User Manual

HD-H264-4RM

4ch H.264 HDMI Streaming Encoder

Version: HD-H264-4RM_2020V1.0

Preface

Read this user manual carefully before using the product. Pictures shown in this manual are for reference only. Different models and specifications are subject to real product.

This manual is only for operation instruction, please contact the local distributor for maintenance assistance. The functions described in this version were updated till September, 2020. In the constant effort to improve the product, we reserve the right to make functions or parameters changes without notice or obligation. Please refer to the dealers for the latest details.

All product function is valid till 2020-09-01.

Trademarks

FCC Statement

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. It has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation.

Operation of this equipment in a residential area is likely to cause interference, in which case the user at their own expense will be required to take whatever measures may be necessary to correct the interference.

Any changes or modifications not expressly approved by the manufacture would void the user's authority to operate the equipment.

SAFETY PRECAUTIONS

To ensure the best performance from the product, please read all instructions carefully before using the device. Save this manual for further reference.

- To prevent fire or shock hazard, do not expose this equipment to an environment of high humidity and/or dust. Do not use in an unprotected outdoor installation or any area classified as overly damp or wet.
- The temperature for installation should be kept between 0°C - 60°C. Avoid direct sunlight exposure or extreme changes of temperature over a short period of time.
- Do not disassemble the unit or put it on an unstable base.
- Do not drop it and avoid heavy impact.
- Ventilation: Any openings in the enclosure are provided for ventilation and to ensure reliable operation of the unit and to protect it from overheating. These openings, if any, must not be blocked or covered. This unit should not be placed in a built-in installation unless proper ventilation is provided.
- Cleaning: Unplug the unit from the mains outlet before cleaning. Do not use liquid cleaners or aerosol cleaners, only use a damp cloth.
- Do not overload outlets and extension cords as this may result in a risk of fire or electric shock.
- Enclosure Entry of any kind is dangerous. Never push objects of any kind, including liquids, into this unit through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock.
- Service: Do not attempt to open or service this unit yourself as opening or removing covers may expose you to dangerous voltage of other hazards.
- There are no user-serviceable parts inside the unit. If the unit requires service please contact your authorized dealer, or an authorized repair service company.

Table of Content

1. Product Introduction

1.1 Introduction to 4ch H.264 HDMI Video Encoder

The 4x H.264 HDMI Streaming Encoder HD-H264-4RM is an 1U Rack-mounted hardware device used for four high-definition audio and video signals up to 1080p60 (1080p@60Hz) encoding and network transmission, using high-efficient HD digital video compression technology H.264, with the characteristics of reliable, high-definition, low bitrate and low latency.

The HD-H264-4RM supports 4 channels HDMI input and works with HTTP / HLS / FLV / RTSP / RTMP(S) / UDP/RTP (Unicast/Multicast) Stream Protocols and ONVIF. It also works with online live broadcast platform, such as YouTube, Facebook, Ustream, Twitter, etc.

Industrial controlled, precision design, 19-inch 1U size, easy installation, offers an easy and energy efficient installation.

1.2 Package List

- 1x HD-H264-4RM: 4ch H.264 IP Encoder with 4 integrated encoders
- 1x Power cord
- 1x User Manual

Notes:

- Please confirm if the product and the accessories are all included, if not, please contact with the dealers.
- Please contact your dealer immediately if any damage or defect in the components is found.

1.3 Features

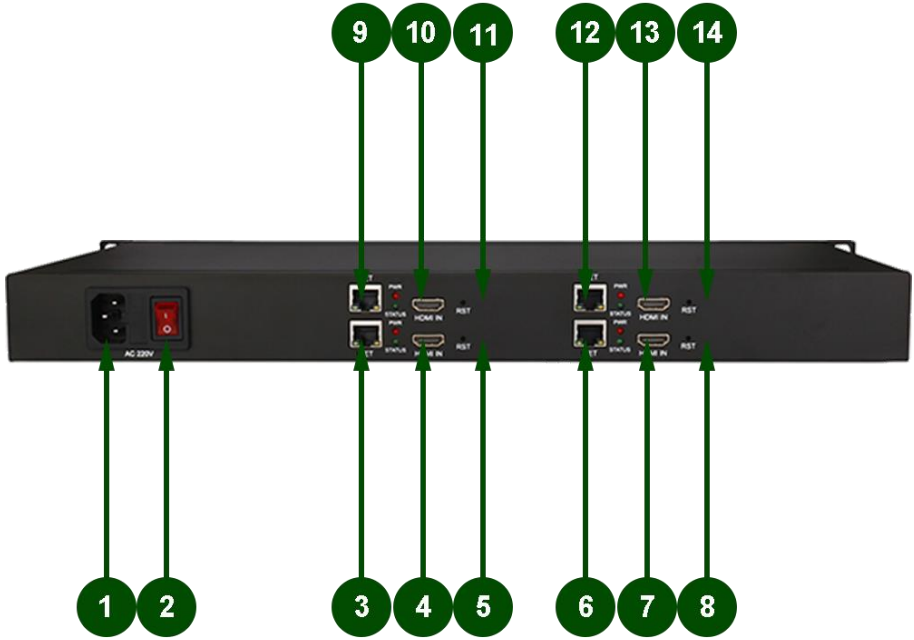
- Support 1-4 HDMI input and encoding simultaneously.
- Adopts professional encoding chip, embedded HiLinux System, high stability and efficiency.
- Friendly Web Control UI, default IP is 192.168.1.168 (for each of the 4 encoders).
- Support HTTP / HLS / FLV / RTSP / RTMP(S) / UDP/RTP (Unicast/Multicast) Stream Protocols and ONVIF.
- Support output Multi RTMP(S) (Main stream & Sub stream) to different Media Streaming Server.
- Provide custom resolutions, Main Stream Preset Resolutions – 1920x1080, 1680x1200, 1600x900, 1440x1050, 1440x900, 1360x768, 1280x720, 1280x800, 1280x768, 1024x768, 1024x576, 960x540, 850x480, 800x600, 720x576, 720x540, 720x480, 720x404, 704x576, 640x480, 640x360, 480x270, etc.
- Support Text and image insert as Stream Logo for Main stream & Sub stream.
- Automatic detect the input video signals, output stream will show no signals when input signals interrupted.
- Output Stream bitrate adjustable.
- Support Audio digital gain.
- Support firmware upgrade.
- Support remote control via router port forward.

1.4 Applications

- IPTV (Wowza, Nginx Media Server, etc.)
- Online Live Broadcast (YouTube, Facebook, Ustream, Twitter, etc.)
- NVR (Network Video Recorder)
- Recording System / Software
- Digital Signage
- Teaching / Campus Broadcast
- Hotel TV system
- Video Conference

2. Panel Description

2.1 Rear Panel



① **AC 230V:** Power input.

② **0/1:** Power Switch

③ **NET:** Ethernet/ network port of the first encoder

④ **HDMI IN:** Video input of the first encoder

⑤ **RST:** Reset button of the first encoder
It is used to reset the device. After power on, hold it on for about 15 seconds to reset the device to default IP (192.168.1.168)

⑥ **NET:** Ethernet/ network port of the second encoder

⑦ **HDMI IN:** Video input of the second encoder

⑧ **RST:** Reset button of the second encoder
It is used to reset the device. After power on, hold it on for about 15 seconds to reset the device to default IP (192.168.1.168)

⑨ **NET:** Ethernet/ network port of the third encoder

⑩ **HDMI IN:** Video input of the third encoder

⑪ **RST:** Reset button of the third encoder
It is used to reset the device. After power on, hold it on for about 15 seconds to reset the device to default IP (192.168.1.168)

⑫ **NET:** Ethernet/ network port of the fourth encoder

⑬ **HDMI IN:** Video input of the fourth encoder

⑭ **RST:** Reset button of the fourt encoder
It is used to reset the device. After power on, hold it on for about 15 seconds to reset the device to default IP (192.168.1.168)

📖 **Note:** Pictures shown in this manual are for reference only, different model and specifications are subject to real product.

3. WEB Settings and System Connection

Each Encoder of the 4 channel H.264 HDMI Streaming Encoder HD-H264-4RM can be separately configurated and controlled separate via web-based GUI.
The GUIs allows users to interact with the Streaming Encoders through graphical icons and visual indicators.

3.1 Initialization

Input the power cord and turn on the device with the power switch.
After that hold a pin to press RST buttons [(5), (8), (11), (14)] on each encoder for 15 seconds, it will be restarted and initialized.
The default route IP of dash board is 192.168.1.168 for each encoder after initialization.

3.2 PC Network Settings

Change the administrator's computer IP address as: 192.168.1.* to avoid IP conflicting with dashboard IP. (mark "*" numbers range will be 0-254 except 168)

3.3 Reset to factory default

Input the power cord and turn on the device with the power switch.
After that hold a pin to press RST button [(5), (8), (11), (14)] for 15 seconds to reset the selected encoder.
The selected system will be reset and restarted.
The default IP of the selected encoder is 192.168.1.168 after reset.

3.4 Usage Precautions

- System should be installed in a clean environment and has a prop temperature and humidity.
- All of the power switches, plugs, sockets and power cords should be insulated and safe.
- After initialization all devices should be connected before power on.

4. Web-based GUI Access

Each of the four encoders of the HD-H264-4RM can be separately configurated and controlled via separate web-based GUI.
The GUIs allows users to interact with the Streaming Encoders through graphical icons and visual indicators.

Connect the first LAN port (5) of HD-H264-4RM with a straight-through CAT cable with the PC that you prepared as described in chapter 3.2.

4.1 Log-In to the System

To access a standard WEB browser is best.

4.1.1 Default Settings

The System comes with default user and password.

- Default address after initialization: 192.168.1.168
- Default User: admin
- Default Password: admin

4.1.2 Standard Log-In

Type ***192.168.1.168*** in your browser, it will enter the log-in interface shown as below (in case of Windows 7):

Type the user name and password.

- Default User: admin
- Default Password: admin

Note: Pictures shown in this manual are for reference only, different model and specifications are subject to real product.

5. Web-based GUI Control

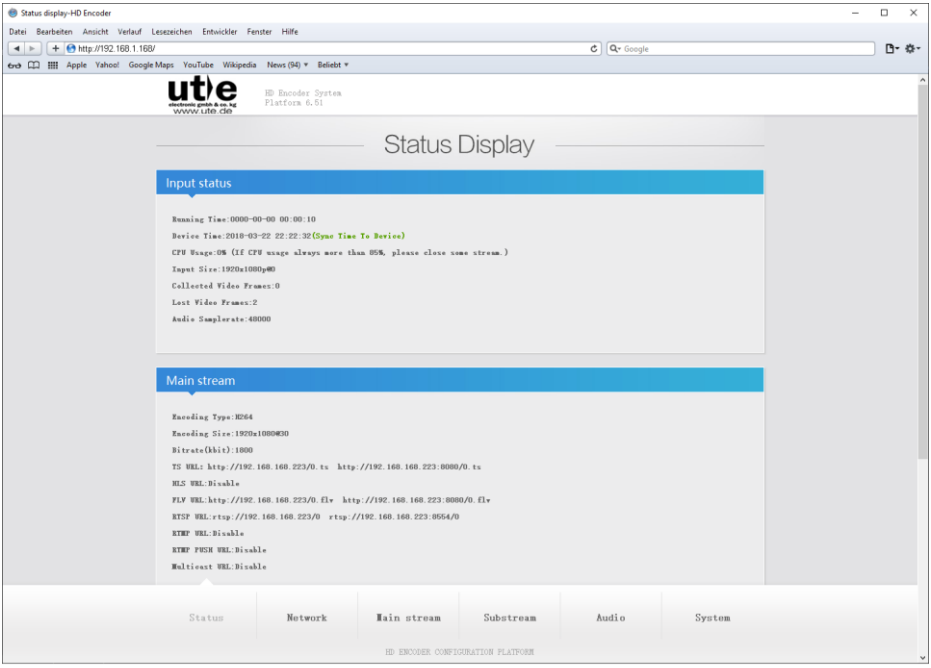
Each of the four encoders of the HD-H264-4RM can be separately configurated and controlled via separate web-based GUI.
The GUIs allows users to interact with the Streaming Encoders through graphical icons and visual indicators.

After logging in to the first encoder as described in chapter 4, you can control the first encoder of HD-H264-4RM from the web-based GUI.

After configuring the first encoder, please log in to the second, third and fourth encoder one by one and configure them according to your requirements.
The GUI of the second, third and fourth encoder is similar to that of the first.

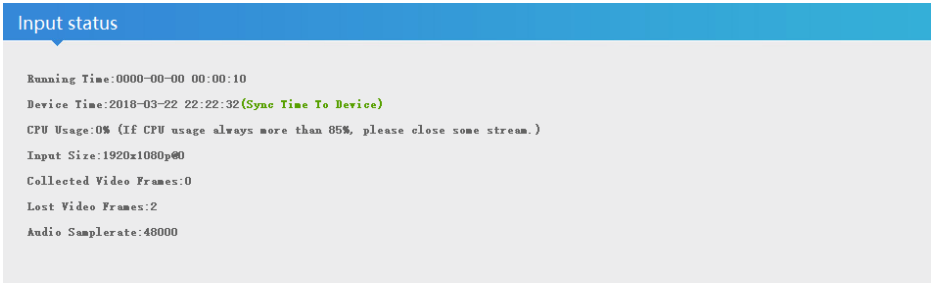
5.1 Status Display

Directly after the login you will get to the status overview page.



5.1.1 Input status

When you input the HDMI signal source, it will show resolution of video input.

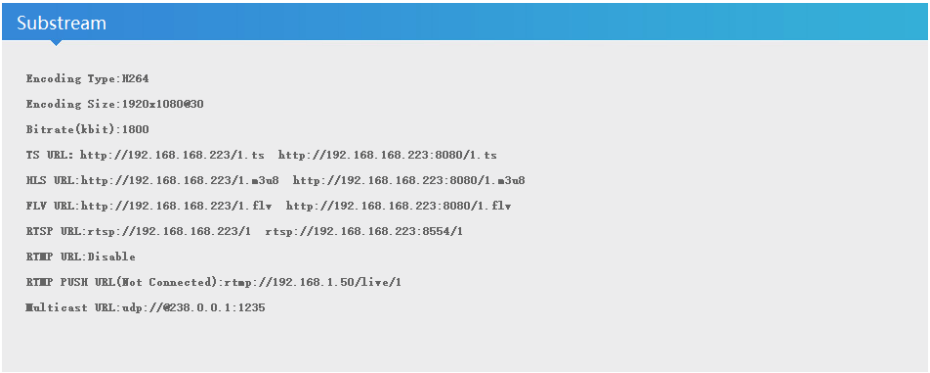


5.1.2 Mainstream Status

The Main stream window shows an overview about the encoder Main stream settings.
It will show the resolution of the mainstream you set and multicast address.
You can stream the multicast address by VLC or other streaming software.

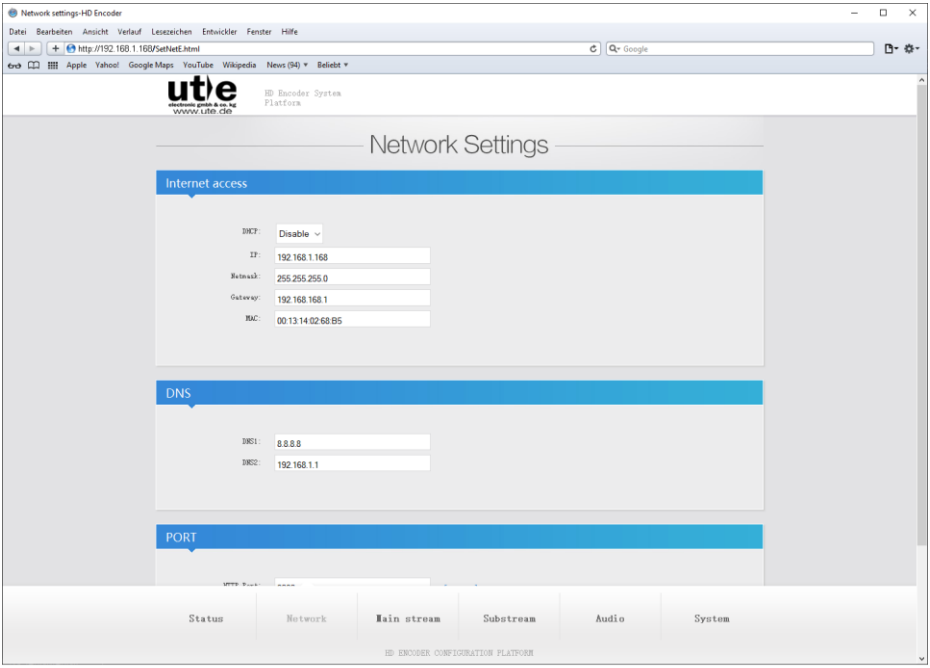
5.1.3 Substream Status

The Substream window shows an overview about the encoder Substream settings.
It will show the resolution of the substream you set and multicast address.
You can stream the multicast address by VLC or other streaming software.

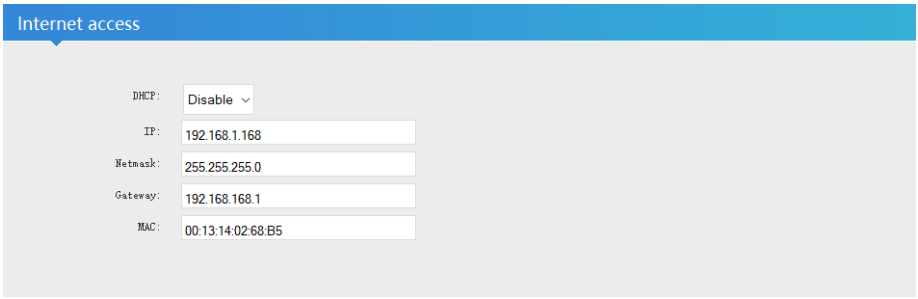


5.2 Network Settings

In this section the network settings are accessible.



5.2.1 Internet access



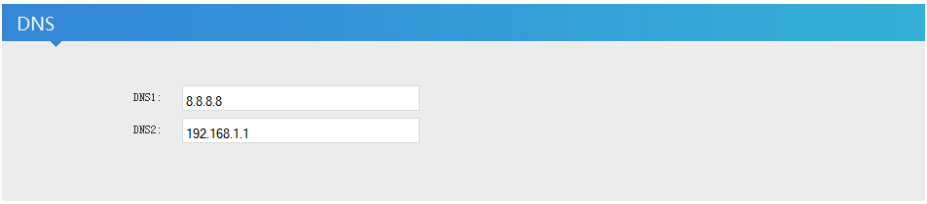
Item	Function	Value
DHCP	Enables DHCP Mode	Enable | Disable
IP	Enter your individual IP address	192.168.1.168 (default)
Netmask	Enter your individual netmask	255.255.255.0
Gateway	Enter your individual gateway address	192.168.1.1
MAC	The encoders physical address.	00:13:14:02:68:B5

Confirm your individual settings for internet access, DNS and ports by clicking the ***Set up*** button at the bottom of the page once.

🕮 **Important**: Please make sure that you give each of the four encoders a different IP address.

🕮 **Note**: The Default IP of each encoder is 192.168.1.168.
If IP setting is forgotten after changing you can reset it to default IP follow steps in chapter 3.3.

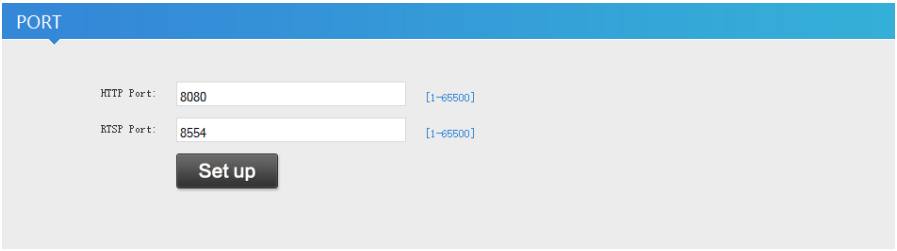
5.2.2 DNS



Item	Function	Value
DNS1	Enter your individual DNS address	8.8.8.8
DNS2	Enter your individual DNS address	192.168.1.1 (default)

Confirm your individual settings for internet access, DNS and ports by clicking the ***Set up*** button at the bottom of the page once.

5.2.3 Port

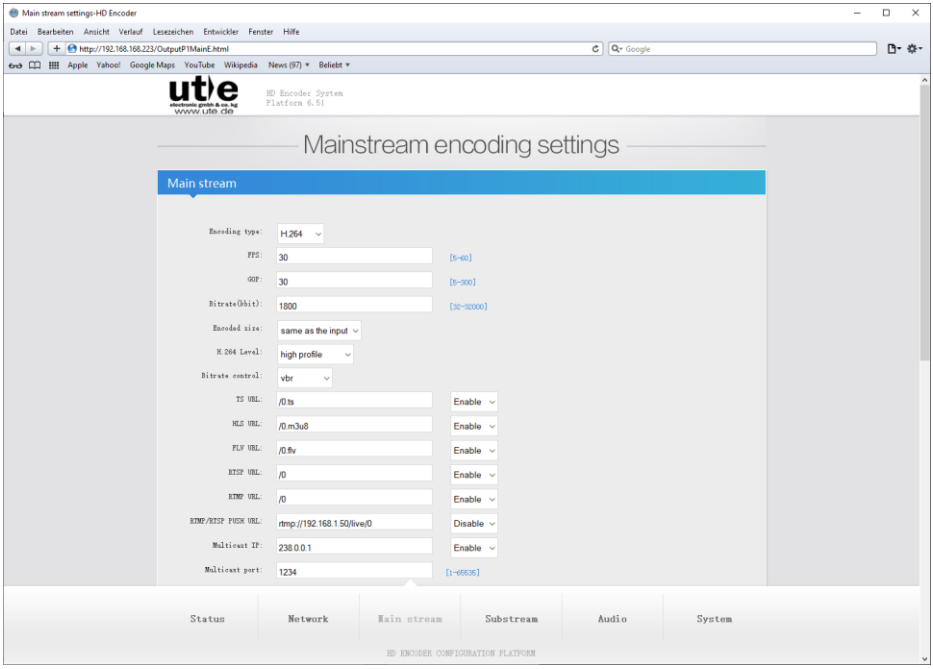


Item	Function	Value
HTTP Port	Enter your individual HTTP port	1 ~ 65500
RSTP Port	Enter your individual RSTP port	1 ~ 65500

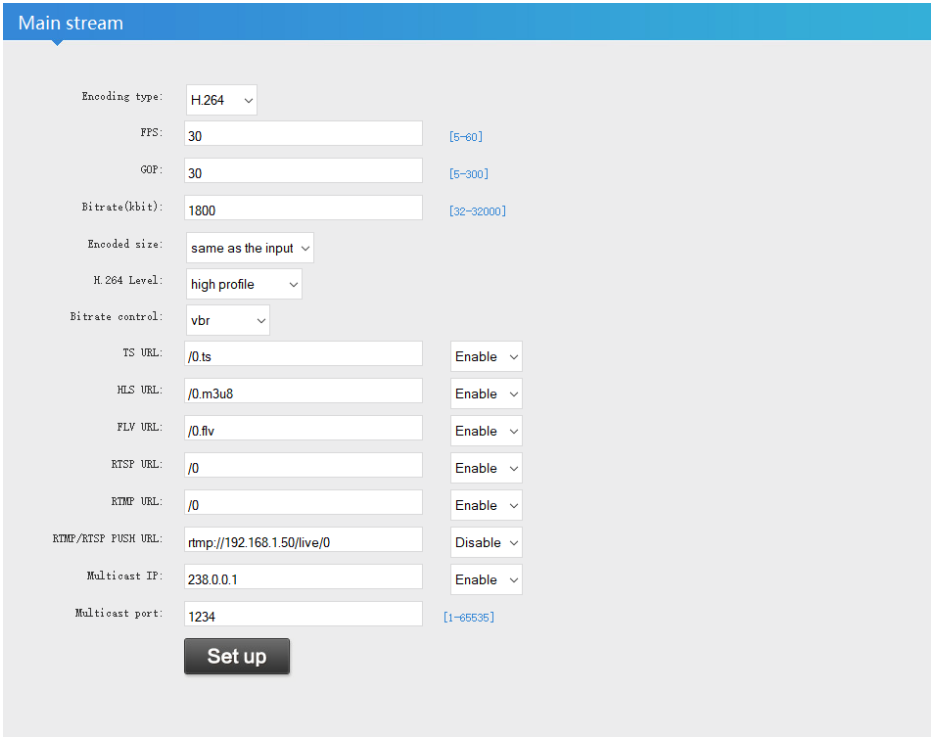
Confirm your individual settings for internet access, DNS and ports by clicking the ***Set up*** button once.

5.3 Mainstream encoding settings

In this section the mainstream and main stream OSD settings are accessible.



5.3.1 Main stream settings



Item	Function	Value
Encoding type	Selector for the type of compression	H.264 | MJPEG
FPS	Selector for frame rate [frames per second]	5 ~ 60
GOP	Selector for Group of Picture (GOP) size [frames as GOP]	5 ~ 300
Bitrate (kbit)	Selector for bit rate (Network bandwidth setting) in kbit	32 ~ 32000
Encoded Size	Selector for the encoded image size	same as input | 1920x1080 | … | 1280x720 | … | 720x576

		| … | 176x144
H.264 Profile	Selector for H.264 profile	baseline profile | main profile | high profile
Bitrate Control	Selector for type of bitrate mode	CBR | VBR | Strong CBR
TS URL	Enter your TS URL You can enable or disable TS by selecting Enable/ Disable	/0.ts
HLS URL	Enter your HLS URL You can enable or disable HLS by selecting Enable/ Disable	/0.m3u8
FLV URL	Enter your FLV URL You can enable or disable FLV by selecting Enable/ Disable	/0.flv
RTSP URL	Enter your RTSP URL You can enable or disable RTPS by selecting Enable/ Disable	/0
RTMP URL	Enter your RTMP URL You can enable or disable RTMP by selecting Enable/ Disable	/0
RTMP(S)/ RTMP PUSH URL	Enter your RTMP(S) /RTSP URL You can enable or disable RTMP(S)/ RTMP PUSH by selecting Enable/ Disable	rtmp://192.168.1.169/live/0
Multicast IP	Enter your IP address for MultiCast You can enable or disable MultiCast by selecting Enable/ Disable	238.0.0.1
Multicast port	Enter your port address for MultiCast	1 ~ 65535

Confirm your individual main stream settings by clicking the ***Set up*** button once.

Notes:

- FPS/ Frame rate: When the input resolution is 720i/50,1080i50, the frame rate will choose 25

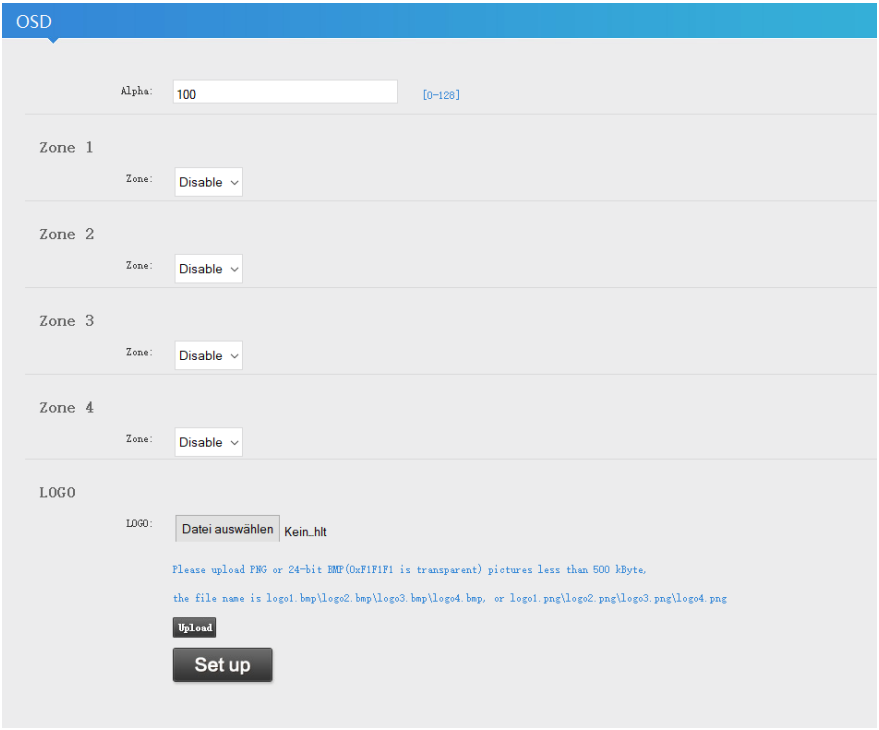
- GOP: not available if selected Encoding type is MJEPG
- H.264 Profile: not available if selected Encoding type is MJEPG
- Bitrate Control: MJEPG only supports CBR and VBR
- HTTP port: 1-65535 optional
- RTSP port: 1-65535 optional
- Multicast IP: 232.255.42.42 disable/RTP/UDP optional
- RTMP server IP: can set by stream media server
- RTMP server port: 1-65535 optional
- RTMP app name: can set by yourself
- RTMP stream name: can set by yourself

5.3.2 Main steam OSD Settings

Each Streaming Encoder of HD-H264-4RM allows to insert individual watermarks or logos.

Four different overlays, named Zone, can be made in the mainstream video signal.
There is a choice between logos, freely selectable text, ticker or time.
Use the OSD menu to arrange setting for type, content, colors and position.

Confirm your individual OSD settings for mainstream by clicking the ***Set up*** button once.

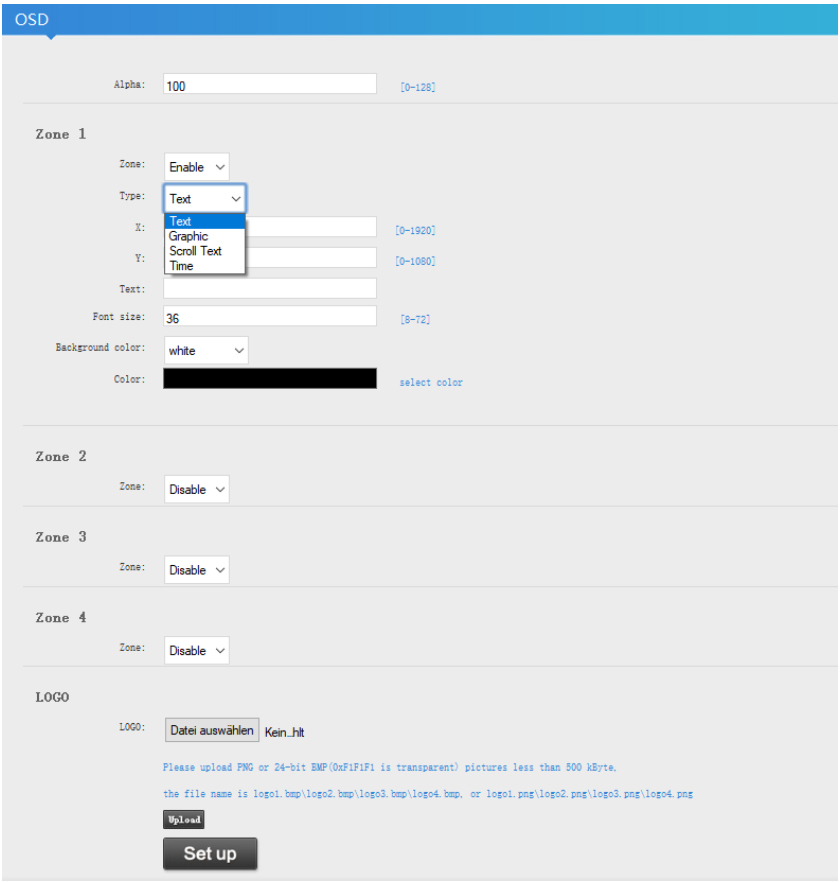


Alpha Key Level

As a general setting, valid for all four zones, the alpha key level is adjustable.

Item	Function	Value
Alpha	Set the level of opacity	0~128

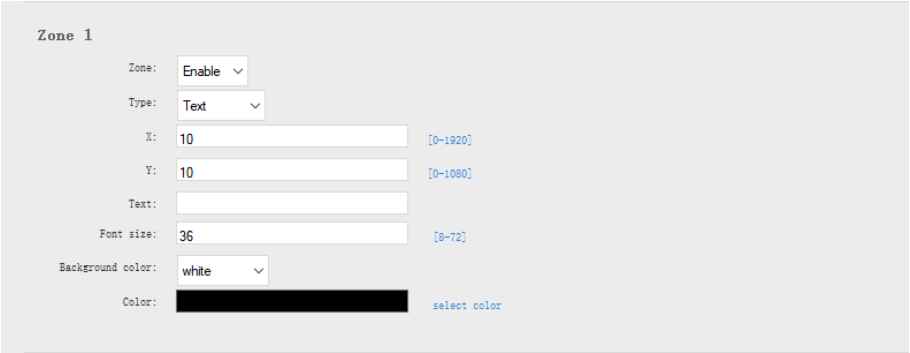
5.3.2.1. Zone 1~4



The OSD capability for Zone 1 is different to Zone 2-4. Zone 1 is the most featured one. To overlay scroll text use Zone 1.

Item	Function	Value
Zone	Enable OSD for Zone 1~4	Enable | disable
Type	Select the type of OSD	Text | Graphic | Scroll Text | Time

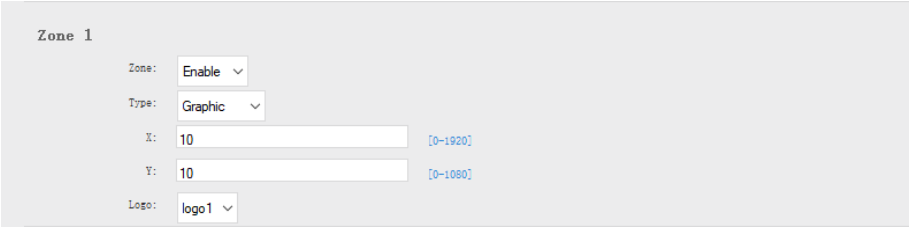
5.3.2.1.1. **Type Text**



Item	Function	Value
X	Defines the left position of the text	0 ~ 1920
Y	Defines the up position of the text	0 ~ 1080
Text	Enter your individual text	
Font size	Select the size of text characters	8~72 (default 36)
Background color	Select the background color for text, scroll text and time on the video	transparent | black | white
Color	Select the font color for text, scroll text and time	Open the color map and select one of 216 colors

5.3.2.1.2. **Type Graphic**

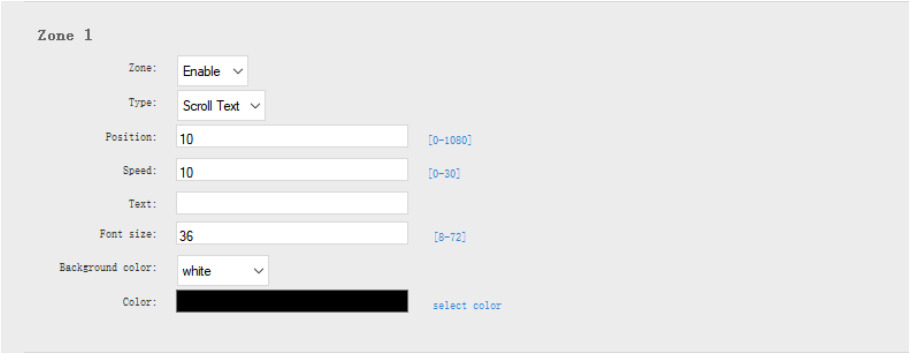
In each Zone a graphic file can be placed as a logo. The logo data are upload to the device internal memory.
You can find more about how to upload your pictures in chapter 5.3.2.2.
Therefore size and data volume is limited.



Item	Function	Value
X	Defines the left position of the picture	0 ~ 1920
Y	Defines the up position of the picture	0 ~ 1080
Logo	Select one of your uploaded pictures	

5.3.2.1.3. **Type Scroll Text**

The insert type Scroll Text is only available in zone 1.



Item	Function	Value
Position	Defines the up position of the text	0 ~ 1080
Speed	Defines the speed for scrolling text in fps	0~30
Text	Enter your individual text	
Font size	Select the size of text characters	8~72 (default 36)
Background color	Select the background color for text, scroll text and time on the video	transparent | black | white
Color	Select the font color for text, scroll text and time	Open the color map and select one of 216 colors

📖 **Note**: If insert type SCROLL TEXT is chosen, your individual text will move right to left within the video image.

5.3.2.1.4. **Type time**

Item	Function	Value
X	Defines the left position of the text	0 ~ 1920
Y	Defines the up position of the text	0 ~ 1080
Font size	Select the size of text characters	8~72 (default 36)
Background color	Select the background color for text, scroll text and time on the video	transparent | black | white
Color	Select the font color for text, scroll text and time	Open the color map and select one of 216 colors

Note: If insert type TIME is chosen, the device time will be shown as HH:MM. Enable NTP function to get the time always synced to UTC.

5.3.2.2. LOGO

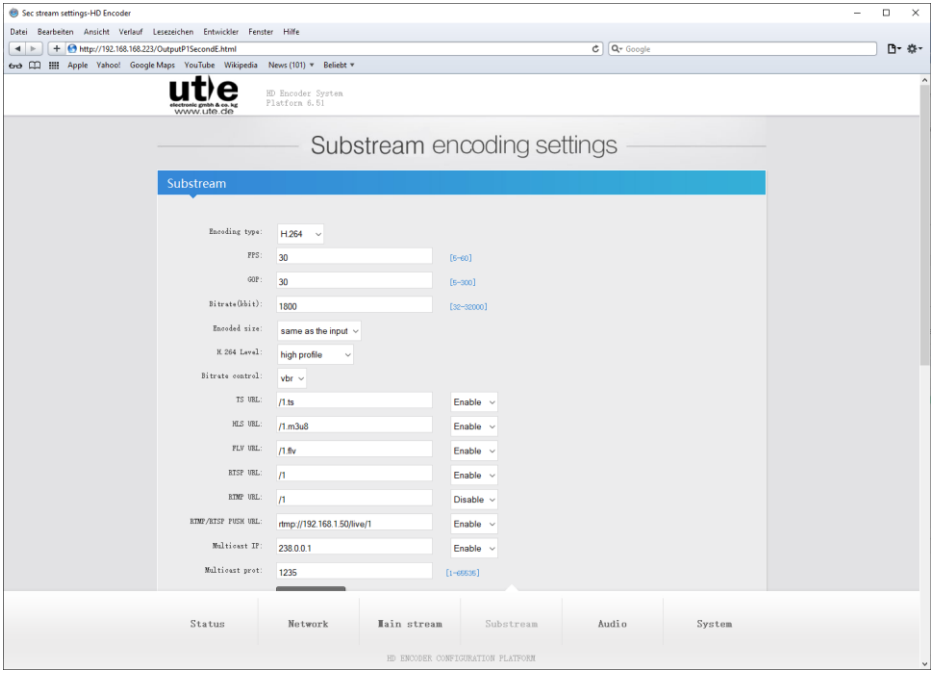
In this section you can upload your pictures

Item	Function	Value
Upload picture	Select your individual picture	Open the explorer to search for your logo file and upload

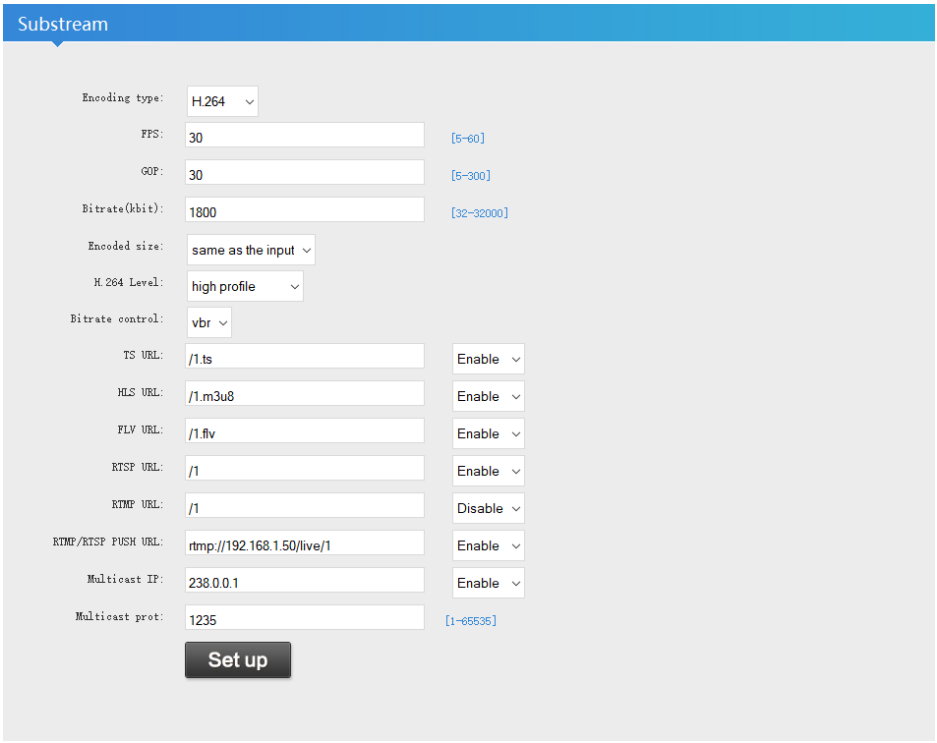
Note: Please upload PNG or 24-bit BMP(0xF1F1F1 is transparent) pictures less than 500 kByte, the file name is logo1.bmp\logo2.bmp\logo3.bmp\logo4.bmp, or logo1.png\logo2.png\logo3.png\logo4.png.

5.4 Substream encoding settings

In this section the substream and sub stream OSD settings are accessible.



5.4.1 Substream Settings



Item	Function	Value
Encoding type	Selector for the type of compression	H.264 | MJPEG
FPS	Selector for frame rate [frames per second]	5 ~ 60
GOP	Selector for Group of Picture (GOP) size [frames as GOP]	5 ~ 300
Bitrate (kbit)	Selector for bit rate (Network bandwidth setting) in kbit	32 ~ 32000
Encoded Size	Selector for the encoded image size	same as input | 1920x1080 | … | 1280x720 | … | 720x576

		| … | 176x144
H.264 Profile	Selector for H.264 profile	baseline profile | main profile | high profile
Bitrate Control	Selector for type of bitrate mode	CBR | VBR | Strong CBR
TS URL	Enter your TS URL You can enable or disable TS by selecting Enable/ Disable	/0.ts
HLS URL	Enter your HLS URL You can enable or disable HLS by selecting Enable/ Disable	/0.m3u8
FLV URL	Enter your FLV URL You can enable or disable FLV by selecting Enable/ Disable	/0.flv
RTSP URL	Enter your RTSP URL You can enable or disable RTPS by selecting Enable/ Disable	/0
RTMP URL	Enter your RTMP URL You can enable or disable RTMP by selecting Enable/ Disable	/0
RTMP(S)/ RTMP PUSH URL	Enter your RTMP(S) /RTSP ULR You can enable or disable RTMP(S)/ RTMP PUSH by selecting Enable/ Disable	rtmp://192.168.1.169/live/0
Multicast IP	Enter your IP address for MultiCast You can enable or disable MultiCast by selecting Enable/ Disable	238.0.0.1
Multicast port	Enter your port address for MultiCast	1~65535

Confirm your individual settings by clicking the ***Set up*** button once.

Notes:

- FPS/ Frame rate: When the input resolution is 720i/50,1080i50, the frame rate will choose 25

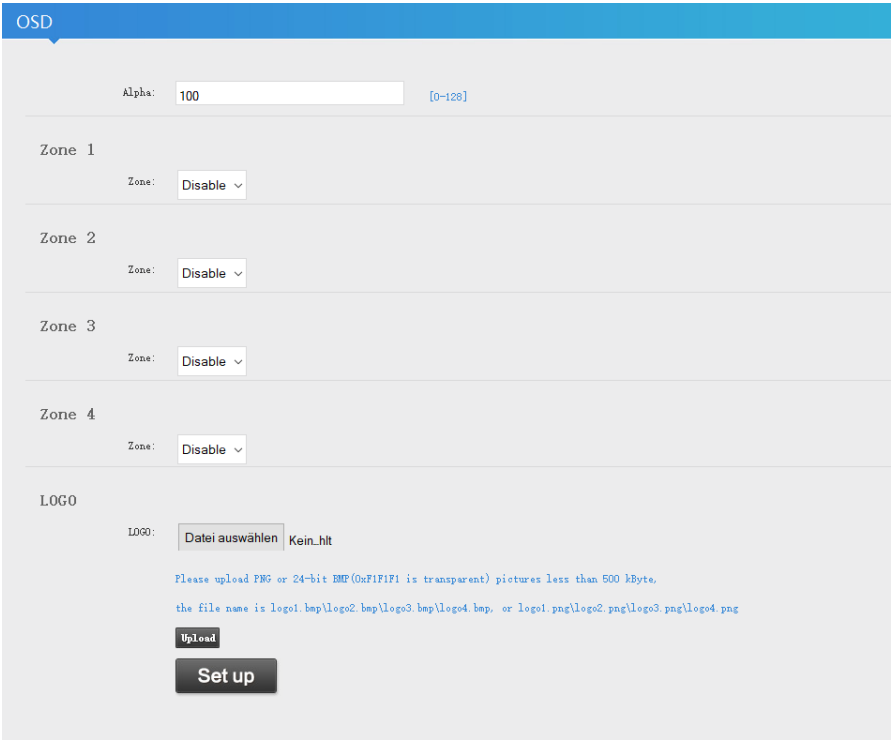
- GOP: not available if selected Encoding type is MJEPG
- H.264 Profile: not available if selected Encoding type is MJEPG
- Bitrate Control: MJEPG only supports CBR and VBR
- HTTP port: 1-65535 optional
- RTSP port: 1-65535 optional
- Multicast IP: 232.255.42.42 disable/RTP/UDP optional
- RTMP server IP: can set by stream media server
- RTMP server port: 1-65535 optional
- RTMP app name: can set by yourself
- RTMP stream name: can set by yourself

5.4.2 Substream OSD Settings

Each Streaming Encoder of HD-H264-4RM allows to insert individual watermarks or logos.

Four different overlays, named Zone, can be made in the substream video signal.
There is a choice between logos or freely selectable text.
Use the OSD menu to arrange setting for type, content, colors and position.

Confirm your individual OSD settings for substream by clicking the ***Set up*** button once.

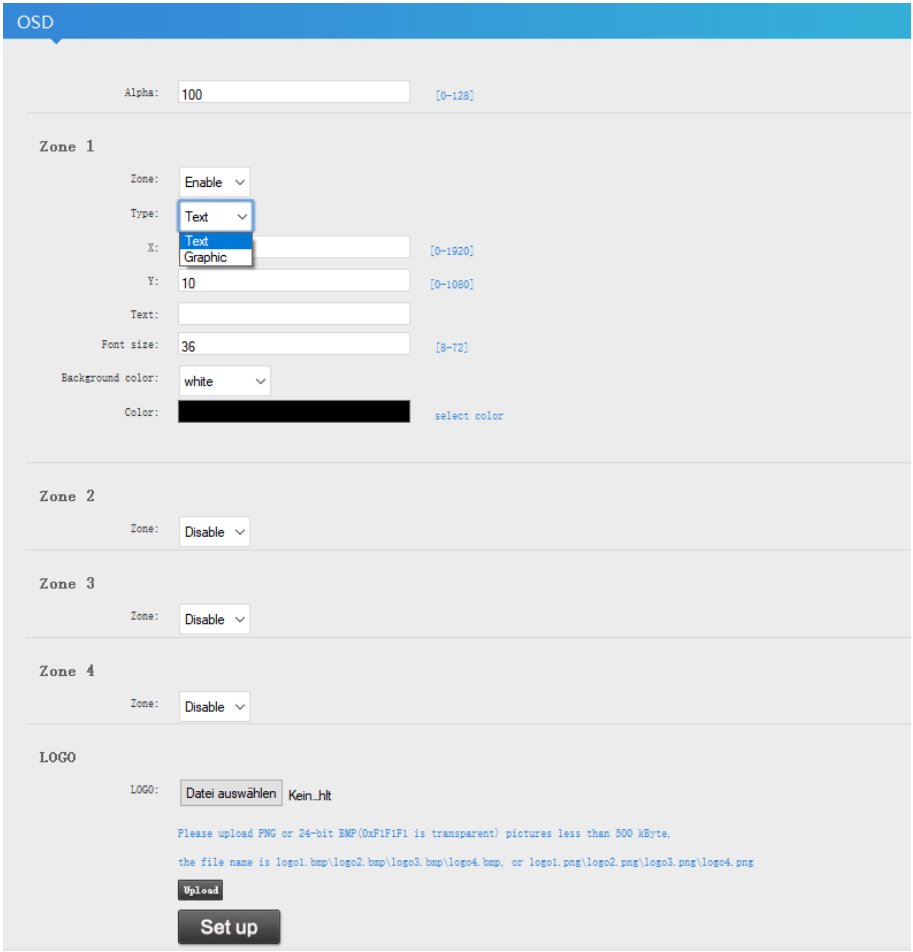


Alpha Key Level

As a general setting, valid for all four zones, the alpha key level is adjustable.

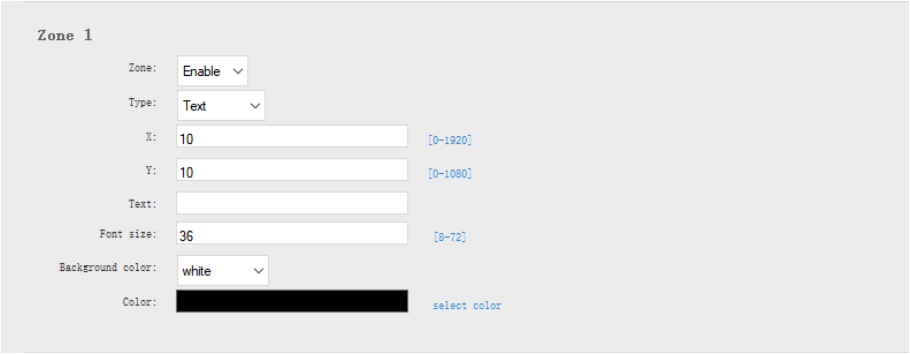
Item	Function	Value
Alpha	Set the level of opacity	0~128

5.4.2.1. Zone 1~4



Item	Function	Value
Zone	Enable OSD for Zone 1~4	Enable | disable
Type	Select the type of OSD	Text | Graphic | Scroll Text | Time

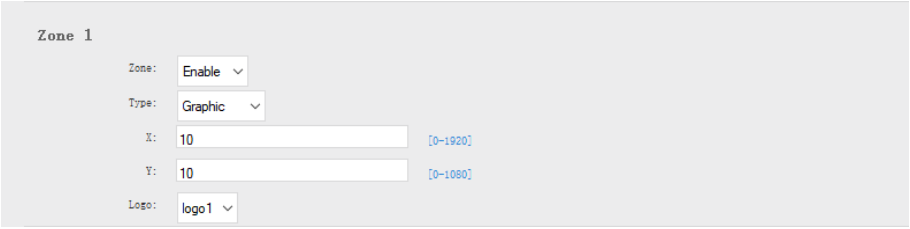
5.4.2.1.1. **Type Text**



Item	Function	Value
X	Defines the left position of the text	0 ~ 1920
Y	Defines the up position of the text	0 ~ 1080
Text	Enter your individual text	
Font size	Select the size of text characters	8~72 (default 36)
Background color	Select the background color for text, scroll text and time on the video	transparent | black | white
Color	Select the font color for text, scroll text and time	Open the color map and select one of 216 colors

5.4.2.1.2. **Type Graphic**

In each Zone a graphic file can be placed as a logo. The logo data are upload to the device internal memory.
You can find more about how to upload your pictures in chapter 5.4.2.2.
Therefore size and data volume is limited.



Item	Function	Value
X	Defines the left position of the picture	0 ~ 1920
Y	Defines the up position of the picture	0 ~ 1080
Logo	Select one of your uploaded pictures	

5.4.2.2. LOGO

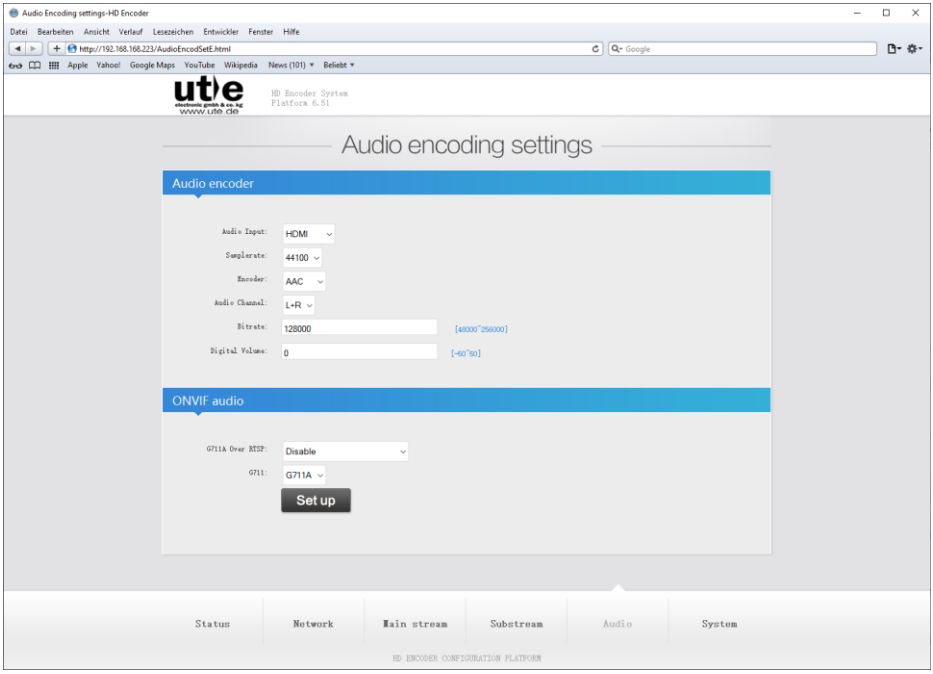
In this section you can upload your pictures

Item	Function	Value
Upload picture	Select your individual picture	Open the explorer to search for your logo file and upload

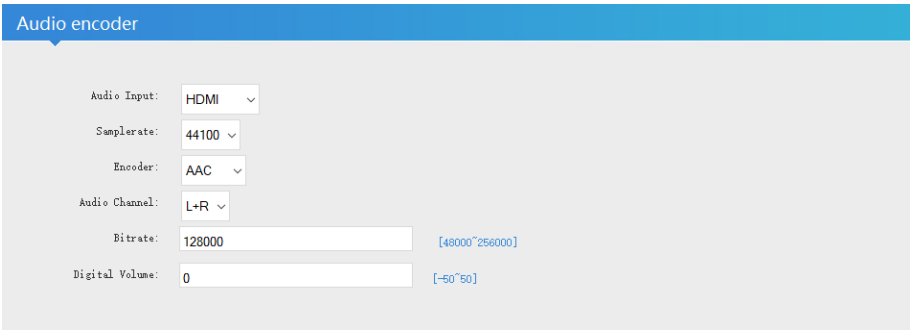
Note: Please upload PNG or 24-bit BMP(0xF1F1F1 is transparent) pictures less than 500 kByte, the file name is logo1.bmp\ logo2.bmp\ logo3.bmp\ logo4.bmp, or logo1.png\ logo2.png\ logo3.png\ logo4.png

5.5 Audio Encoding Settings

In this section the audio settings are accessible.
Usually, keep as default, but you can set it as your need.



5.5.1 Audio encoder

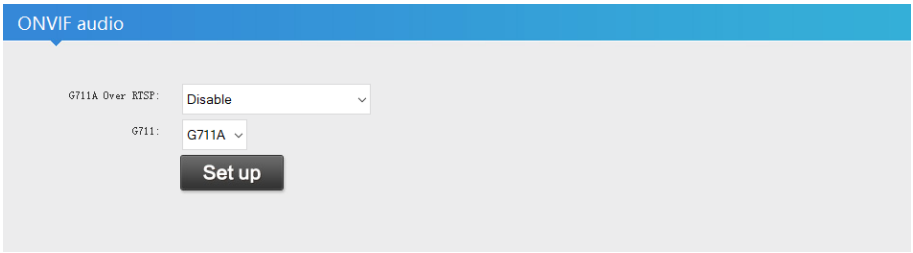


Item	Function	Value
Audio Input	Select the input channel	HDMI | ANALOG
Samplerate	Select the sample rate to digitize in bit/s	44100 (44.1 kbit/s) | 48000 (48 kbit/s)
Encoder	Select the type of encoding	AAC | AAC+ | AAC++ | MP3 | MP2 | AC3
Audio Chanel	Selector for the audio channel	L+R | L | R
Bitrate	Selector for bit rate	48 k ~ 256 k
Analog Volume	Defines the audio level	-50 ~ 50

Note: None of the encoders have an analogue audio input, the selection audio unput channel (HDMI | ANALOG) has no effect to the audio.

Confirm your individual settings for audio and ONVIF encoder by clicking the ***Set up*** button at the bottom of ONVIF audio section once.

5.5.2 ONVIF audio

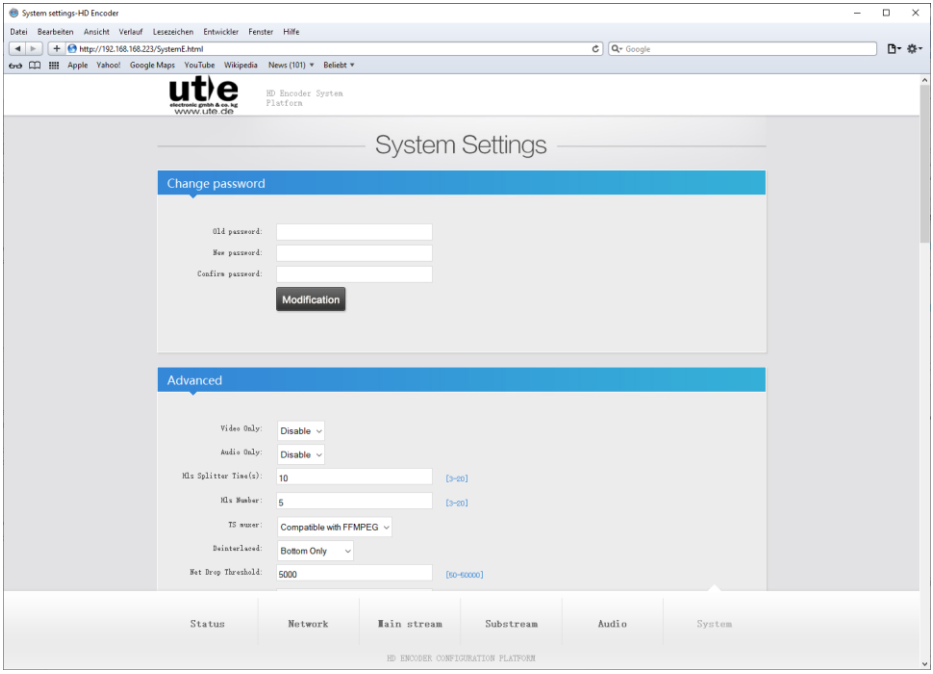


Item	Function	Value
G711A over RTSP	Enable or disable audio over RTSP	Disable | Enable | enable and resample with 8k
G711	Selector for G711 algorithm	G711U | G711A

Confirm your individual settings for audio and ONVIF encoder by clicking the ***Set up*** button once.

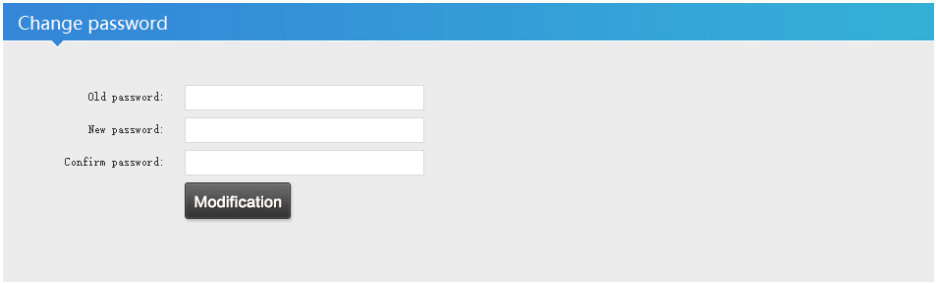
5.6 System Settings

The System menu allows to configure the device to operate using the individual set up.



5.6.1 Change password

In this section the password settings are accessible. Here you can change the default password to an individual password.

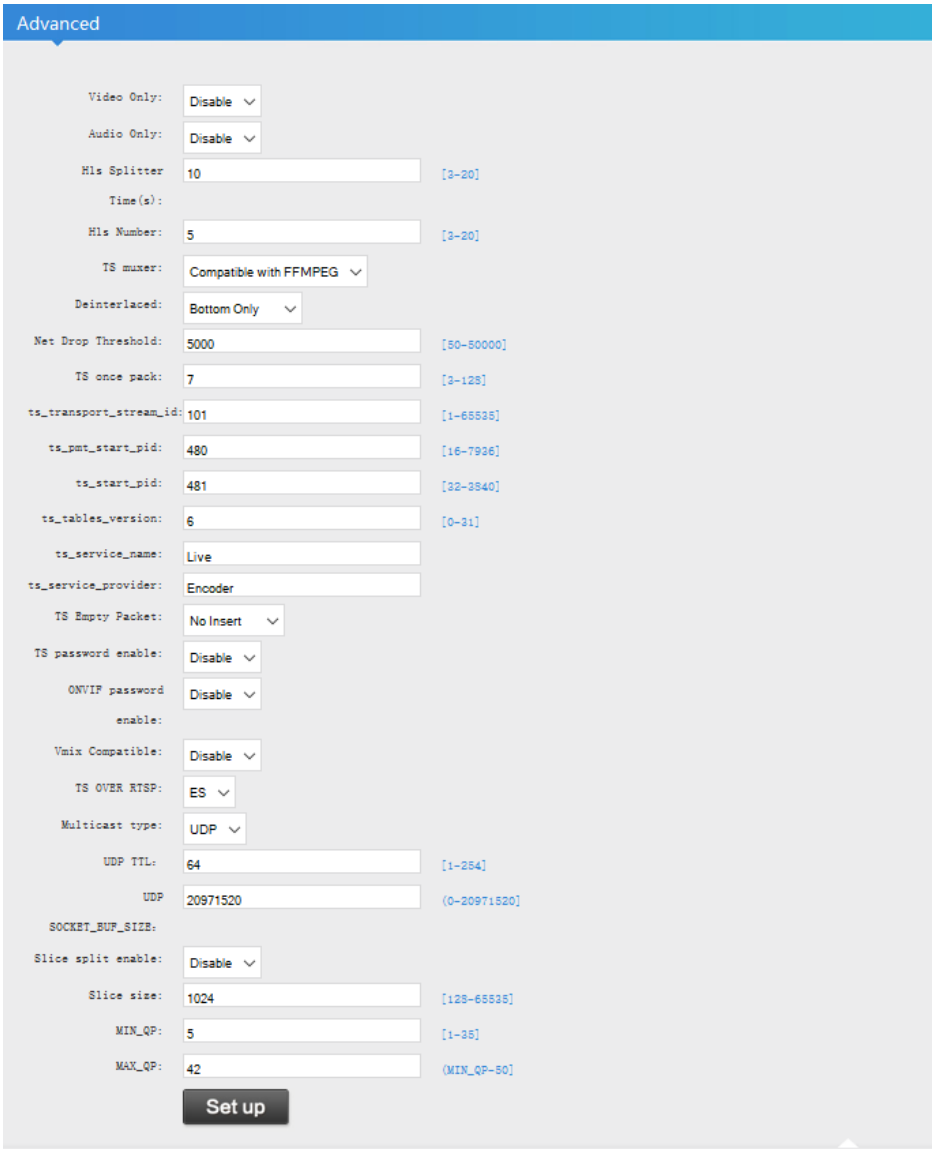


Item	Function
Old password	min. character a~z, A~Z, 1~0
New password	min. character a~z, A~Z, 1~0
Confirm password	min. character a~z, A~Z, 1~0

Confirm your individual settings by clicking the ***Modification*** button once.

5.6.2 Advance Settings

In this section the advanced system settings are accessible



Item	Function	Value
Video Only	Enable Video only encoding	Disable | Enable
Audio Only	Enable Audio only encoding	Disable | Enable
HLS Splitter Time(s)	Select the delay for HLS in seconds	3 ~ 20
HLS Number	Select the HLS number	3 ~ 20
TS Muxer	Select type of TS mux compatibility	Compatible with VLC | Compatible with FFMPEC
Deinterlaced	Select type of deinterlacing	Both | Bottom Only | Field to Frame
Net Drop Threshold	Select the threshold for net drops	50 ~ 50000
TS once pack	Select the number of TS packs	3 ~ 128
ts_transport_ stream_id	Select the transport stream ID	1 ~ 65535
ts_pmt_start_ pid	Select the TS packet identifier	16 ~ 7936
ts_start_pid	Select the TS packet identifier	32 ~ 3840
ts_tables_ version	Select the TS table	0 ~ 31
ts_service_ name	Enter your TS service name	Live (default)
ts_service_ provider	Enter your TS service provider	Encoder (default)
TS Empty Packet	Select the type of TS empty packet insertion	No Insert | Insert(1.2x) | … | Insert(3.5x)
TS password enable	Enable TS password	Disable | Enable
ONVIF password enable	Enable TS password	Disable | Enable
Vmix Compatible	Enable the stream as Vmix compatible	Disable | Enable

TS OVER RTSP	Enable the TS over RTSP	ES | TS
Multicast type	Select type of MultiCast	RTP | UDP
UDP TTL	Select the UDP TTL	1 ~ 254
UDP SOCKET_ BUF_SIZE	Select the UDP buffer size	0 ~ 20971520
Slice split enable	Enable slice splitting	Disable | Enable
Slice size	Select the slice size	128 ~ 65535
MIN_QP	Select the lower level for QP	1 ~ 35
MAX_QP	Select the high level for QP	MIN_QP ~ 50

Confirm your individual advance settings by clicking the ***Set up*** button once.

5.6.3 NTP settings

In this section the NTP settings are accessible.

Using this function, the encoder is synchronized to NTP time from the selected server.

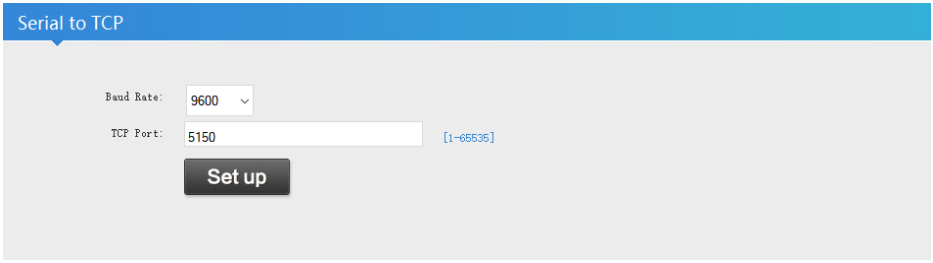
Item	Function	Value
NTP enable	Enable NTP sync function	Disable | Enable
NTP Server	Enter address of your preferred NTP server	time.windows.com (default)
Time Zone	Select your local time zone	UTC-12 | … | UTC-1 | UTC | UTC+1 | … | UTC+12

Confirm your individual schedule restart settings by clicking the ***Set up*** button once.

📖 **Note**: Central European Time (CET) Time Zone is UTC+1, during summer time, the CET Time Zone is UTC+2

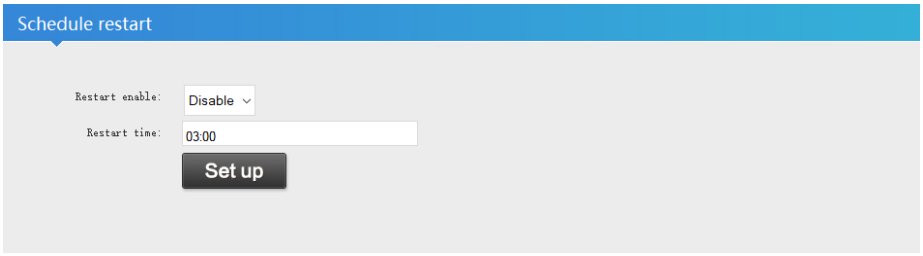
5.6.4 Serial to TCP

None of the encoders has a serial port, so the selection and entries made in this section have no effect.



5.6.5 Schedule restart settings

In this section the restart settings are accessible, you can enable and set a scheduled restart.
Using this function, the encoder will restart at the set time automatically.



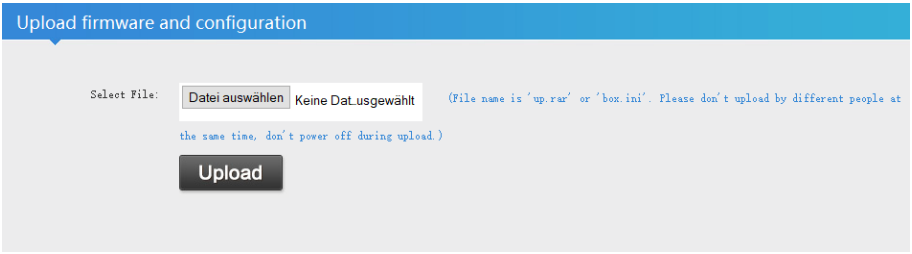
Item	Function	Value
Restart enable	Enable or disable a schedule restart	Enable | Disable
Restart time	Set the schedule restart time	HH:MM

Confirm your individual schedule restart settings by clicking the ***Set up*** button once.

5.6.6 Upload firmware and configuration

In this section the firmware upload function is accessible.

In case a newer firmware package is available, here the user can update the device. Choose the new firmware file on the connected PC and start the upload.



The update file name has to be “up.rar”, and it have to be an origin “rar” compressed file. Never try to upload any different file.

The configuration file name has to be “box.ini”.

When upload check that no other people upload at the same time. Don't power off or refresh the page during upload.
When the procedure is finished the device waits for a restart.

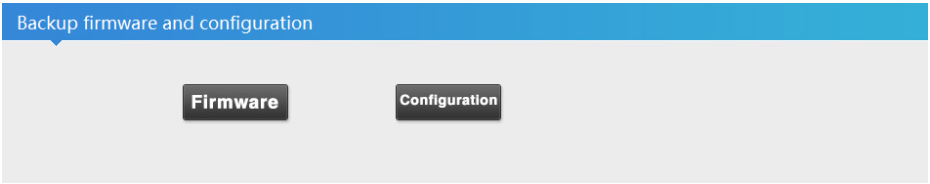
Item	Function	Value
Select File	Search the file from PC for upload file	up.rar or box.ini

Confirm the individual settings by clicking the ***Upload*** button once.

🕮 **Note**: Please don't upload by different people at the same time, don't power off during upload.

5.6.7 Backup firmware and configuration

In this section the firmware backup function and the backup configuration function are accessible.
Here the user can store and save the current firmware and configuration as backup to an external data carrier.



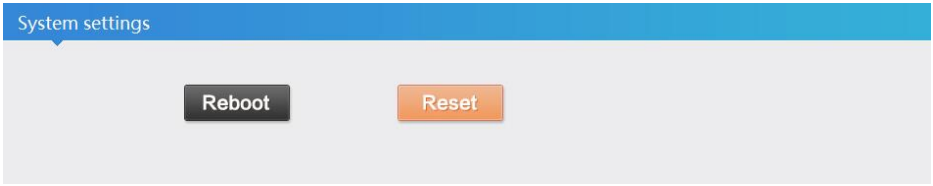
Item	Function	Value
Firmware	Backup the systems firmware	up.rar
Configuration	Backup the systems configuration	box.ini

Use the ***Firmware*** button once to open the backup procedure to save the systems firmware to an external data carrier at the connected PC.

Use the ***Configuration*** button once to open the backup procedure to save the systems values and individual configuration to an external data carrier at the connected PC.

5.6.8 System settings (Reboot and Reset)

In this section the reboot and reset functions are accessible.
Here the user can restart the device to confirm any configuration or reset the device back to factory default values and functions.



Item	Function	Value
Reboot	Reboot the system to confirm individual settings	User settings
Reset	Reset the system to factory default	Default settings

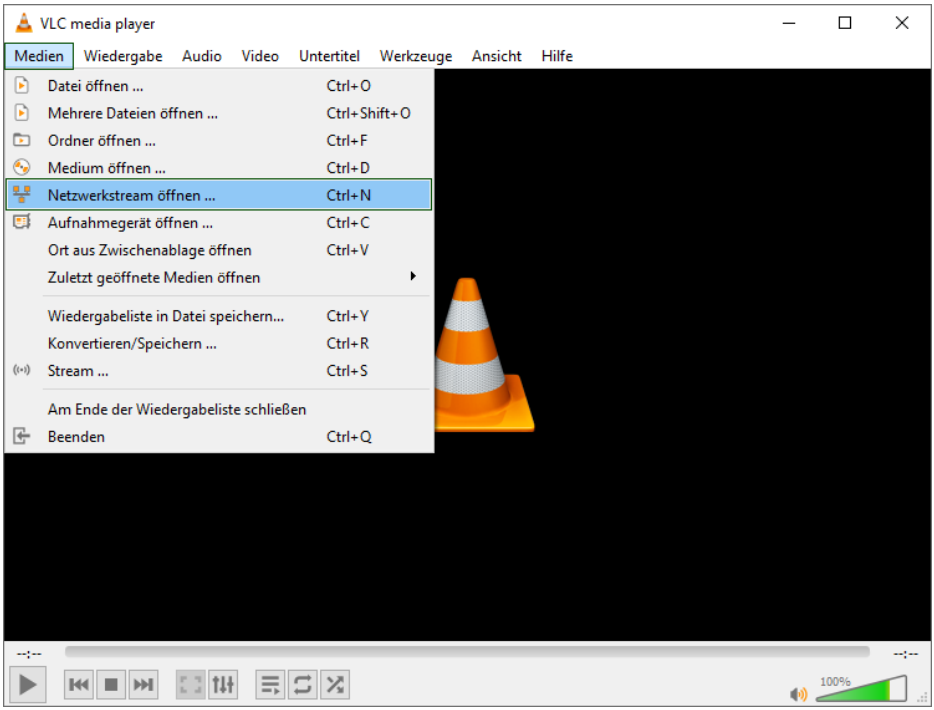
To confirm your individual settings click ***Reboot***. The system will reboot after confirming a security question and start again using the latest settings.

To reload the factory settings click ***Reset***. The system will reboot after confirming a security question and start again using the default settings.

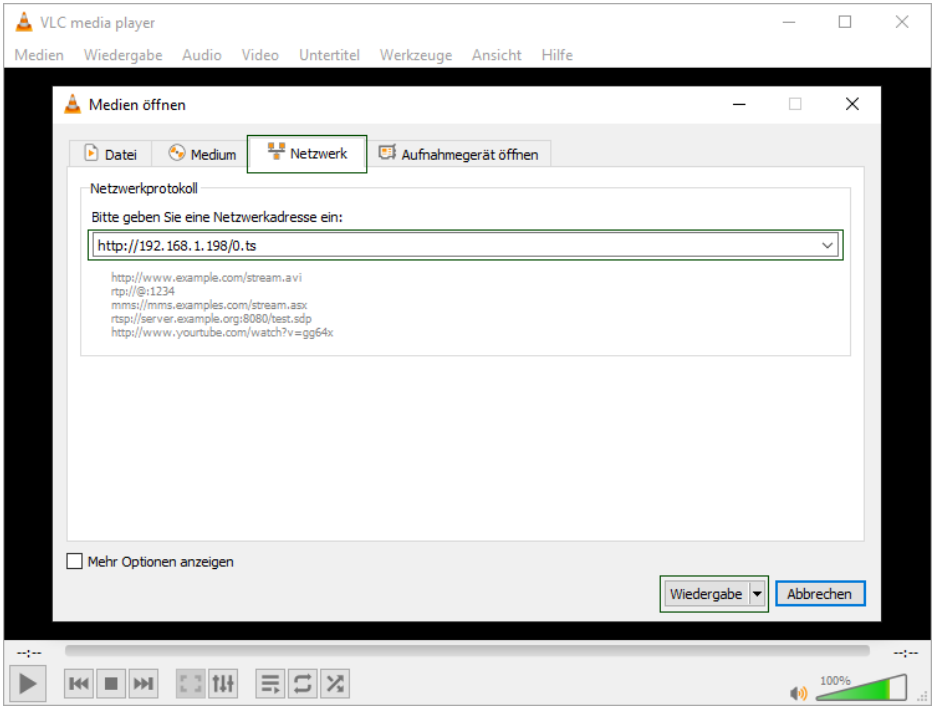
6. VLC Operation

Each H.264 Encoder of HD-H264-4RM is compatible to be used with VLC open media player software.
After all settings are ok, you can use VLC to test the stream.

Step 1. Start the VLC application at your PC and open the Network Stream.



Step 2. Enter the IP address of the desired encoder to play the stream video.



Step 3. Click PLAY to start the video.

7. Specifications

Interfaces	
Video Input	(4) HDMI inputs, (one for each encoder) max support 1920x1080P@60Hz
Audio Input	HDMI embed audio
Ethernet	(4) RJ45, 100Mbps (one for each encoder)
Video General	
HDMI Input Resolution	Up to 1920x1080@60Hz
Video Encoding	
Video Format	H.264/AVC high/ main/ baseline Profile MJPEG/JPEG baseline
Video Resolution	Up to 1920x1080@60Hz
Video Bitrate	0.1 ~ 32Mbps
Video FPS (Frames per second)	5 ~ 60 Hz/ FPS
Bitrate Control	VBR/ CBR
Streaming Protocols	HTTP / HLS / FLV / RTSP / RTMP(S) / UDP/ RTP (Unicast/ Multicast) ONVIF.
Audio Encoding	
Audio Format	AAC/ AAC+/ AAC++/ MP3/ MP2/ AC3 G711
Sample Rates	44.1kHz/ 48kHz
Bitrate	12 ~ 640kbps
System/ Control	
Control Method	Web based management
Firmware	Ethernet software upgrade
General	
Transmission Distance	Up to 100m to the next active component (e.g. switch)
Operation Temperature	-10ºC ~ +70ºC
Storage Temperature	-20ºC ~ +80ºC
Humility	5% ~ 90%, relative humility, non-condensing
Power Supply	Input: AC 100~240V, 50/60Hz
Dimension (L*W*H)	483mm x 250mm x 44.5mm (19'', 1U)
Net Weight	approx. 4.5g

8. Frequently Asked Questions

Q: How to access to the encoder web-interface by default IP ?

A: The computer's IP network segment need be same as the encoder's default IP. ex: if the encoder's default IP is 192.168.1.168, then you need change your computer's ip to 192.168.1.*(mark "*" numbers range will be 0~254, except 168).

Q: What is the maximum resolution after encoded ?

A: Each encoder of HD-H264-4RM supports a maximum resolution of 1080p, but it depends on your signal source , if your signal source is 1080p or 720p, then max encoded resolution is 1080p and 720p, respectively.

Q: How to push stream to media server to do live broadcast by YouTube, Facebook, Ustream, Twitter or like that?

A: If you want to push stream to server, you need choose encoding level to H.264, and then set RTMP protocol. Put your server's IP, server's port, app name and stream name to the web-interface after enable RTMP protocol. Please kindly note that you need set the DNS same as your router's by network setting.

Q: Does the encoder support push stream to IPTV s like WOWZA or Nginx Media Server?

A: Yes, HD-H264-4RM supports IPTV like Wowza, Nginx Media Server, etc

9. After-sales/ Customer Service

If there appear some problems when running the 4ch HDMI Streaming Encoder HD-H264-4RM, please check and deal with the problems referring to this user manual. Any transport costs are borne by the users during the warranty.

The return of a product to our Customer Service implies the full agreement of the terms and conditions hereinafter. There terms and conditions may be changed without prior notice.

1) **Product Limited Warranty:** We warrants that its products will be free from defects in materials and workmanship for two years**,** which starts from the first day you buy this product (The purchase invoice shall prevail).
   Proof of purchase in the form of a bill of sale or receipted invoice which is evidence that the unit is within the Warranty period must be presented to obtain warranty service.

2) **Scope**
   These terms and conditions of Customer Service apply to the customer service provided for the products or any other items sold by authorized distributor only.

3) **What the warranty does not cover (Warranty Exclusion)**
   - Warranty expiration.
   - Factory applied serial number has been altered or removed from the product.
   - Damage, deterioration or malfunction caused by:
     - Normal wear and tear.
     - Use of supplies or parts not meeting our specifications.
     - No certificate or invoice as the proof of warranty.
     - The product model showed on the warranty card does not match with the model of the product for repairing or had been altered.
     - Damage caused by force majeure.
     - Servicing not authorized by distributor.
     - Any other causes which does not relate to a product defect.
   - Shipping fees, installation or labor charges for installation or setup of the product.

4) **Documentation**
   Customer Service will accept defective product(s) in the scope of warranty coverage at the sole condition that the defeat has been clearly defined, and upon reception of the documents or copy of invoice, indicating the date of purchase, the type of product, the serial number, and the name of dealer.

5) **Technical Support:** Email to our after-sales department or make a call, please inform us the following information about your cases.
   - Product version and name.
   - Detailed failure situations.
   - The formation of the cases.

Remarks: For any questions or problems, please try to get help from your local dealer or our customer support (info@ute.de).

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