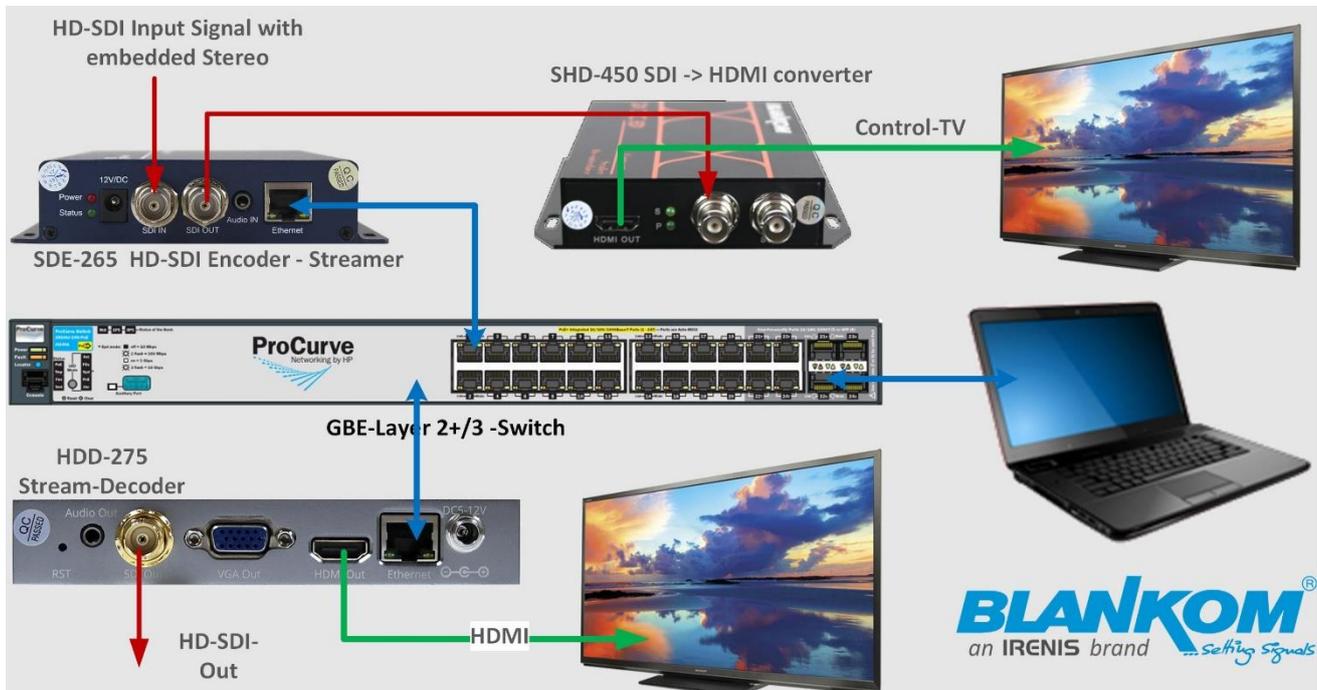


How to configure the Couple: HDMI/SDI Encoder -> HDD-275 Decoder

We like to give you a short quick-start setup to configure and setup your Encoder – Streamer with its Decoder stream receiver.

If you do not configure anything except the encoding and output resolutions and use the default settings you will have a system like:



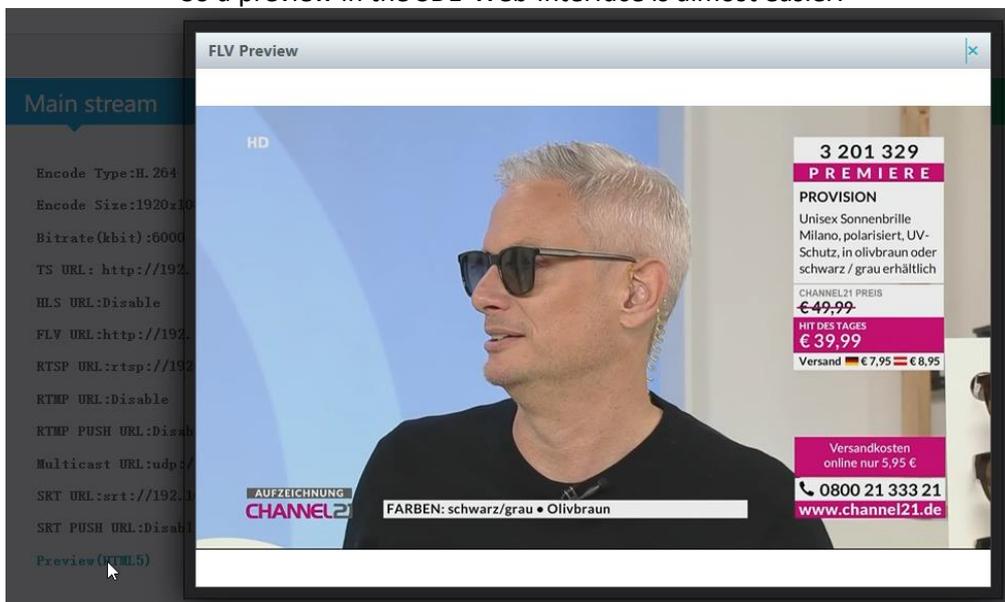
Simple as it is, the SDI-ENCODER SDE-265 default IP-Address is static: 192.168.1.168 while the DECODER HDD-275 has 192.168.1.169.

The Laptop for configuration and wired Ethernet should have an address in the same subnet. WIFI should be OFF because of Metric settings are almost set to automatic in Windows.

After switching on with default settings in both devices you have a plug and play: The Video Signal will automatically appear on the HDD-275 output interfaces.

We are using h.264 encoding with AAC Audio.

So a preview in the SDE-Web-interface is almost easier:



Encoder Input SDE-265 (older model but still OK):



SDI Encoder System
Platform 6.56S

Status Display

Input status

Running Time:0000-00-00 21:20:48
Device Time:2023-05-24 10:07:43(Sync Time To Device)
CPU Usage:13%
Memory Usage:18.9M/248.3M
Input Size:1920x1080i@50
Collected Video Frames:1921359
Lost Video Frames:2
Audio Samplerate:48000

Stream in Unicast HTTP is pre-configured in both:

Main stream

Encode Type:H.264
Encode Size:1920x1080@25
Bitrate(kbit):6000
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 PUSH URL:Disable
Multicast URL:udp://@238.0.0.10:12340
SRT URL:srt://192.168.1.168:9000
SRT PUSH URL:Disable
[Preview\(HTML5\)](#)

Encoder settings:

Video:

Main stream

Encoding type:	<input type="text" value="H.264"/>	
FPS:	<input type="text" value="25"/>	[5-60]
GOP:	<input type="text" value="5"/>	[5-300]
Bitrate(kbit):	<input type="text" value="6000"/>	[32-32000]
Encoded size:	<input type="text" value="same as the input"/>	
H.264 Level:	<input type="text" value="main profile"/>	
Bitrate control:	<input type="text" value="vbr"/>	
TS URL:	<input type="text" value="/0.ts"/>	Enable
HLS URL:	<input type="text" value="/0.m3u8"/>	Disable
FLV URL:	<input type="text" value="/0.flv"/>	Enable
RTSP URL:	<input type="text" value="/0"/>	Enable
RTMP URL:	<input type="text" value="/0"/>	Enable
RTMP/RTSP PUSH URL:	<input type="text" value="rtmp://192.168.1.169/live/0"/>	Disable
Multicast IP:	<input type="text" value="238.0.0.10"/>	Enable
Multicast port:	<input type="text" value="12340"/>	[1-65535]
SRT URL Port:	<input type="text" value="9000"/>	Disable [1-65535]
SRT PUSH URL:	<input type="text" value="srt://192.168.1.169:9000"/>	Enable
SRT Encryption Password:	<input type="text" value="0123456789"/>	Disable

In System you have got some more to configure (refer to the Encoder Manual from our Web):

SMPTE_425M:	<input type="text" value="Disable"/>	
SRT Latency(ms):	<input type="text" value="150"/>	[1-10000]
TS muxer:	<input type="text" value="Compatible with FFMPEG"/>	
Deinterlaced:	<input type="text" value="Bottom Only"/>	
Net Drop Threshold:	<input type="text" value="5000"/>	[50-50000]
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="TS"/>	
Multicast type:	<input type="text" value="UDP"/>	
UDP TTL:	<input type="text" value="64"/>	[1-254]
UDP SOCKET_BUF_SIZE:	<input type="text" value="20971520"/>	[0-20971520]

Audio:

Audio encoder

Audio Input:	<input type="text" value="DIGIT"/>	
Samplerate:	<input type="text" value="48000"/>	
Encoder:	<input type="text" value="AAC"/>	
Bitrate:	<input type="text" value="128000"/>	[48000~320000]
Analog Volume:	<input type="text" value="10"/>	[-50~50]
Digital Volume Gain:	<input type="text" value="0"/>	[-50~50]

We have also configured Multicast as UDP and SRT Unicast (Pull mode from Decoder /IP-Receiver).

Decoder:

BLANKOM

H.265 Video Decoder

Model: HDD-275

Status	Status
Address setting	
Advance setting	
System setting	
Network setting	
Serial to TCP	
Passwd setting	
System output	
Factory setting	
Upgrade & Backup	
Reset device	
Reboot device	
Schedule Restart	

System status

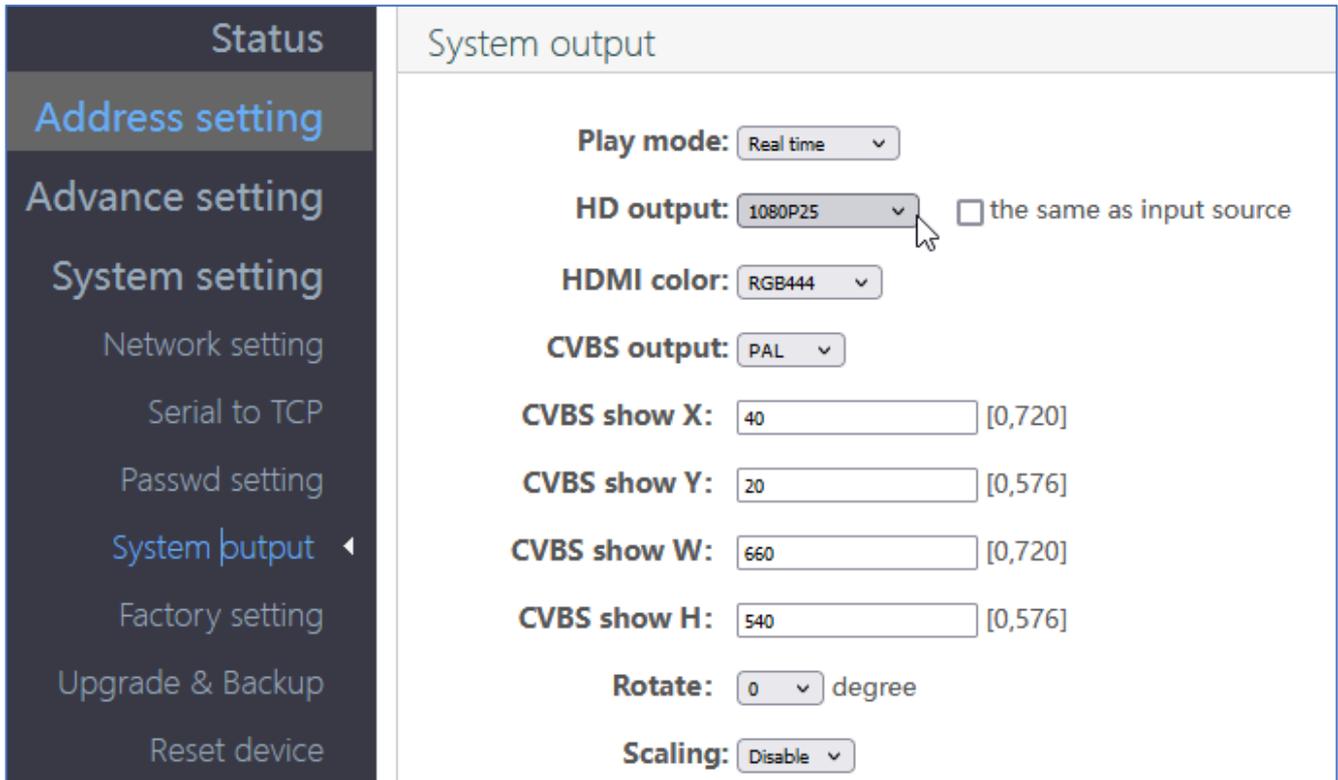
Device Time: 2023-05-24 11:20:14 (Sync time to device)
Runtime: 0000-00-00 01:34:00
CPU usage: 7%
MEM usage: 27MB/253MB
Net status: internet
HDMI format: 1080P25
Channel number: 1

Channel1

URL: http://192.168.1.168/0.ptc
Status: normal
Frame rate(fps): 25
Bit rate(kbit/s): 5367

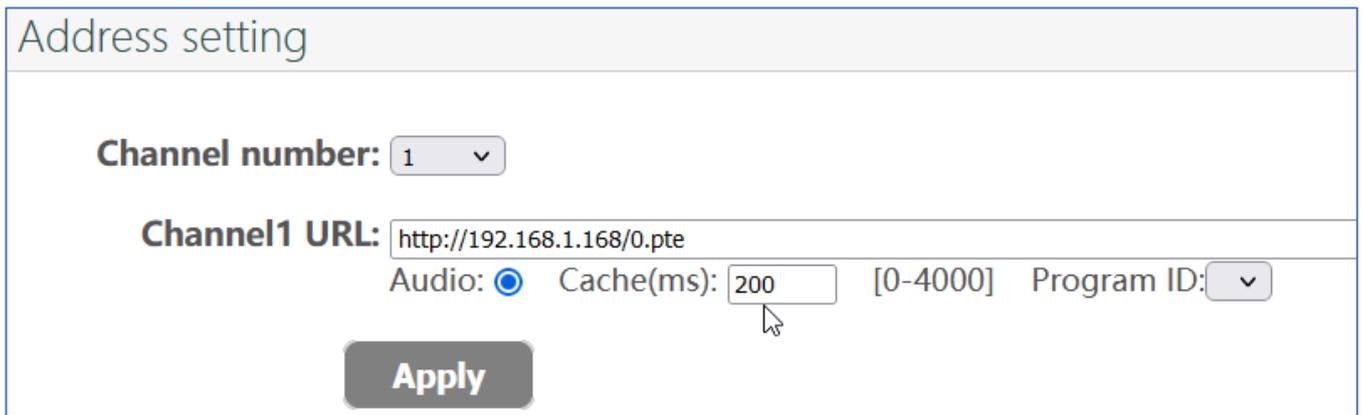
The DECODER needs time to adapt its system to new settings, so please be patient. Sometimes you need to reboot the unit i.e. when you change the IP addresses (same for the encoder as well) or change essential decoding configurations... Trial and Error ... if it stuck, maybe a reboot might be necessary.

We already configured the Output to match the input stream values:



Status	System output
Address setting	Play mode: Real time
Advance setting	HD output: 1080P25 <input type="checkbox"/> the same as input source
System setting	HDMI color: RGB444
Network setting	CVBS output: PAL
Serial to TCP	CVBS show X: 40 [0,720]
Passwd setting	CVBS show Y: 20 [0,576]
System output	CVBS show W: 660 [0,720]
Factory setting	CVBS show H: 540 [0,576]
Upgrade & Backup	Rotate: 0 degree
Reset device	Scaling: Disable

If the TV-Output will be disturbed somehow stucking /running ... please just increase the Cache setting in the DECODER:



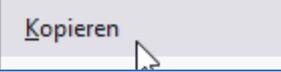
Address setting
Channel number: 1
Channel1 URL: http://192.168.1.168/0.pte
Audio: <input checked="" type="radio"/> Cache(ms): 200 [0-4000] Program ID: [dropdown]
Apply

The 0.pte is an internal setting between our encoders and decoders and might be not function with other stream sources.

Let's check the SRT streaming as Unicast:

Encoder copy and paste:

```
RTSP URL:rtsp://192.168.1.168/0   rtsp://19
RTMP URL:Disable
RTMP PUSH URL:Disable
Multicast URL:udp://@238.0.0.10:12340
SRT URL:srt://192.168.1.168:9000
SRT PUSH URL:Disable
```



-> Decoder:

Status

Address setting

Advance setting

System setting

Network setting

Address setting

Channel number: 1

Channel1 URL: http://192.168.1.168/0.pte

Audio: Cache(ms): 200 [0-400]

Apply

Channel1 URL: srt://192.168.1.168:9000

Audio: Cache(ms): 200

APPLY please:

Channel number: 1

Channel1 URL: srt://192.168.1.168:9000

Audio: Cache(ms): 200 [0-4000] Program

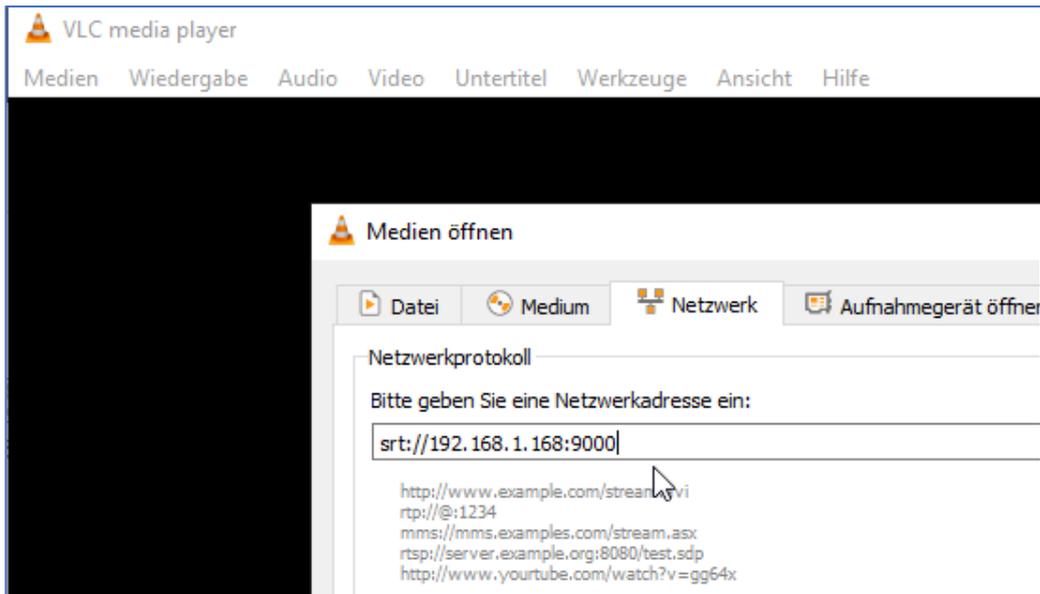
Apply

192.168.1.169

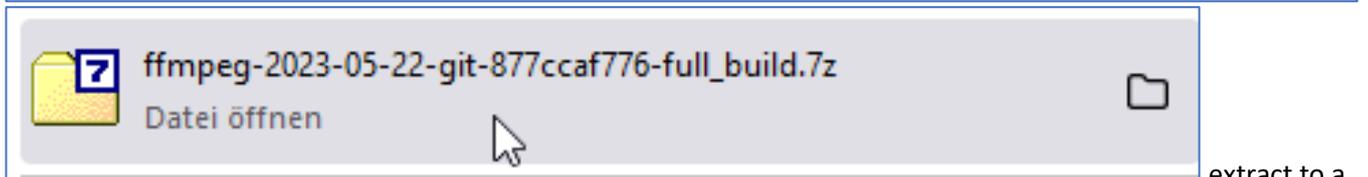
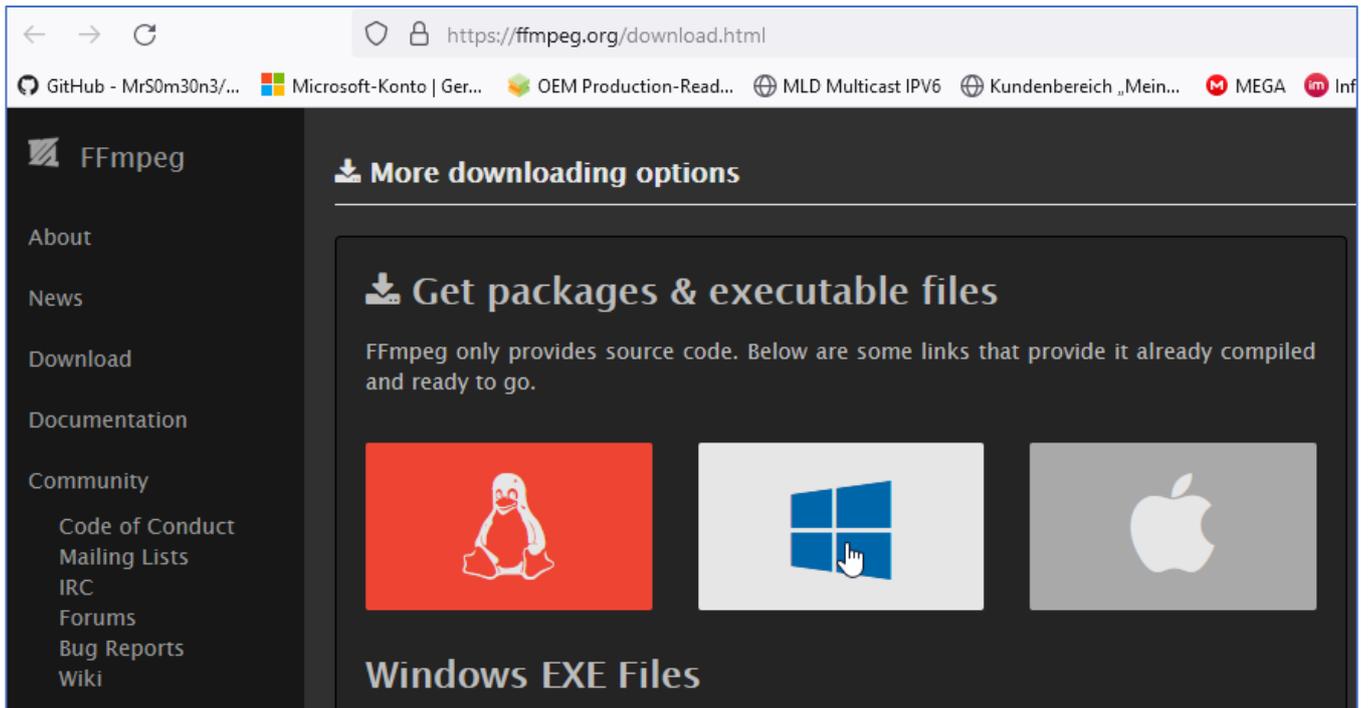
setup success

OK

Check your TV output ... it should be their w/o any differences (no Reboot necessary).
We can cross-check with VLC in the Laptop:

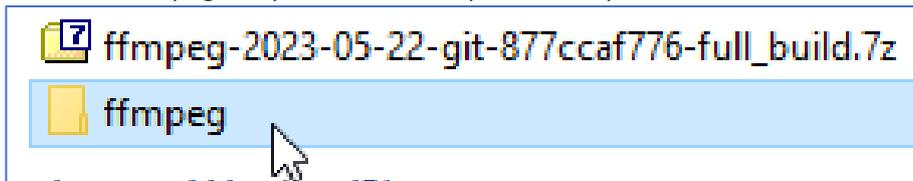


Or -if you do not have VLC, you can install the FFMPEG binaries (Linux--- sudo apt install ffmpeg):



extract to a

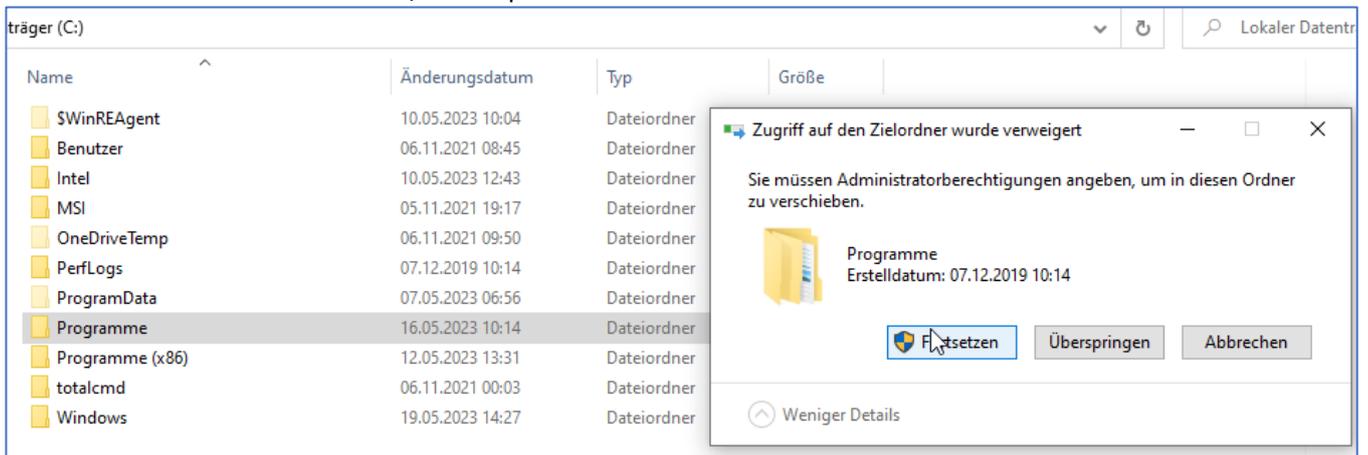
folder like ffmpeg but you need the 7zip freeware packer:



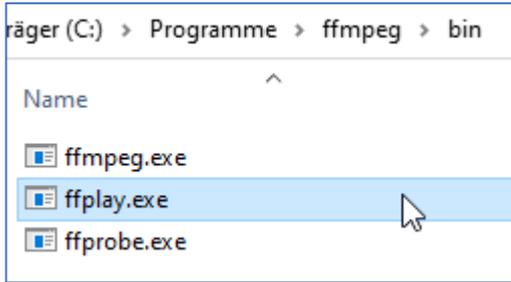
renamed the folder to simple

ffmpeg...

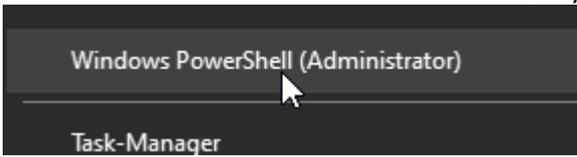
You can enter into this folder and / or swap it to:



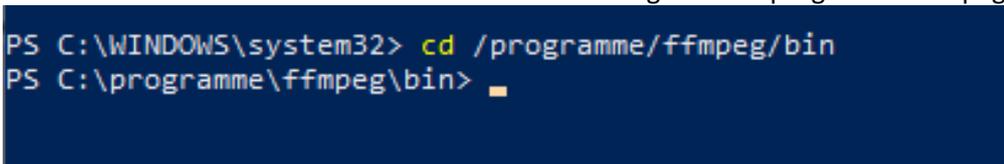
We want to use the player with this:



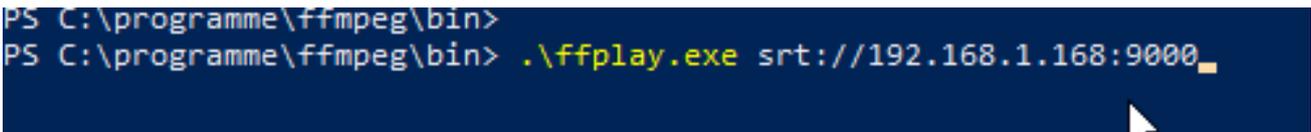
but you need to be admin to start it so we open:



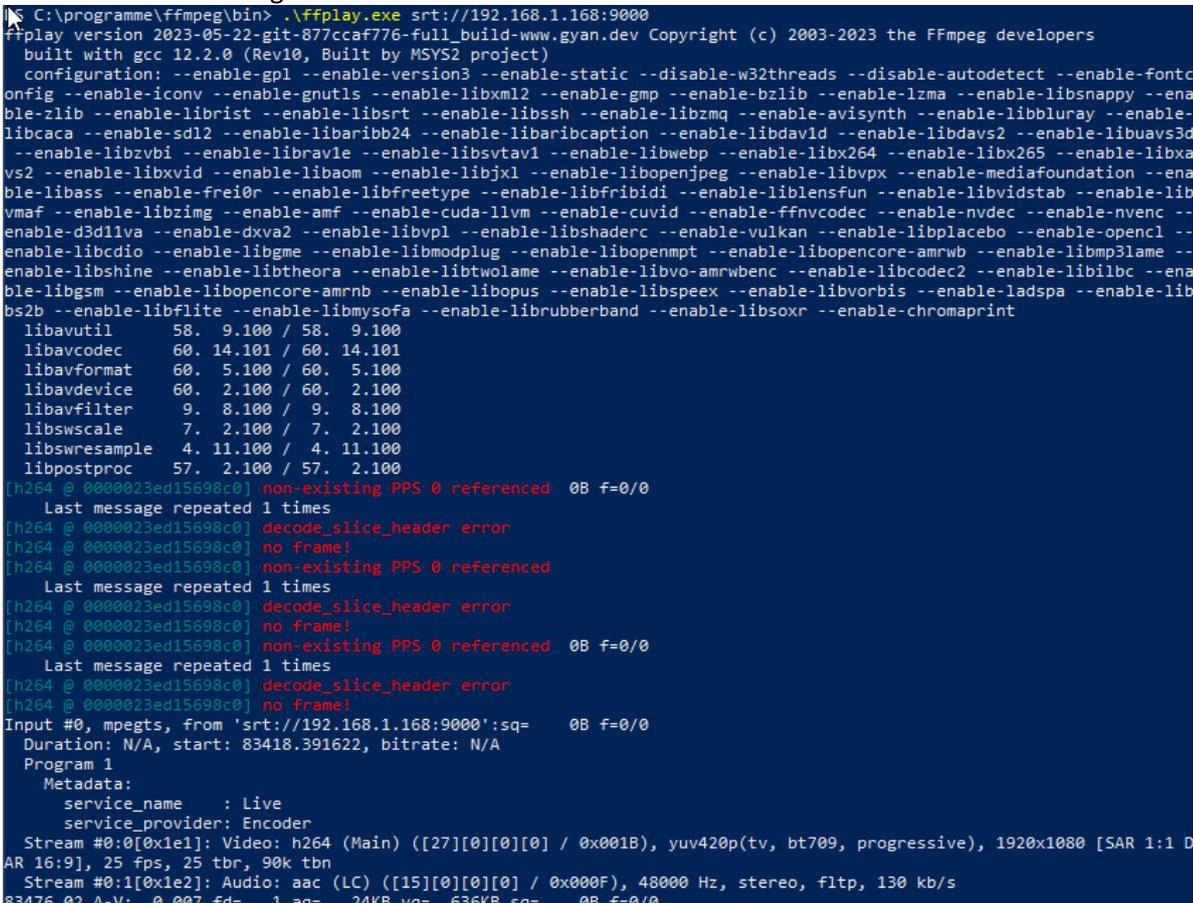
change to the -programme-ffmpeg-bin folder



You need to add a .\ before the ffplay executable because the powershell demands it from you (security issue):



And after some messages from the tool



you'll get a fullscreen on your laptop:



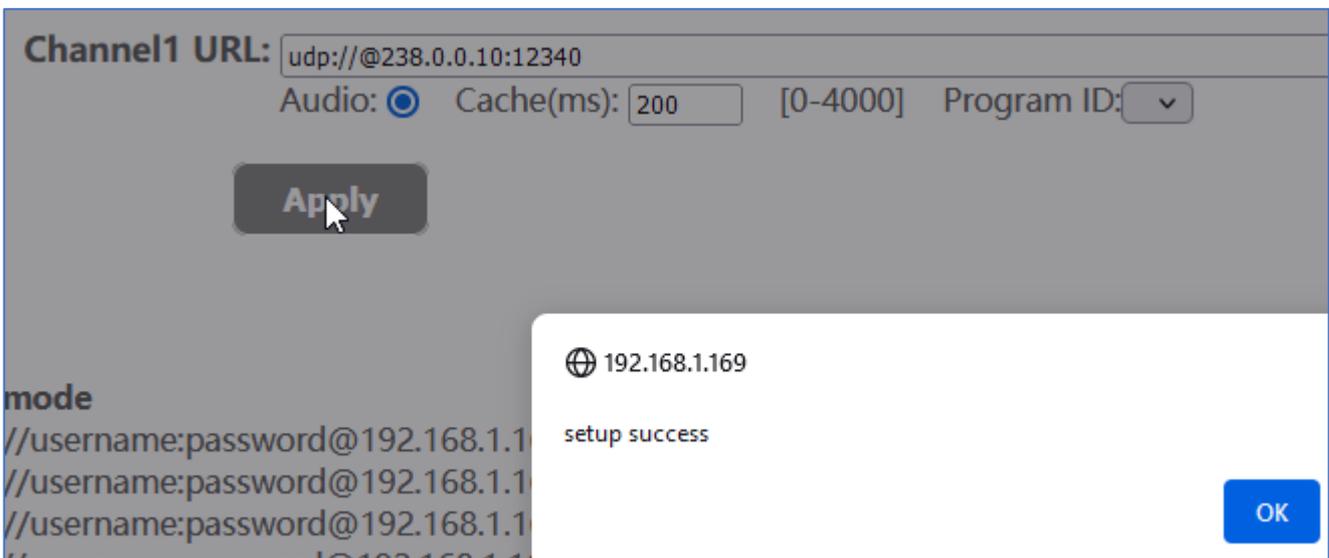
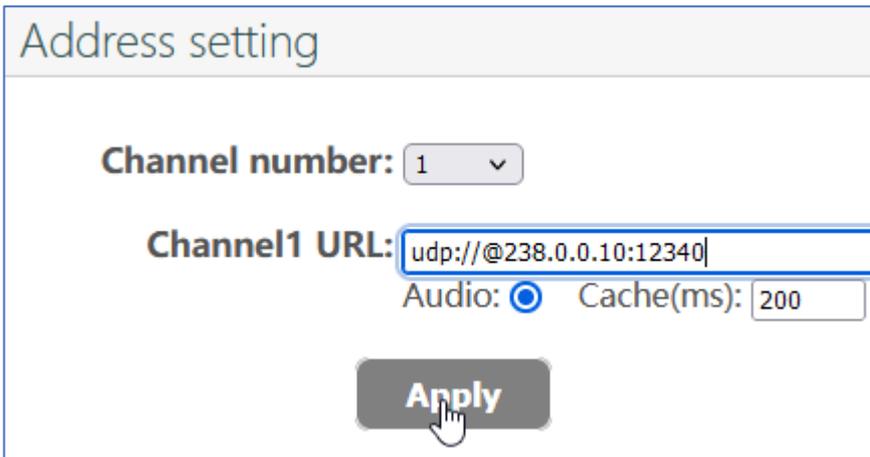
Just stop the reception by ESC. – but back to the decoder:

Status	Status
Address setting	System status
Advance setting	Device Time: 2023-05-24 12:07:06 (Sync time to device)
System setting	Runtime: 0000-00-00 00:04:22
Network setting	CPU usage: 5%
Serial to TCP	MEM usage: 29MB/253MB
Passwd setting	Net status: internet
System output	HDMI format: 1080P25
Factory setting	Channel number: 1
Upgrade & Backup	Channel1
Reset device	URL: srt://192.168.1.168:9000
	Status: normal
	Frame rate(fps): 25
	Bit rate(kbit/s): 1527

We like to check the MULTICAST now: Encoder-Stream is



You should use a layer 3 switch with IGMP enabled.

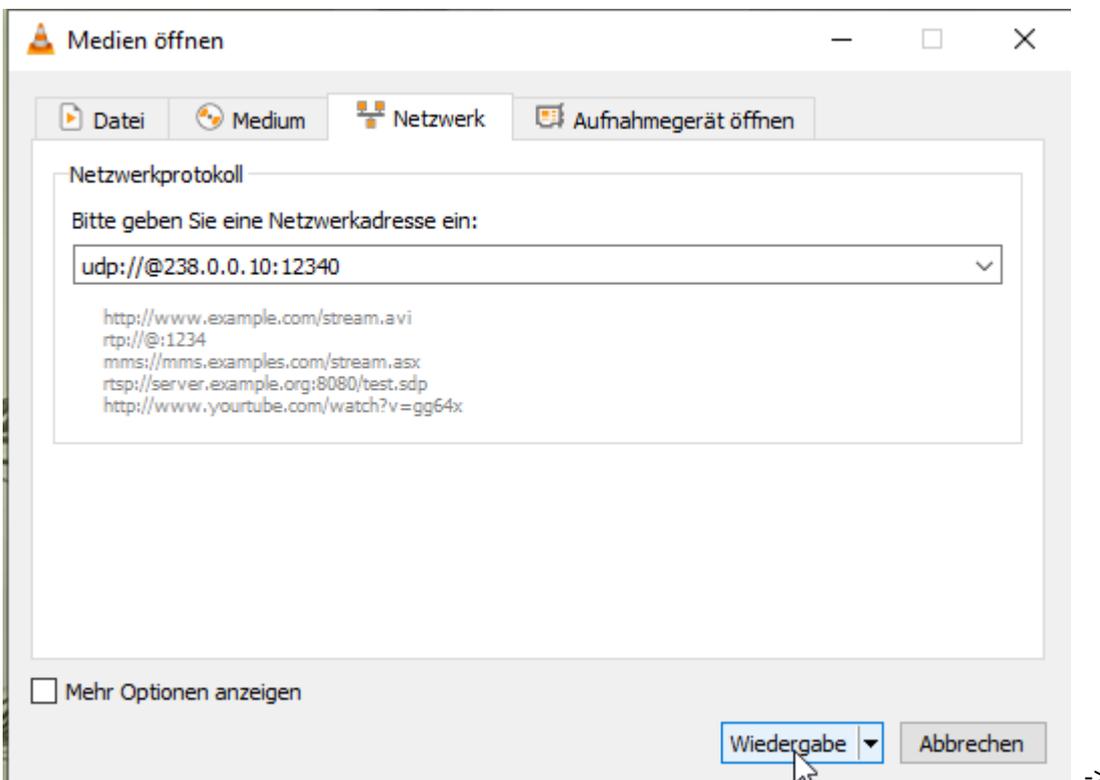


No reboot necessary...

Check it:

Status Address setting Advance setting System setting Network setting Serial to TCP Passwd setting System output Factory setting Upgrade & Backup Reset device	<h3>Status</h3> <p>System status</p> <p>Device Time: 2023-05-24 12:11:46 (Sync time to device) Runtime: 0000-00-00 00:01:27 CPU usage: 12% MEM usage: 50MB/253MB Net status: internet HDMI format: 1080P25 Channel number: 1</p> <hr/> <p>Channel1</p> <p>URL: udp://@238.0.0.10:12340 Status: normal Frame rate(fps): 25 Bit rate(kbit/s): 3842</p>
---	--

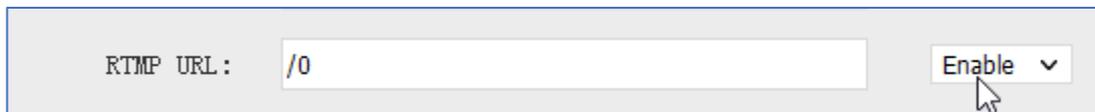
We use VLC for that...Enter the udp address in VLC with the @ :





Now we try RTMP-mode:

Encoder first: In main Encoder menu enable the RTMP mode:



Check in the encoder status window:



The encoder need to know the Decoder IP address for that !!!

If you operate with user/password you need to add admin:admin ...:

Address setting

Channel number:

Channel1 URL:

Audio: Cache(ms): [0-4000]

Apply

Check decoder status:

Net status: internet
HDMI format: 1080P25
Channel number: 1

Channel1

URL: rtmp://admin:admin@192.168.1.168/live/0
Status: normal
Frame rate(fps): 25
Bit rate(kbit/s): 4696

That works!!!

The decoder gives some hints how to use the different protocols:

Pull mode

```
http://username:password@192.168.1.168/0.ts  
http://username:password@192.168.1.168/0.flv  
http://username:password@192.168.1.168/0.m3u8  
rtsp://username:password@192.168.1.168/0 (rtsp over tcp)  
rtsp://username:password@192.168.1.168/0?udp (rtsp over udp)  
rtsp://username:password@192.168.1.168/0?rtsp_transport_multicast (rtsp over Multicast)  
rtmp://username:password@192.168.1.168/live/0  
rtmps://username:password@192.168.1.168/live/0  
udp://username:password@238.0.0.1:1234
```

SRT listener mode

```
srt://9000?mode=listener&smoother=live&pbkeylen=16&passphrase=password
```

SRT caller mode

```
srt://192.168.1.168:9000?smoother=live&pbkeylen=16&passphrase=password
```

"**username**" is authentication username, "**password**" is authentication password. Do not fill in "username:password@" or "&pbkeylen=16&passphrase=password" if application don't need authentication.

username:password is only necessary if you already configured that in the encoder as well.

Channel1

URL: rtmp://@192.168.1.168/live/0
Status: normal
Frame rate(fps): 25
Bit rate(kbit/s): 2051

SRT-Listener mode in encoder:

SRT URL Port:	<input type="text" value="9000"/>	Disable ▾
SRT PUSH URL :	<input type="text" value="srt://192.168.1.169:9000"/>	Enable ▾
SRT Encryption Password:	<input type="text" value="0123456789"/>	Disable ▾
<input type="button" value="Set up"/>		

Decoder:

Just add into the address field:

srt://9000

and here we go:

Address setting

Channel number:

Channel1 URL:

Audio: Cache(ms): [0-4000]

Apply

check status

and TV set:

Status	Status
Address setting	System status Device Time: 2023-05-24 12:35:06 (Sync time to device) Runtime: 0000-00-00 00:24:24 CPU usage: 5% MEM usage: 32MB/253MB Net status: internet HDMI format: 1080P25 Channel number: 1
Advance setting	Channel1 URL: srt://9000 Status: normal Frame rate(fps): 25 Bit rate(kbit/s): 2359
System setting	

And here we are.... All is OK.

Some tips:

If you face heavy traffic on the network and the video is sticking a little: **Increase decoder cache:**

Status	Channel1 URL: <input type="text" value="srt://192.168.1.168:9000"/>
Address setting	Audio: <input checked="" type="radio"/> Cache(ms): <input type="text" value="500"/> [0-4000]
Advance setting	<input type="button" value="Apply"/>
System setting	Tips:

And maybe the **Encoders Net drop threshold** in the SYSTEM settings needs to be increased:

SRT Latency(ms) :	<input type="text" value="150"/>	[1-10000]
TS muxer:	<input type="text" value="Compatible with FFmpeg"/>	▼
Deinterlaced:	<input type="text" value="Bottom Only"/>	▼
Net Drop Threshold:	<input type="text" value="5000"/>	[50-50000]

The SRT Latency is also a Network issue which you can change up to your sufficient results. We cannot give values here because these highly depends on your network, switches, routers and also if you transport the stream over Internet or CDN: Every time these values are different from case to case.