

User Guide-TBS2603

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1. Overview

TBS2603 H.265/H.264 HD HDMI encoder is a professional high-definition video coding box, which equipped with 1 HDMI channel input and dual stream RJ45 output. TBS2603 supports MPEG-4 AVC/H.264/H.265 High Profile code format input and dual stream H.264/H.265 format, audio AAC format output.

1.1 Applications

- IPTV;
- Digital Signage;
- Video Conference;
- Replace HD Video Capture Card;
- Hotel TV system;
- Live Broadcast;
- Teaching/Campus Broadcast;
- Recording System;
- NVR (Net Video Recorder);

1.2 Technical Specifications

Video

Input	1x HDMI (1.3a)
HDMI Resolution	1920×1080_60i/60P, 1920×1080_50i, 1280×720_60p, 1280×720_50p and below
Encoding	H.264/AVC Main Profile/High Profile ; H.265/HEVC Baseline Profile; Audio AAC
Data Rate	0.8Mbps~12Mbps
Rate Control	CBR/VBR
GOP Structure	IBBP
Advanced Pretreatment	De-interlacing, Noise Reduction, Sharpening

Audio

Encoding	AAC, MP3
Sampling Rate	Auto
Bit-rate	48K/64K/96K/128K/160K/192K/256k
Sampling Precision	16bit
Data Rate	64Kb/s ~ 384Kb/s

System

System Support	WINDOWS XP/VISTA/SERVER2003/SERVER2008/WIN7 32 and WIN7 64; LINUX
Ethernet/RJ45	1000 Base-T Ethernet interface
Protocol	HTTP, UDP, RTP, RTSP, RTMP, ONVIF(not yet)
Control Interface	WEB

General Spec

Dimensions	115mm*75*25mm
Weight	170g(NW), 560g(GW)
Working Temperature	0~45°C

2. Settings

On **WEB** setting page, modifying IP address of the computer is needed. Default IP address of the HDMI HD encoder is 192.168.1.168.

Reset & Initialization: When the HDMI HD encoder is powered on, you can reset and initialize it by pressing & holding the RST button for 10 seconds, and then it will restart automatically. And IP address will be initialized to 192.168.1.168

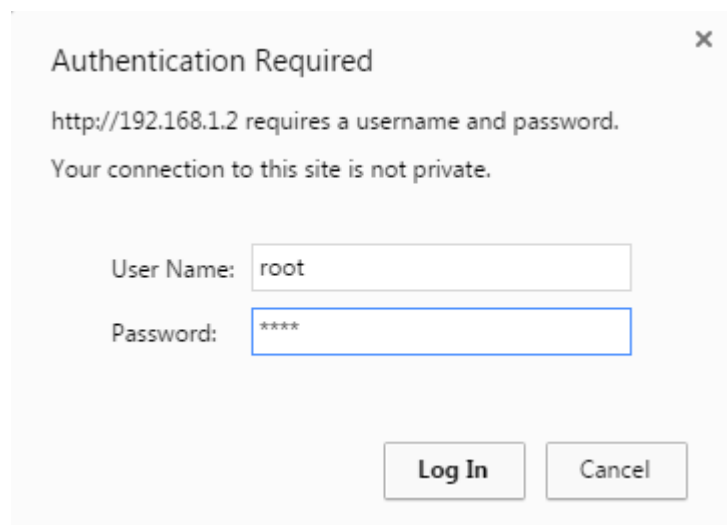
2.1 IP setting

Computer IP address: 192.168.1.* (Note: "*" is any number ranging from 0 to 254 except 168)

Open IE, input "192.168.1.168" to go to WEB operate interface

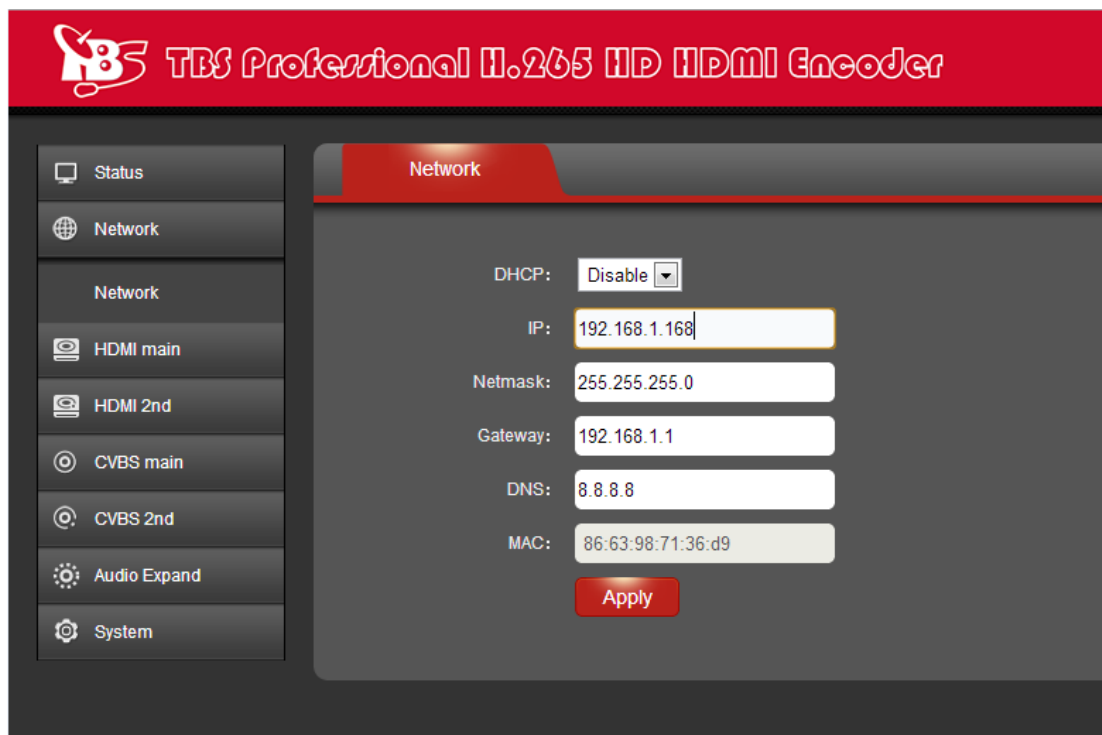
Name: root

Password: root



2.2 Network Setting

Default IP address is 192.168.1.168. If you forget the IP address after changing it, please press the RST button for 10 seconds to restart it ,when the machine is powered up, then it will restore factory defaults.



Notes: After network setting is done, you need to reboot the device to make it work.

2.3 HDMI Main Stream Setting

You can enable HTTP, RTSP, unicast IP, Multicast IP, RTP or RTMP server IP by your preference, and after all the data are filled in, please remember to click on button "Apply".

TBS Professional H.265 HD HDMI Encoder

HDMI main

channel name: xxx

H.264/5: H265

H.264 Level: baseline_pro

Encoding frame rate: 30 [5-30]

Bitrate control: vbr

Key interval: 30 [5-200]

Encoded size: auto

MinQp: 4 [1-51]

MaxQp: 45 [MinQp-51]

MaxBitrate: (K): 1024 [16-12000]

Package: A

Notes: Above data can be adjusted based on your practical application.

HTTP: /hdmi Enable Format: /hdmi (begin with '/')

HTTP Port: 8080 [1-65535]

RTSP: /hdmi Disable Format: /hdmi (begin with '/')

RTSP Port: 554 [1-65535]

RTSP TCP: UDP

unicast IP: 192.168.1.18 Disable

unicast port: 1234 [1-65535]

Multicast IP: 239.0.0.1 Disable

Multicast port: 1234 [1-65535]

RTP: 192.168.1.18 Disable

RTP port: 1234 [1-65535]

RTMP server ip: 192.168.1.18 Disable

RTMP server port: 1935 [1-65535]

RTMP user name:

RTMP password:

RTMP app name: live

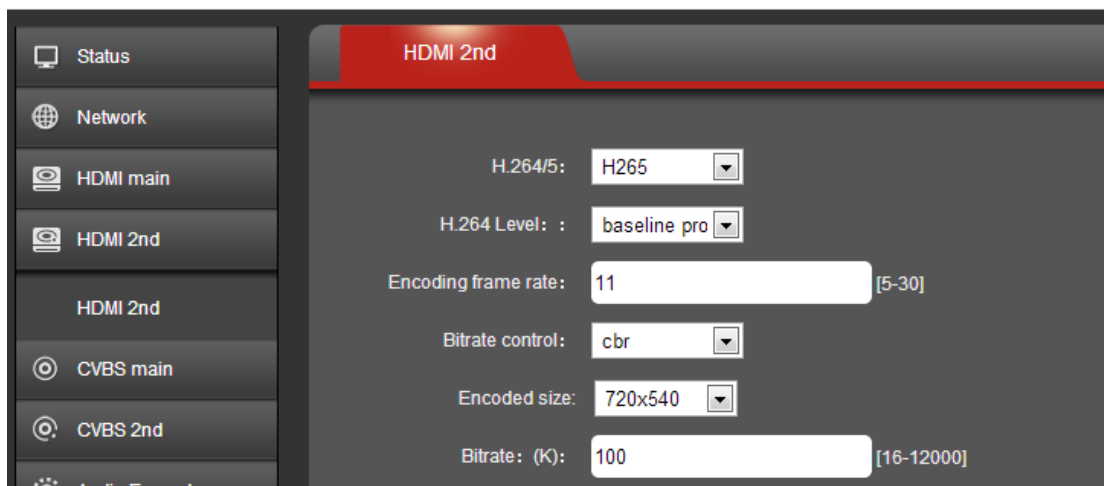
RTMP stream name: newstream

ONVIF: Disable

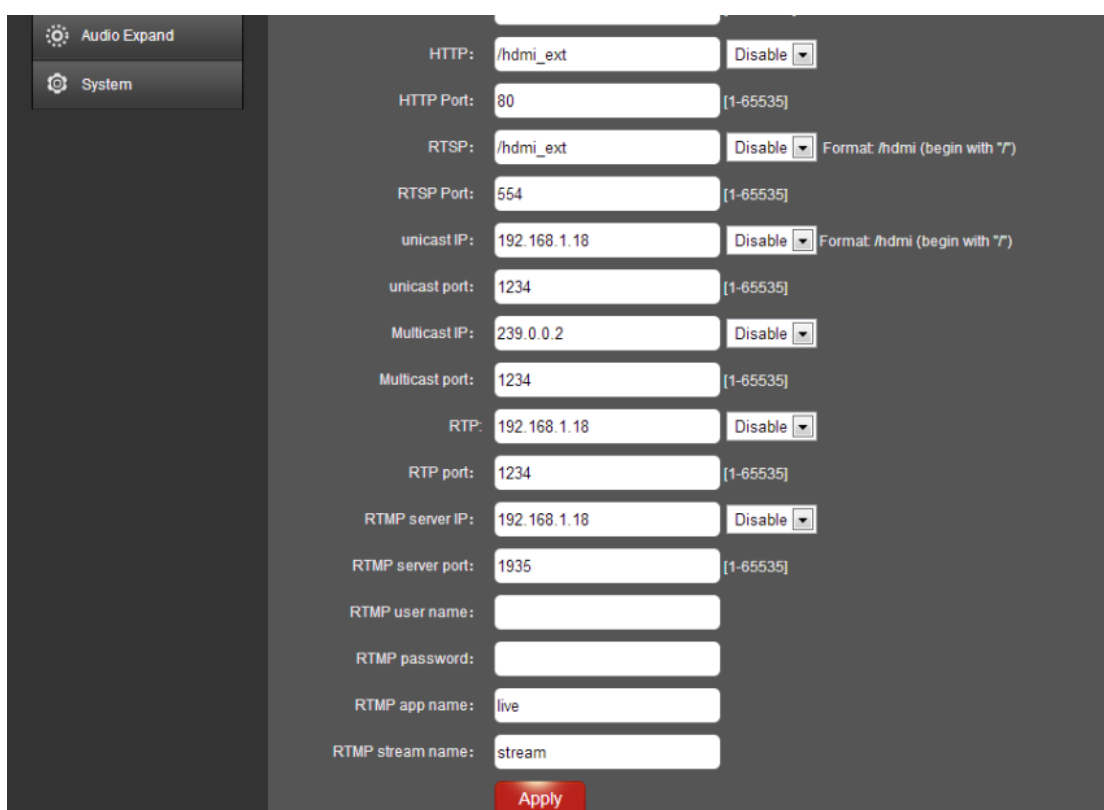
Apply

2.4 HDMI Second Stream Setting

HDMI second stream setting is similar to HDMI main stream setting.



Notes: Above data can be adjusted based on your practical application.



Notes: Above configuration parameter is the same to main stream

2.5 CVBS main (**Note:TBS2603 not use the function**)

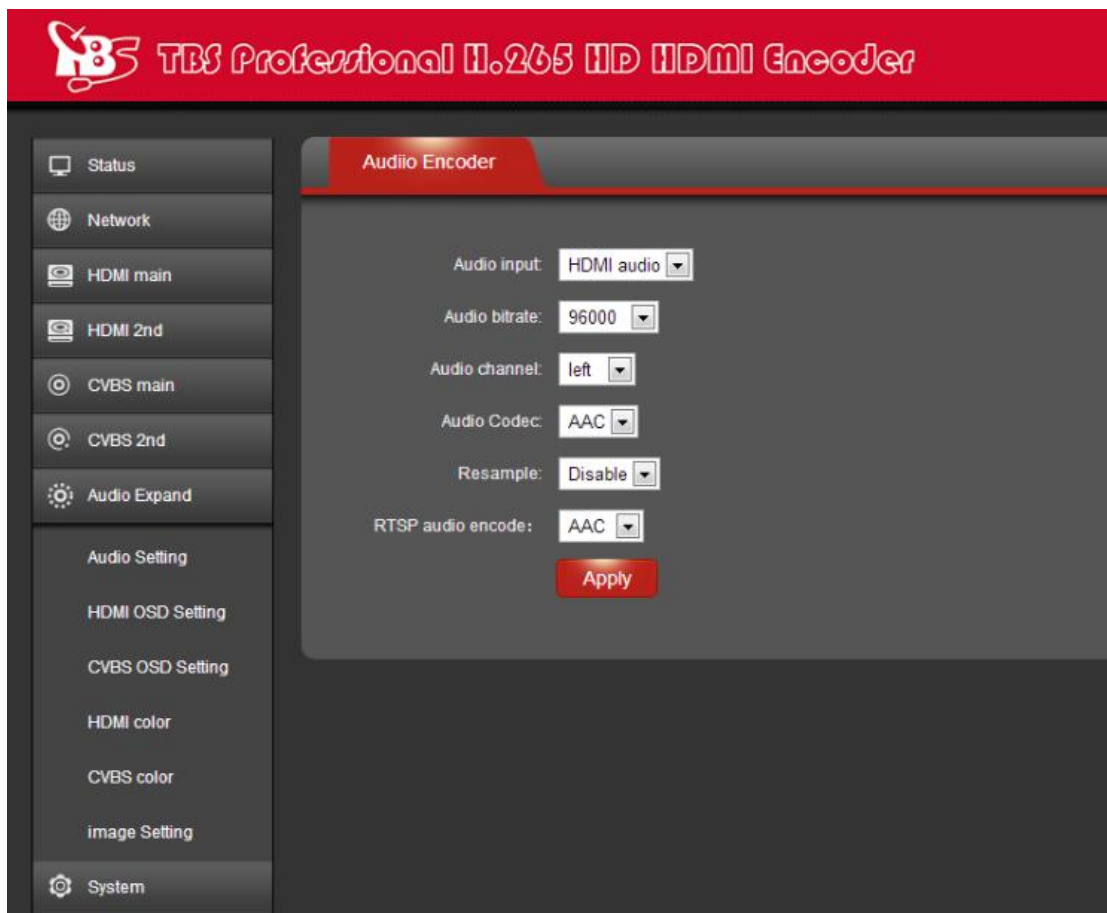
2.6 CVBS 2nd (**Note:TBS2603 not use the function**)

2.7 Audio Expand

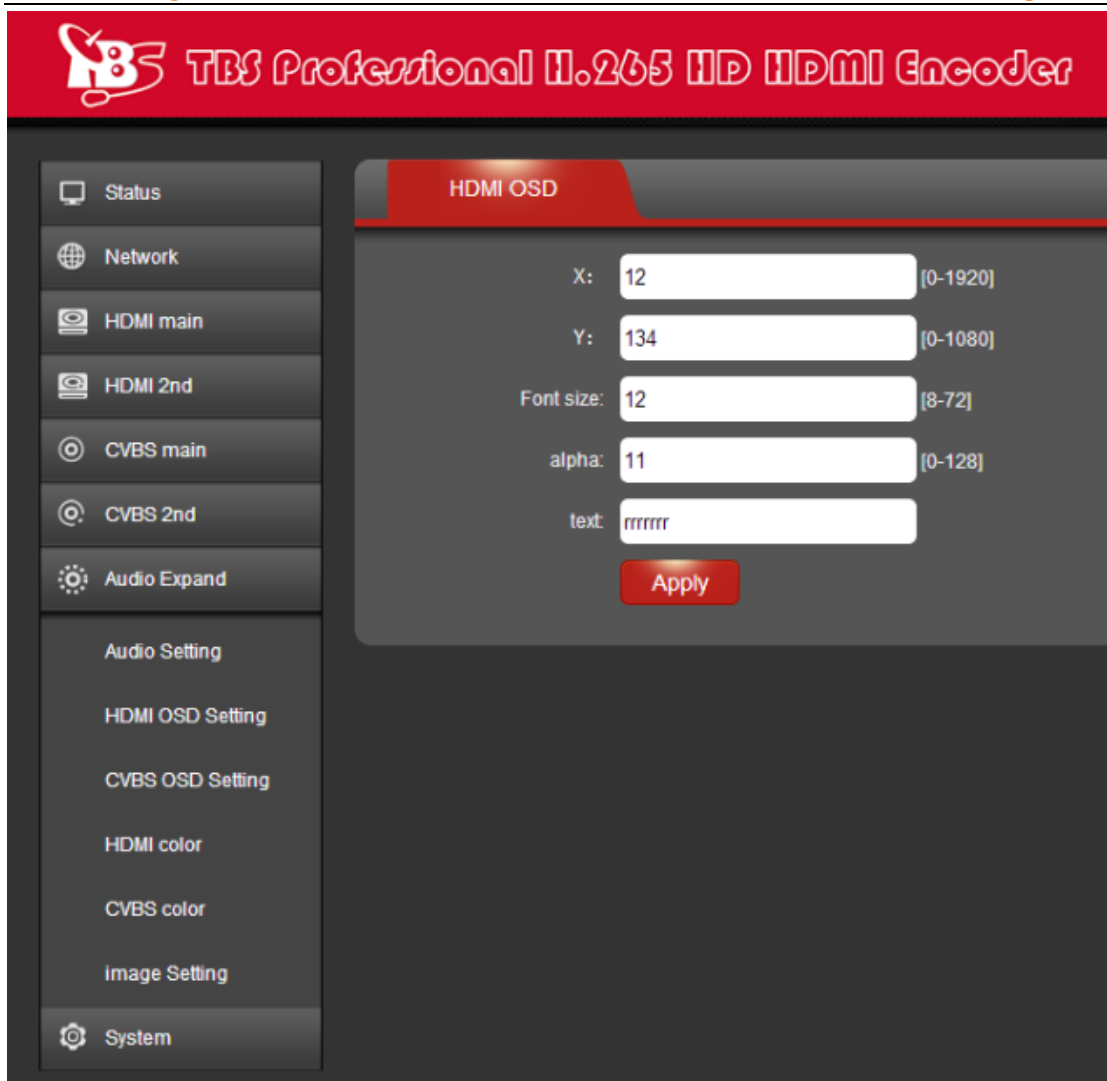
You can modify "Audio Setting", "HDMI OSD Setting", "CVBS OSD Setting", "HDMI color", "CVBS color" and "Image Setting" under this section (this HDMI Encoder does not have CVBS interface, so CVBS color setting is not needed)

Or you can just keep the original data without making any changes.

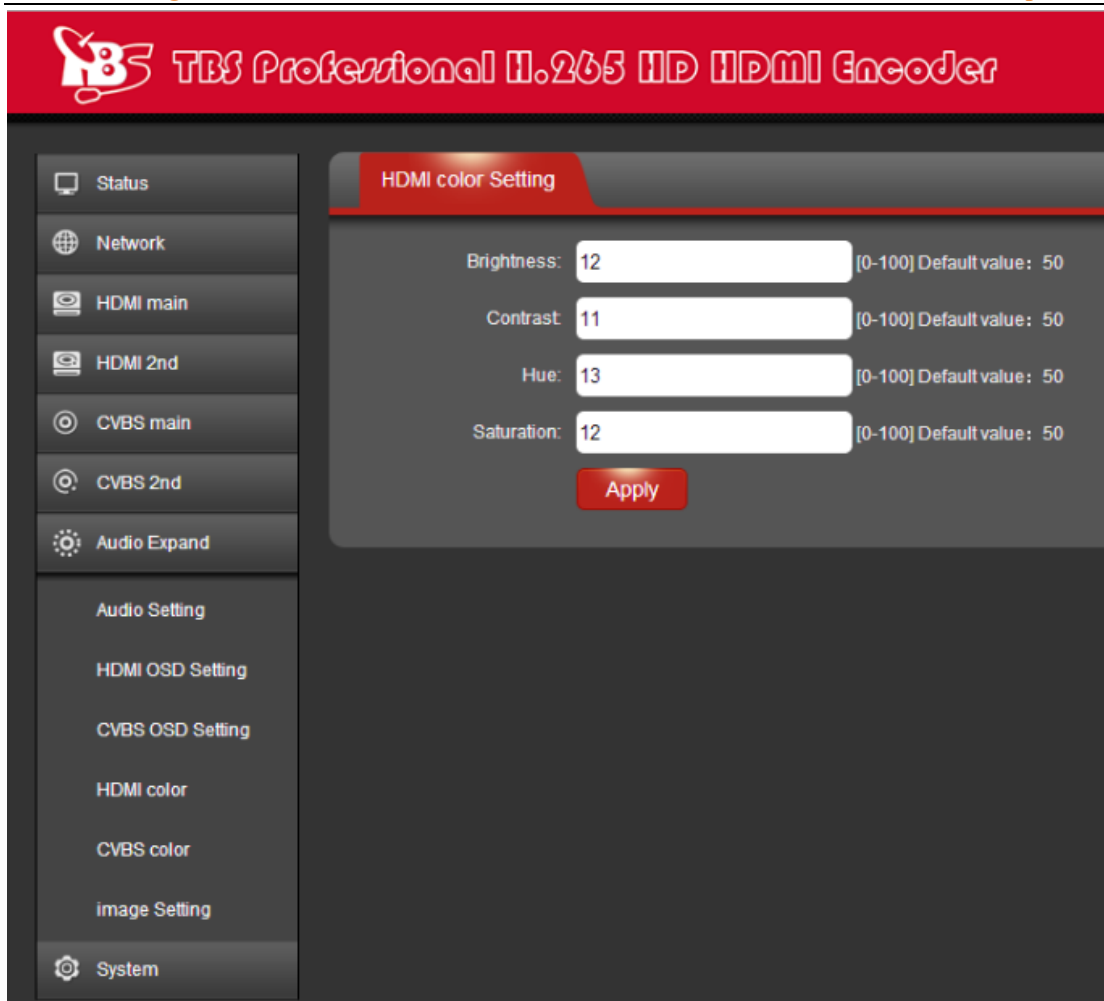
2.7.1 Audio Setting



2.7.2 HDMI OSD Setting



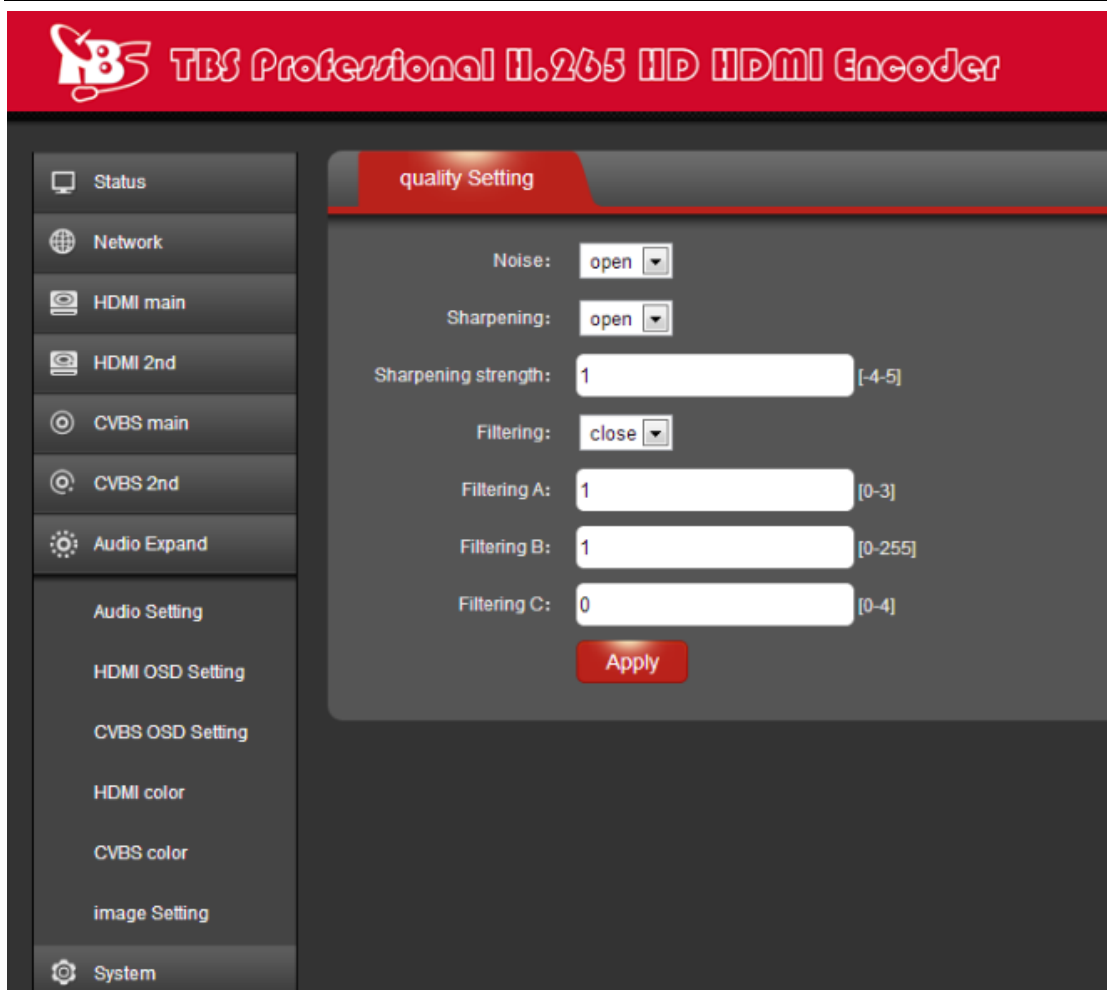
2.7.3 HDMI color Setting



2.7.4 CVBS OSD Setting (**Note:TBS2603 not use the function**)

2.7.5 CVBS color Setting (**Note:TBS2603 not use the function**)

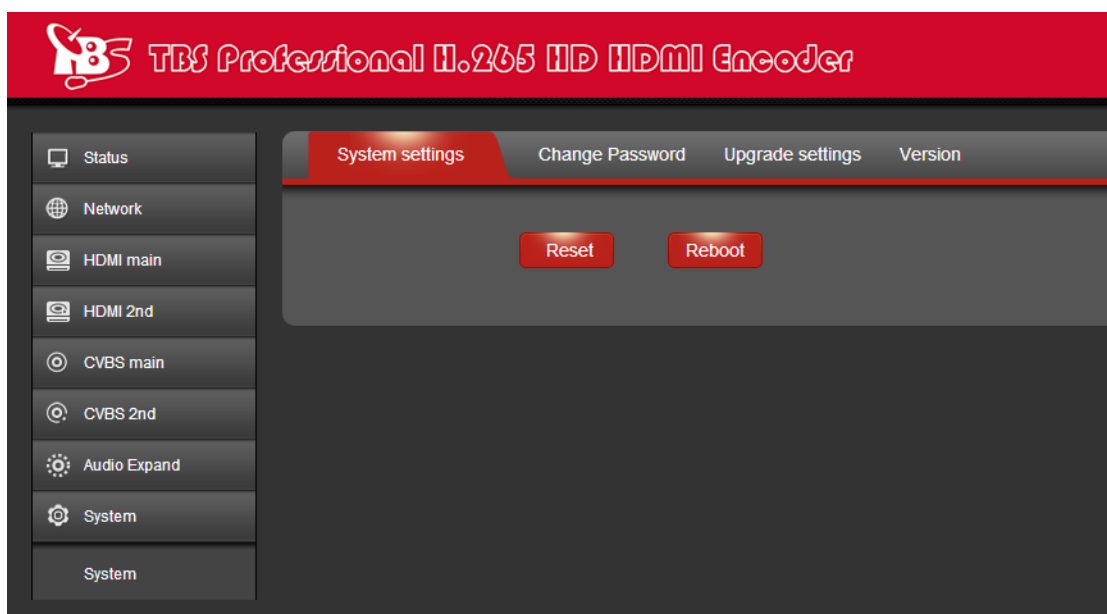
2.7.6 Image Setting



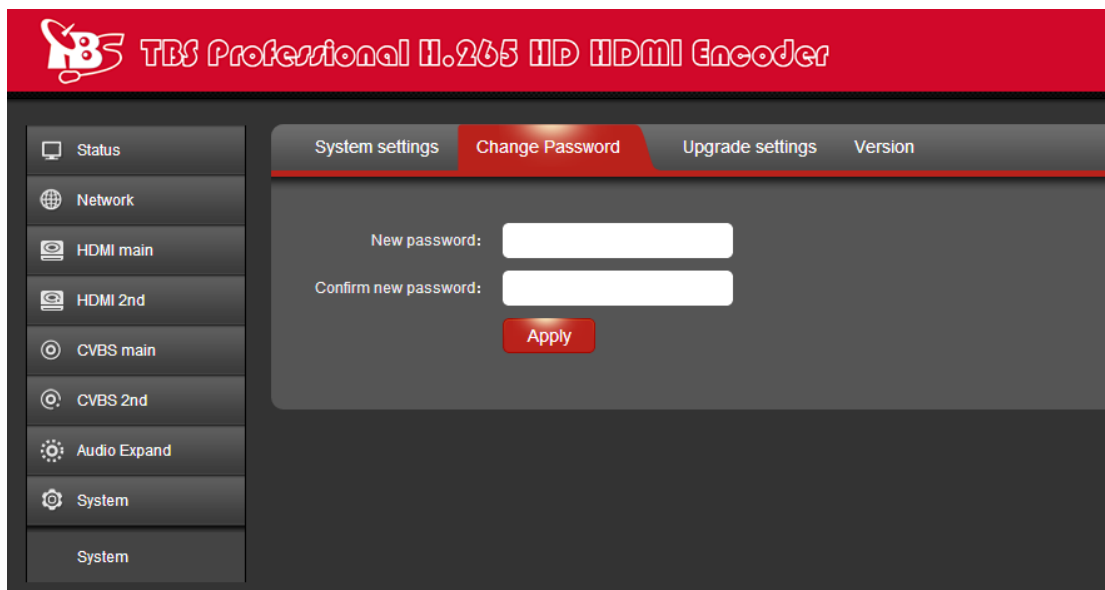
2.8 System

You can configure "System settings", "Change Password", "Upgrade settings" and check "Version" information under this section.

2.8.1 System settings



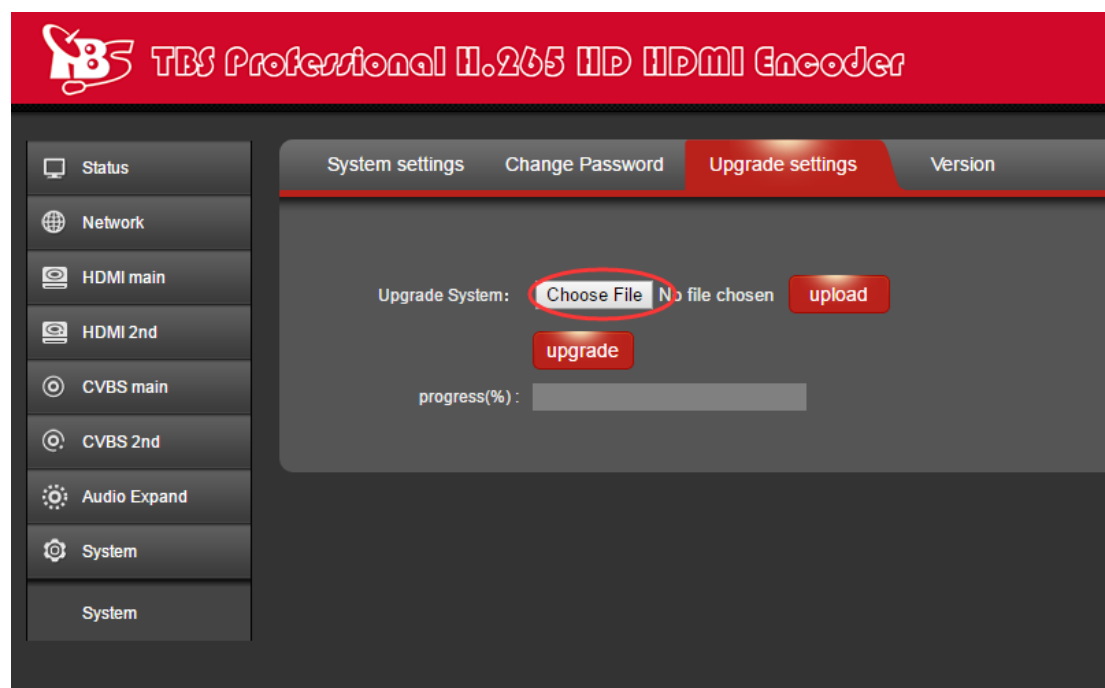
2.8.2 Change Password



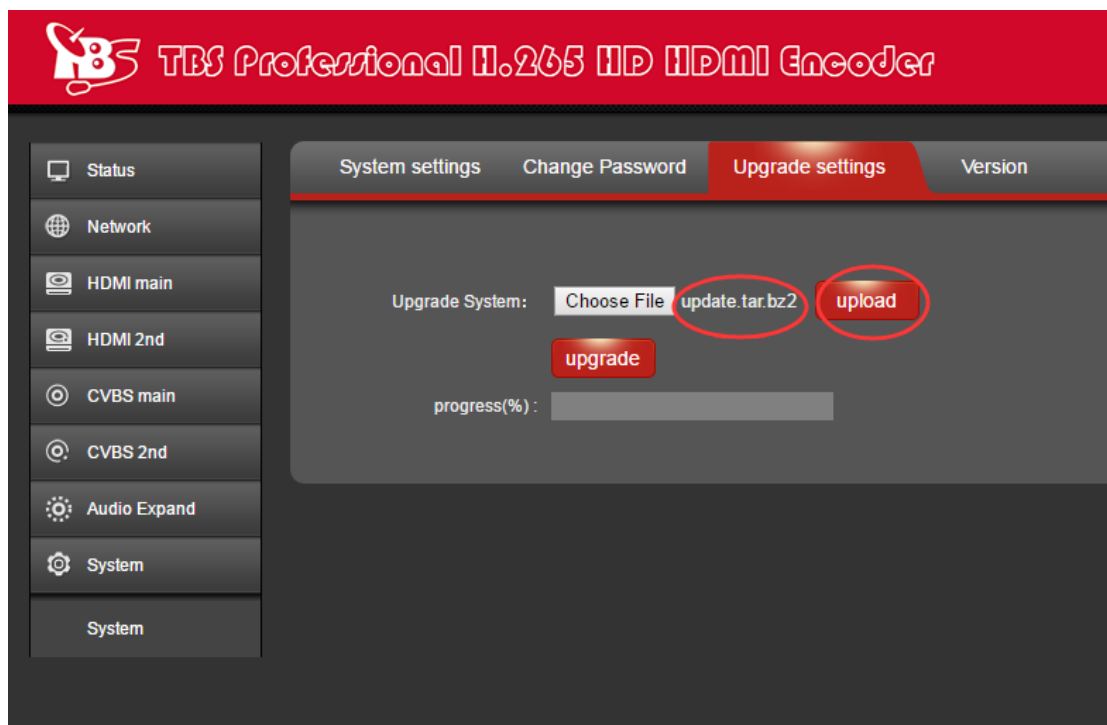
2.8.3 Upgrade settings

This setting includes two steps-"upload" and "upgrade". You should upload the updating file first, and then proceed with the next step- upgrading.

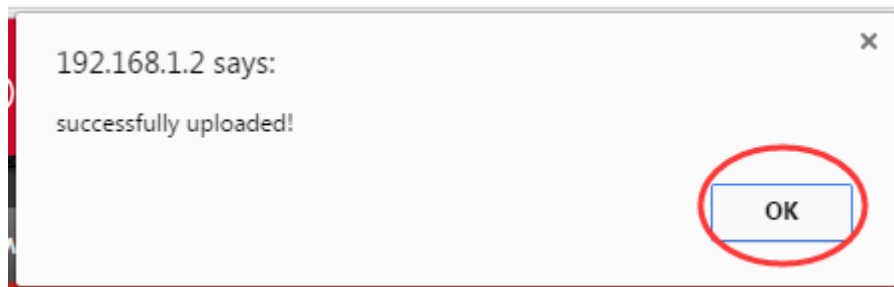
Step 1: Click button "Choose File" to select the updating file in your computer.



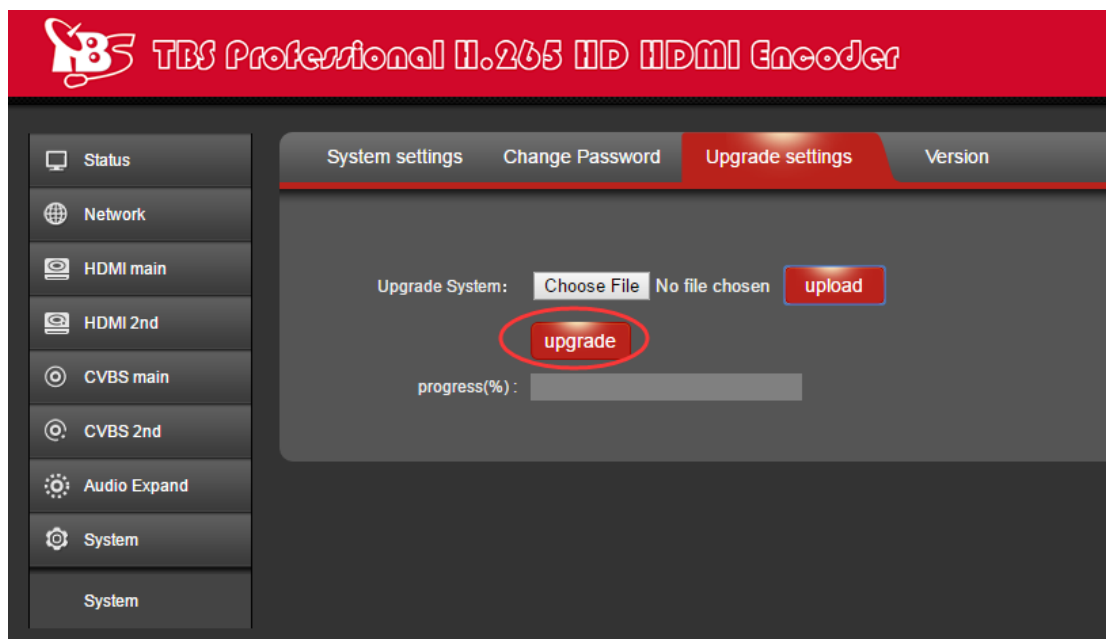
After the file is selected successfully, you will see the file name shown in front of button "upload", then please click "upload" to continue.



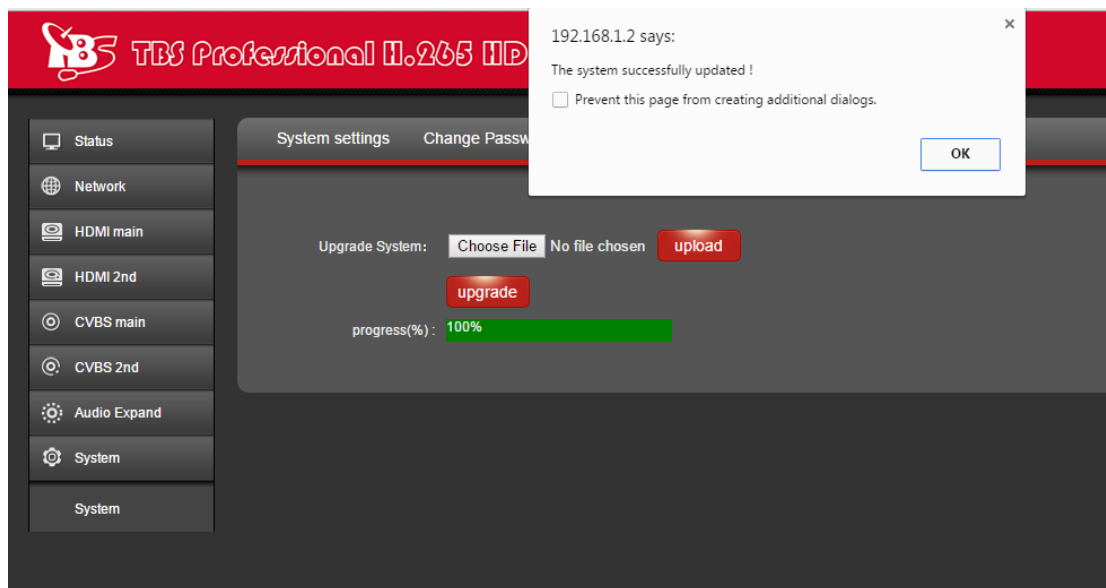
If the file is uploaded successfully, you will find a prompt pop up as below, then please click "OK" to continue.



Step 2: After the file is uploaded, please click button "upgrade". You can check the update status during the whole process.

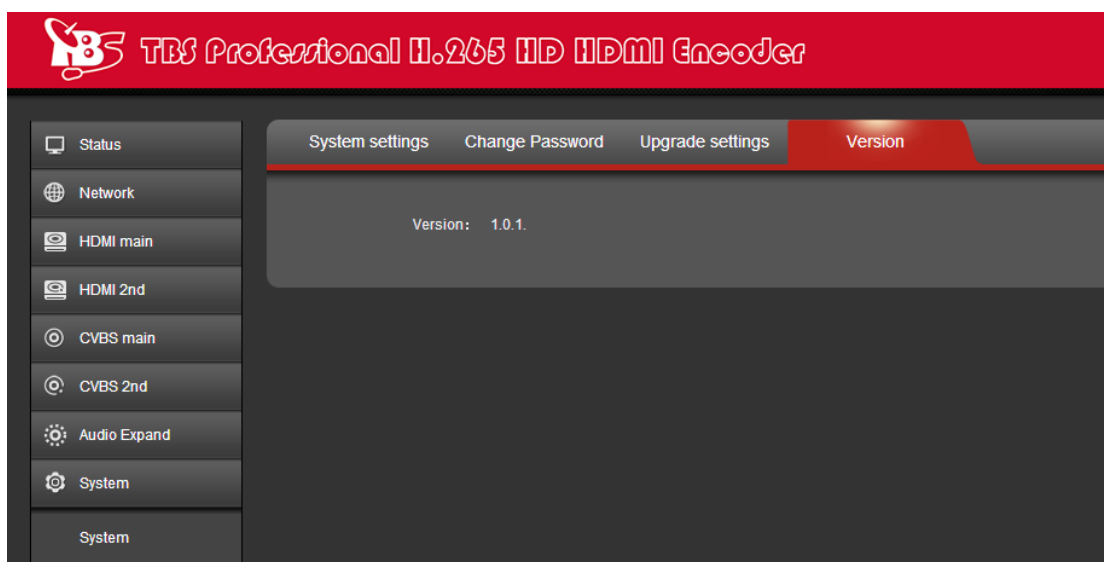


If upgrade is successful, you will see a window pop up "The system successfully updated", and then please click "OK".



2.8.4 Version

You can check version information under this section.



2.9 RTMP protocol setting

2.9.1 H.264/H.265 level

Baseline main / high / profile: If you want support RTMP, you should choose: baseline profile (H.265 only supports baseline profile).

2.9.2 RTMP server IP

Input your corresponding serve IP

2.9.3 RTMP App Name

User-defined

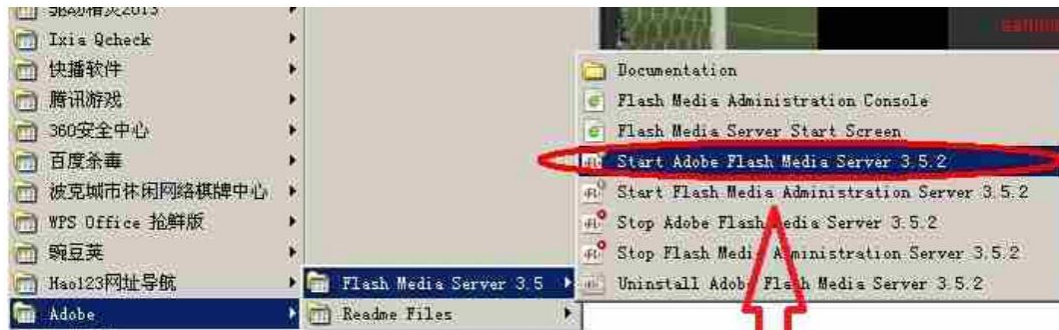
2.9.4 RTMP stream name

User-defined

2.9.5 Sever Testing

2.9.5.1 Install the software: Flash Media Server 3.5. There is no need to input series number; both user name and password are 1

2.9.5.2 Start the background software



this software runs in background

2.9.5.3 Go to folder "FlashPlayer", find "VideoPlayer.html" and open it

2.9.5.4 Input: `rtmp://ip address/rtmp/hdmi`, then choose "live" to see the images, or input `rtmp://192.168.1.100:1935/live/hdmi` to choose "LIVE", then click "Play stream"

ADOBE FLASH MEDIA SERVER
SAMPLE VIDEO PLAYER

SELECT A VIDEO FROM THE LIST BELOW
SOURCE: /applications/vod/media
sample1_1500kps.flv
sample2_6000kps.flv
sample3_7000kps.flv
sample1_1500kps.flv
sample1_1500kps.flv
sample1_1500kps.flv
sample1_1500kps.flv
sample1_1500kps.flv

SOURCE: /webroot/vod
hd_sample1_1500kps.flv
hd_sample1_1500kps.flv
hd_sample1_1500kps.flv
sample1_1000kps.flv (HLS program)

SOURCE: /applications/live
sample1

STREAM YOUR OWN VIDEO

STREAM URL: VOD LIVE

URL Syntax: [protocol]://[servername]/[application]/[codecid].[streamname].[extension]

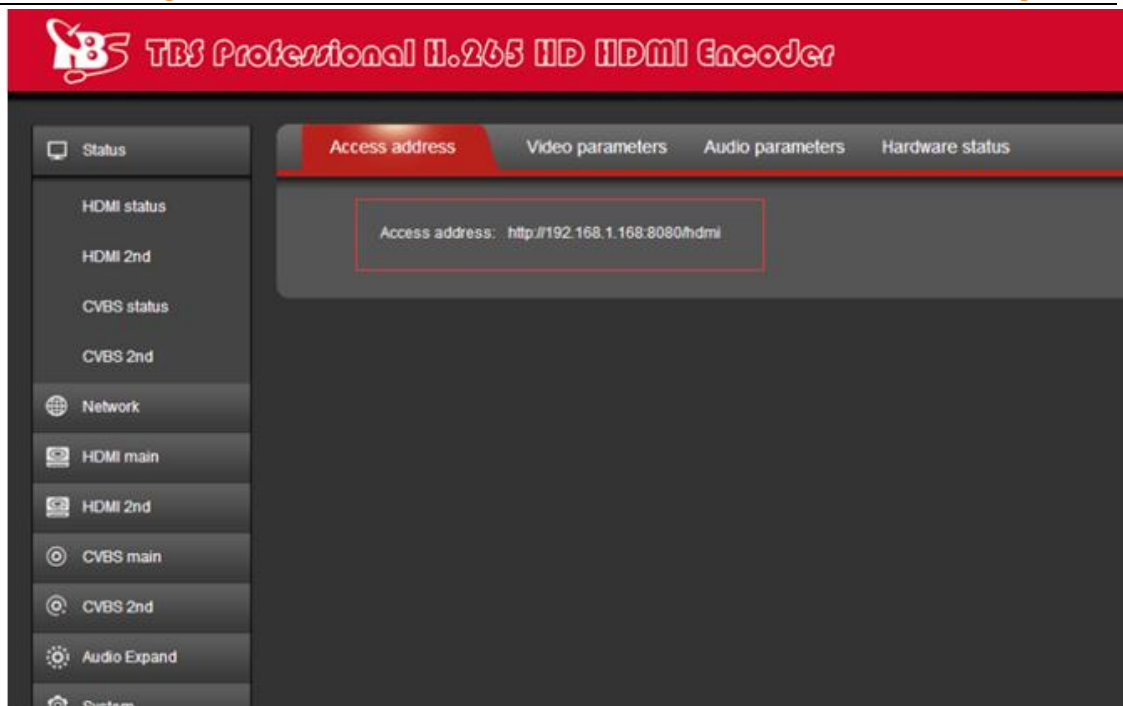
input: `rtmp://192.168.1.100:1935/live/hdmi`

check it here

play

3. Status

After HDMI main stream setting and HDMI second stream setting are done, you will be able to see their access address, and you can directly copy it to the VLC player software for decoding.



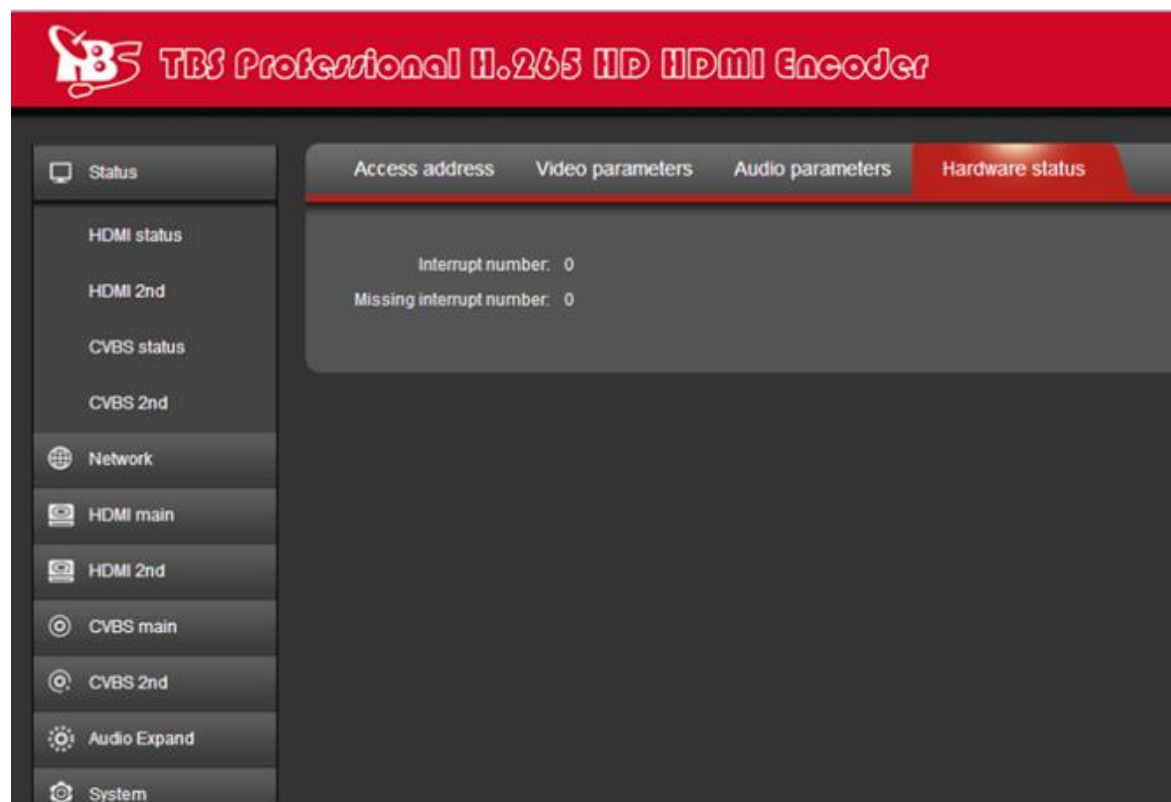
--Access Address: it can be directly copied to the VLC player software for decoding.



--Video parameters: Display video signal parameters that inputting in



--Audio parameters: Display audio signal parameters that inputting in



--Hardware status: Increasing intervals indicates it has video input. If it displays as 0, it means there is no video input, then you need to check the input signal.

If you found "Access address: disabled" as the below picture, you have to reset HDMI main stream or HDMI second stream by following the user guides about "2.3 HDMI Main Stream Setting" and "2.4 HDMI Second Stream Setting".

TBS Professional H.265 HD HDMI Encoder

Status

- HDMI status
- HDMI 2nd
- CVBS status
- CVBS 2nd

Network

- HDMI main
- HDMI 2nd
- CVBS main
- CVBS 2nd
- Audio Expand
- System

Access address | Video parameters

Access address: disabled