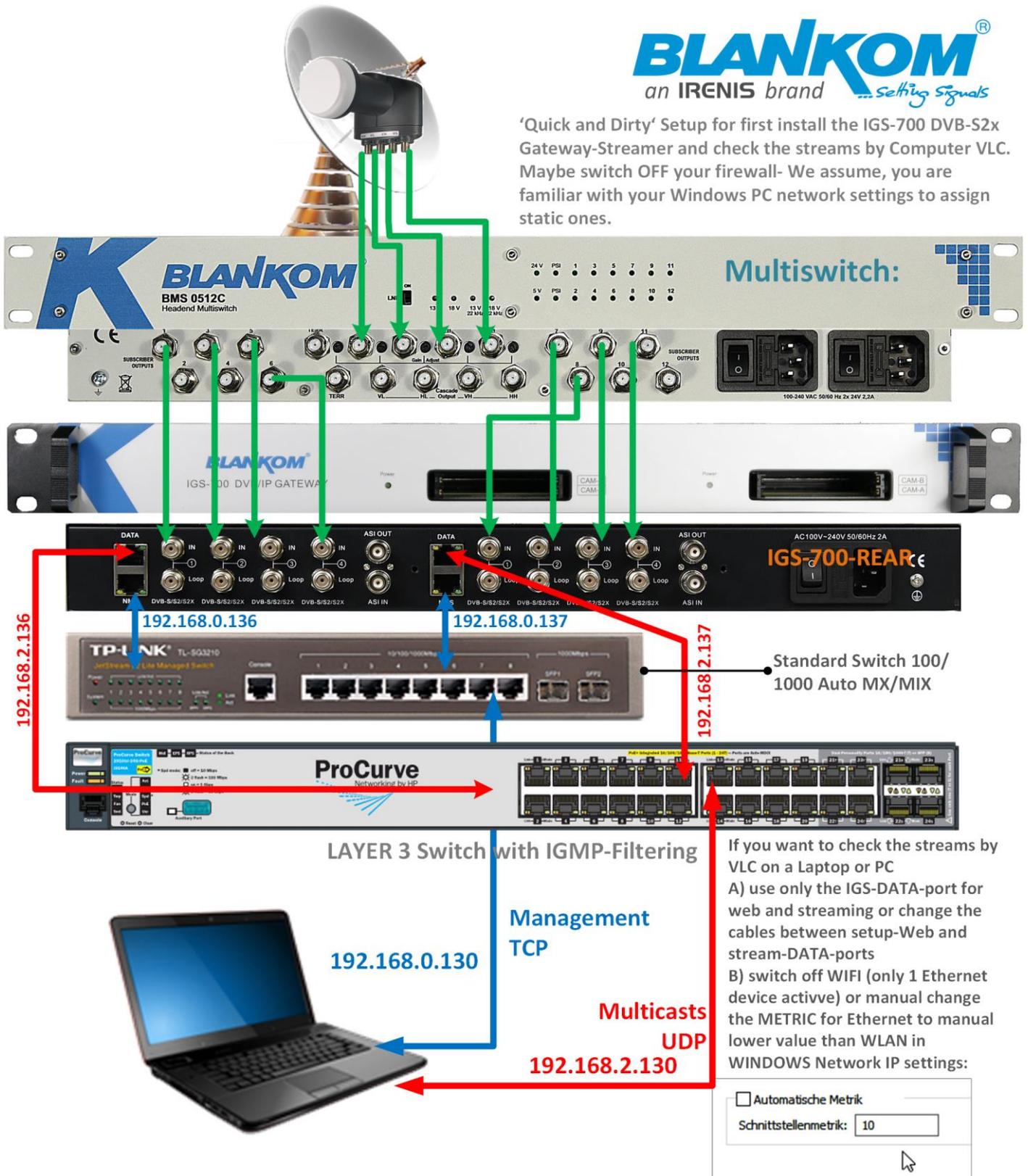


Quick&Dirty - Basic Settings IGS-700 S2x for first contact novices:

Anyway, we recommend following setup-scenario and changing all static IP addresses accordingly like e.g.:



'Quick and Dirty' Setup for first install the IGS-700 DVB-S2x Gateway-Streamer and check the streams by Computer VLC. Maybe switch OFF your firewall- We assume, you are familiar with your Windows PC network settings to assign static ones.



Login 192.168.0.136 per module. admin/admin = default.

Important: If you will connect both NetworkManagementS ethernet Ports to the same switch:

Please change the IP address of at least one of the NMS Module ports to avoid IP conflicts:

BLANKOM

Summary

- Status

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- Tuner
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- Network**
- Password
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- Firmware
- Reboot
- Date | Time
- Log

Network

NMS

IP Address:

Subnet Mask:

Gateway:

Web Manage Port:

MAC Address:

DATA

IP Address:

Subnet Mask:

Gateway:

MAC Address:

Set Tuner:

BLANKOM

Summary

- Status

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- Tuner**
- Setting
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- Firmware
- Reboot
- Date | Time
- Log

#	Tuner	TS Lock	Signal
1	DVB-S2		
2	DVB-S2		

Tuner 1

Frequency: MHz

LNB Frequency: MHz

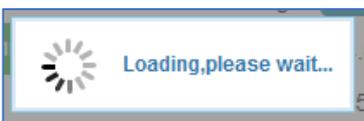
Symbolrate: Ksps

LNB Voltage:

22K:

Satellite: (1~4)

Set Tuner 2 Accordingly – or if you have 4 Tuners per module set all 4.



please always use the right APPLY button in your browser.

BLANKOM

Summary

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- Password
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- Firmware
- Date | Time
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Tuner

#	Tuner	TS Lock	Signal	Parameters	Action
1	DVB-S2	42.145 Mbps	Quality: <div style="width: 54%;"><div style="width: 54%;"></div></div> Strength: <div style="width: 68%;"><div style="width: 68%;"></div></div> Power: -31.82 dBm C/N: 13.50 dB BER: 0.00e+00	Frequency: 10891.000 MHz LNB Frequency: 9750.000 MHz Symbolrate: 22000 Ksps LNB Voltage: 18V 22K: OFF Satellite: 1	<input type="button" value="Edit"/>
2	DVB-S2	41.903 Mbps	Quality: <div style="width: 53%;"><div style="width: 53%;"></div></div> Strength: <div style="width: 74%;"><div style="width: 74%;"></div></div> Power: -25.29 dBm C/N: 13.25 dB BER: 0.00e+00	Frequency: 11053.000 MHz LNB Frequency: 9750.000 MHz Symbolrate: 22000 Ksps LNB Voltage: 18V 22K: OFF Satellite: 1	<input type="button" value="Edit"/>

If BER=0 and Power is better than -40dBm, than the signal input is sufficient.

Now change to Settings and PARSE the Tuner Inputs to get the DVB-Transportstream values:

Now you see the content of the transponders:

Some might be PAYTV encrypted.

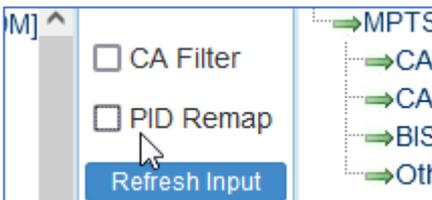
You can check this with the Internet Transponder listings here www.satindex.de -> ASTRA, FreeToAir TVs showing only:

Sender (8) / HDTV / Status / Land / Kategorie					SID / Video PID / Audio PID / PCR PID / VT PID / Update						
ANIXE HD	HD		DE	Allgemein	21100	255	259 deu	255	0	01.03.2011	
Genius Plus			DE	Shopping	21113	3327	3328 deu	3327	0	10.02.2015	
HSE HD	HD		DE	Shopping	21104	1279	1283 deu	1279	36	27.01.2022	
Nicer Dicer TV			DE	Shopping	21112	3071	3072 deu	3071	0	25.01.2022	
QVC HD	HD		DE	Shopping	21103	1023	1027 deu	1023	35	01.09.2011	
ShopLC HD	HD		US	Shopping	21107	511	512 deu 513 eng	511	0	11.01.2022	
WELT HD	HD	🔒	DE	Nachrichten	21108	767	771 deu	767	34	19.01.2018	
WELT HD	HD	🔒	AT	Nachrichten	21118	767	771 deu	767	34	19.01.2018	

So you see WELT HD in 2 Languages are encrypted. If you do not have the right CAM to insert into a corresponding CI-SLOT, you can skip these for passing to the Output.

Now we select them all to push them to the output section on the right:

First you can use CA-Filter = ON to filter out unnecessary TS-PIDs related to the encryption data streams and you almost do not need to do a PID remapping:



Select what you probably want to stream:

⇒ Lose → Locked

1: Tuner 1 (prog: 0/9) [45.3/47.9M]

- 1: [21100] ANIXE HD
- 2: [21103] QVC HD
- 3: [21104] HSE HD
- 4: [21107] ShopLC HD
- 5: [21108] WELT HD
- 6: [21112] Nicer Dicer TV
- 7: [21113] Genius Plus
- 8: [21118] WELT HD

Program Number: 21118
 Service Type: 0x19
 Service Provider: BetaDigital
 PMT PID: 0x0072
 PCR PID: 0x02ff
 CAS ID: 0x1830_EMM PID: 0x1003
 CAS ID: 0x1843_EMM PID: 0x1005
 CAS ID: 0x09c4_EMM PID: 0x1008
 CAS ID: 0x098c_EMM PID: 0x1008

Normal → Overflow

- MPTS Output(Mux) [0.0/80.0M]
 - CAM-A (prog: 0) [0.0M]
 - CAM-B (prog: 0) [0.0M]
 - BISS (prog: 0) [0.0M]
 - Other (prog: 0) [0.0M]

CA Filter
 PID Remap

Refresh Input
 Refresh Output

====> CAM-A
 ====> CAM-B
 ====> BISS
 ====> Other
 <====

All Input
 All Output

As you can see if opening the menu '+' button: Many CAS-Data are transported. You do not need them if you want only Free TVs/Radios to stream:

PUSH them to OTHER =>

→Lose → Locked
 →1: Tuner 1 (prog: 6/9) [46.4/47.9M]
 →2: Tuner 2 (prog: 0/26) [42.2/42.6M]

CA Filter
 PID Remap
 Refresh Input
 Refresh Output
 ==> CAM-A
 ==> CAM-B
 ==> BISS
 ==> Other
 <==>

→Normal → Overflow
 →MPTS Output(Mux) [41.0/80.0M]
 →CAM-A (prog: 0) [0.0M]
 →CAM-B (prog: 0) [0.0M]
 →BISS (prog: 0) [0.0M]
 →Other (prog: 6) [41.0M]

Proceed with the 2nd Tuner:

→1: Tuner 1 (prog: 6/9) [46.2/47.9M]
 →2: Tuner 2 (prog: 0/26) [42.2/42.6M]

CA Filter
 PID Remap
 Refresh Input
 Refresh Output
 ==> CAM-A
 ==> CAM-B
 ==> BISS
 ==> Other
 <==>

→MPTS Output(Mux)
 →CAM-A (prog: 0)
 →CAM-B (prog: 0)
 →BISS (prog: 0)
 →Other (prog: 6)

Program Number: 10465
 Service Type: 0x0a
 Service Provider: ARD HR
 PMT PID: 0x02bc
 PCR PID: 0x02bd
 Elements
 MPEG-4 AAC Audio PID: 0x02bd
 Private Sections PID: 0x081a
 User defined PID: 0x0876

As you can see the 2nd Transponder does not contain any CAS- DataPIDs because all of the TVs and Radios are Free. 'hr1' is a radio and contains only an AAC MPEG4-Audio stream PID. Now we have:

→Lose → Locked
 →1: Tuner 1 (prog: 6/9) [46.4/47.9M]
 →2: Tuner 2 (prog: 7/26) [42.2/42.6M]
 →3: ASI [0.0/0.0M]

CA Filter
 PID Remap
 Refresh Input
 Refresh Output
 ==> CAM-A
 ==> CAM-B
 ==> BISS
 ==> Other
 <==>

→Normal → Overflow
 →MPTS Output(Mux) [72.9/80.0M]
 →CAM-A (prog: 0) [0.0M]
 →CAM-B (prog: 0) [0.0M]
 →BISS (prog: 0) [0.0M]
 →Other (prog: 13) [72.9M]

1: ANIXE HD <=Tuner 1 [21100]
 2: QVC HD <=Tuner 1 [21103]
 3: HSE HD <=Tuner 1 [21104]
 4: ShopLC HD <=Tuner 1 [21107]
 5: Nicer Dicer TV <=Tuner 1 [21112]
 6: Genius Plus <=Tuner 1 [21113]
 7: rbb Brandenburg HD <=Tuner 2 [10350]
 8: rbb Berlin HD <=Tuner 2 [10351]
 9: MDR Sachsen HD <=Tuner 2 [10352]
 10: MDR S-Anhalt HD <=Tuner 2 [10353]
 11: MDR Thüringen HD <=Tuner 2 [10354]
 12: hr-fernsehen HD <=Tuner 2 [10355]

A lot of TV and a Radio service we are ready to stream. Before you can manipulate their Names or some other parts:

Just to compare:

The left window shows a list of tuners and programs. The right window shows a detailed view of the selected program, including its PID values and service information.

The unwanted CAS-PIDs are filtered out.

Open the Menu by clicking on the Service – here ANIXE HD – in red – that opens a popup window:

Program Information [close]

Program From Input: Tuner 1 [21100]

Service Name:

Program Number:

Logic Channel Number:

Service Type:

Service Provider:

PMT Descriptor Tag:

PMT Descriptor Data: (Hex)

PMT PID:

PCR PID:

MPEG-4 Video PID:

AC3 Audio PID:

Private Sections PID:

User defined PID:

User defined PID:

You should only manipulate what you really know it takes a particular effect on the Tables.

Example change the name:

Program From Input:	Tuner 1 [21100]	Service Name:	A_NixiT-HighDefinition
Service Name:	ANIXE HD	Program Number:	21100
Program Number:	21100	Logic Channel Number:	1
Logic Channel Number:	1	Service Type:	0x19
Service Type:	0x19	Service Provider:	BetaDigital
Service Provider:	BetaDigital	PMT Descriptor Tag:	<input type="checkbox"/> 0x00
PMT Descriptor Tag:	<input type="checkbox"/> 0x00	PMT Descriptor Data:	(Hex)
PMT Descriptor Data:	(Hex)	PMT PID:	0x0060
PMT PID:	0x0060	PCR PID:	0x00ff
PCR PID:	0x00ff	MPEG-4 Video PID:	0x00ff
MPEG-4 Video PID:	0x00ff	AC3 Audio PID:	0x0103
AC3 Audio PID:	0x0103	Private Sections PID:	0x0105
Private Sections PID:	0x0105	User defined PID:	0x0106
User defined PID:	0x0106	User defined PID:	0x0107
User defined PID:	0x0107		

CA Filter
 PID Remap

→ CAM-A (prog: 0)	[0.0M]
→ CAM-B (prog: 0)	[0.0M]
→ BISS (prog: 0)	[0.0M]
→ Other (prog: 13)	[77.3M]
+ 1: <input type="checkbox"/> A_NixiT-HighDefinition <=Tuner 1 [21100]	
+ 2: <input type="checkbox"/> QVC HD <=Tuner 1 [21103]	
+ 3: <input type="checkbox"/> HSE HD <=Tuner 1 [21104]	

That's it... it is a good time to save your settings:

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Summary

- ▶ Status

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- ▶ Network
- ▶ Password
- ▶ **Configuration**
- ▶ Firmware
- ▶ Reboot
- ▶ Date | Time
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Configuration

When you change the parameter, you should save configuration, otherwise the new configuration will be lost after reboot.

Now we want to stream and go to OUTPUT:

But First: Please avoid using the DATA-Output GbE Port at the same switch like the Network Management NMS-Port. Because if you send hundreds of megabit streams unfiltered to the NMS port it may not be accessible any more.
Hint: You can access the Web-Interface also via the DATA-Port:

NMS

IP Address:

Subnet Mask:

Gateway:

Web Manage Port:

MAC Address:

DATA

IP Address:

Subnet Mask:

Gateway:

MAC Address:

But your computer needs to be in the same network range. We changed the Windows PC to support multiple static IP Addresses like:

Realtek PCIe GbE Family Controller

Diese Verbindung verwendet folgende Elemente:

- AVM VPN NDIS 6 Driver
- Internetprotokoll, Version 4 (TCP/IPv4)
- Microsoft-Multiplexorprotokoll für Netzwerkadapter
- Microsoft-LLDP-Treiber
- Internetprotokoll, Version 6 (TCP/IPv6)

IP-Adresse automatisch beziehen

Folgende IP-Adresse verwenden:

IP-Adresse:

Subnetzmaske:

Standardgateway:

DNS-Serveradresse automatisch beziehen

Folgende DNS-Serveradressen verwenden:

Bevorzugter DNS-Server:

Alternativer DNS-Server:

Einstellungen beim Beenden überprüfen

You do not need a Gateway – for this... sometimes better w/o. Finally enter its IP:

IGS-700

to use Web Management

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Status



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an IRENIS brand ... Setting Signals

System Information

Software Version:	16.04.27 Build 272.00 Nov 10 2022
Hardware Version:	20.06.06
Web Version:	1.0.3
System Version:	2.20.2.67
Product ID:	03575d00-00000010-00000000-00000000
Uptime:	0 Day-03:22:03
Temperature:	57.09 Degree Celsius
VccInt:	999.02 mV
VccAux:	1807.62 mV
VccBRam:	999.02 mV

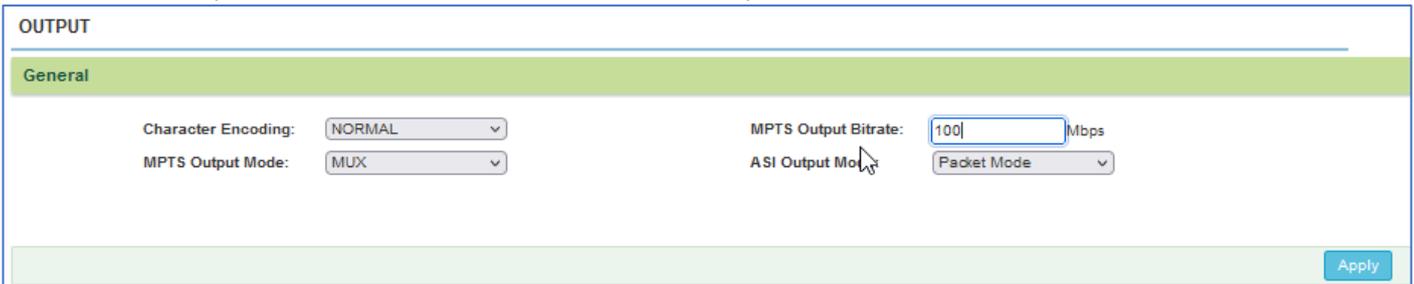
And Voila you are in w/o the NMS-port.

Safe the config is important!!!



We want Output:

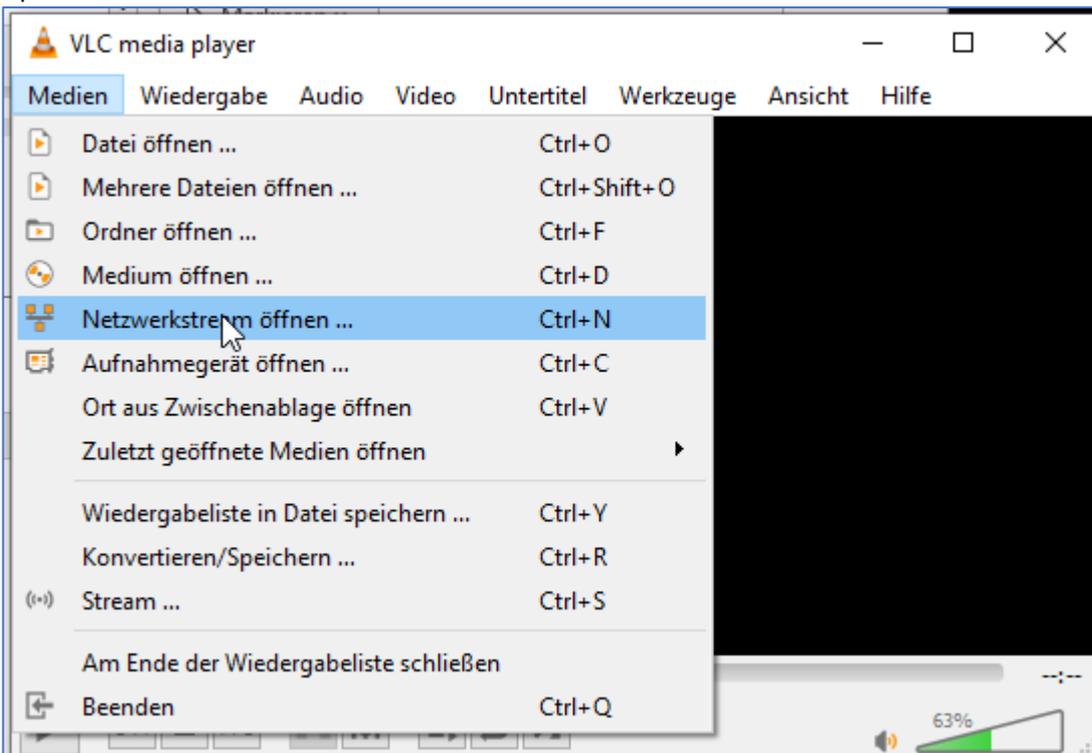
The MPTS is ON by default. If the databits exceed the 80Mb/s you can increase that:



But MPTS is a remultiplexed TS now containing your selected streams from the Setting-Menu side: right.

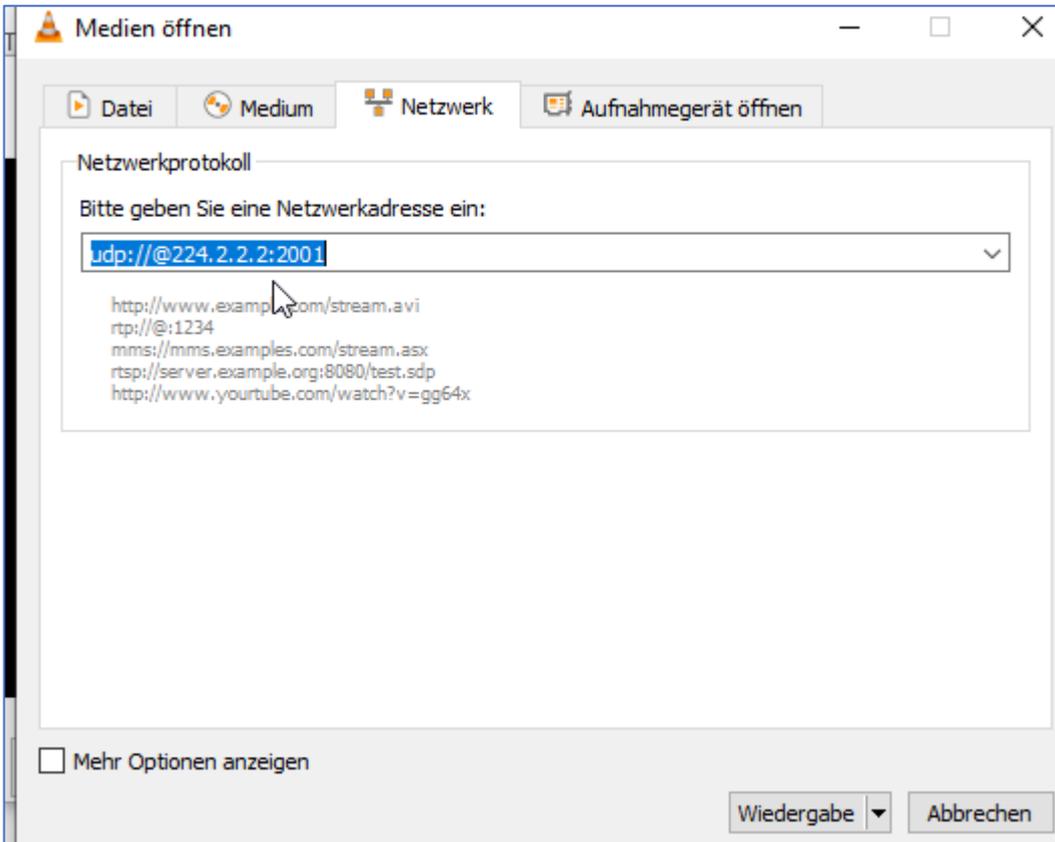
We check that: Be sure your ethernet is connected to the DATA port(s) via a GbE switch and your Laptop has only one Ethernet ON (WIFI=OFF) or Metric for Ethernet is lower Value than WIFI.

Open VLC and enter the network – section:



Enter the MPTS address as following:



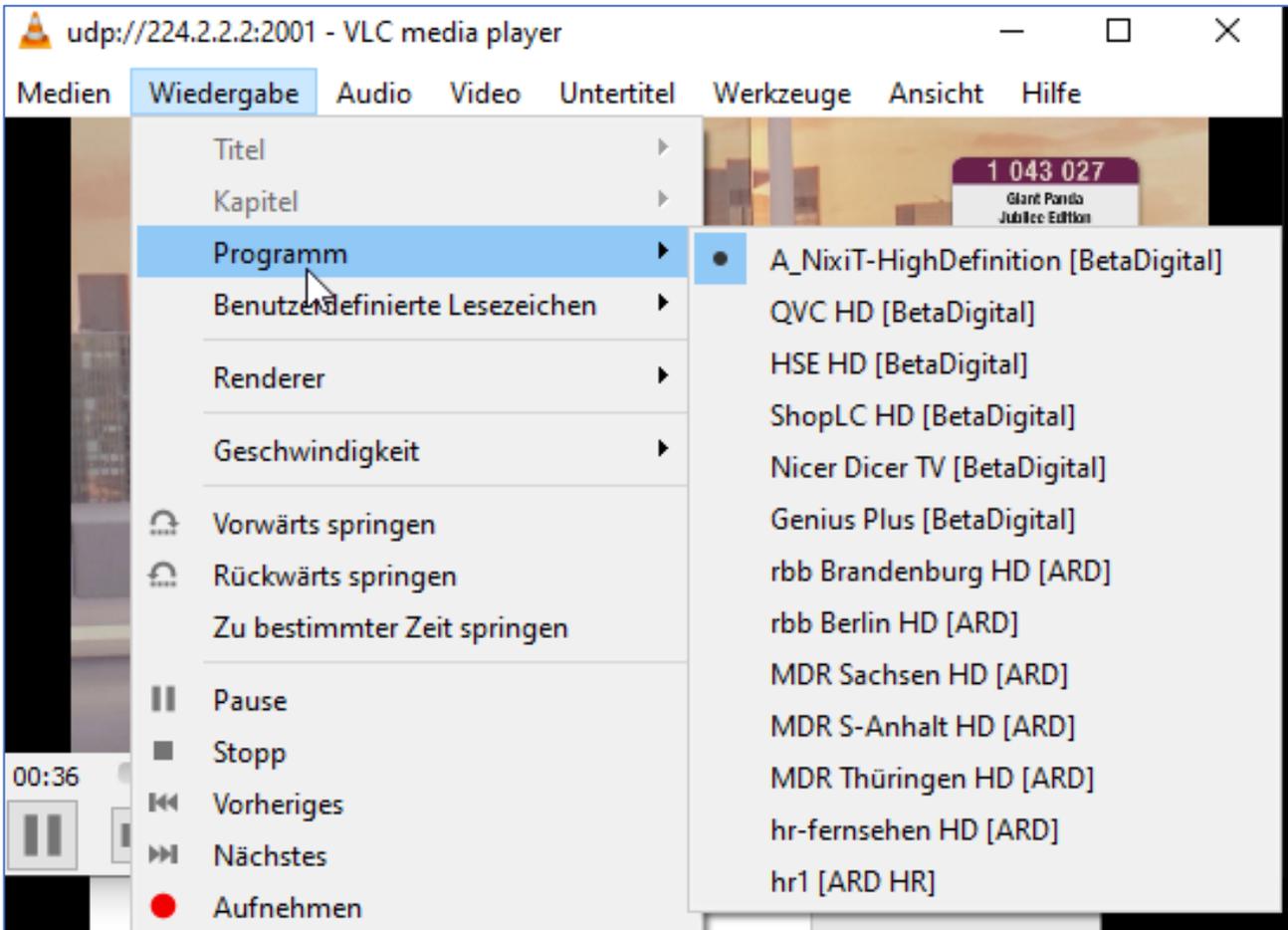


DO NOT forget the @ after

the URL `udp://@IP:port` of the multicast. That's a silly thing in VLC only. And you'll get:



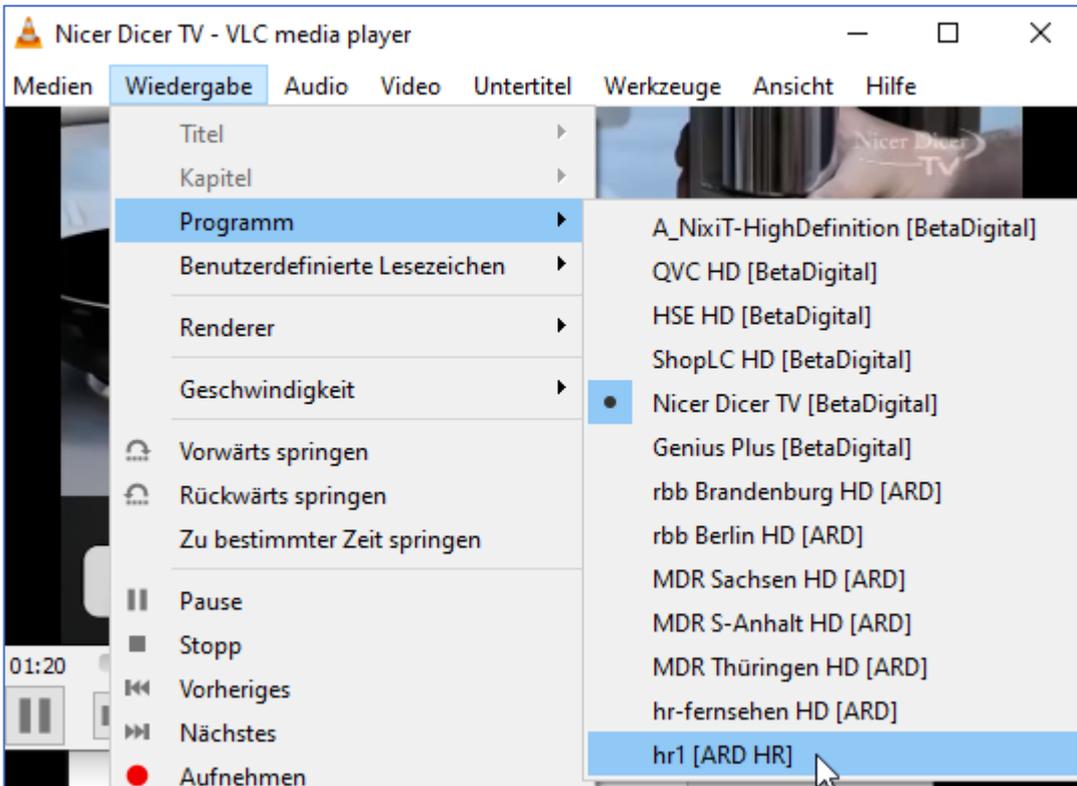
You can check every TV service containing in this Multiplexed by:



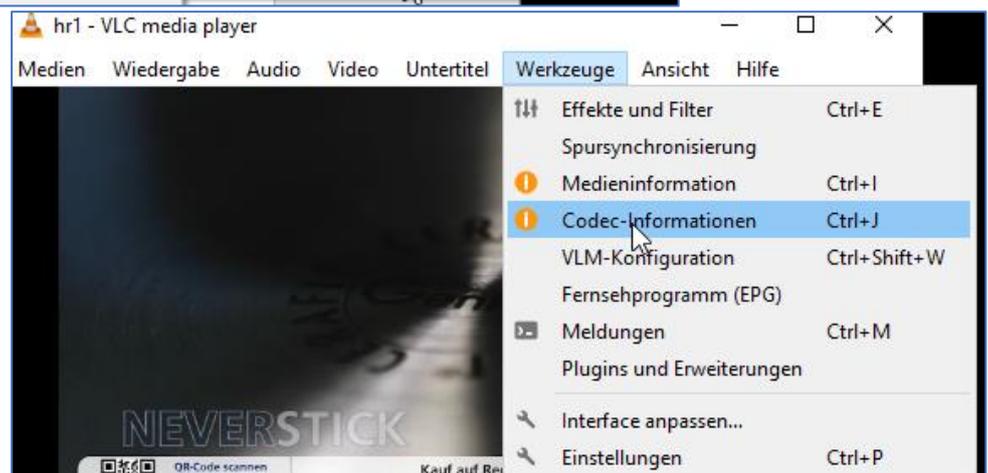
Select one and VLC changes:

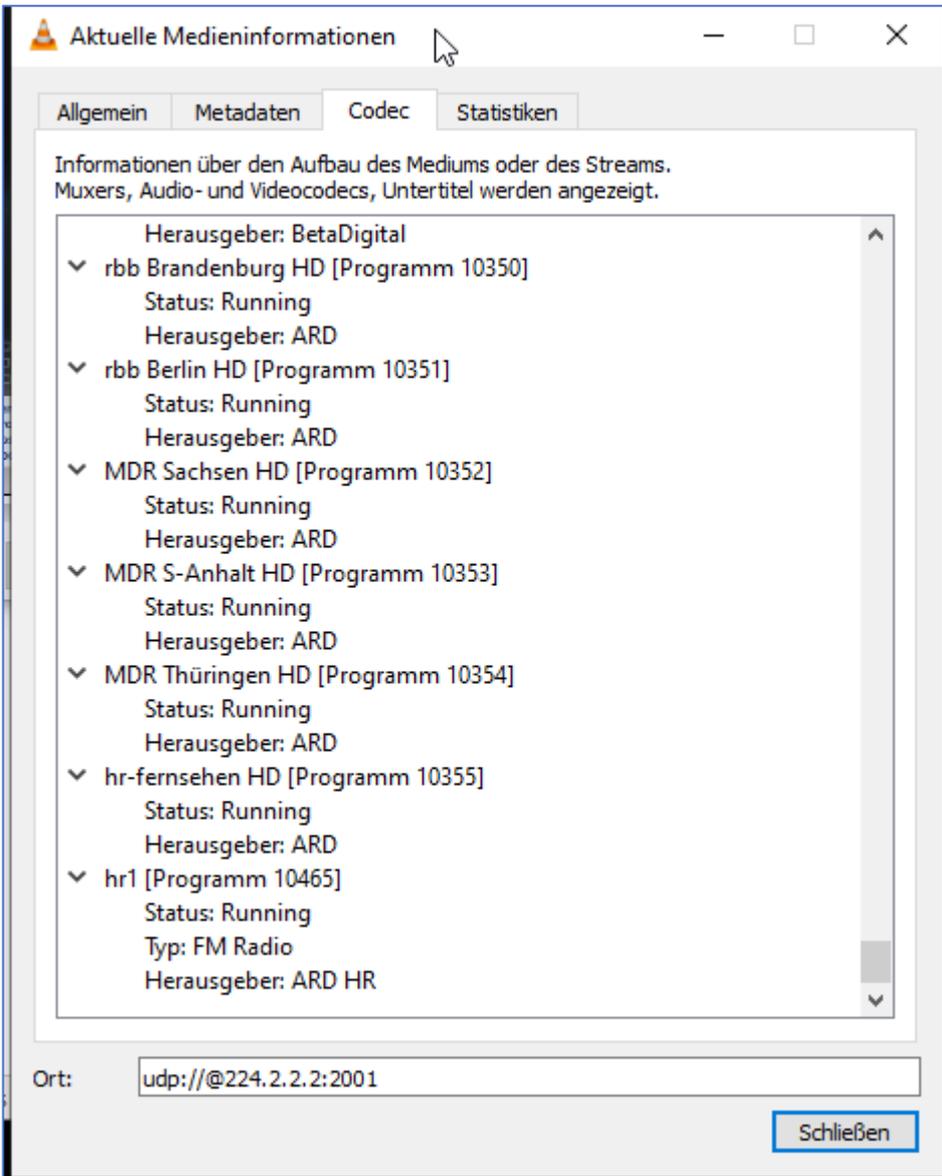


Or just radio:



You can check the content here:





BTW: The stream contains full 100Mbit/s with not set the Nullpaket filter which is mostly too much for IPTV networks and in particular for SetTopBoxes which has only 100Mb/s RJ45 Ethernet ports.

#	Output Enable	IP Address	Port	Protocol	Null_PKT Filter	Program	Output Bitrate	Status	Bit(Act/Max)
MPTS	<input checked="" type="checkbox"/>	224.2.2.2	2001	UDP	<input checked="" type="checkbox"/>			●	72.6/100.0 M
SPTS-1	<input type="checkbox"/>	224.2.2.2	3001	UDP	<input type="checkbox"/>	NULL	15	●	0.0/15.0 M

The APPLY Button for this menu is bottom right: So don't mess up with the GENERAL OUTPUT Apply Button top...

SPTS-12	<input type="checkbox"/>	224.2.2.2	3012	UDP	<input type="checkbox"/>	NULL	15	●	0.0/15.0 M
SPTS-13	<input type="checkbox"/>	224.2.2.2	3013	UDP	<input type="checkbox"/>	NULL	15	●	0.0/15.0 M
SPTS-14	<input type="checkbox"/>	224.2.2.2	3014	UDP	<input type="checkbox"/>	NULL	15	●	0.0/15.0 M
SPTS-15	<input type="checkbox"/>	224.2.2.2	3015	UDP	<input type="checkbox"/>	NULL	15	●	0.0/15.0 M
SPTS-16	<input type="checkbox"/>	224.2.2.2	3016	UDP	<input type="checkbox"/>	NULL	15	●	0.0/15.0 M

But we do not want null packets in SPTS so independent from the output bitrates:

Now we want to see an SPTS:

IGS-700

Welcome to

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Output

General

Character Encoding: MPTS Output Bitrate: Mbps

ASI Output Mode:

IP Output

#	Output Enable	IP Address	Port	Protocol	Null_PKT Filter	Program	TS ID	ON ID	Output Bitrate	Status	Bit(Act/Max)
MPTS	<input type="checkbox"/>	224.2.2.2	2000	UDP	<input type="checkbox"/>		1	1		●	0.0/120.0 M
SPTS-1	<input checked="" type="checkbox"/>	225.2.2.2	30002	UDP	<input checked="" type="checkbox"/>	rbb Branc	1	1	15	●	7.3/15.0 M
SPTS-2	<input checked="" type="checkbox"/>	225.2.2.2	30004	UDP	<input checked="" type="checkbox"/>	rbb Berlin	1	1	15	●	7.3/15.0 M
SPTS-3	<input checked="" type="checkbox"/>	225.2.2.2	30006	UDP	<input checked="" type="checkbox"/>	MDR Sac	1	1	15	●	15.0/15.0 M
SPTS-4	<input checked="" type="checkbox"/>	225.2.2.2	30008	UDP	<input checked="" type="checkbox"/>	MDR S-A	1	1	15	●	15.0/15.0 M
SPTS-5	<input checked="" type="checkbox"/>	225.2.2.2	30010	UDP	<input checked="" type="checkbox"/>	MDR Thü	1	1	15	●	15.0/15.0 M
SPTS-6	<input checked="" type="checkbox"/>	225.2.2.2	30012	UDP	<input checked="" type="checkbox"/>	hr-fernseh	1	1	15	●	15.0/15.0 M
SPTS-7	<input checked="" type="checkbox"/>	225.2.2.2	30014	UDP	<input checked="" type="checkbox"/>	hr1	1	1	15	●	0.8/15.0 M
SPTS-8	<input checked="" type="checkbox"/>	225.2.2.2	30016	UDP	<input checked="" type="checkbox"/>	tagessche	1	1	15	●	3.6/15.0 M
SPTS-9	<input checked="" type="checkbox"/>	225.2.2.2	30018	UDP	<input checked="" type="checkbox"/>	ONE HD	1	1	15	●	5.2/15.0 M
SPTS-10	<input checked="" type="checkbox"/>	225.2.2.2	30020	UDP	<input checked="" type="checkbox"/>	ARD alph	1	1	15	●	6.3/15.0 M
SPTS-11	<input checked="" type="checkbox"/>	225.2.2.2	30022	UDP	<input checked="" type="checkbox"/>	SR Ferns	1	1	15	●	7.0/15.0 M
SPTS-12	<input checked="" type="checkbox"/>	225.2.2.2	30024	UDP	<input checked="" type="checkbox"/>	Radio Br	1	1	15	●	9.5/15.0 M
SPTS-13	<input checked="" type="checkbox"/>	225.2.2.2	30026	UDP	<input checked="" type="checkbox"/>	N-JOY	1	1	15	●	1.0/15.0 M

APPLY please: Scroll down and look on this page bottom right:

SPTS-15	<input type="checkbox"/>	225.2.2.2	30030	UDP	<input checked="" type="checkbox"/>	NULL	1	1	15	●	0.0/15.0 M
SPTS-16	<input type="checkbox"/>	225.2.2.2	30032	UDP	<input checked="" type="checkbox"/>	NULL	1	1	15	●	0.0/15.0 M

So you see the bitrates now:

SPTS-4	<input checked="" type="checkbox"/>	225.2.2.2	30008	UDP	<input checked="" type="checkbox"/>	MDR S-A	1	1	15	●	9.5/15.0 M
SPTS-5	<input checked="" type="checkbox"/>	225.2.2.2	30010	UDP	<input checked="" type="checkbox"/>	MDR Thü	1	1	15	●	9.5/15.0 M
SPTS-6	<input checked="" type="checkbox"/>	225.2.2.2	30012	UDP	<input checked="" type="checkbox"/>	hr-fernseh	1	1	15	●	15.0/15.0 M
SPTS-7	<input checked="" type="checkbox"/>	225.2.2.2	30014	UDP	<input checked="" type="checkbox"/>	hr1	1	1	15	●	0.8/15.0 M

If the LED becomes red, please increase the 15 to maybe 20:

hr-fernseh 1 1

-> **APPLY** and so it works:

SPTS-5	<input checked="" type="checkbox"/>	225.2.2.2	30010	UDP	<input checked="" type="checkbox"/>	MDR Thü	1	1	15	●	13.5/15.0 M
SPTS-6	<input checked="" type="checkbox"/>	225.2.2.2	30012	UDP	<input checked="" type="checkbox"/>	hr-fernseh	1	1	20	●	20.0/20.0 M
SPTS-7	<input checked="" type="checkbox"/>	225.2.2.2	30014	UDP	<input checked="" type="checkbox"/>	hr1	1	1	15	●	0.8/15.0 M

hr-fernseh 1 1 ● 17.1/20.0 M

The HR-Fernsehen TV Service sends with higher bitrates so you must consider peaks.

BTW: We recommend to change the UDP IP addresses and the port-numbers but basically it works by keeping them and change only the ports (use numbers > 10000 please). RTP port number should be 'Even' and the Even+1 should be not used.

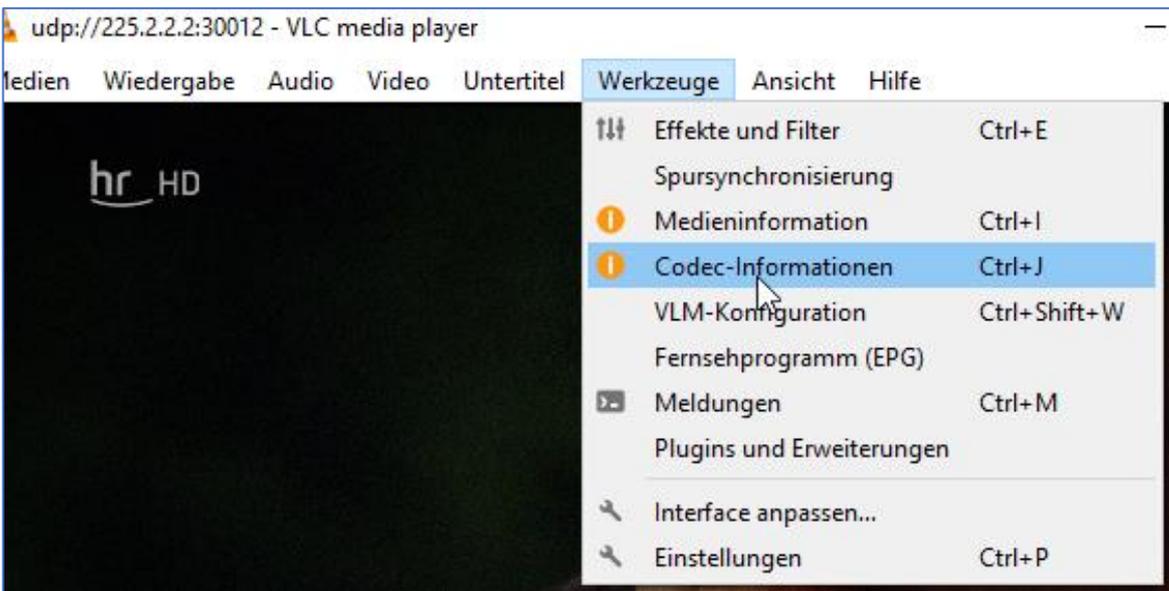
Check by VLC:

Bitte geben Sie eine Netzwerkadresse ein:

<http://www.example.com/sample.am.avi>
<rtsp://@:1234>



Check VLC- Content in:



Aktuelle Medieninformationen

Allgemein | Metadaten | **Codec** | Statistiken

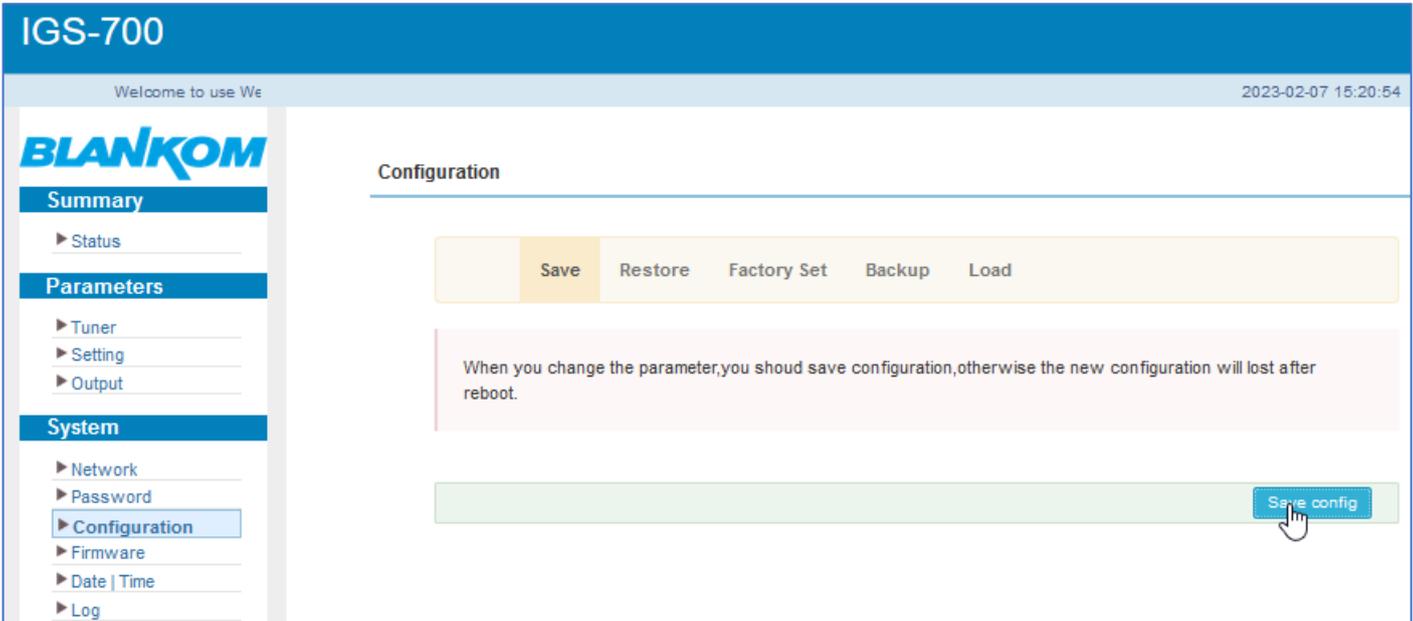
Informationen über den Aufbau des Mediums oder des Streams.
Muxers, Audio- und Videocodexs, Untertitel werden angezeigt.

- ▼ Stream 0
 - Originale ID: 5351
 - Codec: H264 - MPEG-4 AVC (part 10) (h264)
 - Typ: Video
 - Videoauflösung: 1280x720
 - Pufferabmessungen: 1280x720
 - Bildwiederholrate: 50
 - Decodiertes Format:
 - Ausrichtung: Oben links
 - Grundfarben: ITU-R BT.709
 - Farbübertragungsfunktion: ITU-R BT.709
 - Farbraum: ITU-R BT.709 Bereich
 - Farbsättigungslage: Links
- ▼ Stream 1
 - Originale ID: 5352
 - Codec: MPEG Audio layer 1/2 (mpga)
 - Sprache: Deutsch
 - Typ: Audio
 - Kanäle: Stereo
 - Abtastrate: 48000 Hz
 - Bits pro Sample: 32
 - Bitrate: 192 kB/s
- ▼ Stream 2
 - Originale ID: 5353
 - Codec: MPEG Audio layer 1/2 (mpga)
 - Sprache: Deutsch
 - Beschreibung: Audio description for the visually impaired
 - Typ: Audio
- ▼ Stream 3
 - Originale ID: 5357
 - Codec: MPEG Audio layer 1/2 (mpga)
 - Sprache: Deutsch
 - Beschreibung: Clean audio for the hearing impaired
 - Typ: Audio
- ▼ Stream 4
 - Originale ID: 5354
 - Codec: Teletext (telx)
 - Sprache: Deutsch
 - Beschreibung: Teletext
 - Typ: Untertitel
- ▼ Stream 5
 - Originale ID: 5356
 - Codec: A52 Audio (aka AC3) (a52)
 - Sprache: Deutsch
 - Typ: Audio
- ▼ Stream 6
 - Originale ID: 5355
 - Codec: DVB Subtitles (dvbs)
 - Sprache: Deutsch
 - Beschreibung: DVD-Untertitel: für Gehörgeschädigte

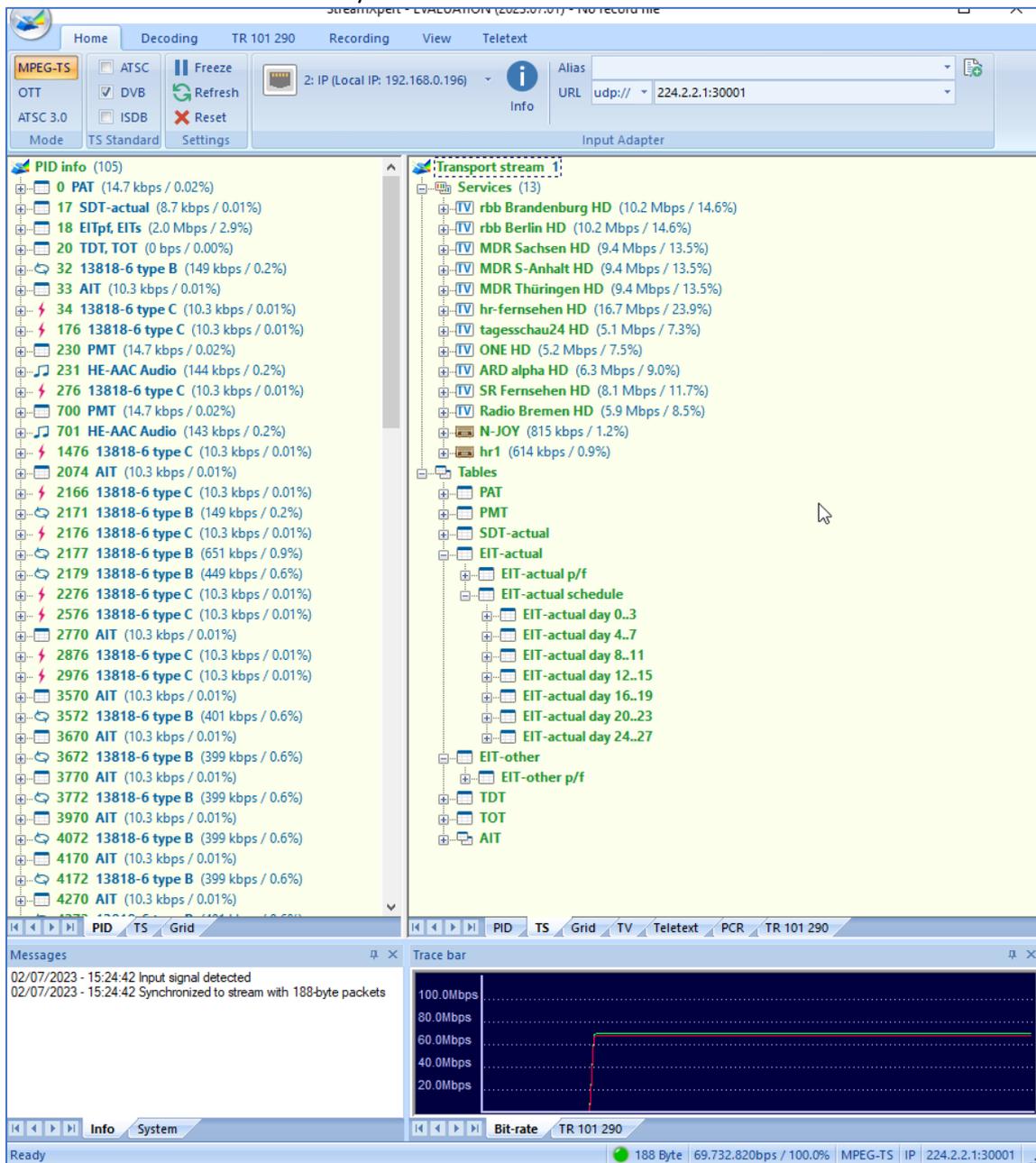
Ort:

Schließen

Don't forget to save:



So, we check the Muxed MPTS first. In MPTS all are in we selected to the output. Then HR-Fernseh SPTS stream with an analyser now:



See the difference: Single against multiplexed streams...

HR is driving with very high bitrates even its just only 720p50:

Codec: H264 - MPEG-4 AVC (part 10) (h264)
 Typ: Video
 Videoauflösung: 1280x720
 Pufferabmessungen: 1280x720
 Bildwiederholrate: 50

but carries multiple Audios and Dolby AC3... and many AIT

Data for HbbTV.

That was the Quick and Dirty...