



# Recorder & Encoder with HDMI & SDI input

AV-REC200

# CONTENTS

<b>Introduction</b> .....	<b>3</b>
Contact .....	3
Join Avonic .....	3
<b>Safety Notes</b> .....	<b>4</b>
<b>Package contents and Accessories</b> .....	<b>6</b>
Contents.....	6
<b>Product Overview</b> .....	<b>6</b>
Features .....	6
<b>Installation</b> .....	<b>7</b>
Back side: Connections.....	7
Front side: Button and Display layout.....	7
<b>Operating Instructions: LCD Display</b> .....	<b>8</b>
2. Live .....	8
3. Playback .....	9
4. Record.....	9
5. System.....	10
<b>Operating Instructions: WebGui</b> .....	<b>11</b>
1. Powering up and Initialization of the AV-REC200 .....	11
2.1 Operating the webinterface .....	11
2.2 Live Service/ Streaming Setting.....	12
2.2.1 Live Service / Streaming Setting Basic options.....	13
2.2.1.1 Live Service / Streaming Alternative (Automatic Authorisation fail) .....	15
2.2.2 Live Service / Streaming Setting Advanced options .....	17
2.2.3 Record/ FTP Upload Settings .....	19
2.2.3.1 FTP Upload .....	21
2.2.4. Playback Settings .....	22
2.2.5. Overlay Settings .....	23
How to create transparent BMP file for overlay.....	24
2.2.6. System Settings.....	25
<b>Maintenance</b> .....	<b>29</b>
Unauthorized Use .....	29
<b>Troubleshooting</b> .....	<b>29</b>
General advise .....	29
Power Issues.....	29
WebGUI.....	29
<b>API data</b> .....	<b>30</b>

# INTRODUCTION

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Thank you for your Avonic purchase. Before operating this product, please read the manual thoroughly and retain it for future reference. The manual can be downloaded on [www.avonic.com](http://www.avonic.com). Save this manual for future reference.

## Contact

For any questions or suggestions, contact your reseller or the local distributor of Avonic. Find the local distributor on the website of Avonic. For the most recent version of the manual or datasheet, look at the Avonic website: [www.avonic.com](http://www.avonic.com).

## JOIN AVONIC



[www.Facebook.com/  
avonicPTZ](http://www.Facebook.com/avonicPTZ)



[www.Linkedin.com/company/  
avonic](http://www.Linkedin.com/company/avonic)



[www.twitter.com/  
avonic](http://www.twitter.com/avonic)

# SAFETY NOTES

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## Important safety information

**⚠ WARNING:** Failure to follow these safety instructions could result in fire, electric shock, injury, or damage to this Product or other property. Read all the safety information below before using this Product.

**⚠ WARNING:** Before operating this product, please read the manual thoroughly and retain it for future reference. The manual can be downloaded on [www.avonic.com](http://www.avonic.com).

## Handling

Handle this Product with care. It is made of metal, glass, and plastic and has sensitive electronic components inside. This Product can be damaged if dropped, burned, punctured, or crushed, or if it comes in contact with liquid. If you suspect damage to this Product, discontinue use of this Product, as it may cause overheating or injury.

**⚠ WARNING:** Do not pick up and move the unit while a tripod is attached. The fitting may break under the weight of the tripod, which may result in injury.

## Installation

Set up this Product on a hard, stable surface or mount it to a wall or ceiling. Only use an Avonic mount for mounting to a wall or ceiling. Ensure the mounting construction is capable of supporting four times the weight of the equipment downwards. Make sure to make use of a safety loop or drop protection that is capable of preventing the Product from falling if the mounting construction fails. Never install a product above persons to prevent any risk on injuries when it falls down.

**⚠ WARNING:** In order to maintain adequate ventilation, do not install or place this unit in a bookcase, built-in cabinet or any other confined space. To prevent risk of electric shock or fire hazard due to overheating, ensure that curtains and any other materials do not obstruct the ventilation.

**⚠ WARNING:** Check the installation at least once a year. An improper installation could cause the unit to fall off resulting in personal injury.

## Repairing

Don't open this Product and don't attempt to repair this Product yourself. Disassembling this Product may damage it or may cause injury to you. If this Product is damaged, malfunctions, or comes in contact with liquid, contact Avonic or an Avonic Authorized Service Provider. Repairs by service providers other than Avonic or an Avonic Authorized Service Provider may not involve the use of Avonic genuine parts and may affect the safety and functionality of the device. You can find more information about repairs and service at [www.avonic.com](http://www.avonic.com).

## Power

Power this Product with the included cable and power adapter. Other adapters may not meet applicable safety standards, and connecting with such adapters could pose a risk of death or injury.

**⚠ WARNING:** Using damaged cables, or using the Product when moisture is present, can cause fire, electric shock, injury, or damage to this Product or other property. When you power this Product, make sure the cable is fully inserted into the power adapter before you plug the adapter into a power outlet. It's important to keep this Product, the cable, and the power adapter in a well-ventilated area when in use.

### **Power adapter**

To operate the Avonic power adapter safely and reduce the possibility of heat-related injury or damage, plug the power adapter directly into a power outlet. Don't use the power adapter in wet locations, and don't connect or disconnect the power adapter with wet hands. Stop using the power adapter and any cables if any of the following conditions exist:

- The power adapter plug or prongs are damaged.
- The cable becomes frayed or otherwise damaged.
- The power adapter is exposed to excessive moisture, or liquid is spilled into the power adapter.
- The power adapter has been dropped, and its enclosure is damaged.

### **Intended use**

This Product shall not be used in the residential area and shall only be installed and operated by experienced technicians.

### **Not a medical device**

This Product is not a medical device and should not be used as a substitute for professional medical judgment. It is not designed or intended for use in the diagnosis of disease or other conditions, or in the cure, mitigation, treatment, or prevention of any condition or disease. Please consult your healthcare provider prior to making any decisions related to your health.

### **Explosive and other atmospheric conditions**

Using this Product in any area with a potentially explosive atmosphere, such as areas where the air contains high levels of flammable chemicals, vapours, or particles (such as grain, dust, or metal powders), may be hazardous. Exposing this Product to environments having high concentrations of industrial chemicals, including near evaporating liquified gasses such as helium, may damage or impair this Product functionality. Obey all signs and instructions.

### **High-consequence activities**

This device is not intended for use where the failure of the device could lead to death, personal injury, or severe environmental damage.

# PACKAGE CONTENTS AND ACCESSORIES

## Contents

Quantity	Description	Avonic SKU
1 pc	Device	AV-REC200
1 pc	Power Supply	AV-PSU200

## PRODUCT OVERVIEW

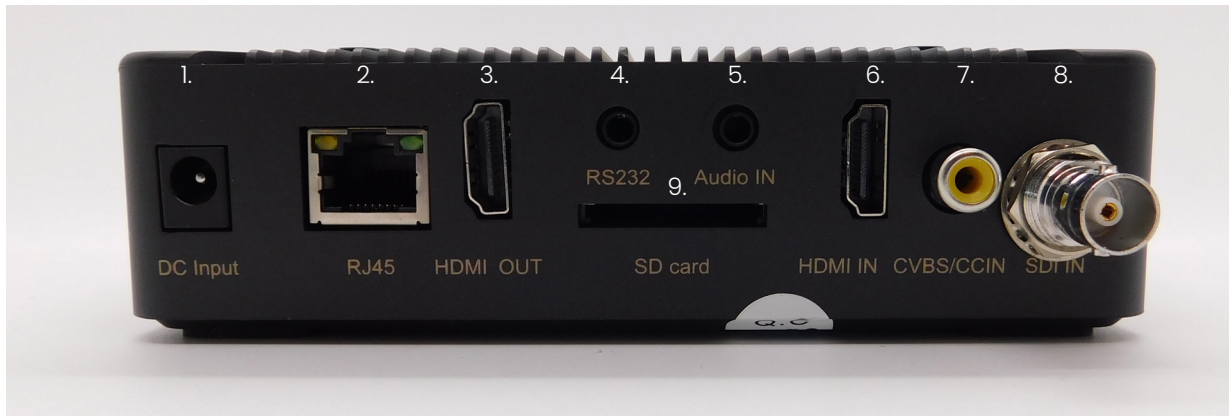
The Avonic AV-REC200 is the ideal standalone USB/SD Card recorder and web streaming device. Users can simply connect an HDMI or SD/HD/3G-SDI input and in a few simple steps, they will be streaming and/or recording. With support for UDP/HLS/RTMP/RTSP live output and USB/SD card recording the AV-REC200 enables corporate streaming, live streaming to various platforms and live high bitrate full HD 1080P60 recording. A simple to use webinterface and IP control enable ease of use and full integration with 3rd party control systems.

## Features

- High Definition input resolutions up to 1080p60
- Live streaming to various platforms including Facebook Live and YouTube
- H.264, H.265 encoding
- H.264, H.265 coding
- Front panel screen with status, setup and control capabilities
- 3G-SDI and HDMI inputs
- HDMI Out, USB storage, SD-card storage, RTSP via RJ45
- Live Meeting Broadcasts
- Logo overlay
- full ip control via web interface
- Autonomous FTP uploading of finished recordings

# INSTALLATION

## Back side: Connections



1. Power Supply Input
2. RJ45 network connector for streaming and management purposes
3. HDMI loop output
4. RS 232 input (future use)
5. Audio IN
6. HDMI IN
7. Close Caption over CVBS Input (NOT ACTIVE)
8. 3G-SDI IN
9. SD card slot

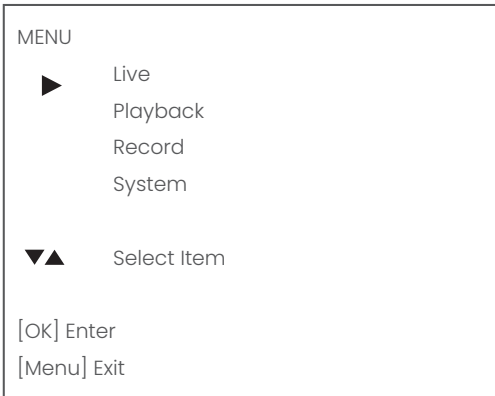
## Front side: Button and Display layout



1. Display screen, shows management IP address, operational mode, input stream standard, output protocol, running status etc.
2. Navigation buttons, for navigating through front panel display.
3. Ok button
4. Menu button
5. Power and status indicator, changes color on basis of operational status of the REC200.
6. USB storage input for use with playback and/ or recording features

# OPERATING INSTRUCTIONS: LCD DISPLAY

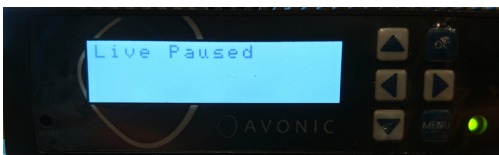
The LCD screen can be accessed by pushing the [MENU] Button on the REC200. Use the arrow buttons to move the cursor to the item to be set. Press the [OK] button to enter the corresponding sub-menu, or save the configuration. Press [Menu] to go back.



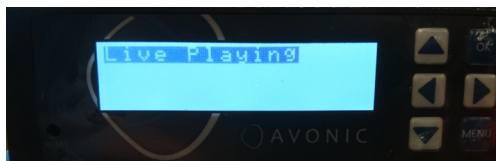
## 2. Live

Select "Setting".

Click [OK] to start live streaming.

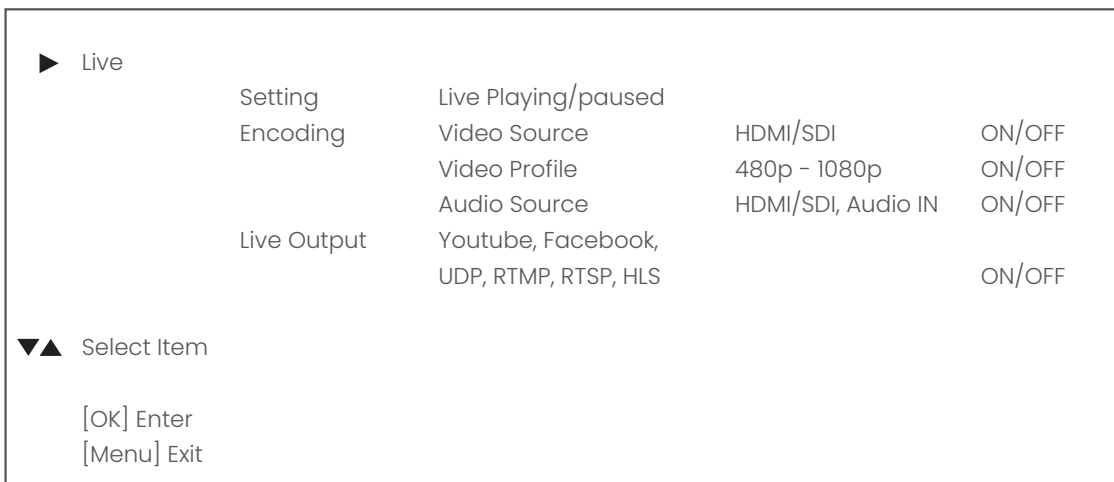


Click again [OK] to pause or stop streaming.



Under Encoding Video Source and Audio Source you can choose between HDMI or SDI and under audio source also between the Audio IN to embed audio in your stream or recording. Select the interface you want by pressing [OK] on the REC200. That source will be set "ON", while other interfaces will be set (automatically) "OFF". The same applies also for selecting Video Profile. Choosing one profile will be set that profile "ON", while other profiles will be set "OFF".

Select "Youtube" or "Facebook" under "Live Output". The REC200 will give a code to connect with Youtube or Facebook.



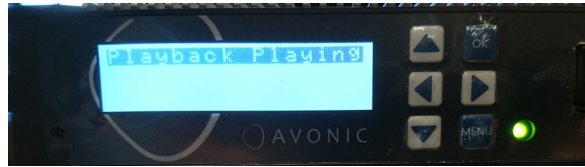


### 3. Playback

Select "playback playing" or "playback paused" to play back or pause the recorded video.

Select [OK] to start playing back.

Select again [OK] to pause or stop playing back.



Under "Playback List" are all the playback lists of recorded video's available. Standard is a Default List, but user defined lists can also be made. To do that, read chapter Operating Instructions: WebGUI on page 22.

Choose under "Playback Output" the way how the recorded video's will be played back.

▶ Playback	Setting	Playback playing/ paused
	Playback List	Default List/ User defined
	Playback Output	Youtube, Facebook, UDP, RTMP, RTSP, HLS
		ON/OFF
▼▲ Select Item		
	[OK] Enter	
	[Menu] Exit	

### 4. Record

Choose "Setting".

Click [OK] to start recording.

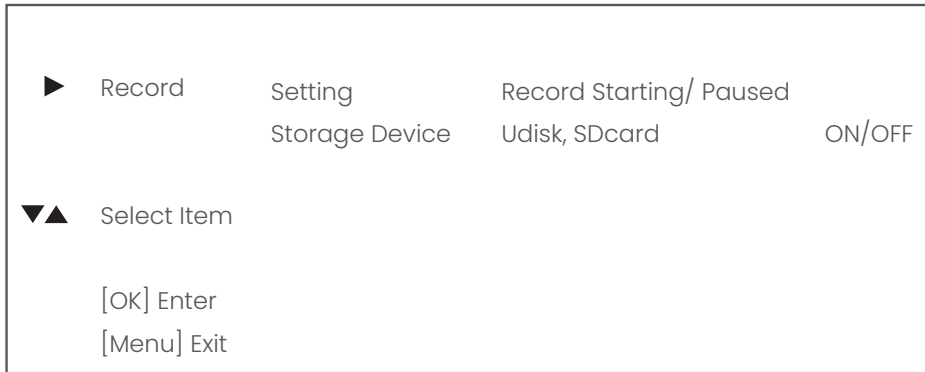
Click again [OK] to pause or stop the recording.



The record is ready when you see the image below.



Select under "Storage Device" what storage device is used to store the recorded video: Udisk (USB drive), or SDcard.



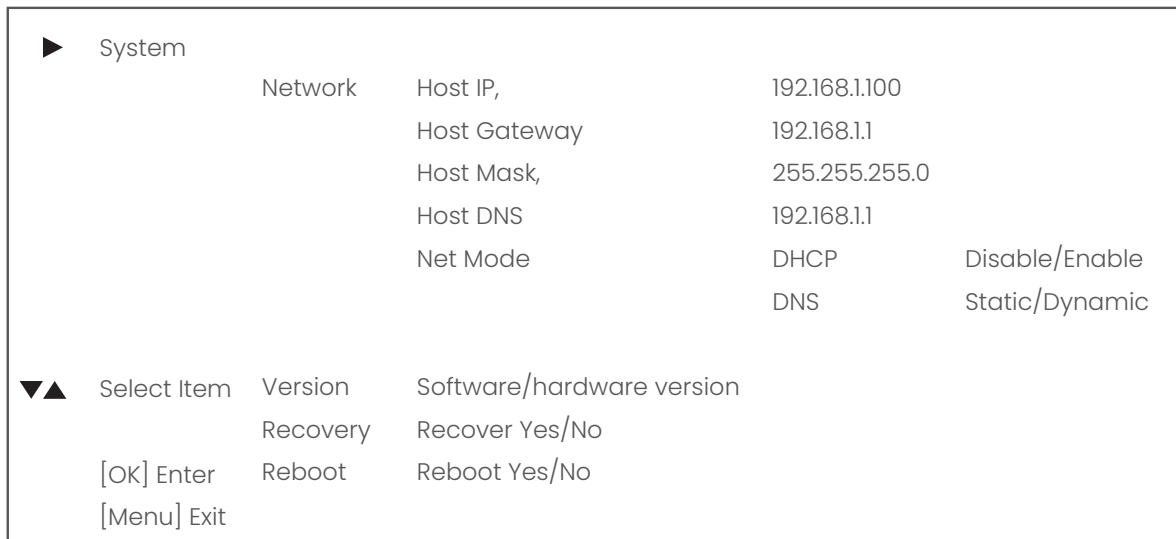
## 5. System

Select under System "Network" to set up the Host IP, or gateway address/port etc. Use the Up and down buttons on the REC200 to change the numbers of the address/port and the Left/ right buttons to go to the next number. [OK] will save the adress/ port number.

Set the Network mode (Net Mode) on "DHCP Enabled" and "DNS Dynamic" if a DHCP server is used within the network. If not, select DNS Static and fill manually the HOST IP, Gateway, Mask and DNS numbers.

Choose "Version" to see the software/ hardware version used by the REC200.

Choose "Recovery" and "Reboot" to recover or reboot REC200 fabrique settings.



# OPERATING INSTRUCTIONS: WEBGUI

## 1. Powering up and Initialization of the AV-REC200

Connect the supplied power transformer to the unit and wait until it is booted up. This process takes approximately 35 seconds to 1 minute to complete. All of the features of the AV-REC200 can be accessed through the webinterface, in the now following part of this manual we will explain how to use it.

### 2.1 Operating the webinterface

All of the features of the AV-REC200 can be accessed through the webinterface

Default IP address : 192.168.1.100

Default Username and Password : admin/admin

1. Connect the AV-REC200 directly to a pc or to a networkswitch.
2. The default ip address on which the AV-REC200 can be found is 192.168.1.100. Make sure that the ip address of your computer has been put in the same subnet range of the AV-REC200 to be able to connect to it.
3. Open a webbrowser and enter the ip address of the AV-REC200 - the browser will connect to the unit. Once the connection has been established, a login page will appear. The default user name and password are admin/admin.

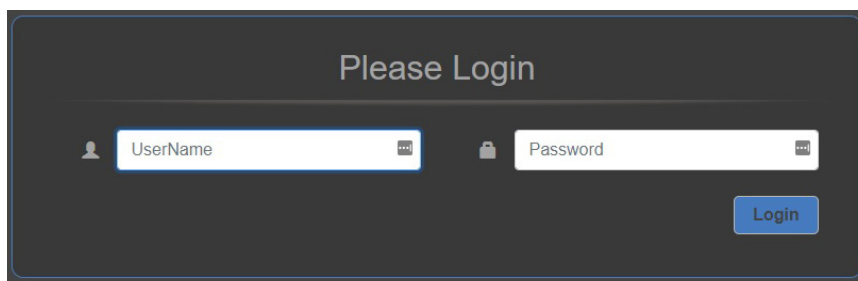


Image 3

- After logging in, you will be directed to the status page of the AV-REC200, with a live preview of the incoming video signal on top and information about the incoming signal, recording status and streaming status:

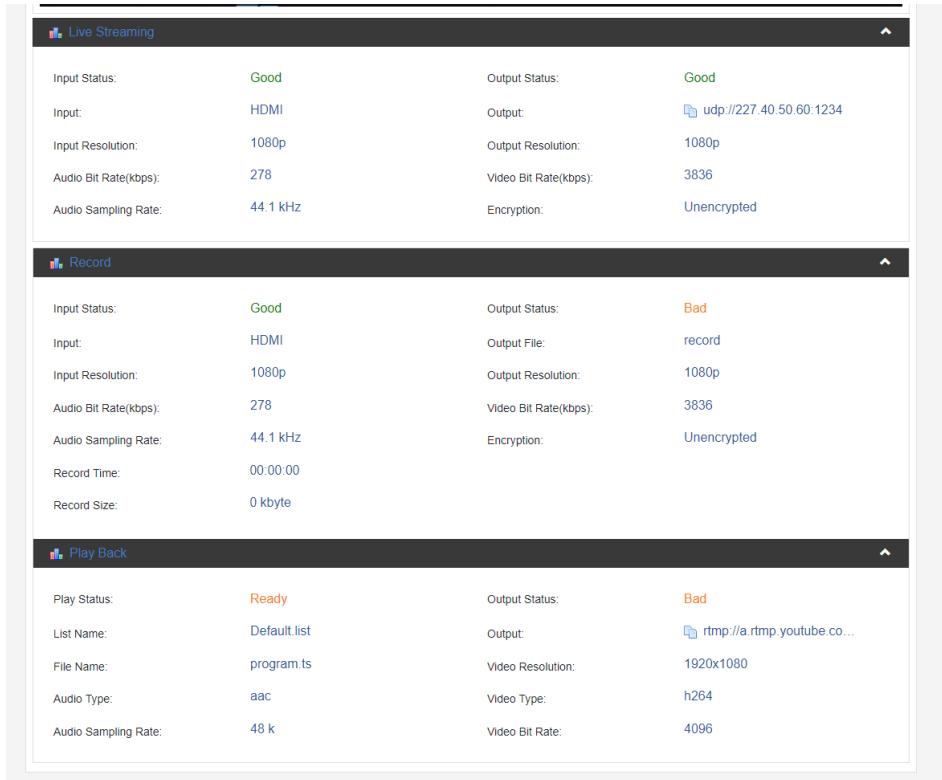


Image 4

## 2.2 Live Service/ Streaming Setting

To access the Live Service and Streaming Setting configuration page, click on the **AV-REC200** menu button on the top left of the webpage, the main menu will slide out from the left, see the image below, and choose Live Service/ Streaming Setting.

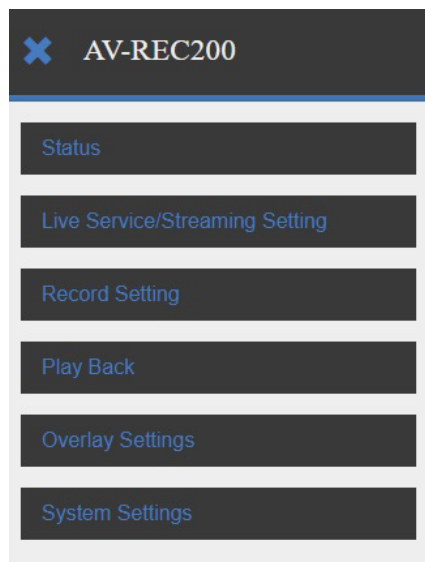


Image 5

## 2.2.1 Live Service / Streaming Setting Basic options

The Live Service/ Streaming Setting page will look like the screenshot below, with the basic options for the input and output settings.

1. Input HDMI, SDI
2. Mode Manual, Youtube, Facebook
3. Output UDP, RTMP\*, RTMPS\*, HLS, RTSP
4. IP/URL IP or URL on which the streamed content can be found
5. Port Portnumber of the IP or URL
6. Video Profile user defined  
12mbps 1080p video/ 192kbps audio  
8mbps 1080p video/ 192kbps audio  
6mbps 1080p video/ 128kbps audio  
4mbps 1080p video/ 128kbps audio  
8mbps 720p video/ 192kbps audio  
6mbps 720p video/ 128kbps audio  
4mbps 720p video/ 128kbps audio  
4mbps 576p video/ 128kbps audio  
2mbps 576p video/ 96kbps audio  
4mbps 480p video/ 128kbps audio  
2mbps 480p video/ 96kbps audio

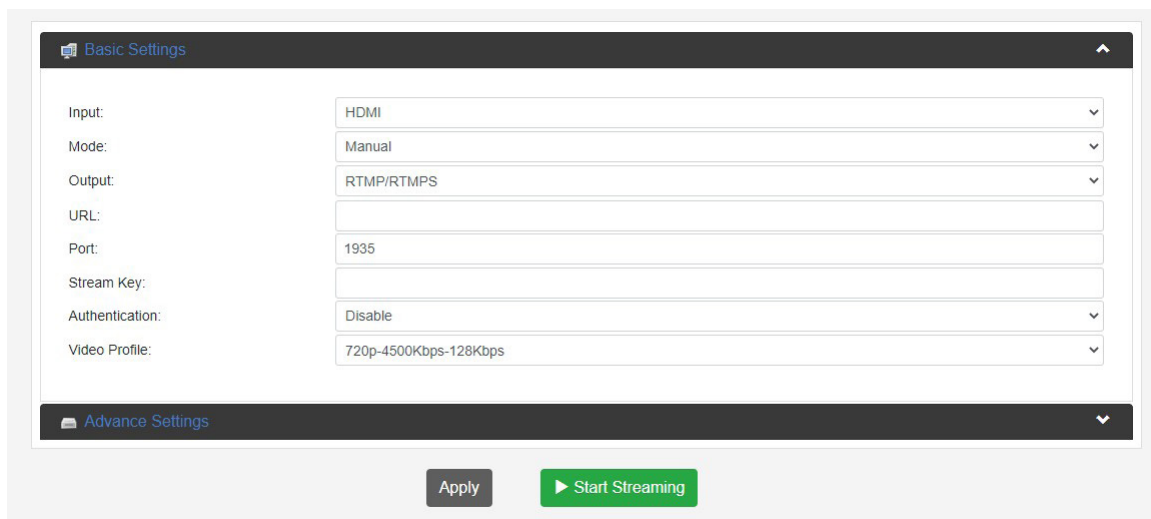


Image 6

\*Mode: Manual, Output: RTMP/ RTMPS: when one of these options is selected you need to authorize the device for the chosen service Facebook or Youtube or alternatively create a manual streamkey, see pictures on the next page. Follow the steps indicated on the page of the platform. On page 13 there are a couple of screenshots how the screen of the REC200 looks when you have successfully authorised your REC200 with your account. After the account is registered with Youtube in the example on the following page (image 7~10) and you click on 'Start Streaming'. It can take one or two minutes before the little antenna symbol in the center of the screen turns green, indicating that the REC200 is live and streaming to the platform. On the REC200 itself the light next to the "menu" button will turn orange when streaming is active.

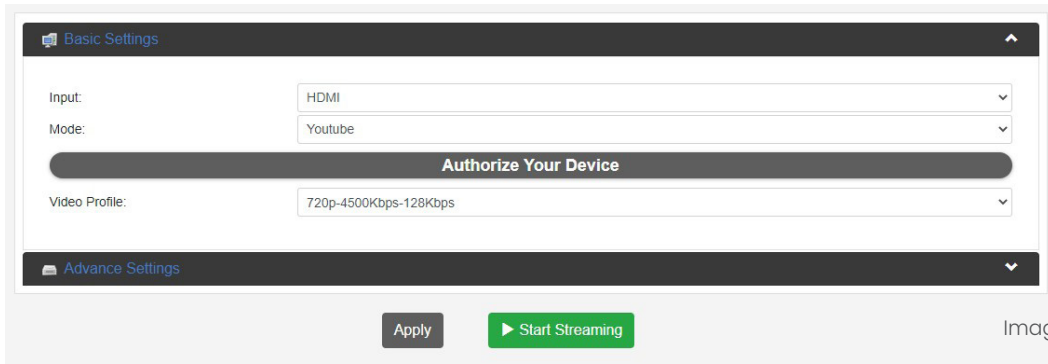


Image 7

The screen will look like this when you choose Mode: Youtube, or Facebook. If you click on “Authorize Your Device”, you will get the Live Authorization pictures below. Follow the steps, click on continue and then on “Start Streaming”.

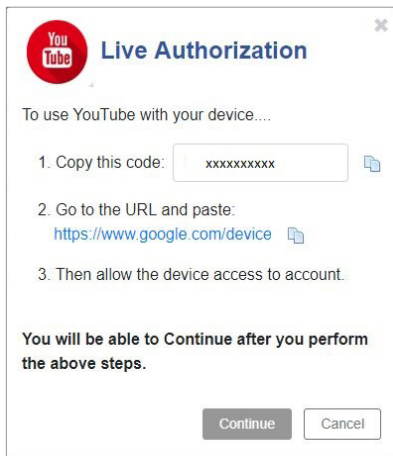


Image 8 authorization

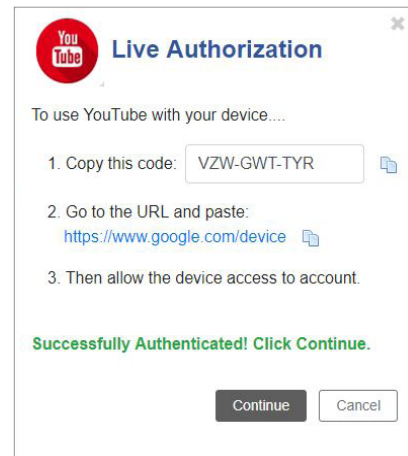


Image 9 authorization success

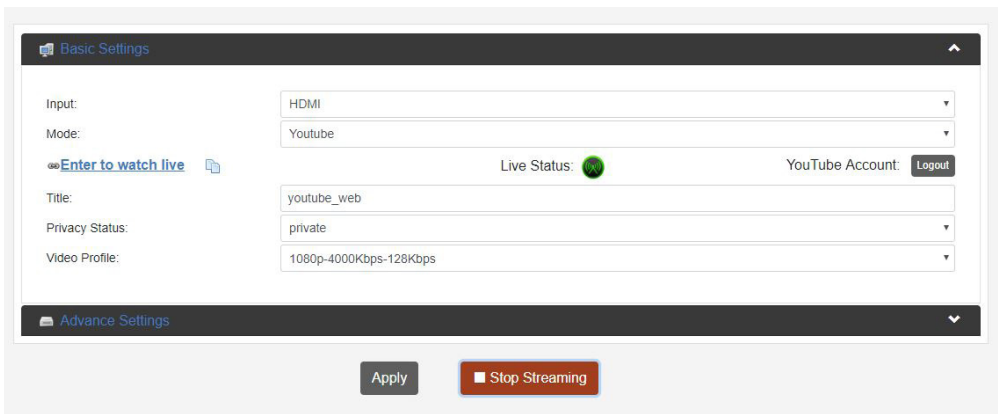


Image 10 authorized and streaming

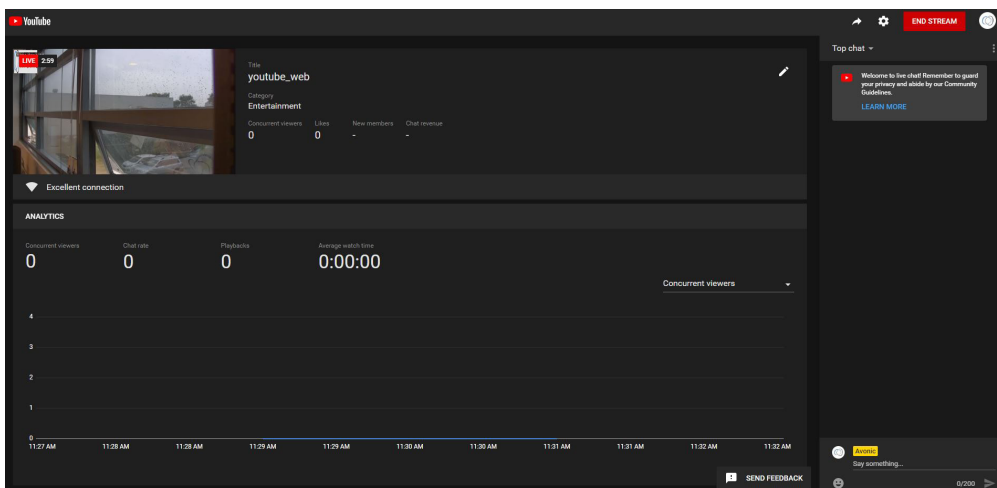
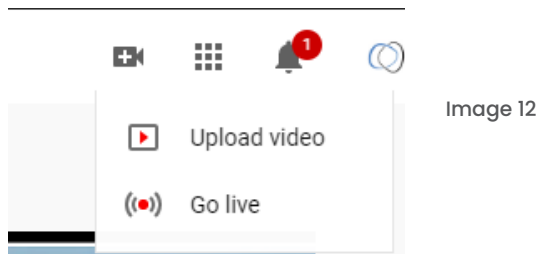


Image 11 youtube dashboard

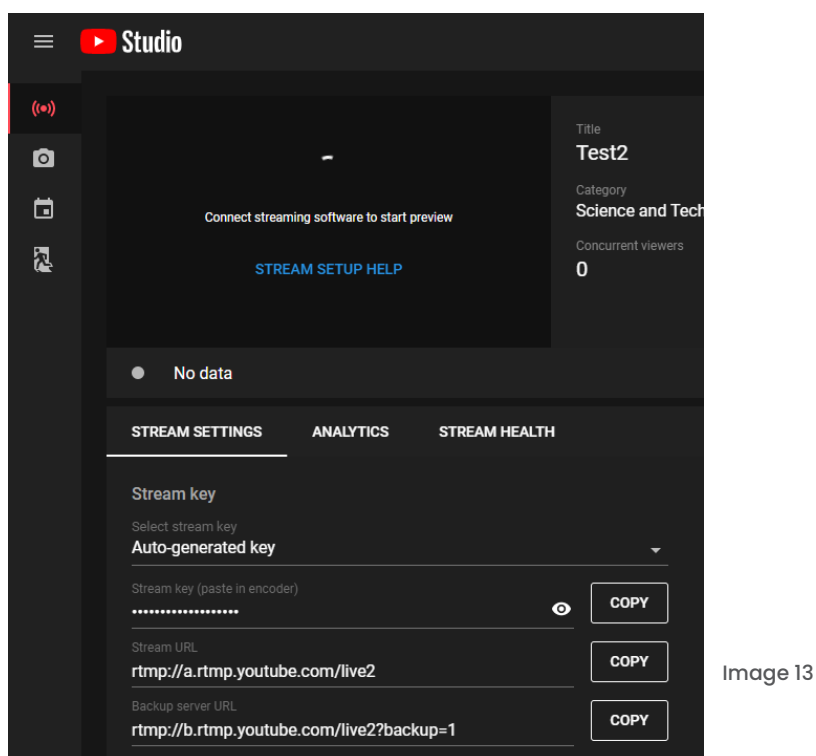
## 2.2.1.1 Live Service / Streaming Alternative (Automatic Authorisation fail)

In some cases, Google security will prevent the automatic authorisation to take place. In this case, a manual set up is also possible:

1. Login to your Youtube account and click the Go Live button



2. Set up a new stream according to your preferences
3. After setting this up, you will find yourself on this page:



4. Copy the stream URL and Stream Key
5. Navigate to your REC200 and login to the WebGUI
6. Select the Stream Settings Menu
7. Select the correct input
8. Select Mode Manual
9. Select output: RTMP/RTMPS
10. Paste the Youtube Stream key in the uploading Node field of the REC200
11. Video Profile 1080p-6000Kbps is the preferred setting for Youtube. You can also set up these settings manually according to your preferences.

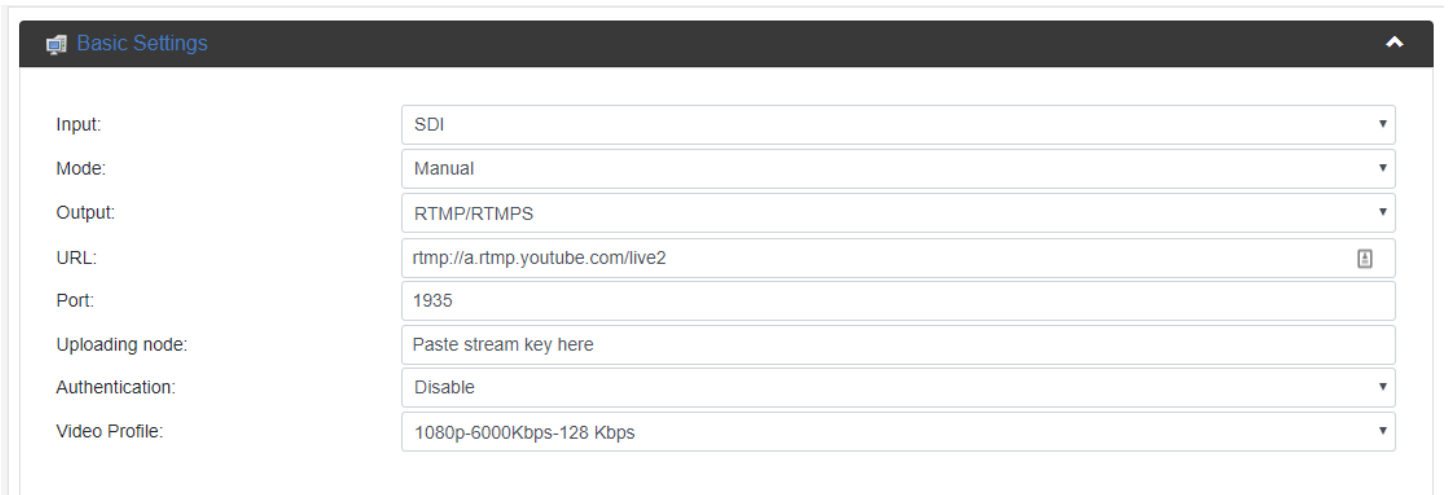


Image 14

12. Apply these settings and start streaming to Youtube. Youtube should now give you a preview of your stream:

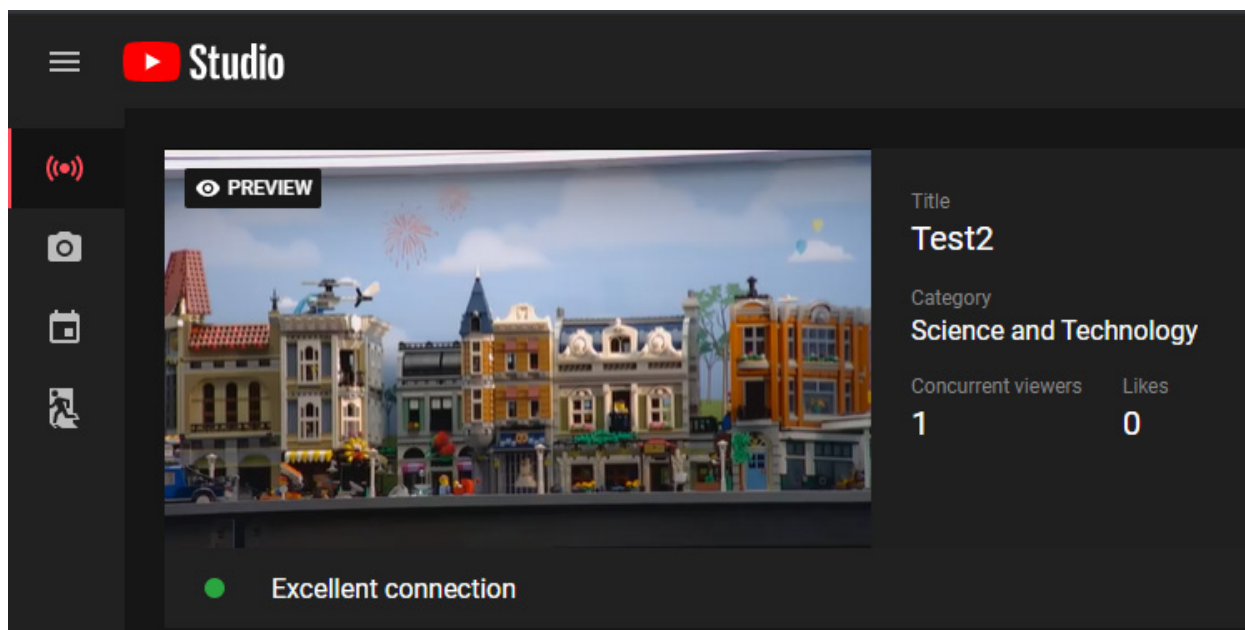


Image 15



## 2.2.2 Live Service / Streaming Setting Advanced options

By clicking on the advanced tab, the dropdown menu will present an expanded range of options for recording and streaming:

### INPUT:

Audio Source	"HDMI/SDI Audio", or enable "audio line IN" to embed audio on stream and/ or recording
HDCP Test Mode	Enable/ disable, for testing and development purposes only!

### VIDEO:

Video Type	H.264
Video Aspect Ratio	automatic, 16:9 (SD), 4:3 (SD)
Profile	High, Main, Baseline
Video Resolution	1920x1080, 1680x1200, 1600x900, 1440x1050, 1440x900, 1360x768, 1280x1024, 1280x720, 1280x800, 1280x768, 1024x768, 1024x576, 960x540, 850x480, 800x600, 720x576, 720x540, 720x480, 720x404, 704x576, 640x480, 640x360, 480x270, Automatic
GOP (Group of Pictures) Size	1~61
(Video) Frame Rate (FPS)	12~60
Video Bit Rate (kbps)	600~20000
Video Mode	Constant Bitrate (CBR), Variable Bitrate (VBR).
Buffer	Enable/Disable

### AUDIO:

Audio Type	MPEG1_Layer2 (MP2), AAC, AC3, EAC3
Audio Sampling Rate (KHz)	48
Audio Bit Rate (kbps)	32, 48, 64, 80, 96, 112, 128, 160, 192, 224, 256, 320, 384

Advance Settings

### Input

Audio Source: HDMI/SDI Audio  
HDCP Test Mode: Disable

### Video

Video Type: H264  
Video Aspect Ratio: Automatic  
Profile: Main  
Video Resolution: 1280x720  
GOP Size: 30  
Frame Rate(FPS/Hz): 30  
Video Bit Rate(kbps): 4500  
Video Mode: CBR  
Buffer: Enable

### Audio

Audio Type: AAC  
Audio Sampling Rate(KHz): 48  
Audio Bit Rate(kbps): 128

Apply Start Streaming

Image 16

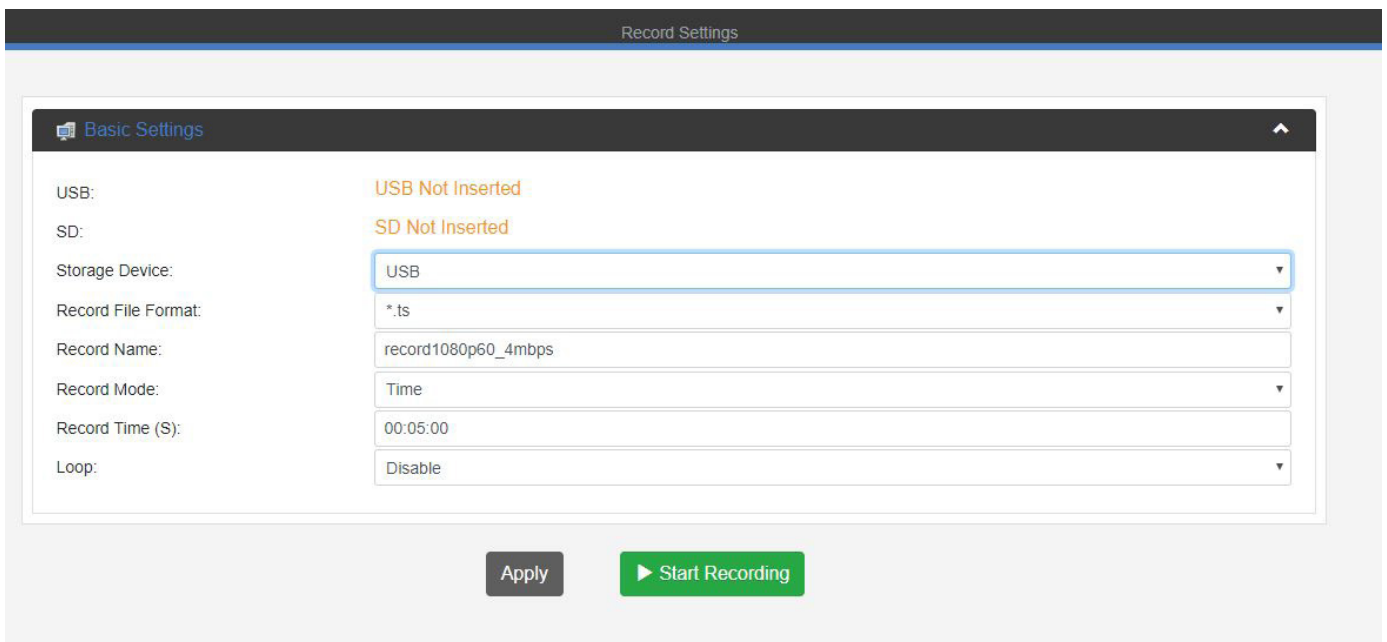
The last step on this page is to press Apply and after that the green “Start streaming” button to start broadcasting your stream.

## 2.2.3 Record/ FTP Upload Setting

The Record Settings page is shown in the picture below. Here you can select which way and where a stream is recorded.

1. USB states whether or not a USB device is inserted
2. SD states whether or not a SD card is inserted
3. Storage Device Select either USB or SD to record
4. Record File Format \*.ts, \*.mp4, \*.mov
5. Record Name name the recorded file
6. Record Mode Loop, Size, Time
7. Record Time/ Size Determine maximum recording Time or Size of the file (kilobytes)
8. Loop enable/ disable loop recording when recording device is full
9. Apply click to save the settings if you changed them
10. Start recording click on the green button

Image 17



**WARNING: MAKE SURE TO SAFELY REMOVE THE USB/SD BEFORE TAKING IT OUT OF THE REC200, IF YOU DO NOT, IT MAY CORRUPT THE LAST RECORDING!**

NOTE: YOU CAN ONLY USE **FAT32 USB/SD DRIVES** AND RECORD A MAX OF **4 GB FILE SIZE**. AFTER THAT THE REC200 WILL RECORD A NEW FILE WITH A GAP OF **2 SECONDS** BETWEEN THE TWO FILES.

After you have clicked on the “Start Recording” button, a bar appears that is slowly turning green. Here you can see how much storage in gigabytes is left on the USB or SD device.

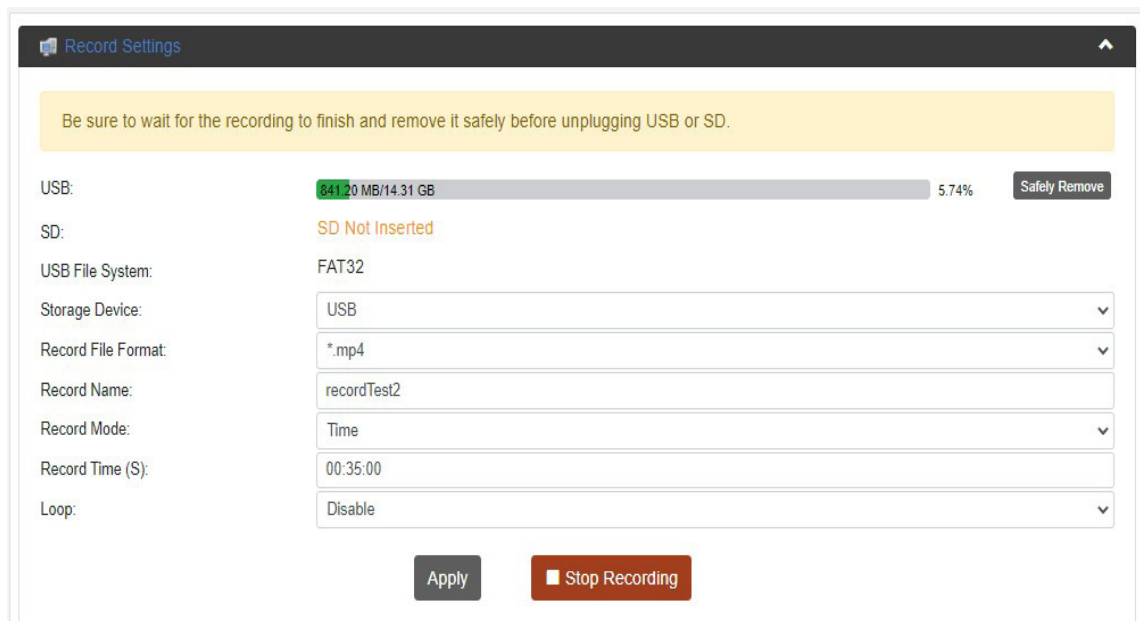


Image 18

The table below shows how long you can record for different file formats and how long uploading and downloading takes for recordings made with the REC200. Note that the times mentioned in the table are a rough estimation and can possibly deviate a few minutes.

Recording time (max)				
File format	Video profile	File size	Hour	Minutes
.ts	1080p - 720p, 6000 kbps	4 Gb	1	44
.MP4	1080p - 720p, 6000 kbps	4 Gb	1	48
.MOV	1080p - 720p, 6000 kbps	4 Gb	1	48

Upload/ Download time				
Speed (bit rate)	File size	Hour	Minutes	
1.5 Mbps	4 Gb	6	21	
5 Mbps	4 Gb	1	54	
6 Mbps	4 Gb	1	35	
8 Mbps	4 Gb	1	14	
10 Mbps	4 Gb	0	57	

## 2.2.3.1. FTP Upload

The Avonic REC200 has been equipped with an FTP client to upload recordings to an FTP server. The now following steps will describe how to install and use this functionality.

In this example the target for the REC200 to upload its recordings to, is **FTP://192.168.178.64/** on port 21 (standard FTP port).

If you prefer to use another port use the following format:

**FTP://<IP-Address:PORT/**

Due to the settings of the FTP server, the recordings will be stored automatically in the correct folder.

<input type="checkbox"/> Select All	Name	State
<input type="checkbox"/>	Focus 1080p30.3_20210311140149-0.mp4	--

Image 19

Now fill in the username and password and click 'Apply'

### Anonymous Login

If you have set up a user 'anonymous' without a password in your FTP server, you can use this option in the REC200 to upload its files without authentication.

### Upload recording file to FTP automatically

Select this option if the REC200 must automatically upload its recordings to the FTP server. Older recordings can be uploaded to the FTP server while the REC200 is still recording new ones.

**Warning! Selecting this option will disable the ability to manually upload a recording.**

### Delete the local file after successful uploading to FTP automatically

When this option is selected, the recording will be deleted from the local storage after a successful transfer into the directory defined by the FTP server.

## 2.2.4. Playback Settings

Another function of the REC200, next to streaming and recording, is playback of files as a stream. It works the same as streaming and recording, but in this case you get the page below where the files to be played can be chosen. By default the Default play list is active, but you can choose to create more playlists by using the folder icon with the green '+' sign in it. The next step is to add files using the "add files" button upon which a window will be opened to select the files for the playlist. The way these files are played back is by using an identical set of settings as described under chapter 2.2.1.

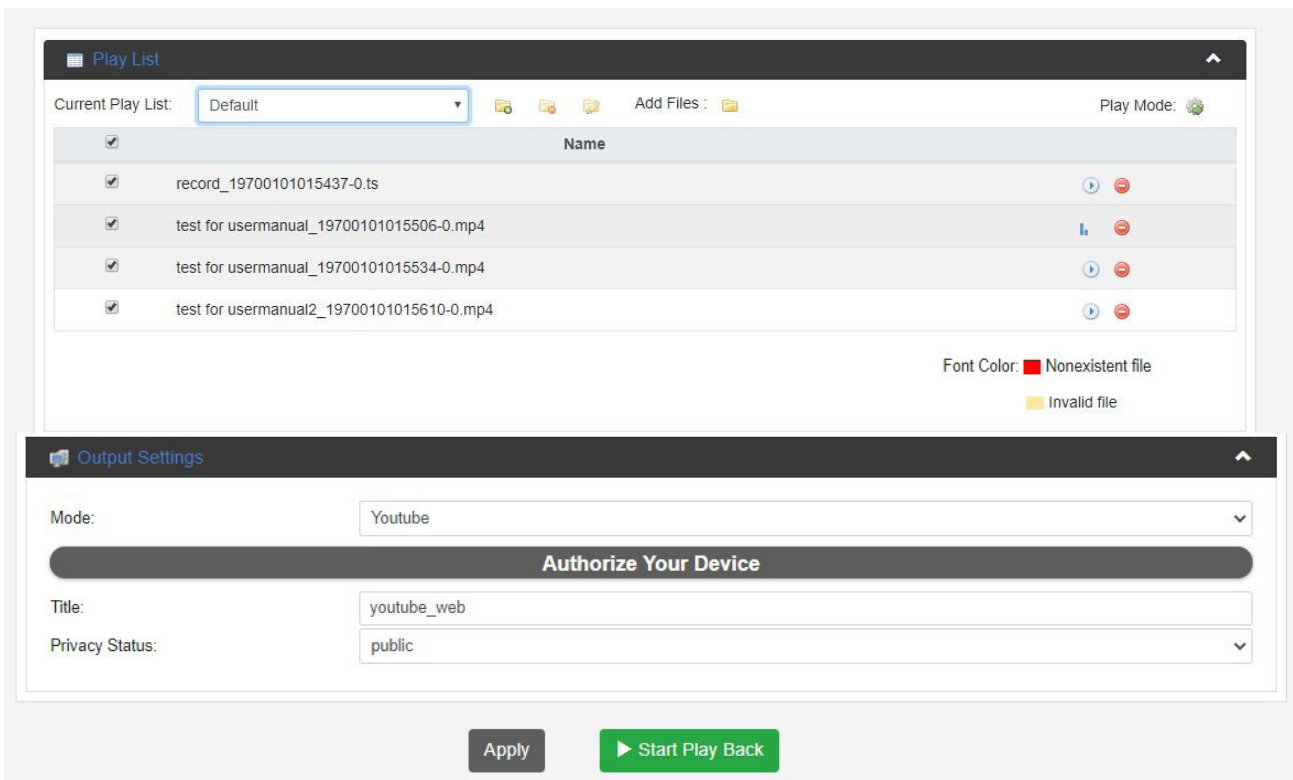


Image 20

If you choose "Mode: Youtube", you can set the privacy status of your recorded file according to your Youtube page (public, private, unlisted). Authorize Your Device as is described under chapter 2.2.1 and click on Apply and Start Play Back.

## 2.2.5. Overlay Settings

The Avonic REC200 has the possibility to put a text and/or picture on its output as an overlay over the video output. Note that this option is only intended for setting this one time **before** streaming! Modifying this option during streaming will cause a hick-up in the stream (video and audio), because the REC200 will build up the stream again after a change to its settings.

After clicking on the menu Settings Overlay tab, Overlay Mode: Title only and Picture Switch: Enable the page looks like this:

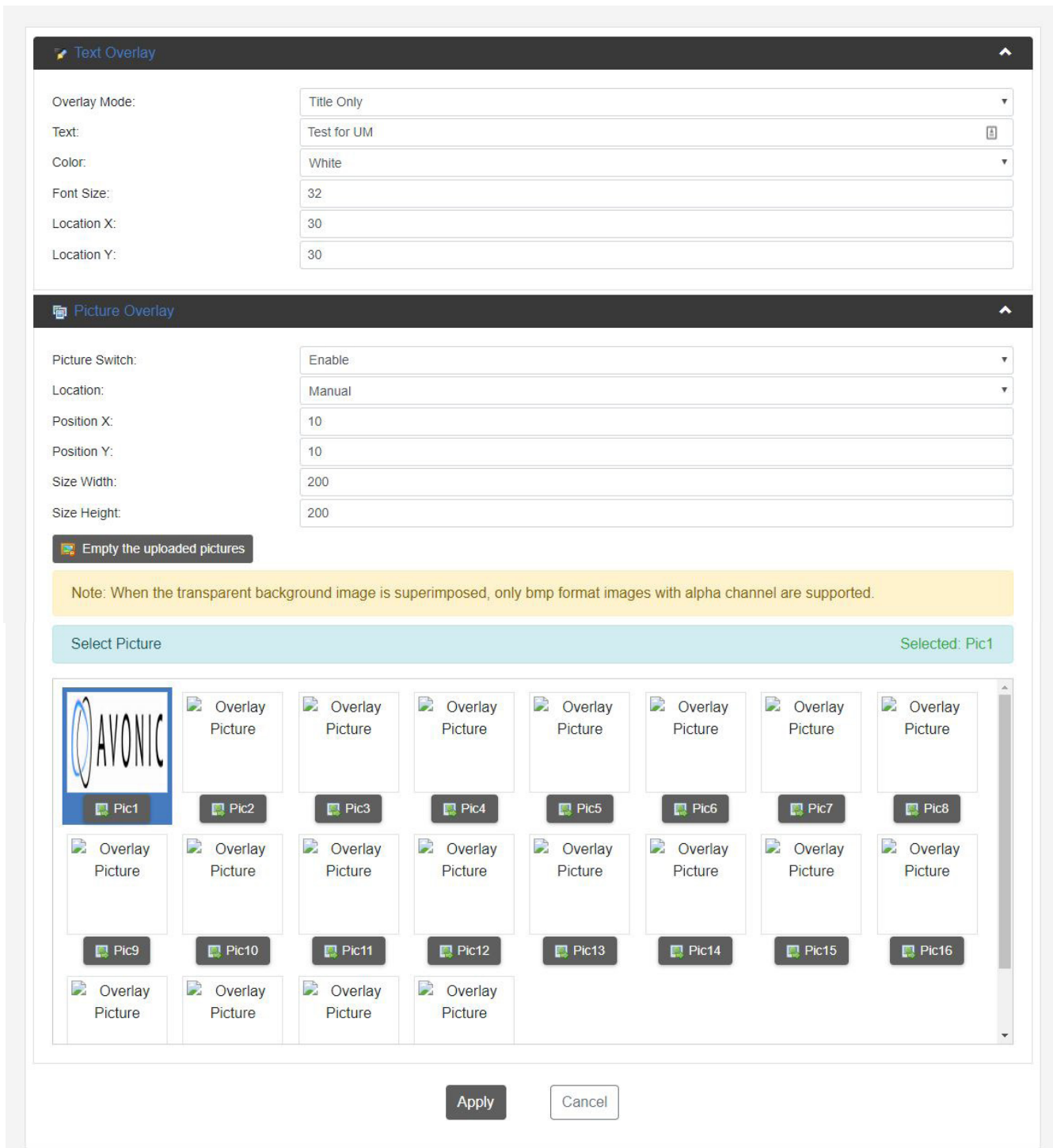


Image 21

## Overlay Settings continued

From top to bottom the settings for the text and picture overlay are as follows:

### Text Settings:

- |    |               |  |
|----|---------------|--|
| 1. | Overlay Mode  | Text only, off                           |
| 2. | Overlay Text  | Fill in the overlay text to be displayed |
| 3. | Overlay Color | White, Yellow, Green                     |
| 4. | Font Size     | Size of the text shown                   |
| 5. | Location X    | Horizontal location                      |
| 6. | Location Y    | Vertical location                        |

### Picture Settings:

- |    |                         |   |
|----|-------------------------|---|
| 1. | Picture Switch          | Enable, Disable   |
| 2. | Location                | Manual, Top Left, Top Center, Top Right, Middle Left, Middle Center, Middle Right, Bottom Left, Bottom Center, Bottom Right |
| 3. | Position X              | Horizontal placement of overlay picture   |
| 4. | Position Y              | Vertical placement of overlay picture   |
| 5. | Size Width              | Horizontal size of overlay picture  |
| 6. | Size Height             | Vertical size of overlay picture  |
| 7. | Empty uploaded pictures | Delete all uploaded pictures from the gallery below.  |

## How to create transparent BMP file for overlay

A short guide to create a usable BMP file as transparent overlay using Adobe Photoshop:

1. Create workspace roughly 200x200
2. Select your imagefile with transparent background
3. Select your imagefile in the layers windows holding the CTRL button
4. Go to the channel window and save your selection as channel
5. Uncheck the colors, leaving only the alpha channel selected
6. Save the file as 32 bit Bitmap with alpha channel



## 2.2.6. System Settings

The last page on the menu is the System Settings page, where you can find all the settings regarding licenses, network settings firmware upgrades etc.

### 1. Version information

Shows the software and hardware version of the REC200.

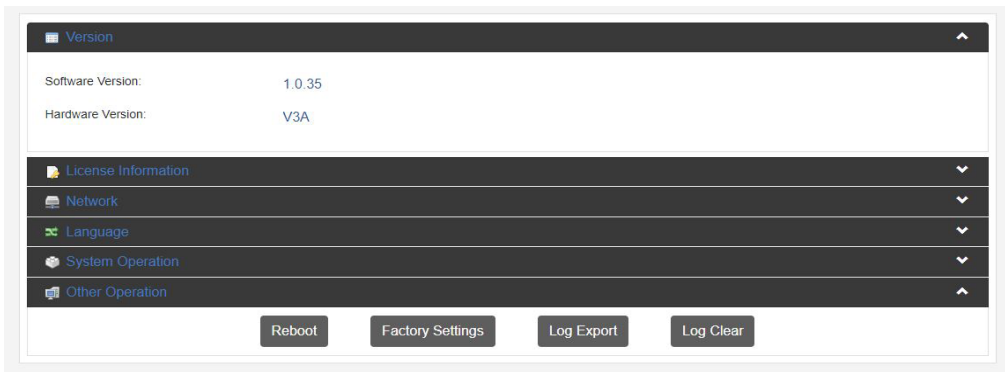


Image 22

### 2. Web Access Protocol

The Web Access Protocol is for communication security between computersystems in a network, or via internetsites that are used to stream video's made with the REC200.

- Only HTTP, Only HTTPS, or HTTP and HTTPS      Select one of these options
- TLS (Transport Layer Security) Protocol      TLS version
- Allowed SSL ciphers      Enable/ Disable
- Cipher List      Recommendation1, Recommendation2
- Certificate, Private Key, Certificate chain      Upload possibility
- Click now on "Apply" to save the settings

Image 23



### 3. License information

Here you can see if you have access (authorized) to H265, CC, SDI and AC3.

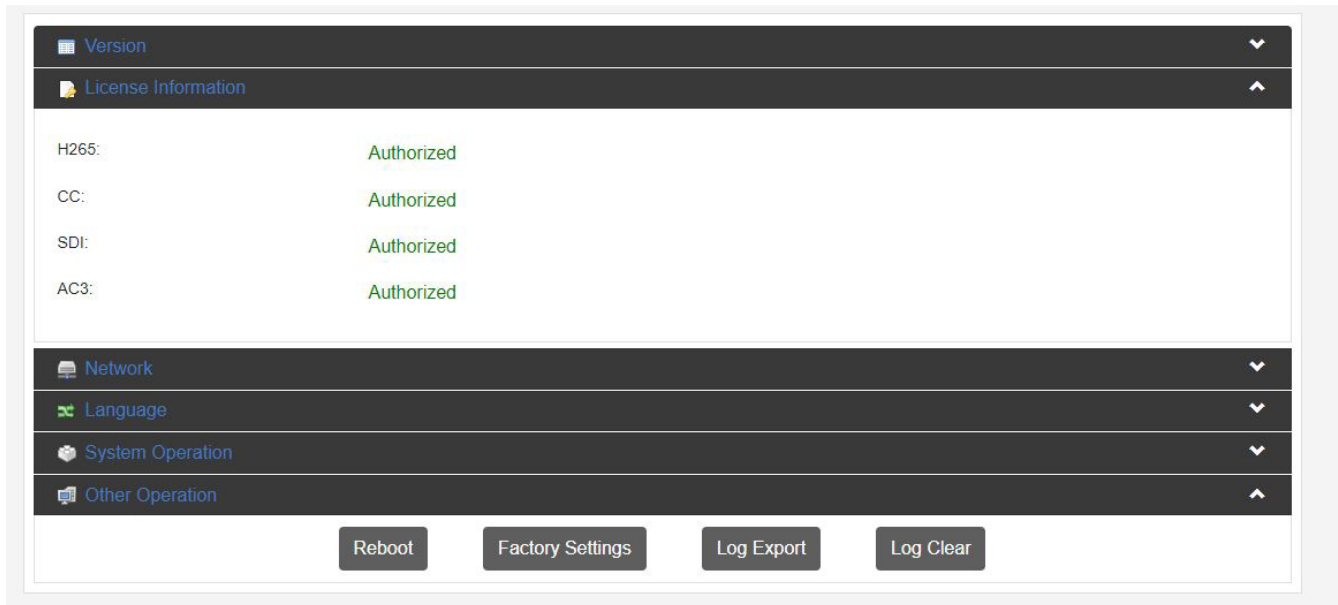


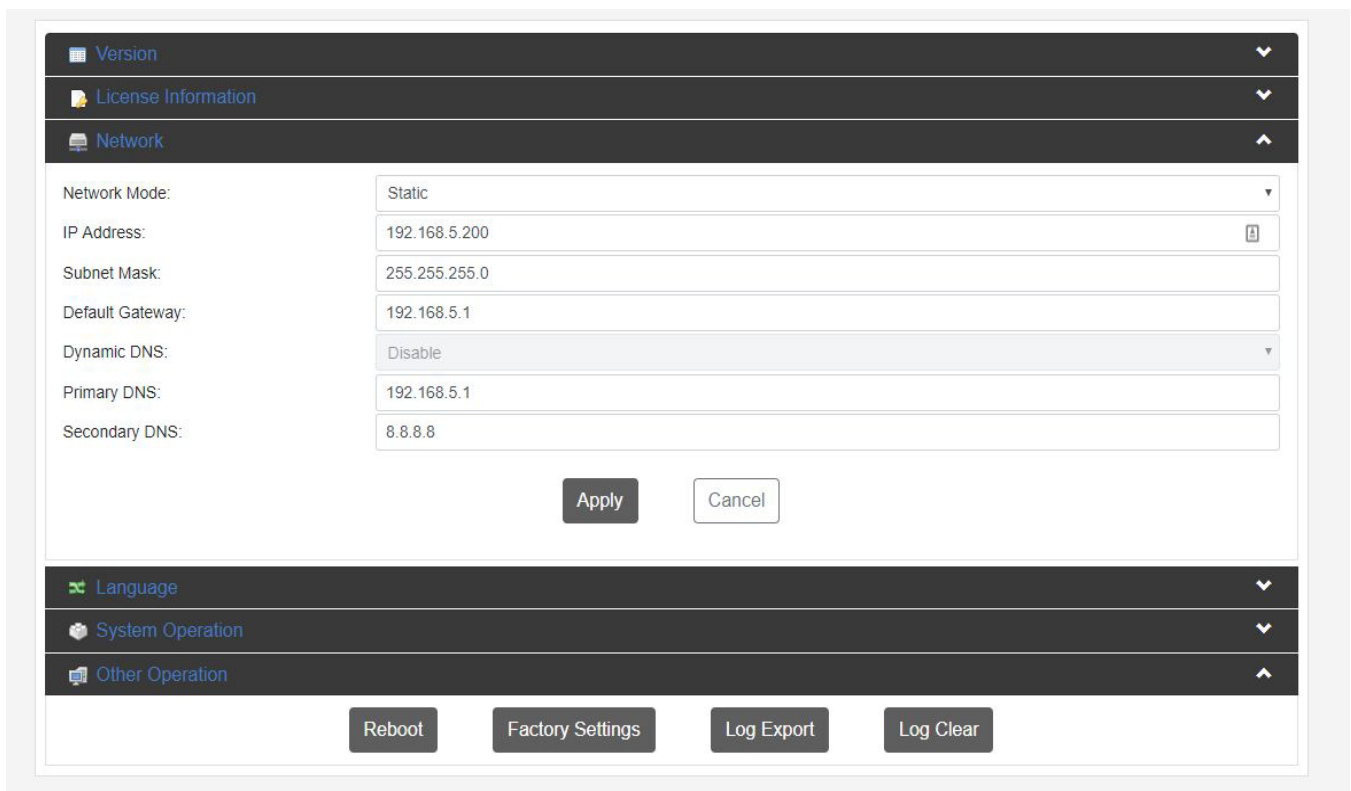
Image 24

### 4. Network Settings

For connection with a DHCP server. In absence of a DHCP server you can manually set IP Address, Subnet Mask, Default Gateway etc. Select "Static" under "network mode" to do that.

Network mode	Static, or DHCP
IP Address	Fill in IP Address
Subnet Mask	Fill in Subnet Mask
Default Gateway	Fill in Default Gateway
Dynamic DNS	Disable/ Enable
Primary DNS	Fill in Primary DNS
Secondary DNS	Fill in Secondary DNS

Image 25



## 5. NTP (Network Time Protocol)

The Network Time Protocol (NTP) is a networking protocol for clock synchronization between computer systems to synchronize their internal clocks with each other.

System Time	Shows day, date and time
Time Zone	Choose the time zone you want
NTP Server	Fill in the name of the NTP server
Auto Sync	Choose if you want or not to synchronize automatically the time. Select enable or disable.
Sync Frequency(min)	When Auto Sync is enabled, you can set the Sync Frequency.

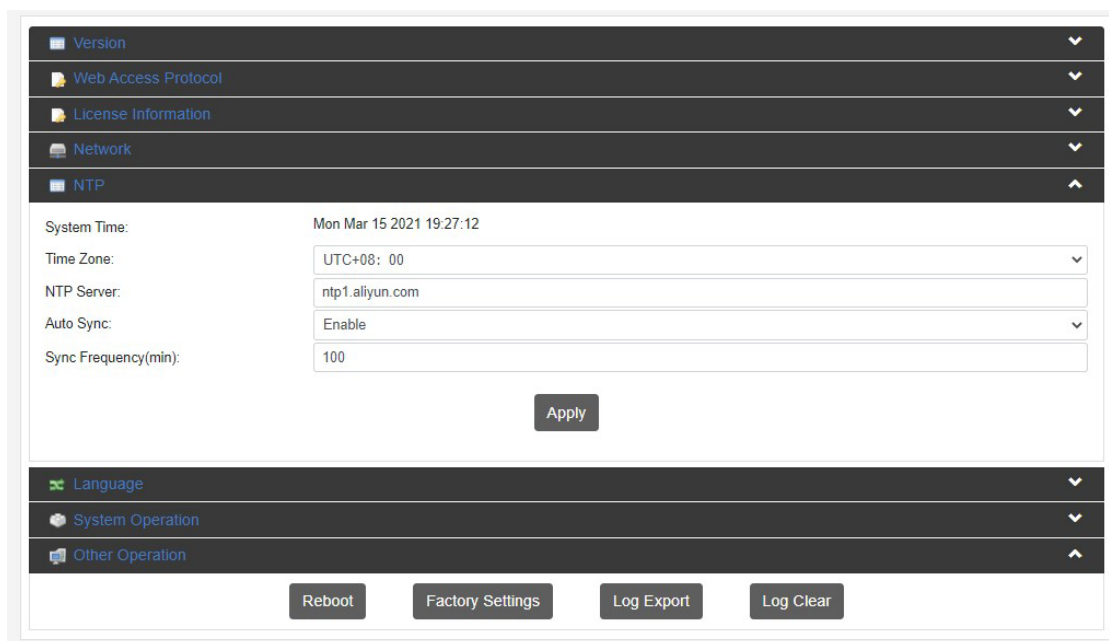


Image 26

## 6. Language

Select the language (English, or Chinese)

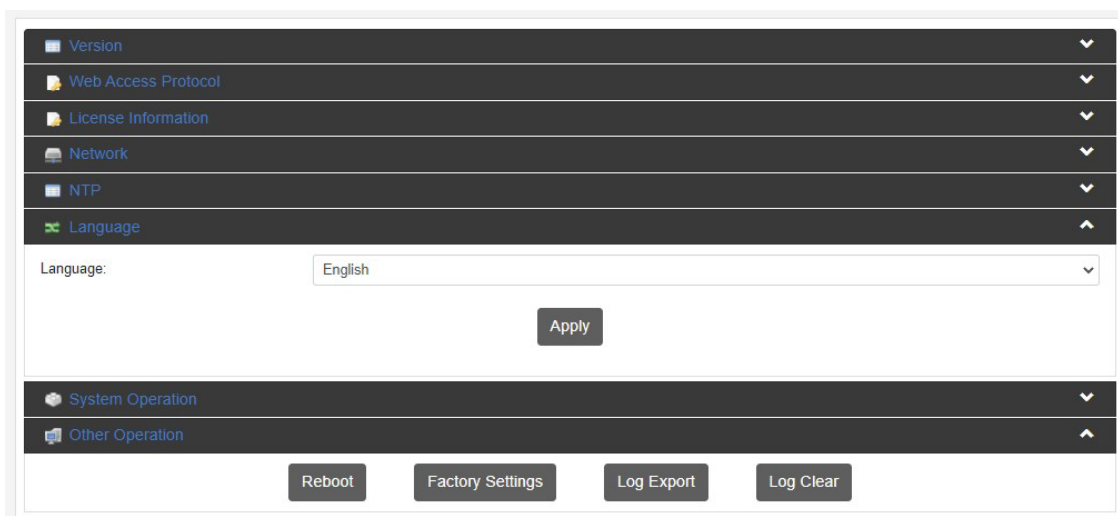


Image 27

## 7. System operation

Upgrade, import or export license if available. Import or export a configuration file

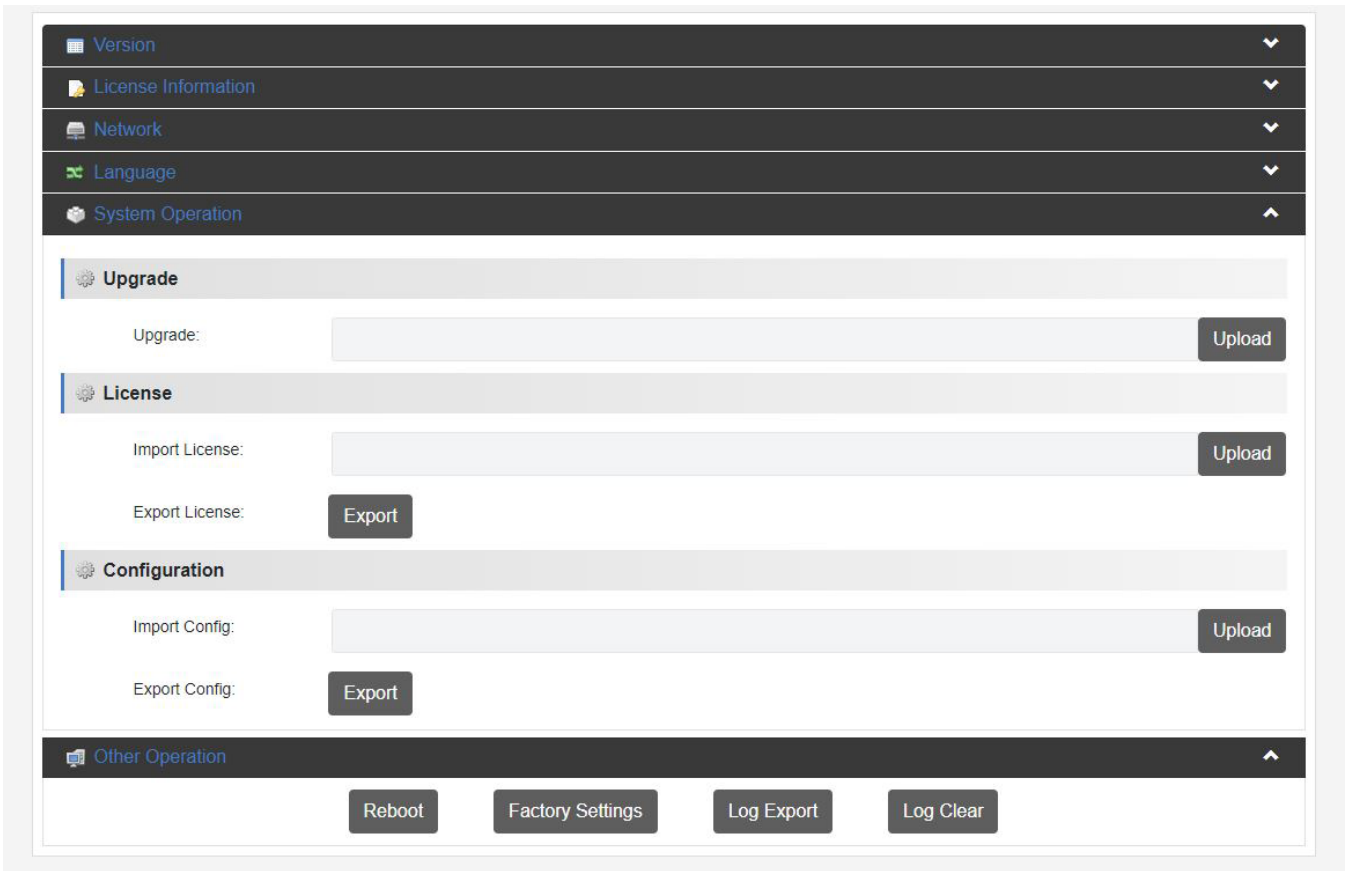


Image 28

## 8. Other Operation

Reboot, Restore Factory Settings, Export logfile and Clear all logs.

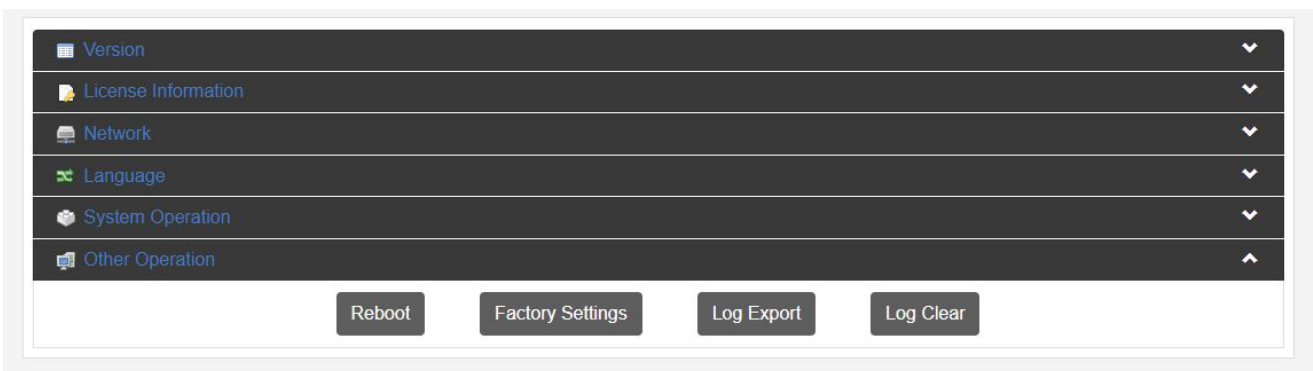


Image 29

## MAINTENANCE

- If the recorder will not be used for a long time, please turn it off and disconnect the AC adaptor from the outlet.
- Use soft cloth or tissue to clean the display and housing.
- Please use a soft dry microfibre cloth to clean. If the recorder is very dirty, clean it with diluted neuter detergent. Do not use any type of solvents, which may damage the surface.

## Unauthorized Use

- No operating close to powerful electromagnetic radiation, such as TV or radio transmitters, etc.

## TROUBLESHOOTING

### General advise

- Turn the recorder off and on again and check if the problem persists.
- Restore to Factory Default

### Power Issues

- No display and no power LED
  - Check the net power
  - Check the power supply

### WebGUI

- Cannot enter WebGUI
  - Check network cable
  - Check if PC is in the same subnet as the recorder
- Firmware update failed
  - Check firmware file integrity, download it again.

# API DATA

## Commands

Commands should be sent using TCP/IP. The default port for TCP is 55555. Each command is case sensitive. Do not change capitalization, spacing, or lettering. Each command is terminated with a carriage return. If the command fails or is incorrect the feedback should be "Error: unknown cmd" followed by the sent command.

Command	Description
InputSrc	Select HDMI or SDI as input source, and display input source status
AudioSw	Enable/disable audio, and display audio status
RecordSw	Enable/disable recording, and display recording status
RecordDev	Select USB or SD card as recording device, and display current recording device
RecordName	Set the name of record, and display record name
StreamSw	Enable/disable streaming, and display streaming status
OverlayPicSw	Enable/disable picture overlay, and display picture overlay status
OverlayTxtSw	Enable/disable text overlay, and display text overlay status
OverlayTxt	Set the content of overlay text, and display content of overlay text
Network	Display status of network
Reboot	Reboot the running system
System	Display system information of product

InputSrc	Select HDMI or SDI as input source, and display input source status	
Syntax	InputSrc X	
Parameter	Description	Range
X	Value	ON, OFF, sta
Example	Feedback	
InputSrc sta	InputSrc HDMI	

AudioSw	Enable/disable audio, and display audio status	
Syntax	AudioSw X	
Parameter	Description	Range
X	Value	ON, OFF, sta
Example	Feedback	
AudioSw ON	AudioSw ON	

RecordSw	Enable/disable recording, and display recording status.	
note:	Start record command with confirmation of status - If no disk is found the unit will report no USB or no SD found.	
Syntax	RecordSw X	
Parameter	Description	Range
X	Value	ON, OFF, sta
Example		Feedback
RecordSw ON		RecordSw ON

RecordDev	Select USB or SD card as recording device, and display current recording device	
Syntax	RecordDev X	
Parameter	Description	Range
X	Value	USB, SD, sta
Example		Feedback
RecordDev USB		RecordDev USB

RecordName	Set the name of record, and display record name	
Syntax	RecordName X	
Parameter	Description	Range
X	Name	String, sta
Example		Feedback
RecordName record1		RecordName record1

StreamSw	Enable/disable streaming, and display streaming status	
Syntax	StreamSw X	
Parameter	Description	Range
X	Value	ON, OFF, sta
Example		Feedback
StreamSw ON		StreamSw ON

OverlayPicSw	Enable/disable picture overlay, and display picture overlay status	
Syntax	OverlayPicSw X Y	
Parameter	Description	Range
X	Value	ON, OFF, sta
Y	Select which picture	1-20
Example		Feedback
OverlayPicSw ON 2		OverlayPicSw ON 2

OverlayTxtSw	Enable/disable text overlay, and display text overlay status	
Syntax	OverlayTxtSw X	
Parameter	Description	Range
X	Value	ON, OFF, sta
Example	Feedback	
OverlayTxtSw ON	OverlayTxtSw ON	

OverlayTxt	Set the content of overlay text and display content of overlay text	
Syntax	OverlayTxt X	
Parameter	Description	Range
X	Text content	String (<30Bytes), sta
Example	Feedback	
OverlayTxt Avonic	OverlayTxt Avonic	

Network	Display status of network	
Syntax	Network X	
Parameter	Description	Range
X	Status	sta
Example	Feedback	
Network sta	IP: 192.168.1.100 Gateway: 192.168.1.1 NetMask: 255.255.255.0 DNS1Addr: 8.8.8.8 DNS2Addr: 192.168.1.1 MACAddr: 98:14:xx:xx:xx:xx	

Reboot	Reboot the running system	
Syntax	Reboot X	
Parameter	Description	Range
X	Status	ON
Example	Feedback	
Reboot ON	Reboot ON	

System	Display system information of product	
Syntax	System X	
Parameter	Description	Range
X	Status	sta
Example	Feedback	
System sta	InputStatus: good OutputStatus: bad InputResource: HDMI VideoResolution: 1080i OutputProtocol: udp://... AudioBitRate: 127kbps AudioSample: 48k VideoBitRate: 5885kbps EncryptStream: Unencrypted RecordName: avonic RecordTime: 14 RecordSize: 10864KB SFVersion: 9.0.10 HWVersion: V2A	