

User Guide-tbs2216

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1. Overview

TBS2216 HD HDMI encoder is a professional high-definition video coding box, which equipped with 1 HDMI channel input and dual stream RJ45 output. TBS2216 supports MPEG-4 AVC/H.264 High Profile code format input and dual stream H.264 format, audio ACC format output.

1.1 Application

- 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 Specification

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 ,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	32K/48K/64K/96K/128K/160K/192K
Sampling precision	24 bit
Data Rate	64Kb/s ~ 384Kb/s

System

Ethernet/RJ45	1000 Base-T Ethernet interface
Protocol	HTTP, UTP, RTSP, RTMP, ONVIF
Control Interface	WEB

General Spec

Dimensions	170mm*130*30mm
Weight	0.5kg
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 up, you can reset and initialize it by pressing & holding the RST button for 10 seconds, then it will restart automatically. And IP address will be initialized to 192.168.1.168

2.1 IP setting

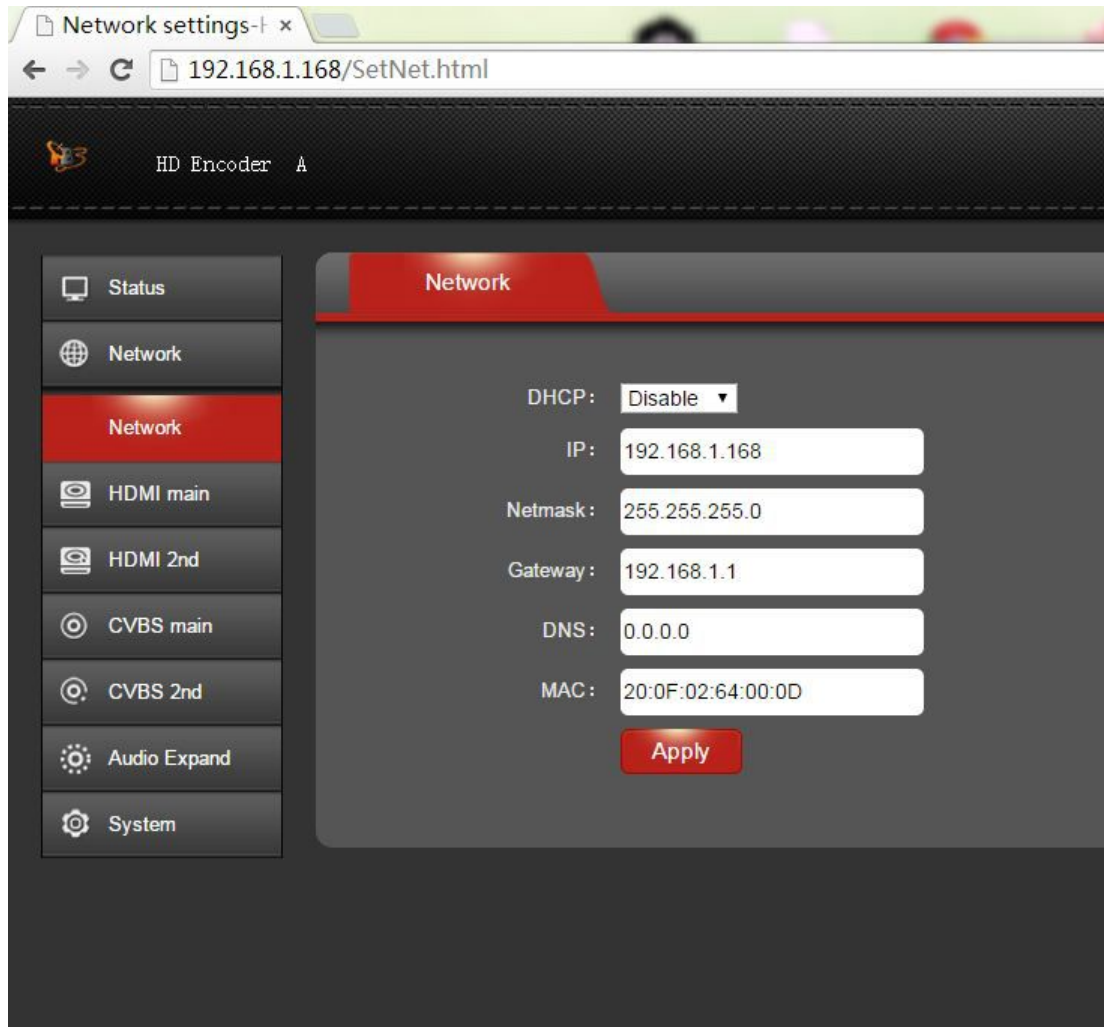
Computer IP address: 192.168.1.* (Note: "*" is any number ranging from 0 to 254 except 168)

Open up IE, input "192.168.1.168" to go to WEB interface with User Name: admin and Password: admin



2.2 Network Setting

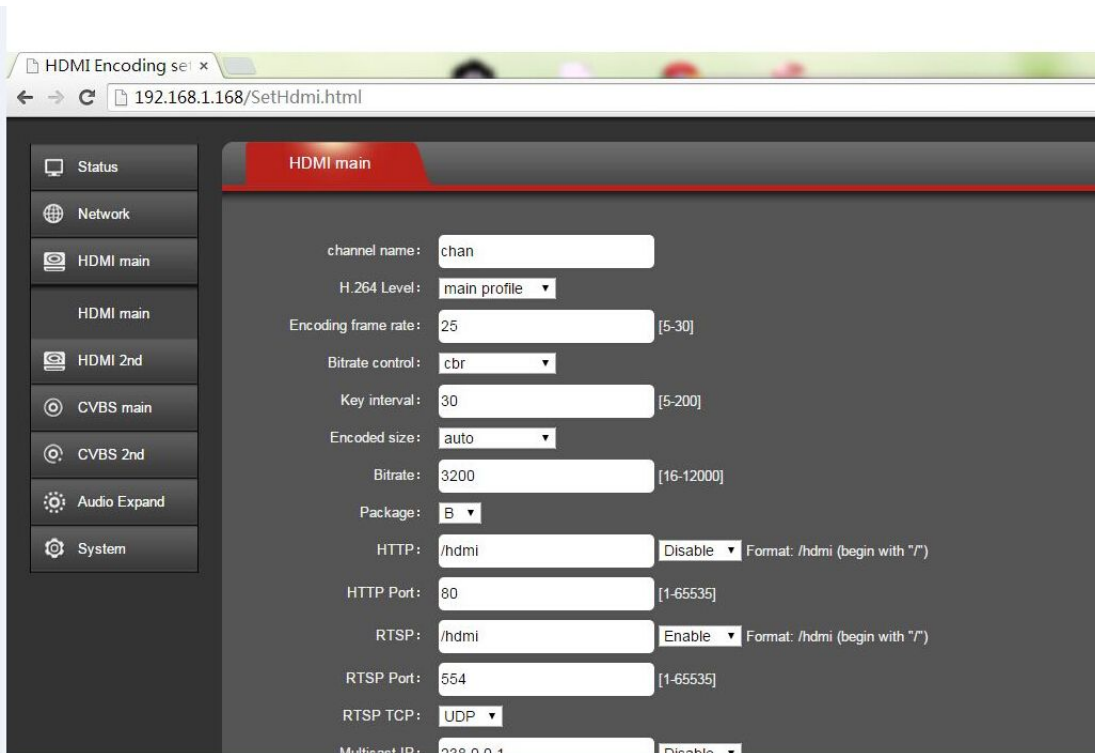
Default IP address is 192.168.1.168. If you forget the IP address after changing it, please press the RST button for 10 seconds to restart it when the machine is powered up, then it will restore factory default settings.



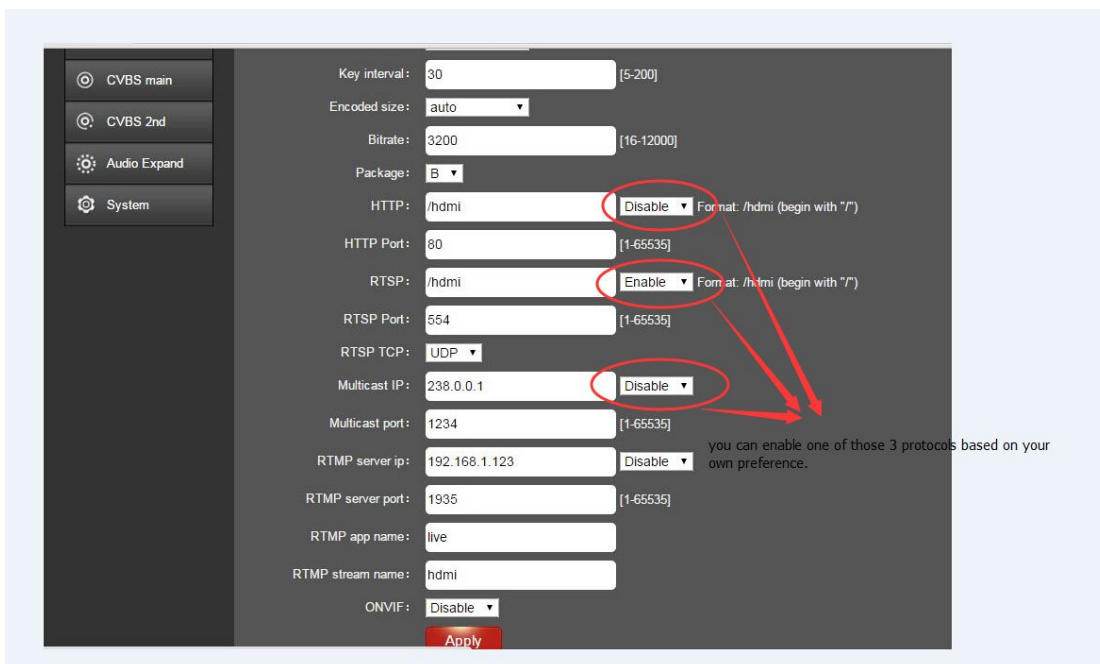
Notes: After network setting is done, you need to reboot the device to make it work.

2.3 HDMI Main Stream Setting

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

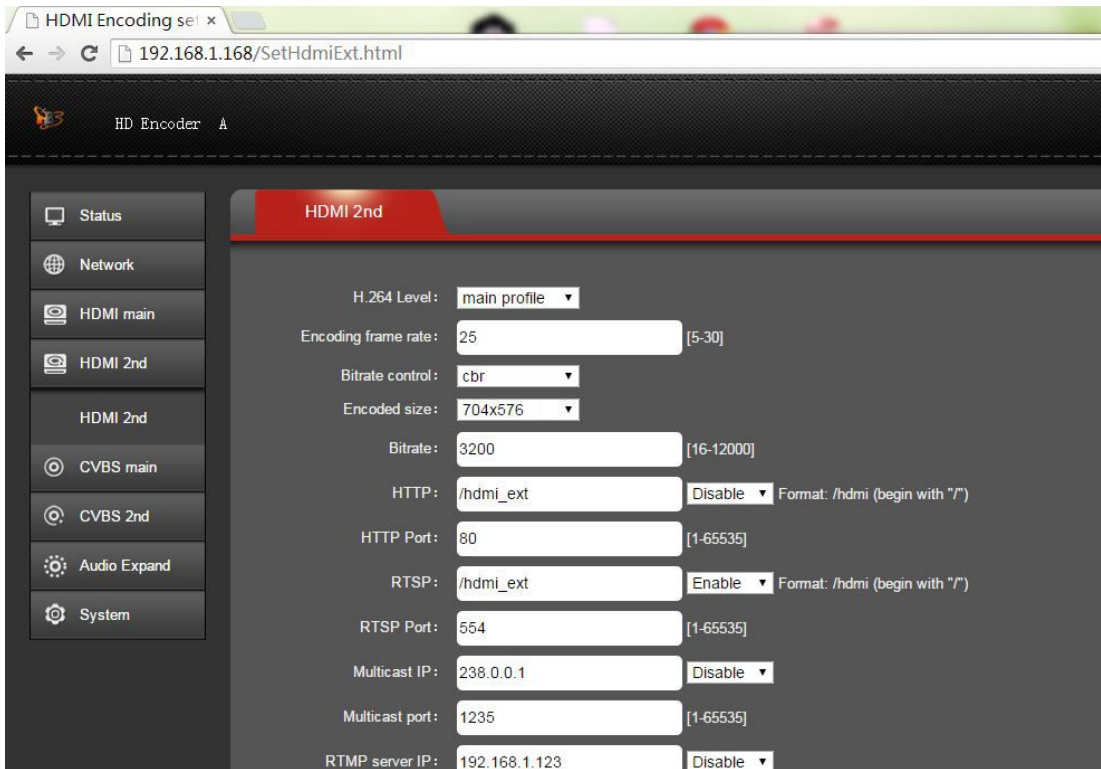


Notes: Above data can be adjusted based on your practical application.

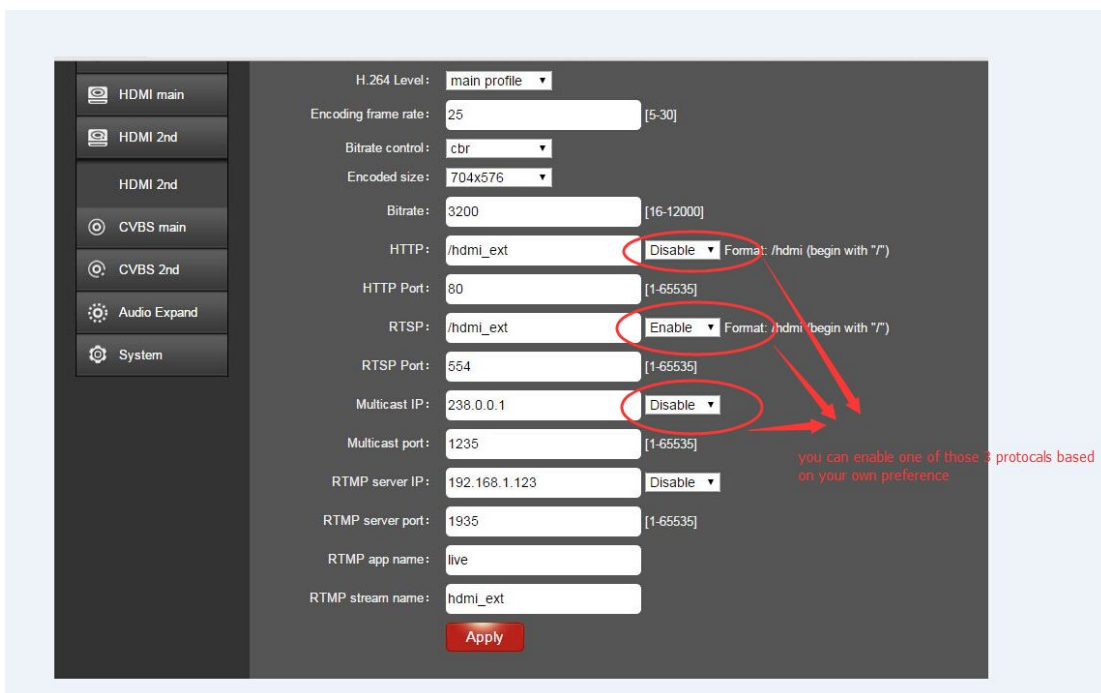


2.4 HDMI Second Stream Setting

HDMI second stream setting is similar with HDMI main encoding setting, but this HDMI Encoder does not have CVBS interface, so CVBS main and CVBS second stream setting are not needed.



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

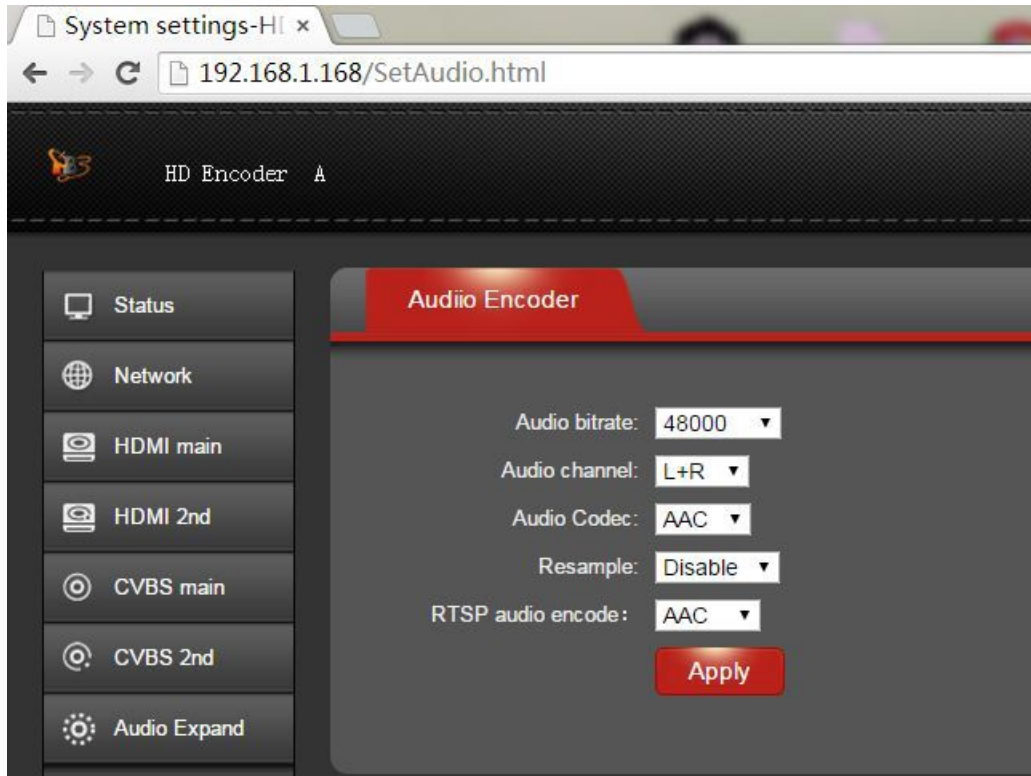


Notes: Above configuration parameter is the same with main stream

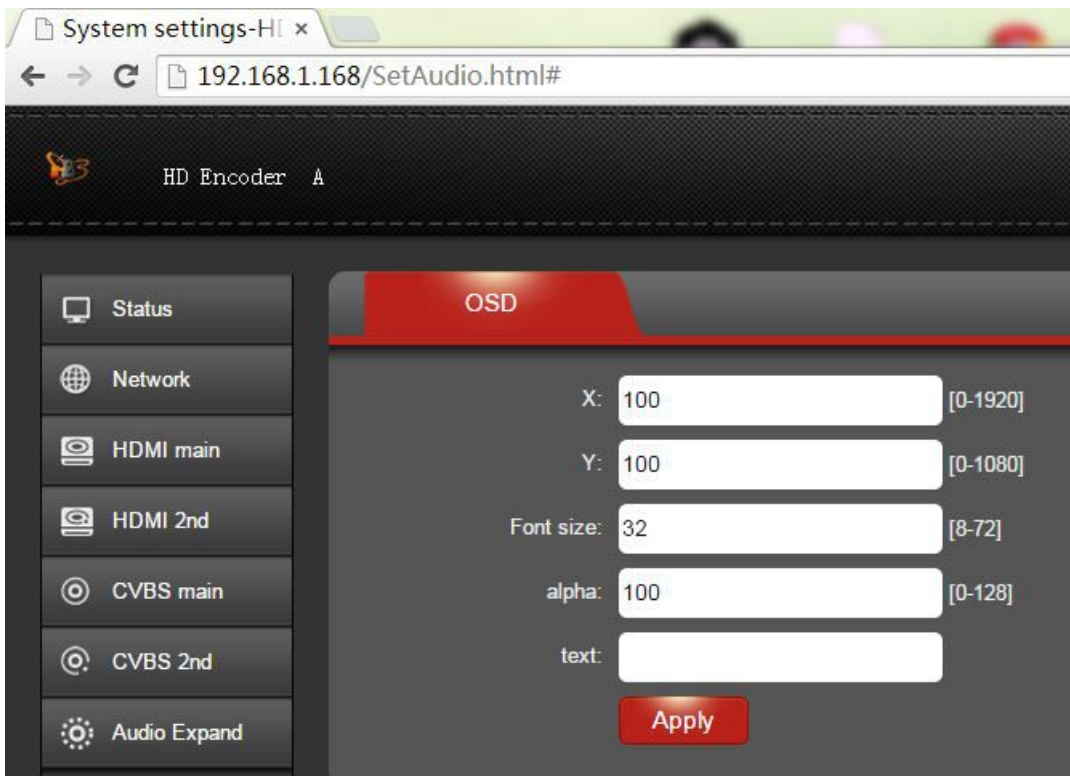
2.5 Audio Expand

You can modify “Audio Setting”, “OSD Setting”, “HDMI color” and “image setting” under this section (this HDMI Encoder does not have CVBS interface, so CVBS color setting is not needed), but if you do not want to modify it, you can just keep the original data.

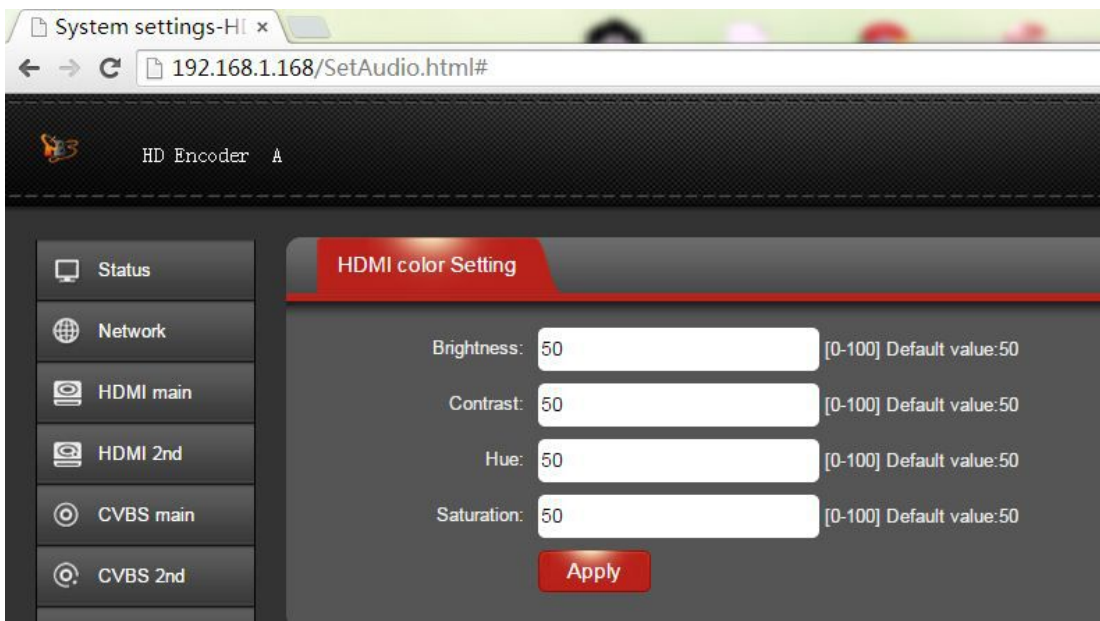
2.5.1 Audio Setting



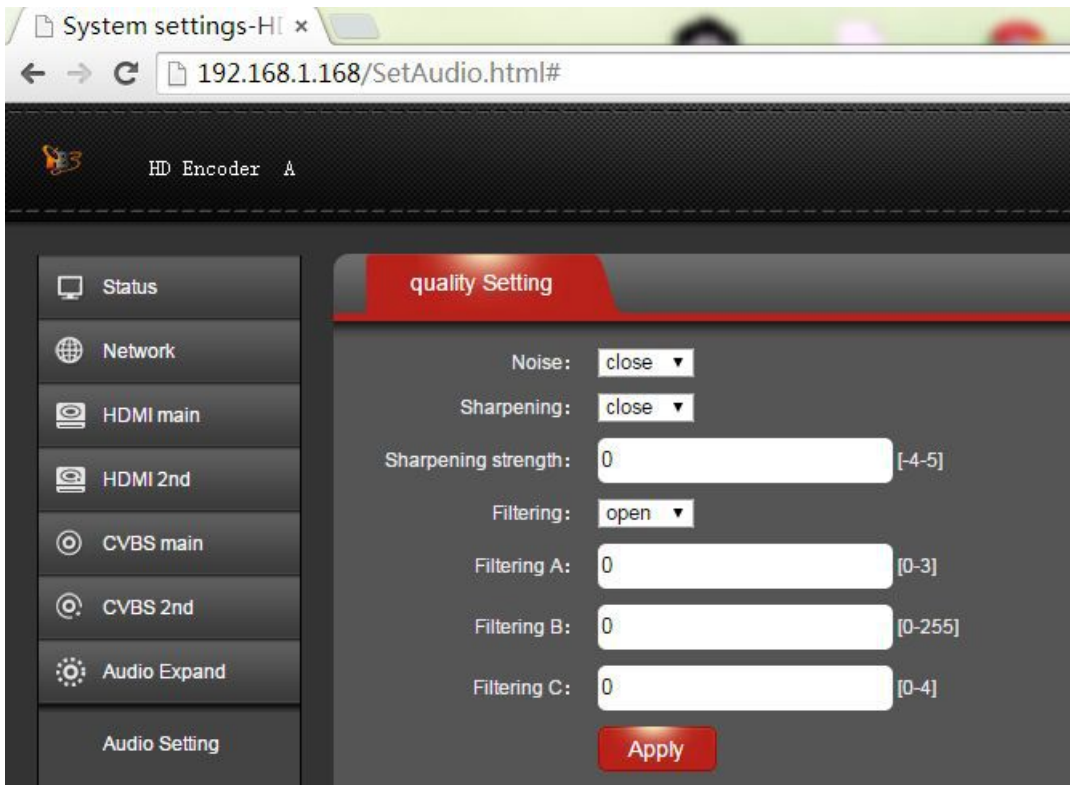
2.5.2 OSD Setting



2.5.3 HDMI color



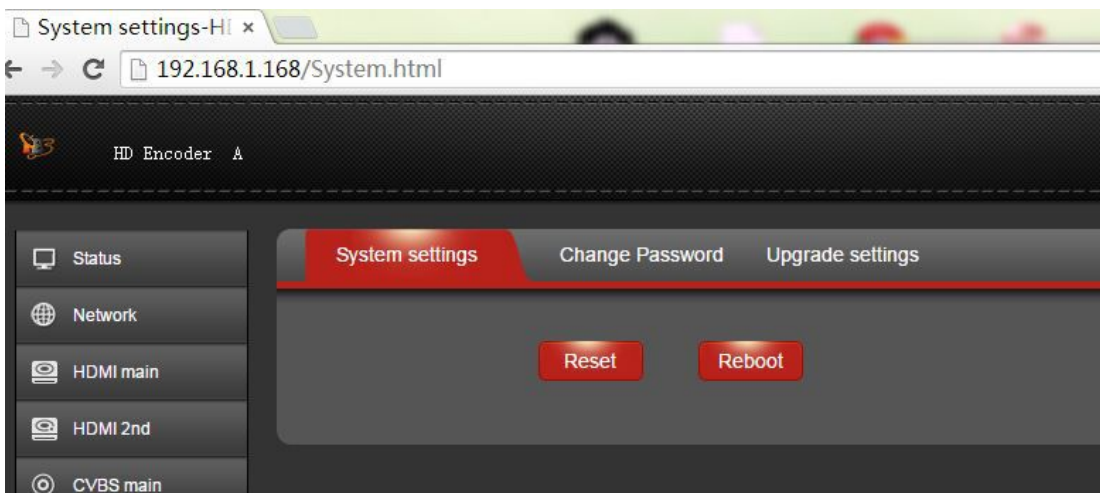
2.5.4 Image Setting



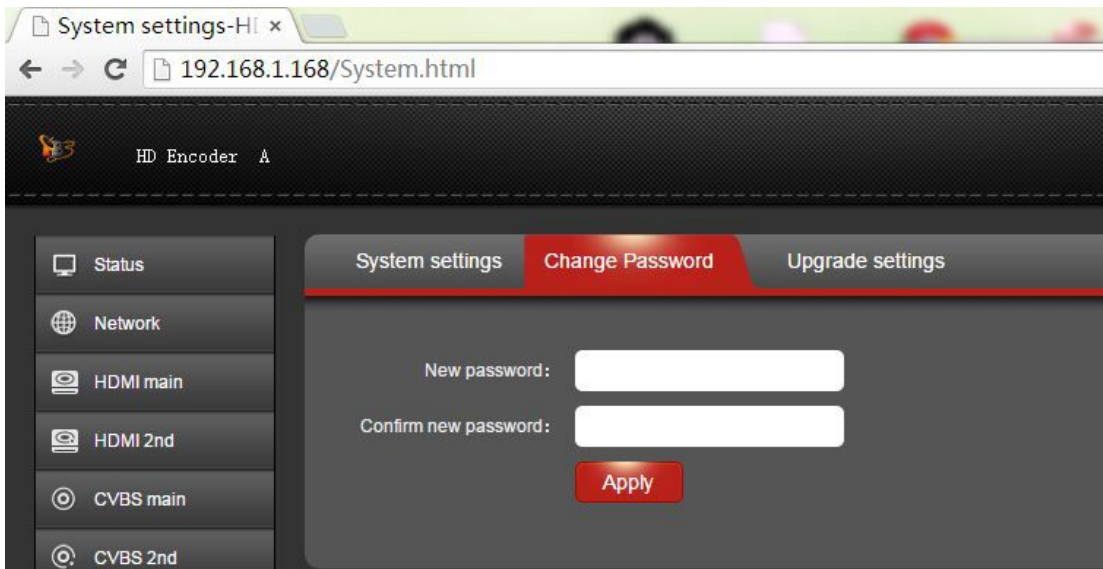
2.6 System

You can do "System settings", "Change Password" and "Upgrade settings" under this section.

2.6.1 System settings



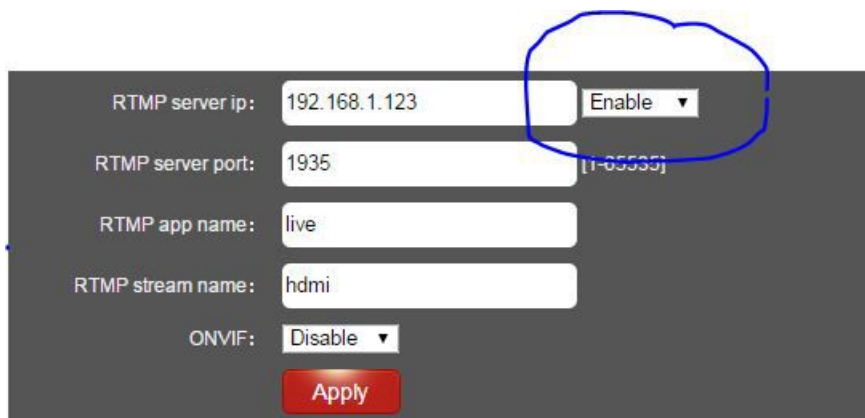
2.6.2 Change Password

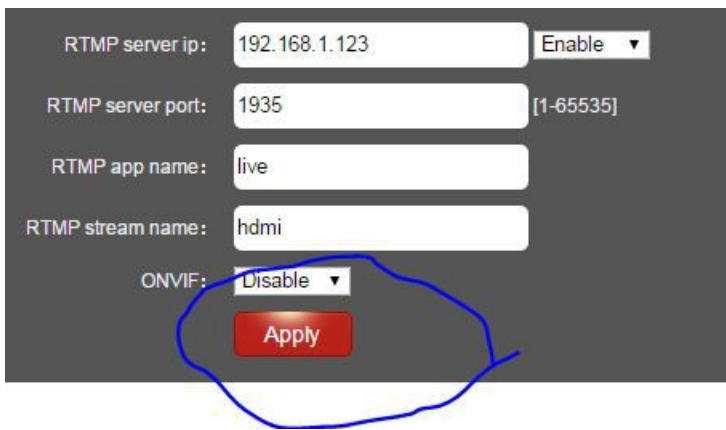


2.6.3 Upgrade settings



2.7 RTMP protocol setting





2.7.1 H.264 level: baseline main/ high/ profile. If you want support RTMP, you should choose: baseline profile.

2.7.2 RTMP protocol: enable and able can choose

2.7.3 RTMP server IP: Input your corresponding serve IP

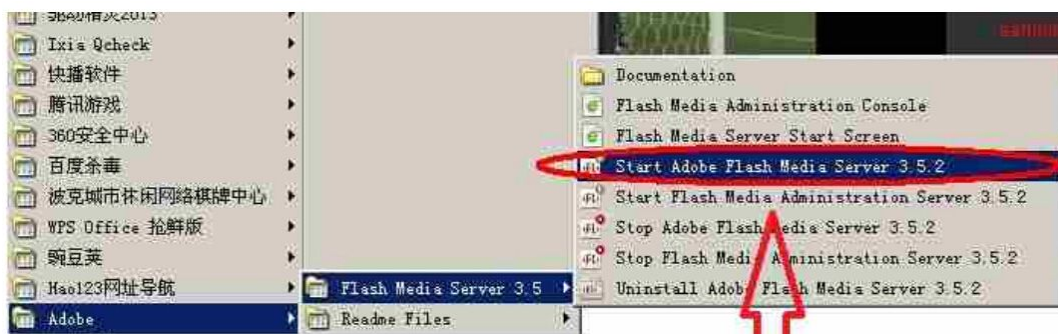
2.7.4 RTMP App Name: user-defined

2.7.5 RTMP stream name: user-defined

2.7.6 Sever Testing

2.7.6.1 Install the software: Flash+Media+Server 3.5, there is no need to input series number, both user name and password are 1

2.7.6.2 Start the background software



this software runs in background

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

2.7.6.4 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_1500bps.flv
> sample1_500kbps.flv
sample1_700kbps.flv
sample1_1000kpbs.flv
sample1_1500kpbs.flv
sample1.flv

SOURCE: /webroot/vod
hd_sample1_4mbits.flm
drip_sample1_100kbytes.flv
sample1_1000kpbs.flv (HLS) (progressive)
sample1_1000kpbs.flv (rtmp)

SOURCE: /applications/live
> [live/hdmi](#)

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.

Status display-HD | x

192.168.1.168/index.html

HD Encoder A

Status

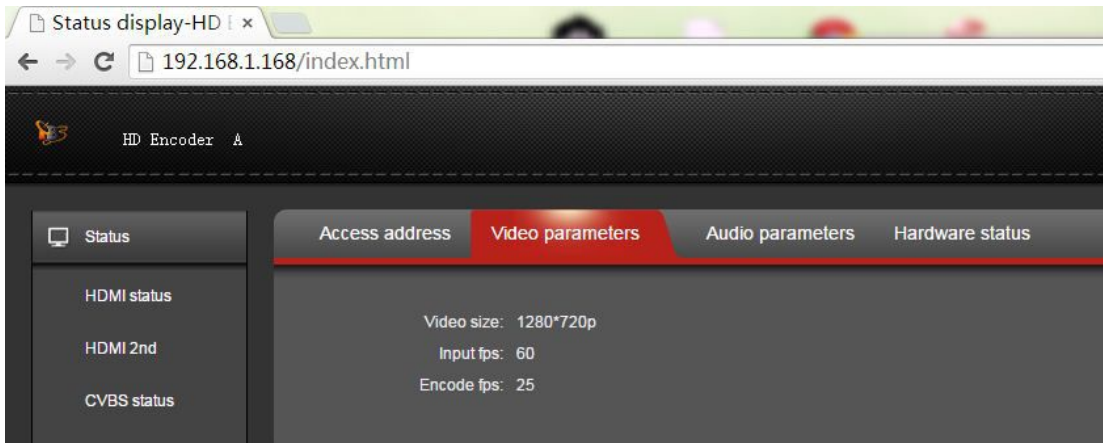
HDMI status

HDMI 2nd

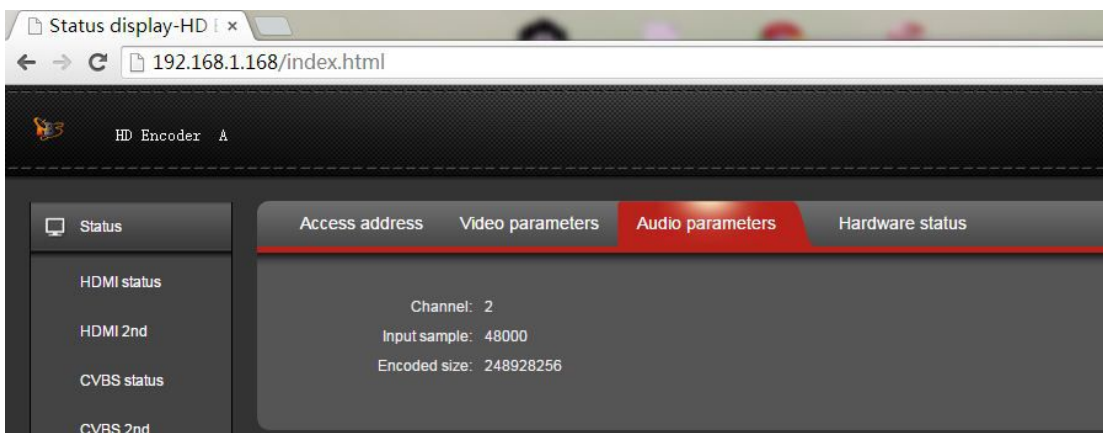
Access address Video parameters Audio parameters Hardware status

Access address: <rtmp://192.168.1.168:554/hdmi>

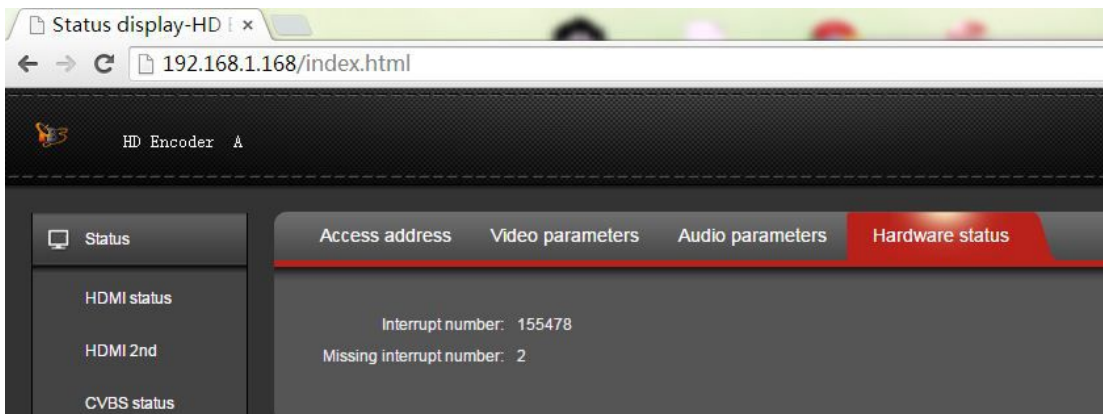
--Access Address: it can be directly copied to the VLC player software for decoding.



--Video parameters: Video signal parameters that inputted in.



--Audio parameters: Audio signal parameters that inputted 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 HDMI main stream or HDMI second stream is not set, then you will see "Access address: disabled" which shown as the picture below, then you have to go to reset them based on the user guides shown on "2.3 HDMI Main Stream Setting" and "2.4 HDMI Second Stream Setting".

