



BLANKOM ADE-264 Encoder and IPTV Streamer User Manual

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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 box 192.168.1.168 (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,

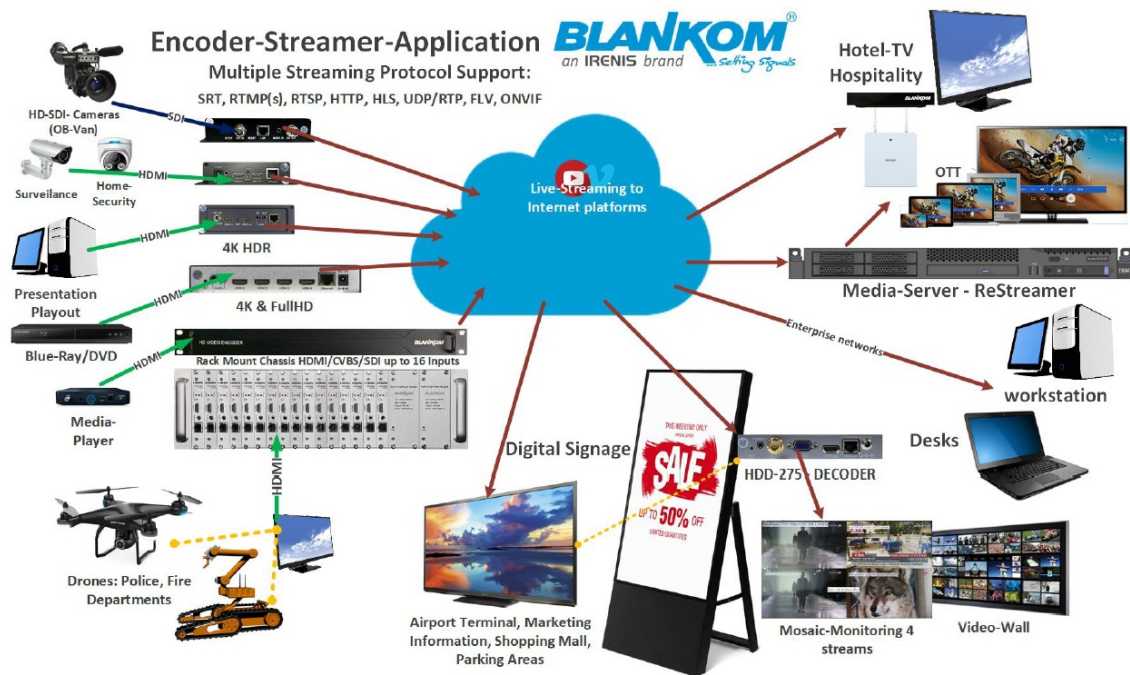
with IPTV Set-Top Boxes, with PCs and Tablets/Smartphones using i.e. VLC Player

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 (<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

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...

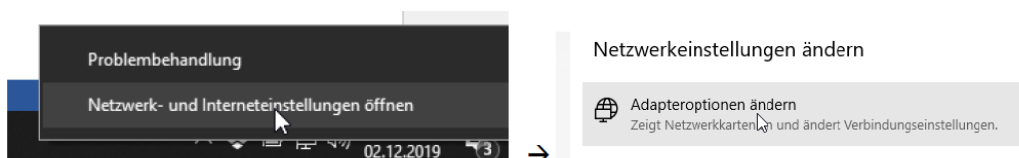


Sticker with default settings (MAC may be different) ADE-16264 in 3RU 19" Chassis with redundant inbuilt power supplies:

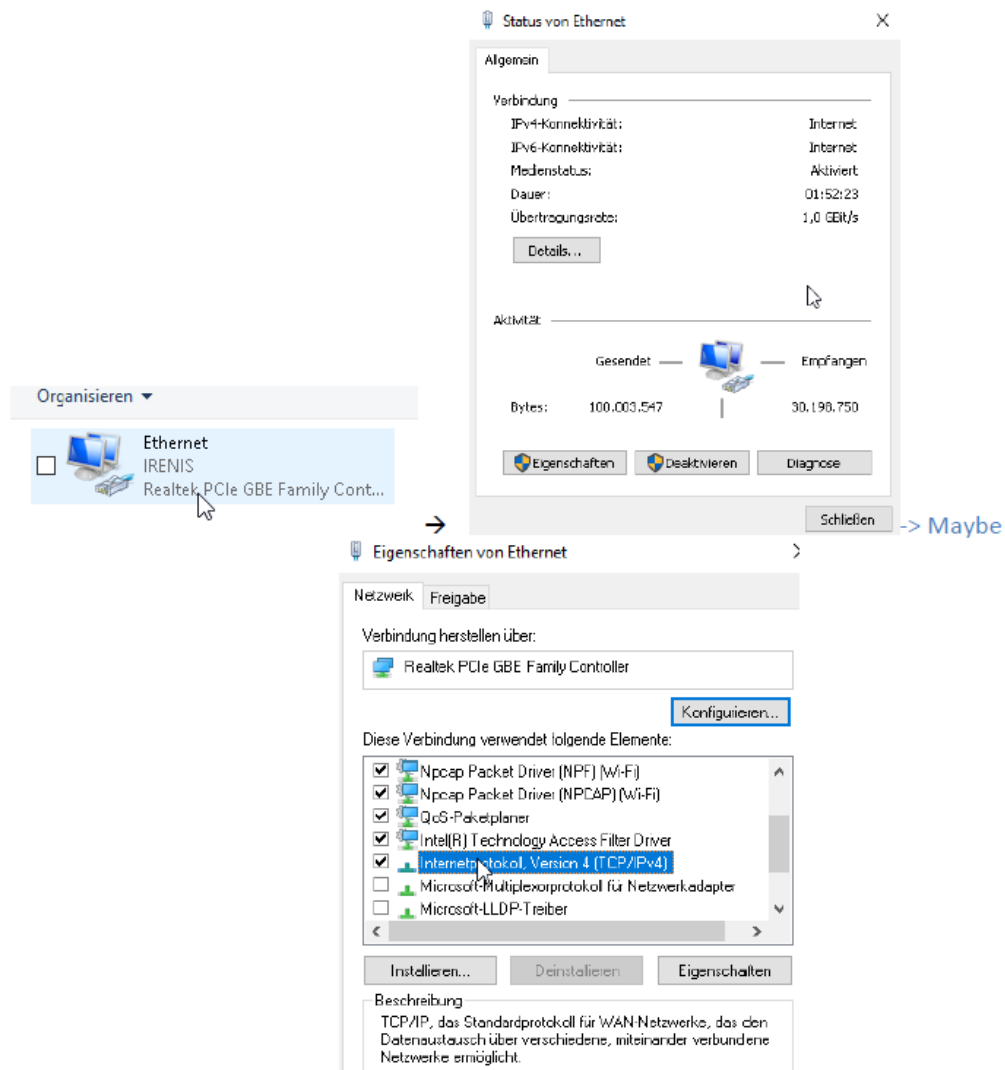


Notes and Hints: The Gigabit-Ethernet-port does not support PoE so please take care of not accidentally using a PoE switch- you can damage the port and the unit will be not accessible anymore. We recommend using an IGMP-V2/3 protocol capable of GBE- Switch to avoid flooding your network with unmanaged 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: I50 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:

The image shows the 'Allgemein' (General) tab of the Windows Network Properties dialog. It contains settings for IP and DNS configuration. The 'IP-Adresse automatisch beziehen' (Obtain IP address automatically) option is selected. Below it, the 'Folgende IP-Adresse verwenden:' (Use the following IP address) section is visible, with fields for IP-Adresse (192.168.1.103), Subnetzmaske (255.255.255.0), and Standardgateway (192.168.1.1). The 'DNS-Serveradresse automatisch beziehen' (Obtain DNS server address automatically) option is also selected. Below it, the 'Folgende DNS-Serveradressen verwenden:' (Use the following DNS server addresses) section is visible, with fields for Bevorzugter DNS-Server (192.168.1.1) and Alternativer DNS-Server (9.9.9.9). At the bottom, there is a checkbox for 'Einstellungen beim Beenden überprüfen' (Check settings when finished) and buttons for 'Erweitert...' (Advanced...), 'OK', and 'Abbrechen' (Cancel).

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



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

Der Server "192.168.1.168" fordert Ihren Benutzernamen und Ihr Kennwort an.
Der Server meldet: "pbox".
admin
.....
☒ Anmeldedaten speichern
OK Abbrechen

Bitte melden Sie sich an
http://192.168.1.168
Die Verbindung zu dieser Website ist nicht sicher
Benutzername:
Passwort:
Anmelden Abbrechen

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.

BLANKOM H.264 HD Encoder System Platform
MPEG-4/AVC 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\(HTML5\)](#)

Status Network Main stream Substream CVBS1 CVBS2 Audio And Video System

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

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 ...

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

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\(HTML5\)](#)

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

HLS URL: /0.m3u8

Disable ▾

FLV URL: /0.flv

Enable ▾

RTSP URL: /0

Disable

Enable

Disable

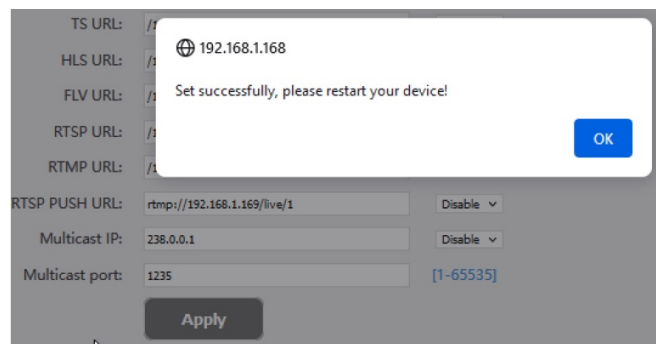
RTMP URL: /0

Disable ▾

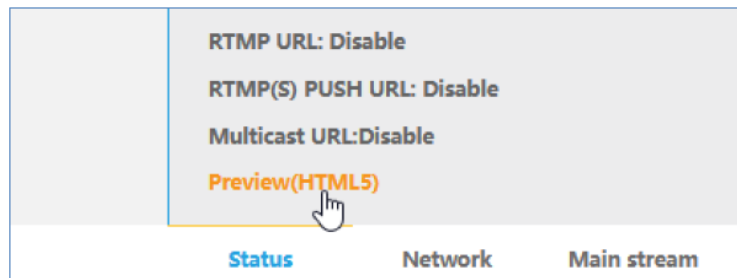
RTMP(S)/RTSP PUSH URL: rtmp://192.168.1.169/live/0

Disable ▾

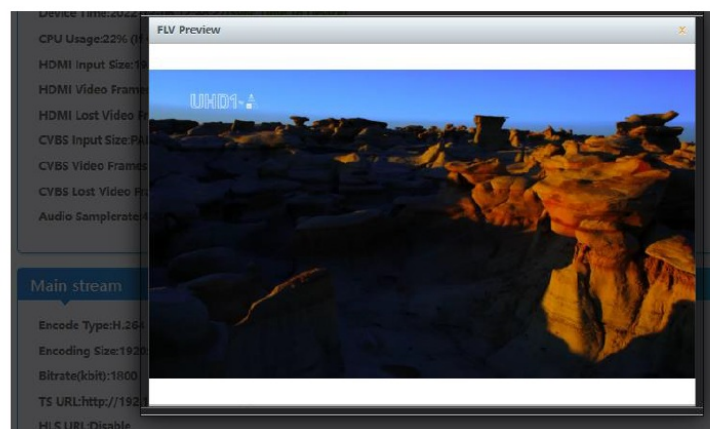
This does not mean restarting the encoder but restarting your Stream-receiver-Decoder like VLC or IPTV Settopbox to re-sync it to the new codec values. This message will popup every time you change the encoder parameters. Receivers are stupid and might not react to the changed values by themselves. Depending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



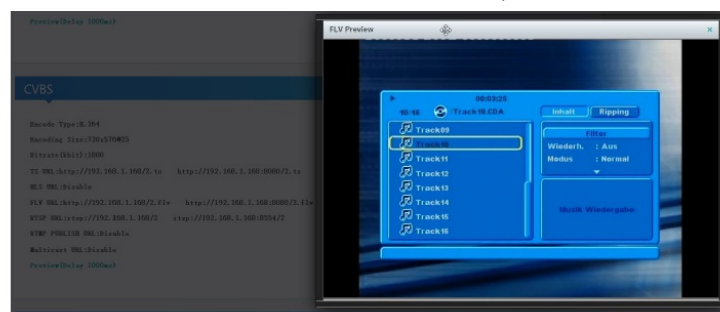
HINT: Adobe Flash does not work with HEVC h.265 codec!!!! You need to have h.264 encoding to set in the main or sub-stream menu (model depending).



CVBS-Preview with connected DVD Player



CVBS-Preview with connected DVD-Player:



Since last year, Adobe 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:

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

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

Encode Type:H.264

Encoding Size:1920x1080@30

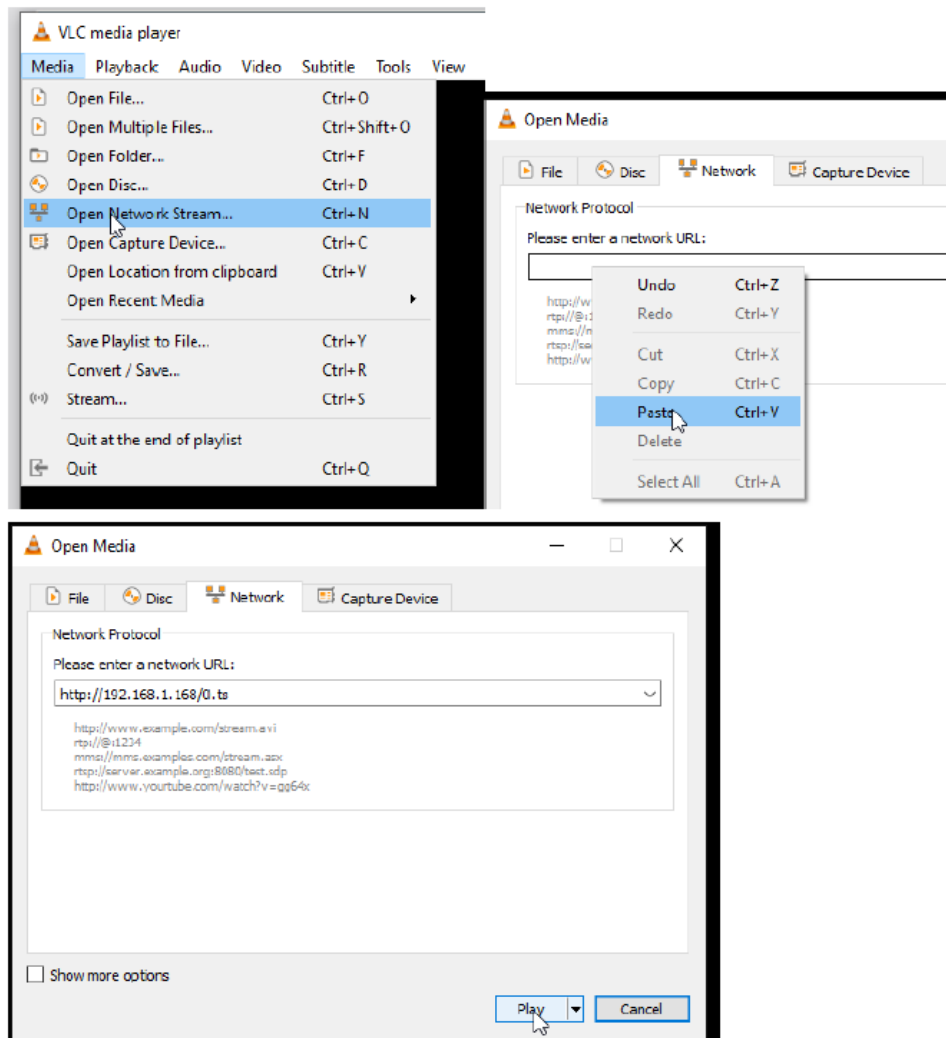
Bitrate(kbit):1800

TS URL:http://192.168.1.168/0.ts <http://192.168.1.168:8080/0.ts>

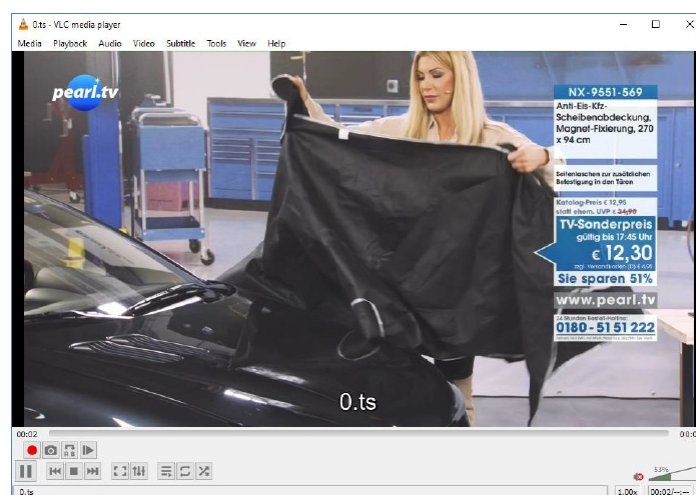
HLS URL:Disable

FLV URL:http://192.168.1.168/0.flv <http://192.168.1.168:8080/0.flv>

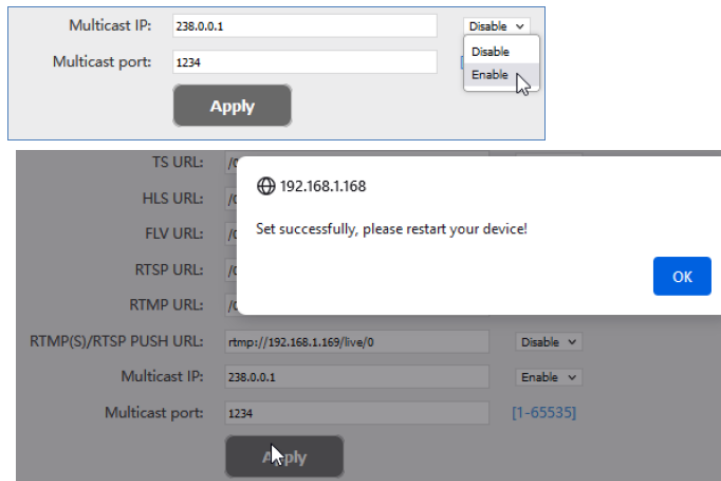
The device time can be adjusted by the Network-setup-part NTP-Server which you need to tell the NTP server URI and UTC-time difference. UK = '0', Germany normal is UTC+1...



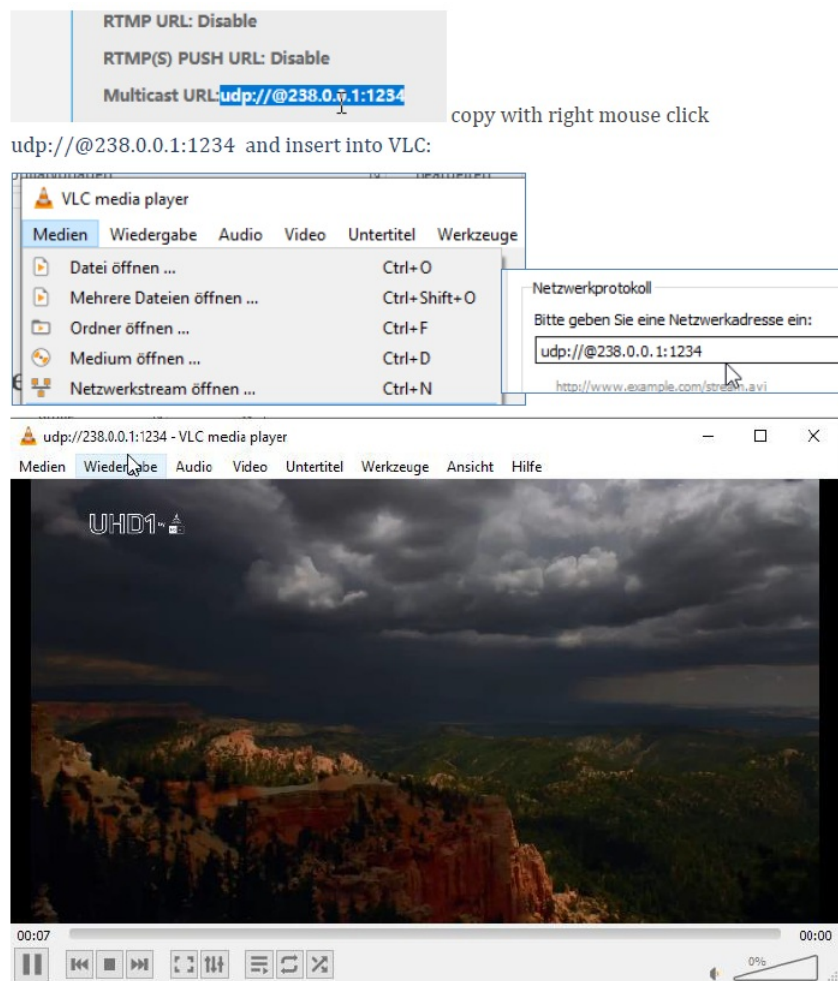
If you press (Sync Time To Device) it will be updated. To also check your encoding streams you can copy the URI from the STATUS page:



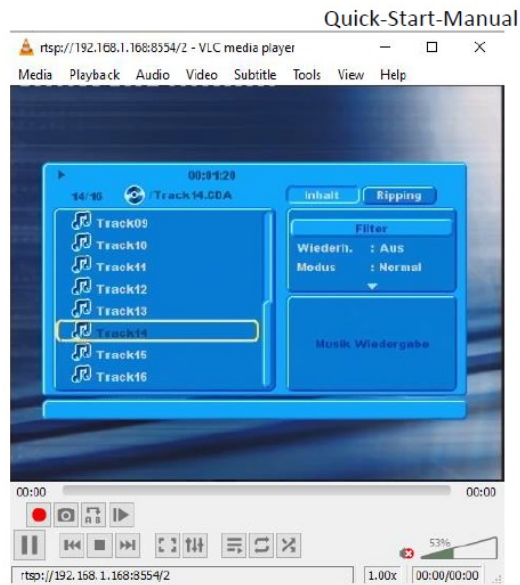
Mark it with the mouse and COPY it – Then insert it into VLC:



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.



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 ☺

BLANKOM
H.264
MPEG-4/AVC

HD Encoder System Platform
Version: 4.83

Internet access

DHCP:

IP:

Netmask:

Gateway:

MAC:

DNS

DNS1:

DNS2:

CVBS-Stream

PORT

HTTP Port: [1-65500]

RTSP Port: [1-65500]

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

Main stream

Encoding type:	H.264	
FPS:	30	[5-60]
GOP:	30	[5-300]
Bitrate(kbit):	1800	[32-32000]
Encoded size:	same as the input	
H.264 Level:	high profile	
Bitrate control:	vbr	
TS URL:	/0.ts	Enable
HLS URL:	/0.m3u8	Disable
FLV URL:	/0.flv	Enable
RTSP URL:	/0	Enable
RTMP URL:	/0	Disable
RTMP(S)/RTSP PUSH URL:	rtmp://192.168.1.169/live/0	Disable
Multicast IP:	238.0.0.1	Enable
Multicast port:	1234	[1-65535]

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

OSD

Alpha:	100	[0-128]
--------	-----	---------

Zone 1

Zone:	Enable	
Type:	Text	
X:		[0-1920]
Y:		[0-1080]
Text:		
Font size:	36	[8-72]
Background color:	white	
Color:		select color

Zone 2

Zone:	Disable
-------	---------

Zone 3

Zone:	Disable
-------	---------

Zone 4

Zone:	Disable
-------	---------

LOGO

LOGO:	Durchsuchen...	Keine ... wählt.
-------	----------------	------------------

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

Upload

Apply

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:

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]

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.

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]

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.

Change password

Old password:
New password:	
Confirm password:	

Apply

Audio settings are common for both stream encoder parts:

Advanced

Video Only: Disable

Audio Only: Disable

Hls Splitter Time(s): 10 [3-20]

Hls Number: 5 [3-20]

Deinterlaced: Bottom Only

Net Drop Threshold: 5000 [50-50000]

TS muxer: Compatible with FFMPEG

TS once pack: 7 [3-128]

ts_transport_stream_id: 101 [1-65535]

ts_pmt_start_pid: 480 [16-7936]

ts_start_pid: 481 [32-3840]

ts_tables_version: 6 [0-31]

ts_service_name: Live

ts_service_provider: Encoder

TS Empty Packet: No Insert

TS password enable: Disable

Vmix Compatible: Disable

TS OVER RTSP: ES

Multicast type: UDP

UDP TTL: 64 [1-254]

The default settings are usually Ok for most use cases:

Multicast type: UDP

UDP TTL: 64 [1-254]

UDP SOCKET_BUF_SIZE: 20971520 (0-20971520)

Slice split enable: Disable

Slice size: 1024 [128-65535]

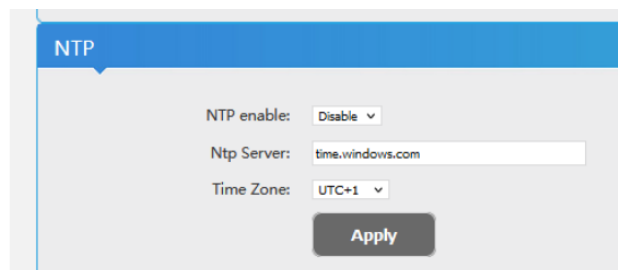
MIN_QP: 5 [1-35]

MAX_QP: 42 (MIN_QP-50)

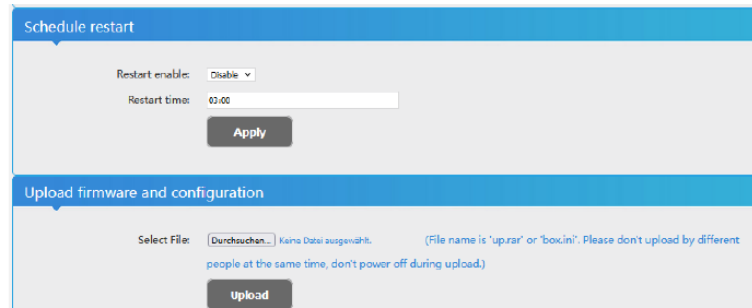
SAR(H.264 Only):

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)

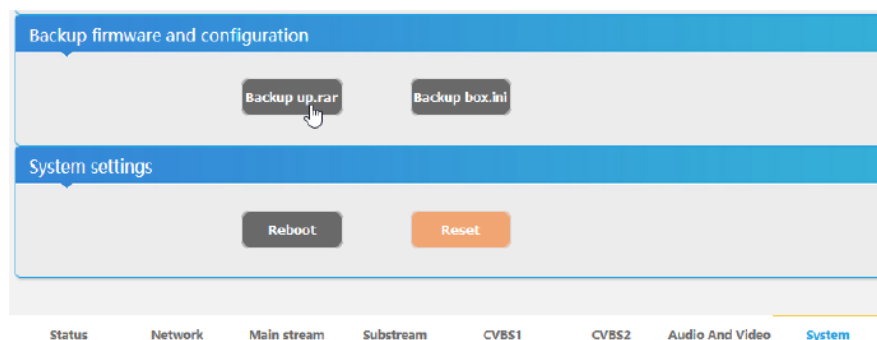
Playing with 'Deinterlaced settings' helps sometimes fix moving picture artifacts. BOTTOM only can solve right-left-camera stocking problems.



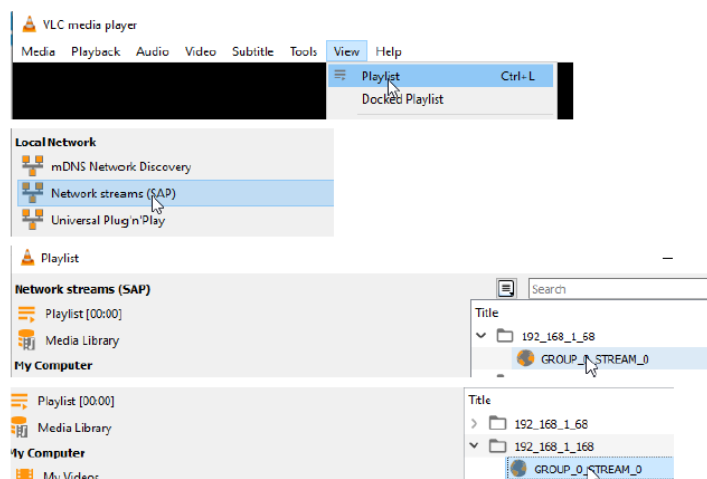
The settings as well as the Firmware can be back-upped and re-uploaded.



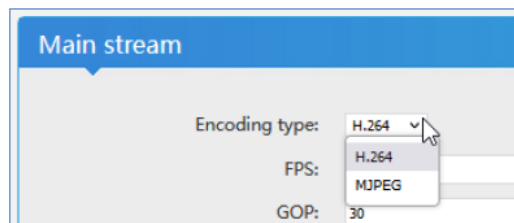
SAR can adjust your Egg-Head picture into the right format – useful for CVBS as well. A scheduled 'restart' can be programmed (NTP-Time = ON recommended):



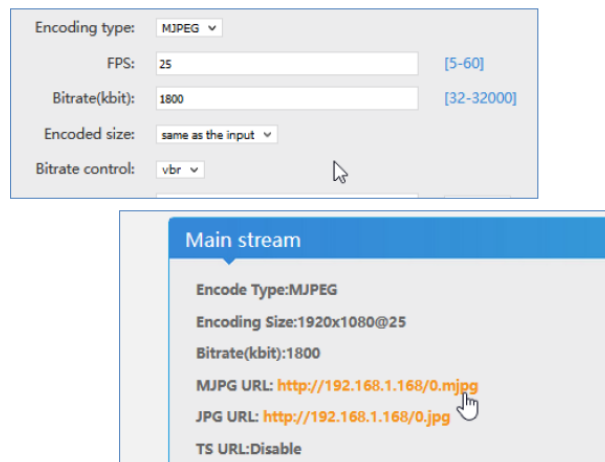
The settings as well as the Firmware can be back-upped and re-uploaded.



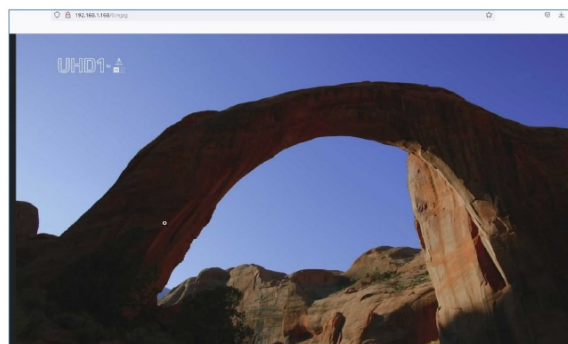
The config-settings file is a Linux-based text file named box.ini. Do not modify store upload that by a Windows editor except if you will use notepad++ (freeware – please google...) Finally i.e. after the firmware update has been uploaded, the unit can be remotely reset to factory defaults or rebooted... 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

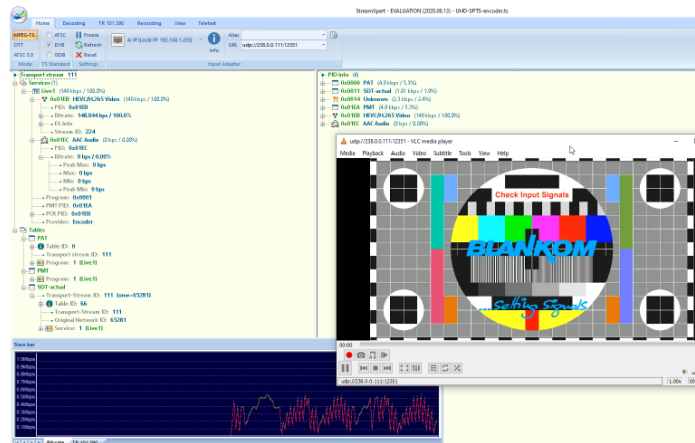


The /0.jpg (or in the secondary stream the /1.jpg)

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

 <p>BLANKOM ADE-264 (H4D)</p> <p>Encoder & IPTV Streamer with HDMI/CI/BS Input</p>	<p>BLANKOM ADE-264 Encoder and IPTV Streamer [pdf] User Manual</p> <p>ADE-264 Encoder and IPTV Streamer, ADE-264, Encoder and IPTV Streamer, IPTV Streamer, Streamer</p>
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References

- [IPTV, Digital Video, DVB, Broadcasting, SMATV, CableTV, Headend](#)
- [IPTV, Digital Video, DVB, Broadcasting, SMATV, CableTV, Headend](#)