NSCaster X2S

User Manual

REV 1.0

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Catalogue

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1. Hardware Specification

1.1 List Accessories

Name/Model	Package	Specification	Number of Pieces	Actual Quantity	Remarks
Main device	Plastic box packaging	NSCaster X2S	1	1	
Power supply and power cord	Plastic box packaging	Standard	1	1	
Warranty card certificate	Plastic box packaging	Nagasoft	1	1	

1.2 Device Parameters

Device Item Name	Description
Chassis	Portable case, built-in with 13.3-inch high-definition touch screen
Dimensions	323mm*203mm*62mm (W x H x D)
Weight	1.65KG
Powered by	DC 19V
Transport box	Plastic box packaging
Operating temperature	-10-50℃
Storage temperature	-20-70℃
Operating humidity	10~90% no condensation
Impact resistance	15g
Vibration resistance	10-100Hz 1.25g
Altitude	Below 4000 meters

1.3 Model



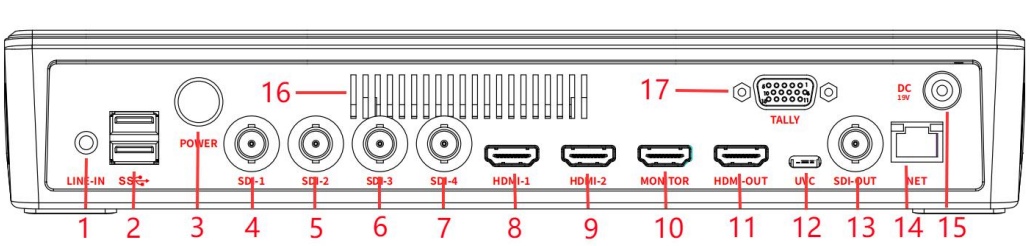
Front



Back

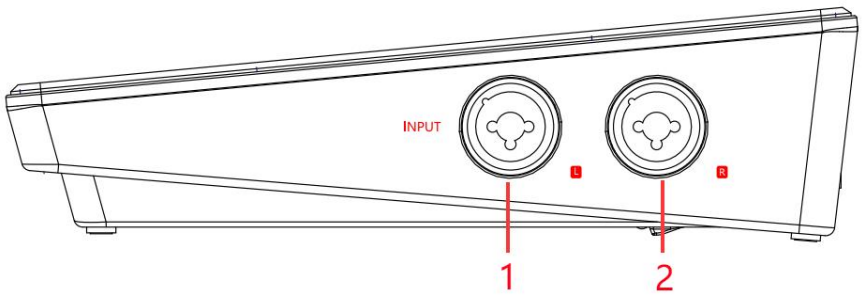
1.4 Interface Diagram

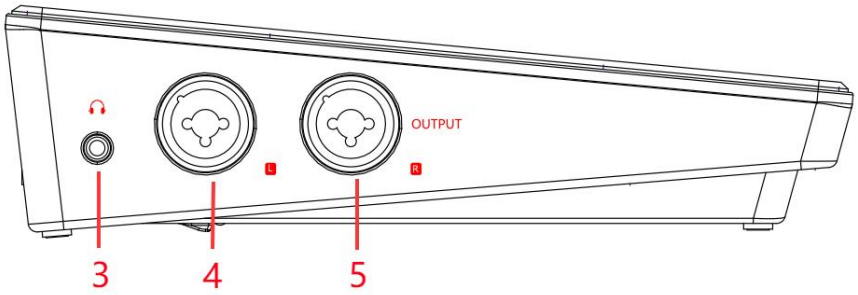
1.4.1Back Interface



1	3.5mm line input	10	HDMI Display interface
2	USB3.0	11	HDMI PGM output
3	Switch	12	UVC PGM output
4	SDI-1input	13	SDI PGM output
5	SDI-2 input	14	Gigabit Ethernet port
6	SDI-3 input	15	Power supply (DC 19V)
7	SDI-4 input	16	thermovent
8	HDMI-1 input	17	TALLY Port
9	HDMI-2 input		

1.4.2 Side Interface



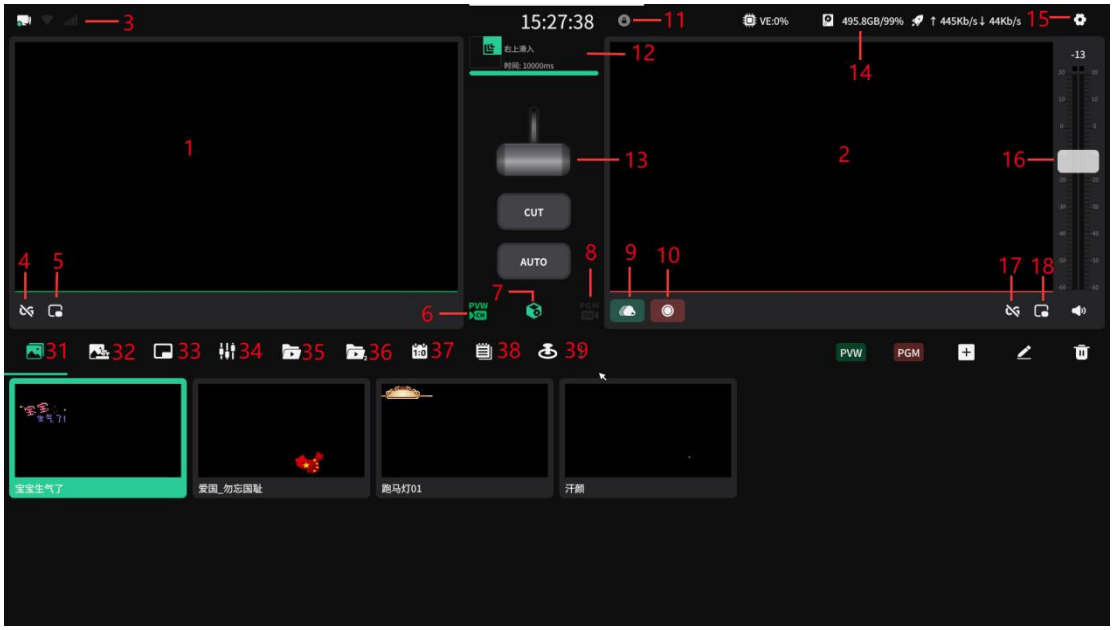


1	XLR/TRS balanced input L	4	XLR/TRS balanced output L
2	XLR/TRS balanced input R	5	XLR/TRS balanced output R
3	3.5mm monitor/3.5mm headset input		

2. Software Features

2.1 NSCasterX2S Main Interface

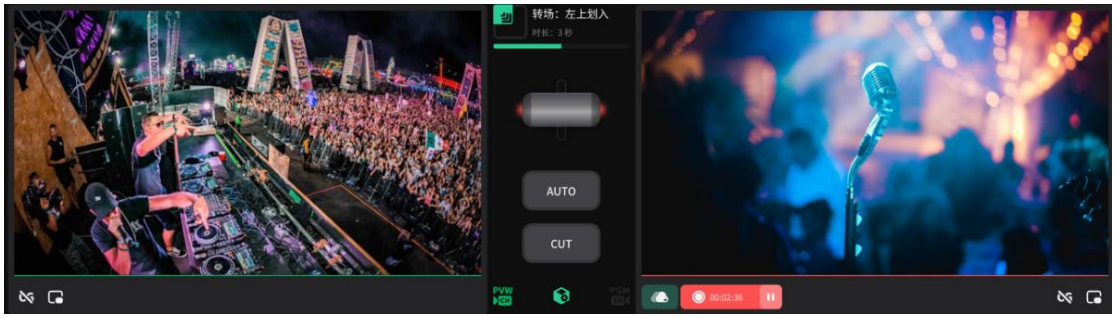




NO.	Name	NO.	Name
1	PVW	17	One button remove PGMremote CG
2	PGM	18	One button start PIP
3	NET condition	19-22	SDI input channel
4	One button remove PVW remote CG	23-24	HDMI input channel
5	One button start PIP	25-28	NET and other source input channel
6	PVW channel selection	29-30	DDR1/DDR2 local source channel
7	Channel/Source interface cut	31	Image overlay
8	PGM channel selection	32	CG
9	One button start/stop streaming	33	PIP
10	One button start/stop recording	34	Audio mixer
11	One button lock screen	35	DDR local video play
12	Transition effect cut	36	DDR local video play 2
13	T bar cut	37	Scoreboard
14	Resource usage monitoring status	38	Subtitle
15	Settings button	39	PTZ control
16	Tuning control for total mix output		

2.1.1PVW and PGM

NSCasterX2S support video and audio signal in channel PGM and PVW as below,

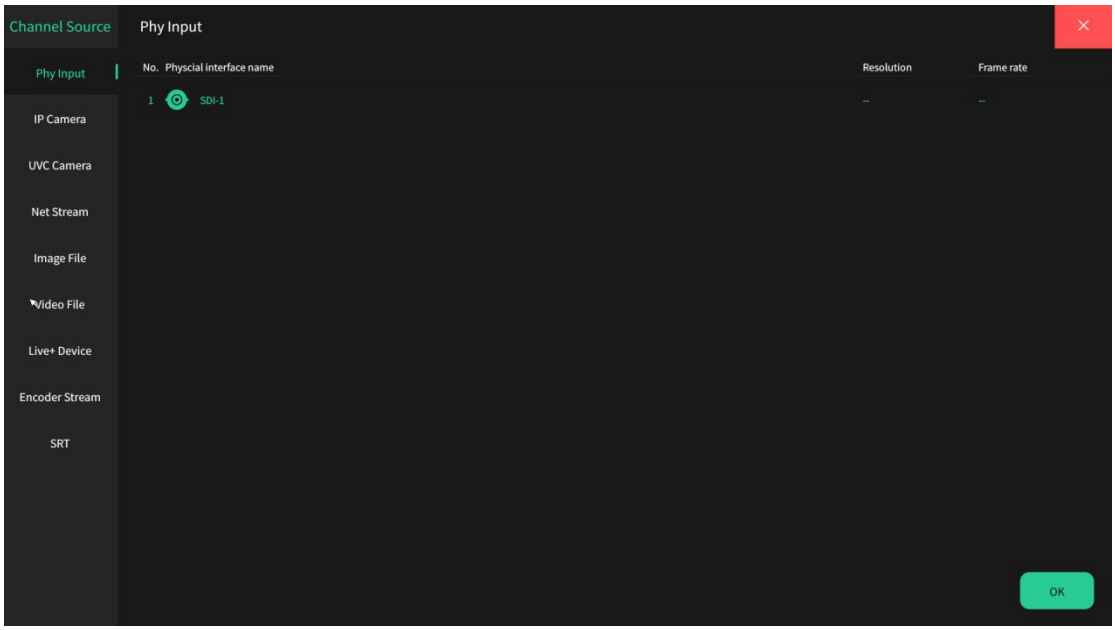


PVW channel: Green channel is PVW channel, it monitors the screen that will be broadcast.

PGM channel: Orange channel is PGM channel, it monitors the screen that being broadcast.

2.1.2 SDI/HDMI physical camera channel

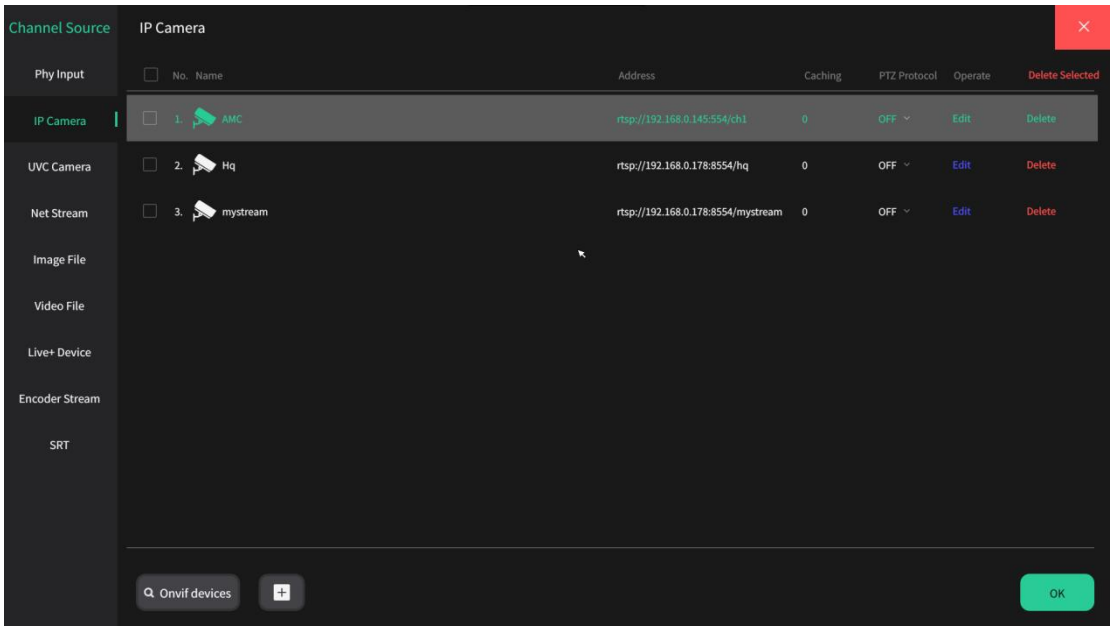
The first four channels are SDI interface signal capture channels and No.5 and No.6 are HDMI interface signal capture channels. Apart from physical SDI/HDMI signal, it can also be connected to IP cameras, Live+ devices, and network streams.



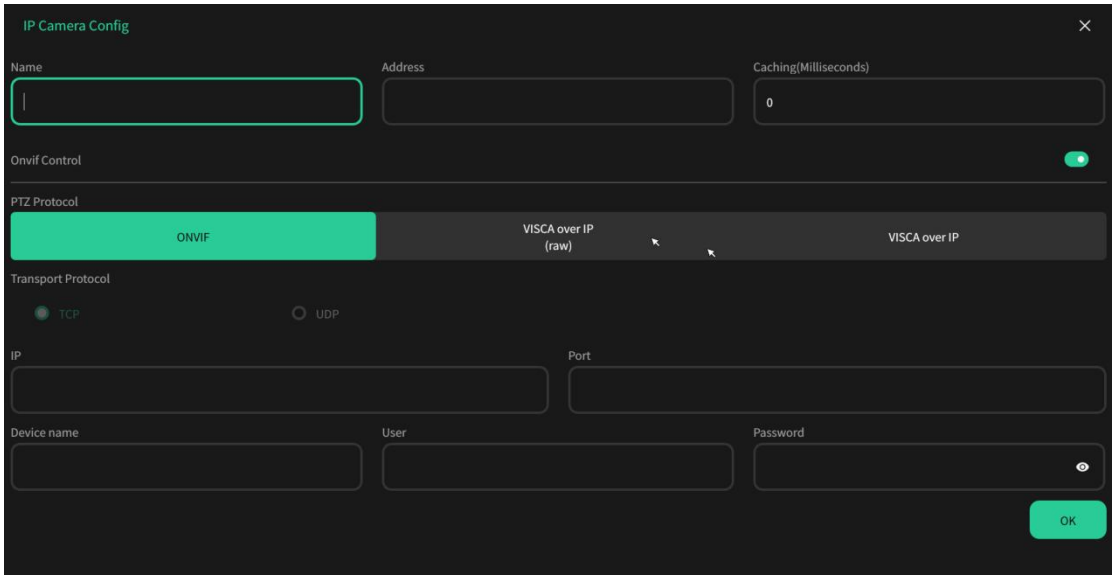
2.1.3 NET channel

SDI/HDMI capture channel and NET channel is used to load network streams and can directly load IP cameras, UVC cameras, network source, local video and picture, Live+ devices, encoder source and SRT stream.

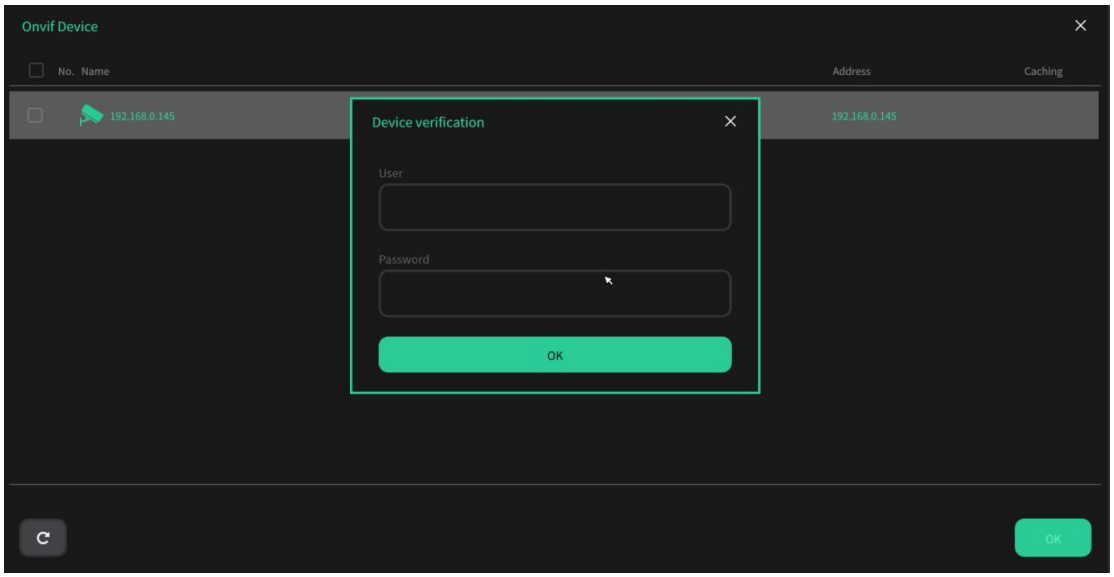
(1) **Load IP camera**. Select the added IP camera in the list, click the "OK" icon to confirm the selection. You can edit and delete cameras that have been added to the list. Click to select the camera, click the "Delete" button on the right to delete a single camera, or tick multiple cameras, and click "Delete Selected" to delete multiple cameras simultaneously, the setting interface is as shown in the figure below:



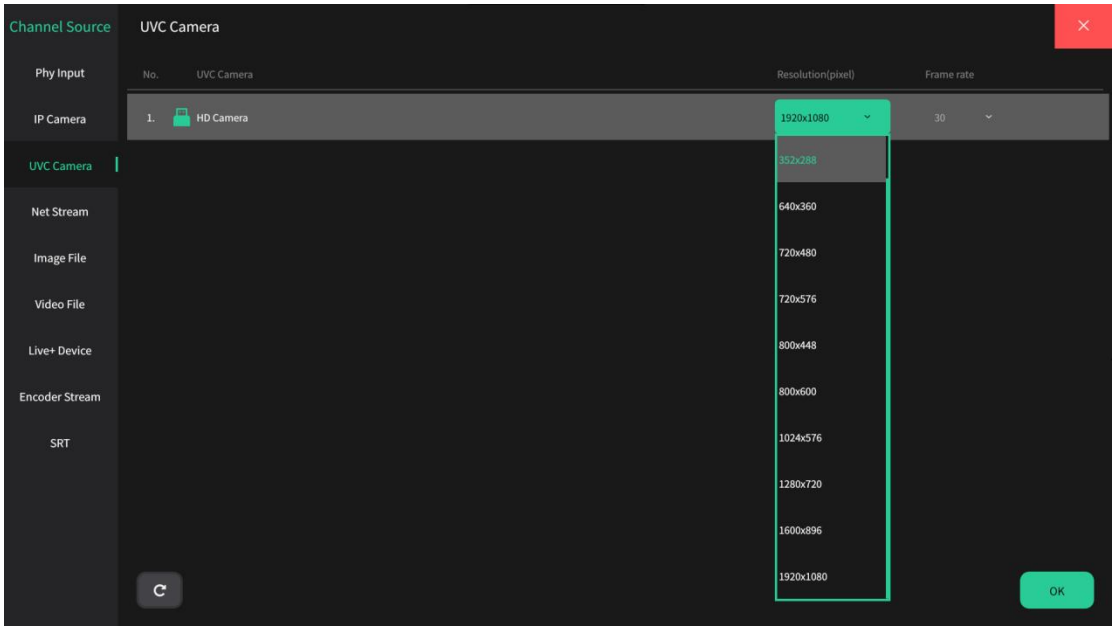
Click the button or select the camera and click the "Edit" button to enter the IP camera add/edit interface, configure or modify IP camera information, as shown in the following figure:



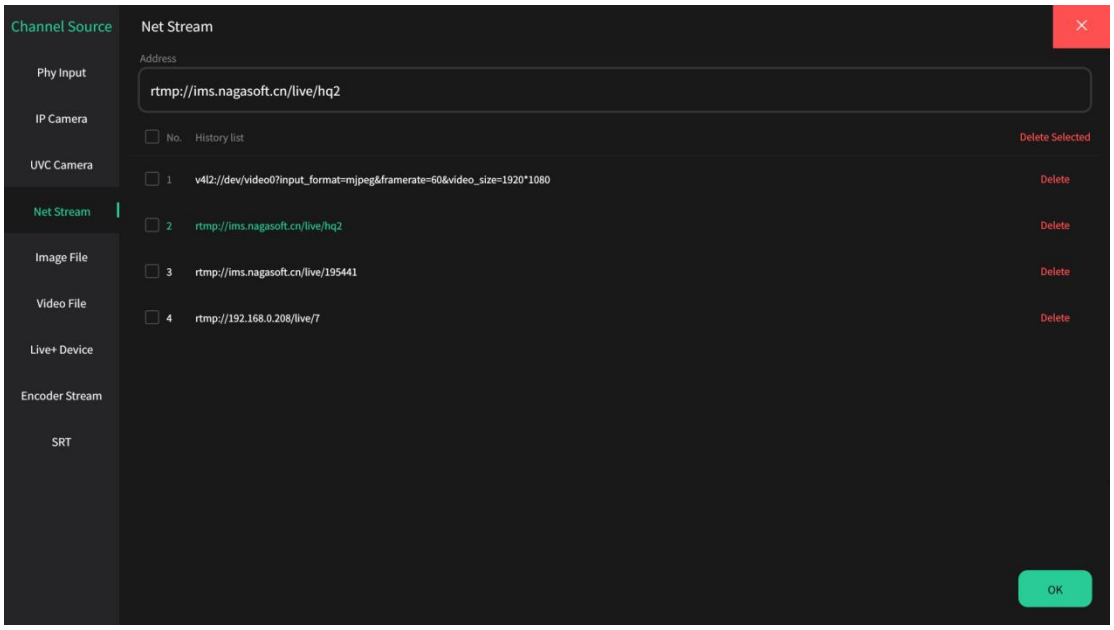
Click the "ONVIF device" button in the bottom left corner to search for ONVIF cameras within the same local area network as NSCaster X2S. After successfully logging in with the camera account and password, you can quickly add ONVIF cameras into the channel, as shown in the following figure:



(2) **UVC camera loading.** Connect the UVC camera through the USB 3.0 interface, click the button at the bottom left to refresh the display of the UVC camera device list, select the device, and click the drop-down box to customize and modify the camera's resolution and frame rate. As shown in the following figure:

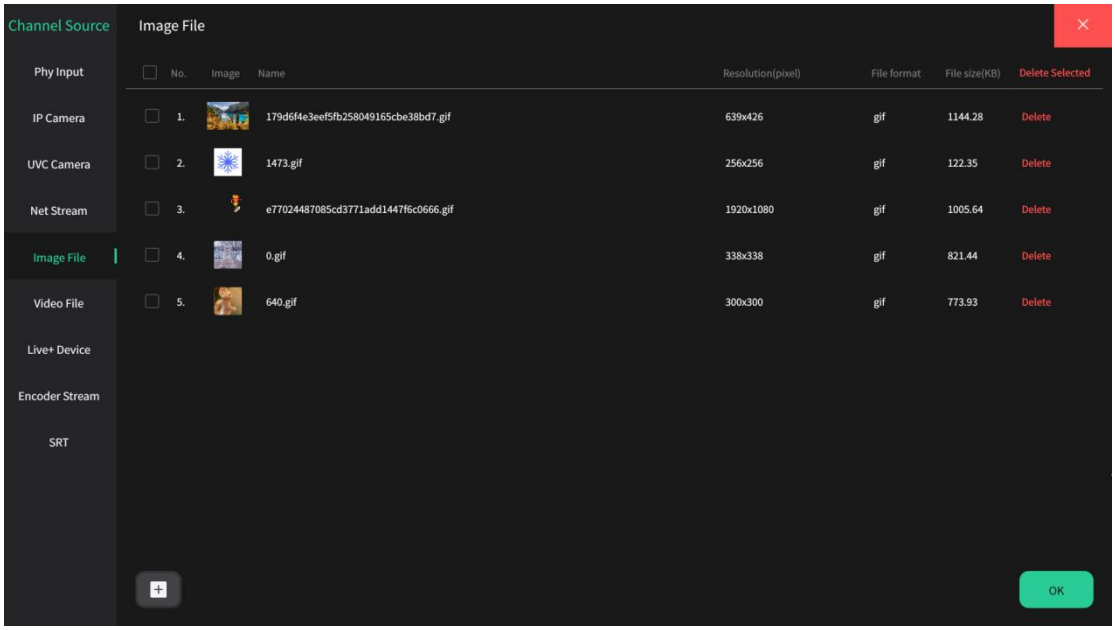


(3) **Network flow loading.** After filling in the complete network flow address at the URL, click the "Ok" button in the bottom right corner to load the network flow in the channel. You can also use the screen share input function to quickly enter the flow address. As shown in the following figure:

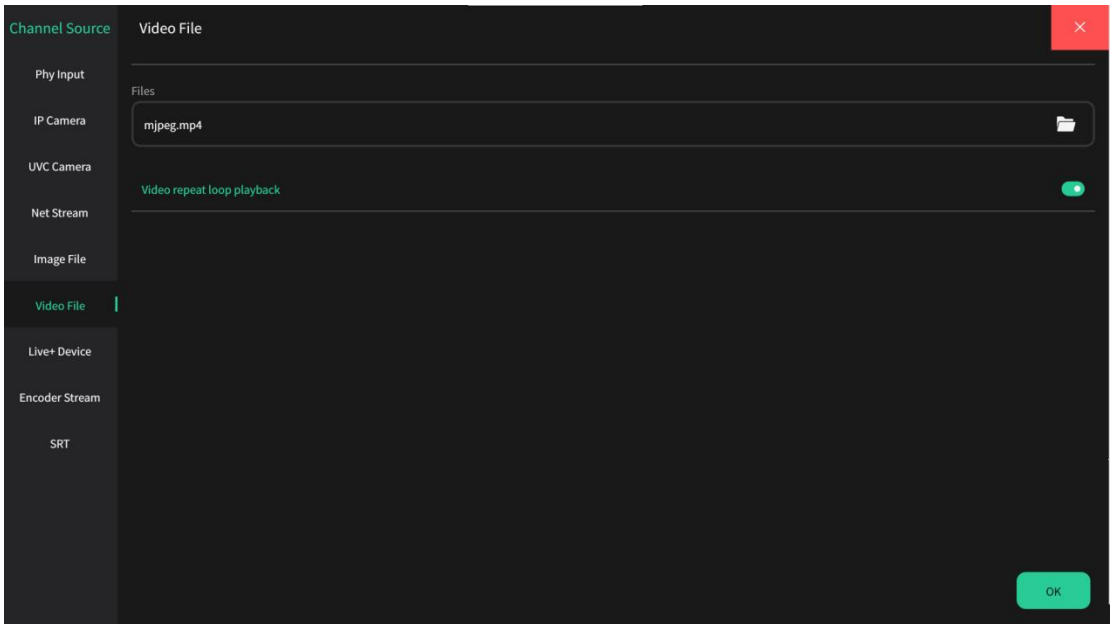


In the network flow list, you can click the "Delete" button on the right side of the flow address to delete a single flow address after selection. Select multiple stream addresses and click the "Delete Selected" button to delete multiple selected stream addresses simultaneously.

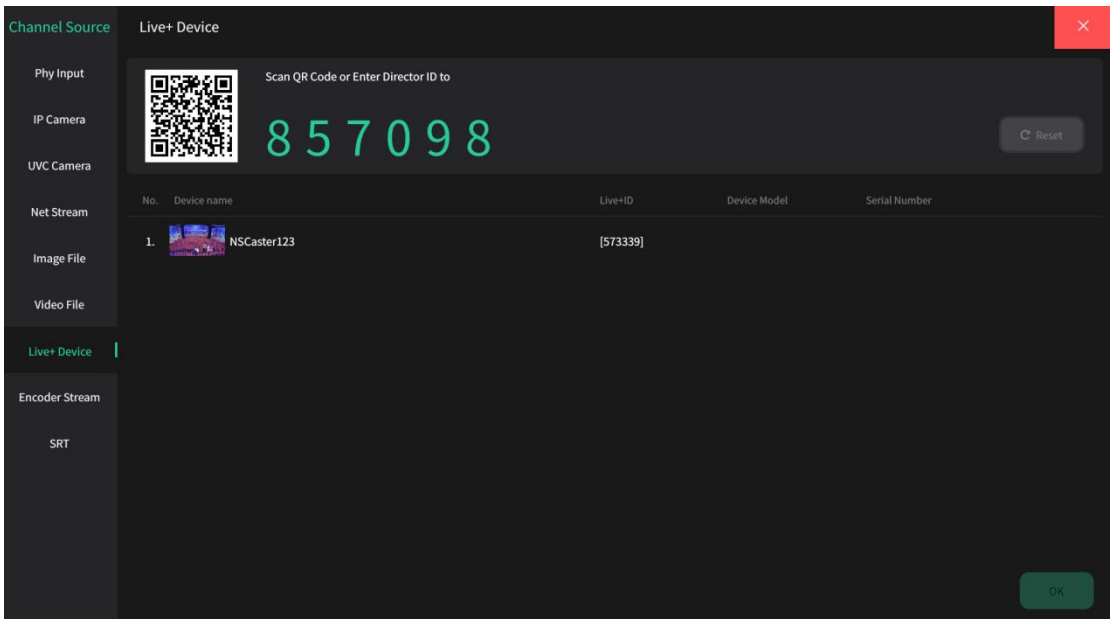
(4) **Image file.** Click  to load online resource library images, or import local images as signal sources, supporting PNG, JPEG, GIF and other image formats. Select the list of images, click the "Delete" button on the right to delete a single image, tick multiple images, and click "Delete Selected" to delete multiple images. As shown in the following figure:



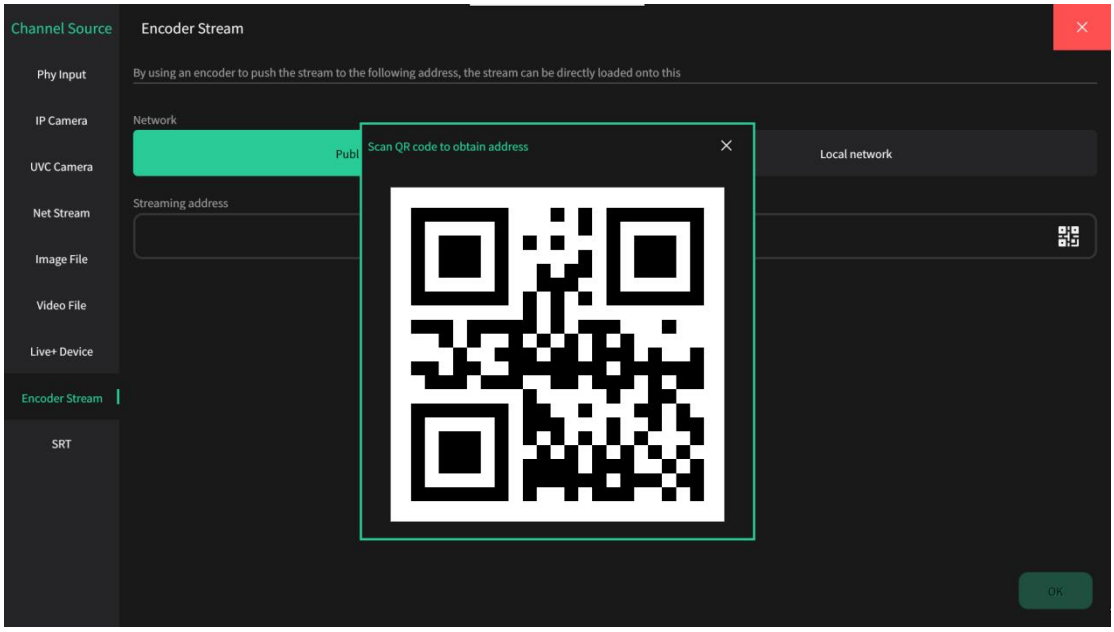
(5) **Video Files.** The channel can be directly opened to play local video files as signal sources, supporting video formats such as MP4, MOV, AVI, FLV, MKV, etc., as shown in the following figure:



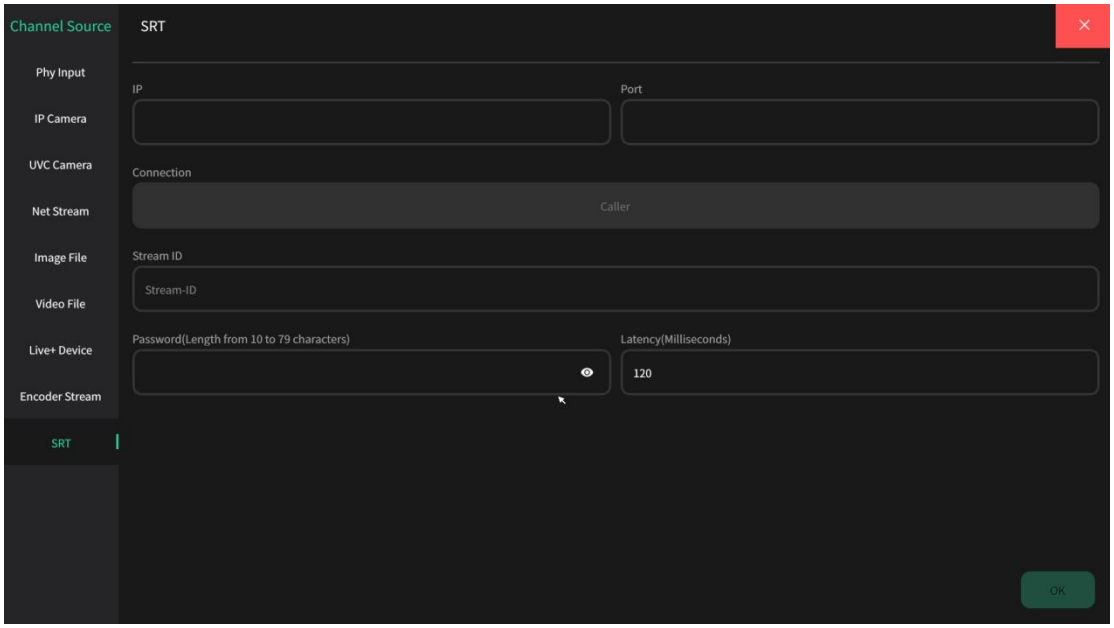
(6) **Live+devices.** You can use the VJMobileCast app to access the mobile screen, and both internal and external networks can be connected. The access signal can be directly scanned through the APP by scanning the QR code or entering the director ID number to join. The access signal is displayed in the "Device List", and click to select the signal screen that needs to be loaded onto the mobile terminal. (Note: After resetting the live streaming code, the original live streaming code is not available and needs to be rescanned with a new one), as shown below:



(7) **Encoder Direct stream.** After the encoder pushes the stream to the displayed address, it can be directly displayed in the NSCasterX2S channel, realizing the fast feedback function of the encoder. The stream address can be obtained by scanning the QR code. The settings are shown in the following figure:

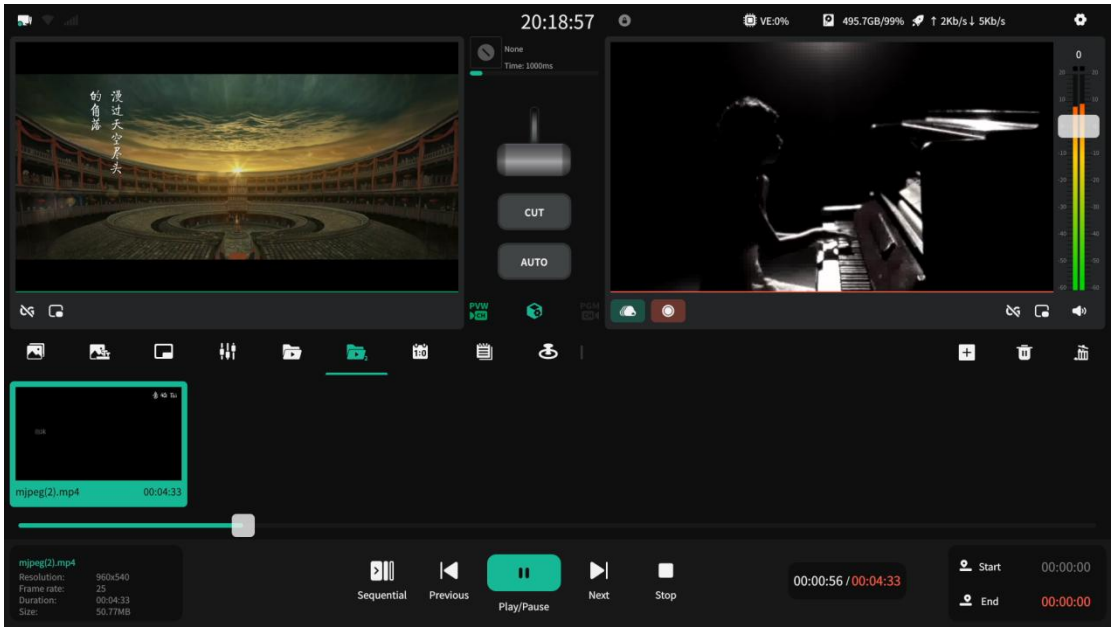


(8) **SRT.** A data stream that can access the SRT protocol. Fill in the corresponding server or IP address, port number, stream ID, and password, as shown in the following figure:



2.1.4 DDR Channel

The DDR channel is used to load video source. Click  button to switch to the source bar channel as shown below:



The button operation is as follows:

(1) Button : Add video

(2) Button  : Play/pause video

(3) Button  : Play

(4) Button  : Switch to the previous video material

(5) Button  : Switch to the next video material

(6) Button : Stop the video

(7) Button : play single video loop

(8) Button : play in list loop

(9) Button : play single video

(10) Button : The progress adjustment button is enlarged to adjust the video progress

(11) Button : Select video and delete single video

(12) Button : delete local video list

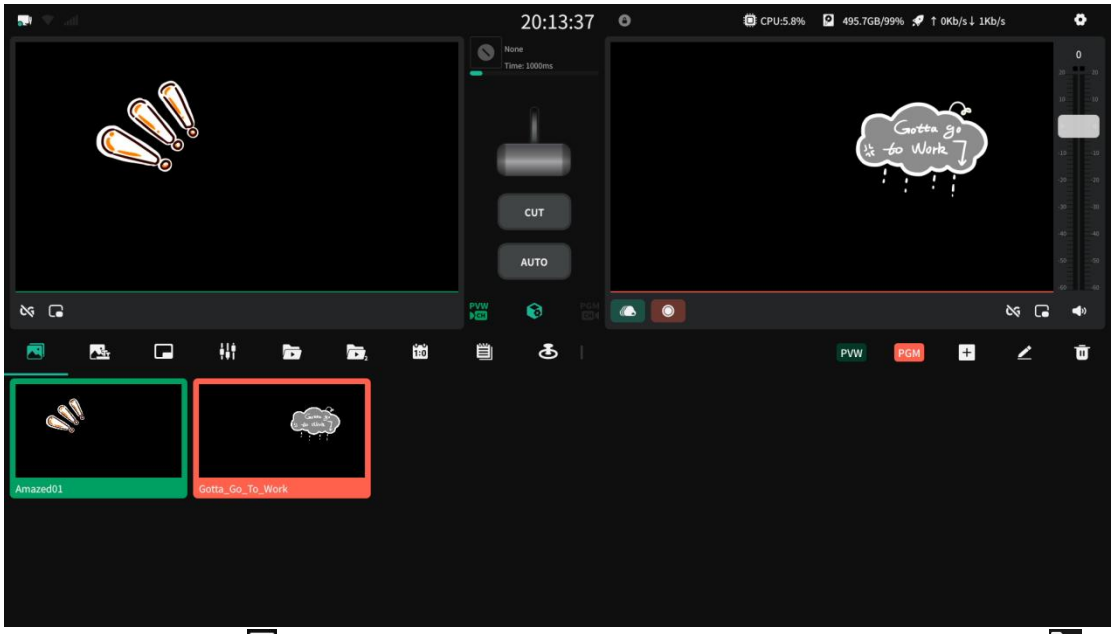
(13) 起始 button: set the entry point for the video.

(14) 结束 button: set the output point for the video

(15) Play time: Click to switch between positive and negative video times.

2.1.5 Image Overlay

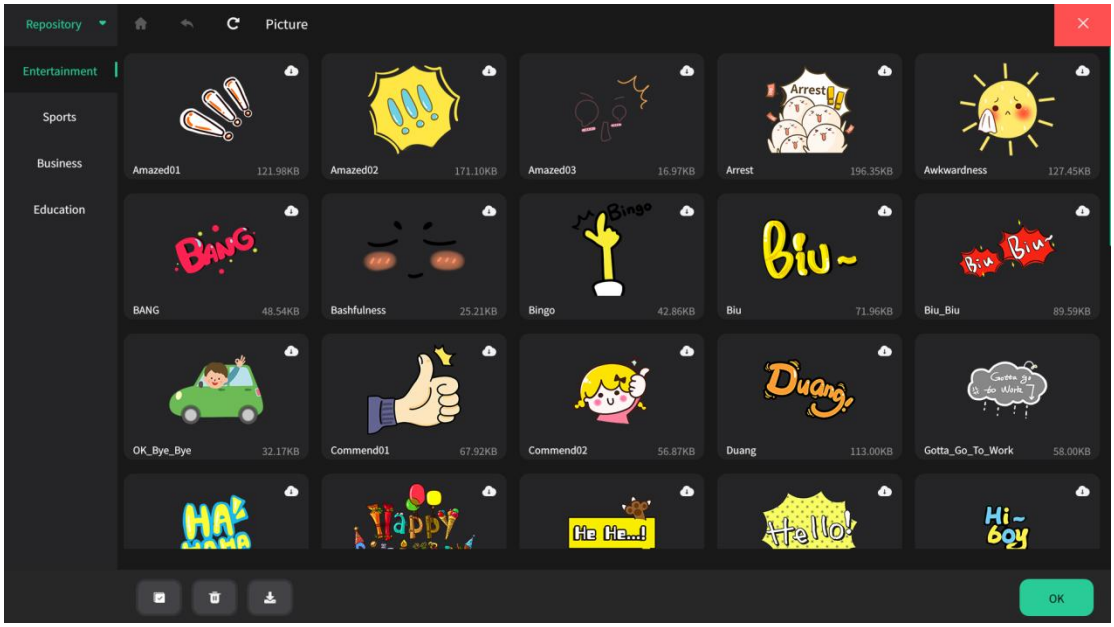
Image overlay panel can publish image to the PGM and PVW channel. It supports png/jpg/jpeg/gif image format and location movement of images as shown below:



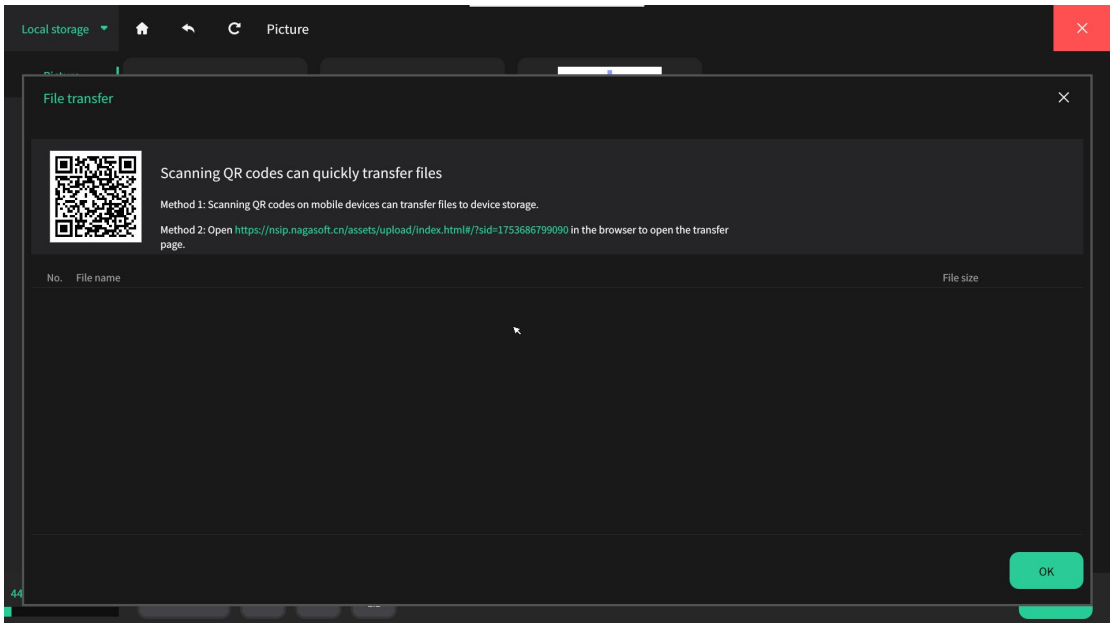
1) Click the button " " to enter the photo editing interface, and then click the button " " to add a picture. There are two ways to source images:

①Online download. Click the button at the bottom left to download and use. The icon is displayed in the upper right corner of the image, indicating that the current image has not

been downloaded, and the icon is not displayed in the upper right corner, indicating that the image has been downloaded. As shown in the following figure:



②Customize “My Picture”. Select internal storage in the file browser, click the button below, and you can use file quick transfer to scan the code and quickly add images, as shown below:

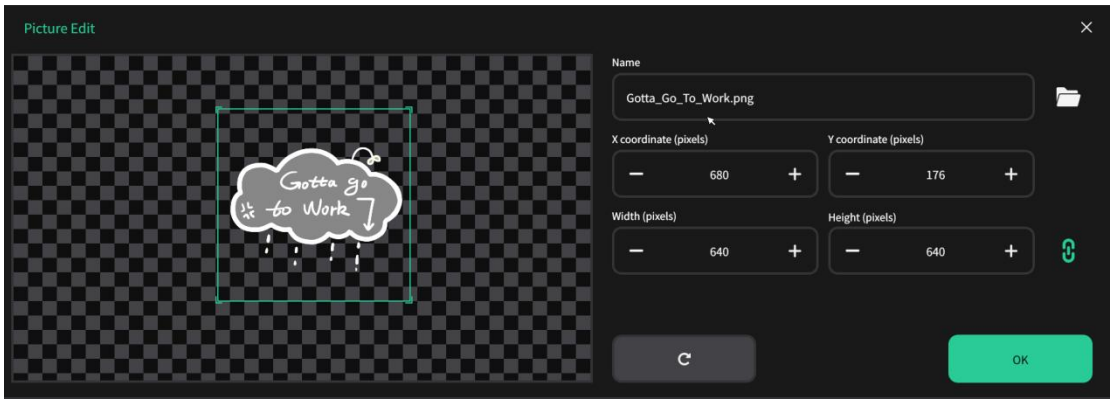


（2） PGM button: Send/Cancel picture to PGM channel

（3） PVW button: Send/Cancel picture to PVW channel

（4） button: Delete the selected picture

（5） button: to enter the photo editing interface. As shown below：



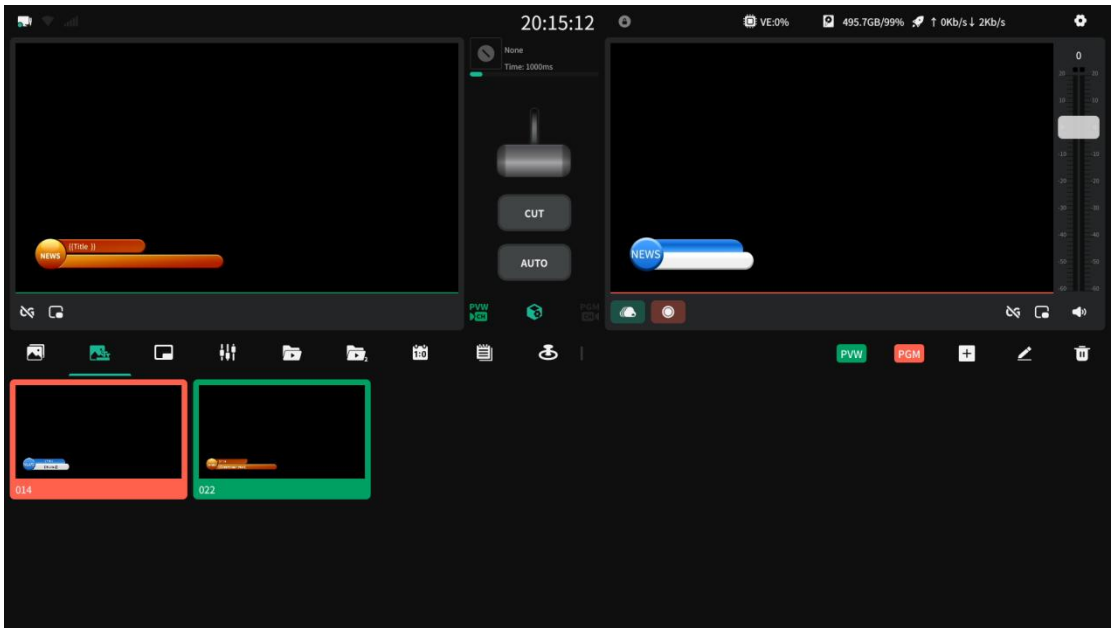
Button Description:

(1) Button: Lock the aspect ratio when highlighted, click to unlock the aspect ratio,

(2) Button: Reset all modifications and restore the default scale.

2.1.6 CG

CG is a template composed of pictures, texts, etc. It can be used during streaming or recording. Click PGM to publish the selected CG into the streaming screen. The interface is as shown below:



The button operation is as follows:

（1）button to create CG

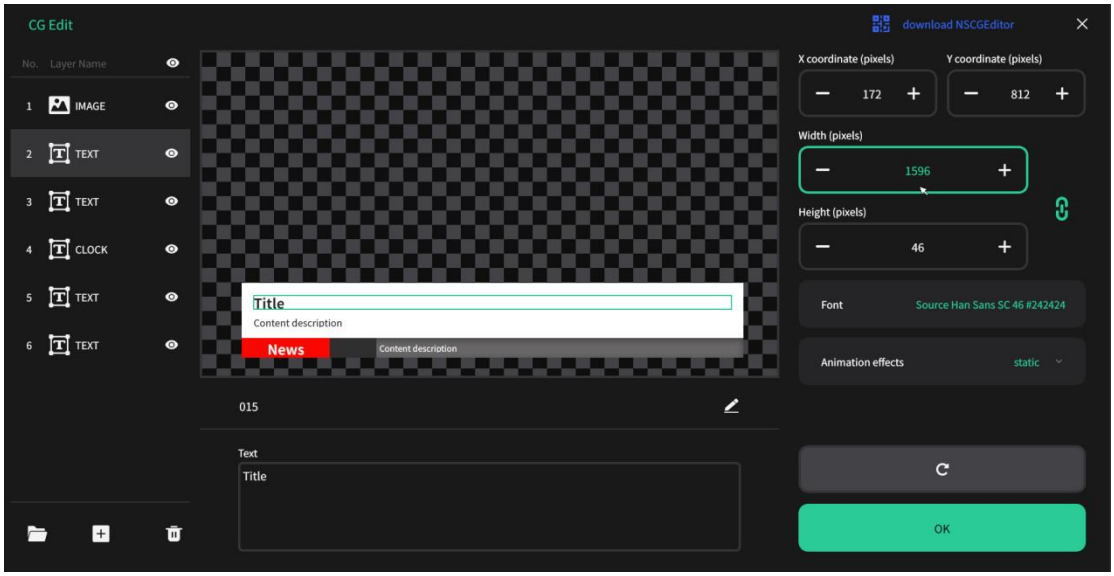
（2）button to edit the selected CG

（3）button to delete single CG

（4）PGM button to Send/Cancel picture to PGM channel

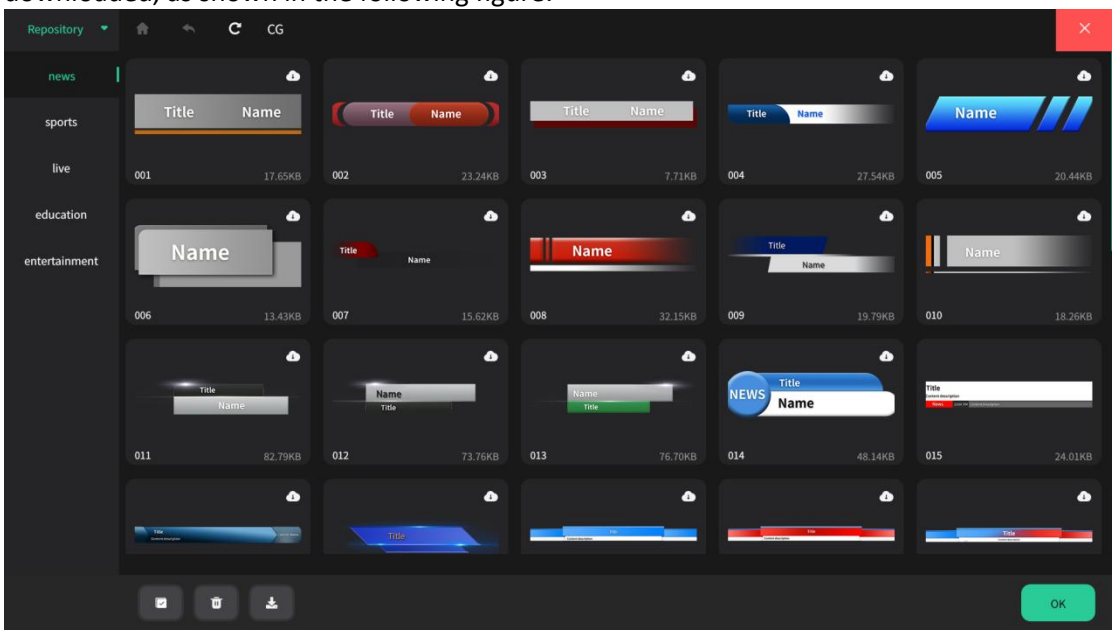
（5） PVW button Send/Cancel picture to PVW channel

In the CG editing interface, you can choose ⊞ to add CG template/picture/subtitle, you can manually adjust the parameters of each element including size, position, etc. The editing interface is shown below:



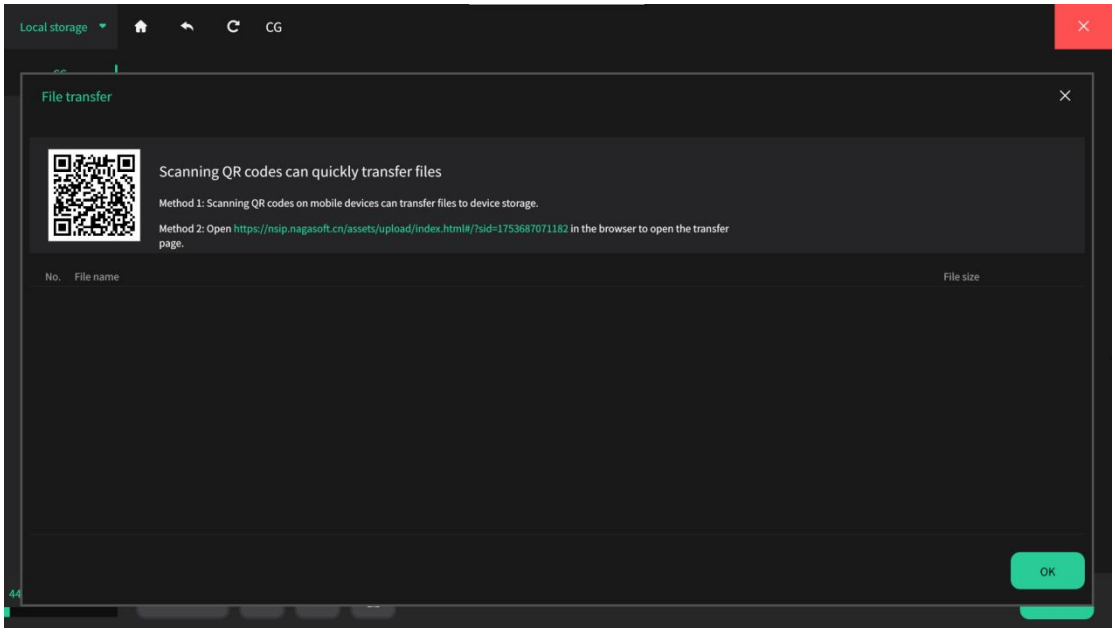
There are several ways to add CG templates:

① On the CG editor page, click 📁 on the CG online resource library, select the CG, and click the ⬇ button at the bottom left to download and use it. The ☁ icon is displayed in the upper right corner of the CG, indicating that the current image has not been downloaded. If the icon is not displayed in the upper right corner, it indicates that the CG has been downloaded, as shown in the following figure:

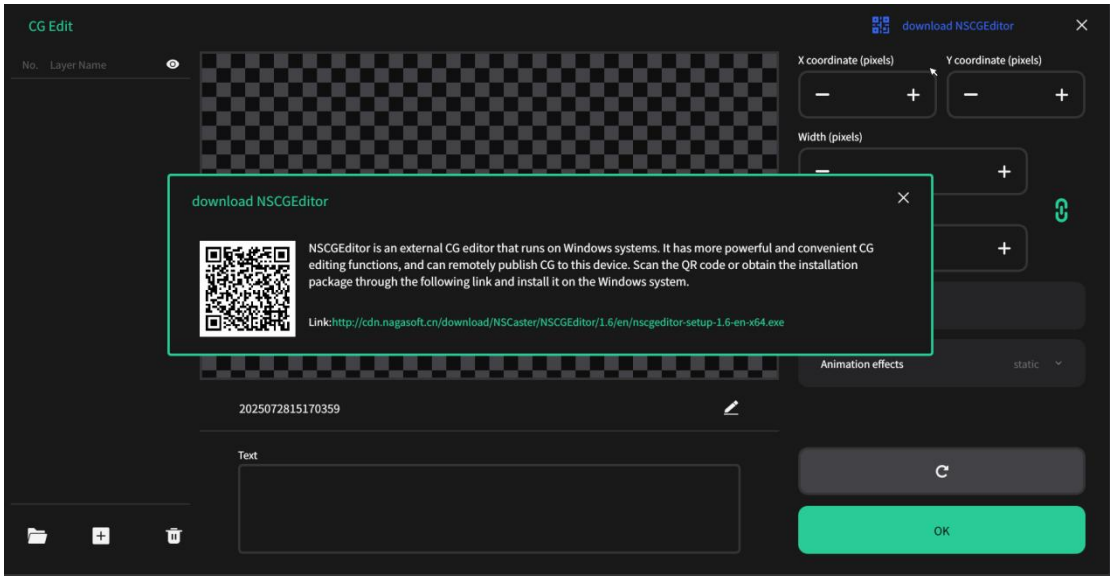


②Import custom material in "Settings - File - File copy - CG material" or select internal storage in

the file browser, click the button below, and quickly add CG by scanning the QR code through file quick transfer.



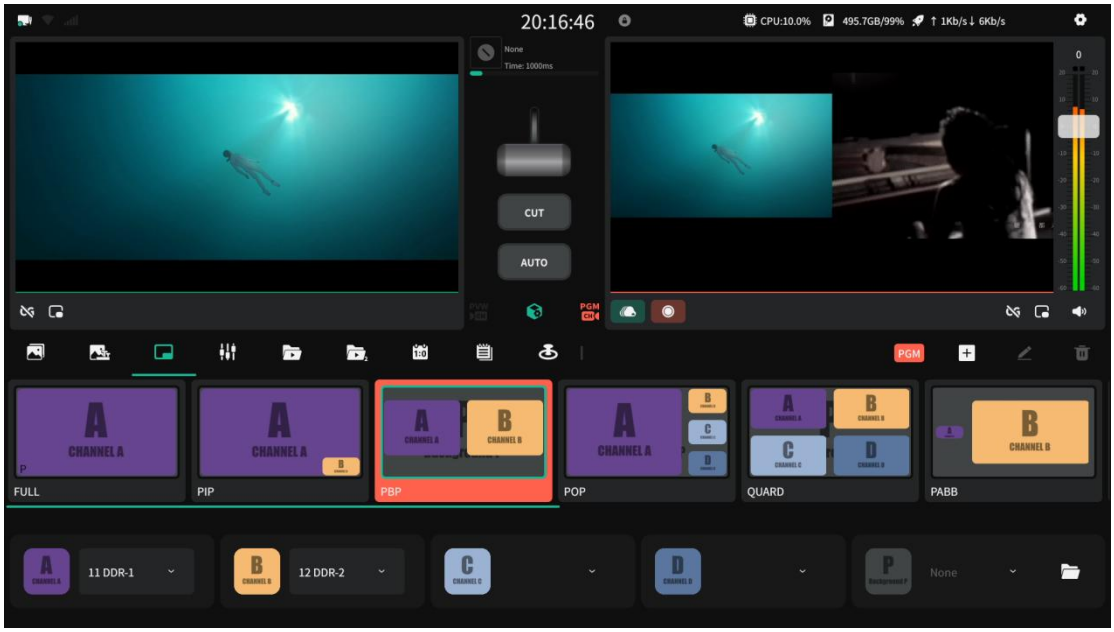
③ Click the QR code at the top right of the CG editor to download the CG editor NSCGEditor, and start the remote CG in "setting -Overlay - Remote" to realize online CG, as shown in the following figure:



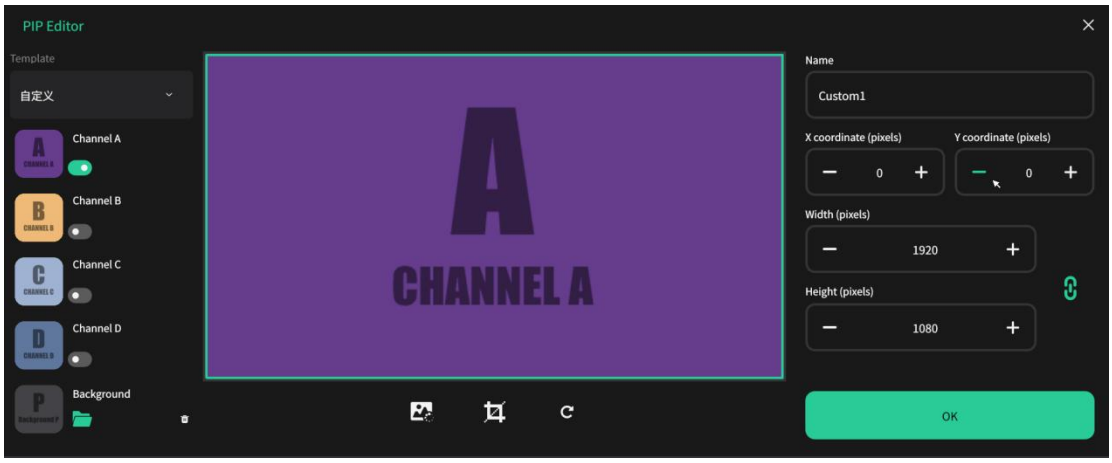
2.1.7 Picture in Picture

Picture in picture can display images from multiple channels in PGM. Click PGM to display the selected picture in picture mode in PGM where A/B/C/D represent the channel images

respectively. The channel images in the A/B/C/D areas in PGM support real-time switching. As shown in the following figure:



The fixed template of the list cannot be edited. To edit the template, you can select the ⊞ button to customize the template, as shown in the following figure:



Click on the template drop-down box to select a template from the list, and then customize the editing content or channel.

① button, PIP background, which can be selected from online resource library images or custom images stored internally as PIP background images

② button, delete the PIP background

③ button, channel screen refresh button

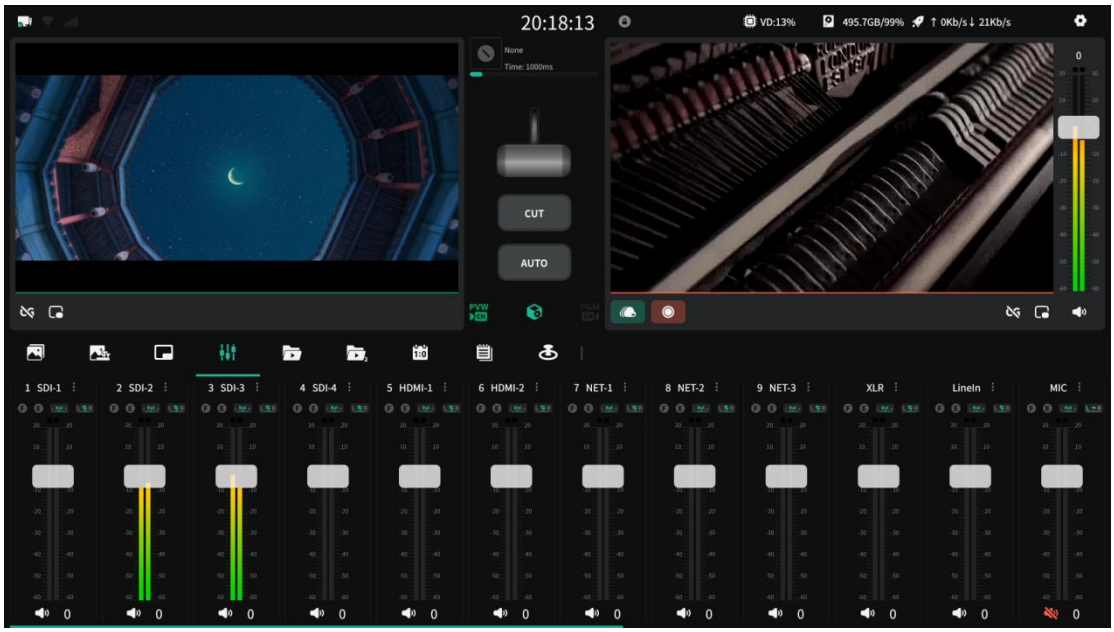
④ button, channel clipping

⑤ button, reset all modifications

⑥ button, lock the aspect ratio when highlighted, click to unlock the aspect ratio.

2.1.8 Audio Mixer

The mixer is used to control the gain and mix of all input and output audio as shown below:



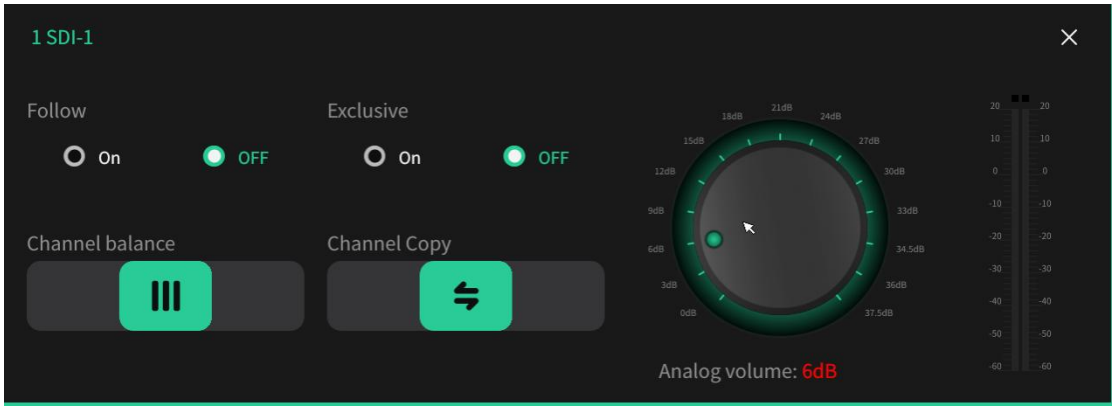
Button operation is as follow:

(1)Button : Mixing output.

(2)Button : Mute.

(3)Button : Volume adjustment fader.

Click the button next to the channel name on the audio mixer to enter the advanced audio adjustment page, as shown in the following figure:



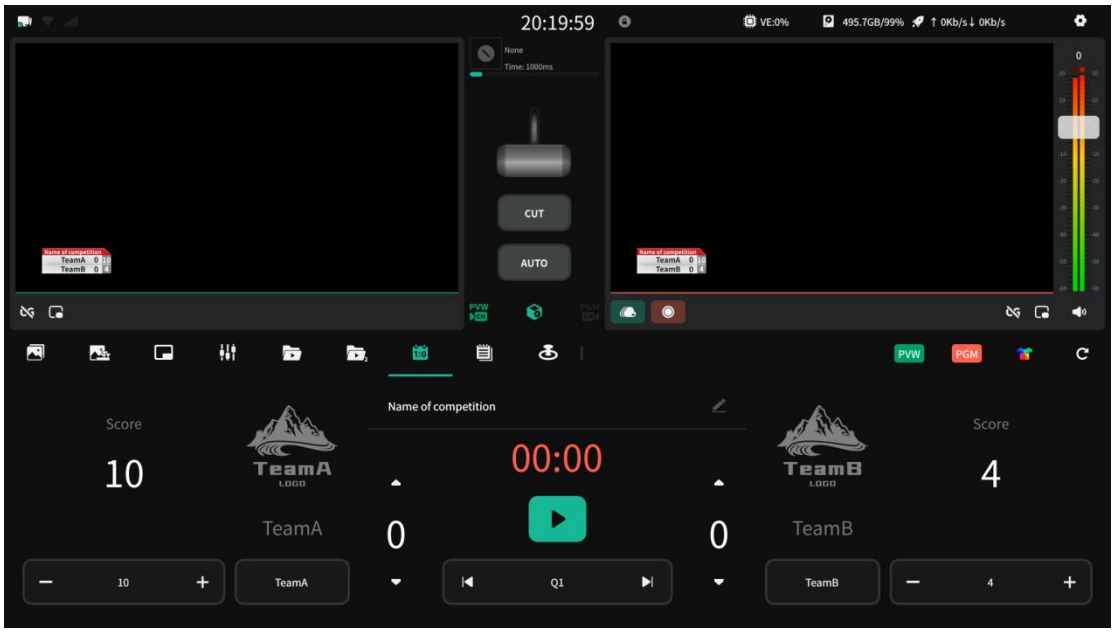
Each channel can be individually set, and after editing, closing the pop-up window will automatically save the operation. The operating instructions are as follows:

(1) Follow: Select the channel that enables follow, and only when this channel is PGM will the

sound be mixed to the main output;
(2) Exclusive: Select the channel that enables exclusive access, and if this channel is PGM, only its sound will be mixed to the main output, and other channels will not be mixed in.
(3) Channel Balance: Left and right channel balance can be set for stereo to mono conversion;
(4) Channel duplication: can convert mono to stereo;
(5) Analog gain: Simulate and control the audio gain effect of the current channel, which is only effective for physical input audio (XLR/LineIn/MIC, etc.).

2.1.9 Scoreboard

The scoreboard can record the score of the current live sports in real time, as shown in the following figure:

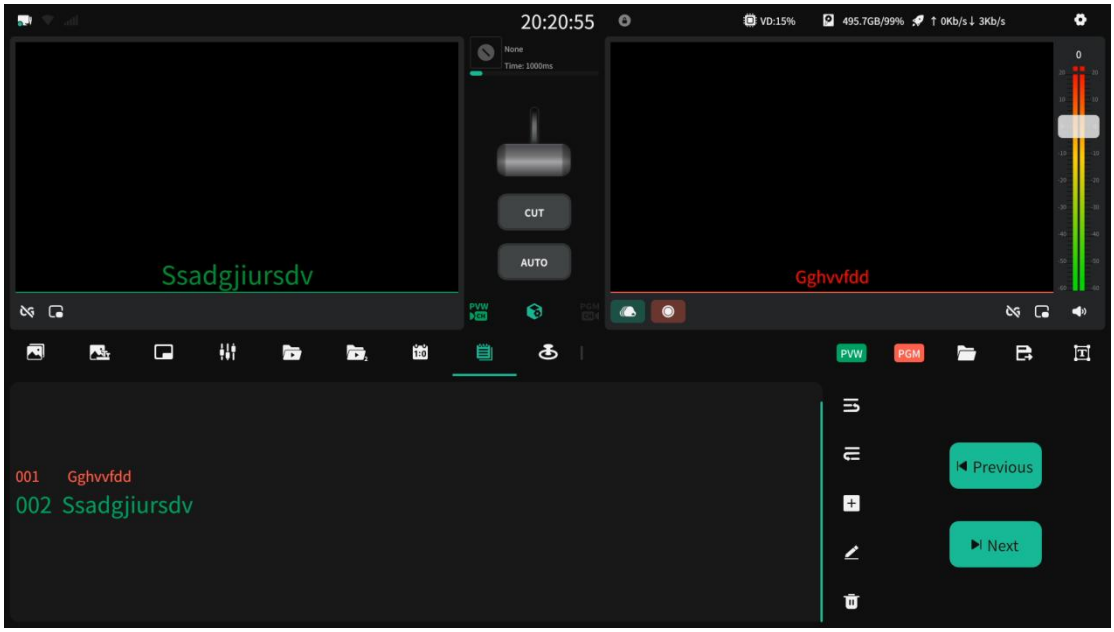


The operation buttons are described as follows:
(1) PGM Button: Send/Cancel Score Board to PGM Window Preview;
(2) PVW Button: Send/Cancel Score Board to PVW Window Preview;
(3) Button: Select the scoreboard template and click "Download" to use it. You can also import scoreboard materials in "Settings - File Copy - scoreboard materials", or select internal storage in the file browser, click the button below, and use file quick transfer to scan the code to add scoreboard materials;
(4) Button: Reset scoreboard.

2.1.10 Subtitle

Simple text subtitles can be published to PVW and PGM through manual input, fast screen sharing input, or importing txt format files. The subtitles published to PVW will be updated in

real-time after editing, while those published to PGM need to be manually updated after editing, as shown in the following figure:



The operation buttons are described as follows:

(1) Button: Add Subtitles

(2) Button: Save subtitles, can export subtitle files in the subtitle directory

(3) Button: Import txt subtitle file

(4) Button: Select to delete a single subtitle

(5) Button: Subtitle Editing

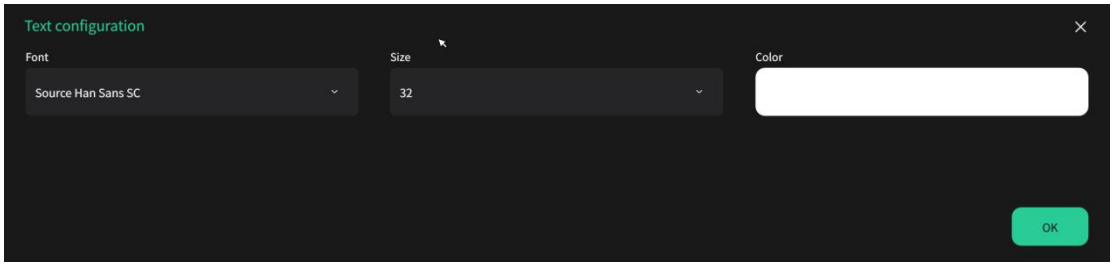
(6) Button: Move the currently selected subtitle position up

(7) Button: Move the currently selected subtitle position down

(8) PGM Button: Send/Cancel Subtitles to PGM Window Preview

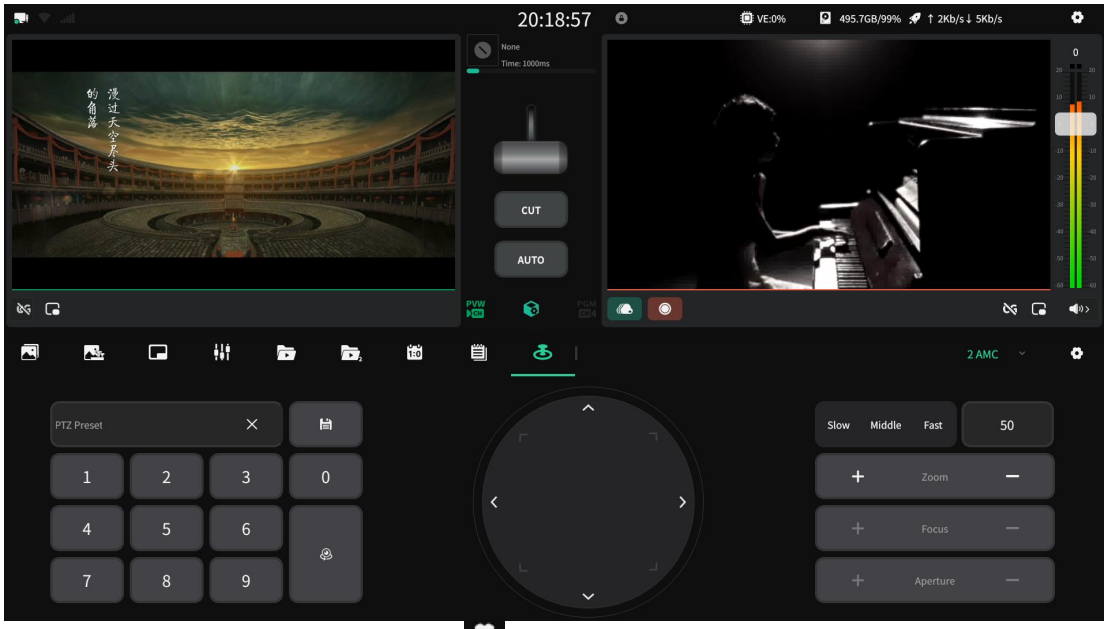
(9) PVW Button: Send/Cancel Subtitles to PVW Window Preview

(10) Button: Text Configuration, which allows setting of text font/font size/font color, as shown in the following figure,

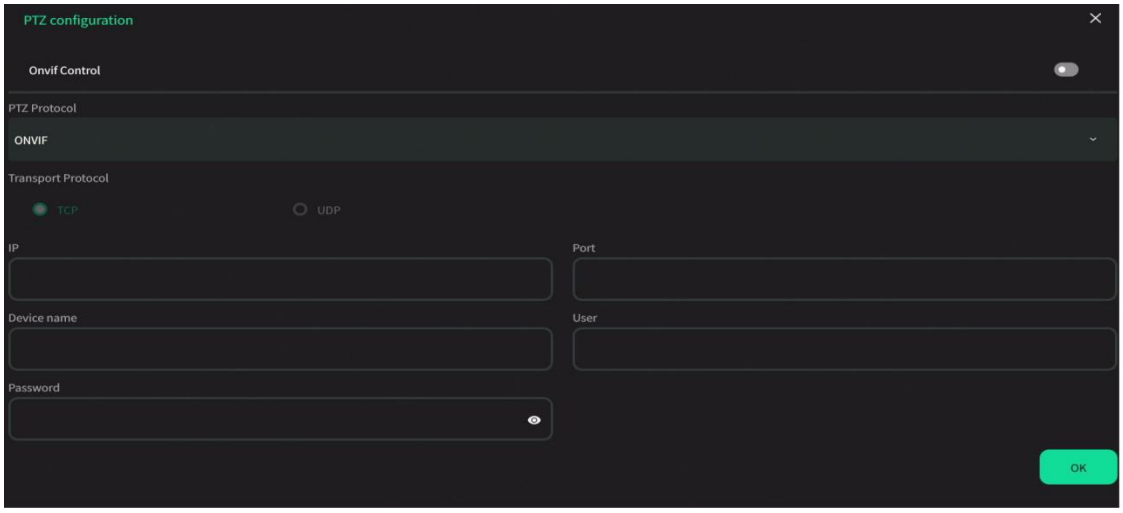


2.1.11 PTZ control

Select the channel to load the IP camera in order to control the camera, as shown in the following figure:



(1) PTZ settings: Click the PTZ control button to enable PTZ control, set the PTZ protocol and PTZ transmission, and enter the correct camera IP address, port, user name, and password to control the camera. As shown in the following figure:



(2) Preset position: Enter a number and click save to set the camera's preset position. Enter the saved preset position and click the button to call the preset position.

(3) Zoom: Click the zoom button to zoom in and focus the camera. Click the zoom button to zoom out the camera.

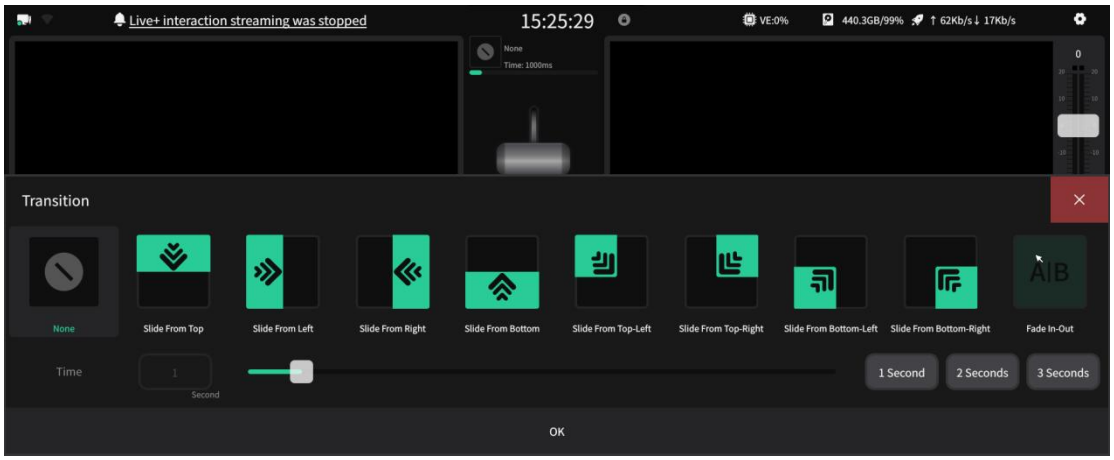
(4) Direction control: The camera image movement direction can be controlled by up, down, left, right, upper left, upper right, lower left, and lower right.

(5) Fast/Slow Adjustment: Click the "Slow", "Fast", and "Medium" buttons to control the camera's movement speed.

(6) Channel selection: Select the channel that needs to be controlled, and the channel controlled by the PTZ selection must be consistent with the channel loaded by the camera.

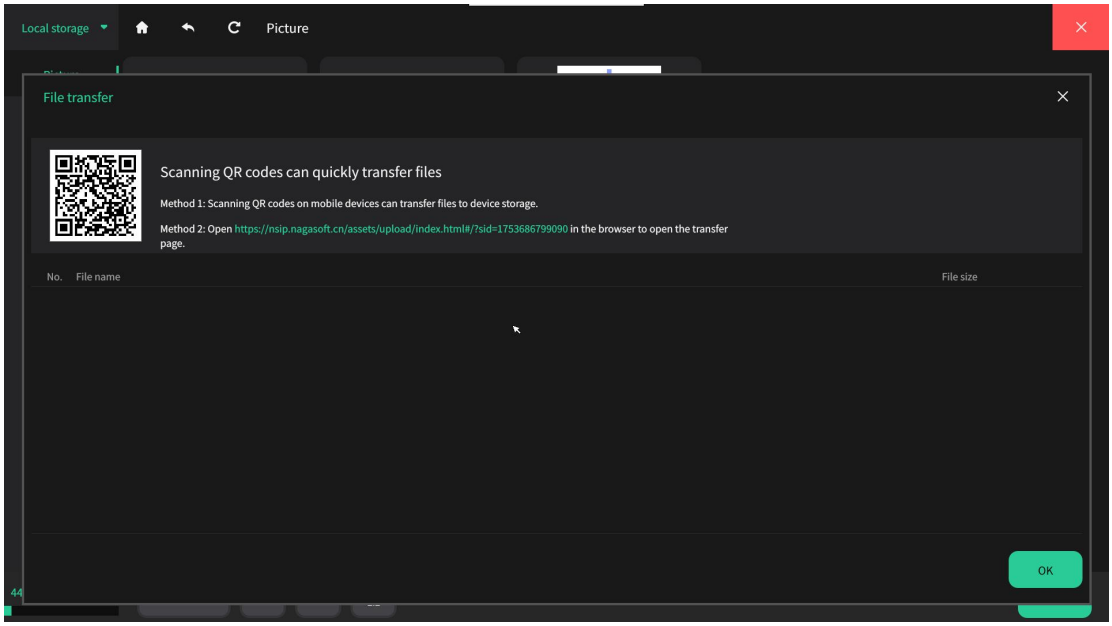
2.1.12 Special Effects

Select the special effects required for the screen switching between the PVW channel and the PGM channel, and set the duration of the special effects switching process - transition time. You can select to click or button to switch the screen between the PVW channel and the PGM channel, and you can also use the special effects pusher to switch to achieve the transition effect. The setting interface is shown below:



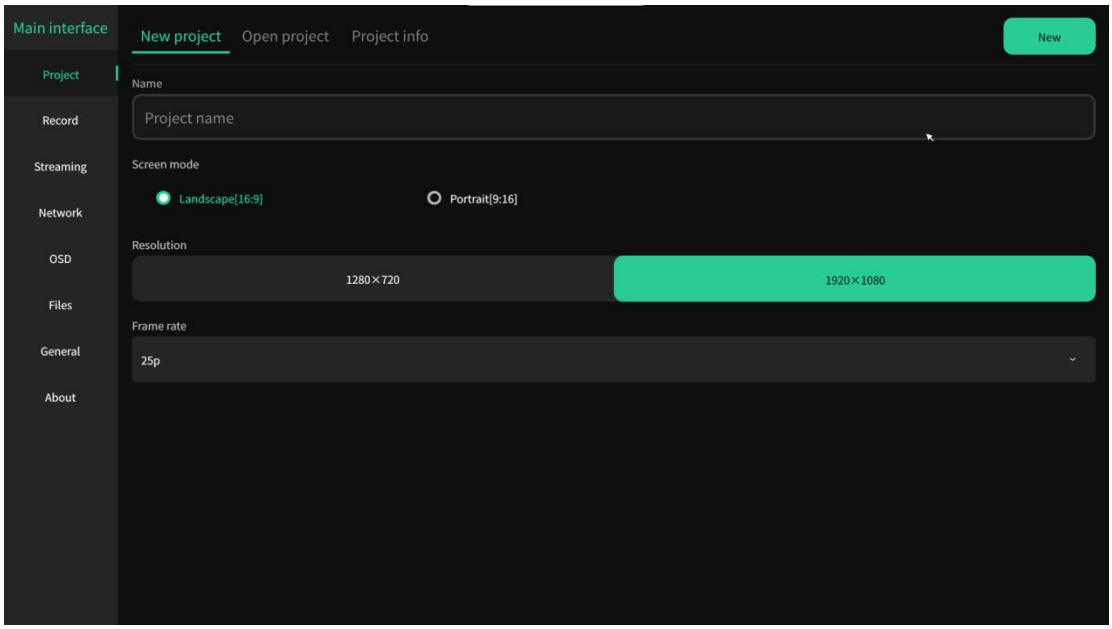
2.1.13 File Transfer

You can quickly add and transfer files to the device's local storage by scanning the QR code or opening the URL address on the page through a browser. File transfer supports multiple types of file transfers, including **videos** (mp4, mov, avi, flv, mkv, etc.), **images** (png, jpg, jpg, gif, etc.), **CG** (nscgx files), **scoreboards** (nscgx files), **fonts** (ttf, ttc, otf types), and **subtitles** (txt types). Can open the file browser in multiple locations such as scoreboard, subtitles, picture in picture, DDR videos, CG etc. and select "Internal Storage" from the drop-down menu, click the button below to start file transfer, as shown in the following figure:



2.2 NSCasterX2S Settings Interface

Click  to enter the setting interface. Respectively, there are "Project, Recording, Streaming, Network, OSD, Files, General Settings, About" module.

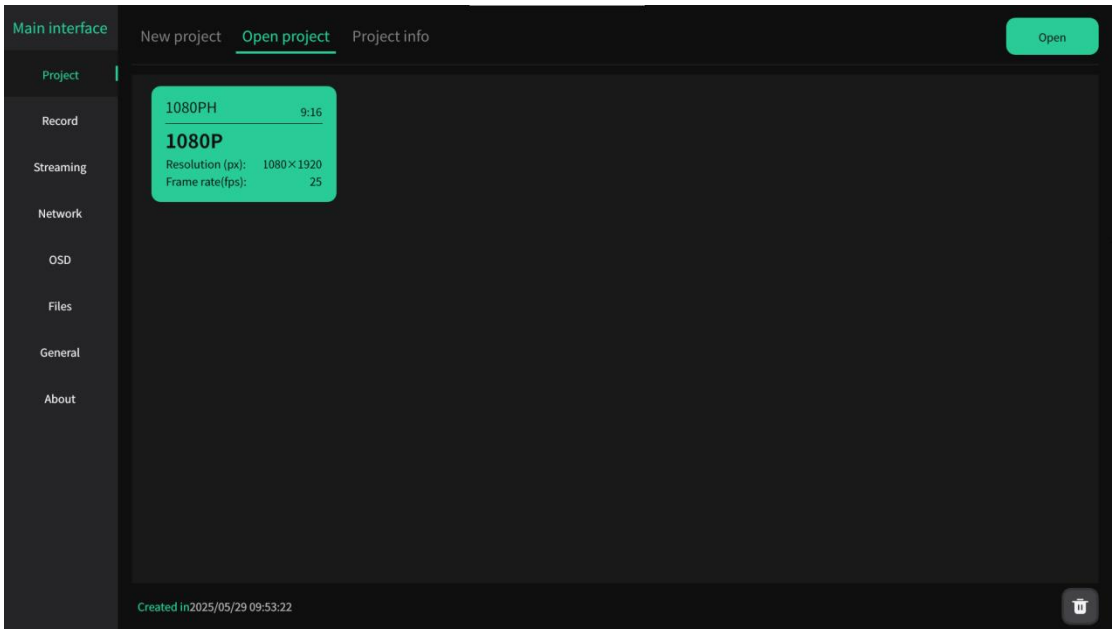


2.2.1 Project

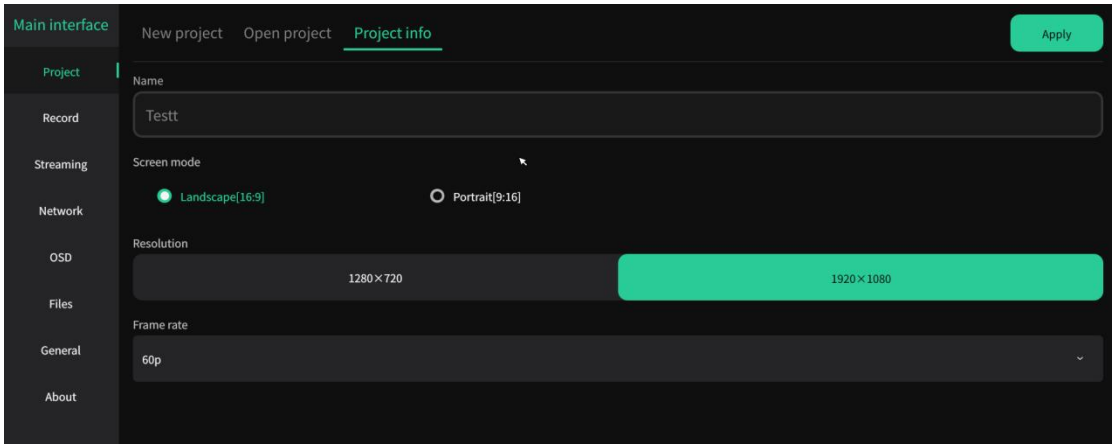
Open the project module to create a new project, open other projects, and view current

project information.

Open and New: You can select the most recently opened historical project or create a new project. After saving, you can directly select the project to open the next time. You can also click the button in the bottom right corner to delete the selected project, as shown in the following figure:



Project Information: You can view the current project screen mode, resolution, and frame rate, or directly modify the current project resolution and frame rate. After modification, click the "Apply" button in the upper right corner and wait for the restart to take effect. As shown in the following figure:

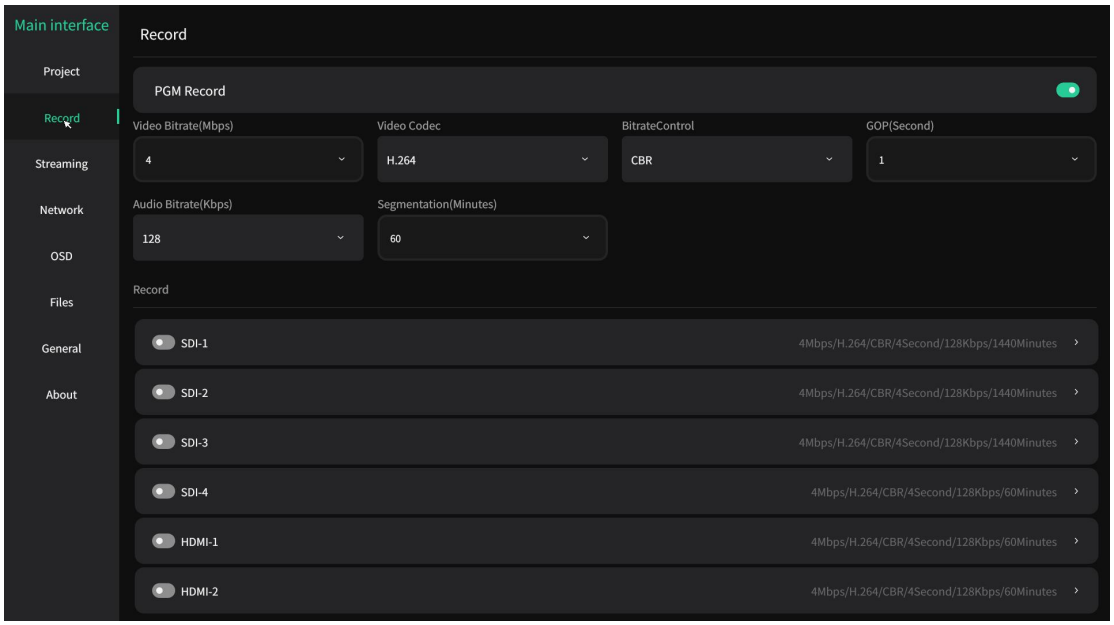


2.2.2 Recording

Record is including the PGM recording and channel recording. Click the button on the “Main Interface” to start recording, and click again to stop. The recorded files are stored in the “Record-File copy-Recording” folder. Parameter settings include: resolution, video bitrate,

video codec, bitrate mode, GOP, audio bitrate and segmentation. The bitrate and GOP in the interface can be customized.

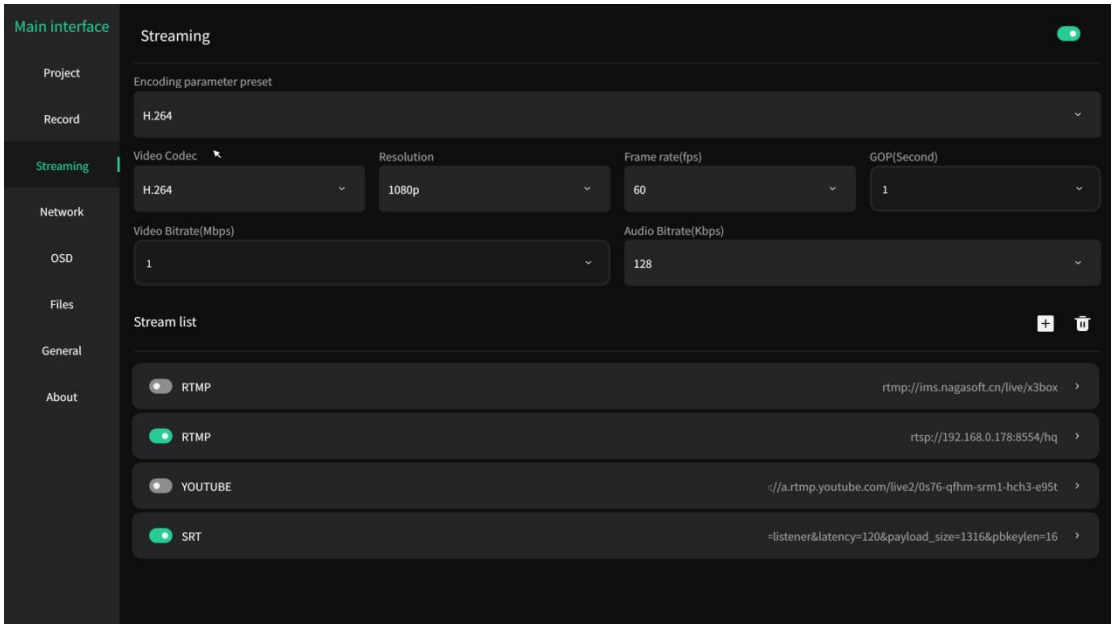
PGM recording can be started independently. When channel recording is started, PGM recording must also be started. Channel recording only supports physical channel activation, as shown below



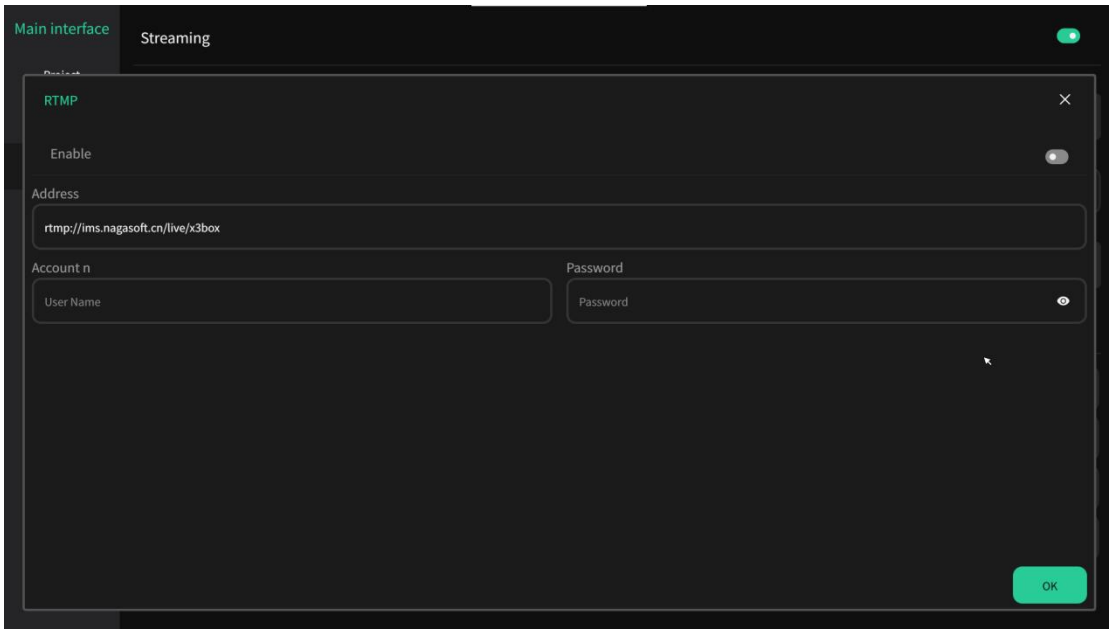
Note: If the recording is interrupted in the middle, the file will be damaged and you need to use the repair tool to repair the recorded file. To reduce the damage of the whole file caused by recording interruption, you can choose to split the recorded file.

2.2.3 Streaming

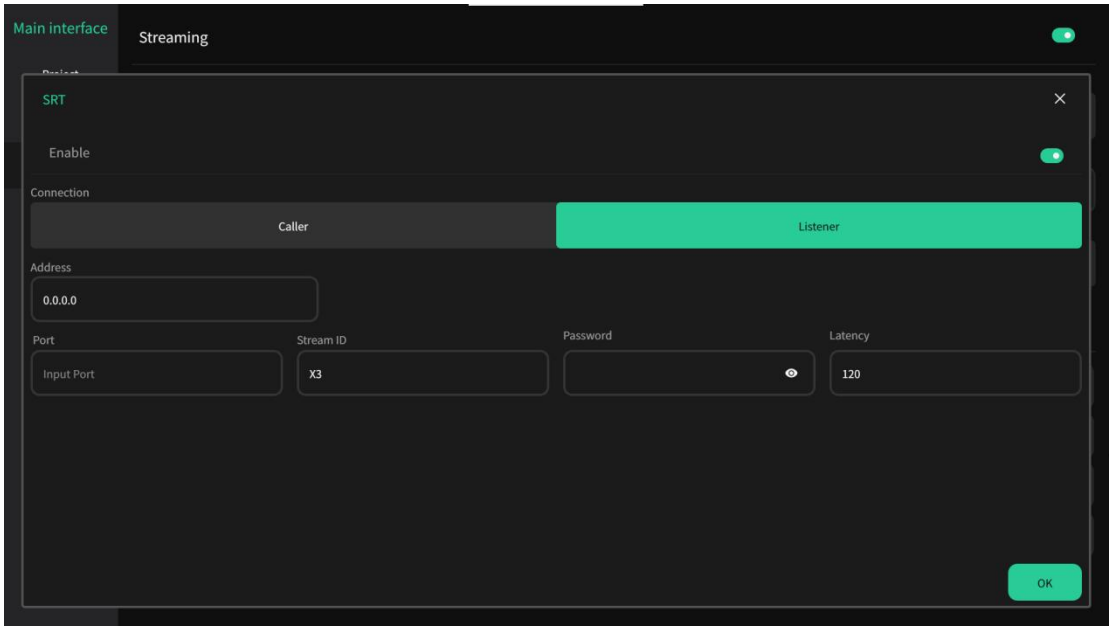
PGM streaming supports live streaming on multiple platforms, including RTMP streaming and SRT streaming. Click the  button under the PGM window of the "main interface" to start streaming, and click again to stop streaming. Multiple streams can be started simultaneously, as shown in the following figure:



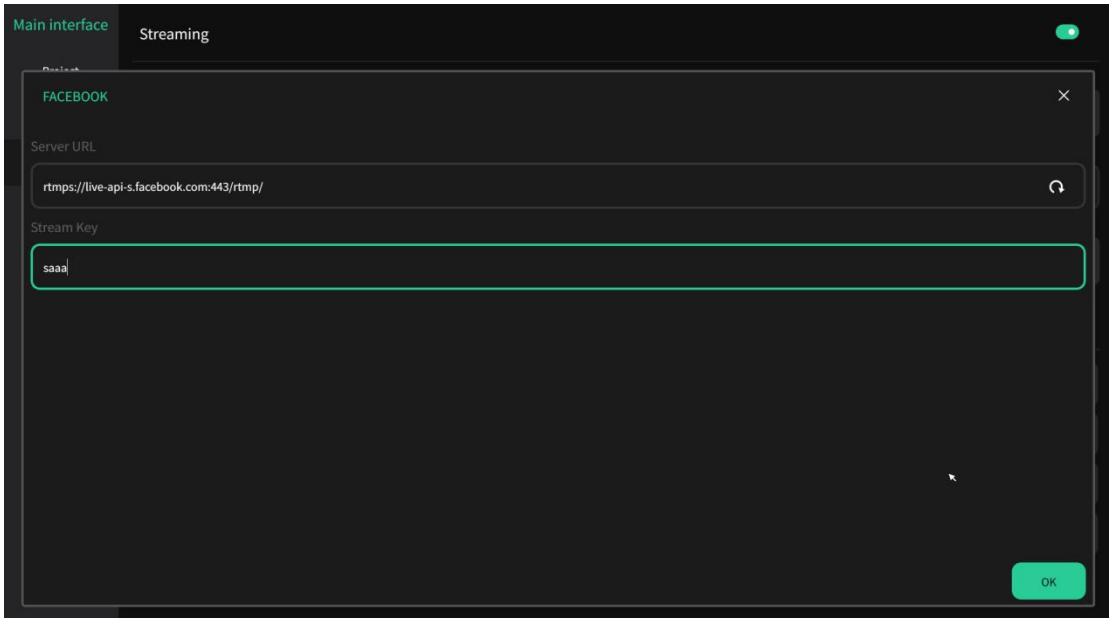
(1) RTMP: If channel streaming protection is set, a username and password must be entered. If not set, there is no need to fill them in. The input format is“ rtmp://ip:port/live ”The 'stream name' is the name of the channel, as shown in the following figure:



(2) SRT: Select the Caller mode, fill in the server address or IP, port, flow ID, and password; Select Listener mode, the default IP is the device's local IP, which cannot be changed. Simply fill in the port, stream ID, and password, as shown in the following figure:



3) You can also do Facebook streaming and YouTube streaming directly in the corresponding tab, and simply type in the address to set.

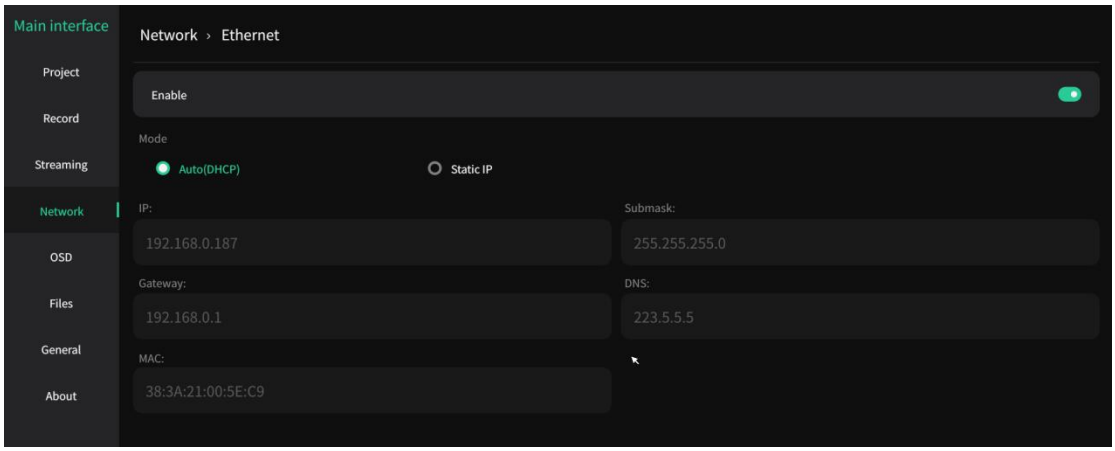




2.2.4 Network

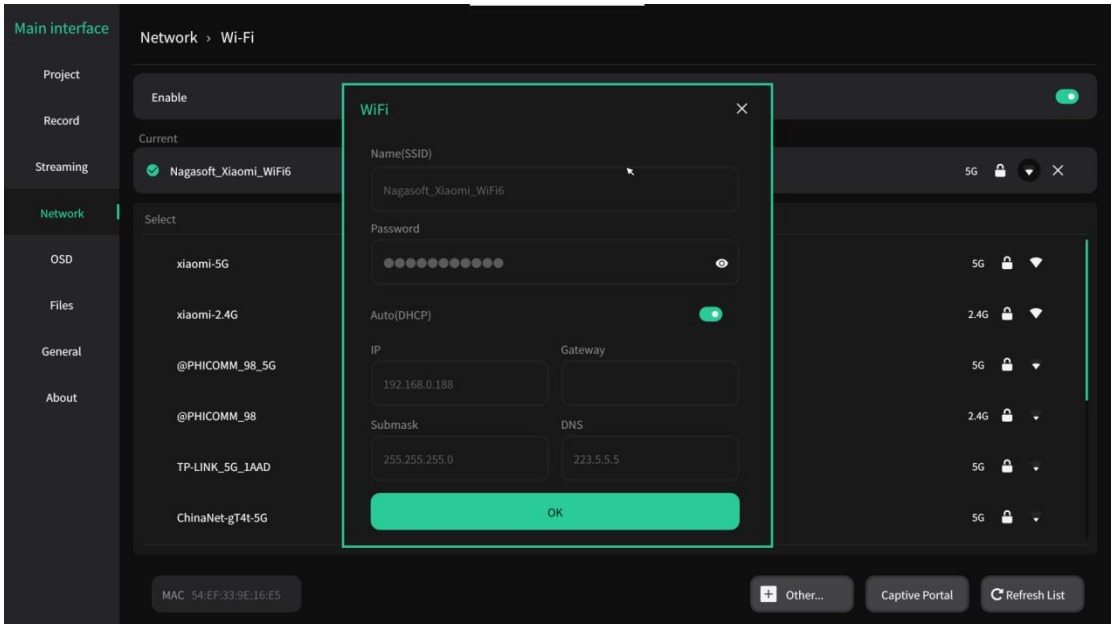
NSCasterX2S supports Ethernet, WIFI, mobile network (special version only). The status of the connection  is displayed on the main interface, green dot indicate that it is connected.

1. **Ethernet**: The default boot and the access network cable will automatically obtain the IP. Open DHCP and click “Apply” to get the IP address automatically, or turn off DHCP to manually modify the IP address as shown below:



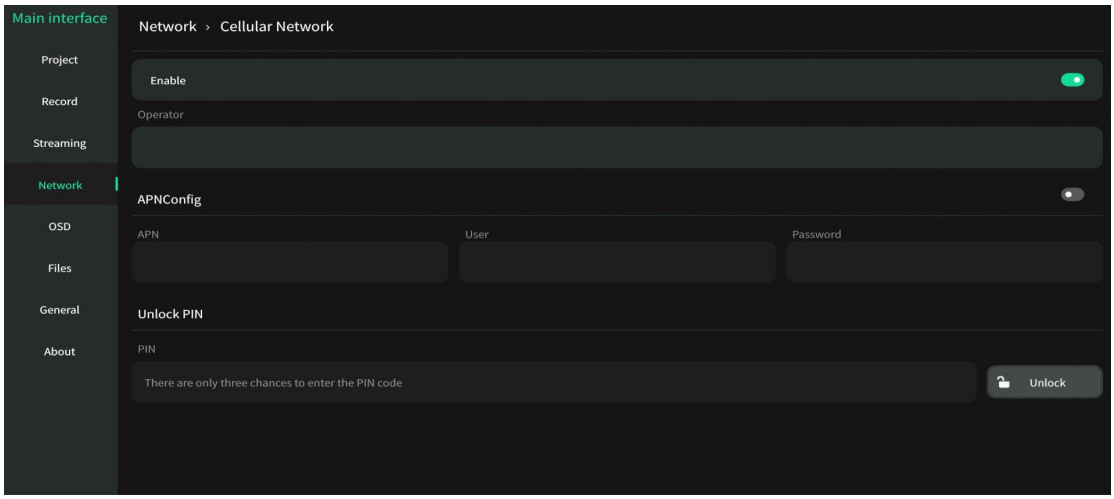
2. Wireless network:

Select the WiFi you want to connect to and enter the correct password. Click on the connected WiFi to view its IP address and other information. Click 'Add Network' to add other networks or hidden networks. After connecting the device to the WiFi that requires authentication, click on "WiFi Authentication" and follow the prompts on the interface to complete the authentication steps in sequence. As shown in the following figure:

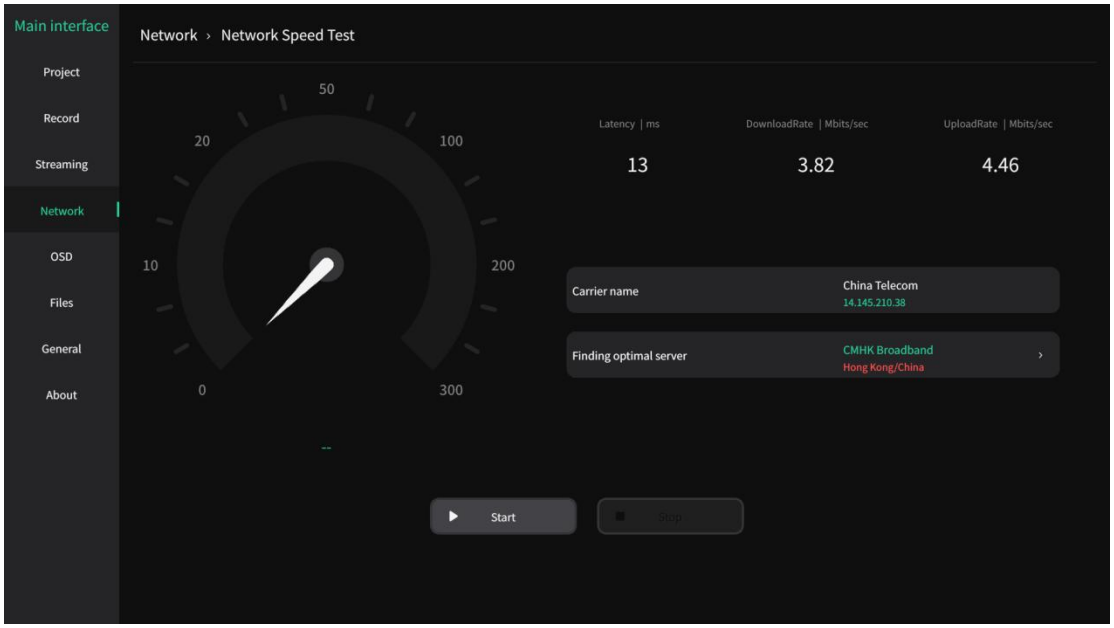


3. Mobile network (only special version support)

Turn on the mobile network, the SIM card will automatically recognize when connected, and support 5G network applications. When the SIM card has enabled the PIN code, it is necessary to enter the PIN code to unlock the SIM card before dialing can be recognized. The PIN code has only 3 opportunities to be entered. As shown in the following figure:

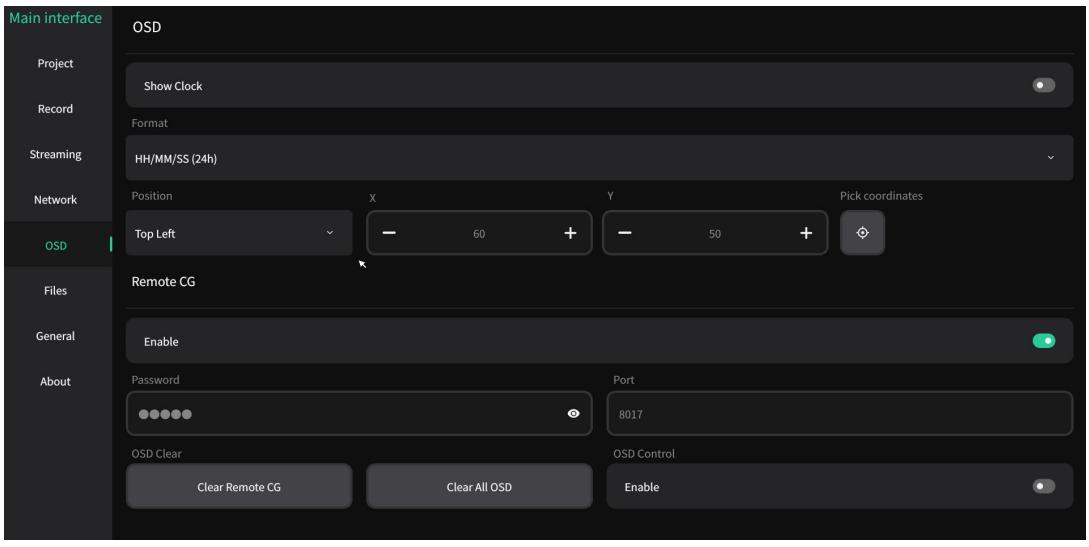


3. Network Speed Test: After connecting to the network, you can test the upload/download connection status of the network in real time. There are five speed measurement points for network speed: China speed measurement point, Japan speed measurement point, Singapore speed measurement point, Germany speed measurement point, and United States speed measurement point as shown in the following figure:



2.2.5 OSD

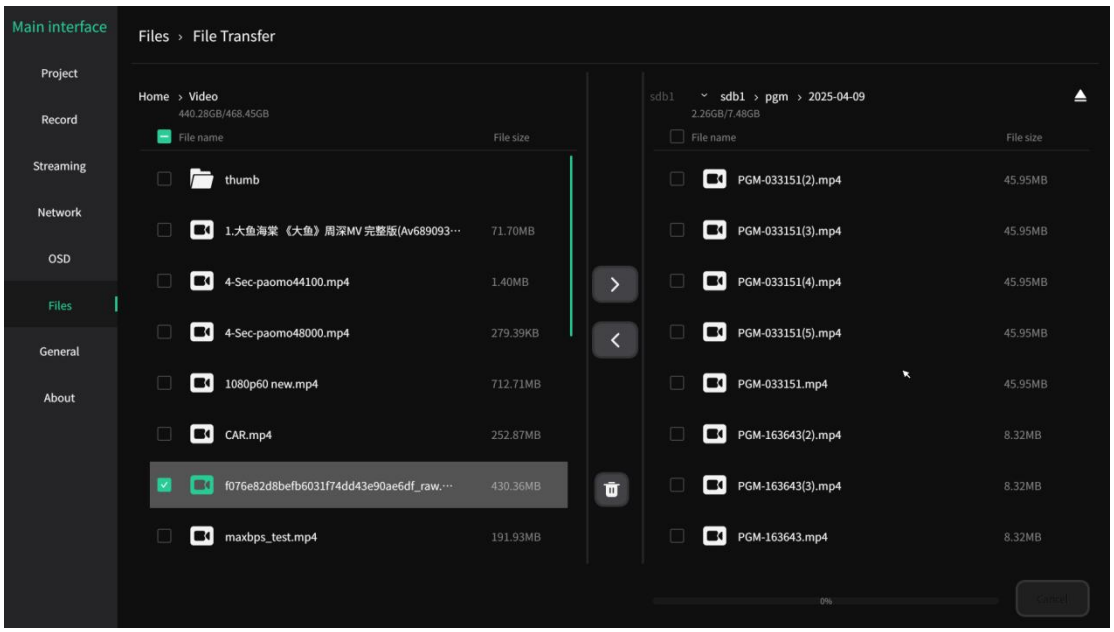
It can support the display of the clock and remote CG overlay. After enabling clock configuration, the current time can be displayed in the PGM. The clock format and position support real-time switching and custom clock position coordinates. The setting interface is shown in the following figure:



Remote CG needs to be used with a CG editor. Set the remote CG port (default port 8017/default password admin), click “Apply”, enable overlay control, and manually move images/CG/scoreboard between PVW and PGM. The download link for the CG editor can be found on the main interface - CG-CG editing page. Click the download button in the upper right corner to scan the code and copy the download link.

2.2.6 Files

The file transfer between local files and USB drives also supports copying files to CDs. Or upload the recorded file to an FTP server, as shown in the following figure:



1.Local folder directory description:

①CG material: Store CG file

②Font: Store font styles

③Picture material: Store custom images, which can also be used for image overlay function and picture-in-picture custom template background.

④Recording: The "channel" folder stores channel recording files, “pgm” folder to store PGM recording files.

⑤Scoreboard template: Store customized scoreboard materials

⑥Subtitles: Store txt format subtitle file

⑦Video material: Store DDR playback video.

2.The button operation is as follows:

①  Button : Delete select file

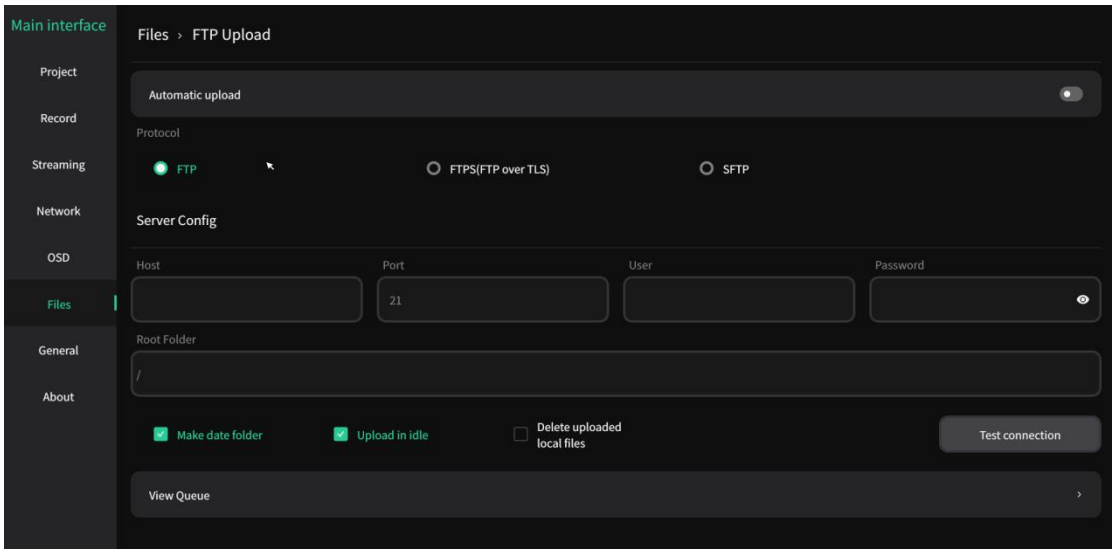
②  Button : Copy locally to a USB flash drive

③  Button : Copy from USB flash drive to local

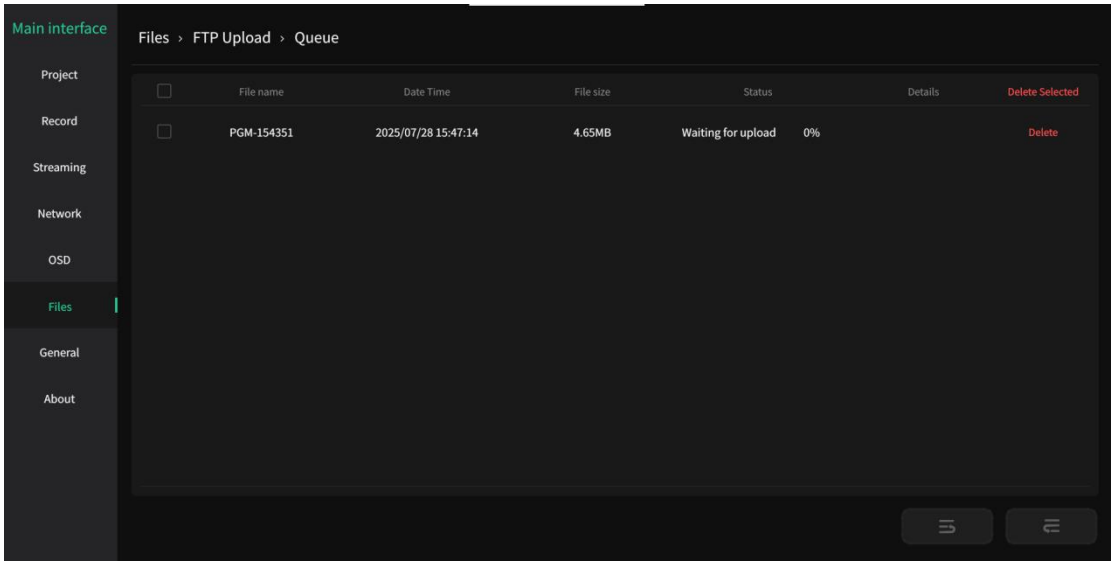
④  Button : Remove USB flash

⑤  Button : During file copying, cancel the copy by the cancel button. Copy progress can refer to the percentage status of the progress bar.

3. FTP upload: Select the upload protocol, fill in the FTP server address, port, username, and password. You can use the "Test Connection" button to test and determine whether the device is connected to the FTP server normally, as shown in the following figure:

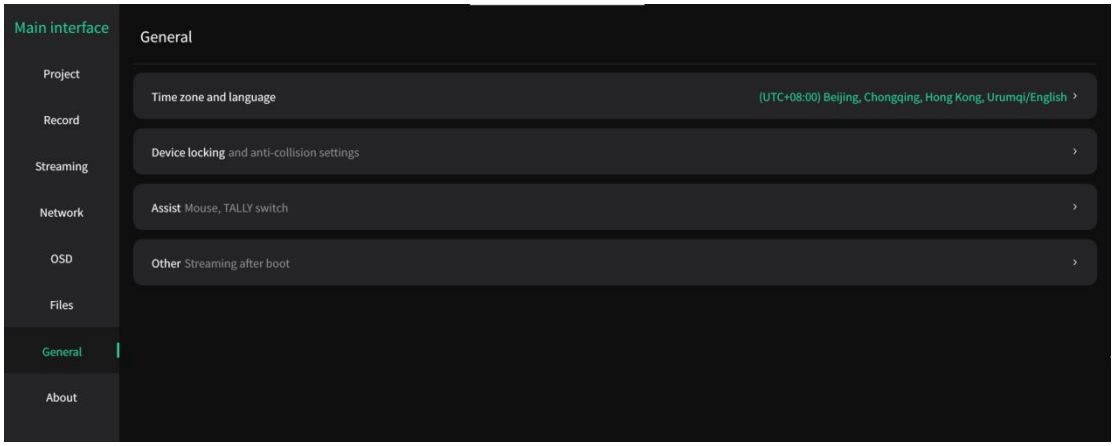


Click on 'View Queue' to view the files to be uploaded in the upload queue, and you can also delete the files to be uploaded, as shown in the following figure:

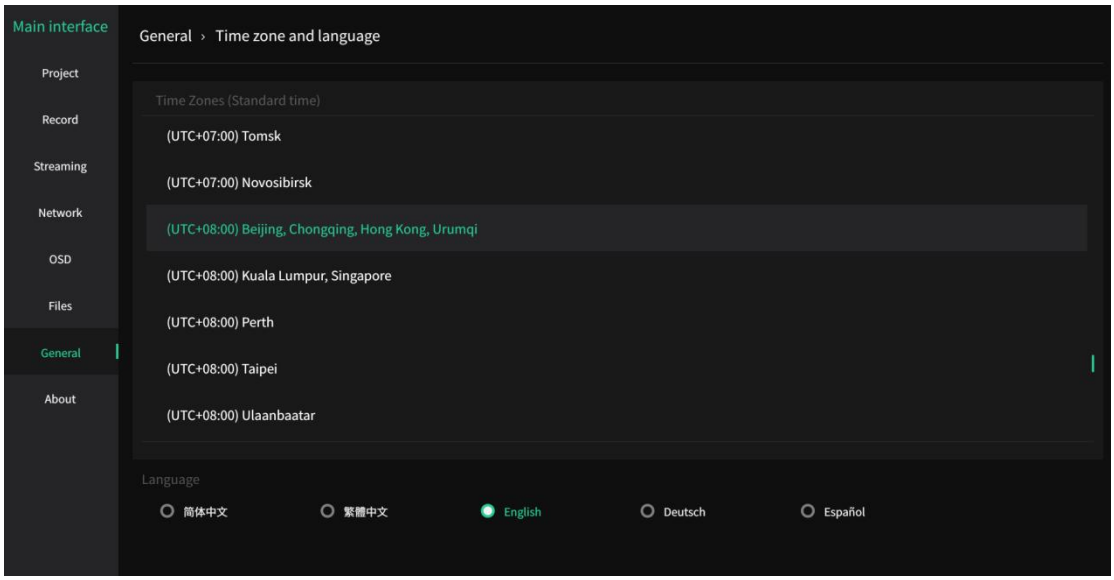


2.2.7 General

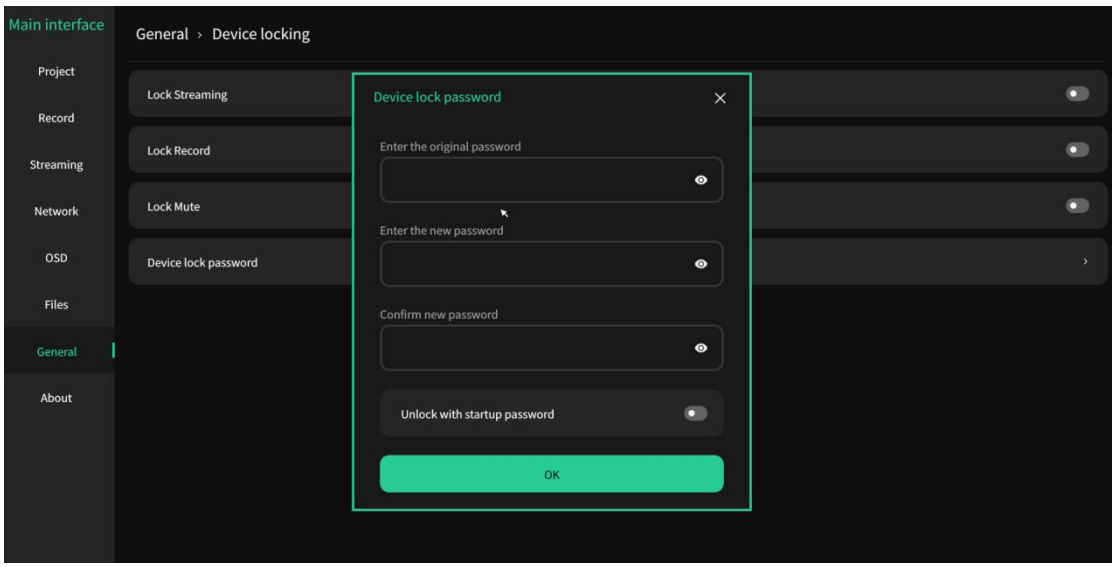
General settings includes the configuration of time zone and language, system, lock, assist and other modules. The interface is shown in the following figure:



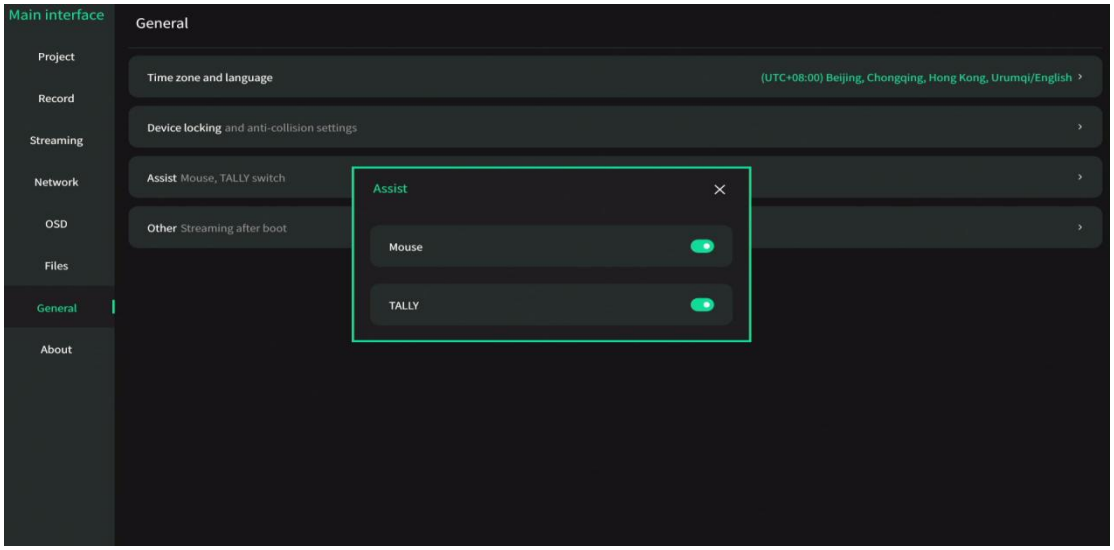
1. Time Zone: Support real-time switching between time zone and language as shown in the following figure



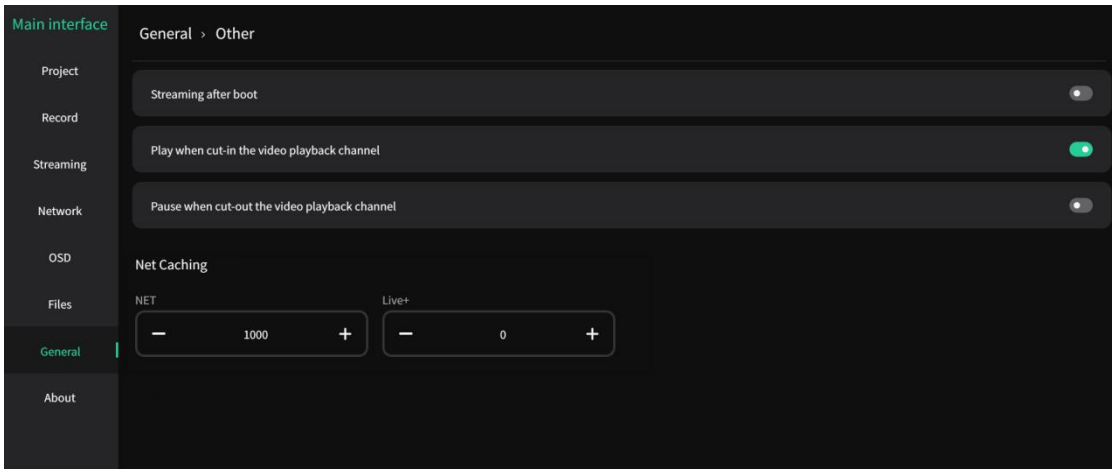
2. Device lock: Anti accidental collision can be set for streaming, recording, and main mute. It supports setting device passwords. After unlocking with the startup password, the password must be entered after each restart to enter. To activate the single interface lock screen, you need to return to the main interface and click the top  button to lock the screen. As shown in the following figure:



2. Assistance: Mouse and TALLY auxiliary operation devices can be set up. As shown in the following figure:



4. Other settings include automatic streaming upon startup, local video file channel switching in and out of video status, network streaming and Live+connection buffer time, and physical input elimination of interlaced mode, as shown in the following figure



2.2.8 About

The About page display of the current device model, serial number, firmware version number, software version number, and other information on the interface. When a new version is pushed and released, clicking on the software version can update the software. The interface is shown in the following figure:

