BLANKOM ADE-264 Encoder and IPTV Streamer User Manual

Contents

BLANKOM ADE-264 Encoder and IPTV Streamer

Product Information: ADE-264(B) Encoder & IPTV Streamer

The ADE-264B Encoder & IPTV Streamer is a device that encodes and streams HDMI and CVBS video inputs in digital quality through IP networks. It is compatible with h.264 compression technology, which ensures low bit rates for IPTV/OTT systems. The encoder features high-efficient encoding chips that save bandwidth costs throughout its resolution range. The device can distribute SD and HD TV channels through the IPTV/OTT network using state-of-art IP technology from almost any kind of video input. The device is available as ADE-1264 in 1RU 19” Version up to 16 in 3RU.

Product Features

- HDMI and CVBS (FBAS) compatible input for encoding
- Stereo Audio embedded (HDMI) or external Stereo Input (3.5mm Stereo-Jack)
- CVBS: PAL/NTSC SD and HDMI: HD Resolution 1080p, 1080i, 720p, and lower
- IP output: RTSP, RTMP, UDP/RTP, HTTP, HLS, FLV
- 4 simultaneously and independent Live stream broadcast encoder engines to multiple destinations
- Video-over IP applications, IPTV/OTT applications, Video conferencing, Camera streaming, INFO-Channels, IPTV on LAN applications, Corporate IPTV for Broadcasters
- HD and SD video encoding (incl. 1080p)

Product Usage Instructions

1. Setting up your PC/Laptop before connecting:
    - If you use a Windows-based PC, assign its ethernet adapter to the same range as the encoder. Use a static IP like follows:
        - Open your network settings in the System Menu.
        - Change IPv4 settings and confirm.
    - Linux users should know how to change the ethernet or WIFI settings.
2. Connect the ADE-264B encoder to your PC/Laptop using an Ethernet cable.
3. Power on the encoder using the DC-Jack 12V.
4. Open your browser and enter the HTTP-Address of the box192.168.1.168 (w/o https).
5. Depending on the browser, you'll get a log-in-screen window. Enter the default username = admin, and default password = admin.
6. Configure the encoder's settings according to your needs.
7. Connect your TV sets, IPTV Set-Top Boxes, PCs, and Tablets/Smartphones using i.e. VLC Player to receive the live video.

264 compatible encoders & IP streamers combined

- HDMI- and CVBS (FBAS) compatible input for encoding
- Stereo Audio embedded (HDMI) or external Stereo Input (3.5mm Stereo-Jack)
- CVBS: PAL/NTSC SD and HDMI: HD Resolution 1080p, 1080i, 720p and lower
- IP output: RTSP, RTMP, UDP/RTP, HTTP, HLS, FLV
- Distribution of Video Camera HD-SDI and other sources content over LAN, WAN or internet
- 4 simultaneously and independent Live stream broadcast encoder engines to multiple destinations
- Video-over IP applications
- IPTV/OTT applications
- Video conferencing, Camera streaming, INFO-Channels
- IPTV on LAN applications, Corporate IPTV for Broadcasters
- HD and SD video encoding (incl. 1080p)
- Corresponding products: M15 & 6800+ SetTopBox, HDD-275 decoder for digital signage
- Available as ADE-1264 in 1RU 19'' Version up to 16 in 3RU

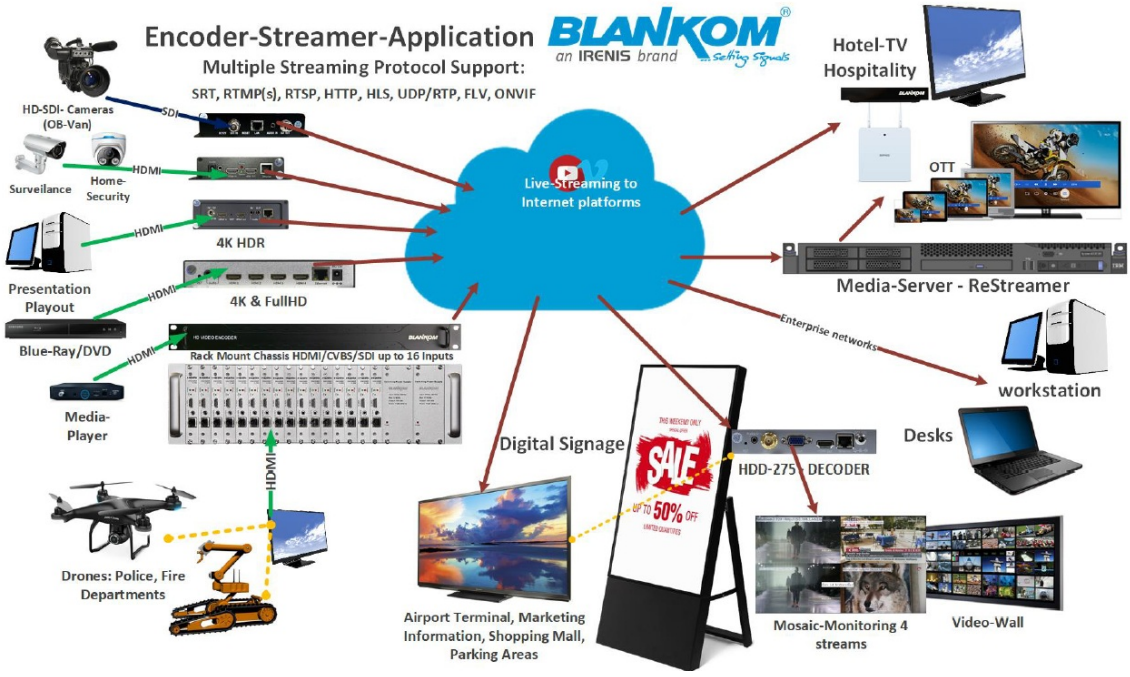
BLANKOM ADE-264B HDMI and CVBS compatible encoders serve the distribution of SD and HD TV/video content through IP networks in digital quality. The live video can be received by Internet media servers by TV sets,

with IPTV Set-Top Boxes, with PCs and Tablets/Smartphones using i.e. VLC Player

BLANKOM ADE-264

IPTV encoder designed for TV signal distribution in excellent quality over LAN and INTERNET. The H.264 (AVC) compatible compression technology features low bit rates for IPTV/OTT systems. The high-efficient encoding chips save bandwidth cost through their resolution range. Distribution of SD and HD TV channels through the IPTV/OTT network using state-of-art IP technology from almost any kind of video input. Excellent Video and Audio quality.

High reliability
No regular service and maintenance need during operation. Available also as HDE-264 with only HDMI input support.



Function	**H.264 compatible Encoder and IP Streamer**
INPUT	**HDMI-Cable compatible (1.4) or Cinch for CVBS (BNC-Cinch-Adapter supplied)**
Resolution	**1080p, 1080i, 720p and below (HDMI IN), PAL, NTSC SD IN 576i and below**
Video encoder	**H.264 (AVC) compatible, 1x Main + 1x second (HDMI) 2x CVBS encoders**
Audio encoder	**AAC +/++, MP3, MPEG1Layer2, AC-3** ***(External analog stereo Input depending on Model)***
Audio Bit-rate:	**Bit-rate: 32k/48k/96k/128k/160k/192k, Data-rate: 64 kbps-384 kbps**
Data interface	**RJ45 GbE, 1000M Ethernet interface, management by web browser**
Protocol	**HTTP, RTSP, RTMPs, UDP/RTP, FLV, HLS ; Unicast/Multicast**
Data Rate	**32 kbps – 32 Mbps**
Encoding bitrate	**CBR/VBR**
GOP Structure	**IBBP**
ONVIF 2.x	**Supported by RTSP: G711A/U**
Picture adjust	**De-interlacing, Noise reduction, Sharpening**
OSD	**4x Logo and Text Insertions as transparent overlay**
Upgrade	**Firmware- and Configuration-File for Backup UP- and Download by Web-IF** ***(since V6.42… Nov. 2019)***
Power supply	**12V DC, 1A**
Dimensions / Weight	**165x85x24mm / 0.5 kg**
Consumption	**6W**

Remark: All operating instructions published by us are intended for the antenna and IT specialist who has basic knowledge of reception, network and system technology. Compliance with all relevant regulations and guidelines for the installation and operation of such systems is the responsibility of the installer and/or the operator. In particular, the regulations and guidelines applicable in the respective countries for commissioning, especially for the power connection, and all standards and laws related to the products must be complied with.

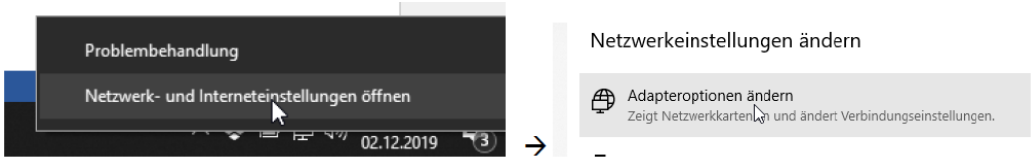
DC-Jack 12V, AUDIO 3.5mm Input, Status LEDs, HDMI IN, RESET Button-hole, CVBS/FBAS BNC, RJ-45 GbEthernet Variant with SDI Inputs: SDE-265 (no 264 available anymore)

SDI-Versions have a loop through to cascade the Input to other SDI devices…

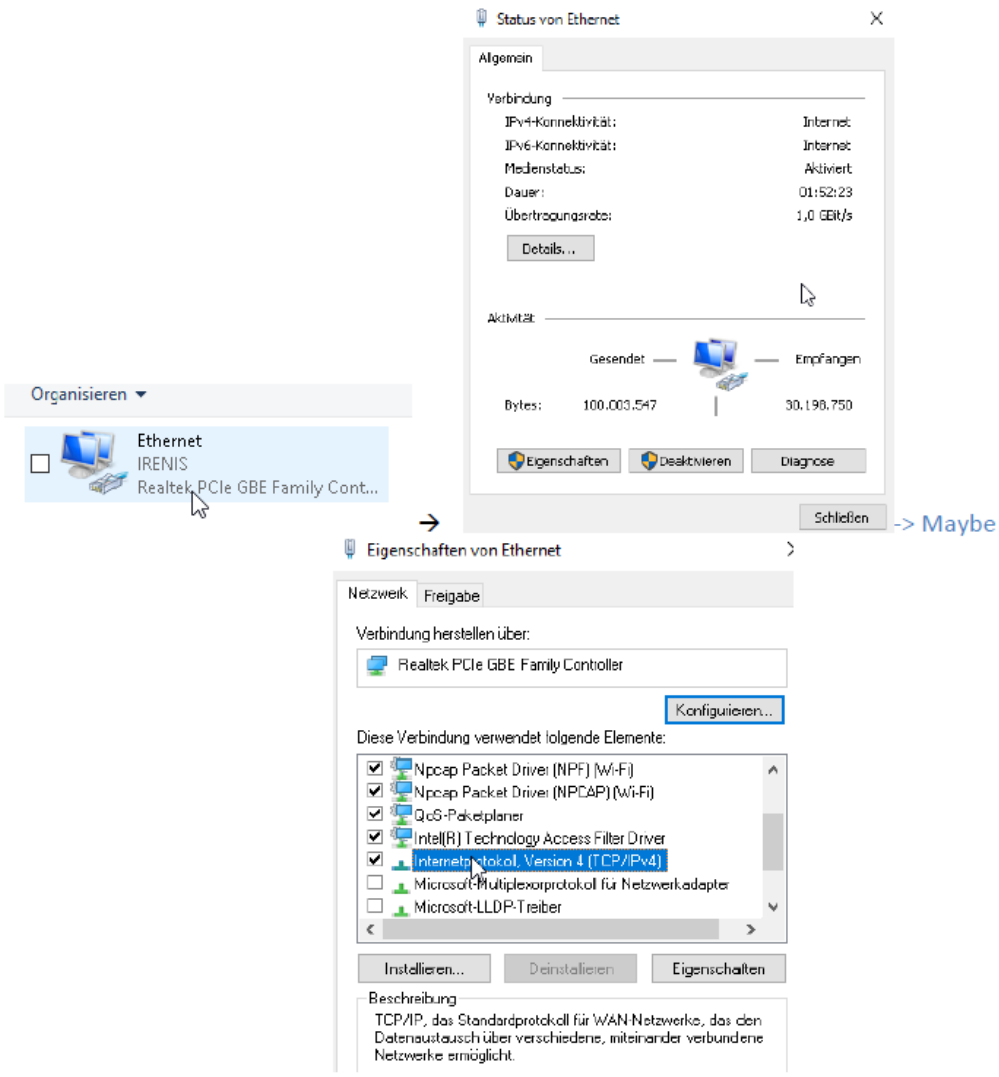
Sticker with default settings (MAC may be different) ADE-16264 in 3RU 19'' Chassis with redundant inbuilt power supplies:

Notes and Hints: The Gigabit-Ethernet-port does not support PoE so please take care of not accidentally using a PoE switch- you can damage the port and the unit will be not accessible anymore. We recommend using an IGMP-V2/3 protocol capable of GBE- Switch to avoid flooding your network with unmanaged multicast streams. Also, some consumer Internet routers do not like Multicasts (UDP/RTP) and might reboot periodically. An Internet connection is not necessary as long as you need to use NTP and does not have your own NTP server in your network. Please ensure that the HDMI –Output you like to encode is set to max. HD with 1080p60 or lower. Higher values will not work. Note: İ50 will be encoded to p25 !!! Interlaced is a dinosaur related to the good old analog times ;-). The embedded Linux system takes some seconds to fully boot. After the System LED is on, you can connect your browser to it. We recommend Chrome, Opera, and Mozilla. For a preview PopUp in the browser, a flash-player addon needs to be installed for the browser. Sometimes it is helpful to reload the browser – page to get the changed settings and values because of different browser behaviors…

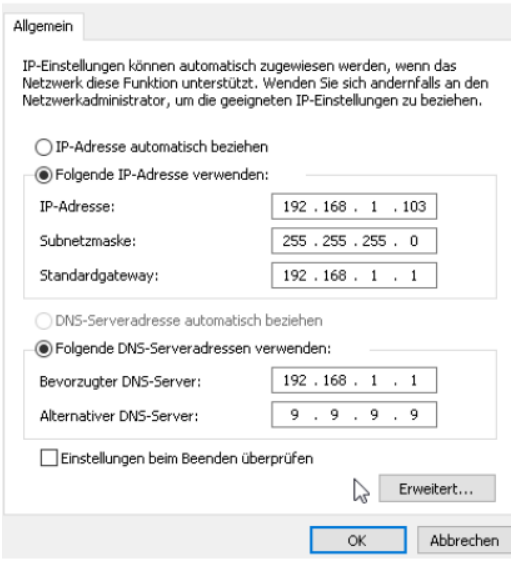
The RESET button will erase all your settings and the unit will be forced to start with factory defaults. Use a thin wire to pass the small hole and press the inside button by it for at least 5-10 seconds until the System LED will go off. The encoder would perform a restart than after releasing the button. The Web-Interface lookalike may vary between different Versions but basically its self-explaining. The SDI versions support only the first embedded Stereo-Audio-Pair to be encoded. Setting up your PC/Laptop before connecting: If you use a Windows-based PC, you should assign its ethernet adapter into the same range as the encoder: Use a static IP like follows: 1st: Open your network settings in System Menu:



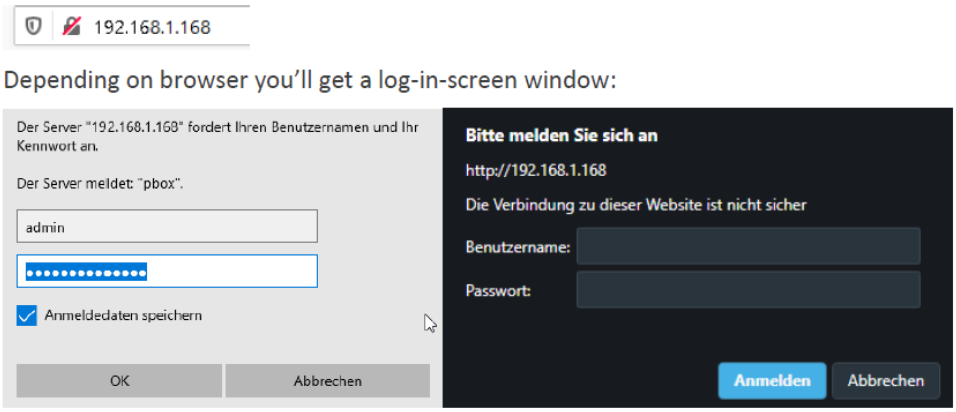
And confirm, please. Linux users should know how to change the ethernet or WIFI settings. Then open your browser and enter the http- Address of the box 192.168.1.168



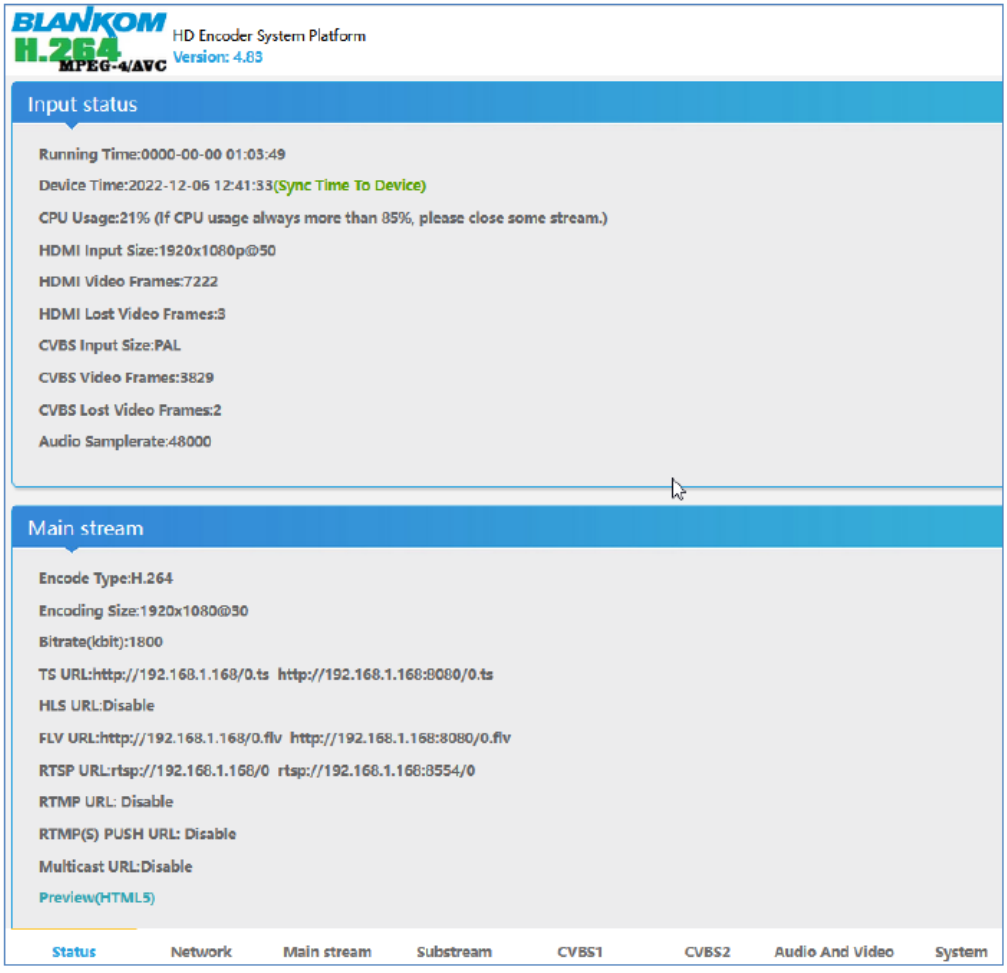
Depending on the browser you'll get a log-in-screen window:



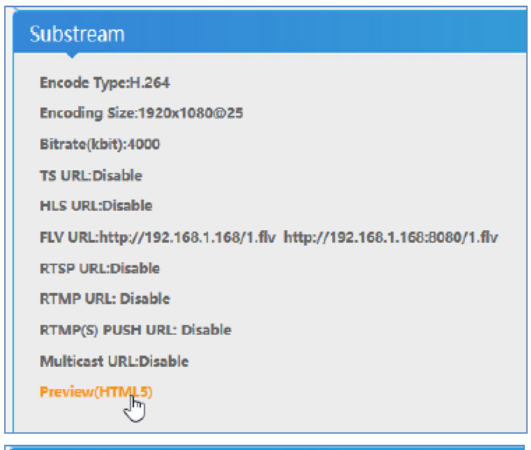
Enter the default username = admin, default password = admin …. and here we go:



The STATUS page shows your Setup encodings for all the MAIN and the Substream(s). Parallel and different streamings can be used for all encoder parts as long as the capacity of the system is not claiming it: You will get a message if the encoding capacity will be reached and one or more substreams would be disabled… The B-Models might support only one streaming Method enabled in Main and sec. Stream (= max. 2 outputs) but try in parallel: CVBS and HDMI should work. But the analogue Stereo Audio Input (3.5mm) would be related to the CVBS Input only.



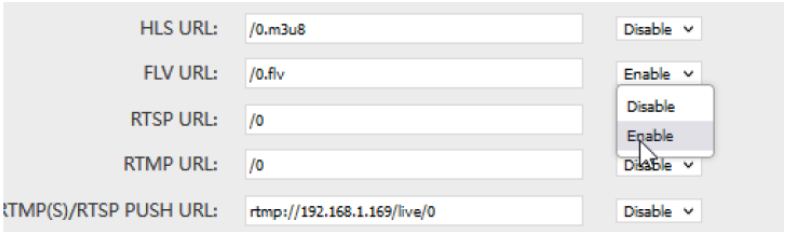
In some Sub-Streams Info-sections (model depending) you can check the Picture/Sound directly in the browser by this button:



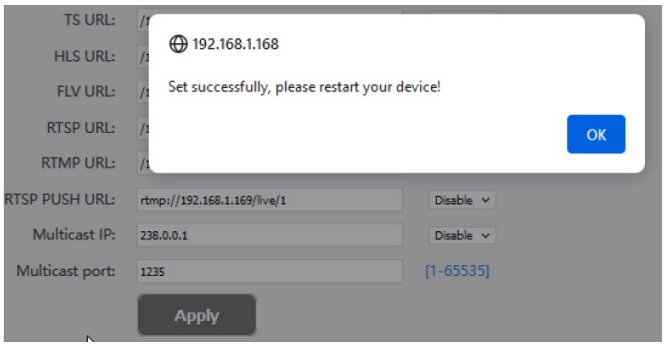
and second CVBS2 as well ...

enable the FLV or HLS stream before using that – and Flash-Player support is needed by your browser:

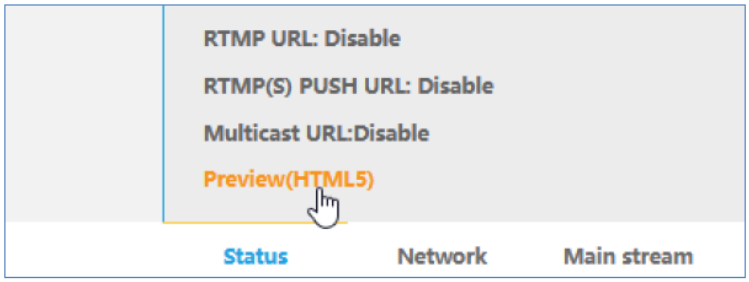
Enabling it in the related Sub-Stream settings -> Applying it by Set Up!



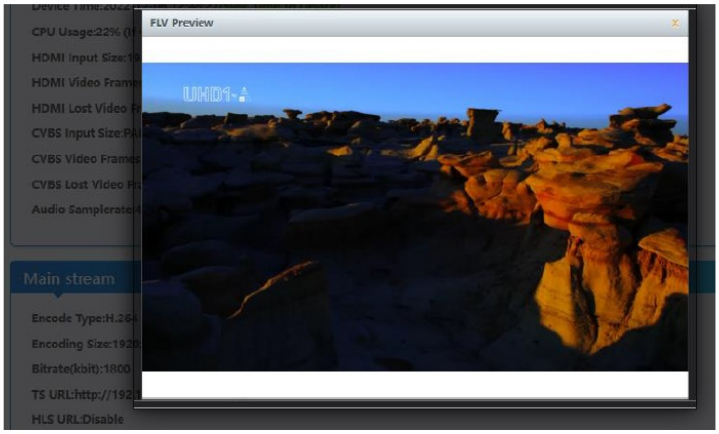
This does not mean restarting the encoder but restarting your Stream-receiver-Decoder like VLC or IPTV Settopbox to re-sync it to the new codec values. This message will popup every time you change the encoder parameters. Receivers are stupid and might not react to the changed values by themself. Depending on Model: Preview in Browser is possible from within the status page as a link:



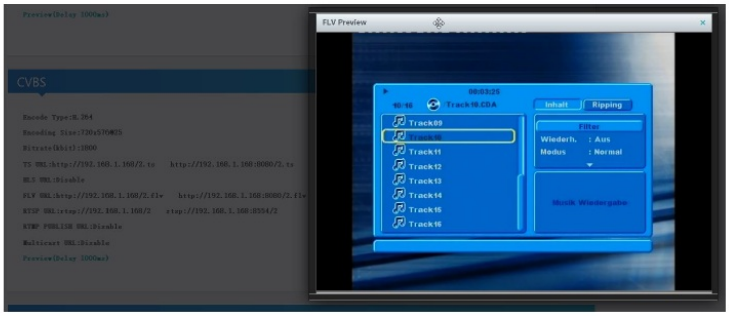
HINT: Adobe Flash does not work with HEVC h.265 codec!!!! You need to have h.264 encoding to set in the main or sub-stream menu (model depending).



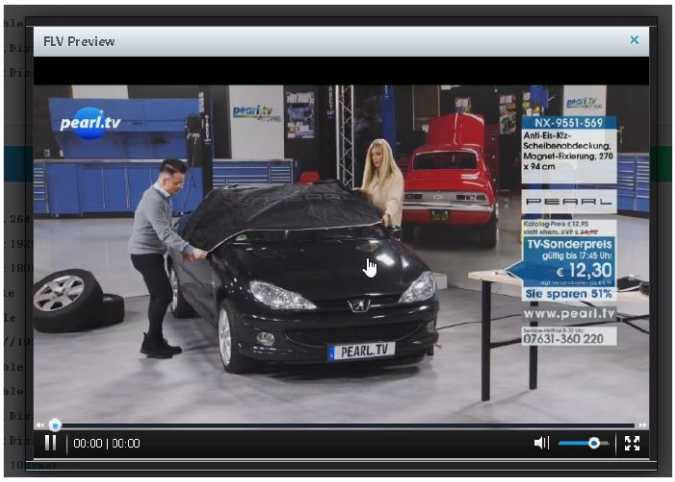
CVBS-Preview with connected DVD Player



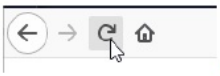
CVBS-Preview with connected DVD-Player:



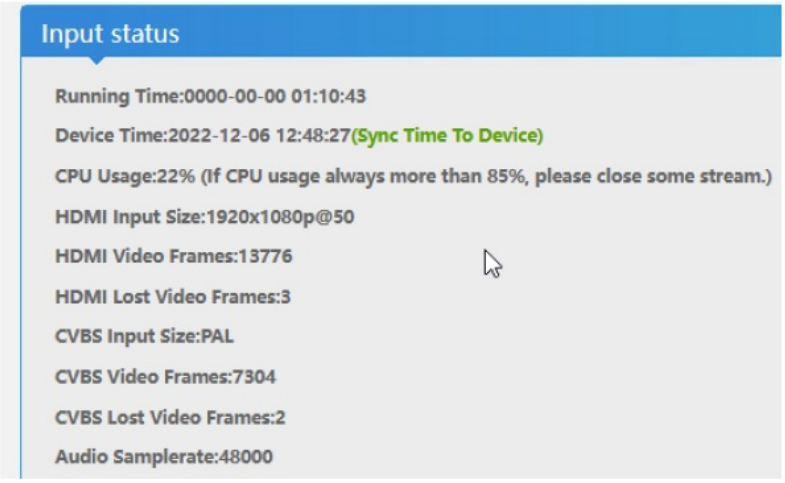
Since last year, Adope and also Microsoft disabled the FLASH support in all OS.



Therefore we changed the internal Preview Player to HTML5 Mode only:

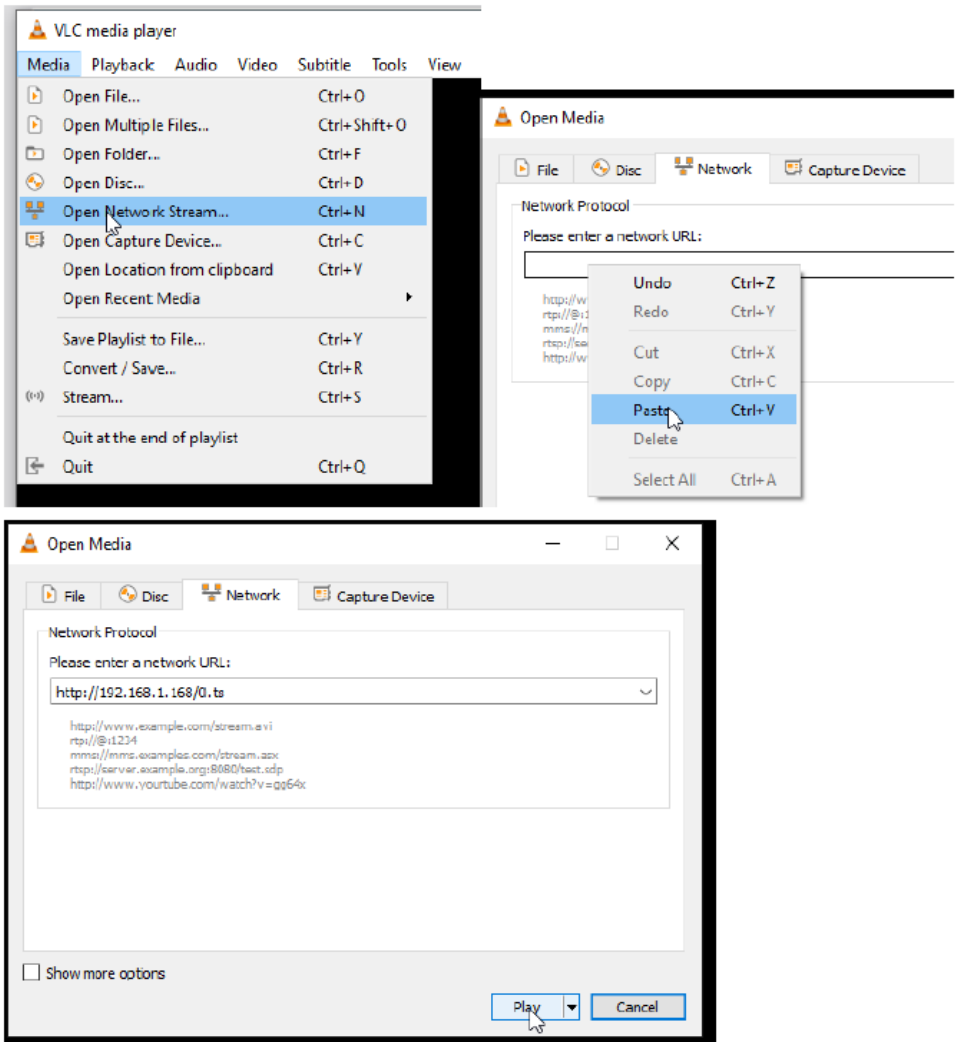


to gather the actual values like Input HDMI values:

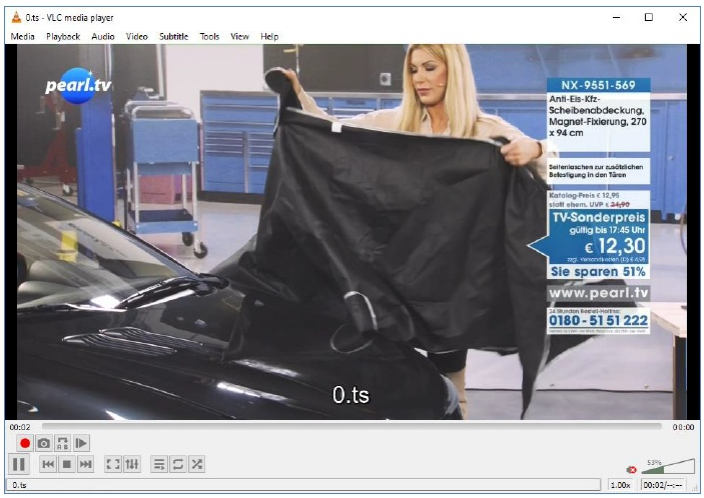


Back to STATUS page: Like the hint above, sometimes it's helpful to reload the Status page i.e. if you see @0: to gather the actual values like Input HDMI values

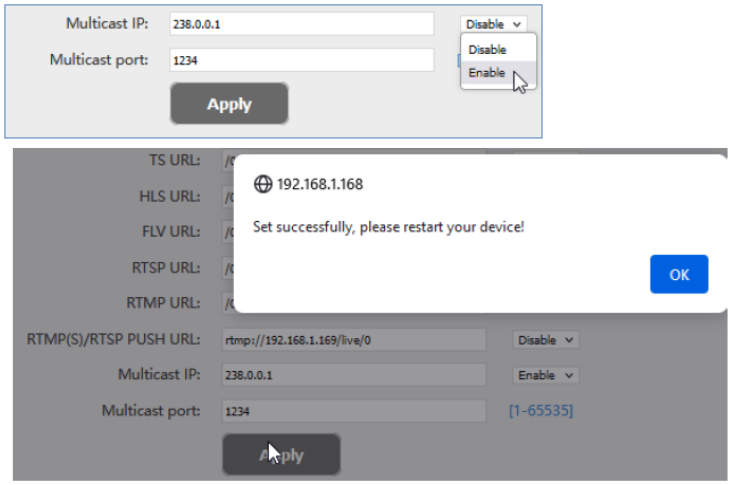
The device time can be adjusted by the Network-setup-part NTP-Server which you need to tell the NTP server URI and UTC-time difference. UK = '0', Germany normal is UTC+1…



If you press (Sync Time To Device) it will be updated. To also check your encoding streams you can copy the URI from the STATUS page:

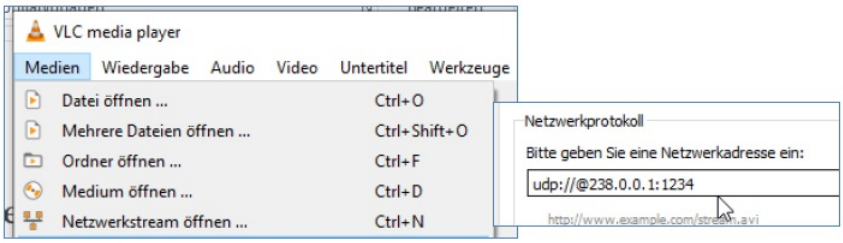


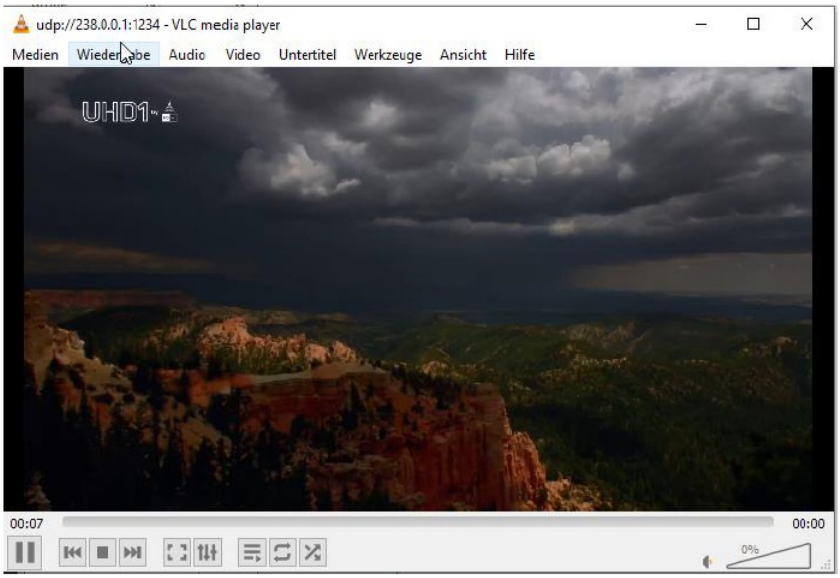
Mark it with the mouse and COPY it – Then insert it into VLC:



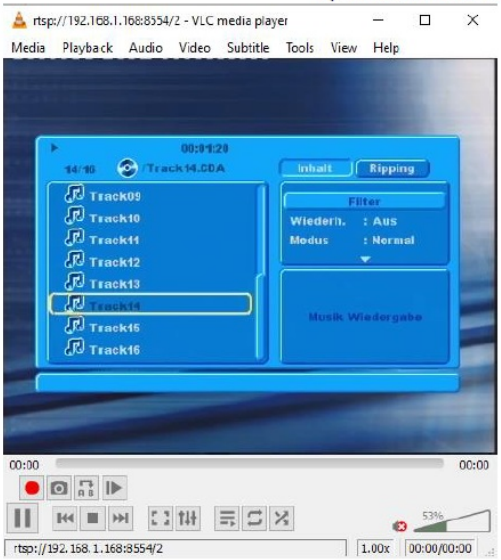
Note: If you have more than one Network-Card in operation (like WIFI and GbE) in your receiving machine, VLC often doesn't recognize where to catch it from. Manually settings of METRIC Values for both can solve this issue.

copy with right mouse click udp://@238.0.0.1:1234 and insert into VLC:

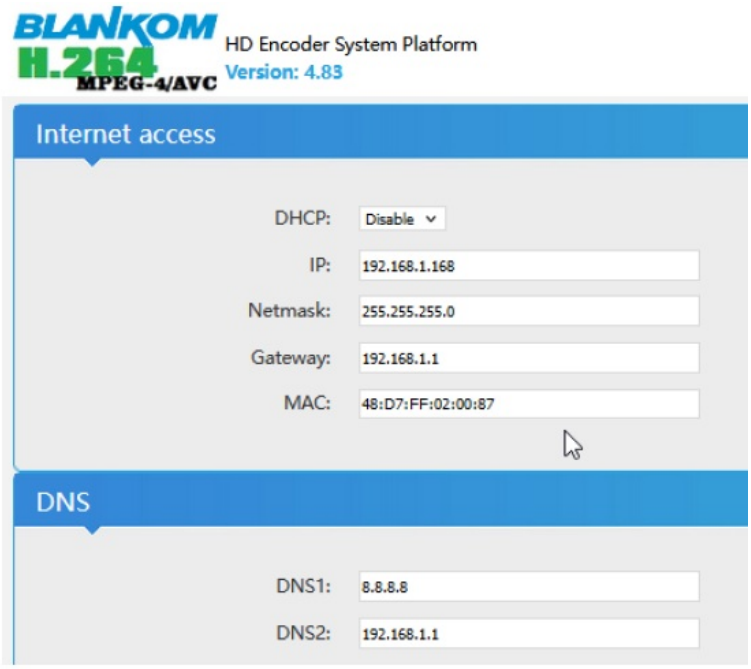




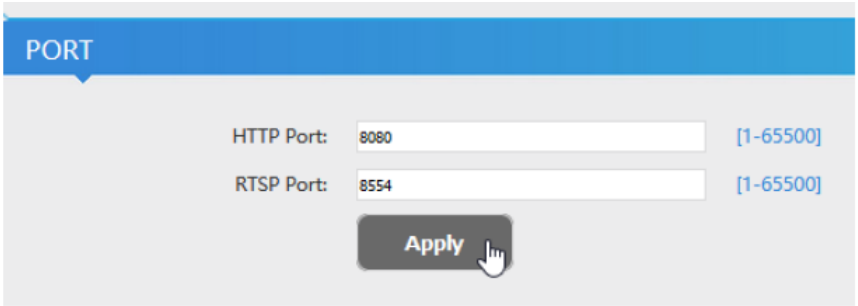
Note: MULTICAST UDP/RTP-Address will be taken by VLC with an @ and we have made it easy for you:



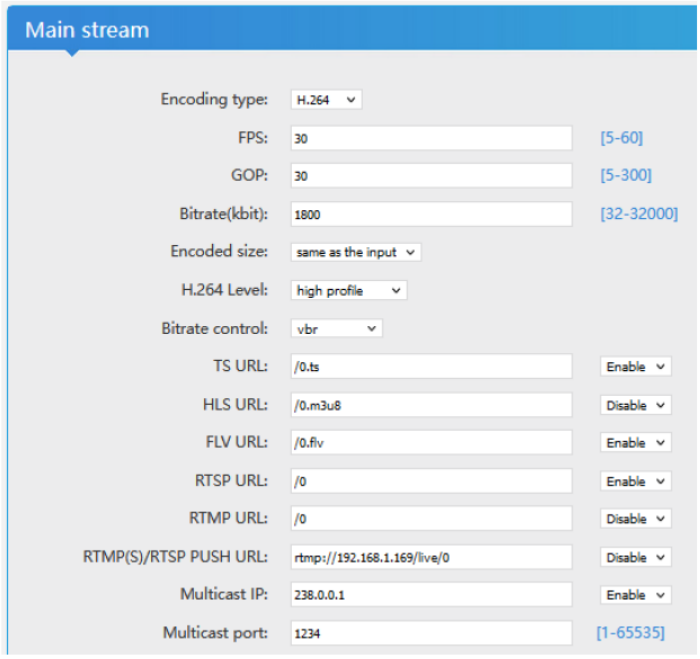
AGAIN: You do not need to restart the encoder only the receivers you have in your network need to re-sync to the changed values!!! copy with the right mouse click udp://@238.0.0.1:1234 and insert into VLC Do not wonder, this HDMIO –signal was downscaled by the Receiver-HDMI out to max FullHD ☺



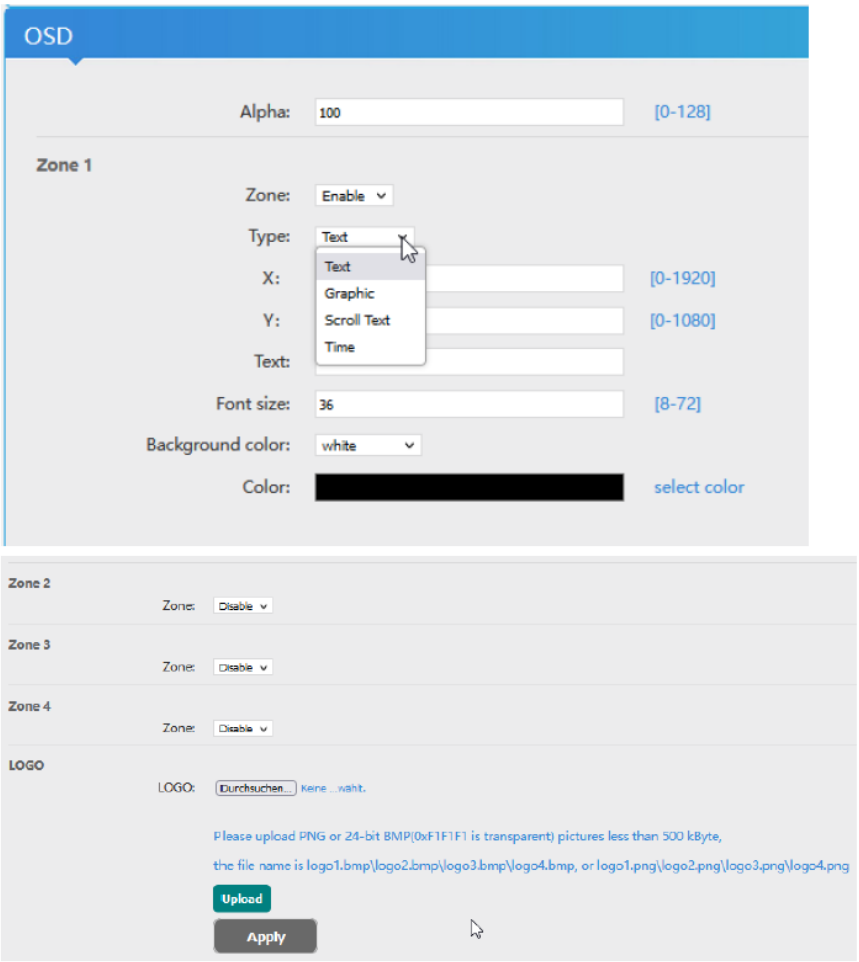
CVBS-Stream



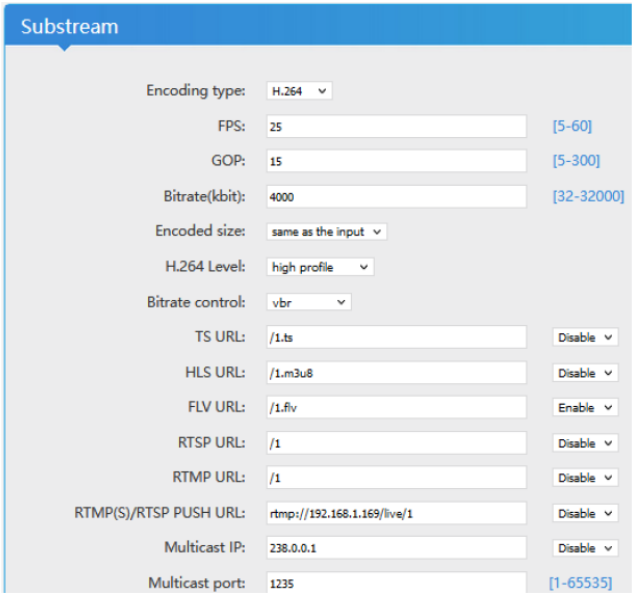
Network: Here you can change the encoder's IP address and mode: If you change it to DHCP – after a reboot it will catch it from your router. Disadvantage: You need to check to the encoder given IP Address by your router in its own menu or use an IP-Scanner-tool



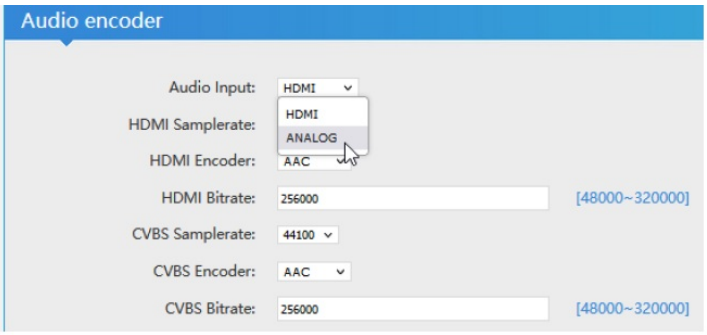
We assume, that you are familiar with the basic settings of a network



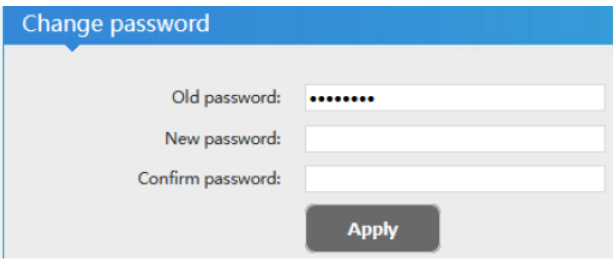
These are the basic ports for HTTP and RTSP-Streaming use. You can modify that but we recommend keeping them as they are because RTSP – receivers might are fixed to that port while HTTP isn't. The bottom of every one of the menu pages contains the 'Set up' buttons to take and enable your changes. The MAIN and SUB-Stream adjustments are nearly all similar:



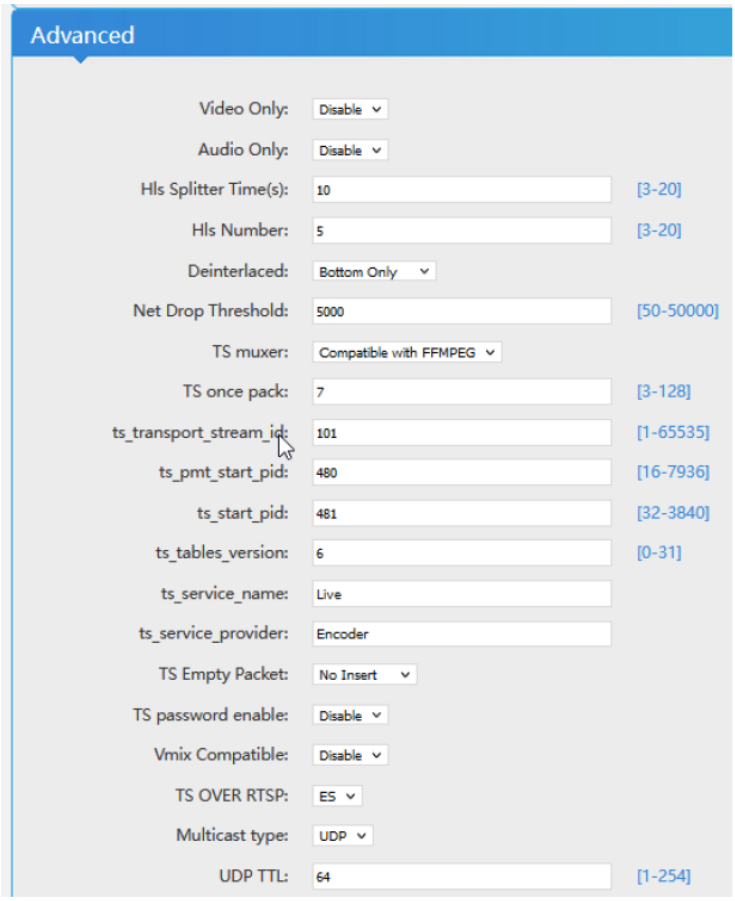
On Screen Display Menu: You can ‘Overlay’ a Text or Logo over the encoded Picture in 4 Zones: For deeper detailed explanations about the OSD feature refer to the full – Manual, please. Also for the ONVIF settings with RTSP.



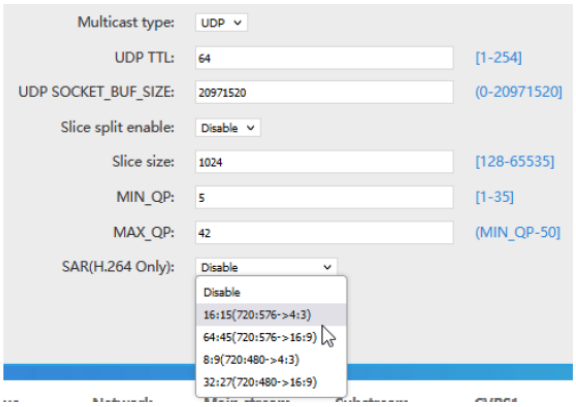
It supports BMP with a special background colour if you like to be that transparent – or simply use already transparent PNG files. Names and limitations of size are shown on the web.



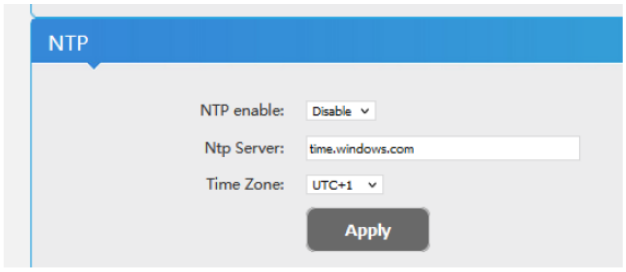
Audio settings are common for both stream encoder parts:



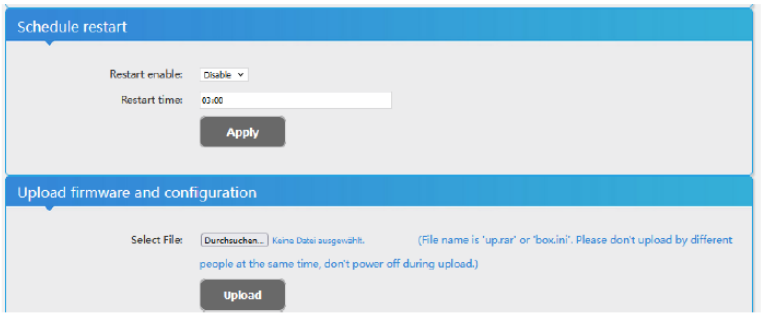
The default settings are usually Ok for most use cases:



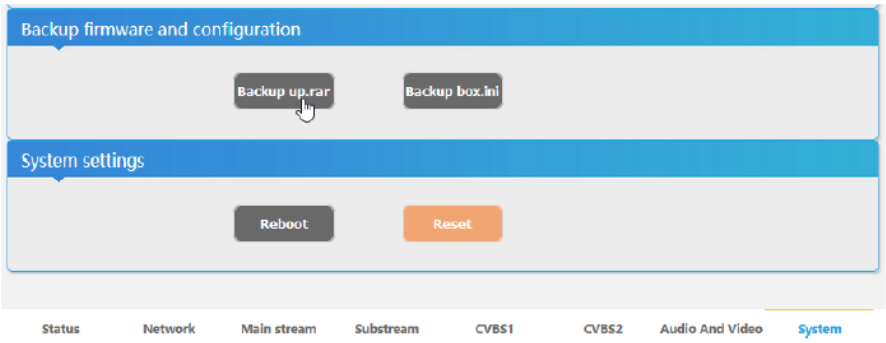
Playing with ‘Deinterlaced settings’ helps sometimes fix moving picture artifacts. BOTTOM only can solve right-left-camera stocking problems.



The settings as well as the Firmware can be back-upped and re-uploaded.



SAR can adjust your Egg-Head picture into the right format – useful for CVBS as well. A scheduled ‘restart’ can be programmed (NTP-Time = ON recommended):



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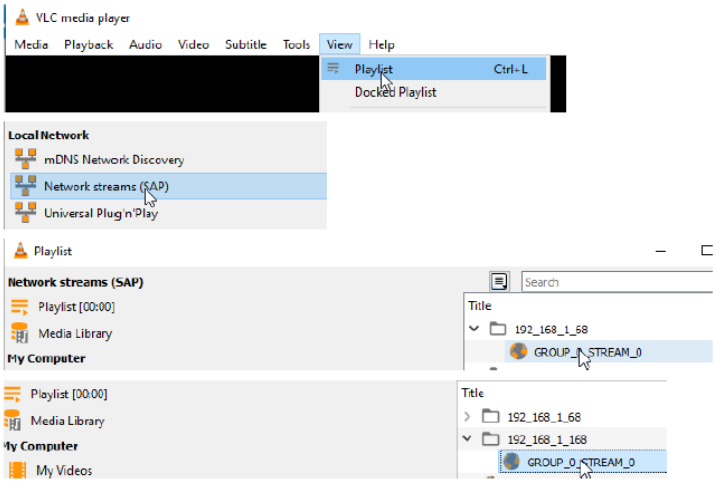
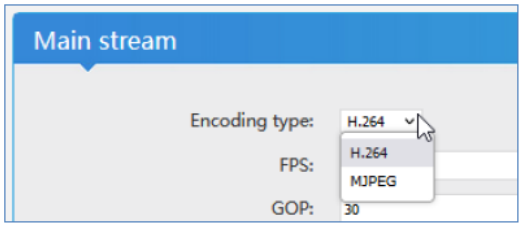
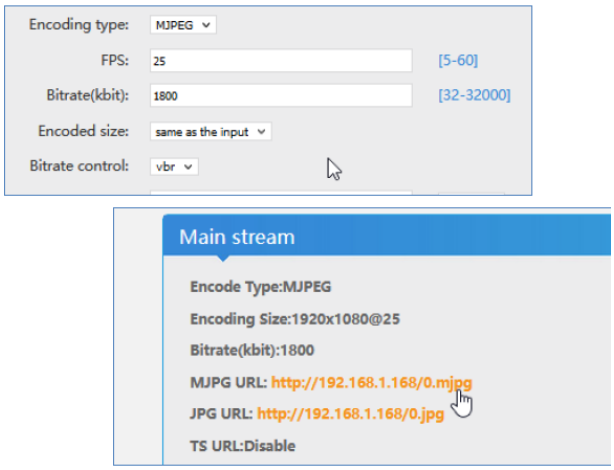


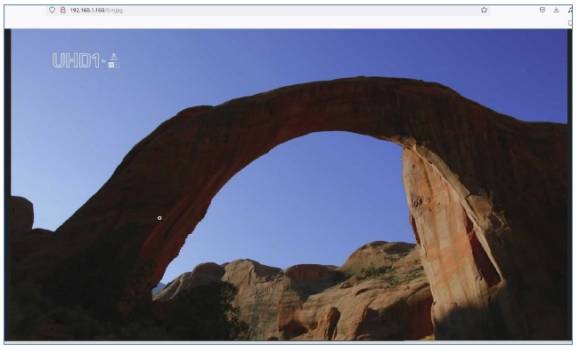
The config-settings file is a Linux-based text file named box.ini. Do not modify store upload that by a Windows editor except if you will use notepad++ (freeware – please google…) Finally i.e. after the firmware update has been uploaded, the unit can be remotely reset to factory defaults or rebooted… We recommend making yourself familiar with ‘What are Multicast and Unicast’ and the corresponding IP-Ranges. A last hint: Using VLC SAP-Gathering will show a simple click start entry:



Will receive the stream. This works only with Multicast UDP / RTP! MJPG Support: Setting the encoder main or secondary processor to Enable at the Status Page the direct Links for Motion JPEG transmission direct into your browser (if that supports it):



Just click: (here;-)



w/o input signal, so you get our test-picture

The /0.jpg (or in the secondary stream the /1.jpg
Will do a screen snapshot to your browser – so no motion – just like a screenshot.
BTW: If no signal has been detected at the Input connector, the Test-picture will appear and the Stream output may ‘pump’ because the encoder checks the input signal periodically – and in this periods’, the output stream

might fluctuate like:

Finally: To get more information about the deeper details of the encoder settings and configuration issues, please download the combined PDF – Manual from our website www.blankom.de.

Documents / Resources

	BLANKOM ADE-264 Encoder and IPTV Streamer [pdf] User Manual ADE-264 Encoder and IPTV Streamer, ADE-264, Encoder and IPTV Streamer, IPTV Streamer, Streamer

References

- IPTV, Digital Video, DVB, Broadcasting, SMATV, CableTV, Headend
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