

Genesis™ 500 AV-over-IP Streaming and Recording G501RH/G502RH



Document No. SD-MA-046

Document Version: 01

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1. Overview

G501RH/G502RH are the latest Genesis AV-over-IP streaming encoders/decoders, which offers multiple operation modes including encoding, decoding, transcoding, video mixing and recording of video/audio sources up to 4K using H264/H65 video codecs. Both units support multiple streaming protocols such as RTMP and RTSP, giving user the chance of easy streaming on live platforms like YouTube or decoding using any 3rd party device that supports the corresponding protocol. G501RH/G502RH also support simultaneous external recording via USB stick or SD card while streaming.

In addition, G502RH supports simultaneously encoding and decoding, making it possible to mix up 6 signals from 2 HDMI inputs and 4 transcoded streams in a dual live stream with one customised layout. G501RH/G502RH is a perfect solution for online training and lecture/meeting recording.

Key Features

- Support multiple operation modes including encoding, decoding, transcoding, video mixing and recording
- Support multiple streaming protocols, including RTMP, HTTP, HLS, SRT, RTP, ONVIF, UDP Unicast/Multicast and RTSP over UDP/TCP
- Support encoding up to 2 HDMI inputs or transcoding up to 4 streams in dual stream channels with a resolution up to 4K
- Support decoding up to 8 streams and output via HDMI with an up to a 3x3 multiview for display
- Support mixing of 4 streams and 2 HDMI inputs in a dual encoding channel with one customised layout
- Support selectable audio input and output between 3.5mm mini jack and embedded audio or a mix of all
- External video storage on USB stick or MicroSD cards
- Support automatic replacement of old files during continuous recording
- Support uploading of recordings to FTP servers
- User-friendly WebUI for configuration
- Flexible power supply: PoE or AC adapters

Package Content

Unit x1

Power Adapter x1

Audio Cable x1

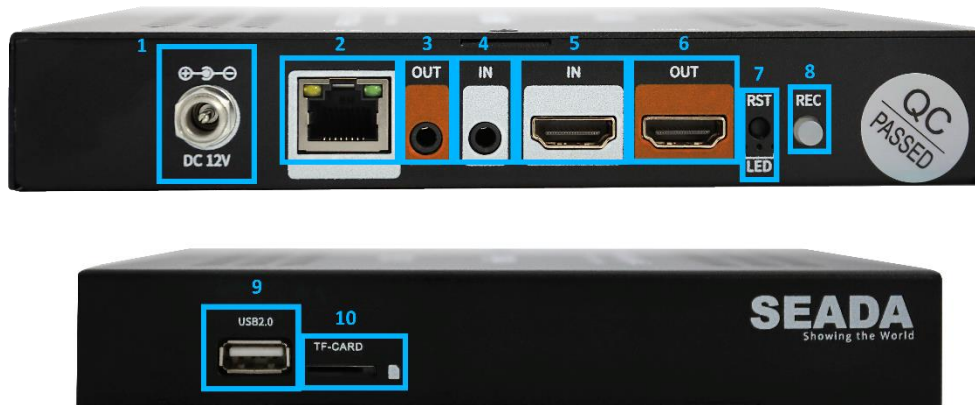
Download Card x1

2. Specification

Model Name	G501RH	G502RH
Video Port Interface	Input: HDMI x1 Output: HDMI x1	Input: HDMI x2 Output: HDMI x1
HDMI Input Resolution	Up to 1920x1080	Up to 3840x2160
HDMI Output Resolution	Up to 1920x1080	Up to 1920x1080 (Max 8 windows)
Encoding Resolution	Up to 1920x1080	Up to 3840x2160
Encoding Format	H264/H265	H264/H265
Encoding Bitrate	160-20000	16-20000
Key Frame Interval	30-180	5-200
Simultaneous Encoding and Decoding	No	Yes
Decoding Resolution	Up to 1920x1080	Up to 1920x1080
Simultaneous Streaming	Up to 4	Up to 2 per Transcoded Stream/HDMI Input
Simultaneous Decoding	Up to 1	Up to 8
Support Operation Mode	Encoding, Decoding, and Recording	Encoding, Decoding, Transcoding, Video Mixing and Recording
Support Protocol	RTMP, HTTP, HLS, SRT, RTP, ONVIF, NDI, UDP Unicast/Multicast and RTSP over UDP/TCP	RTMP, HTTP, HLS, SRT, RTP, ONVIF, UDP Unicast/Multicast and RTSP over UDP/TCP
Audio Input	Embedded HDMI or 3.5mm Jack	Embedded HDMI or 3.5mm Jack or mix of all
Audio Output	Embedded HDMI or 3.5mm Jack	Embedded HDMI or 3.5mm Jack or mix of all
Audio Codec	AAC/MP3	AAC/MP3/OPUS
Storage	MicroSD, USB Stick	USB Stick
USB Interface	USB 2.0 Type A	USB 3.0 Type A
Recording Format	MPEG2-TS	MPEG2-TS
User Interface	WebUI	WebUI
Upload To FTP Server	Yes	No
IP Configuration	DHCP, Static (Default)	DHCP, Static (Default)
Dimension (W x D x H)	180x100x30mm	220x150x25mm
Weight	0.46kg	0.70kg
Operating Temperature	-4° ~ +140° F (-20° ~ +60° C)	-4° ~ +140° F (-20° ~ +60° C)
POE Standard	Yes	No
Power Supply	12V3A or PoE	12V3A

3. Panel Layout

3.1 Hardware Interface – G501RH



ID	Name	Description
Front Panel		
1	DC Power socket	12V3A Power Socket
2	LAN Ethernet port	1000Mbps Ethernet Port
3	Line Audio Input	3.5mm Jack Analog Audio Input
4	Line Audio Output	3.5mm Jack Analog Audio Output
5	HDMI Input	Connect an HDMI cable from this port to an HD or 4K video source
6	HDMI Output	Connect an HDMI cable from this port to an HD display
7	Reset	Reset button to restore to the factory default setting
8	REC Light	Indicate the status of the unit Slightly RED: the unit is booting up GREEN: the unit is ON Flash GREEN: the unit is ON and recording
Back Panel		
9	Front USB Connector	USB 2.0 port for recording storage
10	TF-CARD	MicroSD card slot for recording storage

3.2 Hardware Interface – G502RH

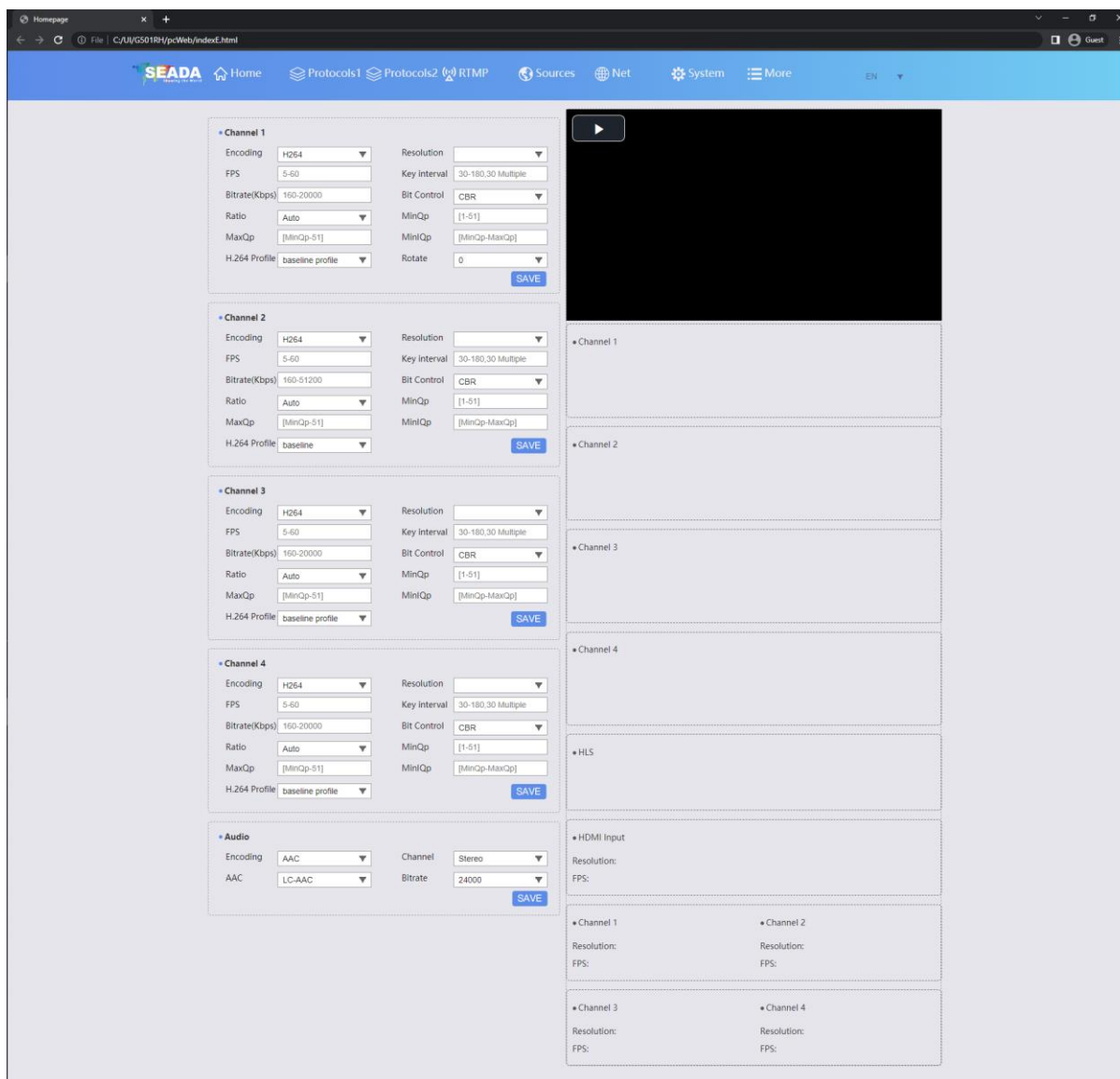


ID	Name	Description
Front Panel		
1	DC Power socket	12V3A Power Socket
2	LAN Ethernet port	1000Mbps Ethernet Port
3	Line Audio Input	3.5mm Jack Analog Audio Input
4	Line Audio Output	3.5mm Jack Analog Audio Output
5	HDMI Input 1	Connect an HDMI cable from this port to an HD or 4K video source
6	HDMI Input 2	Connect an HDMI cable from this port to an HD or 4K video source
7	HDMI Output	Connect an HDMI cable from this port to an HD display
8	Reset	Reset button to restore to the factory default setting
Back Panel		
9	Power Indicator	Indicate the status of power
10	LAN Ethernet Indicator	Indicate the status of LAN connection
11	HDMI 1 Indicator	Indicate the status of HDMI 1 connection
12	HDMI 2 Indicator	Indicate the status of HDMI 2 connection
13	Front USB Connector	USB 3.0 port for recording storage
14	RS485 Port	RS485 Port for External Control

4. Software Interface – G501RH

By default, the IP address for G501RH is 192.168.1.168. Enter the IP address in any browser to enter the WebUI.

4.1 Home Page



The screenshot displays the SEADA G501RH WebUI Home page. The interface is divided into two main sections: a settings panel on the left and a monitoring/preview panel on the right.

Settings Panel (Left):

- Channel 1, Channel 2, Channel 3, Channel 4:** Each channel has a set of configuration options:
 - Encoding: H264
 - FPS: 5-60
 - Bitrate(Kbps): 160-20000
 - Ratio: Auto
 - MaxQp: [MinQp-51]
 - H.264 Profile: baseline profile
 - Resolution: (Dropdown)
 - Key Interval: 30-180, 30 Multiple
 - Bit Control: CBR
 - MinQp: [1-51]
 - Rotate: 0
- Audio:**
 - Encoding: AAC
 - AAC: LC-AAC
 - Channel: Stereo
 - Bitrate: 24000

Each channel and the audio section have a "SAVE" button.

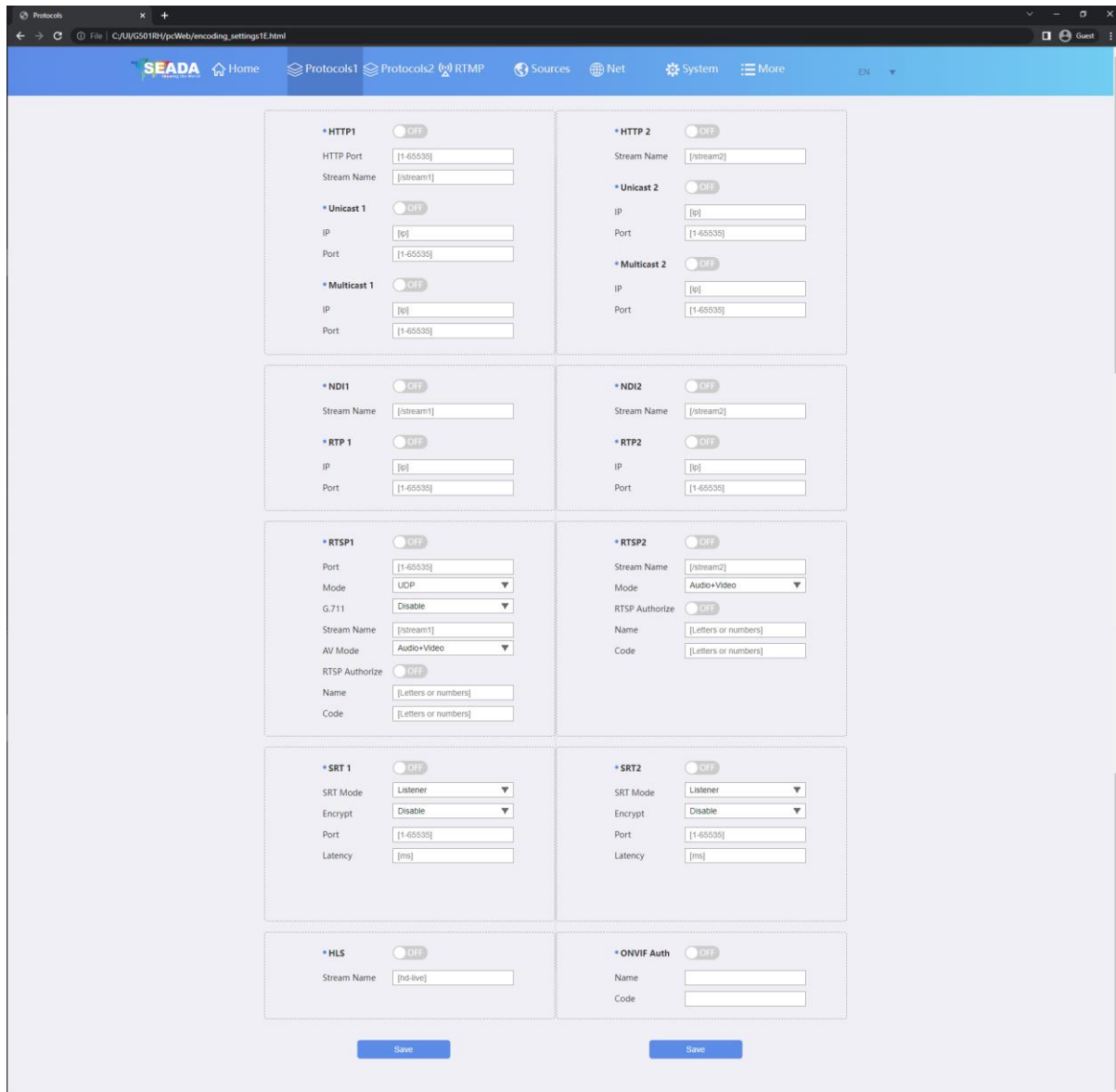
Monitoring/Preview Panel (Right):

- Channel 1:** A video preview window.
- Channel 2, Channel 3, Channel 4:** Placeholder boxes for video previews.
- HLS:** A section for HLS streaming settings.
- HDMI Input:** A section for HDMI input settings, including Resolution and FPS.
- Summary Table:** A table at the bottom right showing the Resolution and FPS for each of the four channels.

In the 'Home' tab, user can set up parameters of the four encoded streams for the HDMI input. Each stream can be set up individually and has its own setting. The parameters of the encoded streams and stream URLs will be displayed on the right of the page. User can also have a HTML5 online preview of the input source (**HLS enable required**) and monitor its information on the right side of the page. The parameters that can be set for each stream is as below:

Video Channel 1-4	
Encoding	Specify video encoding <ul style="list-style-type: none"> • H264 (AVC) • H265 (HEVC)
Resolution	Specify the encoded resolution
FPS	Specify the encoded frame rate
Key Interval	Specify the interval of intra frames (I-frames)
Bitrate (Kbps)	Specify the average video bitrate
Bit Control	Specify the video encoding control <ul style="list-style-type: none"> • VBR (variable bitrate) • CBR (constant bitrate)
Ratio	Specify the encoded aspect ratio
MinQp	Specify the minimum quantizer parameter (Only set under VBR)
MaxQp	Specify the maximum quantizer parameter (Only set under VBR)
MinIQp	Specify the minimum quantizer parameter for I-frame (Only set under VBR)
H.264 profile	Specify the syntax of the video codec <ul style="list-style-type: none"> • Baseline • Main • High
Rotate	Rotate the encoded video
Audio	
Encoding	Specify audio encoding <ul style="list-style-type: none"> • AAC • MP3
Channel	Specify channel for the audio <ul style="list-style-type: none"> • Stereo • L • R
AAC	Specify AAC profile <ul style="list-style-type: none"> • LC-AAC (Low Complexity AAC) (Good for high (≥ 80 kbps) bitrates) • HE-AAC (High Efficiency AAC) (Good for lower (≤ 80 kbps) bitrates)
Bitrate	Specify the bitrate for audio encoding

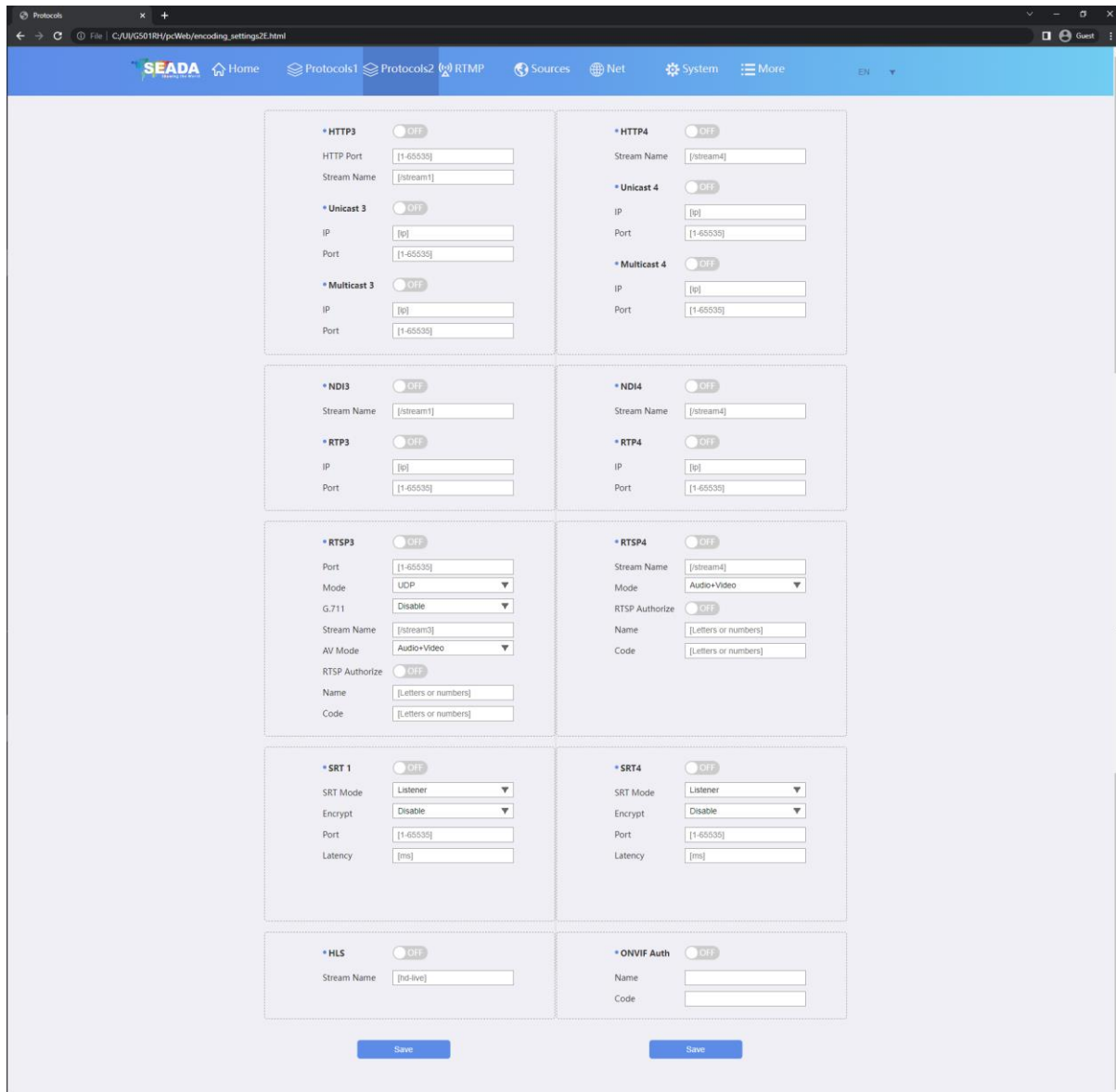
4.2 Protocols 1



The screenshot displays the 'Protocols' configuration page in the SEADA web interface. The page is organized into a grid of settings for two streams, Stream 1 and Stream 2. Each stream has a set of protocols that can be enabled or disabled. The protocols shown are HTTP, Unicast, Multicast, NDI, RTP, RTSP, SRT, HLS, and ONVIF. Each protocol has a toggle switch. When a protocol is turned on, additional configuration fields are revealed. For example, for HTTP, the 'HTTP Port' and 'Stream Name' fields are visible. For Unicast, the 'IP' and 'Port' fields are visible. For Multicast, the 'IP' and 'Port' fields are visible. For NDI, the 'Stream Name' field is visible. For RTP, the 'IP' and 'Port' fields are visible. For RTSP, the 'Port', 'Mode' (dropdown), 'G.711' (dropdown), 'Stream Name', 'AV Mode' (dropdown), 'RTSP Authorize' (toggle), 'Name', and 'Code' fields are visible. For SRT, the 'SRT Mode' (dropdown), 'Encrypt' (dropdown), 'Port', and 'Latency' fields are visible. For HLS, the 'Stream Name' field is visible. For ONVIF, the 'Name' and 'Code' fields are visible. The page includes a 'Save' button at the bottom.

User can choose the encoding protocol for the 1st and 2nd stream, including HTTP, UDP Unicast/Multicast, NDI, RTP, RTSP over UDP/TCP, SRT, HLS and ONVIF. By turning the corresponding protocol on, the address of the stream will be available on the '**Home**' page.

4.3 Protocols 2



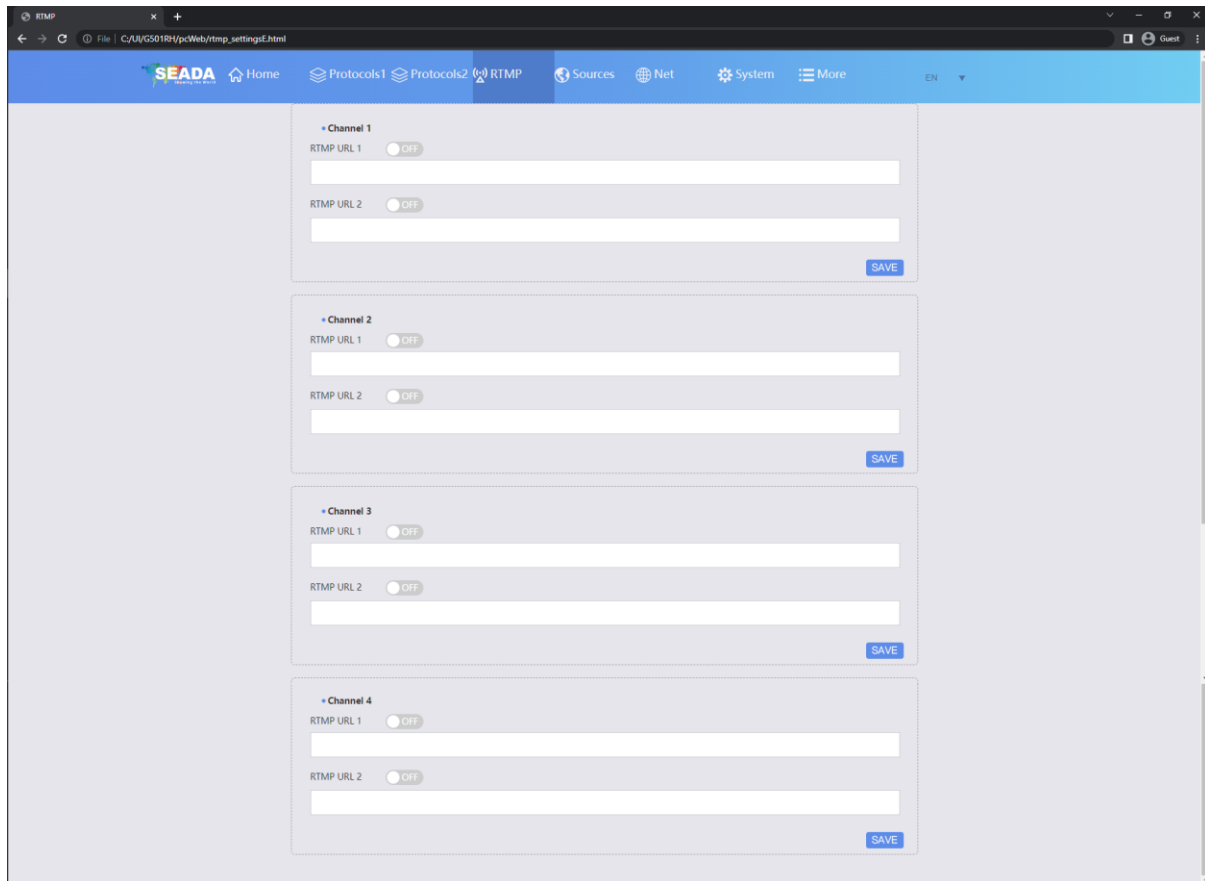
The screenshot displays the 'Protocols2' configuration interface. It features a grid of settings for two streams, Stream 3 and Stream 4. Each stream has a section for various protocols, each with a toggle switch and associated input fields.

- Stream 3 Protocols:**
 - HTTP3:** OFF. Fields: HTTP Port [1-65535], Stream Name [stream3].
 - Unicast 3:** OFF. Fields: IP [ip], Port [1-65535].
 - Multicast 3:** OFF. Fields: IP [ip], Port [1-65535].
 - NDI3:** OFF. Field: Stream Name [stream3].
 - RTP3:** OFF. Fields: IP [ip], Port [1-65535].
 - RTSP3:** OFF. Fields: Port [1-65535], Mode [UDP], G.711 [Disable], Stream Name [stream3], AV Mode [Audio+Video], RTSP Authorize [OFF], Name [Letters or numbers], Code [Letters or numbers].
 - SRT 1:** OFF. Fields: SRT Mode [Listener], Encrypt [Disable], Port [1-65535], Latency [ms].
 - HLS:** OFF. Field: Stream Name [hd-live].
- Stream 4 Protocols:**
 - HTTP4:** OFF. Fields: Stream Name [stream4].
 - Unicast 4:** OFF. Fields: IP [ip], Port [1-65535].
 - Multicast 4:** OFF. Fields: IP [ip], Port [1-65535].
 - NDI4:** OFF. Field: Stream Name [stream4].
 - RTP4:** OFF. Fields: IP [ip], Port [1-65535].
 - RTSP4:** OFF. Fields: Stream Name [stream4], Mode [Audio+Video], RTSP Authorize [OFF], Name [Letters or numbers], Code [Letters or numbers].
 - SRT4:** OFF. Fields: SRT Mode [Listener], Encrypt [Disable], Port [1-65535], Latency [ms].
 - ONVIF Auth:** OFF. Fields: Name, Code.

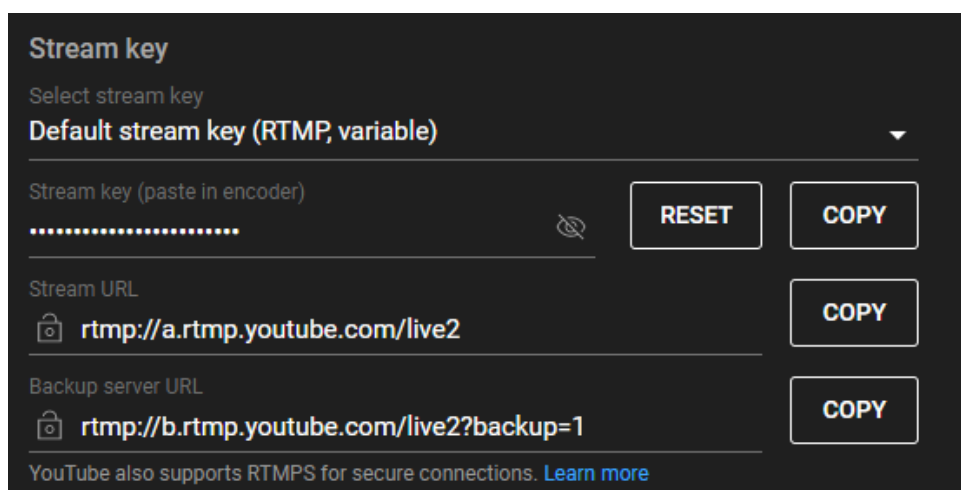
At the bottom of each column, there is a 'Save' button.

User can choose the encoding protocol for the 3rd and 4th stream, including HTTP, UDP Unicast/Multicast, NDI, RTP, RTSP over UDP/TCP, SRT, HLS and ONVIF. By turning the corresponding protocol on, the address of the stream will be available on the '**Home**' page.

4.4 RTMP

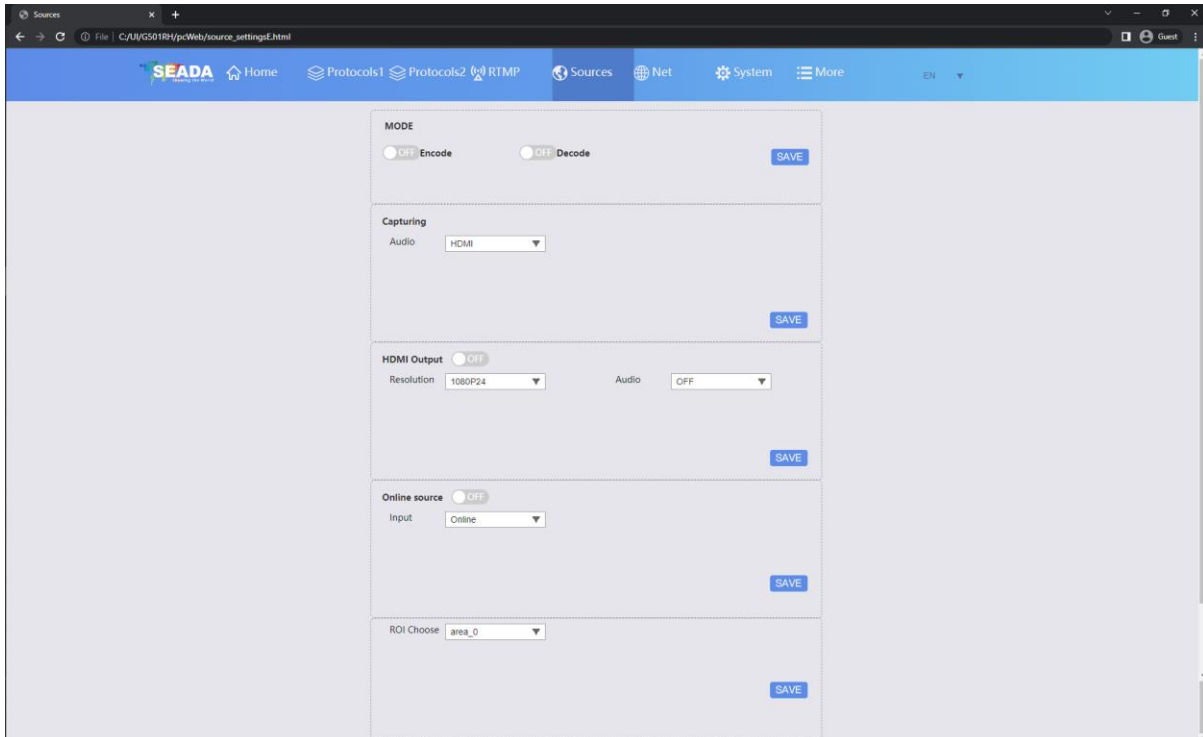


User can set up the RTMP online stream in this page. Each stream channel can have up to 2 RTMP streams. Taking YouTube RTMP as an example, user can fill in the stream URL, followed by the stream key with a symbol '/', which can be found on the user homepage of YouTube (rtmp://a.rtmp.youtube.com/live2/stream key).



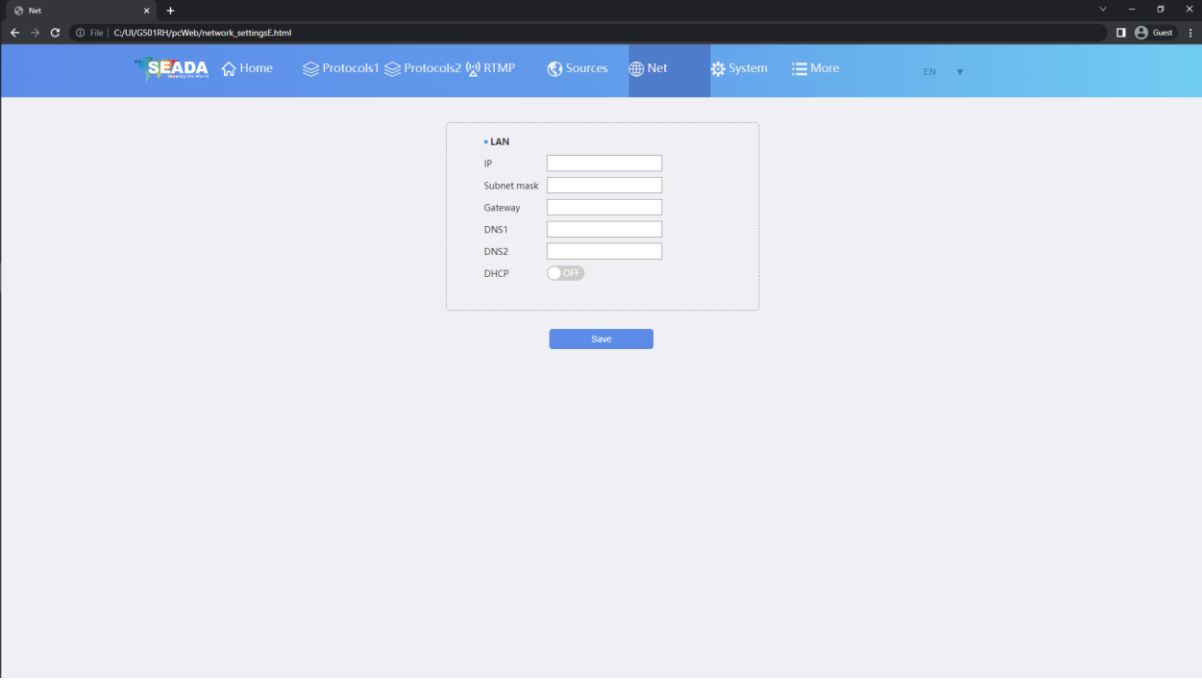
User can then turn the function ON and save the setting. After restarting the unit, the stream will start.

4.5 Sources



Mode	
Encode	Choose to enable the 'Encoder' Mode
Decode	Choose to enable the 'Decoder' Mode
Capturing	
Audio	Specify the source of audio during encoding <ul style="list-style-type: none"> • HDMI • 3.5mm Jack • HDMI+3.5mm Jack
HDMI Output	
Resolution	Specify the output resolution via HDMI
Audio	Turn ON/OFF the audio via HDMI
Online Source	
Input	Specify the type of decoded signal: Local/Online
Online	Specify the type of the online stream <ul style="list-style-type: none"> • URL (For general use) • SDK (Only support specific encoding products) • P2P (no longer available)
URL	The address of the stream signal
ROI Choose	
ROI	Enable ROI (Region of Interest) during encoding
ABS QP	By default, Rel QP: QP (-51~51) the difference between the region of interest and the QP for I-frame If chosen, Abs QP: QP (0~51) the value of QP in the region of interest

4.6 Net

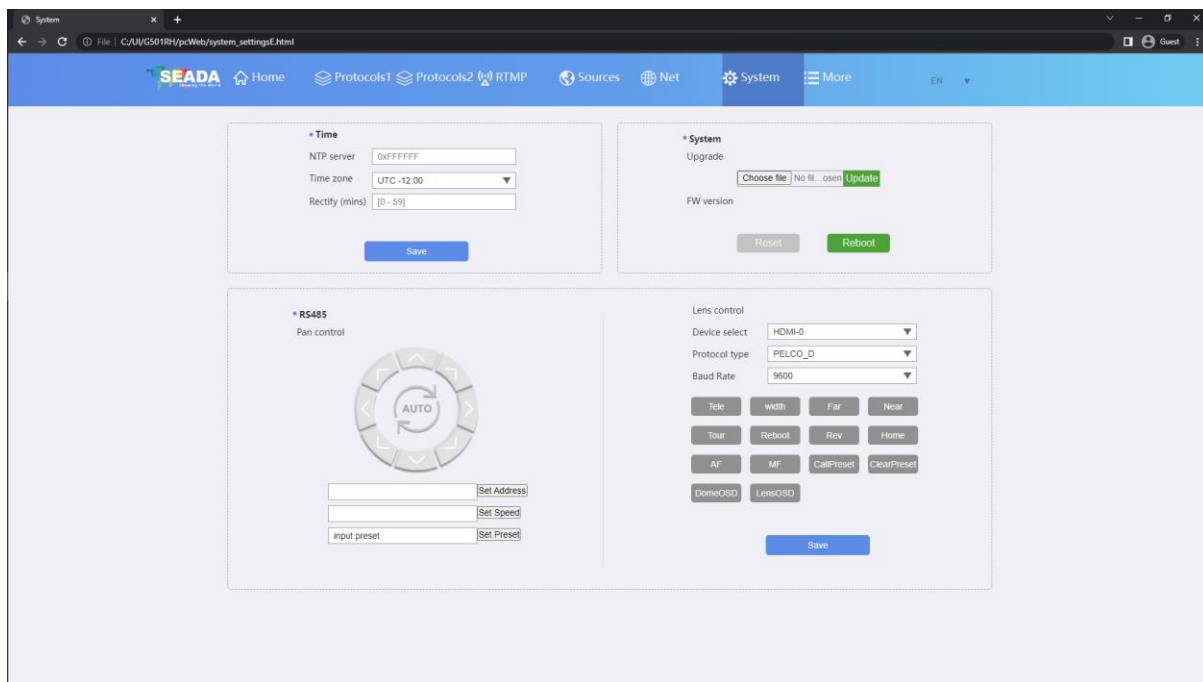


The screenshot shows a web browser window displaying the SEADA Net configuration page. The browser's address bar shows the file path: C:\AJG501RH\pcWeb\network_settingsE.html. The page has a blue header with the SEADA logo and navigation links: Home, Protocols1, Protocols2, RTMP, Sources, Net (selected), System, and More. The language is set to EN. The main content area is light gray and contains a central configuration box for the LAN interface. This box has a title bar that says 'LAN' and contains the following fields: IP, Subnet mask, Gateway, DNS1, and DNS2, each with an adjacent text input field. Below these fields is a DHCP toggle switch currently set to 'OFF'. A blue 'Save' button is located at the bottom center of the configuration box.

User can set up the network configuration of G501RH in this page.

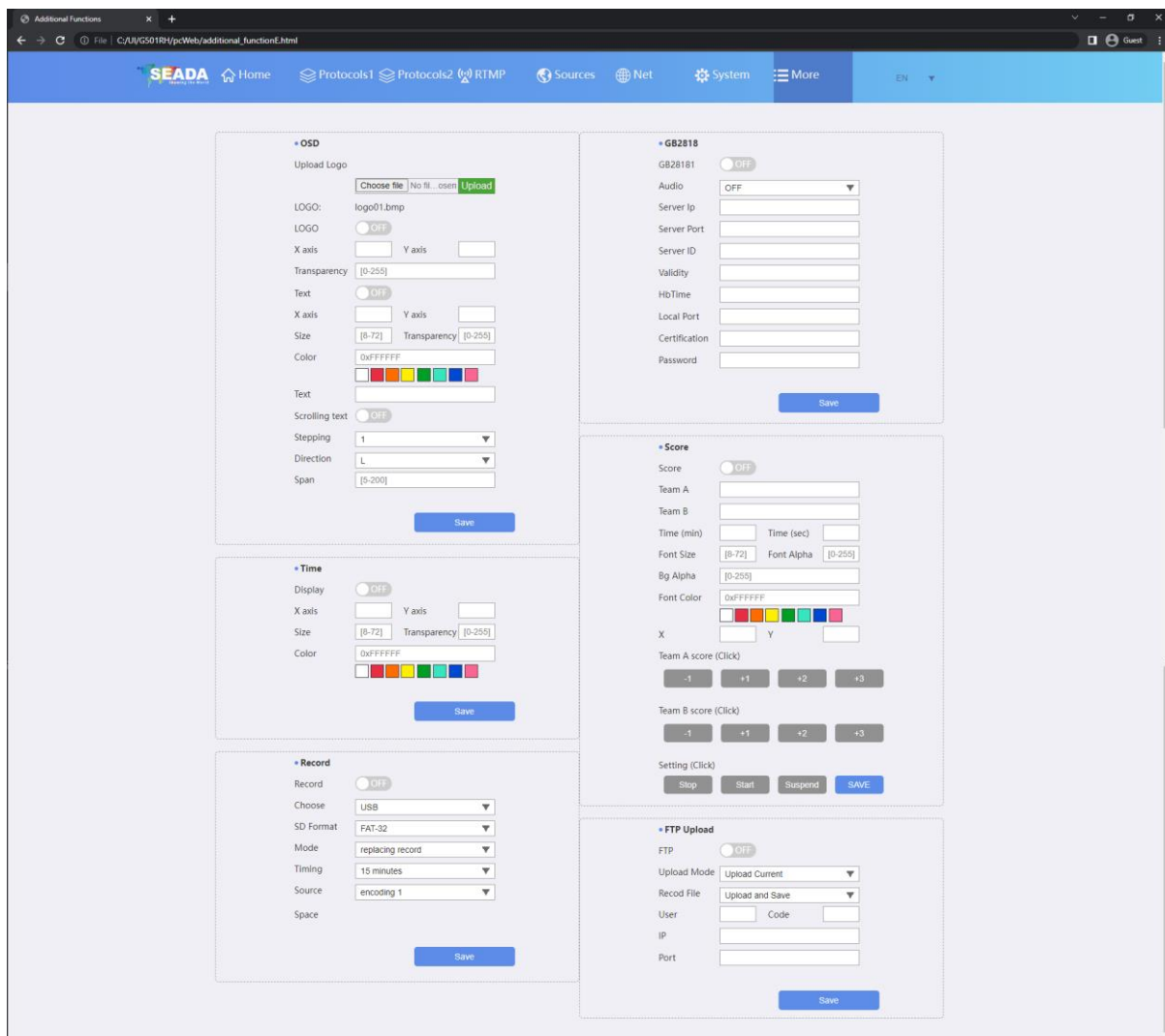
Note that it is recommended to change the DNS to 8.8.8.8 for online streaming purpose.

4.7 System



Time	
NTP server	Specify to set up the NTP server for time display
Time zone	Specify the time zone
Rectify (mins)	Rectify frequency for time drift
RS485	
Not supported on G501RH	
System	
Upgrade	Upgrade the firmware for the unit
FW version	<ul style="list-style-type: none"> Reset: reset the unit to factory default Reboot: reboot the unit

4.8 More



The screenshot shows the 'Additional Functions' page of the SEADA web interface. The page has a navigation bar with links to Home, Protocols1, Protocols2, RTMP, Sources, Net, System, and More. The 'More' menu is currently selected. The main content area is divided into six sections, each with a 'Save' button at the bottom:

- OSD:** Includes options for 'Upload Logo' (with a file picker and 'Upload' button), 'LOGO' (checkbox), 'X axis' and 'Y axis' (text inputs), 'Transparency' (range input), 'Text' (checkbox), 'X axis' and 'Y axis' (text inputs), 'Size' (range input), 'Transparency' (range input), 'Color' (color picker), 'Text' (text input), 'Scrolling text' (checkbox), 'Stepping' (range input), 'Direction' (dropdown), and 'Span' (range input).
- GB28181:** Includes a 'GB28181' checkbox, 'Audio' (dropdown), 'Server Ip', 'Server Port', 'Server ID', 'Validity', 'HbTime', 'Local Port', 'Certification', and 'Password' (text inputs).
- Score:** Includes a 'Score' checkbox, 'Team A' and 'Team B' (text inputs), 'Time (min)' and 'Time (sec)' (range inputs), 'Font Size' and 'Font Alpha' (range inputs), 'Bg Alpha' (range input), 'Font Color' (color picker), 'X' and 'Y' (text inputs), 'Team A score (Click)' and 'Team B score (Click)' (button groups with -1, +1, +2, +3), and 'Setting (Click)' (button group with Stop, Start, Suspend, SAVE).
- Time:** Includes a 'Display' checkbox, 'X axis' and 'Y axis' (text inputs), 'Size' (range input), 'Transparency' (range input), and 'Color' (color picker).
- Record:** Includes a 'Record' checkbox, 'Choose' (dropdown), 'SD Format' (dropdown), 'Mode' (dropdown), 'Timing' (dropdown), 'Source' (dropdown), and 'Space' (text input).
- FTP Upload:** Includes an 'FTP Upload' checkbox, 'Upload Mode' (dropdown), 'Record File' (dropdown), 'User' and 'Code' (text inputs), 'IP' (text input), and 'Port' (text input).

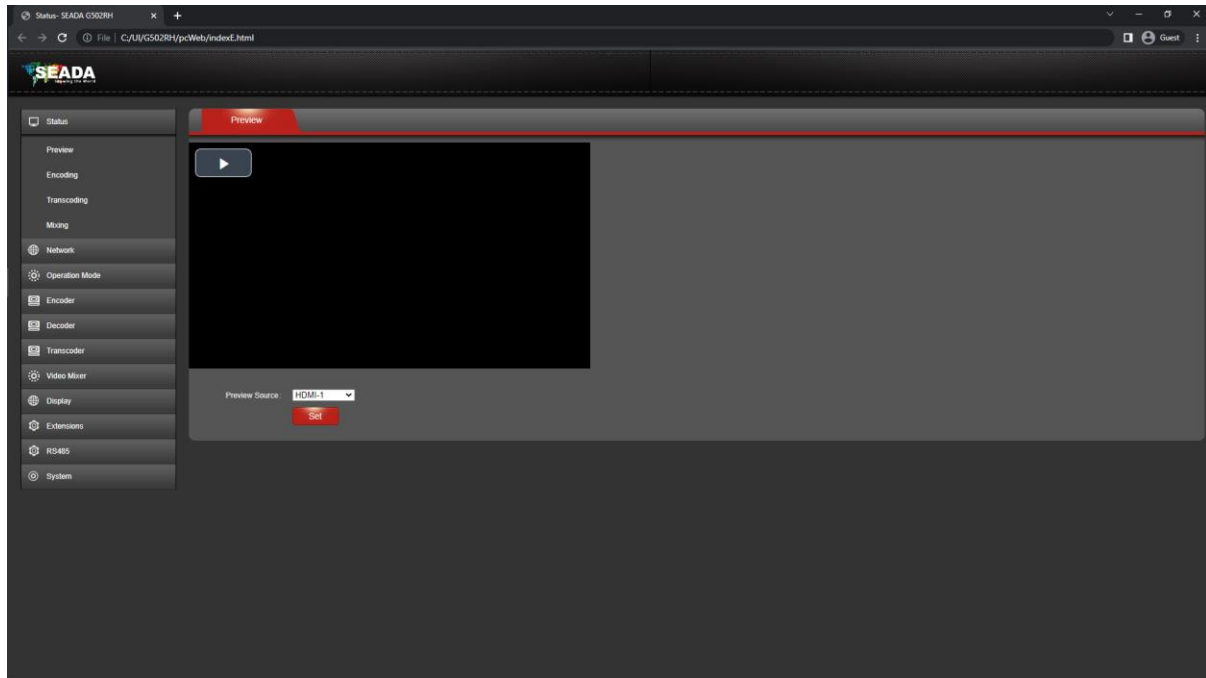
OSD	
Upload Logo	Choose a file for logo (only support bmp and black color will be transparent)
LOGO	Choose to display the logo
X-axis/Y-axis	Specify the X and Y axis of the logo
Transparency	Specify the transparency of the logo
Text	Choose to display on-screen text
X-axis/Y-axis	Specify the X and Y axis of the text
Size	Specify the size of the text
Transparency	Specify the transparency of the text
Color	Specify the color of the text
Text	Specify the content of the text
Scrolling text	Choose to make the on-screen text scroll
Stepping	Specify the speed of the scrolling text
Direction	Specify the direction of the scrolling text
Span	Specify the distance the scrolling text moves each time

Time	
Display	Choose to display the time
X axis/Y axis	Specify the X and Y axis of the time
Size	Specify the size of the time
Transparency	Specify the transparency of the time
Color	Specify the color of the time
Record	
Choose	Specify the external storage for the recording: USB stick/MicroSD card
SD Format	Specify the format of the USB stick/MicroSD card
Mode	Specify the operation mode for recording: <ul style="list-style-type: none"> • 'Replacing record': when there is no space in the storage device, G501RH will stop recording • 'Looping record': when there is no space in the storage device, G501RH will continuing recording by looping back to the start of the storage device and replacing the oldest recordings.
Timing	Specify the length of each recording
Source	Specify the source channel of recording
Space	Display the remaining space of the external storage
GB2818	
No longer supported	
Score	
Team A	Specify the name of Team A
Team B	Specify the name of Team B
Time (min)	Specify the counting down time (min) of the match
Time (sec)	Specify the counting down time (sec) of the match
Font size	Specify the size of the score
Font Alpha	Specify the transparency of the score
Bg Alpha	Specify the transparency of the background for the score
Font Color	Specify the color of the score
X	Specify the X axis of the score
Y	Specify the Y axis of the score
Team A score	Specify the score of Team A
Team B score	Specify the score of Team B
Setting	<ul style="list-style-type: none"> • Stop: Finish counting down • Start: Start counting down • Suspend: Suspend counting down
FTP Upload	
Upload Mode	Specify the uploading mode – upload the current or upload all
Record File	Specify whether to keep the recording after uploading
User	Specify the username of the FTP server
Code	Specify the password of the FTP server
IP	Specify the IP address of the FTP server
Port	Specify the port number of the FTP server

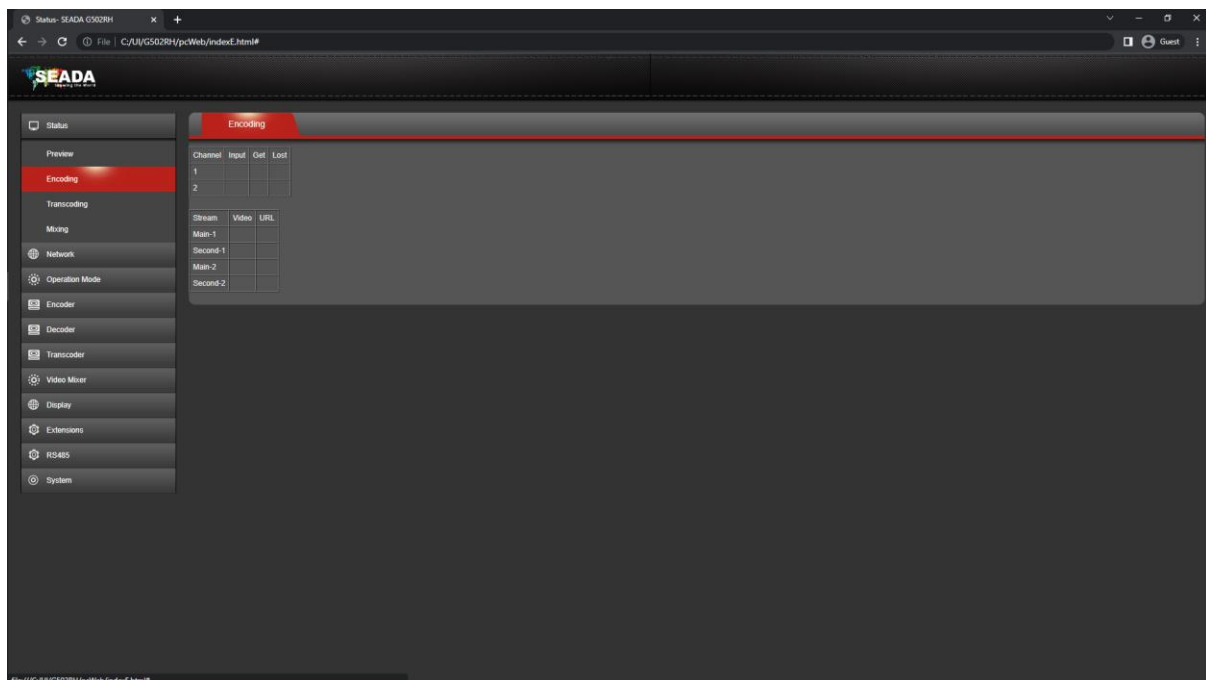
5. Software Interface – G502RH

By default, the IP address for G502RH is 192.168.1.168. Enter the IP address in any browser to enter the WebUI.

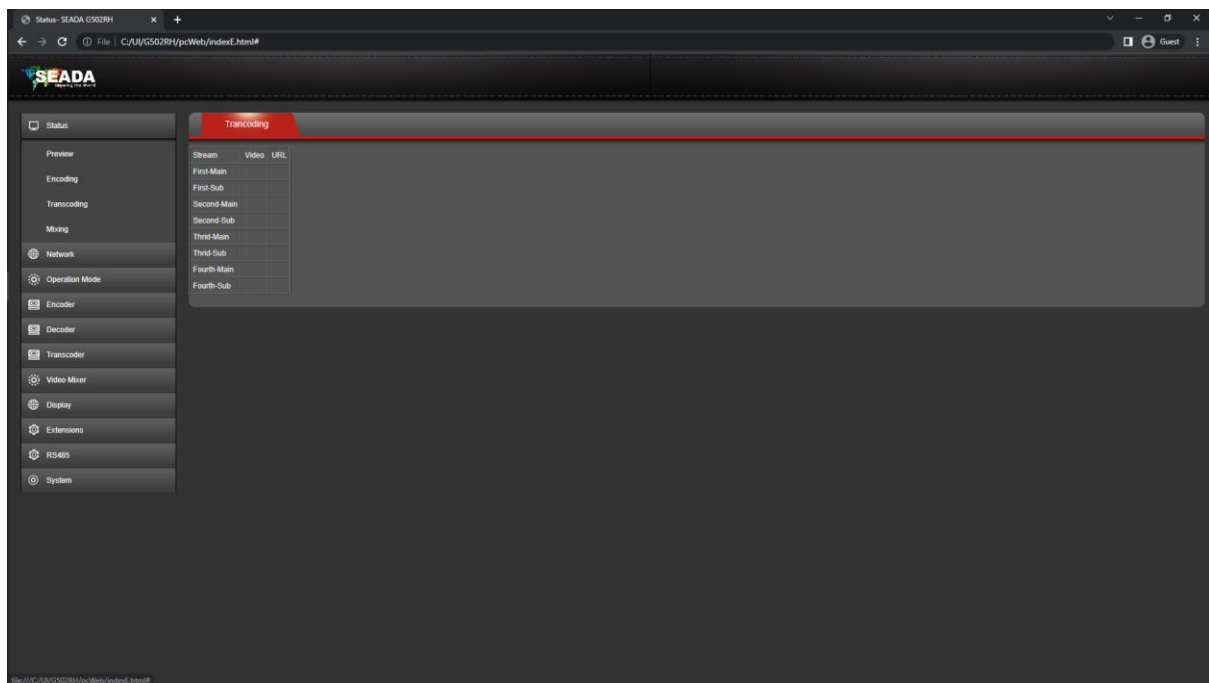
5.1 Home Page



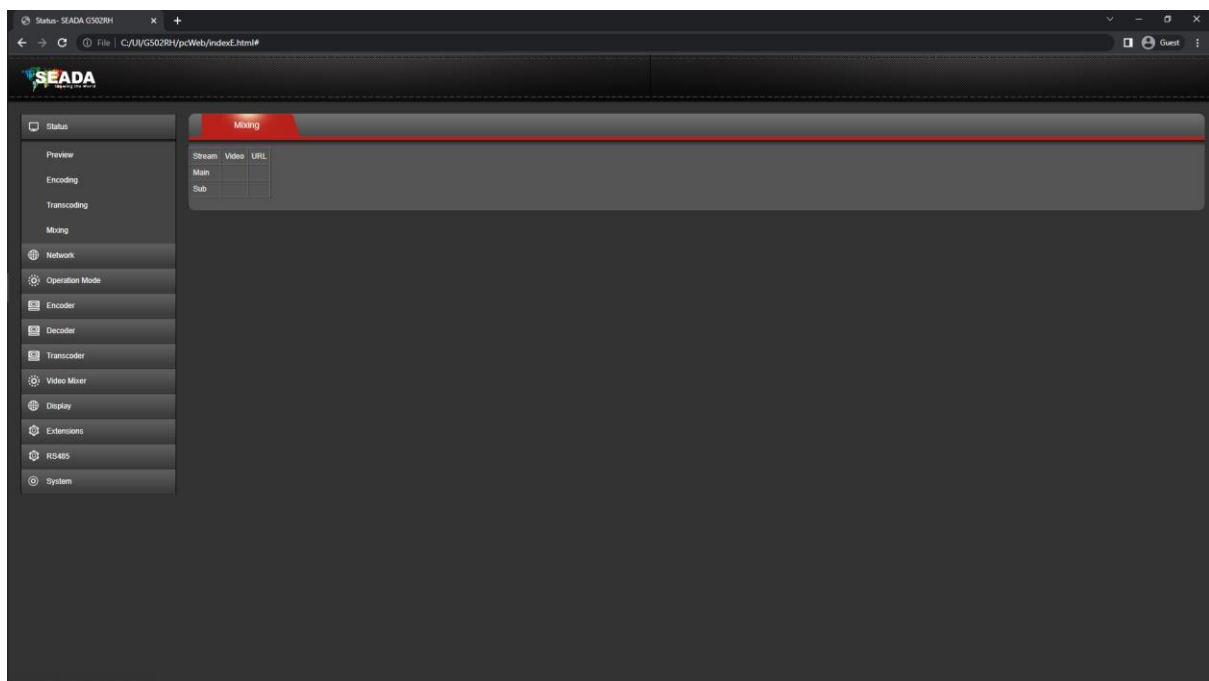
Preview: Show the preview of one HDMI or transcoded signal (**HLS enable required**)



Encoding: Show the resolution and FPS of the HDMI and encoded signals. The stream address of the encoded signals will be displayed.

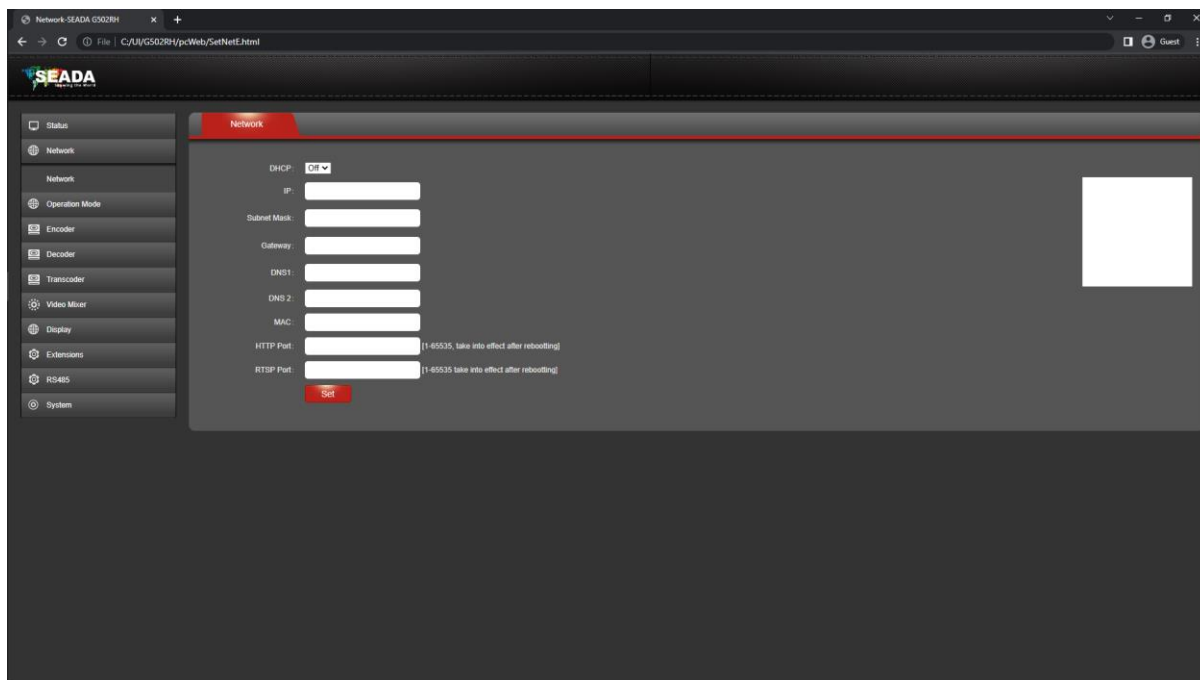


Transcoding: Show the resolution and FPS of the transcoded signals. The stream address of the transcoded signals will be displayed.



Mixing: Show the resolution and FPS of the mixed transcoded signals. The stream address of the mixed transcoded signals will be displayed.

5.2 Network



The screenshot shows a web browser window displaying the SEADA G502RH Network configuration page. The browser's address bar shows the file path C:\UUG502RH\pcWeb\SetNetE.html. The page has a dark theme with a sidebar on the left containing menu items: Status, Network, Network (selected), Operation Mode, Encoder, Decoder, Transcoder, Video Mixer, Display, Extensions, RS485, and System. The main content area is titled 'Network' and contains the following configuration fields:

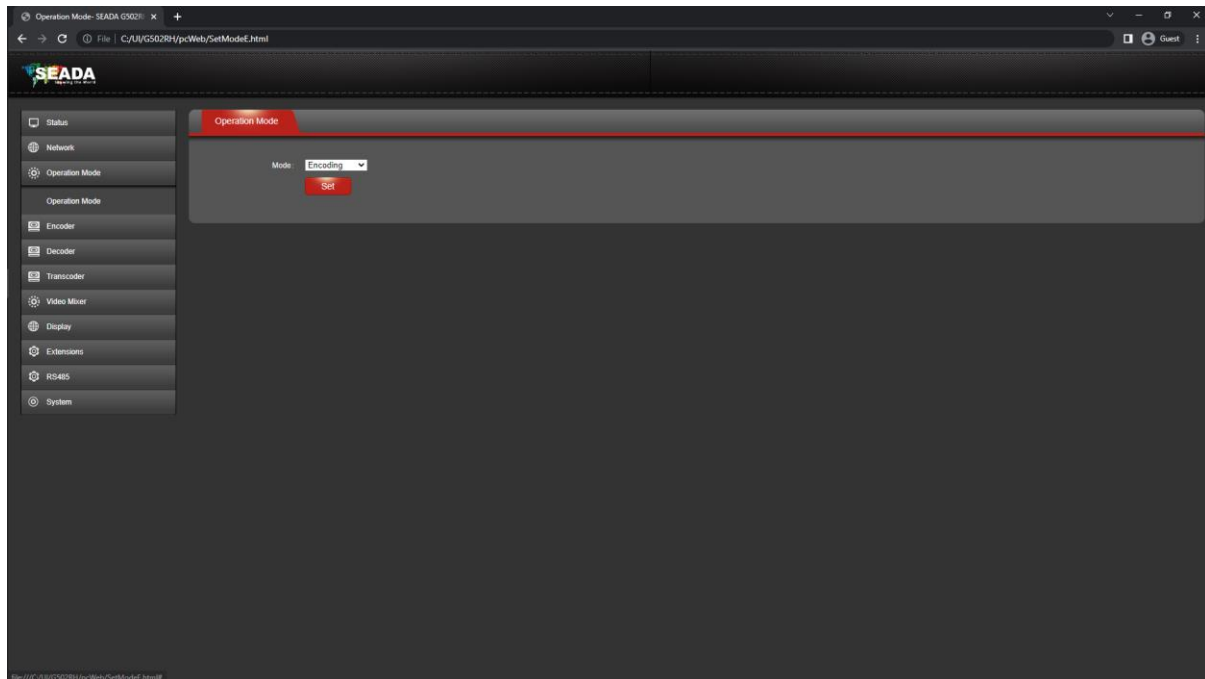
- DHCP: A dropdown menu set to 'Off'.
- IP: A text input field.
- Subnet Mask: A text input field.
- Gateway: A text input field.
- DNS1: A text input field.
- DNS2: A text input field.
- MAC: A text input field.
- HTTP Port: A text input field with a note '(1-65535, take into effect after rebooting)'.
- RTSP Port: A text input field with a note '(1-65535 take into effect after rebooting)'.

A red 'Set' button is located at the bottom of the configuration fields.

User can set up the network configuration of G502RH in this page.

Note that it is recommended to change the DNS to 8.8.8.8 for online streaming purpose.

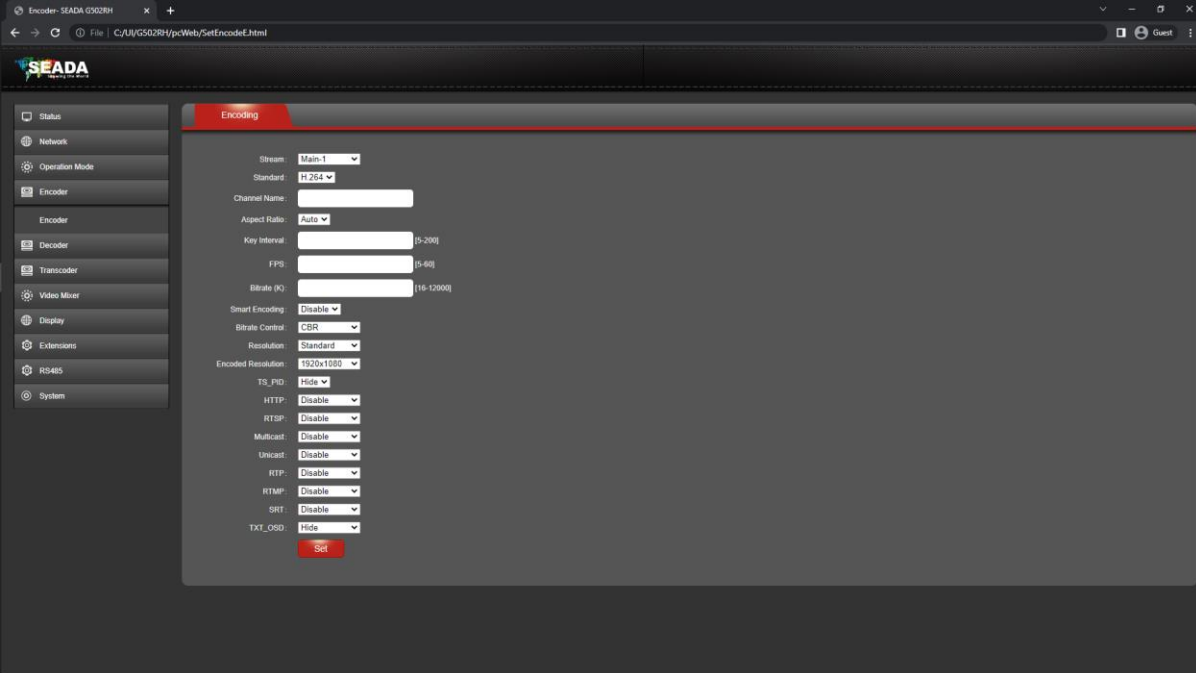
5.3 Operation Mode



Switch between different operation modes

Operation Mode	Description
Encoding	Encode 2 HDMI signals with up to 2 streams for each signal
Decoding	Decode up to 8 streams
Encoding + Decoding	Encode 2 HDMI signals with up to 2 streams for each signal and decode up to 8 streams at the same time
Transcoding	Decode up to 4 streams and encode these signals with up to 2 streams for each signal
Mixing	Decode up to 4 streams and mix these 4 signals with 2 HDMI signals in up to 2 streams

5.4 Encoder



The screenshot shows the SEADA Encoder web interface. On the left is a sidebar menu with options: Status, Network, Operation Mode, Encoder (selected), Decoder, Transcoder, Video Mixer, Display, Extensions, RS485, and Systems. The main area is titled 'Encoding' and contains the following settings:

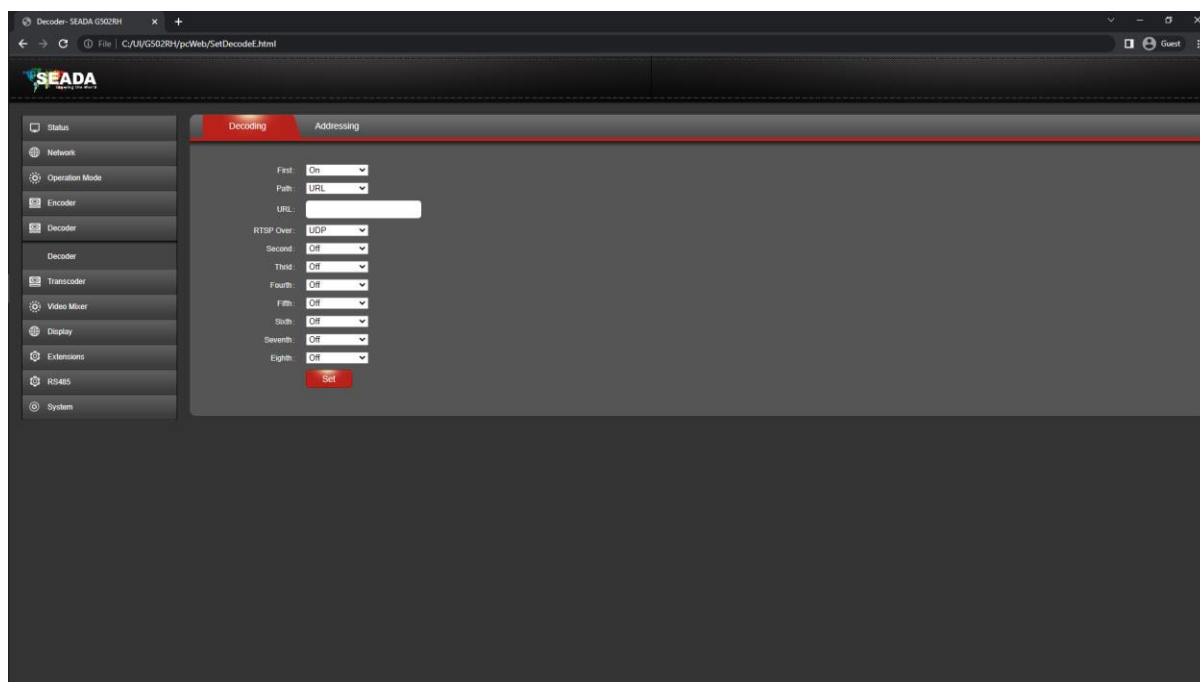
- Stream: Main-1
- Standard: H264
- Channel Name: (empty text field)
- Aspect Ratio: Auto
- Key Interval: (empty text field) [5-200]
- FPS: (empty text field) [5-40]
- Bitrate (K): (empty text field) [16-12000]
- Smart Encoding: Disable
- Bitrate Control: CBR
- Resolution: Standard
- Encoded Resolution: 1920x1080
- TS_PID: Hide
- HTTP: Disable
- RTSP: Disable
- Multicast: Disable
- Unicast: Disable
- RTP: Disable
- RTMP: Disable
- SRT: Disable
- TXT_OSD: Hide

At the bottom of the settings is a red 'Set' button.

Encoder	
Stream	Choose the stream to set up
Standard	Specify video encoding <ul style="list-style-type: none"> • H264 (AVC) • H265 (HEVC)
Channel Name	Specify the name of the stream
Key Interval	Specify the interval of intra frames (I-frames)
FPS	Specify the encoded frame rate
Bitrate (K)	Specify the average video bitrate
Smart Encoding	Enable smart encoding in the case if the encoded signal is blur and this will improve the performance of encoding
Bitrate Control	Specify the video encoding control <ul style="list-style-type: none"> • VBR (variable bitrate) • CBR (constant bitrate)
Resolution	Specify the encoded resolution <ul style="list-style-type: none"> • Standard: Choose from standard resolutions • Custom: Set up a customised resolution
TS_PID	Edit PID for the current stream
HTTP	Enable HTTP encoding
RTSP	Enable RTSP encoding
RTP	Enable RTP encoding
RTMP	Enable RTMP encoding
RTMP OM	Choose the RTMP mode: (for example for YouTube streaming) IP: Manually enter information for RTMP streaming

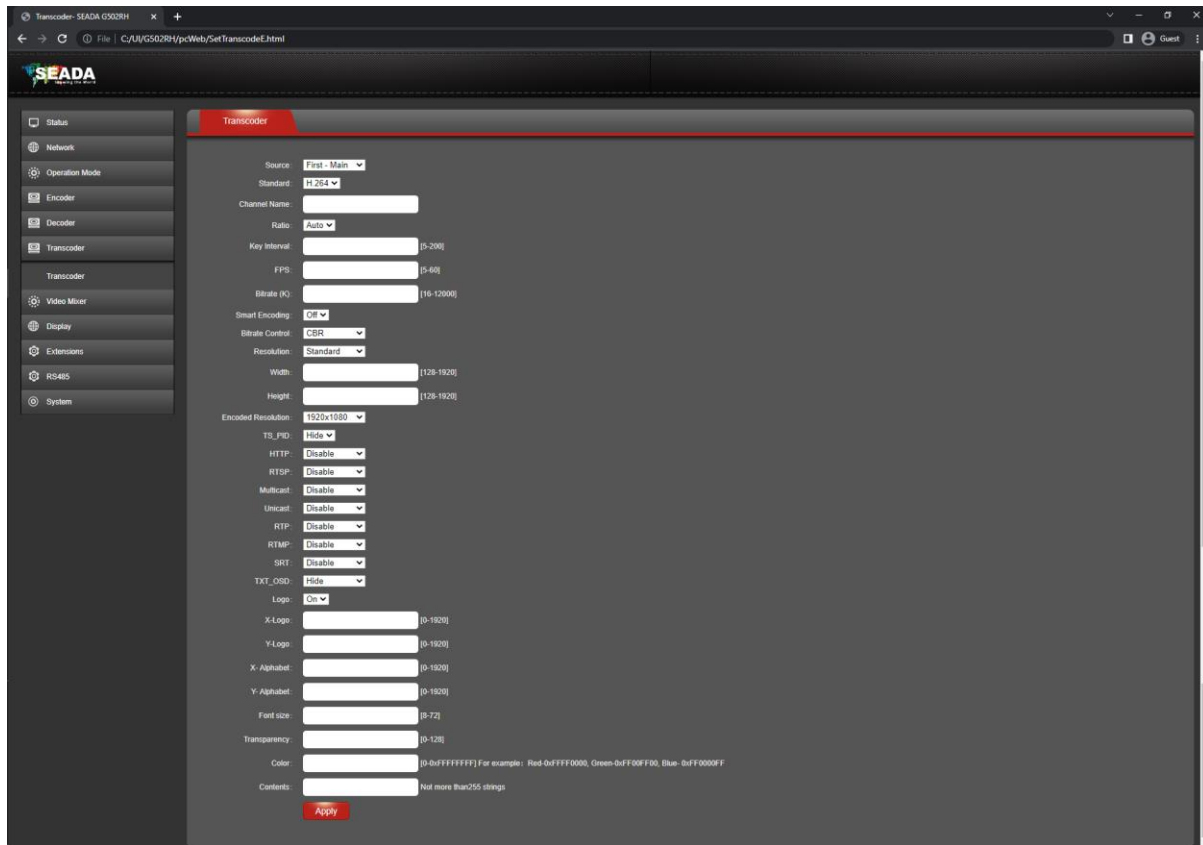
	<ul style="list-style-type: none"> • RTMP mode: Choose the encoding video only, audio only or video and audio at the same time • RTMP server ip: a.rtmp.youtube.com (beginning of Server URL before '/') • RTMP server port: 1935 • RTMP user name: leave empty • RTMP password: leave empty • RTMP app name: live2 (end of Server URL after '/') • RTMP stream name: stream name/key on YouTube homepage URL: Enter the stream URL, followed by the stream key with a symbol '/'
SRT	Enable SRT encoding
TXT_OSD	Enable OSD
Logo	Choose whether to display the OSD
X-Logo	No longer supported
Y-Logo	No longer supported
X-Alphabet	Specify the X axis of the OSD
Y-Alphabet	Specify the Y axis of the OSD
Font size	Specify the size of the OSD
Transparency	Specify the transparency of the OSD
Color	Specify the color of the OSD
Contents	Specify the content of the OSD

5.5 Decoder



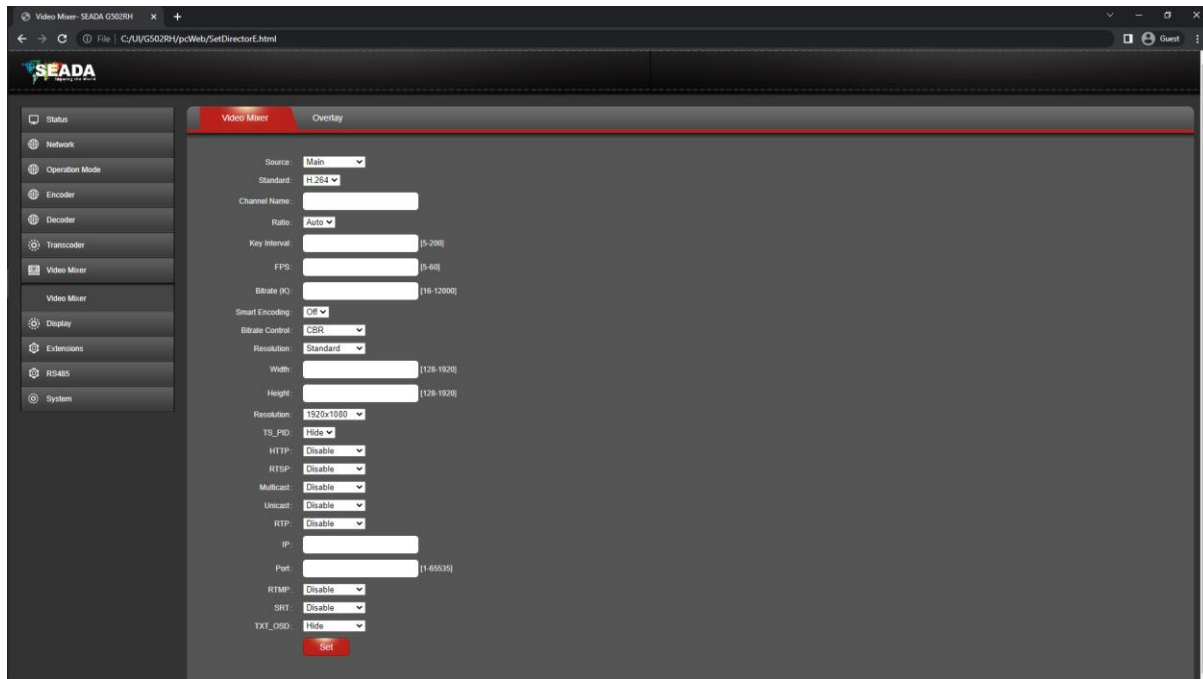
Decoder	
First	Specify the activated decoding channel
Path	Specify the method of decoding <ul style="list-style-type: none"> • URL: Decode the stream by entering the URL • P2P: No longer supported • SDK: Decode stream directly from another G500 series unit, including G501RH, G501ES, G501EH and G502RH.
Specify up to 8 streams for decoding in the following options	

5.6 Transcoder

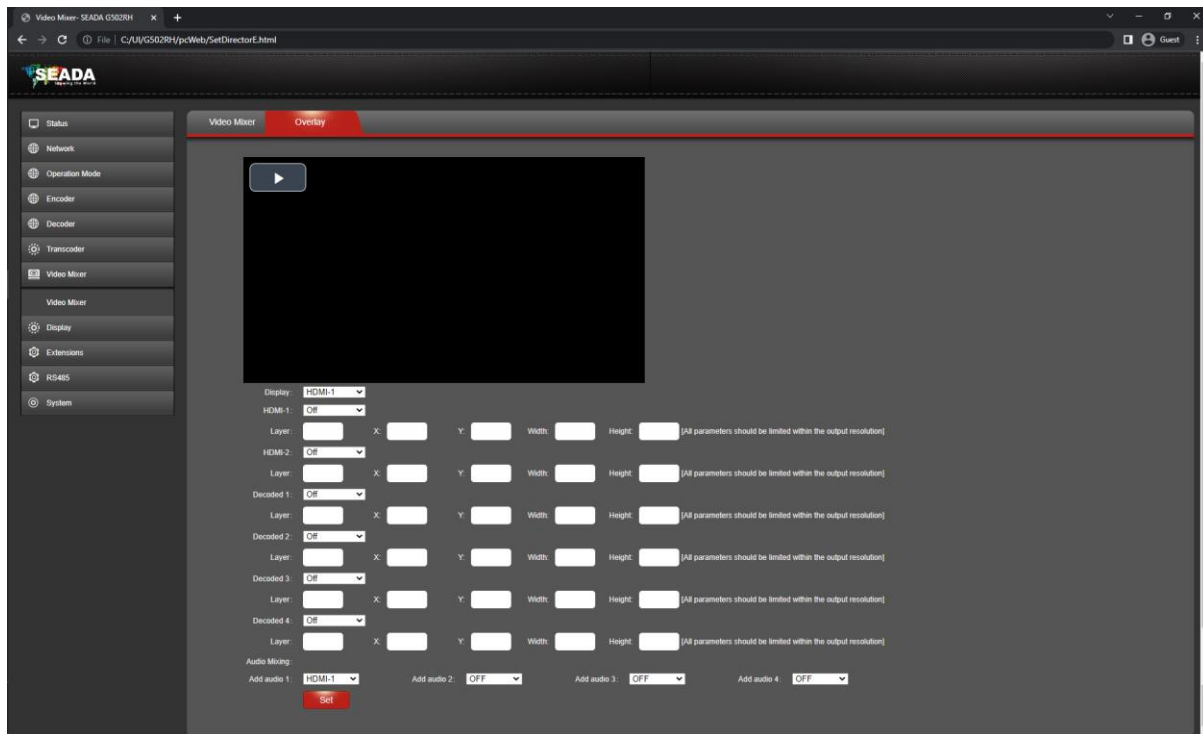


Most of the settings in this page are the same as in 'Encoder' page. The only difference is that user can encode 4 transcoded streams with up to 2 streams for each under this function.

5.7 Video Mixer



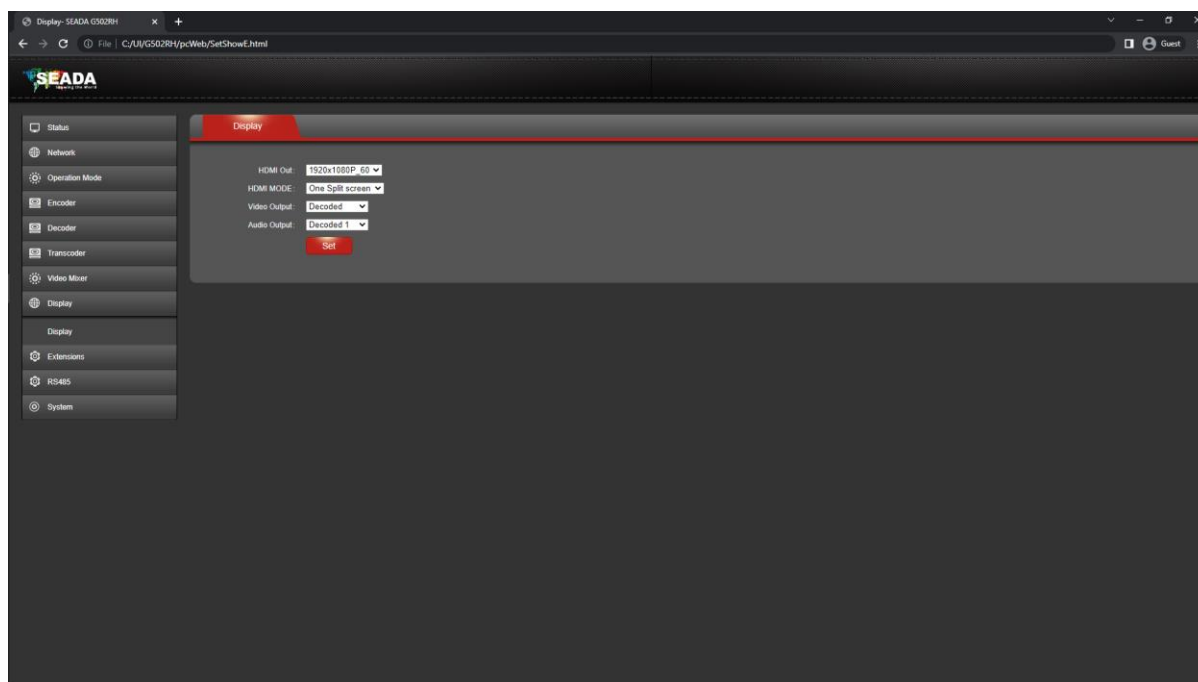
Most of the settings in this page are the same as in '**Encoder**' page. The only difference is that user can encode up to 2 streams for the mixed signal under this function.



In the '**Overlay**' tab, user can customise the layout of the encoded mixing signal.

Overlay	
Display	Choose the signal to be encoded, which will mostly be ' Multiview ' when using the video mixer function
HDMI-1	<ul style="list-style-type: none"> Layer: Specify the layer of signal from HDMI1 for adjustment when multiple windows are overlapped X: Specify x axis of signal from HDMI1 Y: Specify y axis of signal from HDMI1 Width: Specify the width of signal from HDMI1 Height: Specify the height of signal from HDMI1
HDMI-2	Same as HDMI-1
Decoded 1	Same as HDMI-1
Decoded 2	Same as HDMI-1
Decoded 3	Same as HDMI-1
Decoded 4	Same as HDMI-1
Audio Mixing	Choose the audio in the encoded mixing signal with a mix of up to 4 sources

5.8 Display

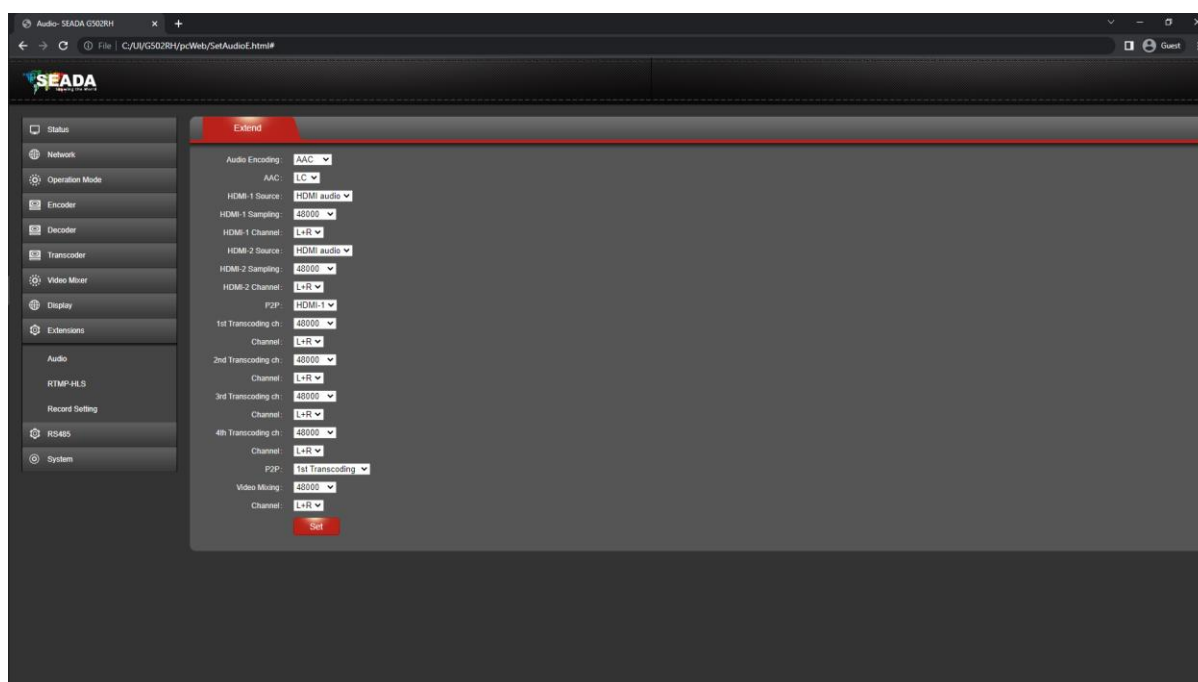


Display	
HDMI Out	Specify the resolution and FPS of the HDMI output
HDMI Mode	<ul style="list-style-type: none"> One Split screen: the HDMI output will be a single decoded signal displayed in full-screen Four Split screen: the HDMI output will be 4 decoded signals displayed in a 2x2 multiview Nine Split screen: the HDMI output will be 8 decoded signals displayed in a 3x3 multiview (Note that in this mode, the right-bottom (9th window) of the screen will be black without content)
Video Output	<ul style="list-style-type: none"> Decoded: Display decoded signals on screen and it will decode the first signal that is filled in the 'Decoder' page under 'One Split screen' mode, the first four under 'Four Split screen' mode and all the eight under 'Nine Split screen' mode HDMI-1: loop out input signal from the first HDMI port HDMI-2 loop out input signal from the second HDMI port
Audio Output	Choose the audio that is outputted via the HDMI output

Note: If it is necessary to preview the mixed signal via HDMI output, user can enter the stream address of the mixed signal for the first signal in '**Decoder**' page. In '**Display**' page, user can choose '**One Split screen**' and the mixed signal will be displayed on the HDMI output.

5.9 Extensions

5.9.1 Audio



Extended	
Audio Encoding	Specify audio encoding <ul style="list-style-type: none"> • AAC • MP3 • OPUS
AAC	Specify AAC profile <ul style="list-style-type: none"> • LC-AAC (Low Complexity AAC) (Good for high (≥ 80 kbps) bitrates) • HE-AAC (High Efficiency AAC) (Good for lower (≤ 80 kbps) bitrates)
HDMI-1 Source	Specify audio source
HDMI-1 Sampling	Specify the sampling rate for audio encoding
HDMI-1 Channel	Specify channel for the audio <ul style="list-style-type: none"> • L+R • L • R
Same for the following options	

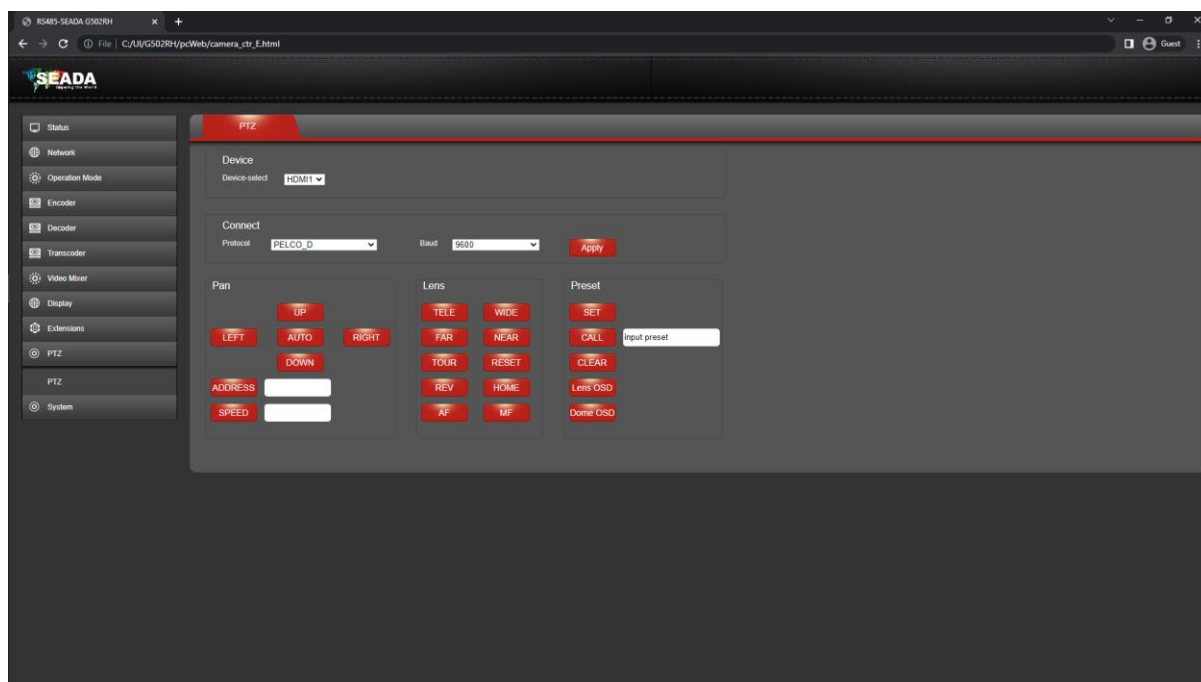
5.9.2 RTMP-HLS

Set up the HLS streaming.

5.9.3 Recording Setting

Record	
Record	Choose to enable recording
Record Mode	Specify the operation mode for recording: <ul style="list-style-type: none"> • 'No-loop': when there is no space in the storage device, G502RH will stop recording • 'Loop': when there is no space in the storage device, G502RH will continue recording by looping back to the start of the storage device and replacing the oldest recordings.
One video file duration	Specify the length of each recording
U Disk available space	Display the remaining space of the external storage
U Disk free percent	Display the remaining space percentage of the external storage

5.10 RS485



This function can be used to have a basic control over the RS485 port for a PTZ camera via VISCA or PELCO-D/P.

5.11 System

System	
Timing Reboot	Specify reboot timing for the unit
Reset	Reset the unit
Reboot	Reboot the unit
Change Password	
New Password	Enter the new password
Confirm	Confirm the new password
Firmware version of the unit	
Upgrade the firmware of the unit	