

Encoder & IPTV Streamer with HDMI+CVBS Input



h.264 compatible encoder & IP streamer 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, RTMPs, 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 serving the distribution of SD and HD TV/video content through IP networks in digital quality.

The live video can be received by Internet media server by TV sets, with IPTV Set-Top Boxes, with PC's 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 saves bandwidth cost through all its 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.

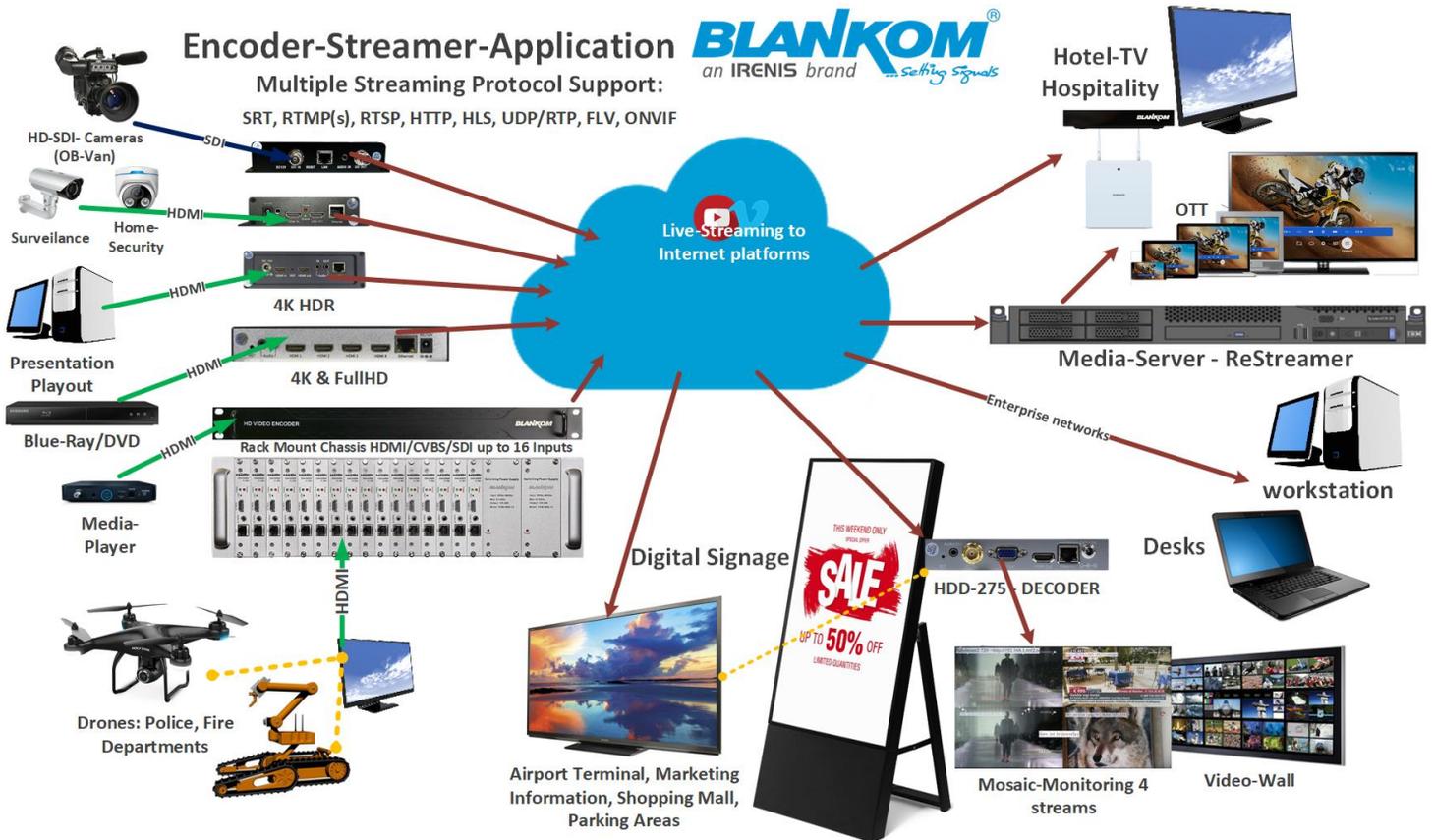
Excellent Video and Audio quality.

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 (<i>External analog stereo Input depending on Model!</i>)
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 (<i>since V6.42... Nov. 2019</i>)
Power supply	12V DC, 1A
Dimensions / Weight	165x85x24mm / 0.5 kg
Consumption	6W

Anmerkung:

Alle von uns veröffentlichten Betriebsanleitungen richten sich an den Antennen- und IT-Fachmann, der über grundlegende Kenntnisse der Empfangs-, Netzwerk- und Anlagentechnik verfügt. Die Einhaltung aller relevanten Vorschriften und Richtlinien für den Aufbau und Betrieb von solchen Anlagen obliegt dem Installateur und/oder dem Betreiber. Insbesondere sind die in den jeweiligen Ländern geltenden Vorschriften und Richtlinien für die Inbetriebnahme speziell für den Stromanschluß und alle mit den Produkten in Zusammenhang stehenden und geltenden Normen und Gesetze einzuhalten.

**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.

**Annotation:**

Tous les modes d'emploi que nous publions sont destinés aux professionnels de l'antenne et de l'informatique qui ont des connaissances de base en matière de réception, de mise en réseau et de technologie des équipements. Le respect de toutes les réglementations et directives pertinentes pour l'installation et l'exploitation de ces systèmes relève de la responsabilité de l'installateur et/ou de l'exploitant. En particulier, il convient de respecter les réglementations et directives applicables dans les pays respectifs pour la mise en service, notamment pour le raccordement électrique, ainsi que toutes les normes et lois relatives aux produits.

**Annotazione:**

Tutte le istruzioni per l'uso da noi pubblicate sono destinate al professionista dell'antenna e dell'informatica che ha una conoscenza di base della tecnologia di ricezione, di rete e delle apparecchiature. Il rispetto di tutti i regolamenti e le linee guida pertinenti per l'installazione e il funzionamento di tali sistemi è responsabilità dell'installatore e/o dell'operatore. In particolare, devono essere rispettati i regolamenti e le linee guida applicabili nei rispettivi paesi per la messa in funzione, soprattutto per il collegamento alla rete elettrica e tutte le norme e le leggi relative ai prodotti.

**Anotación:**

Todas las instrucciones de uso publicadas por nosotros se dirigen al profesional de la antena y de la informática que tiene conocimientos básicos de recepción, de redes y de tecnología de equipos. El cumplimiento de todos los reglamentos y directrices pertinentes para la instalación y el funcionamiento de dichos sistemas es responsabilidad del instalador y/o del operador. En particular, deben cumplirse los reglamentos y directrices aplicables en los respectivos países para la puesta en marcha, especialmente para la conexión de la energía y todas las normas y leyes relacionadas con los productos.

**Anotação:**

Todas as instruções de operação publicadas por nós são destinadas ao profissional de antena e TI que possui conhecimentos básicos de recepção, rede e tecnologia de equipamentos. O cumprimento de todos os regulamentos e diretrizes relevantes para a instalação e operação de tais sistemas é de responsabilidade do instalador e/ou do operador. Em particular, os regulamentos e diretrizes aplicáveis nos respectivos países para comissionamento, especialmente para a conexão de energia e todas as normas e leis relacionadas aos produtos devem ser obedecidas.

Appearance:



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 any more)



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 to use an IGMP-V2/3 protocol capable 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 an own NTP server in your network.

Please assure that your 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 analogue 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 need 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 behaviours...

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 selfexplaining.

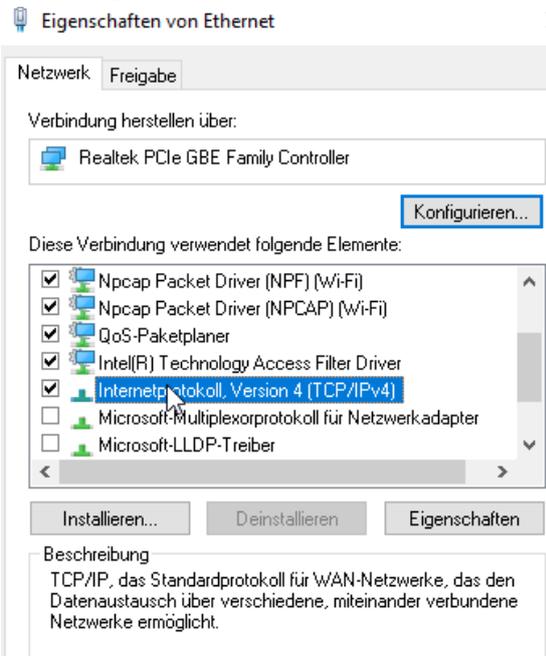
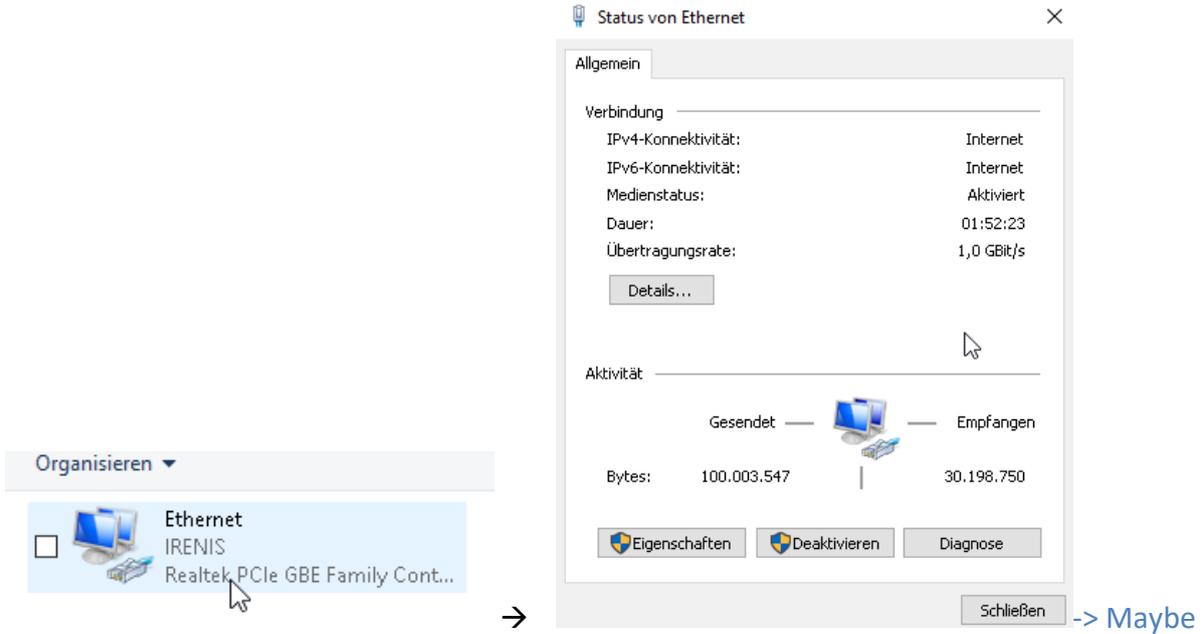
The SDI versions supporting only the first embedded Stereo-Audio-Pair to be encoded.

Setting up your PC/Laptop before connecting:

If you use a Windows based PC, you should assign its ethernet adapter into the same range like the encoder: Use a static IP like follows:

1st: Open your network settings in System Menu:





confirm Administrator access->

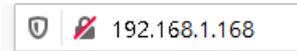
Change IPv4



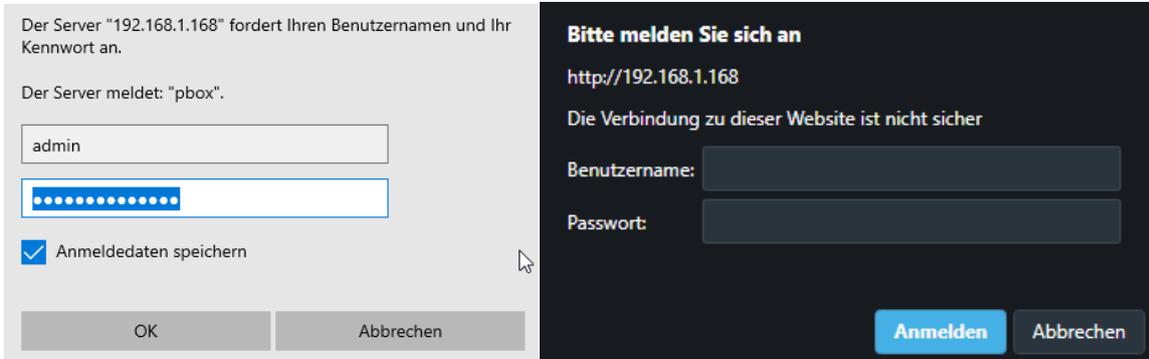
settings:

And confirm please. Linux users should know how to change the ethernet or WIFI settings.

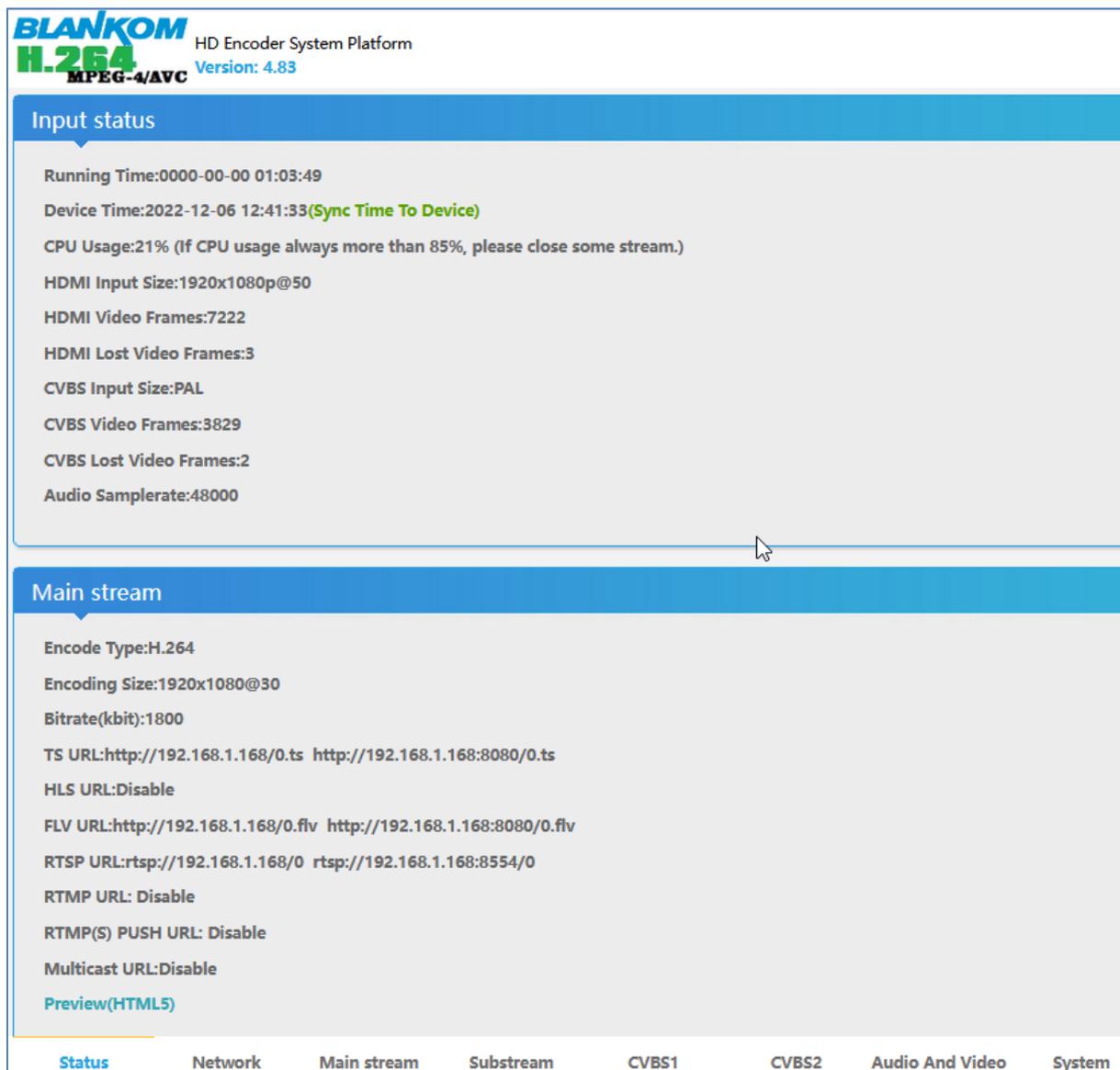
Then open your browser and enter the http- Address of the box 192.168.1.168 (w/o https):



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



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



BLANKOM H.264 HD Encoder System Platform
Version: 4.83

Input status

- Running Time:0000-00-00 01:03:49
- Device Time:2022-12-06 12:41:33(Sync Time To Device)
- CPU Usage:21% (If CPU usage always more than 85%, please close some stream.)
- HDMI Input Size:1920x1080p@50
- HDMI Video Frames:7222
- HDMI Lost Video Frames:3
- CVBS Input Size:PAL
- CVBS Video Frames:3829
- CVBS Lost Video Frames:2
- Audio Samplerate:48000

Main stream

- Encode Type:H.264
- Encoding Size:1920x1080@30
- Bitrate(kbit):1800
- TS URL:http://192.168.1.168/0.ts http://192.168.1.168:8080/0.ts
- HLS URL:Disable
- FLV URL:http://192.168.1.168/0.flv http://192.168.1.168:8080/0.flv
- RTSP URL:rtsp://192.168.1.168/0 rtsp://192.168.1.168:8554/0
- RTMP URL: Disable
- RTMP(S) PUSH URL: Disable
- Multicast URL:Disable
- [Preview\(HTML5\)](#)

Navigation tabs: Status, Network, Main stream, Substream, CVBS1, CVBS2, Audio And Video, System

Substream

Encode Type:H.264
Encoding Size:1920x1080@25
Bitrate(kbit):4000
TS URL:Disable
HLS URL:Disable
FLV URL:http://192.168.1.168/1.flv http://192.168.1.168:8080/1.flv
RTSP URL:Disable
RTMP URL: Disable
RTMP(S) PUSH URL: Disable
Multicast URL:Disable
Preview(HTML5)

CVBS1

Encode Type:H.264
Encoding Size:720x576@25
Bitrate(kbit):3000
TS URL:http://192.168.1.168/2.ts http://192.168.1.168:8080/2.ts
HLS URL:Disable
FLV URL:http://192.168.1.168/2.flv http://192.168.1.168:8080/2.flv
RTSP URL:rtsp://192.168.1.168/2 rtsp://192.168.1.168:8554/2
RTMP URL: Disable
RTMP(S) PUSH URL: Disable
Multicast URL:Disable
Preview(HTML5)

and second CVBS2 as well ...

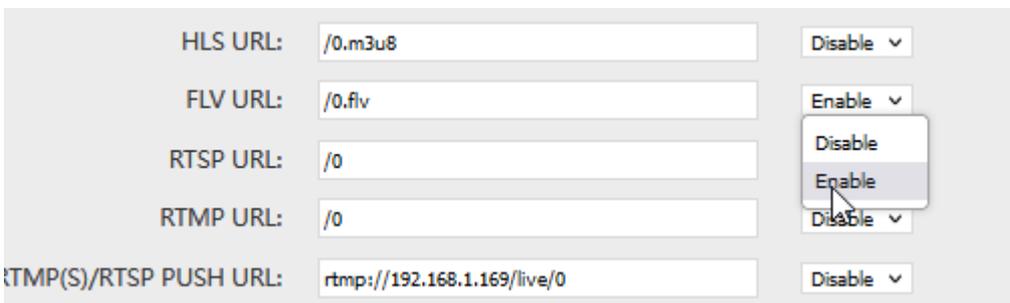
The STATUS page shows your Setup encodings for all the MAIN and the Substream(s).

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:

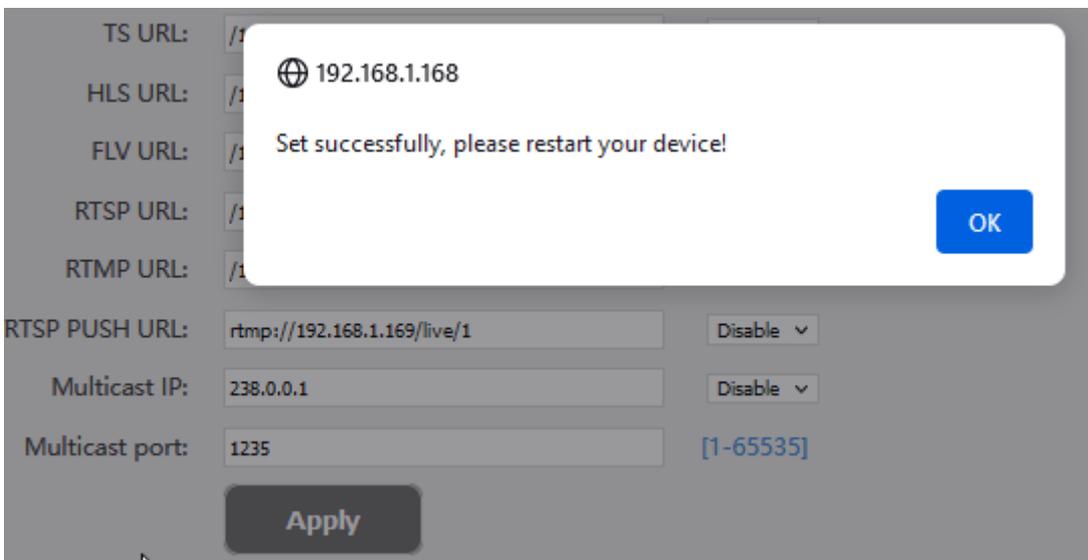


but you need to enable the FLV or HLS stream before using that – and Flash-Player support is needed by your browser:



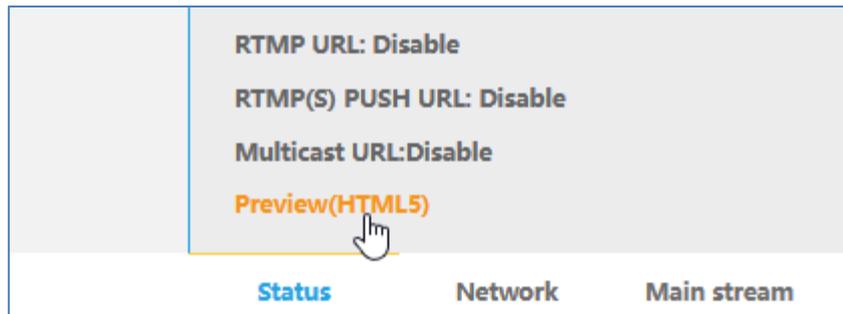
Enabling it in the related Sub-Stream settings

-> **Apply**ing it by Set Up!

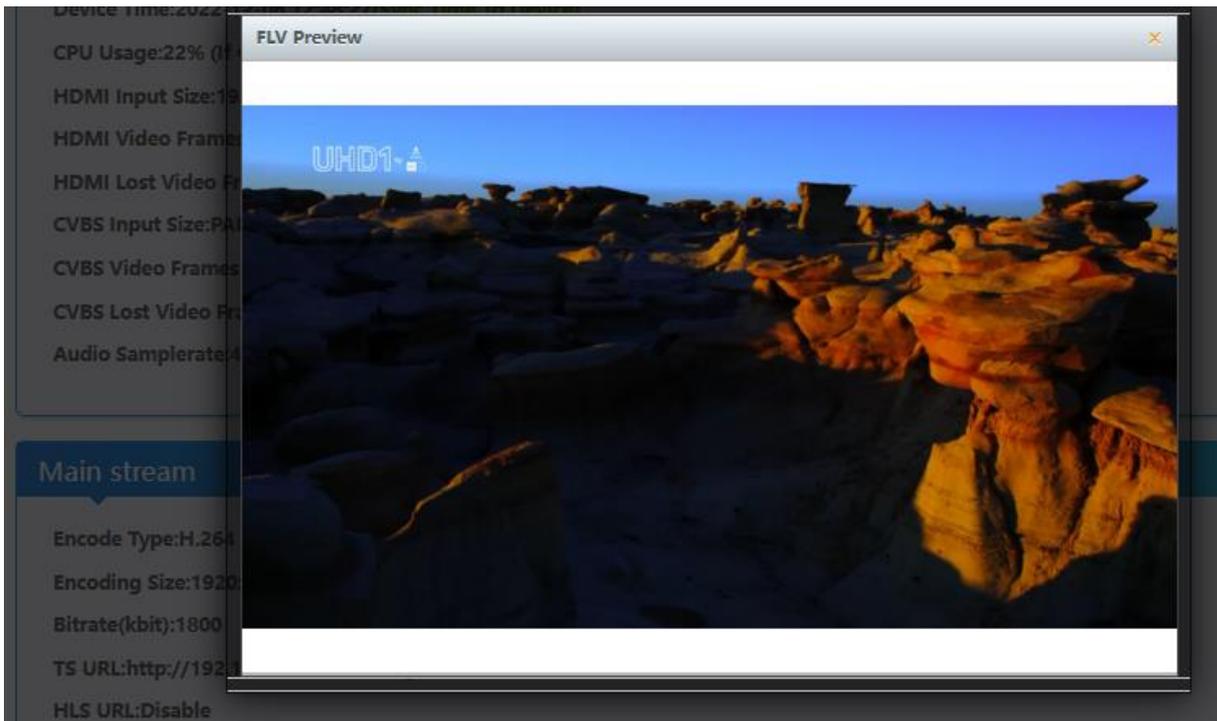


This does not mean to restart the encoder but to **restart your Stream-receiver-Decoder** like VLC or IPTV Settopbox to re-sync it to the new codec values. This message will popup every time you change the encoder parameters. Receivers are stupid and might not react to the changed values by themself.

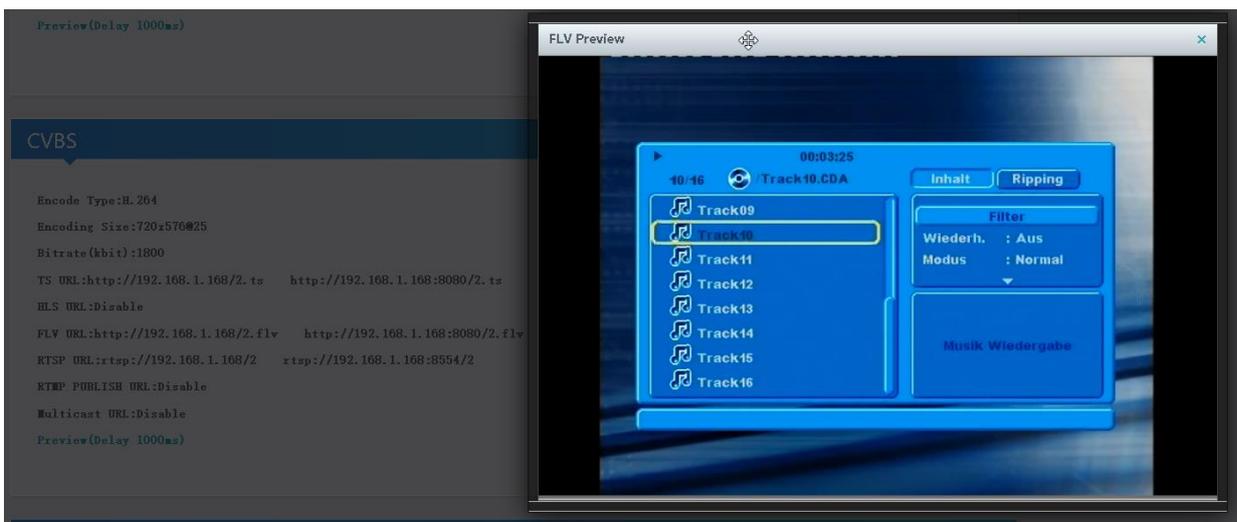
Depending on Model: Preview in Browser is possible from within the status page as a link:



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



CVBS-Preview with connected DVD-Player:



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

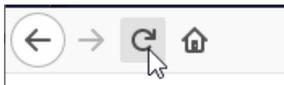
Therefore we changed the internal Preview Player to HTML5 Mode only:

HDMI-Input stream- Preview:



Back to STATUS page:

Like the hint above, sometimes its helpful to reload the Status page i.e. if you see @0:



to gather the actual values like Input HDMI values:

Input status

Running Time:0000-00-00 01:10:43

Device Time:2022-12-06 12:48:27(Sync Time To Device)

CPU Usage:22% (If CPU usage always more than 85%, please close some stream.)

HDMI Input Size:1920x1080p@50

HDMI Video Frames:13776

HDMI Lost Video Frames:3

CVBS Input Size:PAL

CVBS Video Frames:7304

CVBS Lost Video Frames:2

Audio Samplerate:48000

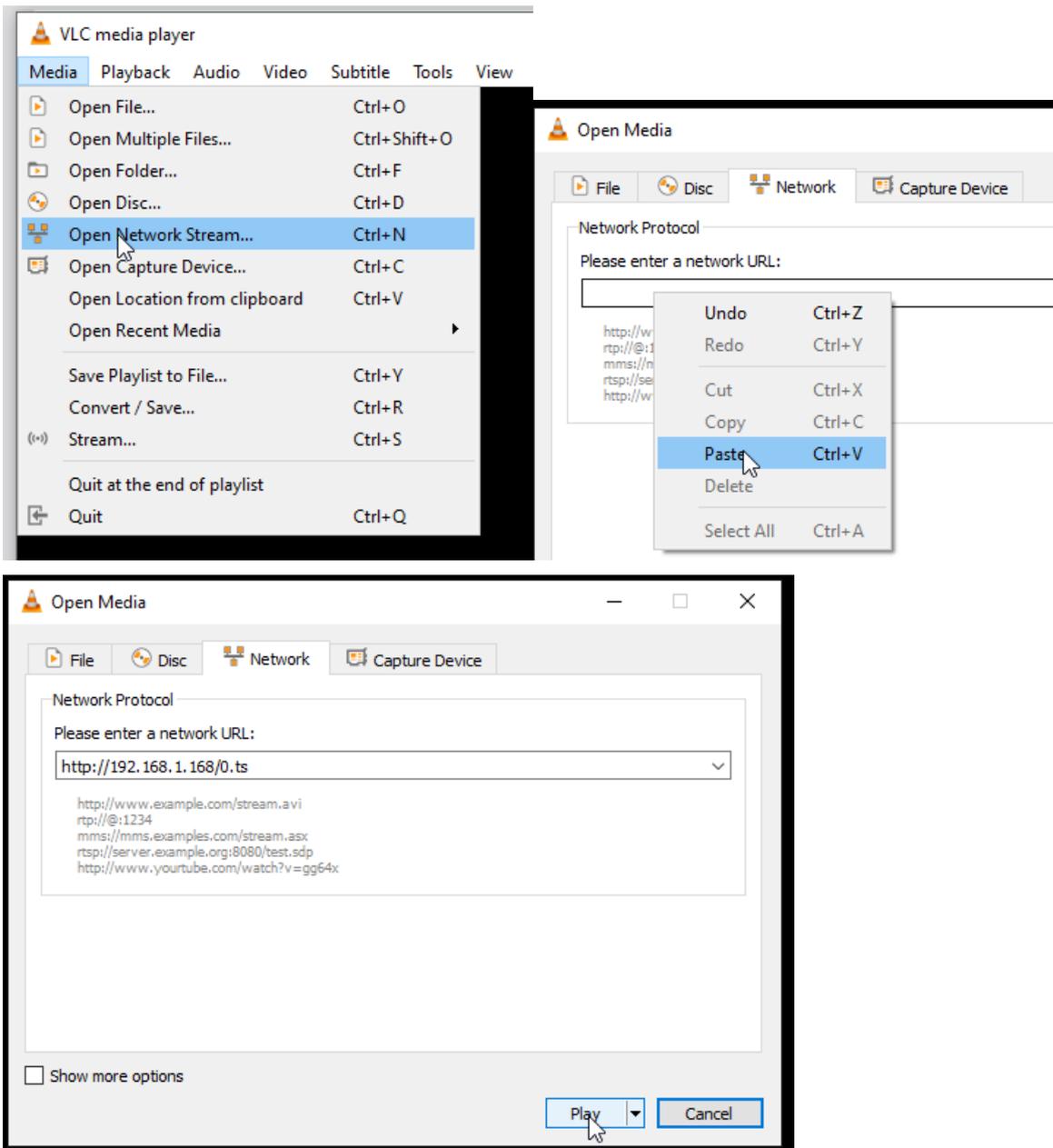
The device time can be adjusted by the Network-setup-part NTP-Server which you need to tell the NTP server URI and UTC-time difference. UK = '0', Germany normal is UTC+1...

If you press (Sync Time To Device) it will be updated.

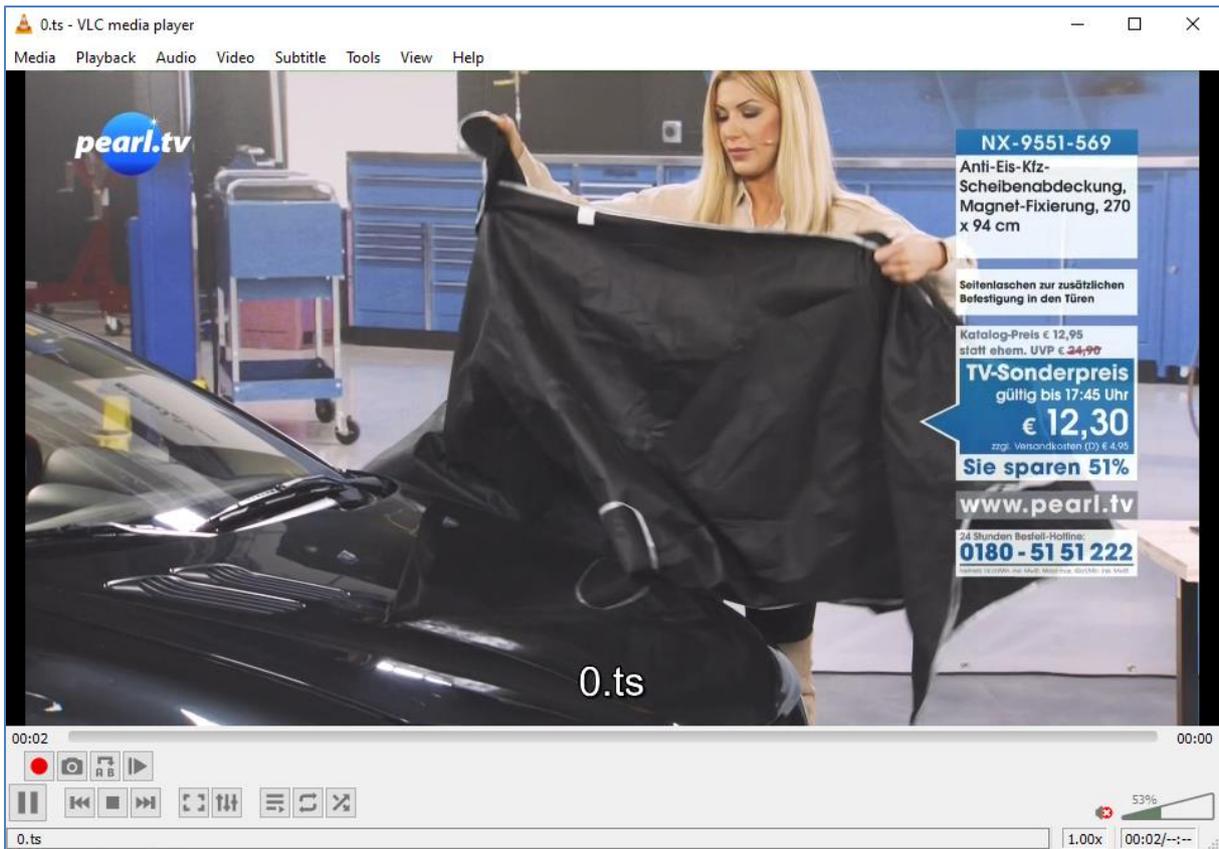
To also check your encoding streams you can copy the URI from the STATUS page:



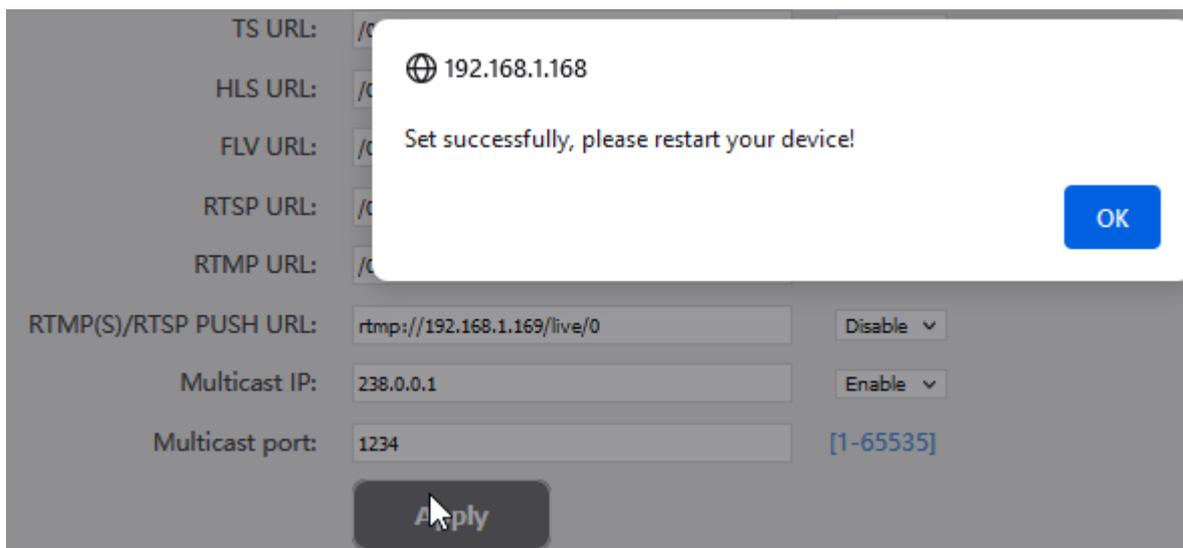
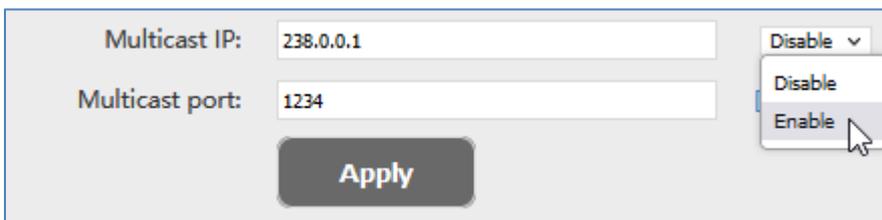
Mark it by the mouse and COPY it - Than insert into VLC:



Note: If you 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.



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



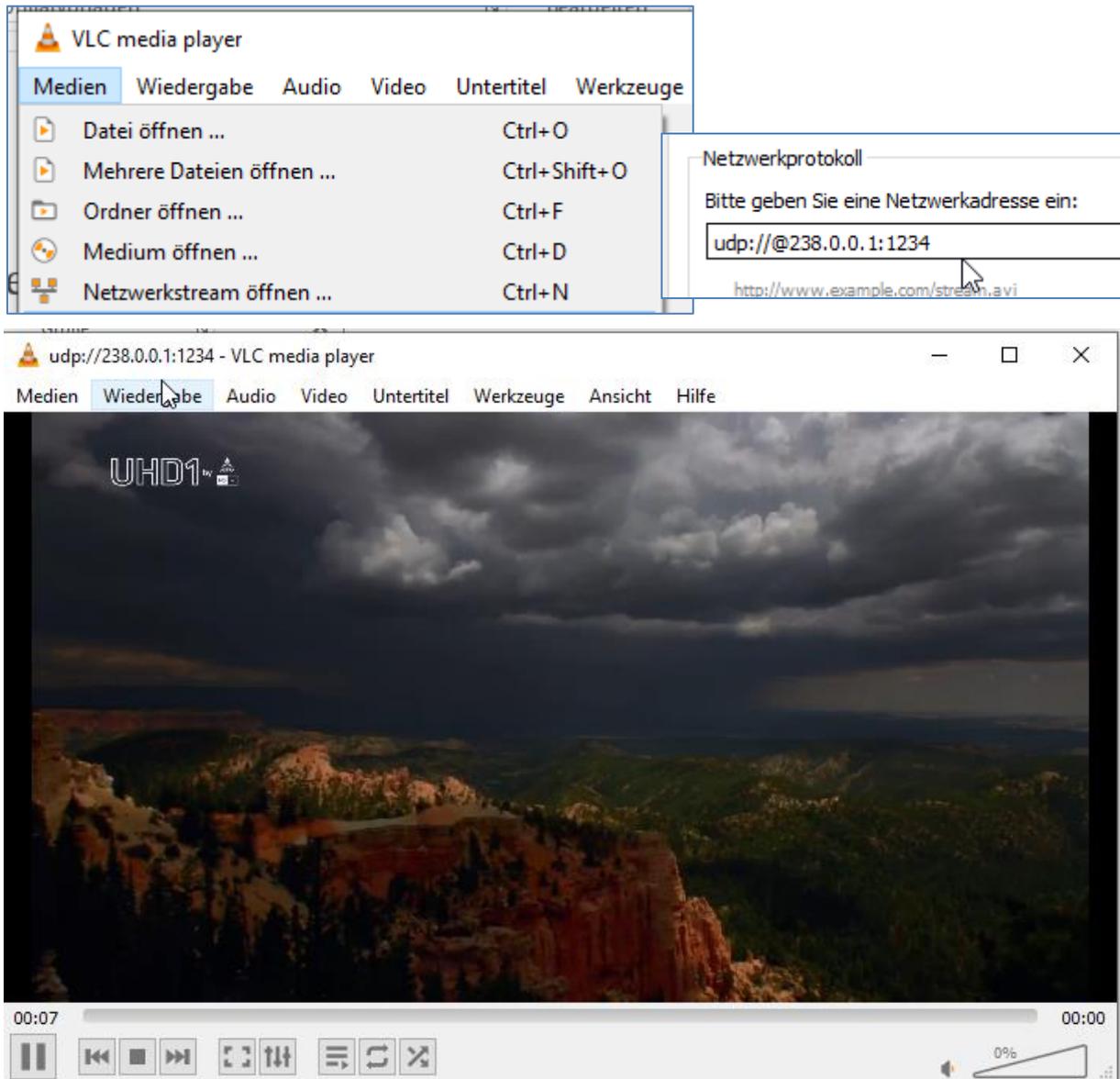
AGAIN: You do not need to restart the encoder only the receivers you have in your network need to re-sync to the changed values!!!

Multicasts:



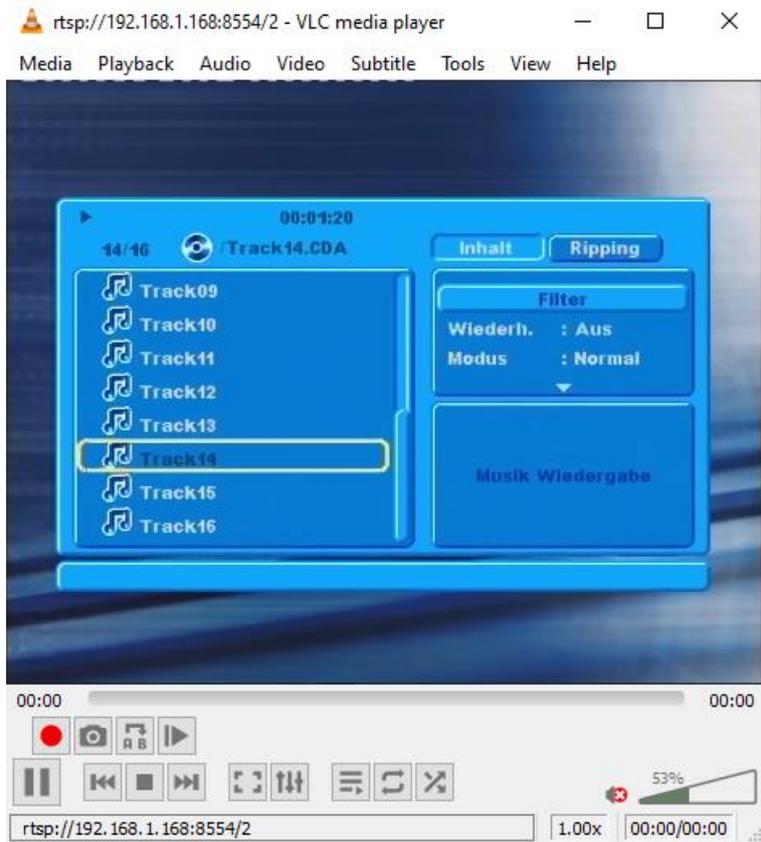
copy with right mouse click

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:

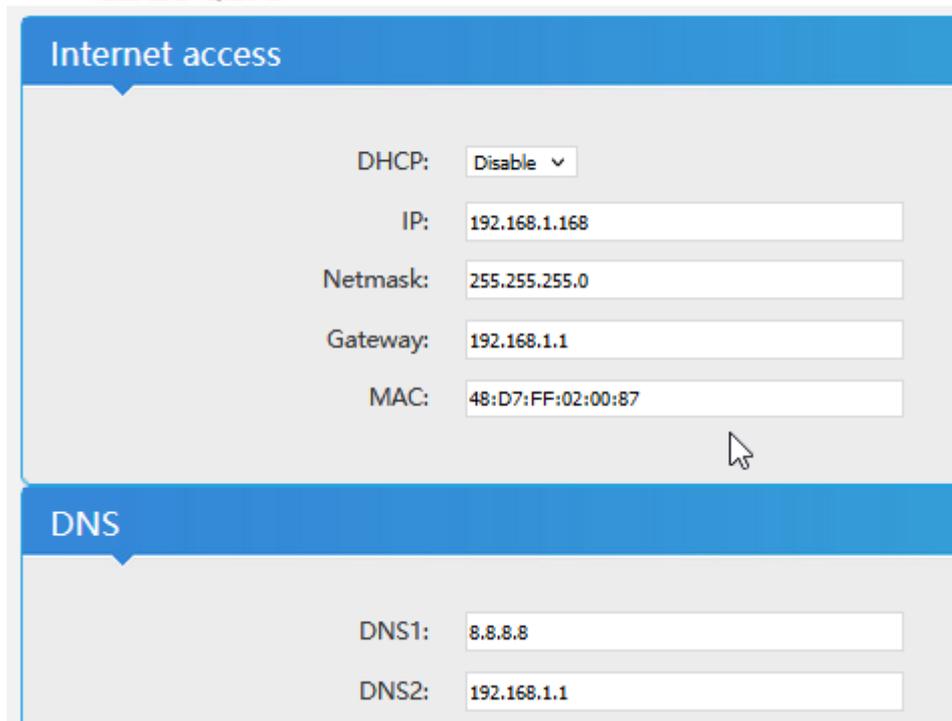


Network: Here you can change the encoders IP-address and mode:

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



HD Encoder System Platform
Version: 4.83



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

PORT

HTTP Port: [1-65500]

RTSP Port: [1-65500]

These are the basic ports for HTTP and RTSP-Streaming use. You can modify that but we recommend to keep them as they are because RTSP – receivers might be fixed to that port while HTTP isn't. The bottom of every of the menu-pages contain the 'Set up' buttons to take and enable your changes.

The **MAIN and SUB-Stream adjustments** are nearly all similar:

Main stream

Encoding type: ▾

FPS: [5-60]

GOP: [5-300]

Bitrate(kbit): [32-32000]

Encoded size: ▾

H.264 Level: ▾

Bitrate control: ▾

TS URL: ▾

HLS URL: ▾

FLV URL: ▾

RTSP URL: ▾

RTMP URL: ▾

RTMP(S)/RTSP PUSH URL: ▾

Multicast IP: ▾

Multicast port: [1-65535]

On Screen Display Menu: You can 'Overlay' a Text or Logo over the encoded Picture in 4 Zones:

OSD

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 in the web.

Substream

Encoding type:	H.264	
FPS:	25	[5-60]
GOP:	15	[5-300]
Bitrate(kbit):	4000	[32-32000]
Encoded size:	same as the input	
H.264 Level:	high profile	
Bitrate control:	vbr	
TS URL:	/1.ts	Disable
HLS URL:	/1.m3u8	Disable
FLV URL:	/1.flv	Enable
RTSP URL:	/1	Disable
RTMP URL:	/1	Disable
RTMP(S)/RTSP PUSH URL:	rtmp://192.168.1.169/live/1	Disable
Multicast IP:	238.0.0.1	Disable
Multicast port:	1235	[1-65535]

Audio settings are common for both stream encoder parts:

Audio encoder

Audio Input:	HDMI	
HDMI Samplerate:	HDMI	
HDMI Encoder:	AAC	
HDMI Bitrate:	256000	[48000~320000]
CVBS Samplerate:	44100	
CVBS Encoder:	AAC	
CVBS Bitrate:	256000	[48000~320000]

Self-explaining:

BLANKOM HD Encoder System Platform
H.264 Version: 4.83
MPEG-4/AVC

Change password

Old password:

New password:

Confirm password:

Apply

The default settings are usually Ok for most use-cases:

Advanced

Video Only:	<input type="text" value="Disable"/>	
Audio Only:	<input type="text" value="Disable"/>	
Hls Splitter Time(s):	<input type="text" value="10"/>	[3-20]
Hls Number:	<input type="text" value="5"/>	[3-20]
Deinterlaced:	<input type="text" value="Bottom Only"/>	
Net Drop Threshold:	<input type="text" value="5000"/>	[50-50000]
TS muxer:	<input type="text" value="Compatible with FFmpeg"/>	
TS once pack:	<input type="text" value="7"/>	[3-128]
ts_transport_stream_id:	<input type="text" value="101"/>	[1-65535]
ts_pmt_start_pid:	<input type="text" value="480"/>	[16-7936]
ts_start_pid:	<input type="text" value="481"/>	[32-3840]
ts_tables_version:	<input type="text" value="6"/>	[0-31]
ts_service_name:	<input type="text" value="Live"/>	
ts_service_provider:	<input type="text" value="Encoder"/>	
TS Empty Packet:	<input type="text" value="No Insert"/>	
TS password enable:	<input type="text" value="Disable"/>	
Vmix Compatible:	<input type="text" value="Disable"/>	
TS OVER RTSP:	<input type="text" value="ES"/>	
Multicast type:	<input type="text" value="UDP"/>	
UDP TTL:	<input type="text" value="64"/>	[1-254]

Playing with 'Deinterlaced settings' helps sometimes fixing moving picture artefacts. **BOTTOM only** can solve right-left-camery stucking problems.

Multicast type:

UDP TTL: [1-254]

UDP SOCKET_BUF_SIZE: (0-20971520)

Slice split enable:

Slice size: [128-65535]

MIN_QP: [1-35]

MAX_QP: (MIN_QP-50)

SAR(H.264 Only):

- Disable
- 16:15(720:576->4:3)
- 64:45(720:576->16:9)
- 8:9(720:480->4:3)
- 32:27(720:480->16:9)

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

NTP

NTP enable:

Ntp Server:

Time Zone:

Apply

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

Schedule restart

Restart enable:

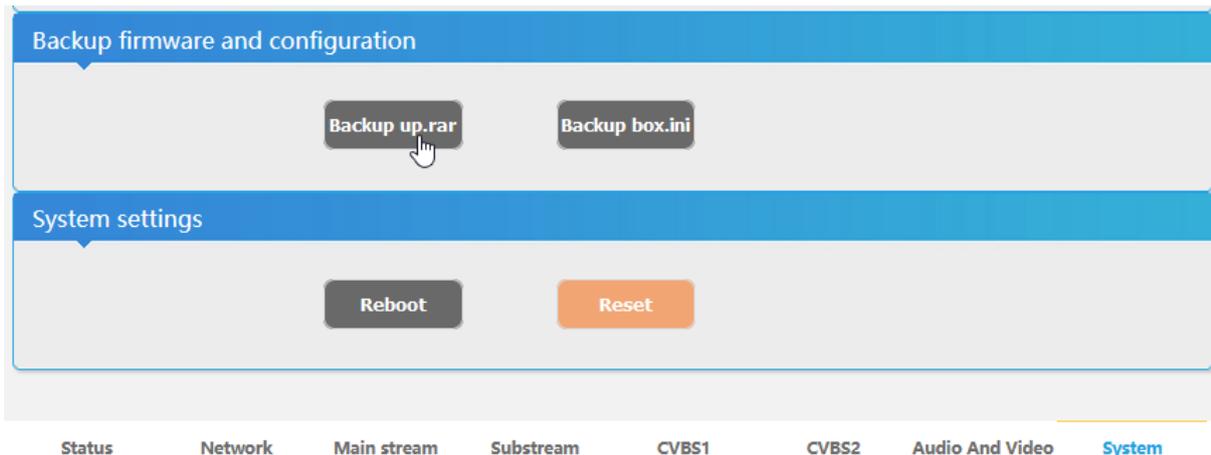
Restart time:

Apply

Upload firmware and configuration

Select File: Keine Datei ausgewählt. (File name is 'up.rar' or 'box.ini'. Please don't upload by different people at the same time, don't power off during upload.)

Upload



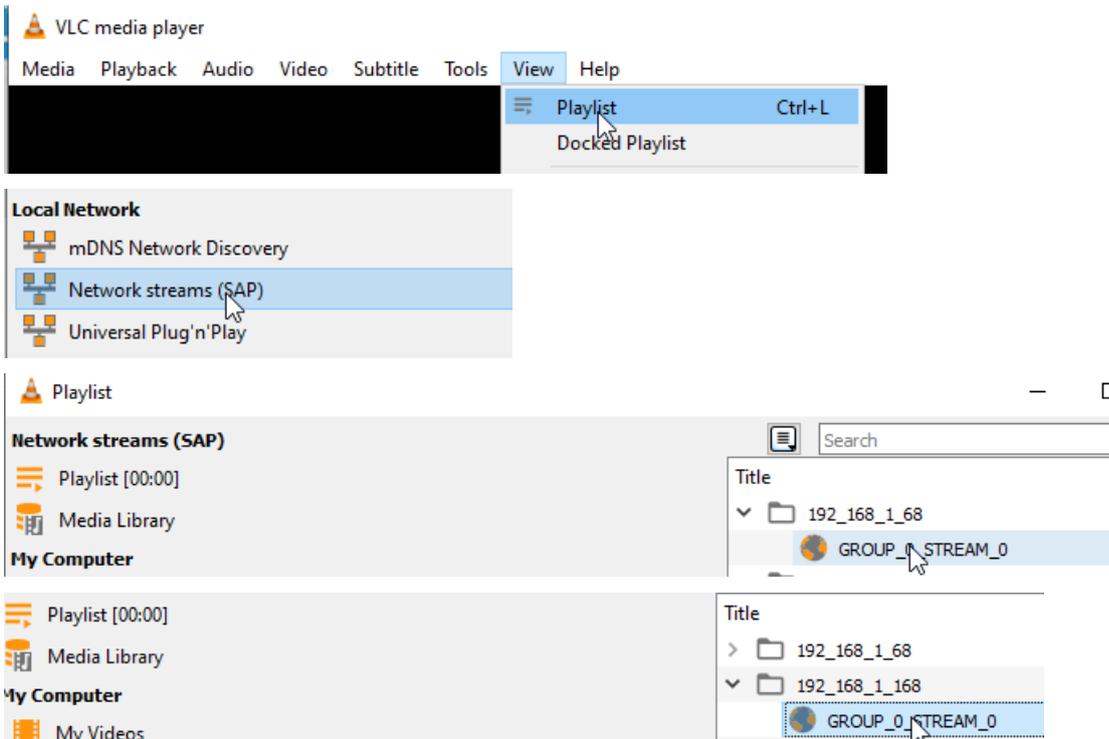
The config-settings file is a linux based text file named box.ini. Do not modify store upload that by a windows editor except you will use notepad++ (freeware – please google...)

Finally i.e. after firmware update has been uploaded, the unit can be remotely reset to factory defaults or rebooted...

We recommend to make yourself familiar with ‘What is Multicast and Unicast’ and the corresponding IP-Ranges.

A last hint:

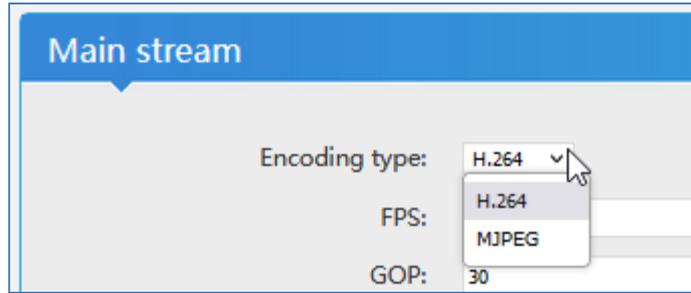
Using VLC SAP-Gathering will show a simple click’n start entry:



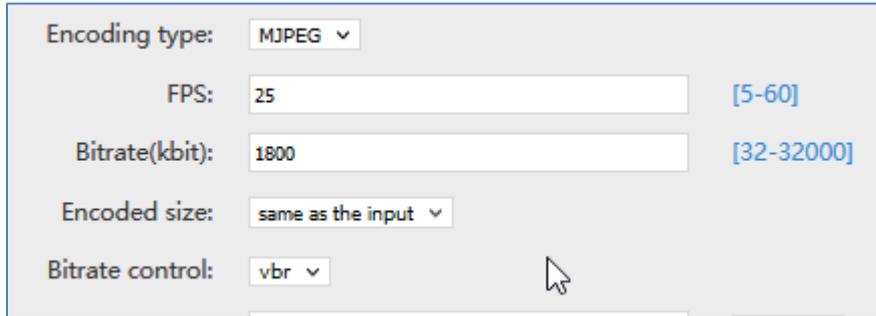
-> Will receive the stream. This works only with Multicast UDP / RTP !

MJPEG Support:

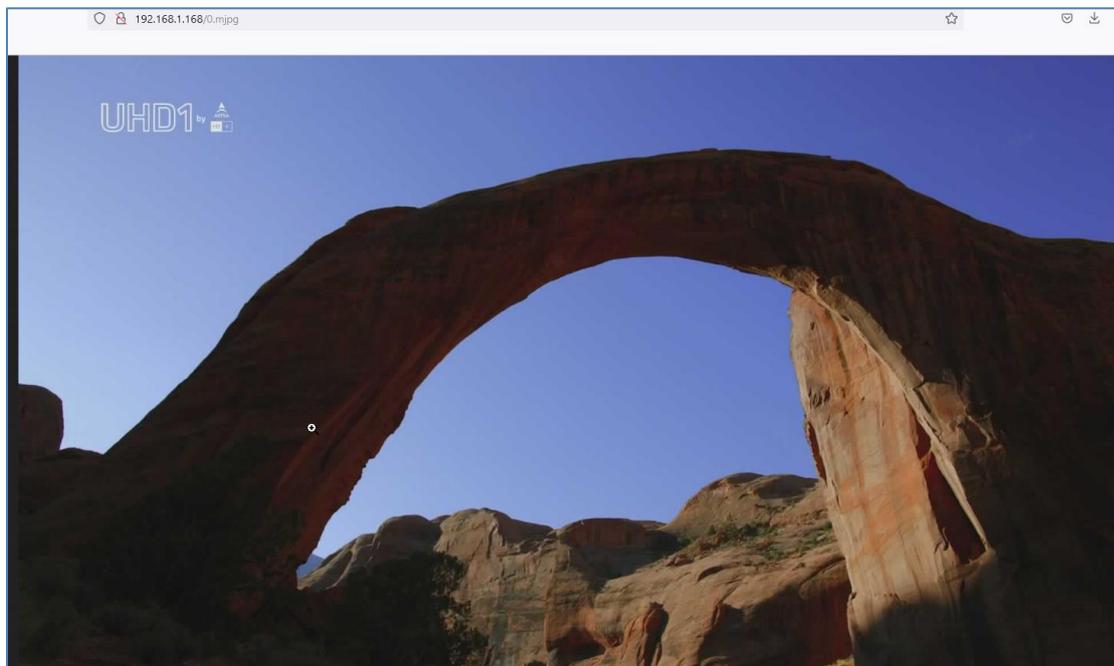
Setting the encoder main or secondary processor to



Enables at the Status-Page the direct Links for Motion JPEG transmission direct into your browser (if that supports it):



Just click: (here;-):



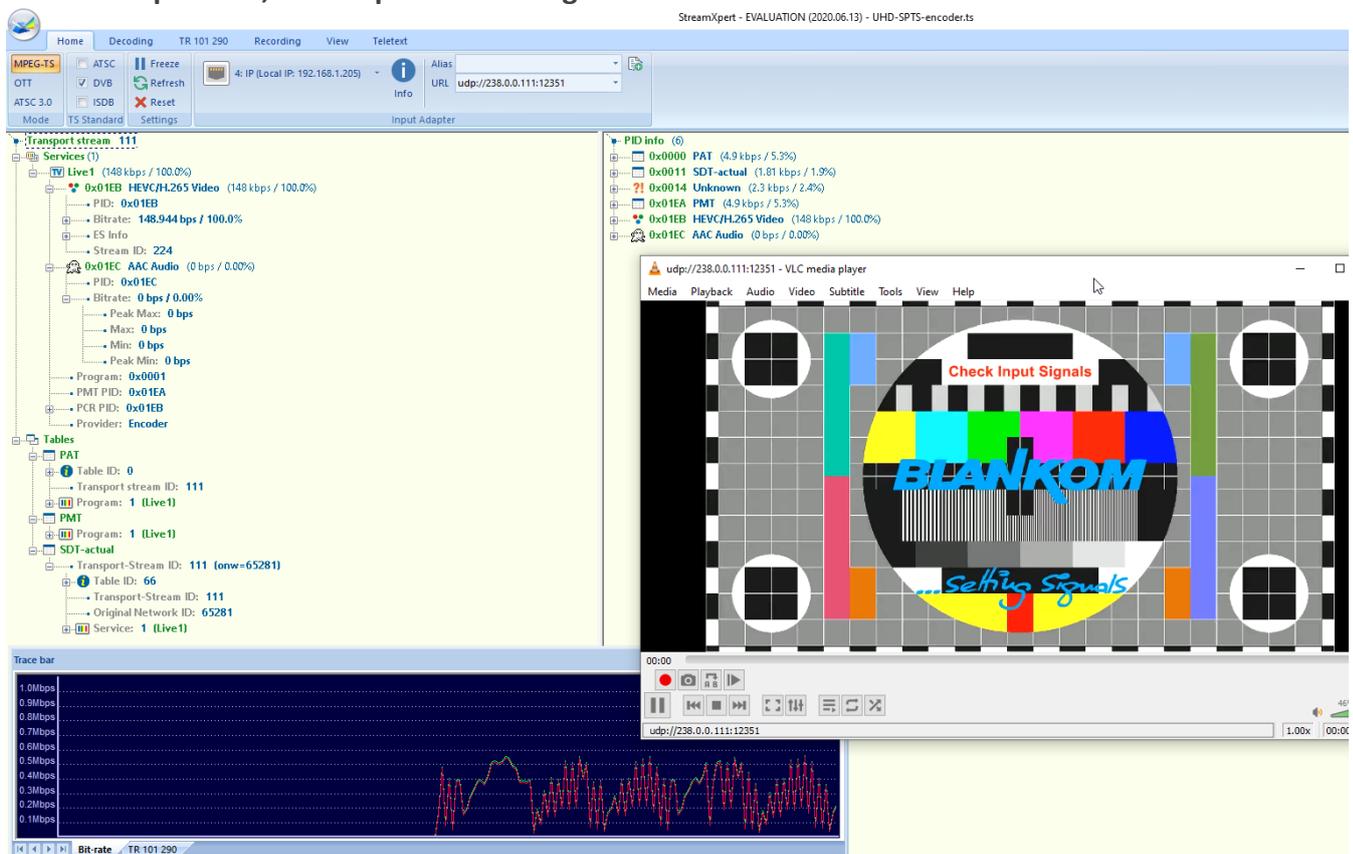
w/o input signal, so you get our test-picture



The /0.jpg (or in 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 check 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.