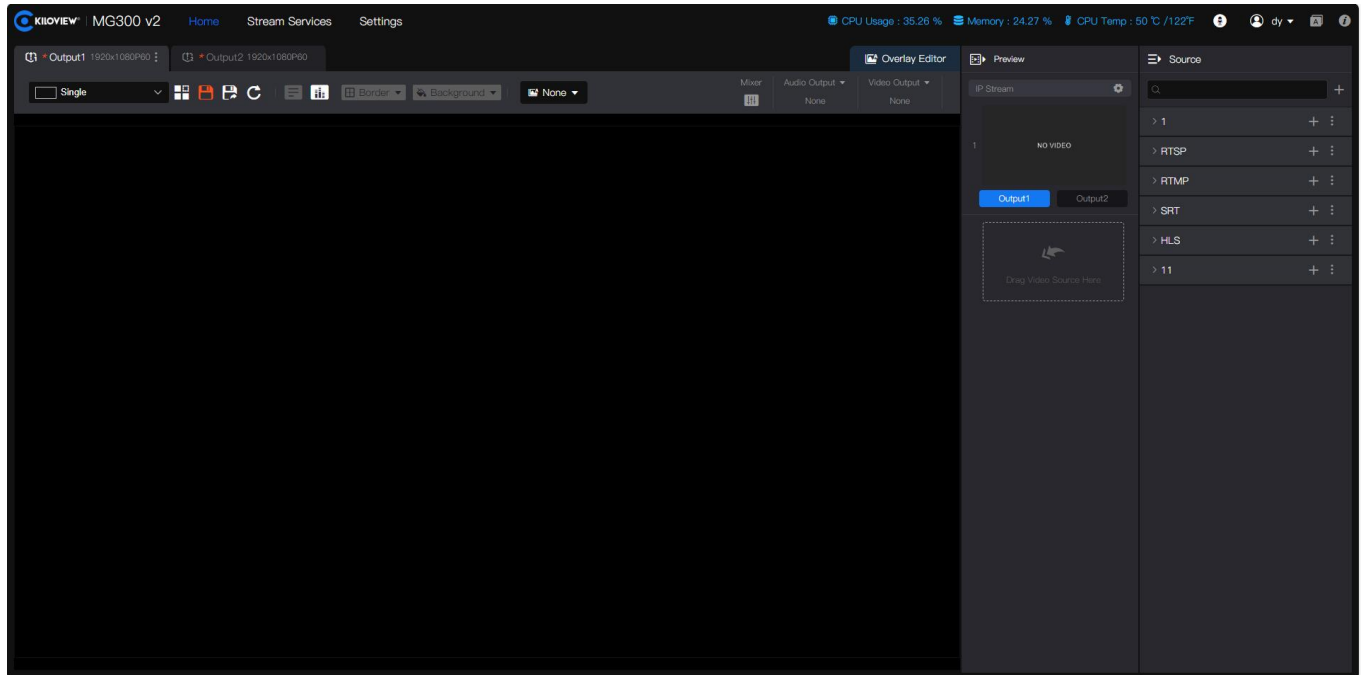


4) By default, the computer is set to "Obtain an IP address automatically". At this point, you need to select "Use the following IP address" and manually enter an IP address from the 192.168.1.* range and the subnet mask, then click "OK". Open the browser, directly enter the device's IP address (the default maintenance address for Network Port 1 is 192.168.1.168, for Network Port 2 it is 192.168.2.168) or the URL <http://192.168.1.168> and press Enter to open the device's login interface. After opening the page, an authentication dialog box will pop up. You need to enter the username and password. The default username and password for the device are admin/admin. Then click "Login".



5) After successful login, you can set decoding parameters and functional parameters in the device's Web management

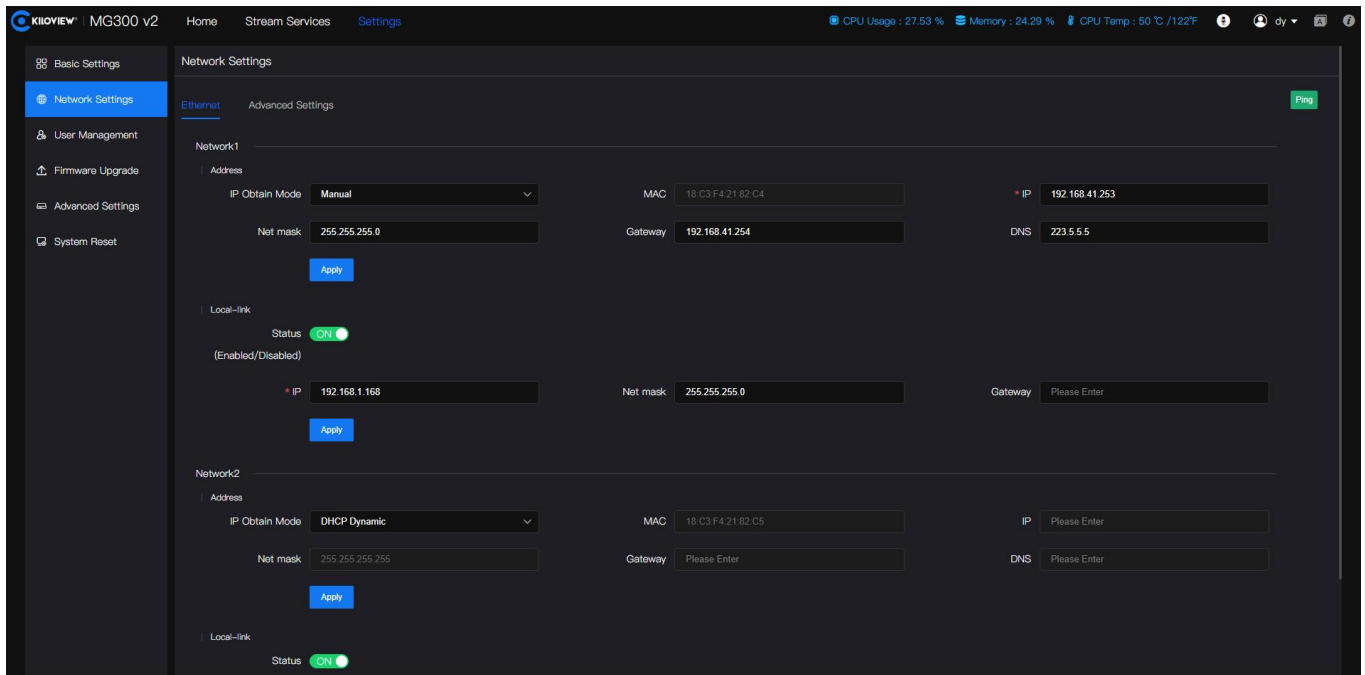
interface. The device page is shown in the figure below:



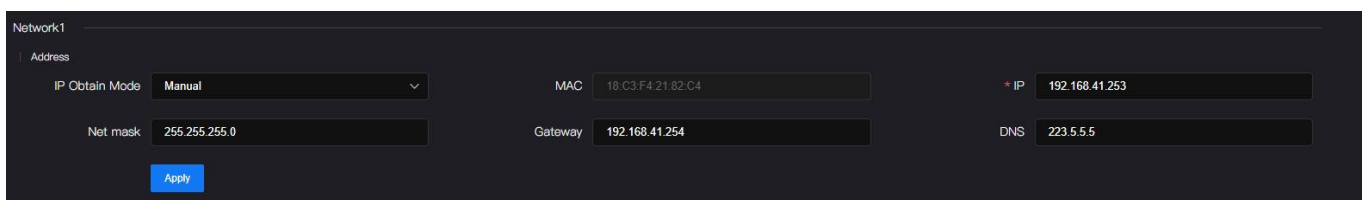
4.2 Network Configurations

The device has two independent network ports that can be configured with IP addresses from different network segments, used for isolating service traffic and management traffic. Usually, configuring only 'Network 1' is sufficient for most applications.

Under the 'Network 1' or 'Network 2' tab, configure the interface IP address. The address acquisition method can be chosen as "DHCP Auto-obtain" or "Manual Specify". Configure according to the actual situation of the local network.



Manual specification requires configuring the IP, Gateway, Subnet Mask, and DNS parameters sequentially. For example, if the local network segment is 192.168.4.* /24, configure "Address 1" as 192.168.4.14, 255.255.255.0, 192.168.4.1, 8.8.8.8 respectively, then click the "Apply" button below for the settings to take effect.



After configuring the IP address, you can click the  in the upper right corner of the interface. Through the pop-up window showing the IP address list (as shown below), you can test if the network is pingable. You can also access the device's Web Web UI using the configured IP address, e.g., http://192.168.4.14. Only after the network address is correctly configured can other functions of the device be used normally.

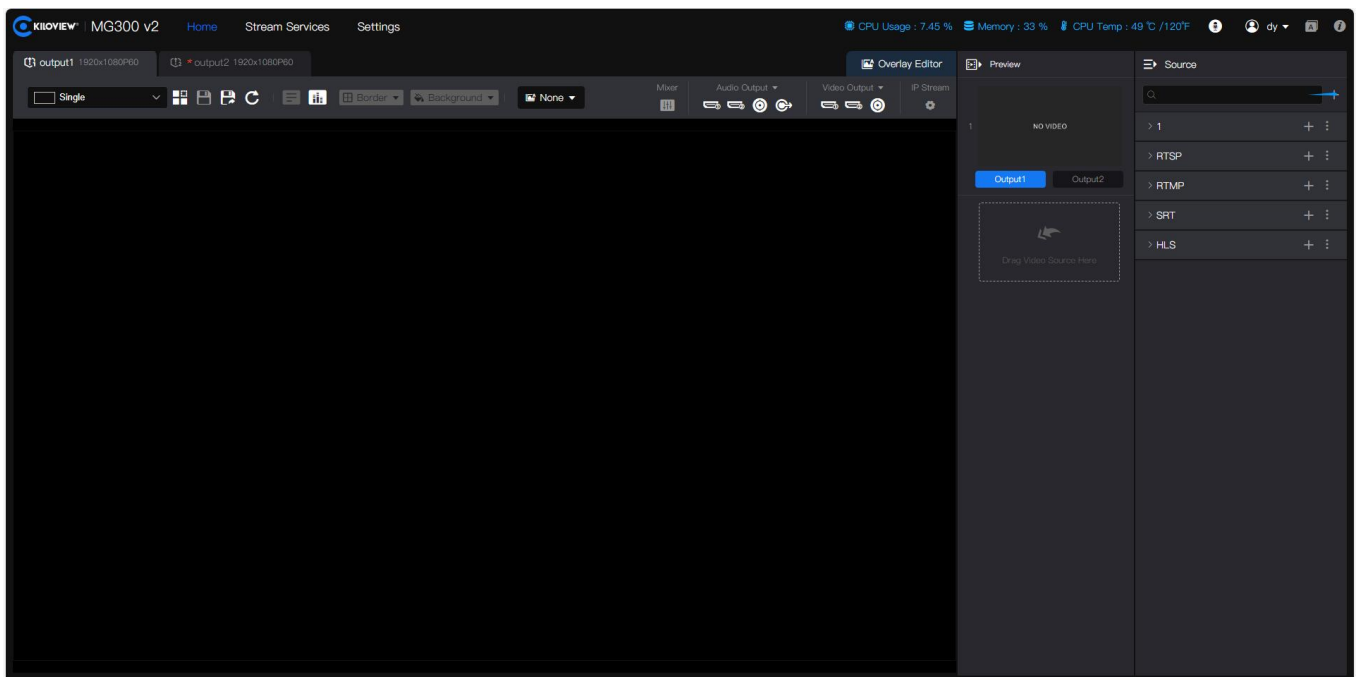
5 Media Settings

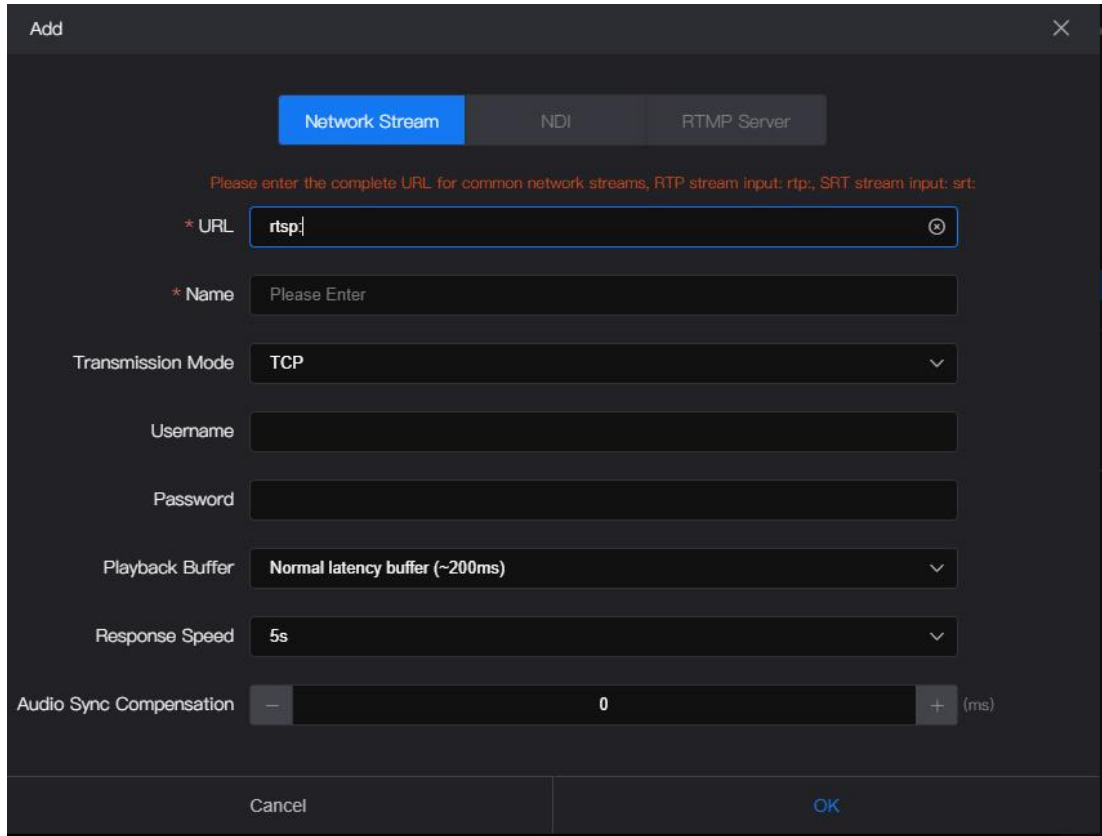
Click the "Media" button to perform decoding-related settings for the device. There are three main functional parts: 1) Adding video sources and the video source list; 2) Preview window; 3) Parameter configuration for the device's 2 output ports, such as streaming, screen splitting, page layout, etc.

5.1 Source Configuration

5.1.1.1 Add RTSP Video Source

In the MG300 v2 Web UI "Source", click the "+" sign to create a new group. Click "+" in the group list to "Add". In the pop-up dialog box, enter "rtsp:", and the configuration parameters corresponding to the RTSP protocol will automatically pop up. Complete the configuration of the relevant parameters and click "OK" to add a video source.





The screenshot shows a dark-themed 'Add' dialog box. At the top, there are three tabs: 'Network Stream' (highlighted in blue), 'NDI', and 'RTMP Server'. Below the tabs, a red text hint says: 'Please enter the complete URL for common network streams, RTP stream input: rtp:, SRT stream input: srt:'. The form contains the following fields:

- * URL: A text input field containing 'rtsp:' with a clear button (X) on the right.
- * Name: A text input field with the placeholder text 'Please Enter'.
- Transmission Mode: A dropdown menu currently showing 'TCP'.
- Username: An empty text input field.
- Password: An empty text input field.
- Playback Buffer: A dropdown menu currently showing 'Normal latency buffer (~200ms)'.
- Response Speed: A dropdown menu currently showing '5s'.
- Audio Sync Compensation: A slider control with minus and plus buttons, currently set to '0' with '(ms)' to the right.

 At the bottom, there are two buttons: 'Cancel' and 'OK' (highlighted in blue).

The parameters for the RTSP source are defined as follows:

- **URL:** After entering the URL address, if there are some advanced parameter configurations, the dialog box will automatically pop up the corresponding dialog for configuring the parameters. You can also click the protocol options on the page for detailed parameter settings directly.
- **Name:** Can be configured arbitrarily, supporting a combination of Chinese, English, and numbers.
- **Transport Mode:** Can be configured as TCP or UDP. TCP is a reliable transmission protocol, UDP is an unreliable transmission protocol.
- **Username and Password:** Configure according to whether the video source has user authentication. Generally not required.
- **Buffer:** For balancing decoding real-time performance and smoothness across different application scenarios and networks, the device provides multiple buffer strategies for users to choose from. Options include Zero Buffer, 50ms, 120ms, 200ms, 500ms, 1s, 1.2s... up to a maximum of 15s. Set according to the actual network conditions: choose a lower latency parameter for good networks, and a higher latency parameter for poor networks.

The above instructions use adding an RTSP source as an example to introduce how to add a video source. The steps for adding other types of video sources are the same. Refer to the table below for relevant parameters.

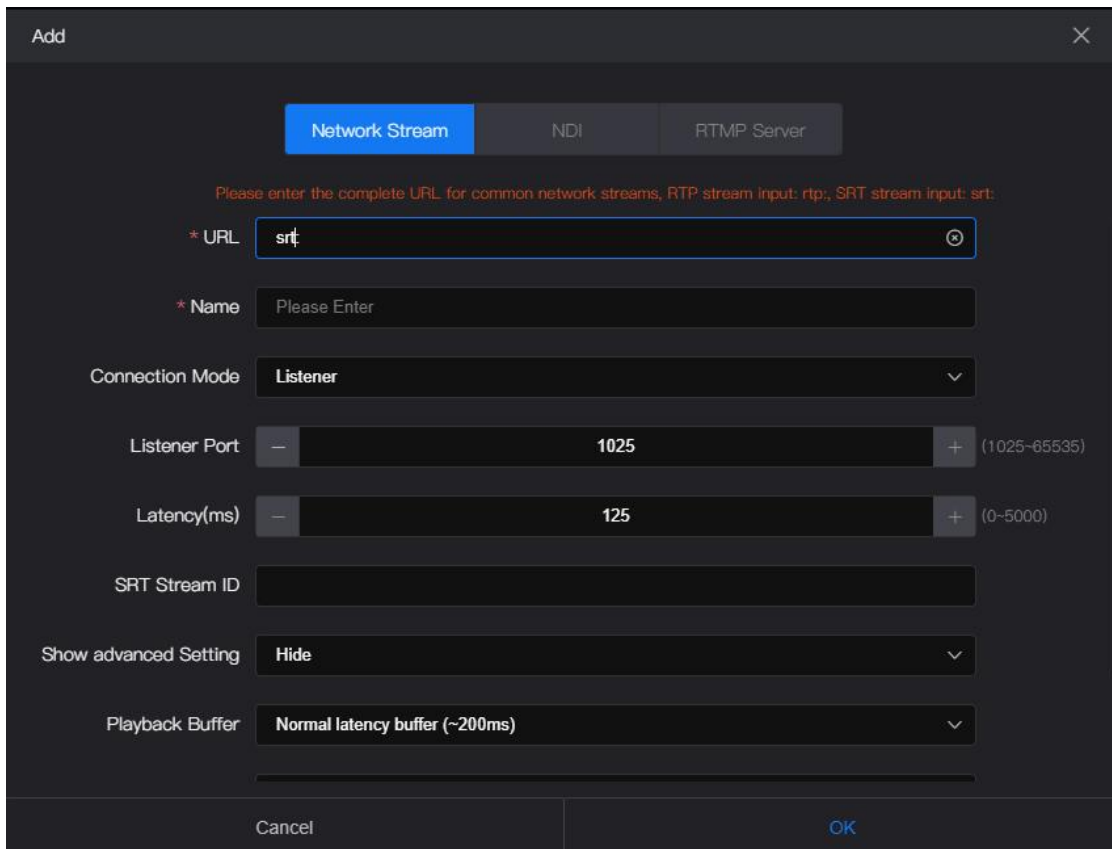
The parameters for video sources are defined as follows:

Name	Video source name, can be set arbitrarily, supports mixed Chinese and English
URL Address	Supports various protocols such as RTSP, RTMP, RTMPS, NDI, UDP, HTTP, SRT, etc. The device can automatically identify the URL address. After entering the URL address, if advanced parameter configuration is needed, the dialog box will pop up accordingly. You can also click the protocol options on the page for detailed settings.
Transport Mode	Can be configured as TCP or UDP. TCP is a reliable transmission protocol, UDP is an unreliable transmission protocol.
Username/Password	Configure based on whether the video source requires user authentication. Generally not

	required.
Buffer and Latency	For balancing decoding real-time performance and smoothness across different application scenarios and networks, the device provides multiple buffer strategies. Options include Zero Buffer, 50ms, 120ms, 200ms, 500ms, 1s, etc. Set based on actual network conditions: choose lower latency for good networks, higher for poor networks.
Reconnection Response Speed	For the response speed of decoding reconnection under different scenarios and networks, the device offers multiple buffer strategies. Options include 200ms, 500ms, 1s-60s. Set based on actual network conditions: choose lower reconnection parameters for good networks, higher for poor networks.
Audio Sync Compensation	For audio-video synchronization under different scenarios and networks, the device provides compensation settings. Audio delay can be set according to the specific situation.
Video Receive Port	Network receive port, range 1-65535.
Audio Receive Port	Network receive port, range 1-65535.

5.1.1.2 Add SRT Video Source

In the MG300 v2 Web UI, "Source" -> "Add Source", enter "srt:" in the pop-up dialog box, and the parameters related to the SRT source will automatically pop up. Configure the corresponding parameters sequentially and click "OK" to add an SRT source.



The parameters for the SRT source are defined as follows:

Name: Can be configured arbitrarily, supporting a combination of Chinese, English, and numbers.

Encryption Mode: Configure based on whether the video source has user authentication. Generally not required.

Public Network Address: When using CALLER mode, the URL format is: srt://[PeerPublic IP Address]. When using Listener mode, listen on the public IP; no need to fill in.

Port: Configure a listening port, must match the sender's port.

Transmission Latency: Set based on the performance of the current network link. The Latency value can be set at both the SRT source device and the SRT target device; the larger of the two values will be taken as the final SRT transmission latency.

Encryption Mode: Supports three AES encryption modes: AES-128, AES-192, AES-256.

Key: Encryption key, enter a 10-32 character combination of letters or numbers according to the encryption mode.

Bandwidth Overhead: A percentage value set based on network link quality. Multiplying this percentage by the total bitrate of the encoded audio and video gives the maximum allowed overhead bandwidth. The sum of this value and the audio-video bitrate is the threshold for the current SRT transmission bandwidth, and the maximum bandwidth the SRT stream can use. Understanding it from an "overhead" perspective, it is the additional "invalid" bandwidth occupied beyond the required media content (payload). However, it differs from common protocol overhead, TCP header overhead, or UDP header overhead. Here, the bandwidth overhead is not a fixed TCP header overhead of 20-60 bytes or UDP header overhead of 8 bytes, but changes in real-time according to network conditions. The worse the network link condition, the more overhead is required for normal transmission. The setting range is 5% to 100%, with a default size of 25%.

Payload Size: The size of the data packet sent. The receiver needs to match the same size for optimal performance. The default size is 1316, which is the optimal packet size for codecs.

5.1.1.3 Add RTMP/RTMPS Video Source

In the MG300 v2 Web UI "Source" -> "Add Source", enter "rtmp:" in the pop-up dialog box, and the parameters related to the RTMP source will automatically pop up. Configure the corresponding parameters sequentially and click "OK" to add an RTMP source.

The screenshot shows a dark-themed 'Add' dialog box. At the top, there are three tabs: 'Network Stream' (highlighted in blue), 'NDI', and 'RTMP Server'. Below the tabs, a red text note reads: 'Please enter the complete URL for common network streams, RTP stream input: rtp:, SRT stream input: srt:'. The form contains several input fields: a required '* URL' field with 'rtmp:' entered, a required '* Name' field with 'Please Enter' as a placeholder, and empty fields for 'Username' and 'Password'. There are two dropdown menus: 'Playback Buffer' set to 'Normal latency buffer (~200ms)' and 'Response Speed' set to '5s'. At the bottom, there is an 'Audio Sync Compensation' field with a slider set to '0' and a unit '(ms)'. The dialog is closed with 'Cancel' and 'OK' buttons at the bottom.

The parameters for the RTMP source are defined as follows:

URL: After entering the URL address, if there are some advanced parameter configurations, the dialog box will automatically pop up the corresponding dialog for configuring the parameters. You can also click the protocol options on the page for detailed parameter settings directly.

Name: Can be configured arbitrarily, supporting a combination of Chinese, English, and numbers.

Username and Password: Configure according to whether the video source has user authentication. Generally not required.

Buffer: For balancing decoding real-time performance and smoothness across different application scenarios and networks, the device provides multiple buffer strategies for users to choose from. Options include Zero Buffer, 50ms, 120ms, 200ms, 1s, 1.2s... up to a maximum of 15s. Set according to the actual network conditions: choose a lower latency parameter for good networks, and a higher latency parameter for poor networks.

5.1.1.4 Add UDP Video Source

In the MG300 v2 Web UI "Source" -> "Add Source", enter "udp:" in the pop-up dialog box, and the parameters related to the UDP source will automatically pop up. Configure the corresponding parameters sequentially and click "OK" to add a UDP source.

The screenshot shows a dark-themed dialog box titled "Add" with a close button (X) in the top right corner. It features three tabs: "Network Stream" (highlighted in blue), "NDI", and "RTMP Server". Below the tabs, a red text hint reads: "Please enter the complete URL for common network streams, RTP stream input: rtp:, SRT stream input: srt:". The form contains the following fields:

- * URL:** A text input field containing "udp:".
- * Name:** A text input field with the placeholder "Please Enter".
- Playback Buffer:** A dropdown menu showing "Normal latency buffer (~200ms)".
- Response Speed:** A dropdown menu showing "15s".
- Audio Sync Compensation:** A slider control with minus and plus buttons, currently set to "0" with "(ms)" to its right.

At the bottom of the dialog are two buttons: "Cancel" and "OK".

The parameters for the UDP source are defined as follows:

URL: After entering the URL address, if there are some advanced parameter configurations, the dialog box will automatically pop up the corresponding dialog for configuring the parameters. You can also click the protocol options on the page for detailed parameter settings directly.

Name: Can be configured arbitrarily, supporting a combination of Chinese, English, and numbers.

Buffer: For balancing decoding real-time performance and smoothness across different application scenarios and networks, the device provides multiple buffer strategies for users to choose from. Options include Zero Buffer, 50ms, 120ms, 200ms, 500ms, 1s, 1.2s... up to a maximum of 15s. Set according to the actual network conditions: choose a lower latency parameter for good networks, and a higher latency parameter for poor networks.

5.1.1.5 Add RTP Video Source

In the MG300 v2 Web UI "Source" -> "Add Source", enter "rtp:" in the pop-up dialog box, and the parameters related to the RTP source will automatically pop up. Configure the corresponding parameters sequentially and click "OK" to add an RTP source.

The screenshot shows a dark-themed 'Add' dialog box. At the top, there are three tabs: 'Network Stream' (highlighted in blue), 'NDI', and 'RTMP Server'. Below the tabs, a red text prompt says: 'Please enter the complete URL for common network streams, RTP stream input: rtp:, SRT stream input: srt:'. The form contains the following fields:

- * URL:** A text input field containing 'rtp:'.
- * Name:** A text input field containing 'test'.
- Configuration:** A large, empty text area.
- Playback Buffer:** A dropdown menu showing 'Normal latency buffer (~200ms)'.
- Response Speed:** A dropdown menu showing '15s'.
- Audio Sync Compensation:** A slider control with minus and plus buttons, currently set to '0' with '(ms)' next to it.

At the bottom of the dialog are two buttons: 'Cancel' and 'OK'.

The parameters for the RTP source are defined as follows:

URL: After entering the URL address, if there are some advanced parameter configurations, the dialog box will automatically pop up the corresponding dialog for configuring the parameters. You can also click the protocol options on the page for detailed parameter settings directly.

Name: Can be configured arbitrarily, supporting a combination of Chinese, English, and numbers.

Configuration Information: Can be customized.

Buffer: For balancing decoding real-time performance and smoothness across different application scenarios and networks, the device provides multiple buffer strategies for users to choose from. Options include Zero Buffer, 50ms, 120ms, 200ms, 500ms, 1s, 1.2s... up to a maximum of 15s. Set according to the actual network conditions: choose a lower latency parameter for good networks, and a higher latency parameter for poor networks.

5.1.1.6 Add HLS Video Source

In the MG300 v2 Web UI "Source" -> "Add Source", enter "http:" or "http:" in the pop-up dialog box, and the parameters related to the HLS source will automatically pop up. Configure the corresponding parameters sequentially and click "OK" to add an HLS source.

Add

Network Stream NDI RTMP Server

Please enter the complete URL for common network streams, RTP stream input: rtp:, SRT stream input: srt:

* URL http:

* Name test

Playback Buffer Normal latency buffer (~200ms)

Response Speed 5s

Audio Sync Compensation — 0 + (ms)

Cancel OK

The parameters for the HLS source are defined as follows:

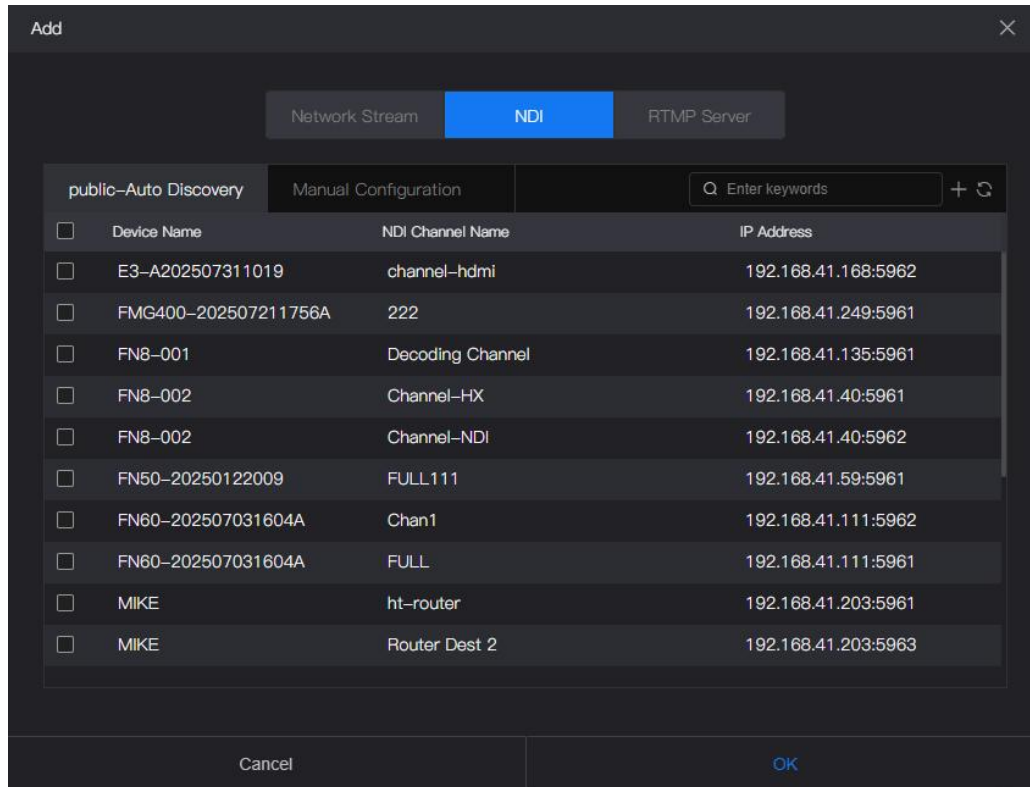
Name: Can be configured arbitrarily, supporting a combination of Chinese, English, and numbers.

URL: After entering the URL address, if there are some advanced parameter configurations, the dialog box will automatically pop up the corresponding dialog for configuring the parameters. You can also click the protocol options on the page for detailed parameter settings directly.

Buffer: For balancing decoding real-time performance and smoothness across different application scenarios and networks, the device provides multiple buffer strategies for users to choose from. Options include Zero Buffer, 50ms, 120ms, 200ms, 500ms, 1s, 1.2s... up to a maximum of 15s. Set according to the actual network conditions: choose a lower latency parameter for good networks, and a higher latency parameter for poor networks.

5.1.1.7 Add NDI Video Source

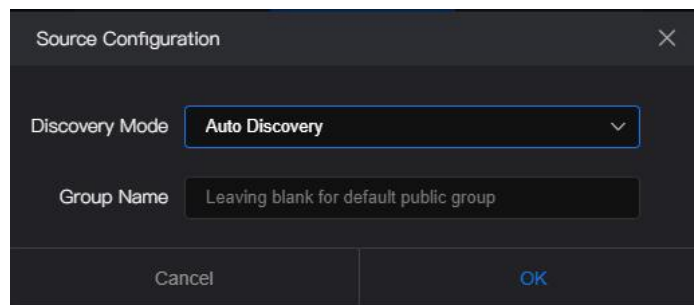
In the MG300 v2 Web UI "Source" -> "Add Source", select NDI in the pop-up interface. Multiple methods for adding NDI video sources will automatically appear: Automatic Discovery and Manual Configuration for adding NDI video sources.



5.1.1.7.1 Automatically Discover and Add NDI Video Source

In the MG300 v2 Web UI "Source" -> "Add Source", select NDI in the pop-up interface, click "public - auto discover". This will discover NDI video sources in the same LAN. You can select single or multiple discovered sources from the list, then click "OK". The video sources will be added to the video source bar.

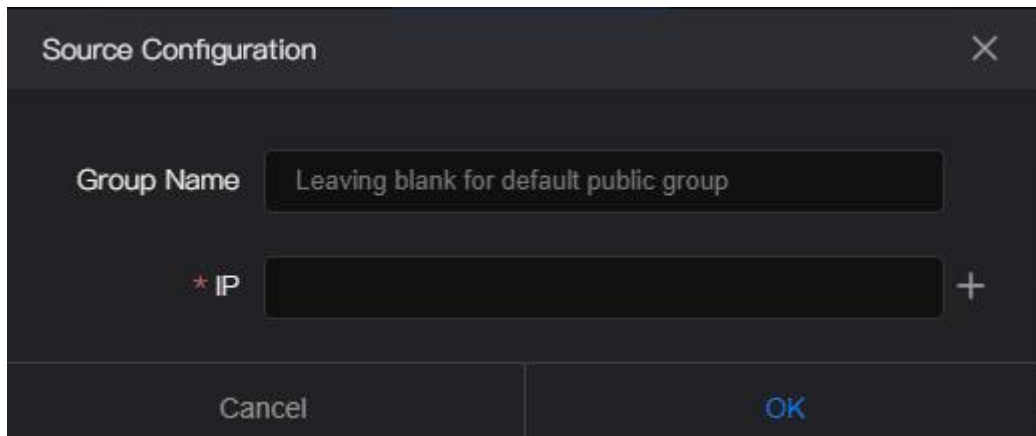
To add NDI sources from non-public groups, you can click the button , enter the "Group Name" in the "Source Configuration" pop-up window, and click "OK" to automatically discover NDI streams from other groups.



To add NDI sources from non-public groups and non-uniform IP segments, you can click the button , select "Discovery Server" in the "Source Configuration" pop-up window, enter the "IP" and "Group Name", click "OK" to submit. This will automatically discover NDI streams from other subnets and groups within the LAN.

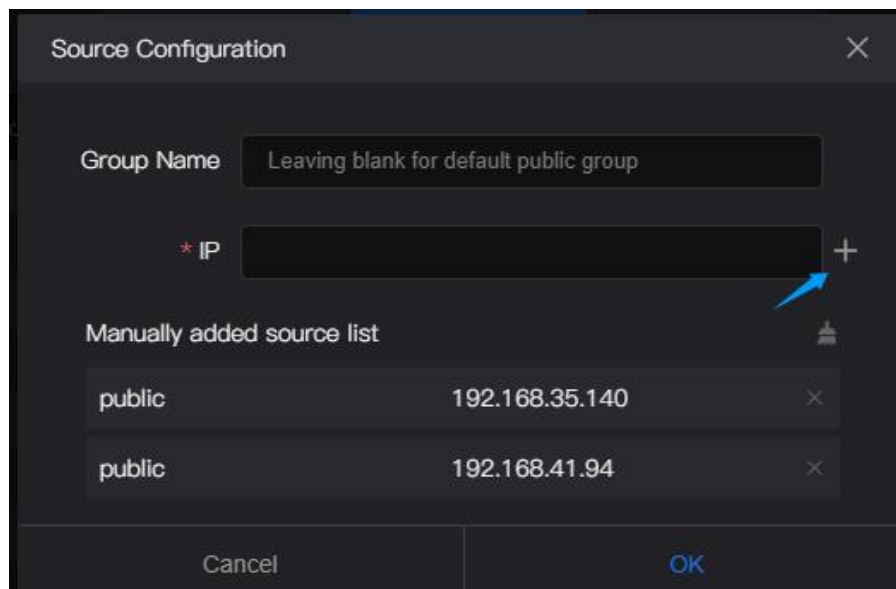
5.1.1.7.2 Manually Configure and Add NDI Video Source

In the MG300 v2 Web UI "Source" -> "Add Source", select NDI in the pop-up interface, click "NDI" -> "Manual Configuration" -> , enter the configuration dialog. If you want to search for devices with different group names in the same subnet, enter the specified group name (e.g., kiloview) in the "Group" box and press Enter. At this point, the "Group" box will display two group names, then click the "OK" button (no need to enter an IP address). The device will search for NDI sources with these two group names simultaneously. (You can also add multiple group names for searching).



The "Source Configuration" dialog box is shown. It has a title bar with a close button (X). Inside, there is a "Group Name" field with the placeholder text "Leaving blank for default public group". Below it is a field labeled "* IP" with a plus sign (+) to its right. At the bottom, there are two buttons: "Cancel" and "OK".

When you need to search for NDI sources across network segments, if the group name is non-public, first enter the specified group name, then enter the specified IP address in the "IP" field. Click the button  next to it to add this IP address to the "Manual Scan Address List". You can add multiple IP addresses at once for simultaneous searching, then press "OK" to save.



The "Source Configuration" dialog box is shown again, but now it includes a "Manually added source list" section. This section has a plus icon (+) to its right. Below it is a table with two rows of manually added sources. Each row has a "Group Name" and an "IP Address". At the bottom, there are "Cancel" and "OK" buttons.

Group Name	IP Address
public	192.168.35.140
public	192.168.41.94

Manually Enter URL Address to Add NDI|HX Video Source

On the device page "Media" -> "Add", select "NDI", fill in the corresponding parameters and save.

Name: Can be configured arbitrarily, supporting a combination of Chinese, English, and numbers.

URL Address: ndi://[SourceIP Address]:[Port], the default port is 5961.

NDI Name: Source device name (channel name).

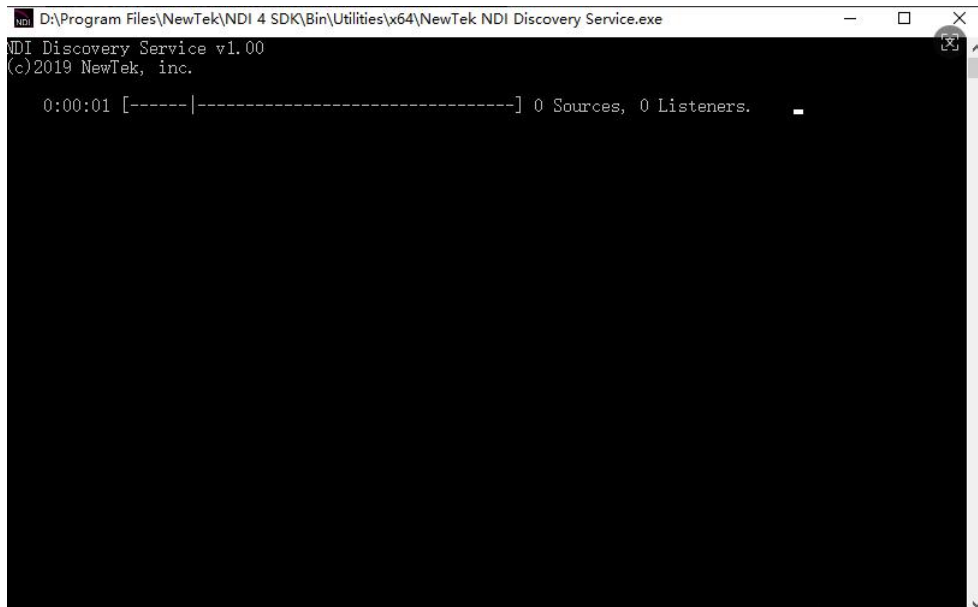
Stream: Can choose Full (main stream) or Preview (sub stream).

Playback Buffer: Select playback buffer according to the actual scenario.

5.1.1.7.3 Add NDI Discovery Server

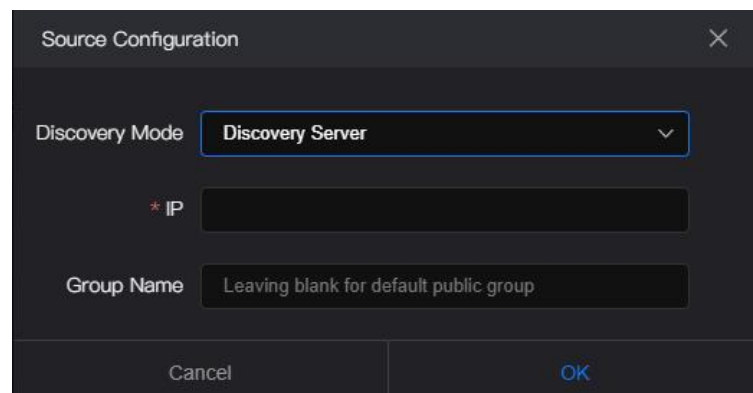
The NDI Discovery Server can replace NDI auto-discovery with a server. NDI sources are centrally registered to the server, and receivers obtain NDI sources from the server. This function can also be configured to send output video streams to receivers across network segments.

First, download and install the NDI SDK on the receiver end, which needs to be installed on a Windows computer at the receiver end. After installation, run Bin\Utilities\x64\NDI Discovery Service.exe in the installation directory.



The NDI encoder configures the receiver's IP address in the discovery server, and the NDI stream will be registered to the server. It is recommended to configure the receiver address as a static IP address to prevent NDI connection loss due to IP reassignment.

The MG300 v2 NDI Discovery Server function can replace NDI auto-discovery with a server. NDI sources are centrally registered to the server, and receivers obtain NDI sources from the server. This function can also be configured to send output video streams to receivers across network segments.



5.1.1.8 Add RTMP Server Video Source

In the MG300 v2 Web UI "Source" -> "Add Source", select RTMP Server in the pop-up interface, and the parameters related to the media server will automatically pop up. Configure the corresponding parameters

The screenshot shows a dark-themed 'Add' dialog box with a close button (X) in the top right corner. At the top, there are three tabs: 'Network Stream', 'NDI', and 'RTMP Server' (which is selected and highlighted in blue). Below the tabs, the following fields are visible:

- * Name:** A text input field containing 'TEST'.
- * Server port:** A numeric input field with a range from 1 to 65535, currently set to 1935.
- * Session ID:** A text input field containing '/live/' followed by a sub-field containing 'CH01'.
- Security Options:** A dropdown menu currently set to 'None'.
- Full Address:** A text input field showing the generated address 'rtmp://192.168.41.253:1935/live/CH01' with a copy icon to its right.
- Playback Buffer:** A dropdown menu currently set to 'Normal latency buffer (~200ms)'.
- Response Speed:** A dropdown menu currently set to '5s'.
- Audio Sync Compensation:** A numeric input field with a range from -1000 to 1000, currently set to 0, with a '(ms)' label to its right.

At the bottom of the dialog, there are two buttons: 'Cancel' and 'OK'.

sequentially and click "OK" to add an RTMP Server service.

The parameters for the RTMP Server media server are defined as follows:

Name: Can be configured arbitrarily, supporting a combination of Chinese, English, and numbers.

Service Port: Configure a listening port, must match the sender's port.

Session ID: Can be configured arbitrarily, supporting a combination of Chinese, English, and numbers.

Security Option: None and Token two modes.

Session Token: Can be configured arbitrarily, supporting a combination of Chinese, English, and numbers.

Full Address: Automatically generated based on the MG300 v2 management address and configuration parameters.

Buffer: For balancing decoding real-time performance and smoothness across different application scenarios and networks, the device provides multiple buffer strategies for users to choose from. Options include Zero Buffer, 50ms, 120ms, 200ms, 500ms, 1s, 1.2s... up to a maximum of 15s. Set according to the actual network conditions: choose a lower latency parameter for good networks, and a higher latency parameter for poor networks.

5.2 Video Source List

This list displays all the video sources you have added and their parameter information. Not all sources are in the decoding state. If decoding output or preview is needed, manually drag them to the preview area or decoding area above.

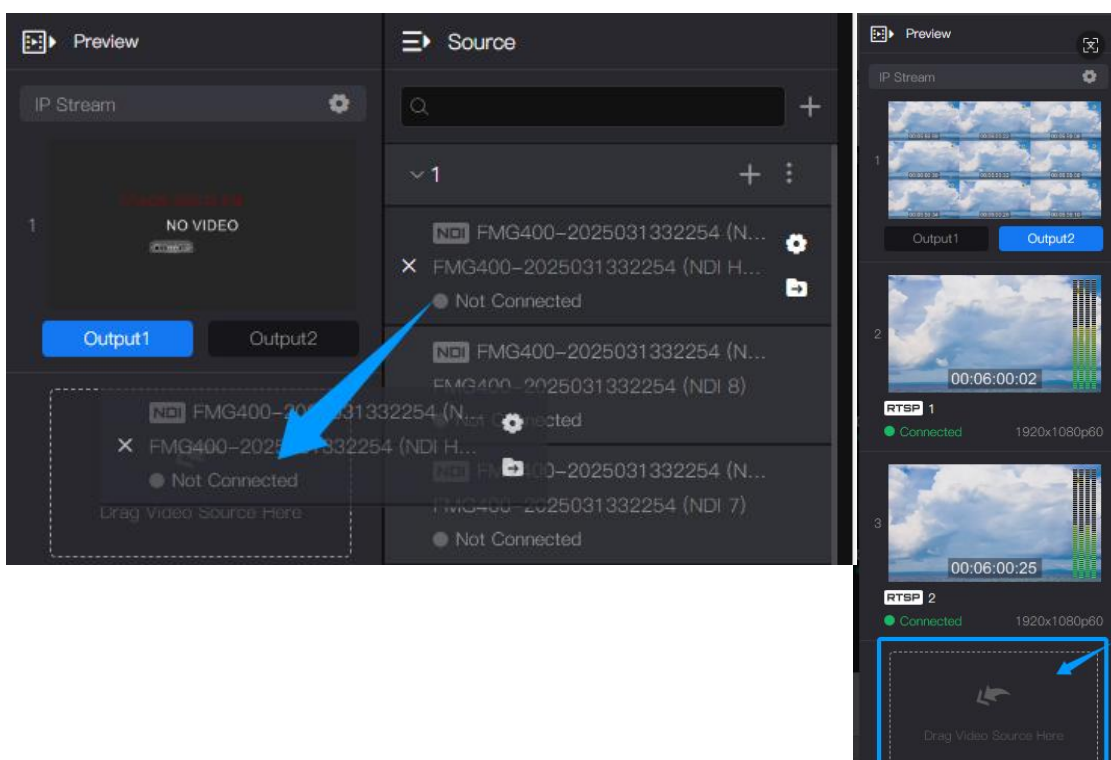
5.2.1 Source Status Description

- Displayed as green "Normal Connection" indicates the video source is in decoding or streaming state.
- Displayed as gray "Not Connected" indicates it is not being used as a decoding source.
- Displayed as blue "Connecting" indicates the source is establishing a connection and preparing to decode.
- Displayed as yellow "Reconnecting" indicates the source encountered a decoding anomaly and is attempting to reconnect and decode.
- Displayed as red "Network Error" indicates the source might be incorrect or unsupported for decoding, etc.



5.3 Source Preview Configuration

You can drag and drop added video sources from the source list on the right side of the media interface to the preview area, as shown in the dashed box in the figure below. The device will then start connecting and decoding. When the connection is successful, the video image can be previewed. (Position 1 is fixed as the preview image of the re-encoded output from the decoding output of Output1 and Output2).

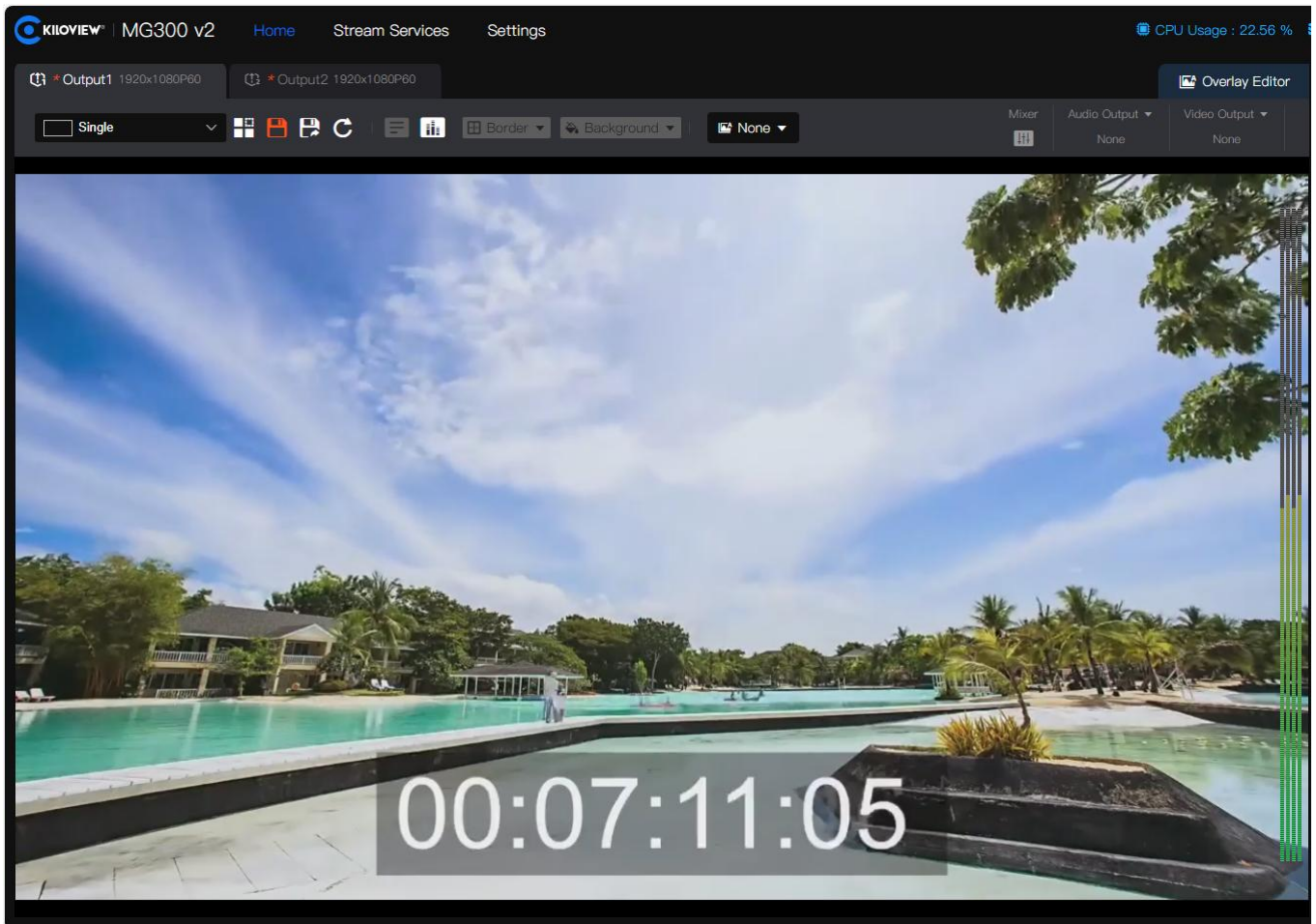


5.4 Decoding Output Setting

5.4.1 Decoding Output

The device supports H.265/H.264/SpeedHQ decoding and can simultaneously output the same or different source signals or split-screen via HDMI/SDI interfaces.

The following uses "output1" as an example to explain the controls in the output window in detail (as shown in the figure below):



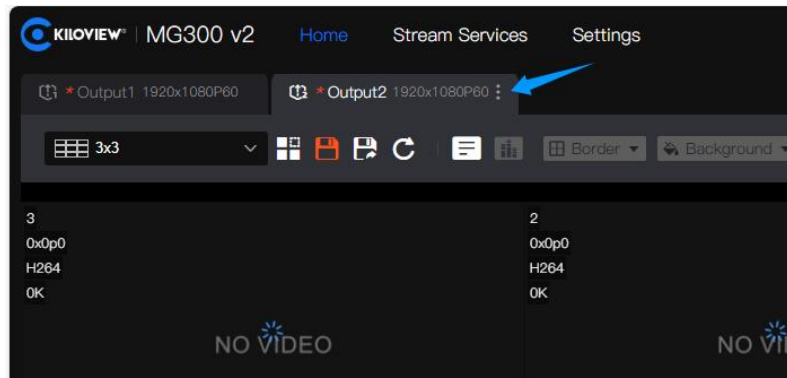
5.4.1.1 Output Resolution Setting

There are two tab labels

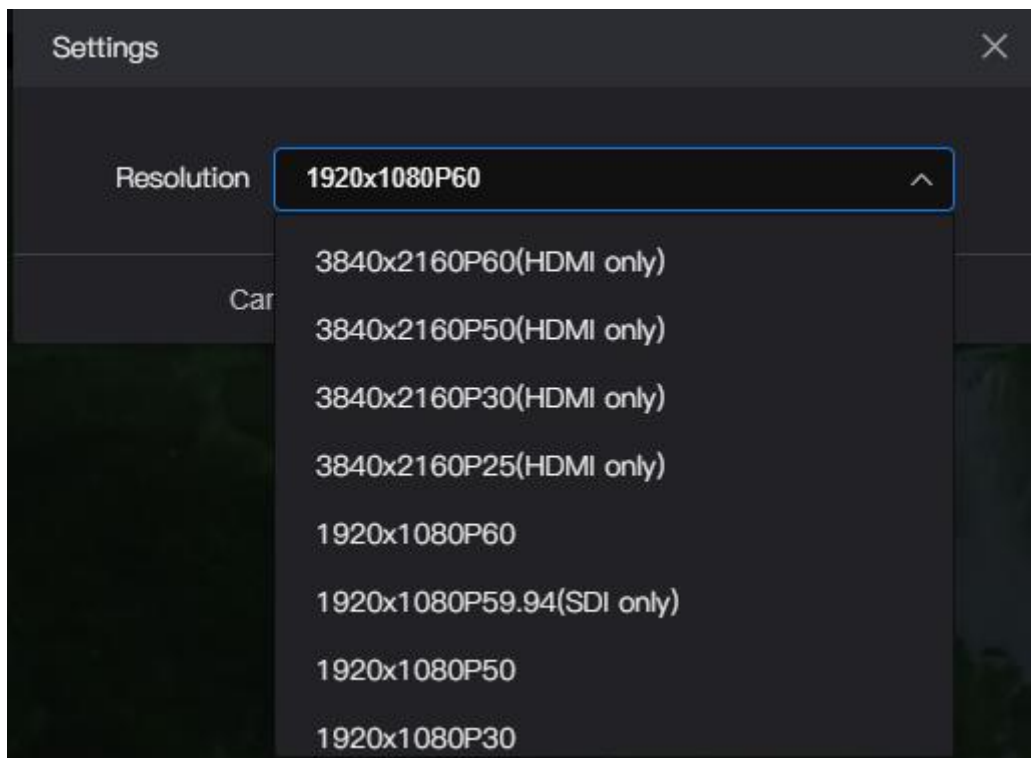


in the

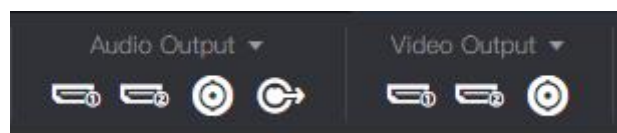
upper left corner of the page. Move the mouse to this area, and click the graphic icon  on the right side of any tab to set the resolution of the decoding output interface in the pop-up window.



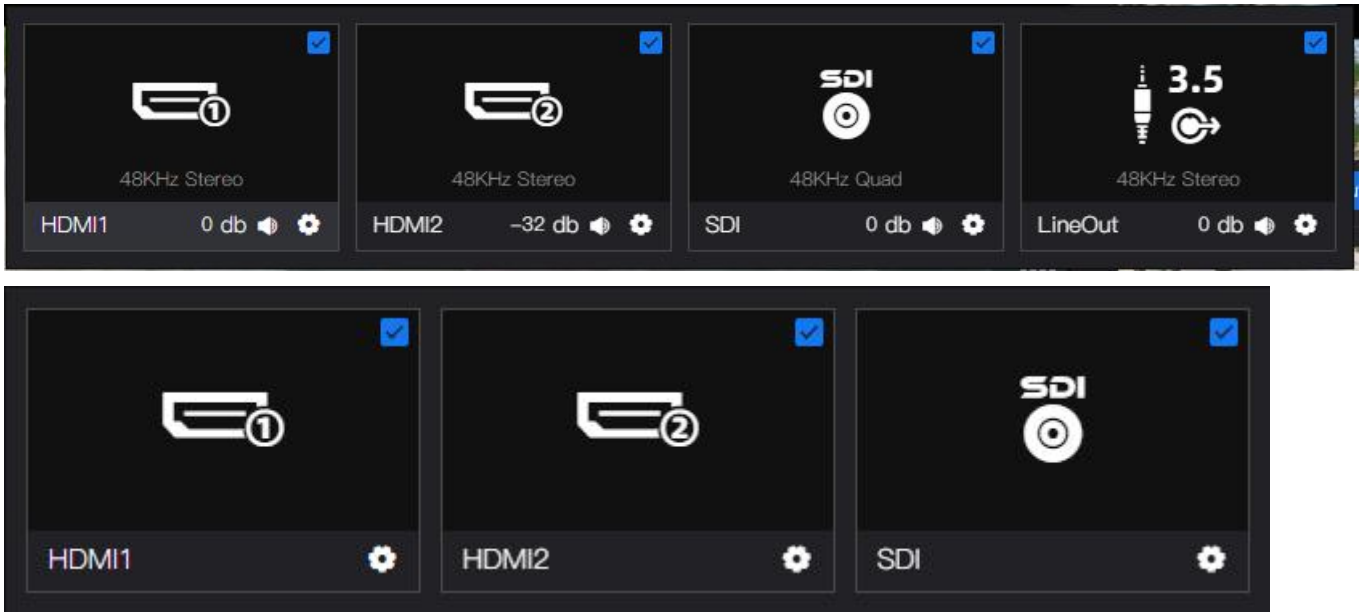
MG300v2 supports multiple resolution configurations for HDMI (up to 3840x2160@60Hz)/SDI(up to 1920x1080@60Hz). All resolutions marked with "SDI only" are only effective on the SDI output interface. On the HDMI interface, they will output as the resolution closest to this one.



5.4.1.2 Output Interface Setting

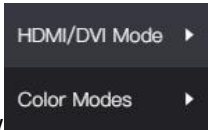


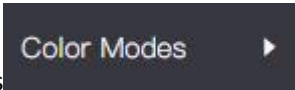
There are two corresponding graphic menus . Click the corresponding menu, and in the expanded pop-up window, check the corresponding output interface to output the picture and audio displayed in the current video display window to the display device connected to the selected interface.



5.4.1.2.1 Video Output Setting

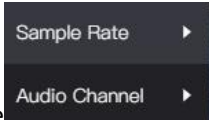
Clicking the settings button  on the HDMI1 or HDMI2 video output interface will bring up a pop-up

window  where you can set the sampling rate and number of channels for the HDMI audio output. The HDMI output mode supports HDMI/DVI mode; the color mode supports a total of 4 modes: RGB444, YCBCR444, YCBCR422, and YCBCR420.

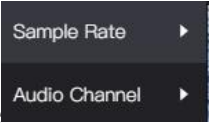
Click the settings button  on the SDI video output interface to pop up settings  for SDI output color mode. Color mode supports RGB444/YCBCR444/YCBCR422/YCBCR420, totaling 4 modes.

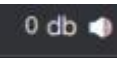
5.4.1.2.2 Audio Output Setting

Channels and Sample Rate, Gain Settings.

HDMI: Click the settings button  on the HDMI1 or HDMI2 audio output interface  to open the configuration pop-up. You can set the HDMI output mode and color mode. The HDMI output mode supports two sample rates: 44.1KHz and 48KHz. The number of audio channels supports dual-channel output.

SDI: Click the settings button  on the SDI audio output interface  to open the configuration pop-up. You can set the HDMI output mode and color mode. The HDMI output mode supports two sample rates: 44.1KHz and 48KHz. The number of audio channels supports dual-channel or quad-channel output.

Line Out: Click the settings button  on the Line Out audio output interface  to open the configuration pop-up. You can set the HDMI output mode and color mode. The HDMI output mode supports two sample rates: 44.1KHz and 48KHz. The number of audio channels supports dual-channel output.

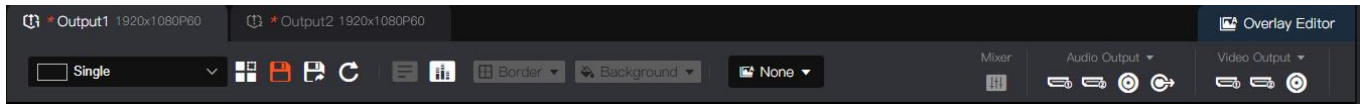
Gain Adjustment: Click the settings button  on the audio output interface  to open the configuration pop-up. You can set the audio gain for the audio output interface, supporting a maximum gain of +20dB and a minimum gain of -51dB.



Note: This device allows audio and video to be output independently through different interfaces. Therefore, if you need to get complete audio and video from the same interface (such as HDMI), you need to enable both the video channel and audio channel of that interface in the output settings.

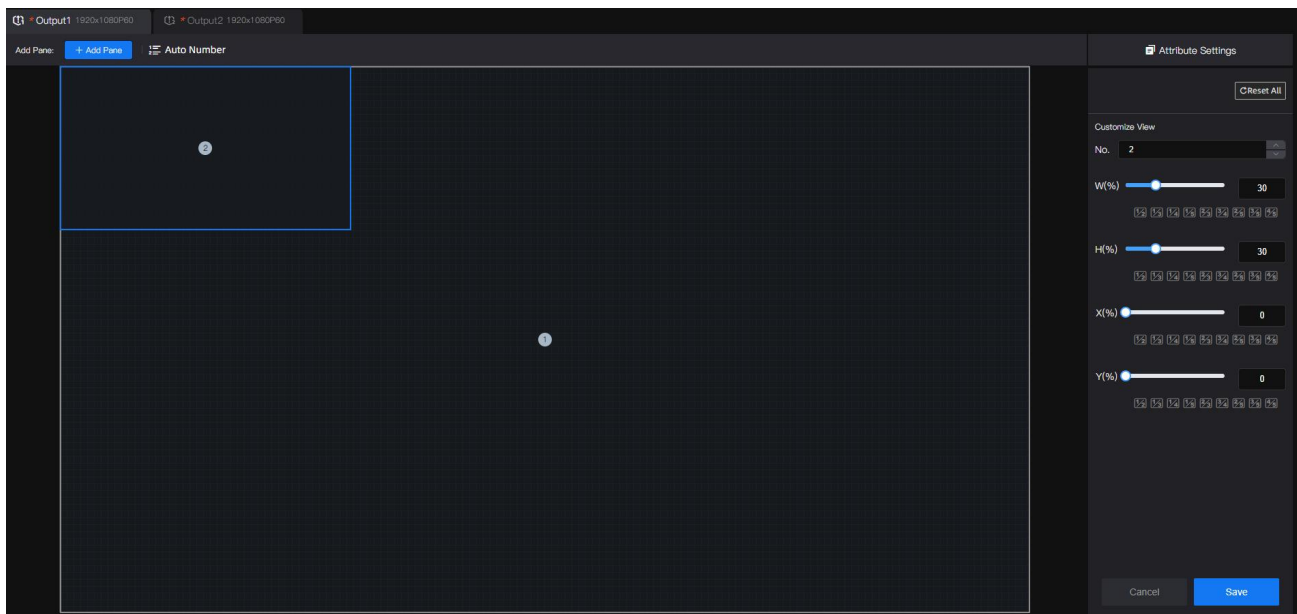
5.4.1.3 Layout Setting

In the media interface, select the output1 or output2 video output display area. The system provides layout templates for users to quickly switch and select in the upper left corner. As shown below, click the drop-down menu to quickly select and apply a layout template. Meanwhile, users can also click "Add Layout" option, enter the template name in the pop-up window to create a layout template.

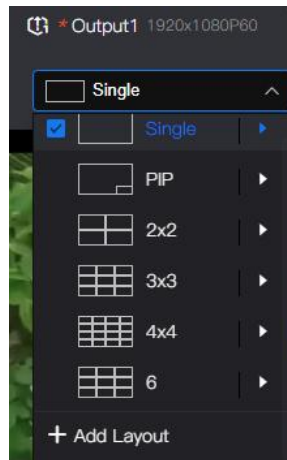


Click the save button  to save the currently configured output picture to the currently selected layout template, facilitating quick loading of the current configured output picture (including source, layout, overlay, background, border, etc.) the next time you log in. Click the button  to save the current output screen as a new template. Click the undo button  to cancel all settings and adjustments made to the template.

2) Click the button  on the right side of the selection box to customize and configure the currently selected layout template. Users can click the add button  to add multiple grids, and edit and adjust the width, height, and position of the window panes in the property settings panel on the right, and save.

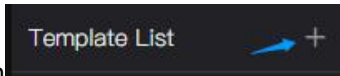


3) After saving the edited template, in the upper part of the video output display area in the media interface, click the drop-down menu button and check the corresponding template to overlay the saved template onto the output window for decoding output.



5.4.1.4 Overlay Editor Setting

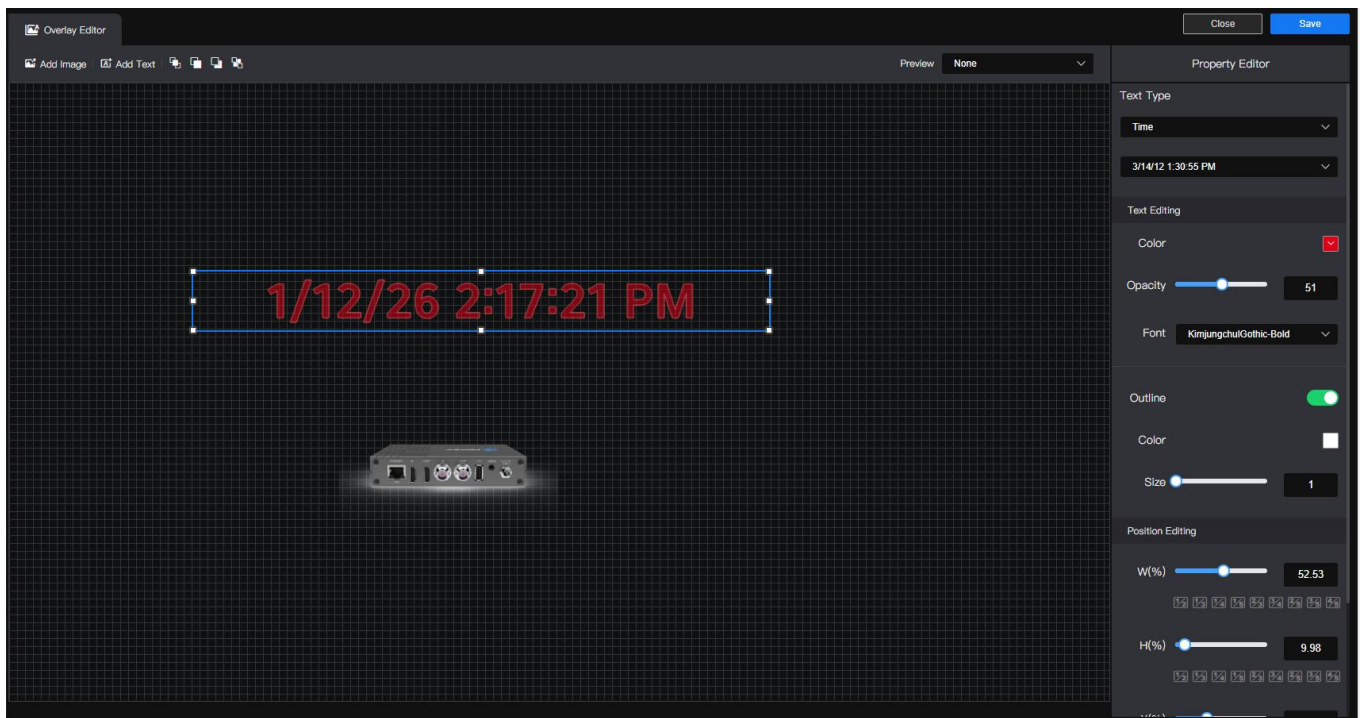
Overlay Editor: Click the button  in the upper right corner of the video output display area

to enter the "Overlay Editor" page. Meanwhile, users can also click the button , click "+" in the popped-up "Template List" window to create a layout template.

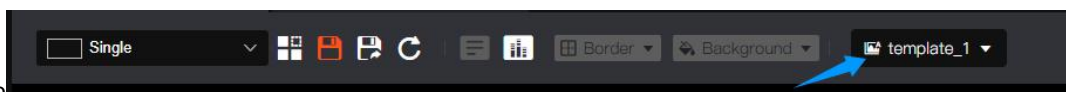
As shown in the figure below, the blue boxed area on the left is the existing overlay template. Users can click to add

image or text content  for the current template. Simultaneously, select the added text or image content, and set the attributes like width, height, position, etc., in the property editor module on the

right. Click the corresponding buttons  to arrange the stacking order of the image or text content: Bring to Front, Move Up One Layer, Move Down One Layer, Send to Back.



- **Overlay Type:** Can choose "No Overlay, Text, Date, Time, and Date/Time".
- **Overlay Position:** Can choose from 7 preset display positions and custom position. Select based on actual needs where the character overlay will be displayed.
- **Horizontal Position:** When Overlay Position is set to Custom, adjust the character offset based on the global horizontal offset setting.
- **Vertical Position:** When Overlay Position is set to Custom, adjust the character offset based on the global vertical offset setting.
- **Text Style:** Can choose "Normal, Bold".
- **Text Border:** Adjustable range 0-10px.
- **Text Color:** Can choose text color.
- **Box Color:** Can choose text border color.
- After saving the edited template, in the upper part of the video output display area in the media



interface, click the drop-down menu button and check the corresponding template to overlay the saved template onto the output window for decoding output.

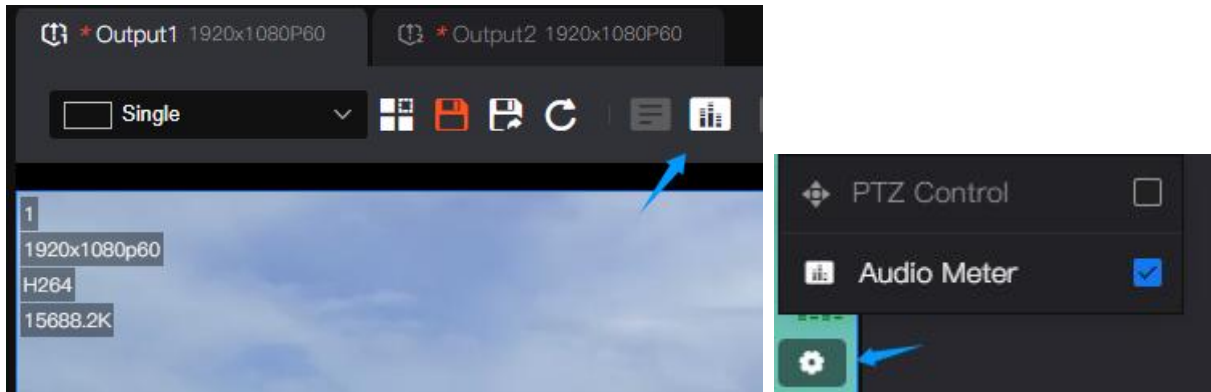
5.4.1.5 Picture Status and Audio Level Meter Display

Click the button  above the video output display area in the media interface. The system will display the source's resolution, frame rate, encoding format, bitrate, and name information in the upper right corner of each pane. Click again to hide the information display, as shown in the red box area in the figure below.

Click the button  above the video output display area in the media interface. The system will display the audio level meter information of the video source on the right side of each pane, as shown in the red box area in the figure.

Click the settings button  in the lower right corner of a single pane, and check the "Audio Level Meter" option in

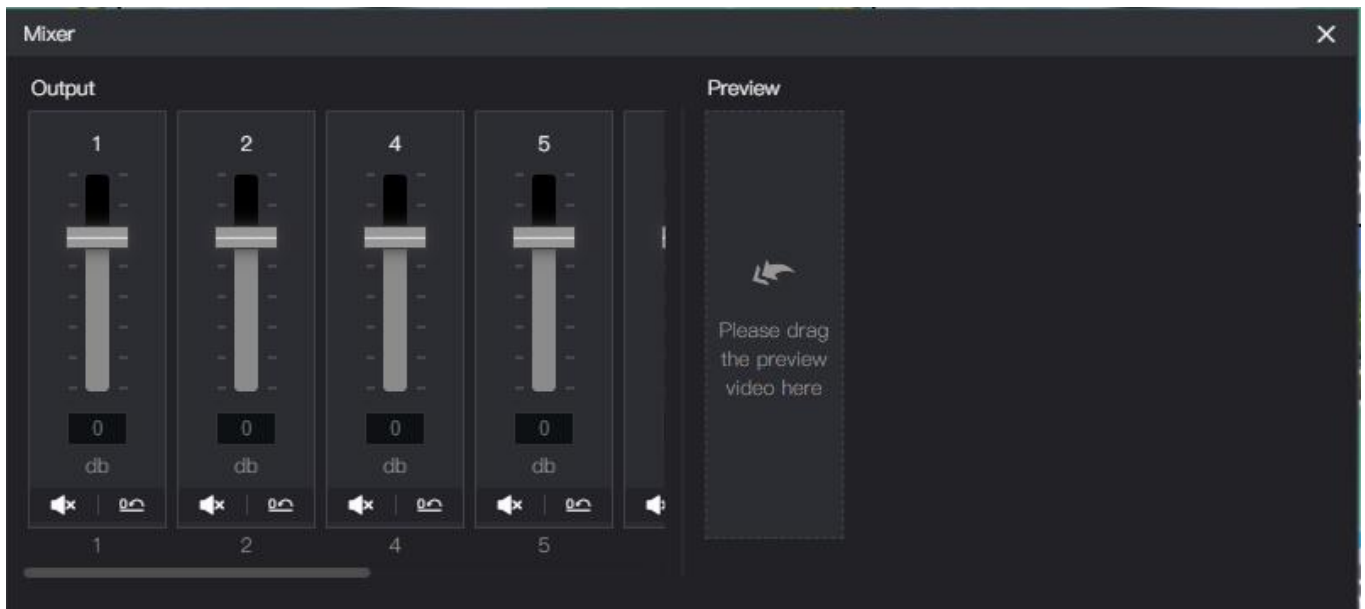
the expanded window to independently control the display and hide status of the audio level meter for the current pane.



5.4.1.6 Audio Mixer

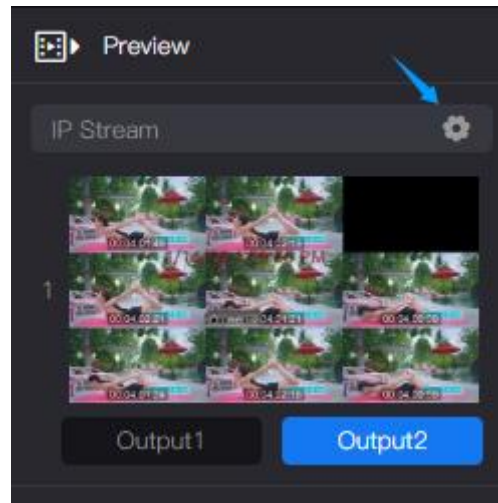


Click the button  in the upper right corner of the video output display area in the media interface. In the displayed audio mixer window, users can drag the previewed video source to the "Preview" area on the right to preview the audio channel corresponding to the video source. It supports placing audio from up to 4 different video sources into the audio mixer as shown below to configure audio parameters.

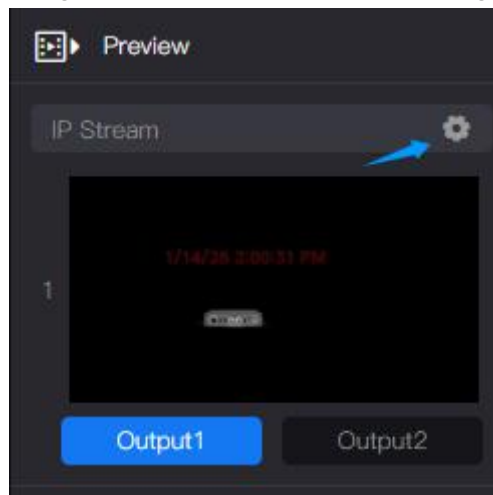


5.5 IP Stream Configuration

Select "**IP Stream**" to re-encode the single-view or multi-view composite from the output area into IP protocol streams. Click "**Settings**" to access the video encoding configuration.



Configure encoding parameters to select re-encoded streams for output via different protocols during stream service delivery. Within the stream service, Output1/Output2 options enable re-encoding of the composite video feed within the Output1 frame, simultaneously activating both main and sub-stream encoding.



Output2-Video encoding settings

Encode

H.264

Profile

Baseline

Scaling

1920x1080(16:9)

Hue

Colour

Frame Rate(fps)

Full frame rate

Bitrate Control

CBR-Constant Bitrate Mode

Bitrate(bps)

6M

GOP Size

60

Coding Frame

Single Reference Frame

Cancel

OK

"Encoding" offers two options: H.264 or H.265 encoding.

"Profile" supports three levels: High Profile, Main Profile, and Baseline Profile. This should be set according to the encoding profile supported by the platform. High Profile offers the highest compression efficiency, delivering the best picture quality at equivalent bitrates. Baseline Profile provides the widest compatibility. The default setting is High Profile, though this should be adjusted according to the specific platform's support.

"Scaling" offers nine options, with the default being decoding output resolution.

"Colour" provides two options: Colour and Greyscale.

"Bitrate Control Mode" offers two options: CBR (Constant Bitrate) and VBR (Variable Bitrate). As the names imply, CBR maintains a stable bitrate, while VBR dynamically adjusts bitrate based on content. CBR is typically used for network transmission to ensure quality, whereas VBR is favoured for file storage to preserve video quality. The default setting is CBR (Constant Bitrate).

The "Encoding Bitrate" can be adjusted between 512Kbps and 25Mbps. You may select from our preset options or customise the bitrate value. Higher bitrates yield better video quality post-encoding. Specific settings should be determined based on your actual network conditions and must not exceed your network's upload bandwidth.

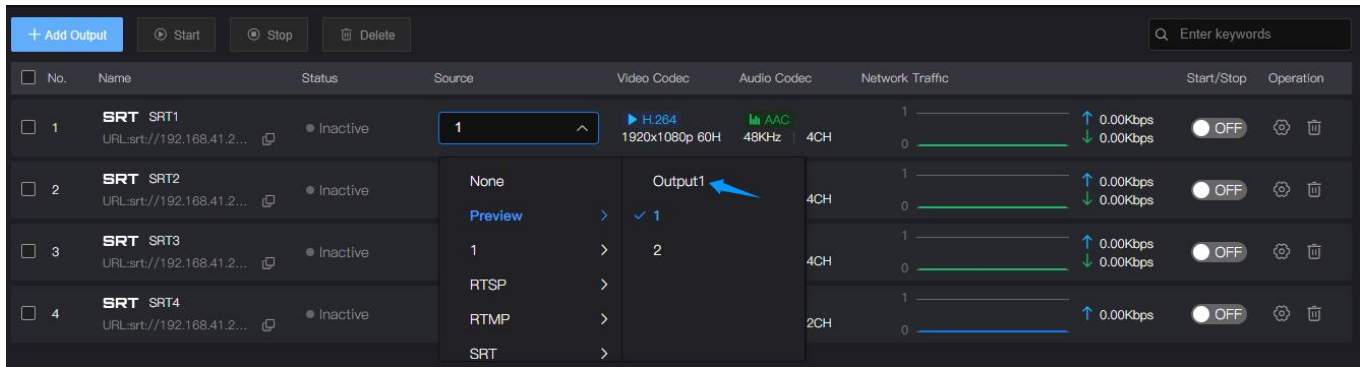
"Encoding Frame Rate" offers three options: Full Frame Rate, Auto Halve when source video frame rate ≥ 50 , and Custom. Full Frame Rate means the encoded video retains the same frame rate as the input video. Automatic halving when the source video frame rate is ≥ 50 means that if the input video is 1920x1080P50, the encoded video will output at 25 frames per second, significantly conserving network bandwidth. Custom allows manual specification of the encoded frame rate, which should not exceed the original video's frame rate.

"GOP Size (Inter-frame Interval)" offers five preset options plus custom adjustment. Adjust this according to practical requirements; the default of 60 suffices for most scenarios.

"Encoding Reference Frames" provides single or multiple reference frame options. Theoretically, multiple reference frames enhance encoding quality, though some decoders and players may lack support for this feature.

Sub-stream parameters should reference the main stream's configurations. The video bitrate defaults to half that of the main stream.

Within the source dropdown list of the stream service menu, you will find Output1/Output2. These options re-encode and output the video composite displayed in the Output1/Output2 pair window, handling encoding for both the main stream and sub-stream.



The screenshot displays the Kiloview MG300 v2 Video Media Gateway User interface. At the top, there are buttons for '+ Add Output', 'Start', 'Stop', and 'Delete'. A search bar with the placeholder 'Enter keywords' is also present. Below these is a table with columns: No., Name, Status, Source, Video Codec, Audio Codec, Network Traffic, Start/Stop, and Operation. The table lists four SRT stream services (SRT1, SRT2, SRT3, SRT4). SRT1 is selected, showing a video codec of H.264 (1920x1080p 60H) and an audio codec of AAC (48KHz, 4CH). A blue arrow points to the 'Output1' option in the Video Codec dropdown menu for SRT2.

No.	Name	Status	Source	Video Codec	Audio Codec	Network Traffic	Start/Stop	Operation
1	SRT SRT1 URL:srt://192.168.41.2...	Inactive	1	H.264 1920x1080p 60H	AAC 48KHz 4CH	0.00Kbps 0.00Kbps	OFF	Settings Delete
2	SRT SRT2 URL:srt://192.168.41.2...	Inactive	None Preview	Output1	4CH	0.00Kbps 0.00Kbps	OFF	Settings Delete
3	SRT SRT3 URL:srt://192.168.41.2...	Inactive	1	2	4CH	0.00Kbps 0.00Kbps	OFF	Settings Delete
4	SRT SRT4 URL:srt://192.168.41.2...	Inactive	RTSP RTMP SRT		2CH	0.00Kbps	OFF	Settings Delete

6 Streaming Service Settings

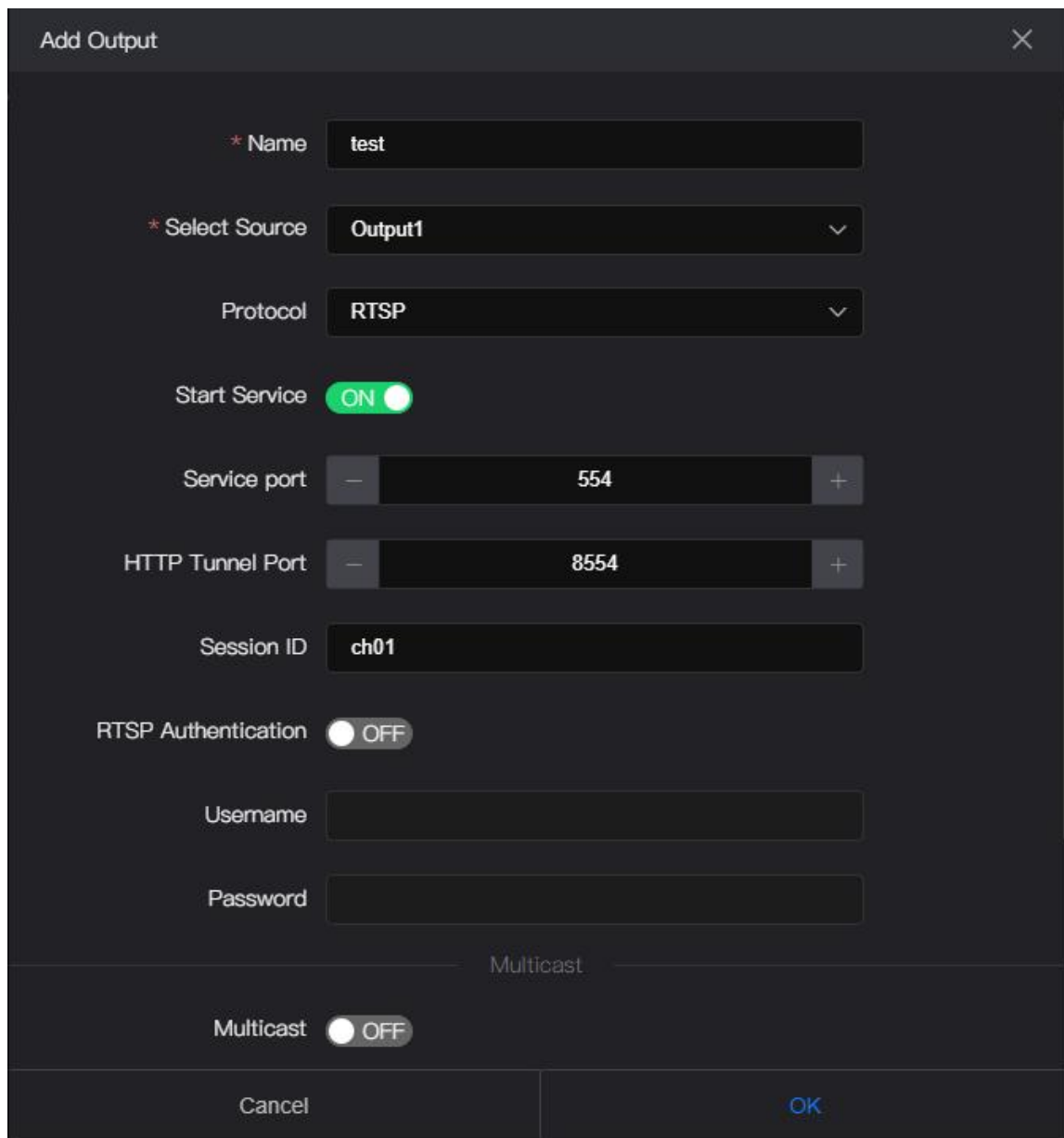
On the MG300 v2 page, click the "Add Output" button to configure settings for adding outputs to the device.

Video Conversion Settings: Video protocol conversion refers to transforming the video transmission protocol or communication protocol between the video source and the output streaming service. This enables the transmission and interaction of video data across different network environments, devices, or systems. Its core function is to resolve compatibility issues with "transmission rules", rather than directly modifying the video content itself.

Clicking  within the output list will prompt the "Add Output" dialogue.

Enable: Allows activation or deactivation of the forthcoming stream service creation.

Name: Enables customisation of the stream service name, supporting Chinese, English, numerals, and punctuation.



The "Add Output" dialog box is a dark-themed window with a title bar and a close button (X) in the top right corner. It contains the following fields and controls:

- Name:** A text input field with a red asterisk icon, containing the value "test".
- Select Source:** A dropdown menu with a red asterisk icon, showing "Output1".
- Protocol:** A dropdown menu showing "RTSP".
- Start Service:** A toggle switch that is currently turned ON (green).
- Service port:** A numeric input field with minus and plus buttons on either side, showing the value 554.
- HTTP Tunnel Port:** A numeric input field with minus and plus buttons on either side, showing the value 8554.
- Session ID:** A text input field containing the value "ch01".
- RTSP Authentication:** A toggle switch that is currently turned OFF (grey).
- Username:** An empty text input field.
- Password:** An empty text input field.
- Multicast:** A section header followed by a toggle switch that is currently turned OFF (grey).

At the bottom of the dialog, there are two buttons: "Cancel" on the left and "OK" on the right.

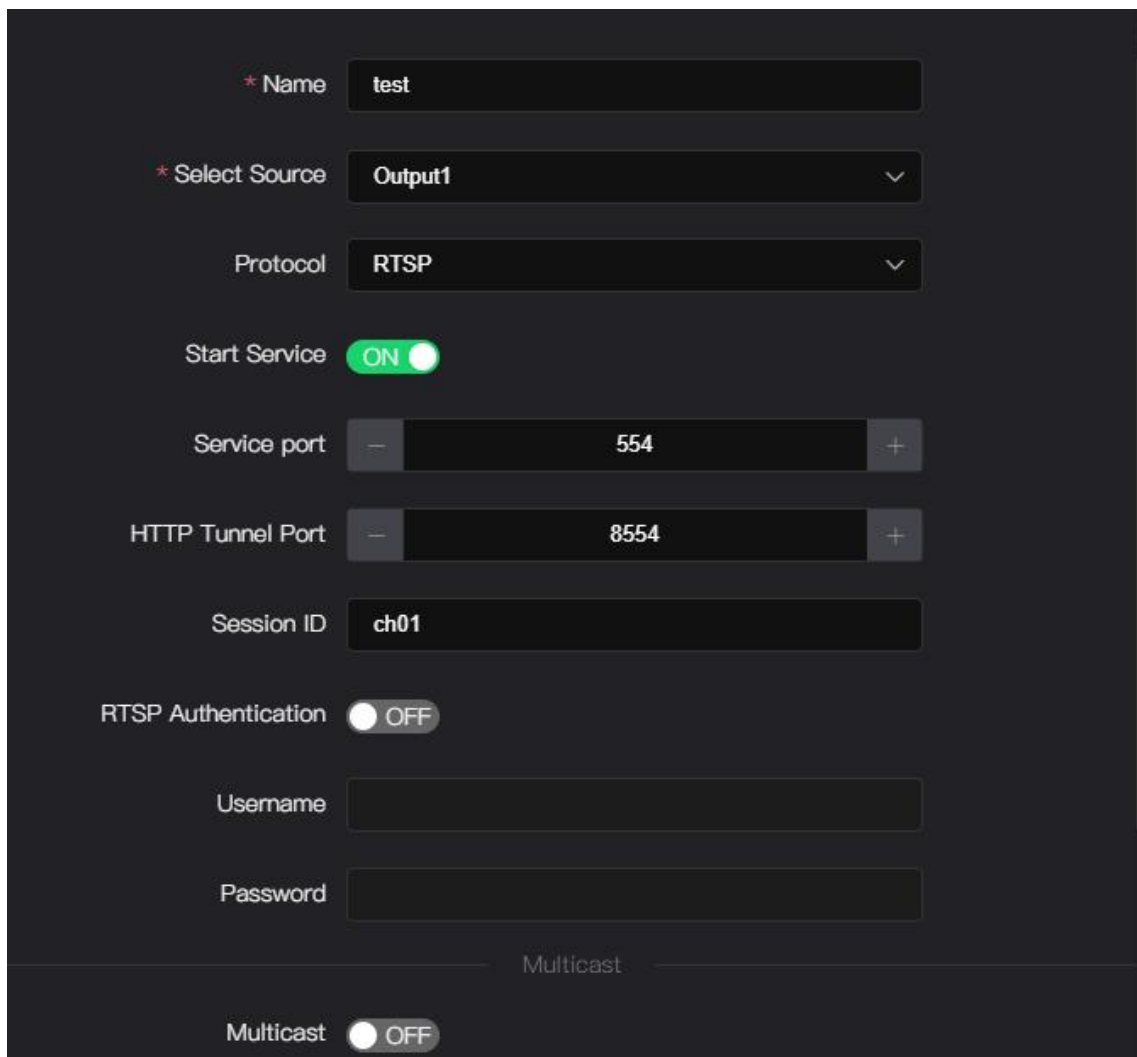
6.1.1 Protocol Conversion Settings

6.1.1.1 Adding an RTSP Stream Service

RTSP is a text-based application layer protocol specifically designed for controlling and negotiating real-time audio and video streams.

Within the pop-up dialogue box, input the "Name", select the service "Enable/Disable" status, and choose the source. You may select the corresponding video source as required or opt for "Do not bind source" if no binding is currently needed. When selecting an RTSP stream, the corresponding RTSP protocol configuration parameters will automatically appear. Complete the relevant parameter configuration by generating the RTSP stream address based on the device's IP address, service port, and session ID. Click "OK" to add a video output.

For example, if the device's IP address is 192.168.28.195, the service port is set to 554, and the session ID is ch01, the generated RTSP stream address would be: `rtsp://192.168.28.195:554/ch01`. Other devices can then access and retrieve this RTSP stream service via this address. Clicking the "Multicast" button opens the configuration for advanced multicast parameters.



The screenshot shows a configuration dialog box for adding an RTSP stream service. The fields and controls are as follows:

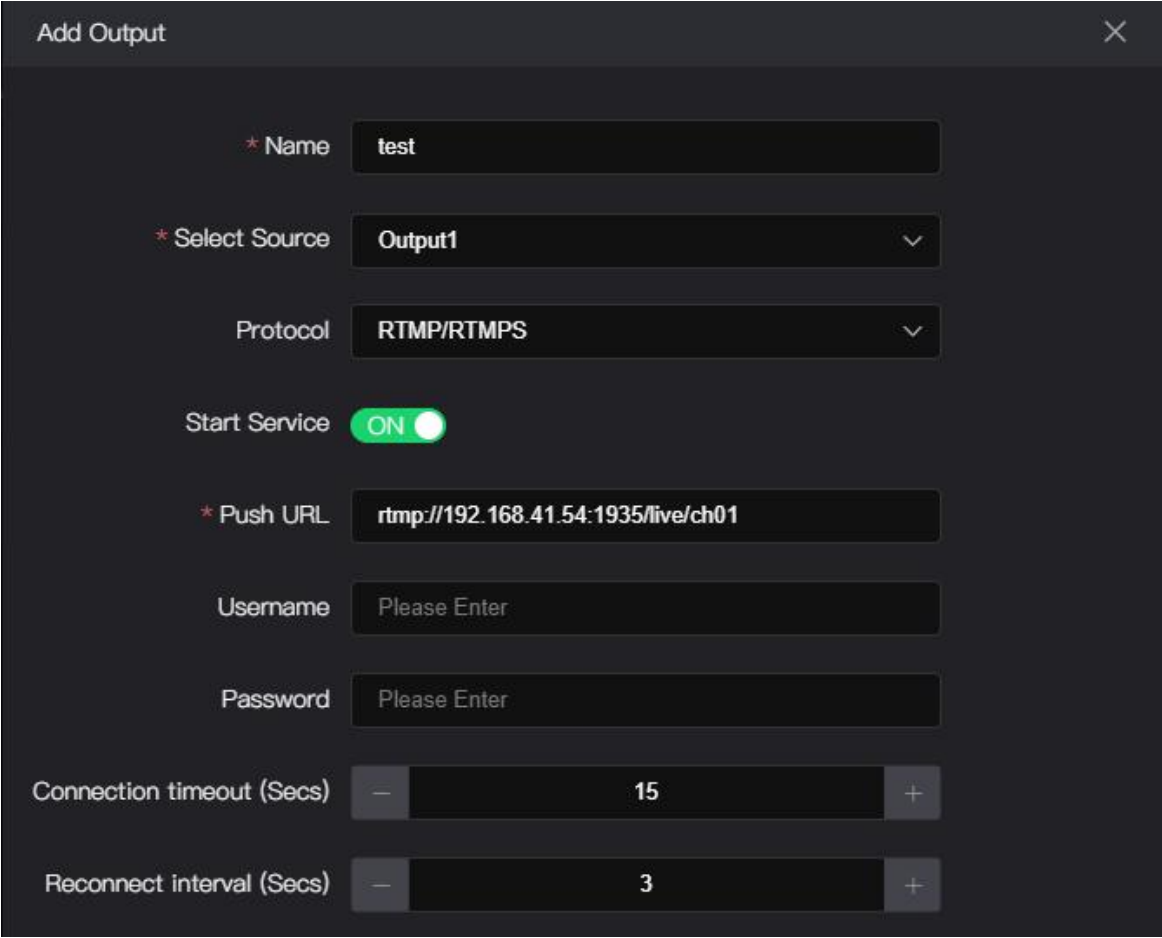
- Name:** A text input field containing "test".
- Select Source:** A dropdown menu showing "Output1".
- Protocol:** A dropdown menu showing "RTSP".
- Start Service:** A toggle switch set to "ON".
- Service port:** A numeric input field with a range from 1 to 65535, currently set to 554.
- HTTP Tunnel Port:** A numeric input field with a range from 1 to 65535, currently set to 8554.
- Session ID:** A text input field containing "ch01".
- RTSP Authentication:** A toggle switch set to "OFF".
- Username:** An empty text input field.
- Password:** An empty text input field.
- Multicast:** A toggle switch set to "OFF".

6.1.1.2 Adding RTMP/RTMPS Streaming Services

RTMP is a real-time messaging transmission protocol widely employed for audio-visual streaming, particularly in live broadcast scenarios. The RTMP protocol enables low-latency audio-visual transmission and is a common technology utilised by major live streaming platforms and streaming services.

When utilising the MG300 v2 encoder for RTMP output, a streaming server supporting RTMP services is required to distribute the media stream. Users must pre-configure the target streaming platform and enter its provided RTMP streaming address into the device's "Streaming Address" field to ensure the encoder can correctly connect to the streaming platform and complete the streaming operation.

Upon selecting RTMP/RTMPS streaming, the corresponding protocol configuration parameters will automatically appear. Enter the device's RTMP/RTMPS push address, username, password, connection timeout, and reconnection interval. Click "Confirm" to add a video output.



The screenshot shows the 'Add Output' configuration window with the following fields and values:

- Name:** test
- Select Source:** Output1
- Protocol:** RTMP/RTMPS
- Start Service:** ON (toggle switch)
- Push URL:** rtmp://192.168.41.54:1935/live/ch01
- Username:** Please Enter
- Password:** Please Enter
- Connection timeout (Secs):** 15
- Reconnect interval (Secs):** 3

Streaming Address: Enter the streaming address provided by the RTMP service platform (e.g., `rtmp://server_address/app/stream_key`). This field is mandatory; ensure it is correctly filled in to enable streaming.

Username (Optional): Enter the username required by the RTMP server (if platform configuration necessitates it).

Password (Optional): Enter the password required by the RTMP server (if platform configuration necessitates it).

Connection Timeout (seconds): Set the timeout duration for the streaming connection, measured in seconds. The default value is 15 seconds. If the connection fails to establish within this timeframe, a reconnection attempt will be made.

Reconnection Interval (seconds): Set the interval between reconnection attempts following a failed stream, measured in seconds. The default value is 3 seconds.

Users must correctly configure these parameters according to their streaming platform's requirements to ensure the stability and reliability of the streaming service. After completing all settings, click the "Confirm" button to save the configuration and start the streaming service.



Note: Some streaming platforms' RTMP protocol addresses are composite or parameter-based. It is essential to assemble the complete URL streaming address according to the platform's conventions; otherwise, streaming may fail.

6.1.1.3 Adding SRT Streaming Service

The SRT protocol is a low-latency, high-reliability protocol for streaming media transmission. It features packet loss resilience, jitter buffering, and AES encryption, making it widely used in live streaming, remote production, and video-on-demand scenarios. To add SRT protocol support to the encoder:

Upon selecting SRT streaming, the corresponding configuration parameters for the SRT protocol will automatically appear. These require specification based on the device's SRT handshake mode, address, port number, transmission delay, encryption method, SRT stream ID, and blank packet insertion. Clicking "Confirm" will add an SRT video output.

The screenshot shows the 'Add Output' dialog box with the following configuration:

- Name:** test
- Select Source:** Output1
- Protocol:** SRT
- Start Service:** ON (toggle switch)
- Connection Mode:** Listener
- Address:** Address
- Listener Port:** 1025 (range 1025-65535)
- Latency(ms):** 125 (range 0-5000)
- Encryption mode:** None
- SRT Stream ID:** Please Enter

- **Handshake Modes:** Supports three modes: Caller, Listener, and Rendezvous:
 - **Caller Mode:** The device actively initiates connection requests, akin to a client role.
 - **Listener Mode:** The device awaits connection requests from external devices, akin to a server role.
 - **Rendezvous Mode:** Peer-to-peer mode where both devices simultaneously attempt to establish a connection, with no distinction between active or passive roles.
- **Public Address:** Configure the receiving device's IP address for establishing SRT connections.
- **Name:** The display name identifying the stream service for push notifications.
- **Port:** Configure the receiving device's listening port for accepting SRT data streams.
- **Transmission Latency:** Configure transmission delay based on current network link performance. The final transmission latency will be the greater value between the source and destination devices' latency settings.
- **Encryption Method:** Supports three AES encryption modes: AES-128, AES-192, and AES-256, ensuring secure data transmission.
- **SRT Stream ID:** The unique identifier for the SRT stream, used to distinguish different stream services.



Note: The SRT stream ID and AES key are not mandatory fields. Should they be required, the corresponding information must also be provided at the decoding end.

6.1.1.4 Adding NDI HX Stream Service

NDI HX is a more efficient, low-bandwidth variant of the NDI protocol, employing compression technologies (such as H.264/H.265) to enable high-quality video streaming even in bandwidth-constrained environments.

When selecting NDI HX streaming, the corresponding NDI protocol configuration parameters will automatically appear. Configure the group, channel name, connection method, multicast address, subnet mask, TTL, and discovery server as required. Click "OK" to add an NDI HX video output.

The screenshot shows the 'Add Output' dialog box with the following fields and values:

- Name:** test
- Select Source:** Output1
- Protocol:** NDI HX
- Start Service:** ON (toggle switch)
- Group:** Blank for default group
- NDI Channel Name:** ndi 1
- Connection:** Default
- Multicast IP:** (empty field) with a 'Generate' button
- Net Mask:** Please Enter
- TTL:** 128 (with minus and plus buttons)
- Discovery Server:** (empty field)

Group: The group function organises and manages multiple NDI devices or sources, facilitating user categorisation and administration of NDI sources. Group names may comprise letters and numerals, with support for configuring multiple names separated by commas. The encoder's NDIHX stream defaults to the PublicGroup. Should you wish to prevent other devices from freely discovering this NDI source, assign a designated group name. Once configured, only devices belonging to the same group name can discover this NDI source, thereby enhancing device security and manageability;

Channel Name: Each device or source transmitting via the NDI protocol possesses a unique channel name. When multiple NDI sources exist on the same network, assign distinct channel names;

Connection: Two connection modes exist – unicast and multicast – with unicast being the default transmission

method. Unicast enables one-to-one communication between devices, whilst multicast facilitates communication from one device to a group; that is, devices within the same group receive all data transmitted by the source.

Discovery Server: Register the source's discovery with the Discovery Server; refer to the Discovery Server section for operational steps.

Upon configuration completion, sources can be discovered and output via NDI client software, with distinct NDI sources identified by device name and channel name.

The NDI Discovery Server enables numerous NDI devices and applications to automatically locate each other within the same network, simplifying device and source management. It centralises NDI source registration, allowing receivers to retrieve sources from the server. Configuring this feature also facilitates sending output video streams to NDI receivers across network segments.

On the server computer, visit the NDI official website (<https://ndi.tv/sdk/>) to download and install NDISDK. After installation, run `Bin\Utilities\x64\NDIDiscoveryService.exe` from the installation directory.

Configure the receiver IP address within the NDI Encoder's Discovery Server settings; the NDI source will then register with the server. It is advisable to configure the receiver address as a static IP to prevent NDI connection loss due to IP reassignment.

On the decoder's configuration page, click "Discovery Server" to enable the feature, setting the Discovery Server address to the IP address of the computer running the Discovery Server function. After saving the configuration, the receiver will detect NDI streams registered with the server.



Note: Enabling this feature disables mDNS auto-discovery. The encoder's video stream output can only be sent to a designated server. The receiving end must be registered with the same discovery server to pull the NDI stream.

6.1.1.5 Adding HLS Streaming Services

HLS is a streaming media transmission technology based on the HTTP protocol, widely employed in live video broadcasting and video-on-demand scenarios. By segmenting audio-visual content into small files and transmitting them incrementally via HTTP, HLS achieves excellent compatibility and playback experience, proving particularly suitable for cross-platform and complex network environments.

The HLS output service supports two modes:

Push Mode: The device actively pushes data to a designated media server. In this mode, the target Media Playlist address must be entered to complete the push configuration.

Server Mode: The device acts as a client actively requesting data. In this mode, a session ID must be entered to establish the connection.

Users may select the appropriate HLS mode based on actual requirements and correctly enter the corresponding parameters to ensure the stream service operates correctly.

When selecting HLS streaming, the corresponding HLS protocol configuration parameters will automatically appear. Set the connection mode (SERVER/PUSH), session ID/Mediaplaylist, number of segments, and segment length (in seconds) as required. Click "Confirm" to add an HLS video output. (Note: For streaming to certain platforms, such as YouTube, the suffix `stream.m3u8` must be appended.)

6.1.1.6 Adding TS-UDP Streaming Service

TS-UDP is a streaming media transmission method based on the UDP protocol, designed for real-time transmission of audio-visual data in TS (Transport Stream) format. Characterised by high efficiency and low latency, it is widely employed in scenarios involving multi-device audio-visual transmission within local area networks.

Upon selecting TS-UDP streaming, the corresponding configuration parameters for the TS-UDP protocol will automatically appear. Configure the push address, destination port, multicast TTL, and discovery server as required. Click "OK" to add a TS-UDP video output.

TS-UDP transmission supports both unicast and multicast modes:

For unicast transmission, the "Target Address" field requires the IP address of the receiving device, the "Target Port" must be set to an unused port, and the "Multicast TTL" can remain at its default setting. Unicast transmission permits TS stream decoding and playback only at the specified target address.

In multicast mode, enter a valid multicast address (range: 224.x.x.x–239.x.x.x) in the "Push Target Address" field. For other parameters, default settings are recommended unless specific requirements exist. Select the appropriate push mode based on your application scenario.

Upon completion of configuration, a URL address will be generated in the TS-UDP Push section. This address can be used for decoding and playback via decoding devices such as VLC. When decoding multicast streams on a computer, the computer's firewall must be disabled and the network must be configured with a gateway.

Add Output

*

Name

test

*

Select Source

Output1

Protocol

TS-udp

Start Service

ON

*

Target Address

Target Port

—

1

+

Bind-port

—

0

+

Time To Live(TTL)

—

127

+

Advanced options

Note:

1. Multicast network requirements: Multicast streams can only be decoded and played within the same subnet (network segment), and both the encoder and playback devices must have their network gateways correctly configured.



2. Special note for VLC Media Player: When using VLC Media Player to stream multicast content from this device, prefix the playback URL with the "@" symbol. For example, if the stream address is `udp://225.6.6.6:1234`, enter `udp://@225.6.6.6:1234` in VLC.

*** Translated with www.DeepL.com/Translator (free version) ***

6.1.1.7 Adding RTP Stream Services

RTP is a protocol specifically designed for the real-time transmission of audio and video data, commonly employed in Transport Stream (TS) transmission scenarios. Characterised by low latency and high efficiency, RTP is well-suited for live streaming and real-time audio-video transmission requirements.

When selecting an RTP stream, the corresponding configuration parameters for the RTP protocol will automatically appear. Set the target IP address, target port, and payload type as required, then click "OK" to add an RTP video output.

Add Output

* Name
test

* Select Source
Output1

Protocol
RTP

Start Service
ON

* Target IP address
192.168.1.199

* Target Port
1026

Payload type
TS

Time To Live(TTL)
127

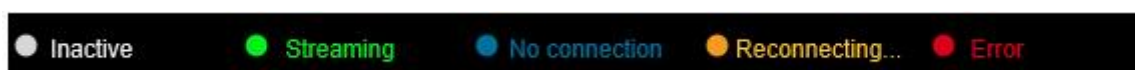
Advanced options

Parameter Configuration Notes based on the configuration interface, the following details each parameter:

- Note: The RTP protocol does not support G.711 audio encoding; AAC encoding must be used.
- Destination IP Address: Configure the receiving device's IP address to specify the RTP stream destination.
- Destination Port: Configure the listening port for the receiving device. The default value is 1026; ensure this port does not conflict with other services.
- Transport Type: The default selection is TS (Transport Stream) type, suitable for video and audio transmission.
- Advanced Options: Includes Service Name and Service Provider. These can be customised as required or left at their default values.

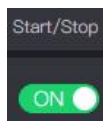
6.1.2 Output Status List

This list displays all added outputs and source parameter information. Not all sources are in a decoding state. To decode an output or preview, establish an output video stream within the "Output" interface and bind the source requiring decoding. Stream service outputs displaying green "Streaming" indicate the video source is decoding or streaming; blue "No Connection" means it is not being used as a decoding source; grey "Not Started" indicates the source has established a connection with the output and the output is ready for encoding; yellow "Reconnecting" signifies the source is experiencing decoding anomalies on the device and is attempting to reconnect for decoding; red "Stream Retrieval Error" indicates the source may be unsupported for decoding or has encountered an error.

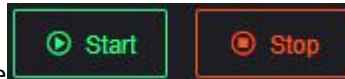


+ Add Output Start Stop Delete Q Enter keywords									
No.	Name	Status	Source	Video Codec	Audio Codec	Network Traffic	Start/Stop	Operation	
1	SRT SRT1 URL_srt://192.168.41.2...	Streaming	1	H.264 1920x1080p 60H	AAC 48KHz 4CH	20,000 0	0.00Kbps 15.18Mbps	ON	
2	SRT SRT2 URL_srt://192.168.41.2...	Streaming	2	H.264 1920x1080p 60H	AAC 48KHz 4CH	20,000 0	0.00Kbps 15.39Mbps	ON	
3	SRT SRT3 URL_srt://192.168.41.2...	Connecting	3	UNKNOWN 0x0p 0Hz	UNKNOWN 48KHz 4CH	1 0	0.00Kbps 0.00Kbps	ON	
4	SRT SRT4 URL_srt://192.168.41.2...	Streaming	Output1	H.264 1920x1080p 60H	AAC 48KHz 2CH	1 0	0.00Kbps	ON	

6.1.2.1 Output Start/Stop Settings



Method One: Click the button in the output list to perform the "Start/Stop" operation for a single output service.



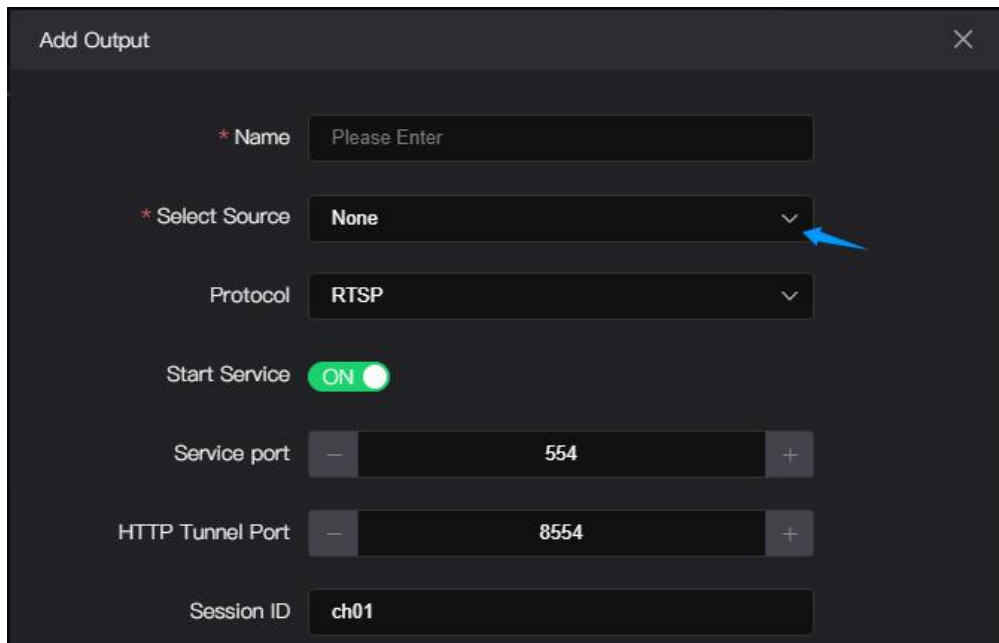
Method Two: Click the button in the source list to perform the "Start/Stop" operation for a single or batch of stream service outputs.

+ Add Output Start Stop Delete Q Enter keywords									
No.	Name	Status	Source	Video Codec	Audio Codec	Network Traffic	Start/Stop	Operation	
1	SRT SRT1 URL_srt://192.168.41.2...	Streaming	1	H.264 1920x1080p 60H	AAC 48KHz 4CH	20,000 0	15.53Mbps 14.95Mbps	ON	
2	SRT SRT2 URL_srt://192.168.41.2...	Streaming	2	H.264 1920x1080p 60H	AAC 48KHz 4CH	20,000 0	15.27Mbps 14.92Mbps	ON	
3	SRT SRT3 URL_srt://192.168.41.2...	Streaming	3	H.264 1920x1080p 60H	AAC 48KHz 4CH	20,000 0	15.10Mbps 15.04Mbps	ON	
4	SRT SRT4 URL_srt://192.168.41.2...	Streaming	Output1	H.264 1920x1080p 60H	AAC 48KHz 2CH	500 0	441.00Kbps	ON	

6.1.2.2 Selecting Video Sources

The output selection for video in the streaming service list supports multiple methods.

Method One: When creating a streaming service, on the Add Output interface, directly select video sources from Output1/2, the preview list, or the source list via the "Select Source" dropdown menu to complete the source selection for the streaming service.



Add Output

* Name: Please Enter

* Select Source: None

Protocol: RTSP

Start Service: ON

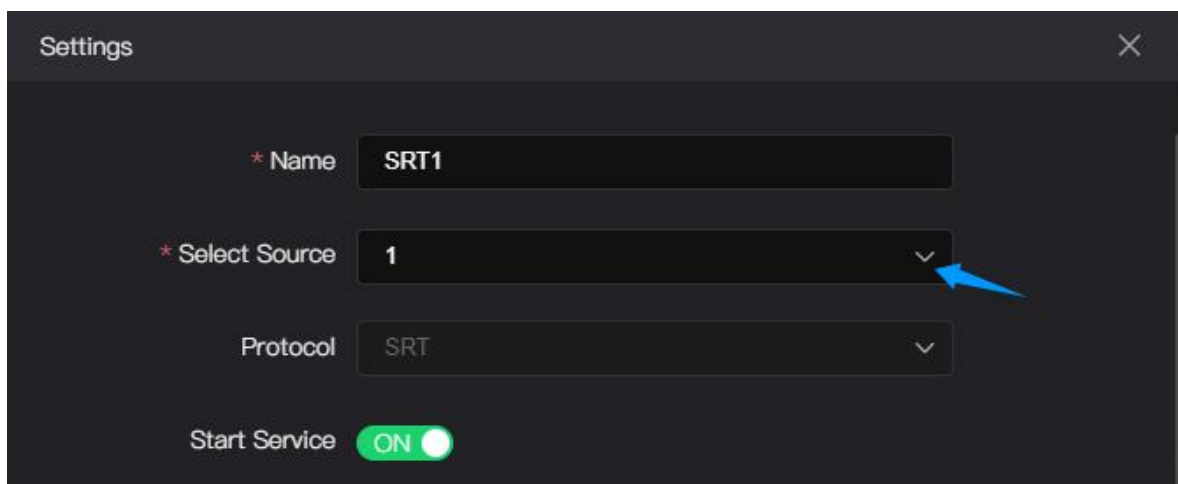
Service port: 554

HTTP Tunnel Port: 8554

Session ID: ch01

Method Two: Within the stream service list, click the settings button in the Actions column on the right-hand side. In the settings interface, the "Select Source" dropdown menu allows you to directly choose video sources from Output1/2, the preview list, or the source list, thereby completing the selection of sources for the stream service.

No.	Name	Status	Source	Video Codec	Audio Codec	Network Traffic	Start/Stop	Operation
1	SRT SRT1 URL_srt://192.168.41.2...	Streaming	1	H.264 1920x1080p 60H	AAC 48KHz 4CH	20,000 ↑ 15.53Mbps ↓ 14.95Mbps	ON	
2	SRT SRT2 URL_srt://192.168.41.2...	Streaming	2	H.264 1920x1080p 60H	AAC 48KHz 4CH	20,000 ↑ 15.27Mbps ↓ 14.92Mbps	ON	
3	SRT SRT3 URL_srt://192.168.41.2...	Streaming	3	H.264 1920x1080p 60H	AAC 48KHz 4CH	20,000 ↑ 15.10Mbps ↓ 15.04Mbps	ON	
4	SRT SRT4 URL_srt://192.168.41.2...	Streaming	Output1	H.264 1920x1080p 60H	AAC 48KHz 2CH	500 ↑ 441.00kbps	ON	



Settings

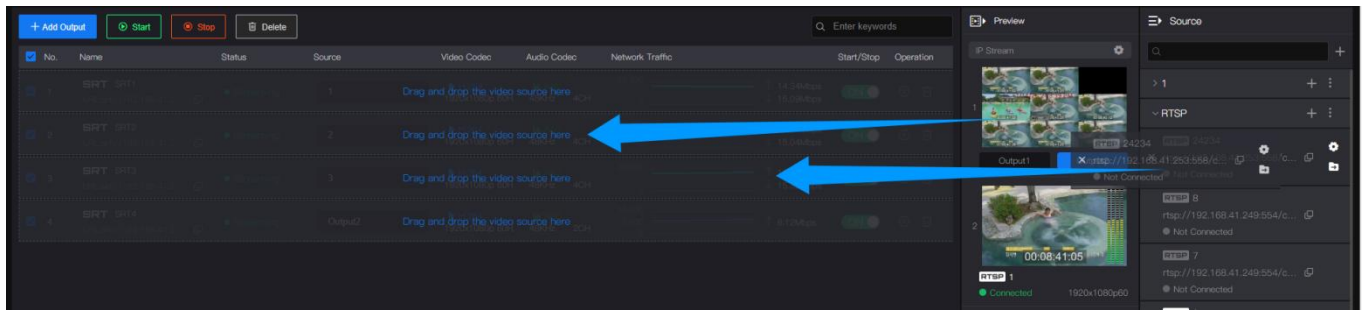
* Name: SRT1

* Select Source: 1

Protocol: SRT

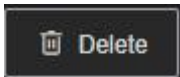
Start Service: ON

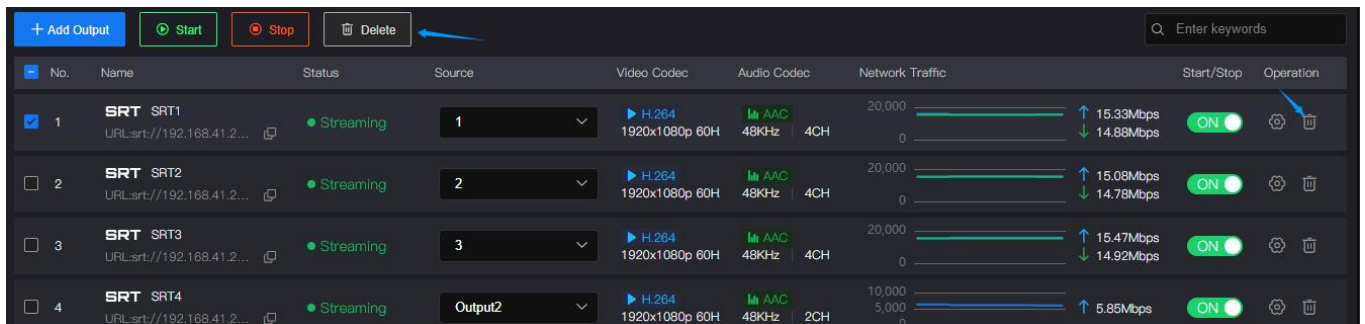
Method Three: After creating the stream service, select the target video source in the page's source or preview window. Drag it to the highlighted area of the stream service list box to complete the selection.



6.1.2.3 Output Deletion Settings

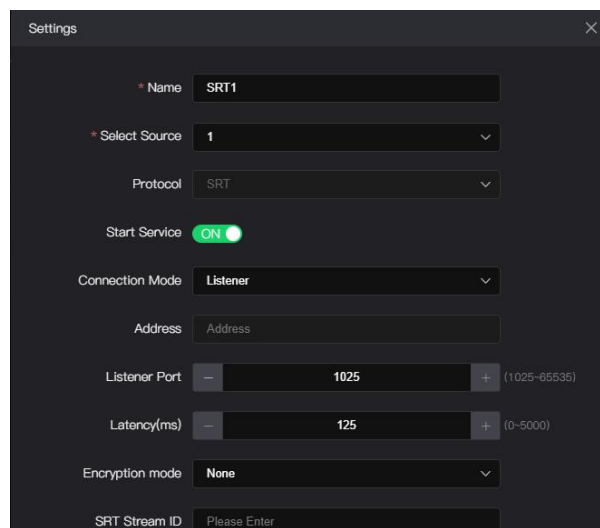
Method One: Click the  button in the output list. In the pop-up window, click "Confirm" to delete a single output; click "Cancel" to abandon the deletion.

Method Two: Click the  button in the output list. In the pop-up window, click "Confirm" to delete either a single output or multiple outputs; click "Cancel" to abandon the deletion.



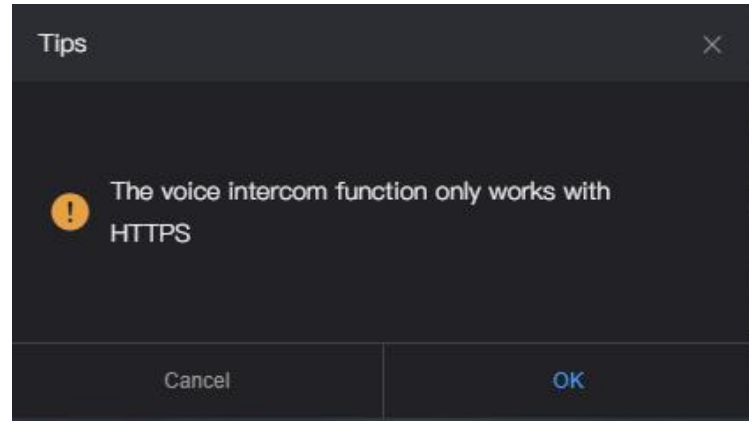
6.1.2.4 Output Parameter Settings

Within the output list, you may click  to open a pop-up window. For non-streaming protocols, you may modify the URL, name, and stream service parameters. Clicking "Cancel" will discard the changes, while clicking "OK" will confirm the modifications



7 Voice Intercom Settings

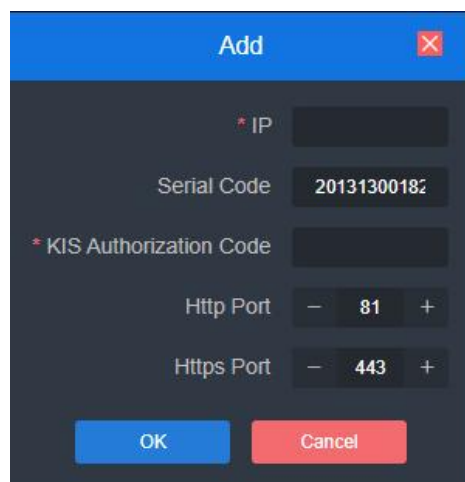
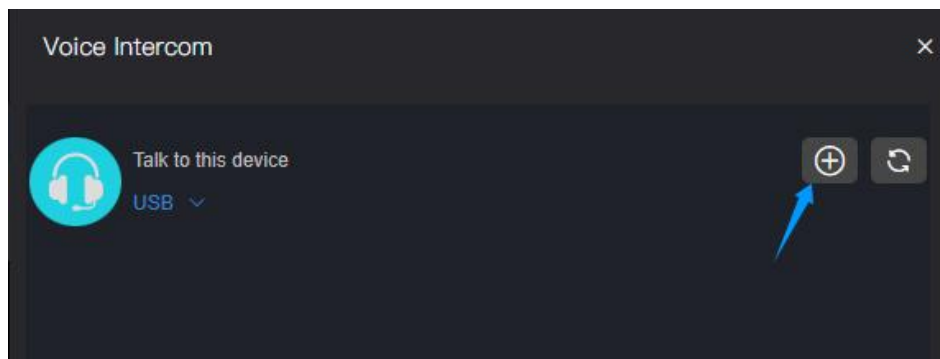
The MG300 v2 supports voice intercom functionality. Users may access this feature either via a web browser (Chrome, Edge, Safari) by logging into the interface using HTTPS mode, or directly through the device by connecting a headset.



It supports:

1. Intercom communication between the Web UI and the local device;
2. Intercom communication between the Web UI and other devices;
3. Intercom communication between the local device and other devices;
4. The local device joining KIS (Kiloview Intercom Server) for intercom communication.

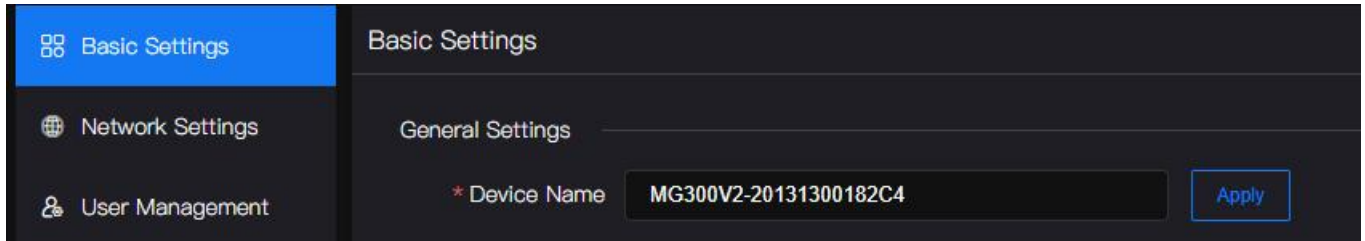
In HTTPS mode, after accessing the web browser, clicking the "Voice Intercom" button on the page enables voice intercom operation.



8 Settings

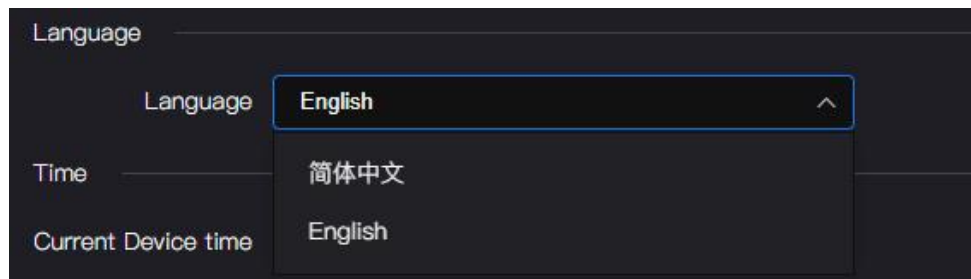
8.1.1 General Settings

Device Name Modification: Enter the new name in the input field under Device Name and click "OK" to apply the changes.



The screenshot shows the 'Basic Settings' interface. On the left, there is a sidebar with 'Basic Settings' (selected), 'Network Settings', and 'User Management'. The main area is titled 'Basic Settings' and contains a 'General Settings' section. Under 'General Settings', there is a field for '* Device Name' with the value 'MG300V2-20131300182C4'. To the right of this field is a blue 'Apply' button.

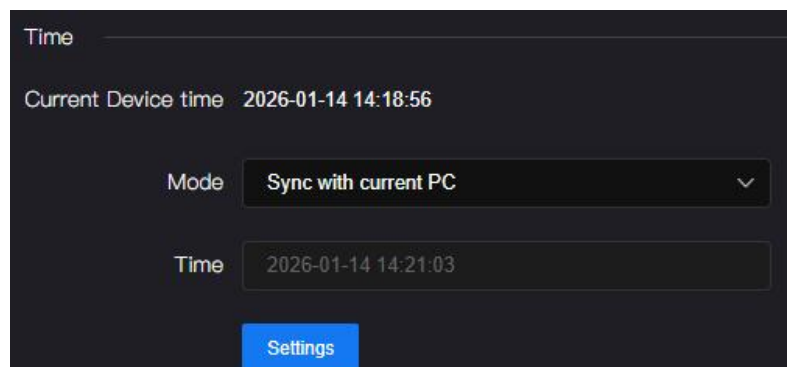
Language modification: Select either "Chinese" or "English" from the voice dropdown menu to change the language.



The screenshot shows the 'Language' dropdown menu. The dropdown is open, showing 'English' as the selected option. Below it, there are two other options: '简体中文' (Simplified Chinese) and 'English'. The 'Current Device time' is also visible below the dropdown.

Zone and Time: There are three methods for setting the time: synchronise with the current PC, manual time adjustment, and synchronisation with an NTP server.

Method One: Click "Synchronise with current PC", then click "OK". The device's time will synchronise with the time on the current PC.



The screenshot shows the 'Time' settings page. At the top, it says 'Time'. Below that, 'Current Device time' is displayed as '2026-01-14 14:18:56'. There is a 'Mode' dropdown menu set to 'Sync with current PC'. Below that, there is a 'Time' input field showing '2026-01-14 14:21:03'. At the bottom, there is a blue 'Settings' button.

Method Two: Click "Synchronise from NTP Server", then enter the required "NTP server address" in the input field. Click "OK" to synchronise the device's time with the connected NTP server.

Note: Enter the NTP server address. Separate multiple addresses with spaces.

Time

Current Device time 2026-01-14 14:19:34

Mode Synchronization from NTP Server

NTP server address ntp1.aliyun.com ntp2.aliyun.com ntp3.aliyun.com

Enter the NTP server address. Please use spaces for multiple addresses.

Settings

Note: Before performing NTP synchronisation, please ensure that the "Time Zone" above has been correctly selected for your region. Failure to do so may result in the synchronised time differing from your actual local time.

Choose your location and region

Note: The selection of location and region is solely for the purpose of time zone configuration and does not imply any political stance

Asia/Shanghai (CST)



Change My Position

Method Three: Click "Manual Time Adjustment", enter the required date and time in the input field (year, month, day, hour, minute, second), then click "Confirm". The device's time will synchronize with the set time.

Time

Current Device time 2026-01-14 14:23:14

Mode Manual Timing

Time 2026-01-14 14:23:11

Settings

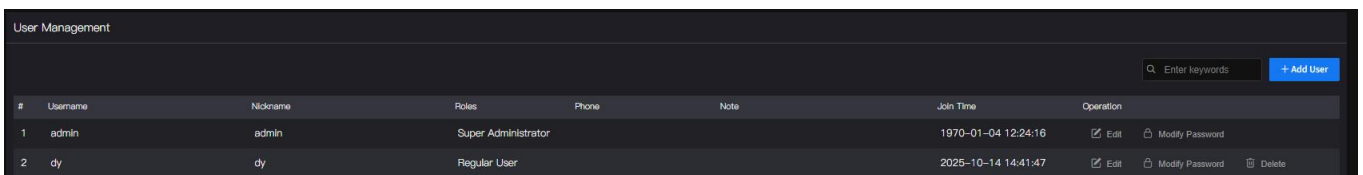
8.1.2 Network Settings

Click [Settings > Network Settings]. For detailed network configuration, refer to Section 4.2 Network Configuration in this manual.

8.1.3 User Management

Click Settings\User Management to access the page. Add users, modify passwords, and assign user role permissions via the user management list as illustrated below.

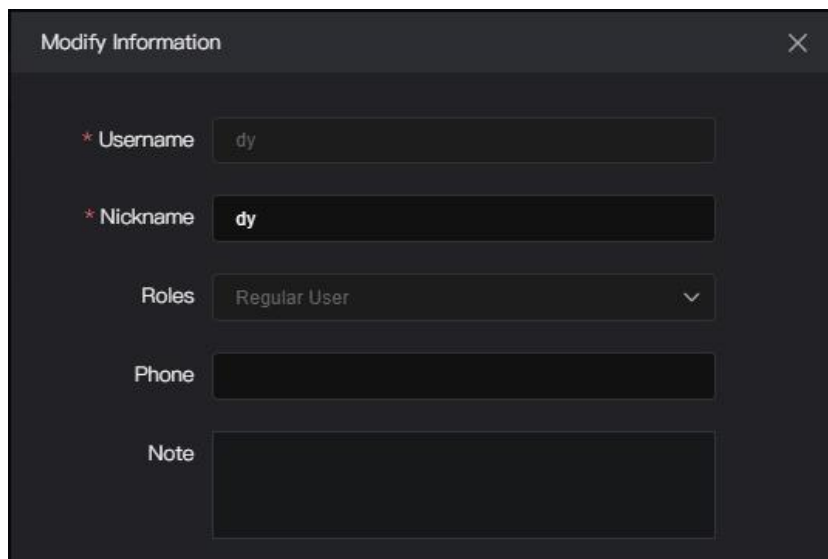
View User List



The screenshot shows the 'User Management' page. At the top right, there is a search bar labeled 'Enter keywords' and a blue '+ Add User' button. Below this is a table with the following columns: #, Username, Nickname, Roles, Phone, Note, Join Time, and Operation. The table contains two rows of data.

#	Username	Nickname	Roles	Phone	Note	Join Time	Operation
1	admin	admin	Super Administrator			1970-01-04 12:24:16	☒ Edit ☐ Modify Password
2	dy	dy	Regular User			2025-10-14 14:41:47	☒ Edit ☐ Modify Password ☐ Delete

Add User: Enter the "Username", "Nickname", "New Password", and "Confirm Password" as prompted. Click "Confirm" to complete the user addition.



The screenshot shows a 'Modify Information' pop-up window. It contains the following fields:

- * Username: dy
- * Nickname: dy
- Roles: Regular User (dropdown menu)
- Phone: (empty text box)
- Note: (empty text area)

Changing Password: Tick the box next to the user whose password requires updating. Click the "Change Password" button on the right. In the pop-up window, enter the "New Password" and "Confirm Password". Click "Confirm" to complete the operation.

Modify Password

* Username

dy

* New Password

Please Enter

Password strength

Weak

Medium

Strong

Recommend using a combination of uppercase and lowercase letters, numbers, and symbols.

* Confirm Password

Please Enter

Cancel

OK

Deleting Users: Tick the user list requiring deletion, click the "Delete" button on the right, then click "Confirm" in the pop-up window to complete the deletion.

#	Username	Nickname	Roles	Phone	Note	Join Time	Operation
1	admin	admin	Super Administrator			1970-01-04 12:24:16	Edit Modify Password
2	dy	dy	Regular User			2025-10-14 14:41:47	Edit Modify Password Delete
3	zz	zz	Regular User			2025-10-14 14:44:47	Edit Modify Password Delete

Tips

Sure to delete the user?

Cancel

OK

8.1.4 Firmware Upgrade

Before upgrading, verify the device information and version are accurate. Select the upgrade file to proceed. Once the firmware has been successfully uploaded, power must not be disconnected during the upgrade process. The device will require a reboot to complete the upgrade, which typically takes 1-3 minutes (depending on firmware size and network conditions).

Firmware Upgrade

Current Hardware

1.1.DB0D

Version

Current Firmware

2.01.0009.0048

Version

Upload files

Select a file

Only .bin files

File name

No file selected

Firmware Upgrade

8.1.5 Advanced Settings

8.1.5.1 Connecting to KiloLink Server

KiloLink Server is a software solution based on KiloLink technology, enabling centralised online management, status monitoring, remote configuration, unified control (e.g., PTZ control), firmware management, and upgrades for all Kiloview products (hardware devices and software systems). The MG300 v2 can utilise KiloLink technology to connect to KiloLink Server Pro and RF02, achieving centralised device management.

Click "Kilolink Server" in the top navigation bar to access the configuration page. Enter the relevant details to connect the device to the Kilolink Server platform, enabling unified management via KiloLink Server Pro and RF02.

Kilolink Server

Status

Link Status

Offline

Management Platform

Enable

No

* Server Address

Please Enter

Service Port

—

50000

+

Authorization Code

Please Enter

Connecting to KiloLink Server still requires entering an authorization code

Encryption

☐ Yes
 ☒ No

Network Port

☐ eth0

☐ eth1

Apply

8.1.5.2 Device Maintenance

Scheduled reboots form the core foundational operation of device maintenance. Periodically restarting devices (e.g., daily/weekly) clears accumulated cache redundancies, releases occupied system resources (memory, processes), and mitigates issues arising from prolonged continuous operation such as protocol session anomalies (e.g., RTSP connection timeouts), stream transmission stuttering, and functional response delays. This is particularly suited to professional equipment scenarios operating 24/7.

Supports daily, weekly, and monthly scheduled reboots.

The screenshot shows the 'Device Maintenance' section of a web interface. It features a 'Scheduled Restart' toggle switch that is turned on. Below the toggle is a 'Switch' label. The 'Start' time is set to '2026-01-14 14:41'. The 'Reboot Cycle' is set to 'Select' with a dropdown arrow. An 'OK' button is at the bottom.

Device Maintenance

Scheduled Restart ☒

Switch

Start 2026-01-14 14:41

Reboot Cycle Select

OK

Daily

By week

By month

8.1.6 System Reset

The screenshot shows the 'System Reset' section of a web interface. It has two main options: 'Restore' and 'Device Restart'. The 'Restore' option includes a description: 'If restore factory settings, all configuration parameters, login passwords, web service port settings, network address settings, etc. will be restored to default values, and the device will be restarted immediately and default values will take effect.' The 'Device Restart' option includes a description: 'Ensure all settings are saved. Upon reboot, the device will automatically clear its cache.'

System Reset

Restore

If restore factory settings, all configuration parameters, login passwords, web service port settings, network address settings, etc. will be restored to default values, and the device will be restarted immediately and default values will take effect.

Restore

Device Restart

Ensure all settings are saved. Upon reboot, the device will automatically clear its cache.

Device Restart

8.1.6.1 Restore Factory Settings

Should user-modified parameters cause device malfunction, restoring factory settings returns configurations to default values.

Two methods exist for factory reset:

- 1) Utilise the "System Settings" - "Restore Factory Settings" function within the management web interface;
- 2) Press the RESET button on the device panel.

Locate the RESET button on the device. Press and hold the reset key for over 5 seconds. The device will restore factory settings. This process will trigger a hard reboot, which may take approximately 1 minute to complete.

Note:

After restoring factory settings, the following parameters will revert to their default values:

Login username: admin, password reset to admin;

IP addresses will revert to default:

Network Port 1 IP: 192.168.1.168, Subnet Mask: 255.255.255.0;

Network Port 2 IP: 192.168.2.168, Subnet Mask: 255.255.255.0;

All configured decoding parameters, streaming services, etc., will revert to factory defaults.

8.1.6.2 Device Restart

Device restart: The user initiates a software restart of the device, equivalent to a power cycle, taking approximately one minute.

Thanks for reading!

Changsha Kiloview Electronics Co.,Ltd

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Web: www.kiloview.com

Weibo: KILOVIEW 千视科技

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Tech Support Hotline: 18573195156/18573195256

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Yuhua District, Changsha,China