

**6800+ IPTV SetTopBox** (incl. Setup-rules for multicast stream configurations)



Processor	Chipset: Amlogic S905X2 Prozessor: ARM Cortex-A53 Quad Core CPU 1900 MHz Power: 18 400 DMIPS
Memory	1GB DDR3
Flash memory	4 GB eMMC Flash
Operating system	Linux 4.9
External Interfaces	Audio via HDMI 2.1 output, Ethernet 100 Mb/s, USB 2.0x1, USB 3.0x1, Connector for power supply 5V (rear), LED (front panel)
Sources of media content	PC and NAS in a local network, Stream media protocols (SRT, RTSP, RTP, UDP, HTTP), USB devices
The Web browser	WebKit
Video modes	2160p, 1080i, 1080p, 720p, 576p, PAL, NTSC
Video codecs	MPEG1/2 MP@HL, MPEG4 part 2 (ASP), H.265 Main/Main 10@L5.1 High 2160p@60 fps, H.264 AVC High@L5.1 2160p@30 fps, XviD, 3D video support
Video containers	TS, AVI, MPEG, MP4, MOV, MKV, M2TS, VOB
Audio codecs	MPEG L1/L2/L3, Dolby Digital, AAC-LC, HE AAC V1/V2, APE, FLAC
Audio Formats	AC3, ACC, APE, FLAC, M4A, MP3, OGG, WAV
Image formats	JPEG, PNG, BMP, RAW
Subtitles	DVB, PGS, SRT, SSA/ASS, SUB, Teletext subs, WebVtt, Closed captions
Playlist formats	M3U, M3U8, PLS, CUE
File Systems	FAT16/32, NTFS (read), NFS, Ext2, Ext3 (4), ...
Ethernet	100 Mbit/s
Wi-Fi	USB Wi-Fi dongle (not included)
Stream media protocols	SRT, RTSP, RTP, UDP, HTTP, Multicast IGMP V2/3 adjustable
Software	Built-in Media Portal with WebKit-based IPTV-functionality, HTTP 1.1, HTML 4.01 XHTML 1.0/1.1; DOM 1, 2, 3, CSS 1, 2, 3; XML 1.0, XSLT 1.0, XPath 1.0 ; SOAP 1.1; JavaScript ECMA-262, revision 5; Media JavaScript API; C layer SDK
Middleware supported	Ministra TV platform version 5.4.1 or higher
Dimensions (w/d/h), mm.	120x78x21
Weight, gr.	110 (with packaging: 600)
Packing list	BLANKOM 6800+ SetTopBox, user manual, HDMI cable, power adapter 12V/1A, remote control, 2x AAA batteries, packaging.
Warranty	12 months

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The playlist is a file that has the format as *filename.m3u*. The encoding type is UTF-8 (recommended).

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**Unsere Datenblätter und Bedienungsanleitungen sind überwiegend in der internationalen Sprache "Englisch" abgefasst da wir hauptsächlich in Projekten B2B agieren und unsere Kunden/Partner des technischen English mächtig sind. Sollten Sie Verständnisfragen haben oder kein English können, kontaktieren sie bitte unseren Support.**

*Our data sheets and operating instructions are predominantly written in the international language "English", as we mainly operate in B2B projects and our customers/partners speak technical English. If you have any questions or do not speak English, please contact our support.*

**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.

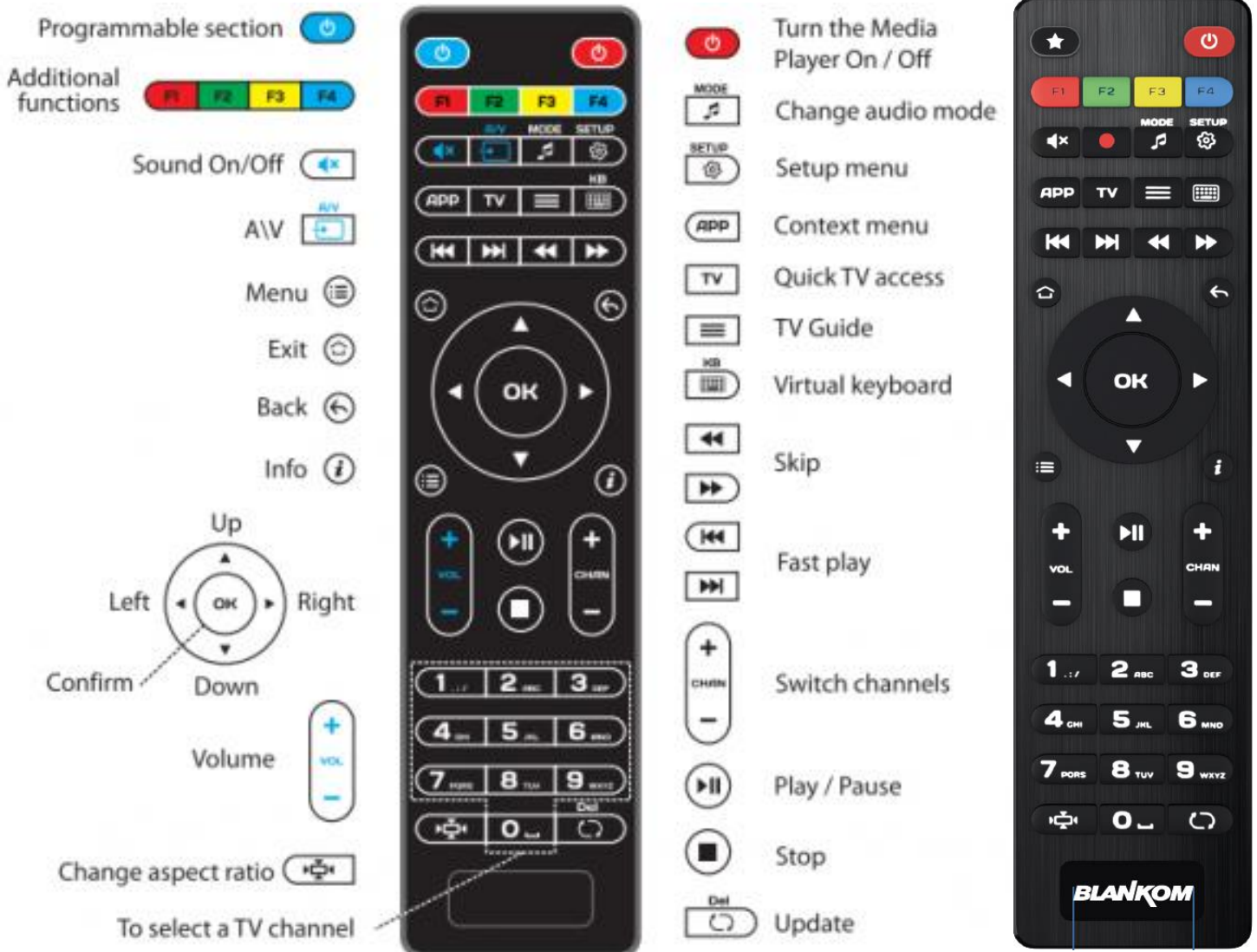
**Anotación:**

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.

# USER MANUAL FOR THE IPTV STB various types & REMOTE CONTROL's (2 Versions available)



**2 Versions are existing:** (Picture and description for standard the 6700 RC see below in this document)

One with (left picture) and one w/o TV code learning (right pic).

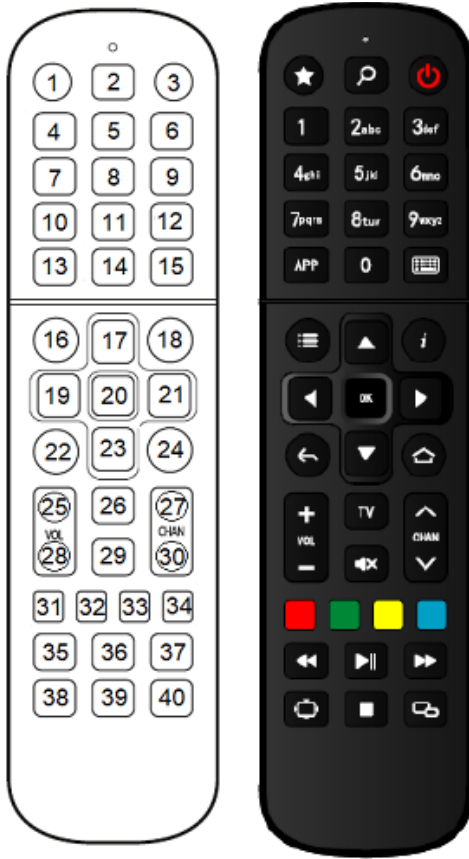
We always deploy the version with learning TV control code capabilities as optional.

This manual can also be used for older BLANKOM or IRENIS STB's like Model 6600, 6700, 7500...

## 6700+ STB Remote-control- Data: (non-programmable), old HW ver.

Since May 2020 we have the new 6700+ IPTV STB in our portfolio as the successor of the 6600+ which is now phased out and have got the 6800+ as successor.

This comes with a different and non-programmable Remote-control unit:



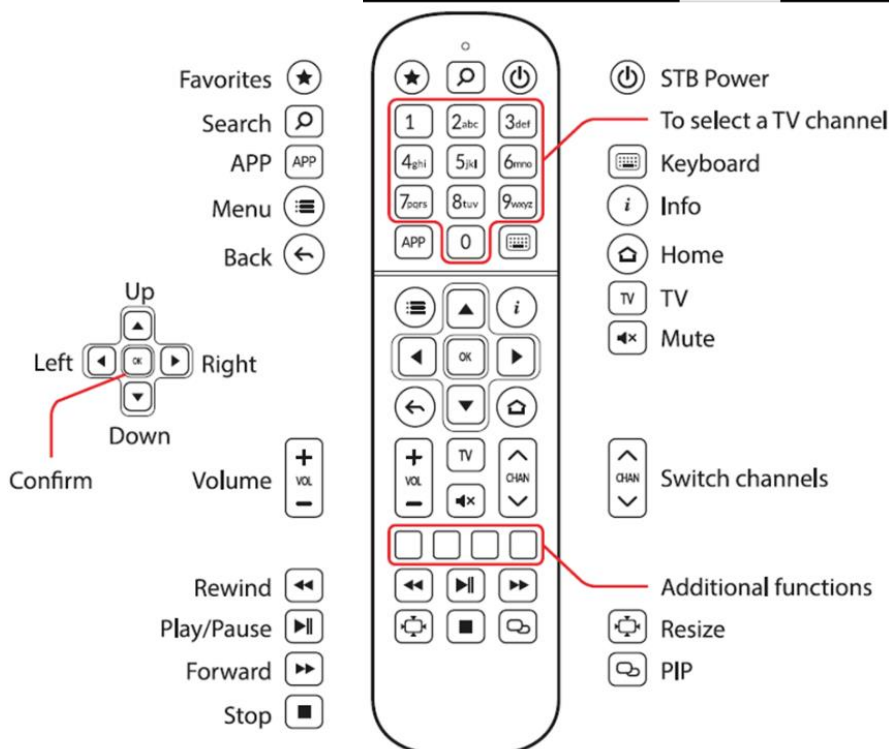
RC Code SRC-4015 (not programmable)

IR protocol format: RC5

Carrier frequency: 38 kHz

Page codes: 14 (default), 11, 24

Key Number	Key name	Key code (Dec)	Key Number	Key name	Key code (Dec)
1	Favorites	45	21	Right	43
2	Search	30	22	Back	15
3	STB Power	12	23	Down	62
4	1	1	24	Home	13
5	2	2	25	VOL+	18
6	3	3	26	TV	53
7	4	4	27	CH+	60
8	5	5	28	VOL-	19
9	6	6	29	Mute	48
10	7	7	30	CH-	17
11	8	8	31	Red	50
12	9	9	32	Green	49
13	App	56	33	Yellow	57
14	0	0	34	Blue	58
15	Keyboard	24	35	Rewind	22
16	Menu	10	36	Play/Pause	11
17	Up	61	37	Forward	16
18	Info	29	38	Resize	23
19	Left	63	39	Stop	25
20	OK	44	40	PIP	46



The code-page can be switched but need to set an environment variable inside the STB as well to recognize it:



### Code page altering

Remote control SRC-4015 is designed with the ability to change over three different IR systems (so-called code pages). The need to change the default code page may arise in case STB's remote control influences the operations of the TV or other adjacent devices or, vice versa, TV's remote control affects STB operation.

### How to change SRC-4015 code page

#### Step1. Code page switching on RC




By default, RC is set up with default code page value (14).

To change page code value to the next option, press together **App**  and **TV**  keys for about 3 sec until RC's LED blinks a particular number of times. Each code page value is indicated with a particular LED blinking:

- After first pressing **App+TV**, the second option (11) is being selected. RC's LED blinks ones.
- After the second pressing **App+TV**, the third option (24) is being selected. RC's LED blinks twice.
- After the third pressing **App+TV**, code page returns back to default (14). RC's LED blinks triple.

#### Step2. Code pages switching on STB

To set appropriate code page on STB, direct RC immediately to STB and press on RC subsequently

the following 3 keys (the order is important!): **Rewind** , **Num 0** , **Forward** .  
STB's LED should blink ones.

When the same code page is set on RC and STB, the set-top box will start to react RC key pressing.  
**Note.** STB stores a current value of code page to work with the remote control in special [variable RC5codepage](#).

### Most used Environmental-variables:

Environment variables are used to store common variables within different scenarios and Linux programs.

Name	Possible values	Description	Notes
<b>bg_color</b>	RGB value is a 4-byte Long Integer in the format (0x00RRGGBB)	The background color of the bootloader	Color Codes ColorCodeHex
<b>fg_color</b>	RGB value is a 4-byte Long Integer in the format (0x00RRGGBB)	The font color of the bootloader	Color Codes ColorCodeHex
<b>language</b>	en (English), de (German), ru (Russian), uk (Ukrain), tr (Turkish)	language of the embedded portal user interface	de - starting from software version 0.2.16
<b>upnp_conf</b>	lan, wlan, off	UPnP client startup mode	
<b>timezone_conf</b>	<a href="#">List of Supported Timezones</a>	Sets the time zone	
<b>ntpurl</b>	<a href="http://pool.ntp.org">pool.ntp.org</a>	URL time server (IP, Domain Name)	<a href="#">List of free NTP-Servers on pool.ntp.org</a>
<b>audio_initial_volume</b>	0-100	Initial volume level when start STB	
<b>bootTVsystem</b>	PAL, NTSC	Video output mode to display the bootloader	

<b>tvsystem</b>	auto*, PAL, 576p-50, 720p-50, 1080i-50, 1080p-50, NTSC, 576p-60, 720p-60, 1080i-60, 1080p-60	Sets the video output mode	* - auto value is valid for 6500/6600 (i.e. and for all subsequent STB models)
<b>graphics</b>	tvsystem_res, 720, 1280, 1920	Sets the graphics resolution	
<b>input_buffer_size</b>	0-20000	Sets the value stream buffering (ms)	
<b>auto_framerate</b>	50_60, 24_50_60, 24_50, 24_60, disabled	Sets the autoframerate mode	Only for HD mode (720p, 1080i/p)
<b>portal1</b>		URL of external portal1	
<b>portal2</b>		URL of external portal2	
<b>custom_url_hider</b>	true, false	Hides/displays the input fields Portal 1 and Portal 2 in the "System settings" ⇒ "Servers"	Starting from software version 0.2.16.
<b>update_url</b>	<a href="http://url/imageupdate">http://url/imageupdate</a>	URL of STB software image for update	Update STB software from the "System Settings"
<b>autoupdateURL</b>	<a href="http://url/update_list.txt">http://url/update_list.txt</a>	URL for automatic update module	Automatic update STB software(Default: updating on STB software of manufacturer). Update STB software from "Settings" in main menu of embedded portal Autoupdate module description
<b>autoupdate_cond</b>	0, 1, 2 (0 - enable, 1 - with confirmation, 2 - disable)		Recommended to turn off autoupdate function in customized STB software version for not updating in manufacturer's standard STB software versions.
<b>betaupdate_cond</b>	0, 1 (0 - disable, 1 - enable)	Automatic update STB software on the beta-versions (updating on STB software of manufacturer)	If the variable <b>autoupdate_cond=2</b> (disabled) then updating to beta STB software versions will be turned off
<b>force_dvi</b>	0, 1 (0 - disable, 1 - enable)	Enable the DVI mode via HDMI	Attention! When enabling this mode



			the sound does not output from HDMI
<b>ipaddr_conf</b>		IP address of Ethernet interface	
<b>netmask</b>		Network mask	
<b>gatewayip</b>		IP address of network gateway	
<b>dnsip</b>		IP address of DNS server	

To view other variables' value and name, you can use built-in utility **fw\_printenv** directly in **STB**.

The Utility is described in the Operator guide (pdf) section: Utilities description, page 27.

**For example:**

- Change/Set in the internal/external portal, using STB menu, necessary configuration/option;
- **Connect to STB through SSH (default login: root, pswd: 930920) and perform:**
  1. fw\_printenv
- The last changed variable will be at the end of the list.

### To program the (other RC) buttons do the following:

- Press the «On/Off» and «A/V» buttons at the same time and hold it for 2 seconds. When the green light of the «On/Off» button will stop blinking and will light steadily, it means the RC is ready to learn.
- Press the button you want to «teach» — the green light will start blinking.
- Place the infrared lamps of both RCs opposite each other and press the button on the RC of the other device, the function of which you wish to copy to our AuraHD Plus RC. Hold for 2 seconds.
- After the green light blinks quick two times you may continue programming other buttons.
- Repeat the procedure described above for all buttons you want to program for controlling external devices like a TV set.
- Press the «On/Off» and «A/V» buttons to save the programmed data; the green light should fade off.
- You should now be able to use the TV code programmed buttons by first using the top left blue button and then the buttons you have programmed. It makes sense, to use it for switch the TV set ON/OFF. In Hotel mode, the TV set should only be switched on while all other functions can be handled by the IPTV STB itself like Volume, Channel changing and so on.

### Reset

- Press **SETUP** and OK button at same time and **hold for 2 seconds** LED will flash 5times. Reset is done.



red

### CEC through HDMI

This should be set to ON for both devices: The IPTV STB and the TV set. It enables the automatic TV ON/OFF if the STB has been switched on (or off) by the power button. So when the STB starts from standby, the TV should automatically go on. CEC can also take control about channel changing and volume up/down but this is almost not necessary because the STB controls Volume and channel zapping while the TV set is often only a passive device.

## Information and instructions about the STB 6600+ (6600+W=Wifi version)

### Regulatory information

#### EU

This equipment has been tested and found to comply with the essential requirements of the following Directives: 2014/30/EU, 2014/35/EU, 2014/53/EU, 2009/125/EC, 2011/65/EU. This product is in accordance with Directive 2012/19/EU.

Hereby, Telecommunication Technology LLC declares that MAG322w1 with the radio equipment type 802.11b/g/n is in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address:  
[www.infomir.eu/eng/support/declarations](http://www.infomir.eu/eng/support/declarations)

#### FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If

this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

#### FCC Caution:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1) this device may not cause harmful interference, and
- 2) this device must accept any interference received, including interference that may cause undesired operation.

#### CAUTION:

Unauthorized antennas, modifications, or attachments could damage the device and violate FCC regulations. Changes or modifications not expressly approved by responsible party could void the user's authority to operate the equipment.

## Specifications

### Physical Parameters

Model **6600+**, **6600w**

Weight: 144 g

Dimensions (approximately): 87 mm depth, 132 mm width, 26 mm height

### Operation temperature and Humidity

1°C - 40°C; 5% ~ 93%RH

### Ethernet Interface

Ethernet Connector: RJ-45 shielded

Cable: UTP and STP 5 categories

Speed: Auto-choice, 10/100 Mbit/s

Indicators: Green – Activity, Yellow – Connection

### Wi-Fi Interface

Built-in Wi-Fi module: 802.11 b/g/n,

150 Mbps (only MAG322w1)

Operating frequency bands: 802.11 b/g/n 2400-2483.5 MHz

Output power (E.I.R.P): 802.11 b/g/n <20 dBm

Internal Antenna gain (max): 3,38 dBi

### USB Interface

Type: USB2.0x2pcs.

### Supported Audio-Video Formats

Video codecs: MPEG-1/2, MPEG-4, H.264/AVC HP@L4.2,

H.265/HEVC Main/Main10 @L4.1 up to 1080p at 60 fps,

Xvid. Audio codecs: MPEG-1 layer I/II/III, AAC-LC,

HE-AAC v1, HE-AAC v2.

This product supports Dolby Digital™

Video modes: 1080i, 1080p, 720p, 576p, PAL, NTSC

Subtitles: DVB, PGS, SRT, SSA/ASS, SUB, Teletext subs, WebVtt

### Audio-Video Interfaces

Audio Connectors: TRRS (On adapter cable:

White=Left channel, Red=Right channel)

Output: 2 V RMS nominal, Loading: 10KΩ

Composite Video Interface, Type:

TRRS (Yellow connector on adapter cable)

Output: 1Vp-p

### Power supply Interface

Connector: DC cylindrical 2.5 mm x 5.5 mm

Type: plug-and-socket, DC current, center plus

Input 12V±10%

Power consumption: less than 7.5W in typical conditions

### External Power Supply Unit

Type: Pulse with universal inlet

Model: TAA0121200100HV

Manufacturer: HUIZHOU TECHLONG CO. LTD

Address: Room 829, HONGFA CENTER BUILDING

BAOAN CENTER SHENZHEN CHINA

Commercial registration number: 91440300777167379F

Input: 110-240 V AC, 50-60Hz, 0.5A max

Output: 12 V DC, 1A, 12 W  
Average active efficiency: 84.72%  
Efficiency at low load (10%): 82.31%  
No-load power consumption: 64,7mW

**Package**

Type: cardboard box  
Dimensions (approx.):  
60 mm height, 225 mm width, 95 mm depth  
Shipping weight: 435 g

**Instruction Manual**

**FCC Radiation Exposure Compliance (only for 6600 ):**

This equipment complies with radio frequency (RF) exposure limits set forth by the Federal Communications Commission for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The model **6600** contains FCC ID: 2AATL-F89FTSM13

**Note:** Specifications are subject to change without notice. Infomir reserves the right to revise this publication and to make changes in its content from time to time by posting new specifications and other content at [www.infomir.eu](http://www.infomir.eu).



**Product Care**

**Cleaning**

The product and accessories should be rubbed with dry cloth or tissue only.  
To ensure safety, before shell cleaning switch the power supply off the alternative current socket.  
The shell may be cleaned from persistent spots with a slightly wet cloth or cleaning tissue.  
Do not use cleaner or polish, benzyl, solvents, abrasive items, liquid or aerosol detergent means for the product and accessories cleaning.

**Maintenance of Product**

The product should not be disassembled. The tries of the disassembling of the product may be dangerous for your life and for serviceability of the product.  
The self-supporting disassembling invalidates you the product guarantee.  
The maintenance should be affected by qualified specialists in the warranty processing centers only.  
The product possesses protective sealing.  
Breaking or changing of the mentioned sealing invalidates guarantee of the product.

**Warranty**

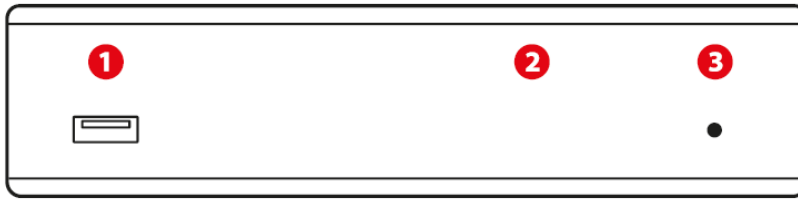
**Warranty term:**

Europe, MEASA and Oceania:  
2 years from date of sale (but not more than 2,5 years from manufacture date).

The USA, Americas, Russia, Ukraine and other regions:  
1 year from date of sale (but not more than 1,5 years from manufacture date).

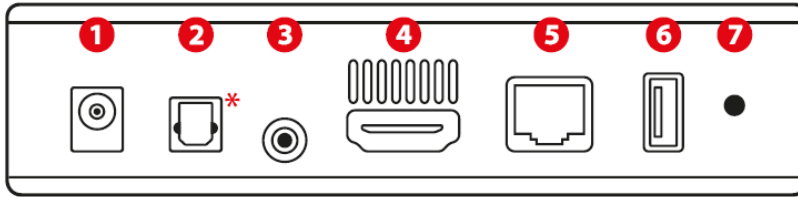
See the date of manufacture at «Product Information» section. By virtue of the present Coupon, the absence of defects in manufacturing of the product and its compounds is warranted for a year-term counted since date of sale. If during the mentioned warranty term the defects of materials or operation of product will be found, the product would be repaired or its defective parts would be replaced free of charge in the warranty processing center with compliance with warranty conditions.

**Front Panel**



1. USB
2. IR-receiver
3. Indicator of stand-by mode/  
Indicator of the Remote Unit  
Buttons pushed

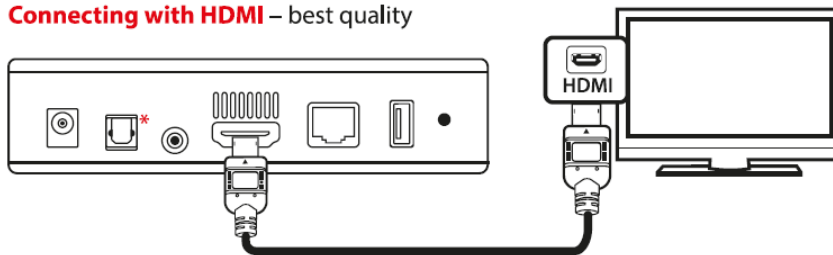
**Back Panel**



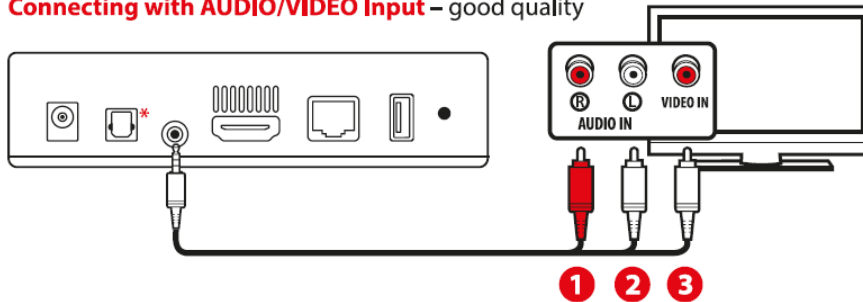
1. Power Supply
2. S/PDIF\*
3. 4-pin 3,5 mm jack, Composite  
video output, Stereo line output
4. HDMI
5. Ethernet LAN port
6. USB
7. Fn – Reset to factory settings/  
Load from the first U-boot/  
Select alternative NAND/  
“Emergency” – Load the basic  
software from USB/DHCP

\* Optional, may not be available on your device

**Connecting with HDMI – best quality**



**Connecting with AUDIO/VIDEO Input – good quality**



1. Red
2. White
3. Yellow



**Warning!** Switch off all the devices (TV, amplifier, etc.) and take the power supply unit out of the socket before connecting or disconnecting any cable. If the amplifier is not connected leave digital audio outputs disconnected.

\* Optional, may not be available on your device

## Using Remote Control to control the Device

This section explains how to unpack Remote Control (RC) and prepare it for work. Your service provider can supply the product with an alternative RC. In that case please refer to the manual supplied by your service provider. Remote Control requires two batteries type AAA, R03, LR03, UM-4, 286. Important information about using batteries. Do not mix different types of battery or old and new batteries. Do not use rechargeable batteries with the remote control. Remove the batteries from the remote control if you are not going to use it for several weeks, to avoid the risk of leakage. Please respect your environment and any local regulations and dispose of old batteries in a responsible manner.

**Caution!** Do not attempt to recharge the batteries. Immediately remove any leaking batteries. Take care when handling leaking batteries as they may cause burns to the skin or eyes, or other physical injuries.

### Introduction to the Programmable Remote Control Unit (optional)

If MAG322, MAG322w1 package includes a remote control with a block of five programmable buttons (marked with blue print colour), then you may want to

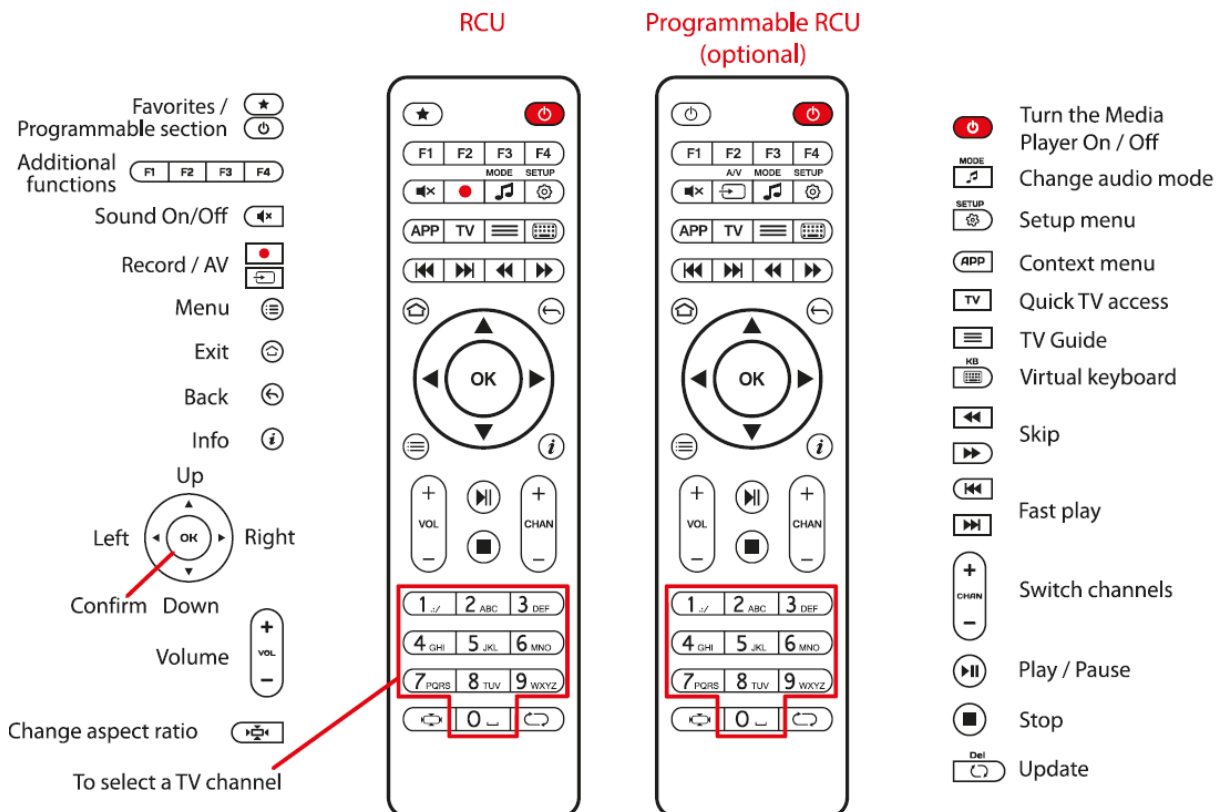
choose these buttons for controlling other devices (TV set, amplifier).

To program the buttons do the following:

- Press the «On/Off» and «A/V» buttons at the same time and hold it for 2 seconds. When the green light of the «On/Off» button will stop blinking and will light steadily, it means the RC is ready to learn.
- Press the button you want to «teach» — the green light will start blinking.
- Place the infrared lamps of two RCs opposite each other and press the button on the RC of the other device, the function of which you wish to copy on device RC. Hold for 2 seconds.
- After the green light two quick blinks you may continue programming other buttons.
- Repeat the procedure described above for all buttons you want to program for controlling external devices.
- Press the the «On/Off» and «A/V» buttons to save the programmed data; the green light should fade off.

### Reset

Press «SETUP» and «OK» buttons at same time and hold for 2 seconds red LED will flash 5 times. Reset is done.



## 6700+:

### Specifications

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#### Physical Parameters

Model: **6700+**  
Weight: 128 g  
Dimensions (approximately): 132 mm width,  
87 mm depth, 26 mm height

#### Operation temperature and Humidity

1°C - 40°C; 5% ~ 93%RH

#### Ethernet Interface

Ethernet Connector: RJ-45  
Cable: UTP and STP 5 categories  
Speed: Auto-choice, 10/100 Mbit/s  
Indicators: Green – Activity, Yellow – Connection

#### Wi-Fi Interface

Built-in Wi-Fi module: b/g/n (only MAG420w1)  
Operating frequency bands: 2400-2483.5 MHz  
Output power (E.I.R.P.): <20 dBm (100 mW)  
Internal Antenna gain: 3,38 dBi

#### Bluetooth Interface

Built-in Bluetooth 3.0, 4.1 (only MAG420w1)  
Operating frequency bands: 2400-2483.5 MHz  
Output power (E.I.R.P.): <20 dBm (100 mW)  
Internal Antenna gain: 3,38 dBi

#### Power supply Interface

Connector: DC cylindrical 2.1 mm x 5.5 mm  
Type: plug-and-socket, DC current, center plus  
Input: 12V±10%  
Power consumption: less than 7.5W in typical conditions

#### External Power Supply Unit

Type: Pulse with universal inlet  
Input: 110-240 V AC, 50-60Hz, 0.5A max  
Output: 12 V DC, 1A, 12 W  
Average active efficiency: 83% (min)  
Efficiency at low load (10%): 79.54% (min)  
No-load power consumption: < 0.1W

#### Package

Type: cardboard box.  
Dimensions (approx.): 225 mm width,  
95 mm depth, 60 mm height  
Shipping weight: 432 g

#### USB Interface

Type: USB 2.0 x 1 pcs., USB 3.0 x 1 pcs.

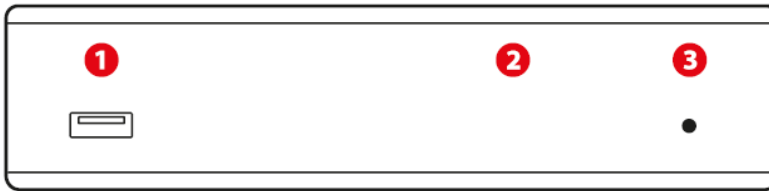
#### Supported Audio-Video Formats

Video codecs: MPEG1/2 MP@HL, MPEG4 part 2 (ASP),  
H.265 Main/Main 10@L5.1 High 2160p@60 fps (optional),  
H.264 AVC High@L5.1 2160p@30 fps, XviD,  
3D video support  
Video containers: TS, AVI, MPEG, MP4, MOV, MKV, M2TS, VOB  
Audio Codecs: MPEG L1/L2/L3, AAC-LC, HE AAC V1/V2,  
APE, FLAC  
This product supports Dolby Digital™  
Video modes: PAL, NTSC, 576p, 720p, 1080p, 1080i, 2160p  
Subtitles: DVB, PGS, SRT, SSA/ASS, SUB, Teletext subs,  
WebVtt, Closed captions

#### Audio-Video Interfaces

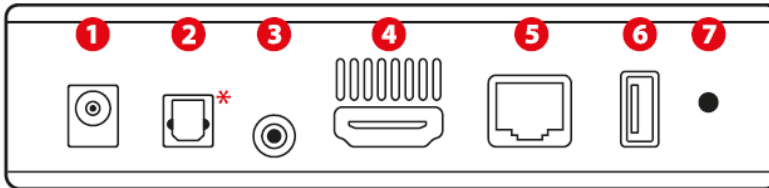
Audio Connectors: TRRS (On adapter cable:  
White=Left channel, Red=Right channel)  
Output: 2 V RMS nominal  
Loading: 10KΩ  
Composite Video Interface: TRRS (Yellow connector  
on adapter cable)  
Output: 1Vp-p

**Front Panel**



- 1. USB
- 2. IR-receiver
- 3. Indicator of stand-by mode/  
Indicator of the Remote Unit  
Buttons pushed

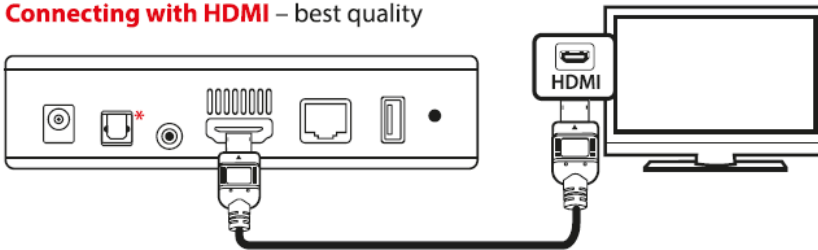
**Back Panel**



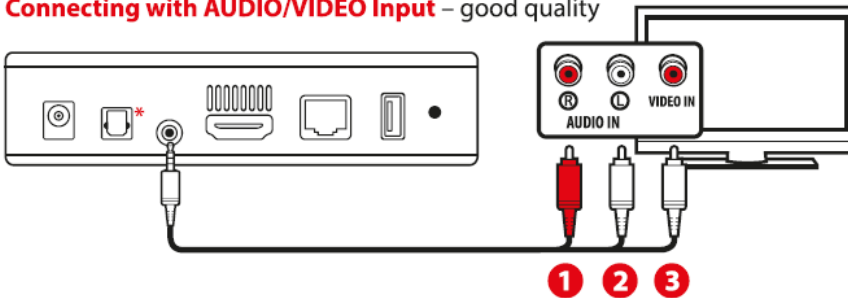
- 1. Power Supply
- 2. S/PDIF\*
- 3. 4-pin 3,5 mm jack, Composite  
video output, Stereo line output
- 4. HDMI
- 5. Ethernet LAN port
- 6. USB
- 7. Fn - Reset to factory settings/  
Load from the first U-boot/  
Select alternative NAND/  
"Emergency" - Load the basic  
software from USB/DHCP

\* Optional, may not be available on your device

**Connecting with HDMI – best quality**



**Connecting with AUDIO/VIDEO Input – good quality**



- 1. Red
- 2. White
- 3. Yellow



**Warning!** Switch off all the devices (TV, amplifier, etc.) and take the power supply unit out of the socket before connecting or disconnecting any cable. If the amplifier is not connected leave digital audio outputs disconnected.

\* Optional, may not be available on your device



## Instruction Manual-Pages for the 6800+ extracted:

### Regulatory information

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#### UK

This equipment has been tested and found to comply with the essential requirements of the following Regulations: The Radio Equipment Regulations 2017, The Electrical Equipment (Safety) Regulations 2016, Electromagnetic Compatibility Regulations 2016. This product is in accordance with The Waste Electrical and Electronic Equipment Regulations 2013. Hereby, Telecommunication Technology LLC declares that 6800+ (W) with the radio equipment type 802.11a/b/g/n/ac is in compliance with the Radio Equipment Regulations 2017. The full text of the declaration of conformity is available at the following internet address:

[www.infomir.eu/eng/support/declarations](http://www.infomir.eu/eng/support/declarations)

This device is certified for indoor deployment only in the 5150-5350 MHz band. Do not install or use this device outdoors in that frequency in the UK.

#### EU

This equipment has been tested and found to comply with the essential requirements of the following Directives: 2014/30/EU, 2014/35/EU, 2014/53/EU, 2009/125/EC, 2011/65/EU. This product is in accordance with Directive WEEE 2012/19/EU.

Hereby, Telecommunication Technology LLC declares that 6800+(W) with the radio equipment type 802.11a/b/g/n/ac is in compliance with the 2014/53/EU Directive. The full text of the EU declaration of conformity is available at the following internet address: [www.infomir.eu/eng/support/declarations](http://www.infomir.eu/eng/support/declarations) This device is certified for indoor deployment only in the 5150 – 5350 MHz band. Do not install or use this device outdoors in that frequency in the European Union.

#### FCC

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

#### FCC Caution:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1) this device may not cause harmful interference, and
- 2) this device must accept any interference received, including interference that may cause undesired operation.

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#### CAUTION:

Unauthorized antennas, modifications, or attachments could damage the device and violate FCC regulations. Changes or modifications not expressly approved by responsible party could void the user's authority to operate the equipment.

#### FCC Radiation Exposure Compliance (only for 6800+ (W)):

This equipment complies with radio frequency (RF) exposure limits set forth by the Federal Communications Commission for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This device is certified for indoor deployment only in the 5150 – 5250 MHz band. Do not install or use this device outdoors in that frequency in the United States.

### Warranty

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#### Warranty term:

##### Europe, MEASA and Oceania:

2 years from date of sale (but not more than 2,5 years from manufacture date).

##### The USA, Americas, Russia, Ukraine and other regions:

1 year from date of sale (but not more than 1,5 years from manufacture date).

See the date of manufacture at «Product Information» section. By virtue of the present Coupon, the absence of defects in manufacturing of the product and its compounds is warranted for a year-term counted since date of sale. If during the mentioned warranty term the defects of materials or operation of product will be found, the product would be repaired or its defective parts would be replaced free of charge in the warranty processing center with compliance with warranty conditions.

Skipped some pages...

## Specifications

### Physical Parameters

Model: 6800+, 6800+w  
Weight: 110 g (3,88 oz). Dimensions (approximately): 78 mm (3.07") depth, 120 mm (4,72") width, 21 mm (0.83") height

### Operation temperature and Humidity

1°C - 40°C (33,8 F - 104 F); 5% ~ 93%RH

### Ethernet Interface

Ethernet Connector: RJ-45  
Cable: UTP and STP 5 categories  
Speed: Auto-choice, 10/100 Mbit/s  
Indicators: Green – Activity, Yellow – Connection

### Wi-Fi Interface

Built-in Wi-Fi module: 2T2R ac (only 6800+w)  
Operating frequency bands:  
802.11 b/g/n 2400 MHz ~ 2497 MHz,  
802.11 a/n/ac 4900 MHz ~ 5845 MHz  
Output power (E.I.R.P.):  
IEEE 802.11 a/b/g/n/ac <20 dBm (100mW)  
Internal Antenna gain (max): 3,11 dBi (5 GHz), 2,69 dBi (2.4 GHz)

### HDMI Interface

Type: HDMI 2.1

### USB Interface

Type: USB 2.0 x 1 pcs., USB 3.0 x 1 pcs.

### Supported Audio-Video Formats

Video codecs: MPEG1/2 MP@HL, MPEG4 part 2 (ASP), H.265  
Main/Main 10@L5.1 High 2160p@60 fps (optional),

H.264 AVC High@L5.1 2160p@30 fps, XviD, 3D video support  
Video containers: TS, AVI, MPEG, MP4, MOV, MKV, M2TS, VOB  
Audio Codecs: MPEG L1/L2/L3, AAC-LC, HE AAC V1/V2, APE, FLAC  
This product supports Dolby Digital Plus™  
Video modes: PAL, NTSC, 576p, 720p, 1080p, 1080i, 4K  
Subtitles: DVB, PGS, SRT, SSA/ASS, SUB, Teletext subs, WebVtt, Closed captions

### Power supply Interface

Connector: DC cylindrical 1.35 mm x 3.5 mm  
Type: center plus  
Input: 5V  
Power Consumption: max 5W in typical conditions

### External Power Supply Unit

Type: Pulse with universal inlet  
Input: 90–264 V AC, 50–60 Hz, 0.4 A max  
Output: 5 V DC, 2 A, 10 W

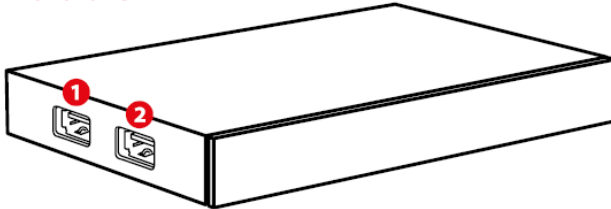
### Package

Type: cardboard box.  
Dimensions (approx.): 225 mm (8.86") width, 95 mm (3.74") depth, 60 mm (2.36") height  
Shipping weight: 432 g (15.24 oz)

*NOTE: SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE. INFOMIR RESERVES THE RIGHT TO REVISE THIS PUBLICATION AND TO MAKE CHANGES IN ITS CONTENT FROM TIME TO TIME BY POSTING NEW SPECIFICATIONS AND OTHER CONTENT AT WWW.INFOMIR.EU*

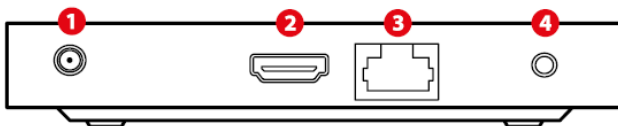
## About your 6800, 6800+w

### Front Panel



1. USB 2.0
2. USB 3.0

### Back Panel

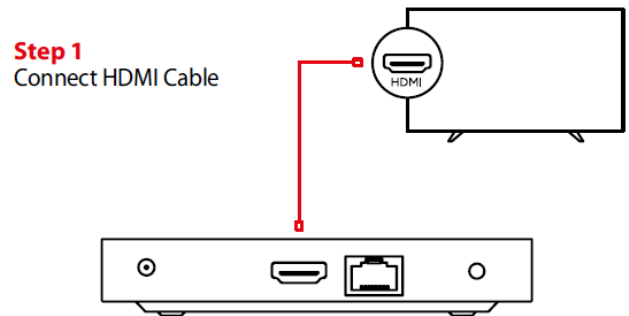


1. Power Supply 5V
2. HDMI 2.1
3. Ethernet LAN port
4. Fn – Reset to factory settings/ Load from the first U-boot/ "Emergency" – Load the basic software from USB/DHCP

## Connecting to 6800+, 6800w

### Step 1

Connect HDMI Cable



### Step 2

Connect Power Supply Unit



### Step 3

Connect to the Internet (via Ethernet or Wi-Fi)



**WARNING!** SWITCH OFF ALL THE DEVICES (TV, AMPLIFIER, ETC.) AND TAKE THE POWER SUPPLY UNIT OUT OF THE SOCKET BEFORE CONNECTING OR DISCONNECTING ANY CABLE. ONLY IN 6800+W

## Using Remote Control to control the Device

### Remote Control SRC-4015



This section explains how to unpack Remote Control (RC) and prepare it for work. Your service provider can supply the product with an alternative RC. In that case please refer to the manual supplied by your service provider. Remote Control requires two batteries type AAA, UM-4.

### Code page alteration

The SRC-4015 remote control is designed with the ability to switch over three different Infra-Red systems or Code Pages (CP). The need to change the code page may arise if the STB remote control interferes with other devices, a TV for example. Initially, the RC and STB are both set to the default CP #14.

### How to change the SRC-4015 code page




#### Step1

Changing the CP on the RC. Simultaneously press and hold the "App"  and "TV"  buttons for 3+ seconds to change the current CP to the next one. By doing this, you can switch it to 2 alternative CPs or return to the default CP option. For each CP option, the RC LED flashes in different ways:

- First time pressing "App+TV" - the second CP option #11 is selected. The LED blinks once.
- Second time pressing "App+TV" - the third CP option #24 is selected. The LED blinks twice.
- Third time pressing "App+TV" - it returns back to the (default) CP option #14. The LED blinks three times.

#### Step2

Changing the STB CP. Point the RC directly at the STB and press the following 3 keys in the following order:

"Rewind" , "Num 0" , "Forward" . The STB's LED should blink once. If you followed these instructions, the STB should react accordingly.

### Important information about using batteries

Do not mix different types of battery or old and new batteries. Do not use rechargeable batteries with the remote control. Remove the batteries from the remote control if you are not going to use it for several weeks, to avoid the risk of leakage. Please respect your environment and any local regulations and dispose of old batteries in a responsible manner.

**CAUTION!** DO NOT ATTEMPT TO RECHARGE THE BATTERIES. IMMEDIATELY REMOVE ANY LEAKING BATTERIES. TAKE CARE WHEN HANDLING LEAKING BATTERIES AS THEY MAY CAUSE BURNS TO THE SKIN OR EYES, OR OTHER PHYSICAL INJURIES.






In some regions we might not deliver batteries in the accessories at all caused by national regulations and transportation rules (i.e. airfreights)

## Using Remote Control to control the Device



### Introduction to the Programmable Remote Control Unit (optional)

If 6800+, 6800+w package includes a remote control with a block of five programmable buttons (marked with blue print colour), then you may want to choose these buttons for controlling other devices (TV set, amplifier).

### To program the buttons do the following:

1. Press the "On/Off"  and "A/V"  buttons at the same time and hold it for 2 seconds. When the green light of the "On/Off"  button will stop blinking and will light steadily, it means the RC is ready to learn.
2. Press the button you want to «teach» — the green light will start blinking.
3. Place the infrared lamps of two RCs opposite each other and press the button on the RC of the other device, the function of which you wish to copy on device RC. Hold for 2 seconds.
4. After the green light two quick blinks you may continue programming other buttons.
5. Repeat the procedure described above for all buttons you want to program for controlling external devices.
6. Press the the "On/Off"  and "A/V"  buttons to save the programmed data; the green light should fade off.

### Reset

Press "SETUP"  and "OK"  buttons at same time and hold for 2 seconds red LED will flash 5 times. Reset is done.

Programmable Remote Control SRC-4513 (optional)

Programmable section

Additional functions

Sound On/Off

A/V

Context menu

Quick TV access

Exit

Menu

Up

Down

Left

Right

OK

Confirm

Volume

Play / Pause

Stop

Change aspect ratio

Update

Turn the Media Player On/Off

Change audio mode

Setup menu

TV Guide

Virtual keyboard

Back

Info

Switch channels

Rewind

Fast forward

Skip backwards

Skip forward

TV channel section

BUTTONS ALLOWED TO STORE COPIED DATA

## Manual IPTV channel setup

In this chapter we will explain how to manually setup the IPTV channellist in the STB.

### In the internal software. Editing the channel list

- Enter to "IPTV Channels"
- Activate the menu by pressing the «menu» on the remote control.
- In the menu, select "GROUP" → "Edit Mode".
- "New Entry" (blue button on the remote control).
- In the dialog box, enter the necessary data.

To enter characters you can use the number buttons remote control, onscreen keyboard (button «KB» on the remote control) or a standard keyboard connected to USB port.

- Name: Channel name (actual or desired).
- URL: «solution» «URL address channel».
- Save your entries - «Save».

To edit the channel select «Edit Entry» (yellow button on the remote control).

To delete the channel select «Delete Entry» (The green button on the remote control).

- Exit the edit mode «Quit» (The red button on the remote control).
- Confirm to save changes.

Type of "STREAMS"	Description
<b>auto</b>	Automatic detection of the type of content, container, codec by the given URL, if the URL begins from rtp:, udp:, rtsp:.
<b>rtp</b>	Play the string in the format MPEG2TS. If URL begins with rtp:, the RTP stream shall be played, if it begins with udp: , the UDP stream shall be played.
<b>rtsp</b>	set required codecs if additional information on the stream is present, for example, H.264, AC-3 ,etc.
<b>ifm</b>	Play an audio stream Internet radio address
<b>fm</b>	Play audio from MPEG-TS stream (udp:, rtp:)
<b>ffmpeg</b>	Play files in various formats: avi, mkv,mpg, mp4, mov, wmv, AC-3,
<b>ffrt</b>	Play MPEG-TS stream from the http server.
<b>ffrt2</b>	Play streams with http, rtmp, ... container but there may be no MPEG-TS. Looping content is always on (SetLoop(true)).
<b>ffrt3</b>	Similarly ffrt2, but assumes no realtime stream. That is, with the ability to position itself on the content. Suitable for playing back videos from YouTube.
<b>SRT</b>	<i>(only new 6700 STB with beta Software)</i> Address has to be entered: <b>srt://IP:port</b>

### To play streaming, live linear content

Streaming specification shall be as follows: rtp space(gap) URL.

For example:

1. rtp udp://10.20.30.40:1234
2. rtp rtp://10.20.30.40:1234

For receiving a stream from **RTSP-server** the address shall be as following: *rtsp space(gap) URL*.

### For broadcasted http unicasts

For example:

1. ffmpeg http://10.10.30.40:12434

It is also possible to use "STREAMS" - fm, ffrt, ffrt2, ffrt3. Depending on the type of streaming.

- Save your entries - «Save».

To edit the channel select «Edit Entry» (Yellow button on the remote control).

To delete a channel select «Delete Entry» (The green button on the remote control).

- Exit the edit mode «Quit» (The red button on the remote control).
- Confirm to save changes «Save».

## Loading a default channel list from a server:

- Enter to "IPTV Channels"
- Activate the menu by pressing the «menu» on the remote control.
- From the menu choose "Download ..."
- Enter URL - full address of the file containing the list of default channels.

for example: http://192.168.1.1/chanlist.m3u

**If the channel list is not loaded:**

- incorrect address (URL);
- no connection to the server;
- file with that name on the server was not found;
- file has an incorrect format.

## Creating a Playlist and copy it to the IPTV STB

### Load a previously created list from a USB drive or via SMB / NFS

- Open file format \*.m3u from a **USB drive** or from the available network resources (USB-storages «mount» automatically in «**Media Browser**» or «**Home Media**», Local Area Net resources are available in **SMB-browser-«SAMBA»** in «**Media Browser**» or «**Home Media**»);
- Open and confirm the question about the encoding of the file if this pop up;
- Save the list of channels;
- If you refuse to save the channel list, you can select the channels (**F3** button on remote or "**menu**" - "**Select All**") and add them to the "**IPTV Channels**" - "**menu**" - "**Copy**" - "**TV**" button on remote - "**menu**" - "**Paste**"

**File Format:** m3u, UTF-8 encoding (recommended)

The USB pen drive should be formatted as FAT32. NTFS is not supported by the STB's.

### Content of the playlist m3u file as example

```
#EXTM3U
#EXTINF:0,HD Media
ffmpeg http://89.208.33.168:8100/
#EXTINF:0,HD Live
ffrt2 rtmp://wms002.pik-tv.com/live/piktv3pik3tv
#EXTINF:0, RBC
ffmpeg mmsh://tv.gldn.net/rbc
#EXTINF:0,ORANGE SPORT INFO TV
ffrt2 mmsh://livewm.orange.fr/live-multicanaux
#EXTINF:0,Panaropa
ifm http://mirror.radiogora.com:10040
```

**Not allowed:**

- Empty newlines
- Headers by VLC player

If simple udp or rtp streams are used, it might be that the pre-config expression like auto *or ffmpeg* can be used or even skipped like shown in following example.

## Updating the channellist by USB port, using VLC as a Playlist-generator:

Stream Information from the sources: 2x BLANKOM DRD700 for FTA:

**DRD 700** Logged in as: admin (192.168.0.108) [Logout](#)

Home  
Input  
Common Interface  
Multiplexer  
Output  
LAN  
System  
User Accounts  
Update  
Version  
License  
Logbook  
Contact

**Output > SPTS**

MPTS | SPTS

Set

EIT Insertion:  ON  OFF

SAP Insertion:  ON  OFF

No.	Source	Enabled	Port	Destination Address	Protocol	Output	
1	TS 1 - 0x2887 - tagesschau24 HD	<input checked="" type="checkbox"/>	10011	225.1.1.2	UDP	LAN 1	Delete
2	TS 1 - 0x2888 - ONE HD	<input checked="" type="checkbox"/>	10012	225.1.1.2	UDP	LAN 1	Delete
3	TS 1 - 0x288A - SR Fernsehen HD	<input checked="" type="checkbox"/>	10013	225.1.1.2	UDP	LAN 1	Delete
4	TS 2 - 0x2B8E - 3sat HD	<input checked="" type="checkbox"/>	10014	225.1.1.2	UDP	LAN 1	Delete
5	TS 2 - 0x2B98 - KiKA HD	<input checked="" type="checkbox"/>	10015	225.1.1.2	UDP	LAN 1	Delete
6	TS 2 - 0x2BA2 - ZDFinfo HD	<input checked="" type="checkbox"/>	10016	225.1.1.2	UDP	LAN 1	Delete
7	TS 3 - 0x6DCA - Das Erste	<input checked="" type="checkbox"/>	10017	225.1.1.2	UDP	LAN 1	Delete
8	TS 3 - 0x6DCB - BR Fernsehen Süd	<input checked="" type="checkbox"/>	10018	225.1.1.2	UDP	LAN 1	Delete
9	TS 3 - 0x6DCC - hr-fernsehen	<input checked="" type="checkbox"/>	10019	225.1.1.2	UDP	LAN 1	Delete
10	TS 3 - 0x6DCF - WDR Köln	<input checked="" type="checkbox"/>	10020	225.1.1.2	UDP	LAN 1	Delete
11	TS 3 - 0x6DD1 - SWR Fernsehen BW	<input checked="" type="checkbox"/>	10021	225.1.1.2	UDP	LAN 1	Delete
12	TS 4 - 0x6D66 - ZDF	<input checked="" type="checkbox"/>	10022	225.1.1.2	UDP	LAN 1	Delete
13	TS 4 - 0x6D67 - 3sat	<input checked="" type="checkbox"/>	10023	225.1.1.2	UDP	LAN 1	Delete
14	TS 4 - 0x6D68 - KiKA	<input checked="" type="checkbox"/>	10024	225.1.1.2	UDP	LAN 1	Delete
15	TS 4 - 0x6D6E - zdf_neo	<input checked="" type="checkbox"/>	10025	225.1.1.2	UDP	LAN 1	Delete
16	TS 4 - 0x6D6C - Dlf Kultur	<input checked="" type="checkbox"/>	10026	225.1.1.2	UDP	LAN 1	Delete

Add Channel Delete All

**DRD 700**

MPTS | SPTS

Set

EIT Insertion:  ON  OFF

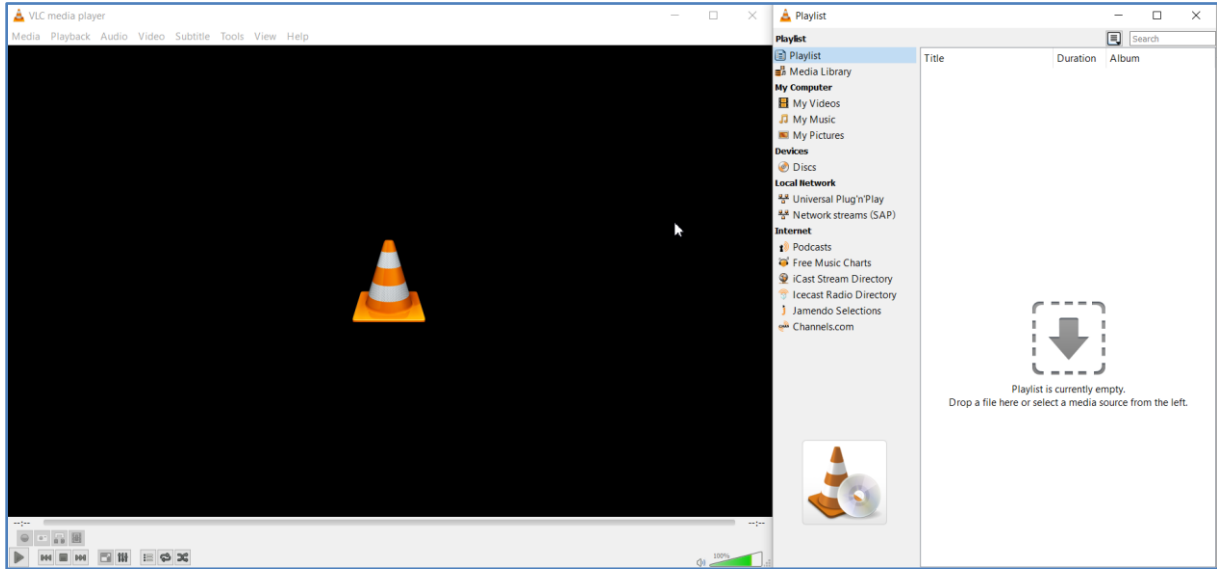
SAP Insertion:  ON  OFF

No.	Source	Enabled	Port	Destination Address	Protocol	Output	
1	TS 1 - 5001 - BBC World News Europe HD	<input checked="" type="checkbox"/>	1001	225.1.1.1	UDP	LAN 1	Delete
2	TS 1 - 5021 - NHK World TV	<input checked="" type="checkbox"/>	1002	225.1.1.1	UDP	LAN 1	Delete
3	TS 1 - 5031 - Al Jazeera English HD	<input checked="" type="checkbox"/>	1003	225.1.1.1	UDP	LAN 1	Delete
4	TS 1 - 5081 - MB LIVE	<input checked="" type="checkbox"/>	1004	225.1.1.1	UDP	LAN 1	Delete
5	TS 2 - 28800 - RTL Austria	<input checked="" type="checkbox"/>	1005	225.1.1.1	UDP	LAN 1	Delete
6	TS 2 - 28805 - VOX Austria	<input checked="" type="checkbox"/>	1006	225.1.1.1	UDP	LAN 1	Delete
7	TS 2 - 28810 - RTL2 Austria	<input checked="" type="checkbox"/>	1007	225.1.1.1	UDP	LAN 1	Delete
8	TS 2 - 28815 - SUPER RTL A	<input checked="" type="checkbox"/>	1008	225.1.1.1	UDP	LAN 1	Delete
9	TS 2 - 31200 - Eurosport 1 Deutschland	<input checked="" type="checkbox"/>	1009	225.1.1.1	UDP	LAN 1	Delete
10	TS 2 - 31210 - HSE24 EXTRA	<input checked="" type="checkbox"/>	1010	225.1.1.1	UDP	LAN 1	Delete
11	TS 2 - 31220 - EURONEWS FRENCH SD	<input checked="" type="checkbox"/>	1011	225.1.1.1	UDP	LAN 1	Delete
12	TS 2 - 28820 - VOX CH	<input checked="" type="checkbox"/>	1012	225.1.1.1	UDP	LAN 1	Delete
13	TS 2 - 28825 - RTL CH	<input checked="" type="checkbox"/>	1013	225.1.1.1	UDP	LAN 1	Delete
14	TS 2 - 31230 - EURONEWS GERMAN SD	<input checked="" type="checkbox"/>	1014	225.1.1.1	UDP	LAN 1	Delete
15	TS 3 - 17500 - SAT.1	<input checked="" type="checkbox"/>	1015	225.1.1.1	UDP	LAN 1	Delete
16	TS 3 - 17501 - ProSieben	<input checked="" type="checkbox"/>	1016	225.1.1.1	UDP	LAN 1	Delete
17	TS 3 - 17502 - kabel eins	<input checked="" type="checkbox"/>	1017	225.1.1.1	UDP	LAN 1	Delete
18	TS 3 - 17503 - N24	<input checked="" type="checkbox"/>	1018	225.1.1.1	UDP	LAN 1	Delete
19	TS 3 - 17504 - SAT.1 Gold	<input checked="" type="checkbox"/>	1019	225.1.1.1	UDP	LAN 1	Delete
20	TS 3 - 17505 - Pro7 MAXX	<input checked="" type="checkbox"/>	1020	225.1.1.1	UDP	LAN 1	Delete
21	TS 3 - 17507 - SAT.1 Bayern	<input checked="" type="checkbox"/>	1021	225.1.1.1	UDP	LAN 1	Delete
22	TS 3 - 17508 - SAT.1 NRW	<input checked="" type="checkbox"/>	1022	225.1.1.1	UDP	LAN 1	Delete
23	TS 4 - 17306 - NetViet	<input checked="" type="checkbox"/>	1023	225.1.1.1	UDP	LAN 1	Delete
24	TS 4 - 17320 - Thai Global Network	<input checked="" type="checkbox"/>	1024	225.1.1.1	UDP	LAN 1	Delete
25	TS 4 - 17317 - TBN Russia	<input checked="" type="checkbox"/>	1025	225.1.1.1	UDP	LAN 1	Delete
26	TS 4 - 17316 - Music Box Russia	<input checked="" type="checkbox"/>	1026	225.1.1.1	UDP	LAN 1	Delete
27	TS 4 - 17312 - CNL	<input checked="" type="checkbox"/>	1027	225.1.1.1	UDP	LAN 1	Delete
28	TS 4 - 17309 - Ukraine 24	<input checked="" type="checkbox"/>	1028	225.1.1.1	UDP	LAN 1	Delete

Add Channel Delete All

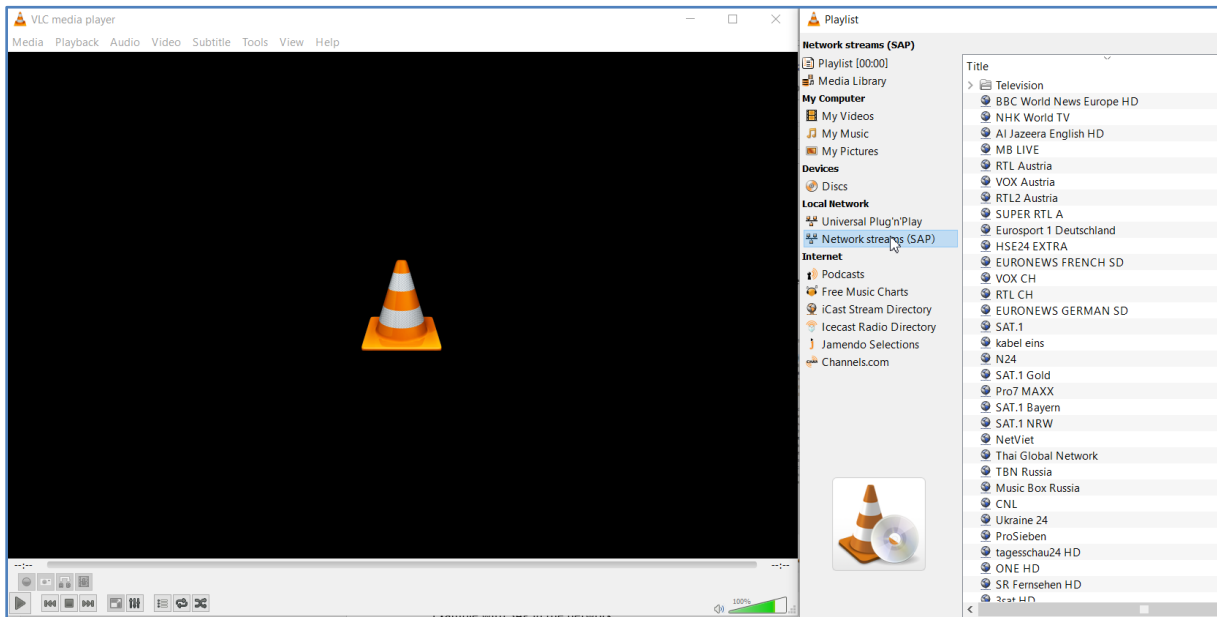
Rem  
If yo

1st open VLC + Playlist



Example with SAP in the network:

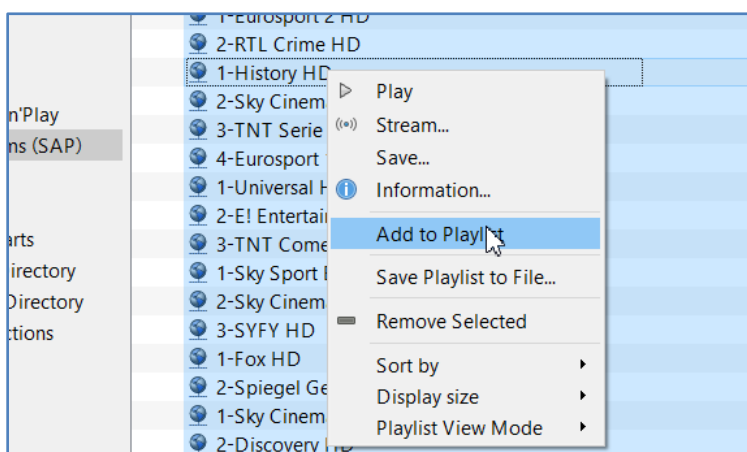
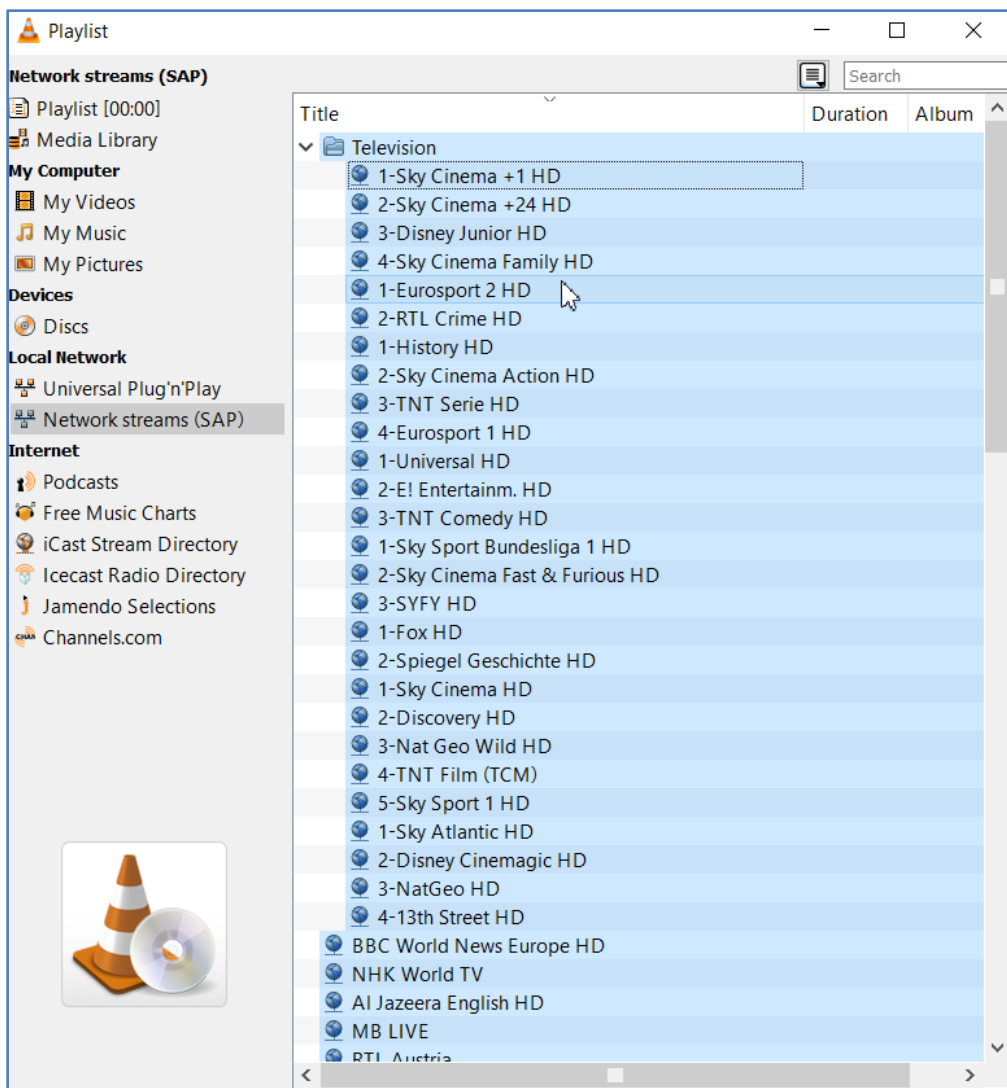
Switch to local network streams- SAP and wait 1 minute to make sure VLC collects the channel data from the SAP broadcast carousels:



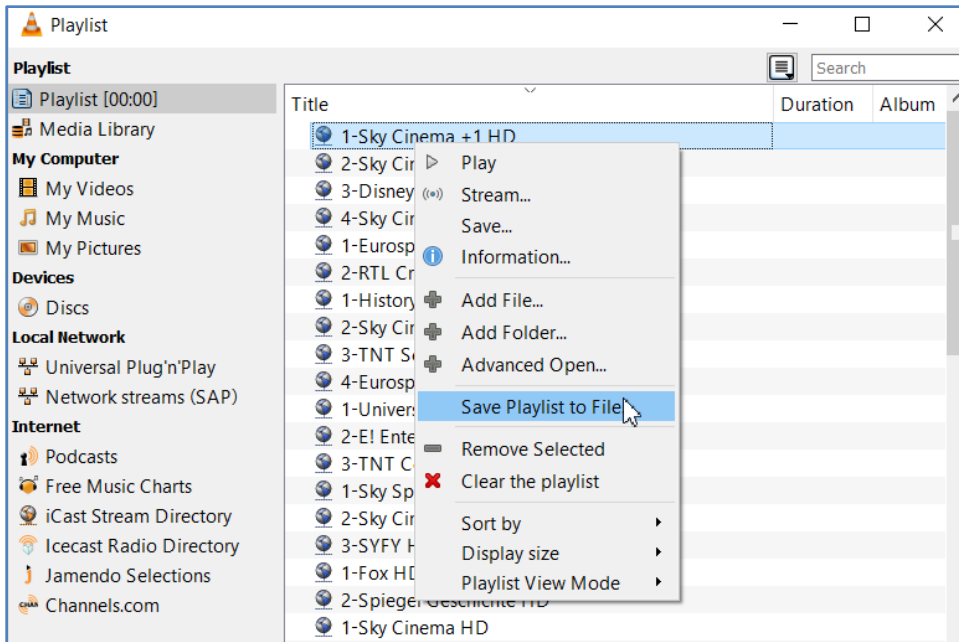
**NOTE:** The Multicast IP addresses should not be equal for all streams. Please change that and ignore these listings above. IP-Address and portnumbers should be different (both) for every Stream. See end of this document : Recommendations how to use Multicast stream addresses according to IANNA...

**Mark all:**



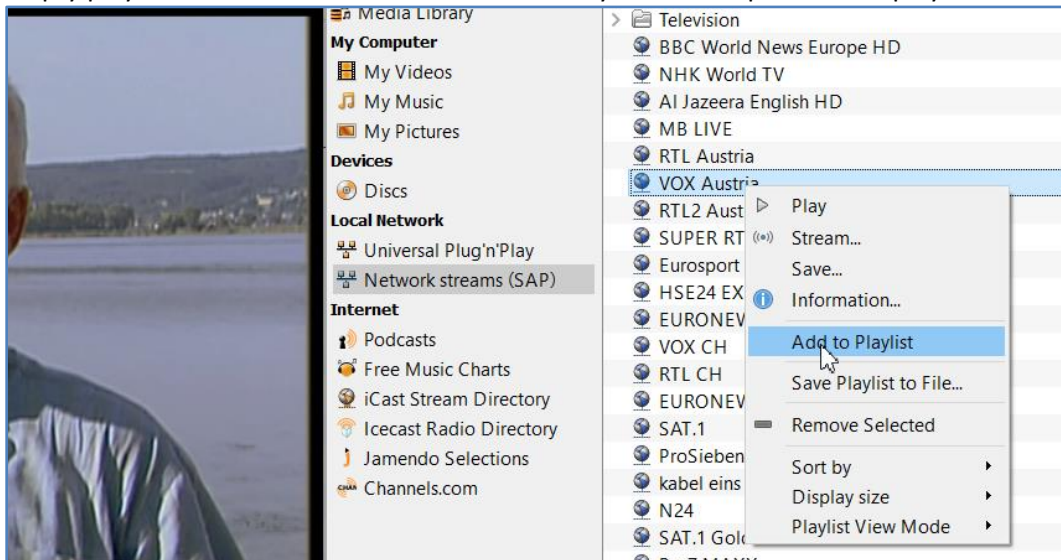


Change to playlist and export it:

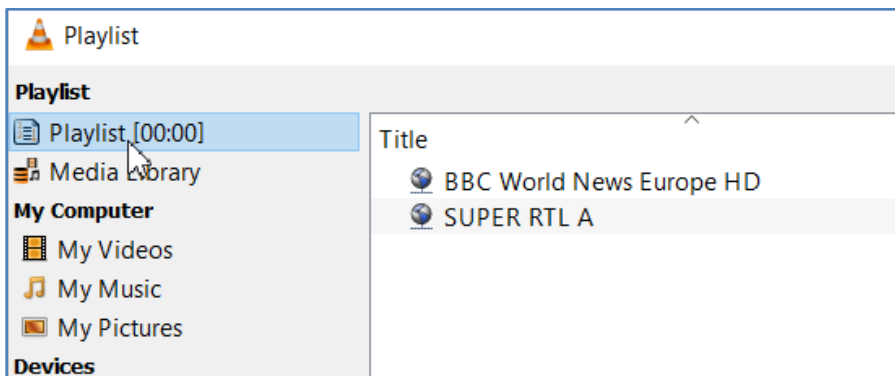


Or if you like to change the order upfront:

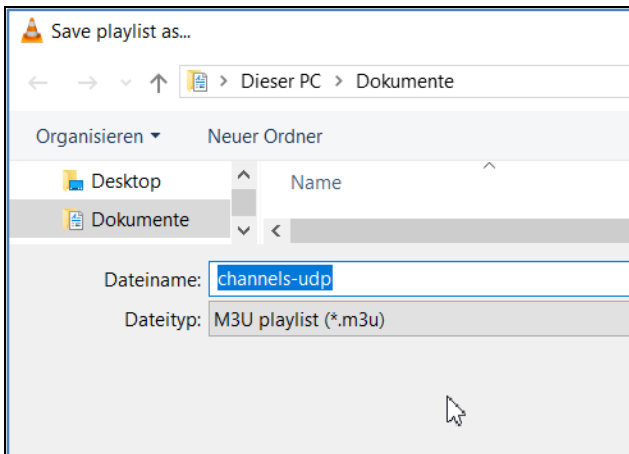
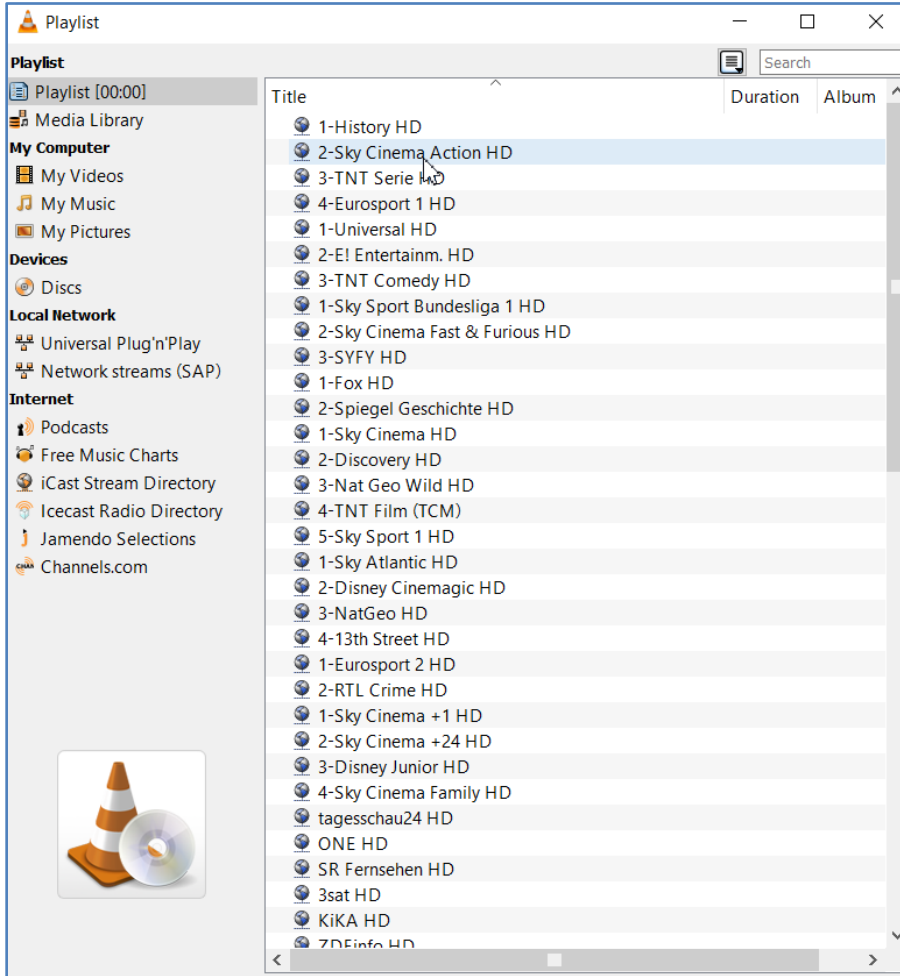
Empty playlist and doubleclick one after the other you want to place in the playlist:



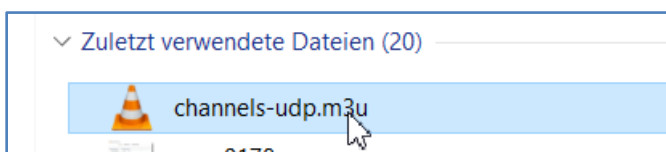
And sent them to playlist window:



We simply import all now regardless of sorting issues:



Check it:



i.e. with notepad++:

And here we go:

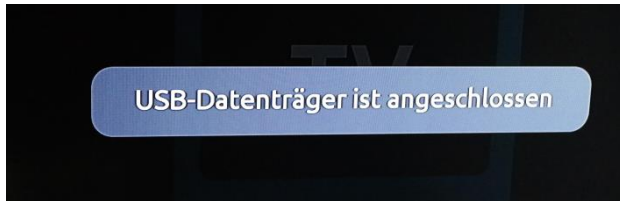
```

D:\Dokumente\channels-udp.m3u - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
painter.nfo x install.bt x support FRITZ.Box 7490 (UJ) 113.06.92_13.12.17_0620.bt x BLANKOM-Logo-COLOR.bt x testwiedergabeliste.m3u x channels-udp.m3u x
1 #EXTM3U
2 #EXTINF:0,1-History HD
3 udp://@239.2.1.40:1234
4 #EXTINF:0,2-Sky Cinema Action HD
5 udp://@239.2.1.41:1234
6 #EXTINF:0,3-TNT Serie HD
7 udp://@239.2.1.42:1234
8 #EXTINF:0,4-Eurosport 1 HD
9 udp://@239.2.1.43:1234
10 #EXTINF:0,1-Universal HD
11 udp://@239.2.1.60:1234
12 #EXTINF:0,2-E! Entertainment. HD
13 udp://@239.2.1.61:1234
14 #EXTINF:0,3-TNT Comedy HD
15 udp://@239.2.1.62:1234
16 #EXTINF:0,1-Sky Sport Bundesliga 1 HD
17 udp://@239.2.1.70:1234
18 #EXTINF:0,2-Sky Cinema Fast & Furious HD
19 udp://@239.2.1.71:1234
20 #EXTINF:0,3-SYFY HD
21 udp://@239.2.1.72:1234
22 #EXTINF:0,1-Fox HD
23 udp://@239.2.2.1:1234
24 #EXTINF:0,2-Spiegel Geschichte HD

```

If you like, you can add other streams (like unicast addresses) or modify now.  
Put this listing on a USB stick FAT32 in the root folder, name it like channels.m3u and start importing in the STB:  
Before: Channel-List is empty:





after plugin of USB stick

Goto Home Media in the startpage:

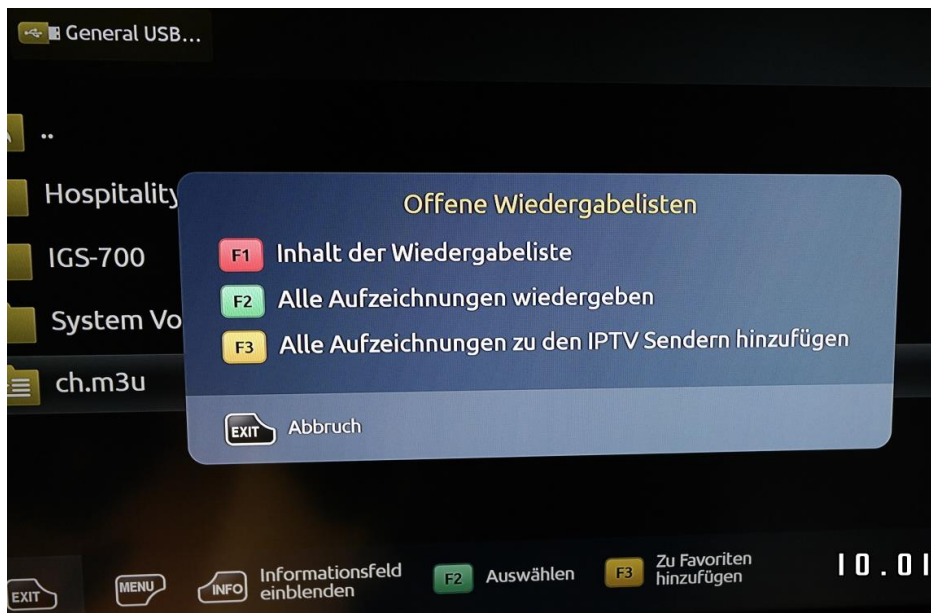


USB content will popup:



Select the channel-list .m3u and:

Select F3:



Confirmed import:





Success!!!



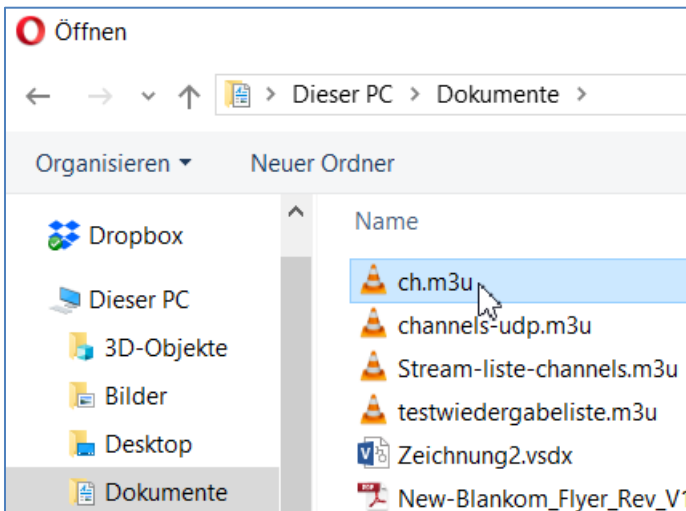
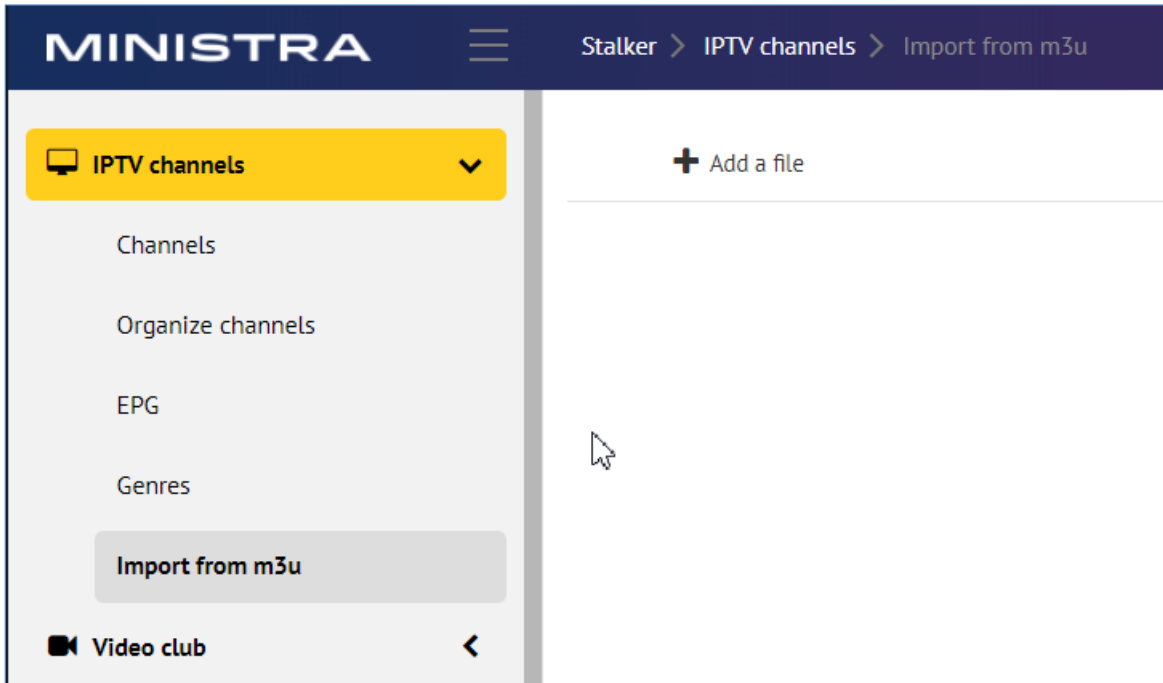
Later on, manual adding/editing is possible:





## Using the Middleware-Server Portal and import the Playlist

The STB's can start as standalone units connected to a multicast network (or Unicast system) or can be forced to load it's entry portal from a middleware server. In this case, the STB's in the network are managed by this portal-server by the administrator. The 'User' = the single boxes can be controlled and need to be enabled by the server administrator menu.



*e' Voila*

Channel number	Channel name	Streaming links	Genre	XMLTV ID
1	1-Sky Cinema HD	udp://@239.2.1.10:1234	Documentary	
2	2-Discovery HD	udp://@239.2.1.11:1234	Documentary	
3	3-Nat Geo Wild HD	udp://@239.2.1.12:1234	Documentary	
4	4-TNT Film (TCM)	udp://@239.2.1.13:1234	Documentary	
5	5-Sky Sport 1 HD	udp://@239.2.1.13:1234	Documentary	
6	1-Fox HD	udp://@239.2.2.1:1234	Documentary	
7	2-Spiegel Geschichte HD	udp://@239.2.2.1:1234	Documentary	

Here they are:

NR	Logo	Title	Genre	Language	URL	Archive	Monitoring status	Status
1		1-Sky Cinema HD	Documentary		udp://@239.2.1.10:1234	-	Monitoring off	On
2		2-Discovery HD	Documentary		udp://@239.2.1.11:1234	-	Monitoring off	On
3		3-Nat Geo Wild HD	Documentary		udp://@239.2.1.12:1234	-	Monitoring off	On
4		4-TNT Film (TCM)	Documentary		udp://@239.2.1.13:1234	-	Monitoring off	On
5		5-Sky Sport 1 HD	Documentary		udp://@239.2.1.13:1234	-	Monitoring off	On
6		1-Fox HD	Documentary		udp://@239.2.2.1:1234	-	Monitoring off	On
7		2-Spiegel Geschichte HD	Documentary		udp://@239.2.2.1:1234	-	Monitoring off	On
8		1-Sky Cinema +1 HD	Documentary		udp://@239.2.1.30:1234	-	Monitoring off	On
9		2-Sky Cinema +24 HD	Documentary		udp://@239.2.1.31:1234	-	Monitoring off	On
10		3-Disney Junior HD	Documentary		udp://@239.2.1.32:1234	-	Monitoring off	On
11		4-Sky Cinema Family HD	Documentary		udp://@239.2.1.33:1234	-	Monitoring off	On
12		1-Sky Sport Bundesliga 1 HD	Documentary		udp://@239.2.1.70:1234	-	Monitoring off	On
13		2-Sky Cinema Fast & Furious HD	Documentary		udp://@239.2.1.71:1234	-	Monitoring off	On
14		3-SYFY HD	Documentary		udp://@239.2.1.72:1234	-	Monitoring off	On
15		1-Eurosport 2 HD	Documentary		udp://@239.2.1.50:1234	-	Monitoring off	On

After that, a fine tuning of each should be done, because no Genre and other information where transmitted by the playlist-m3u-file.

## BIOS SETTINGS

How to enter the BIOS setup (bootloader menu) on the IPTV STB?:

- Power off STB
- Press and hold «menu» button on the RC (or the power button on the front panel).

### Menu button on new remote control:



- Without releasing the «menu» button (or the power button on the front panel) **Power ON** the STB
- Release “menu” button when BIOS is loaded

If there is no image on the screen maybe your TV **doesn't support PAL** system,

**Then complete next steps:**

Unplug power of STB

-Press and hold “**Menu**” button on RC (direct your RC to STB)

-Plug power on STB with holding “**Menu**” button

-Hold “**Menu**” button during 5-10 seconds.

-Switch **PAL - NTSC** with single press on red button “**F1**” on RC.

You will finally and somehow enter this embedded BIOS –Menu:



Other STB: It might be different


## Inserting Batteries

This section explains how to unpack Remote Control (RC) and prepare it for work. Your service provider can supply the product with an alternative RC. In that case please refer to the manual supplied by your service provider.

### Inserting batteries

Remote Control requires two batteries type AAA, R03, LR03, UM-4, 286.


**Inserting batteries into Remote Control.**



<p>Shift the battery cover located on back side of RC as shown in the picture.</p>	<p>Insert two batteries type AAA (included in package) taking care to observe the correct polarity as shown on RC.</p>	<p>Replace the battery cover as shown in the picture. Average lifetime of a batteries is about 1 year.</p>
--	--	--

### Important information about using batteries

Do not mix different types of battery or old and new batteries.  
Do not use rechargeable batteries with the remote control.  
Remove the batteries from the remote control if you are not going to use it for several weeks, to avoid the risk of leakage.  
Please respect your environment and any local regulations and dispose of old batteries in a responsible manner.

 **Caution!** Do not attempt to recharge the batteries. Immediately remove any leaking batteries. Take care when handling leaking batteries as they may cause burns to the skin or eyes, or other physical injuries.

## About Multicast streams:

### Multicast Address Ranges:

We recommend, that the addressing of your Multicast streams should be in conjunction with this listings to avoid conflicts with other network equipment or protocols.

<https://www.iana.org/assignments/multicast-addresses/multicast-addresses.xhtml>

One small part from this:

### IPv4 Multicast Address Space Registry

#### Last Updated

2018-01-05

#### Expert(s)

Stig Venaas

#### Note

Host Extensions for IP Multicasting [RFC1112] specifies the extensions required of a host implementation of the Internet Protocol (IP) to support multicasting. The multicast addresses are in the range 224.0.0.0 through 239.255.255.255. Address assignments are listed below.

The range of addresses between 224.0.0.0 and 224.0.0.255, inclusive, is reserved for the use of routing protocols and other low-level topology discovery or maintenance protocols, such as gateway discovery and group membership reporting. Multicast routers should not forward any multicast datagram with destination addresses in this range, regardless of its TTL.

**Available Formats****Registries included below**

- [Local Network Control Block \(224.0.0.0 - 224.0.0.255 \(224.0.0/24\)\)](#)
- [Internetwork Control Block \(224.0.1.0 - 224.0.1.255 \(224.0.1/24\)\)](#)
- [AD-HOC Block I \(224.0.2.0 - 224.0.255.255\)](#)
- [RESERVED \(224.1.0.0-224.1.255.255 \(224.1/16\)\)](#)
- [SDP/SAP Block \(224.2.0.0-224.2.255.255 \(224.2/16\)\)](#)
- [AD-HOC Block II \(224.3.0.0-224.4.255.255 \(224.3/16, 224.4/16\)\)](#)
- [RESERVED \(224.5.0.0-224.251.255.255 \(251 /16s\)\)](#)
- [DIS Transient Groups 224.252.0.0-224.255.255.255 \(224.252/14\)](#)
- [RESERVED \(225.0.0.0-231.255.255.255 \(7 /8s\)\)](#)
- [Source-Specific Multicast Block \(232.0.0.0-232.255.255.255 \(232/8\)\)](#)
- [GLOP Block](#)
- [AD-HOC Block III \(233.252.0.0-233.255.255.255 \(233.252/14\)\)](#)
- [Unicast-Prefix-based IPv4 Multicast Addresses](#)
- [Scoped Multicast Ranges](#)
- [Relative Addresses used with Scoped Multicast Addresses](#)

Multicast (as opposed to unicast) is used to send UDP packets from 1 source to multiple destination servers. This is useful for example for streaming from a satellite/DVB-T receiver to multiple receiving PCs for playback. Multicast can also be used on the output of an encoder to feed multiple streaming servers. Multicast only works with UDP and is not possible with TCP due to the 2 way nature of TCP, most commonly multicast is used with RTP and MPEG2-TS.

A multicast IP address must be chosen according to IANA information, we recommend using an address in the range **239.0.0.0 to 239.255.255.255** as this is reserved for private use. Using multicast addresses in the 224.0.0.0 range may clash with existing services and cause your stream to fail. For more details see <http://www.iana.org/assignments/multicast-addresses/multicast-addresses.xml>

Choosing a UDP port number for multicast streams is also important. Even if you use a different multicast IP for each of your streams, we strongly recommend using different UDP port numbers as well. This is because a server and all software running on the server receives ALL multicast traffic on an open port and extra processing is required to filter out the required traffic. If the each stream arrives on a different port, the server can safely ignore any traffic on ports that are not open. Port numbers MUST be chosen so that don't clash with any existing services or ephemeral ranges. The ephemeral range for Windows Vista, 7, 2008 is 49152 to 65535, for older Windows it is 1025 to 5000 and for Linux it is 32768 to 61000. For more information on Windows see <http://support.microsoft.com/kb/929851> Care should also be taken to avoid system ports 0 to 1024. See <http://www.iana.org/assignments/service-names-port-numbers/service-names-port-numbers.xml> Generally one of the unassigned User Ports (**1024-49151**) should be used, you can run the *netstat -abn* (as admin under windows) command to see which ports are currently in use.

## Registered port

A **registered port** is a [network port](#) (a sub-address defined within the [Internet Protocol](#), in the range 1024–49151) assigned by the [Internet Assigned Numbers Authority](#) (IANA) (or by [Internet Corporation for Assigned Names and Numbers](#) (ICANN) before March 21, 2001,<sup>[1]</sup> or by USC/ISI before 1998) for use with a certain protocol or application.

Ports with numbers 0–1023 are called *system or well-known ports*; ports with numbers 1024–49151 are called *user or registered ports*, and ports with numbers 49152–65535 are called *dynamic and/or private ports*.<sup>[2]</sup> Both system and user ports are used by transport protocols (TCP, UDP, DCCP, SCTP) to indicate an application or service.

- **Ports 0–1023** – system or [well-known ports](#)
- **Ports 1024–49151** – user or registered ports
- **Ports >49151** – dynamic / private ports

[https://en.wikipedia.org/wiki/List\\_of\\_TCP\\_and\\_UDP\\_port\\_numbers](https://en.wikipedia.org/wiki/List_of_TCP_and_UDP_port_numbers)

## Range for Ephemeral port

The [Internet Assigned Numbers Authority](#) (IANA) suggests the range 49152 to 65535 ( $2^{15}+2^{14}$  to  $2^{16}-1$ ) for dynamic or private ports.<sup>[1]</sup>

Many [Linux kernels](#) use the port range 32768 to 61000.<sup>[note 2]</sup> [FreeBSD](#) has used the IANA port range since release 4.6. Previous versions, including the [Berkeley Software Distribution](#) (BSD), use ports 1024 to 5000 as ephemeral ports.<sup>[2][3]</sup>

[Microsoft Windows](#) operating systems through XP use the range 1025–5000 as ephemeral ports by default.<sup>[4]</sup> [Windows Vista](#), [Windows 7](#), and [Server 2008](#) use the IANA range by default.<sup>[5]</sup> [Windows Server 2003](#) uses the range 1025–5000 by default, until Microsoft security update MS08-037 from 2008 is installed, after which it uses the IANA range by default.<sup>[6]</sup> Windows Server 2008 with Exchange Server 2007 installed has a default port range of 1025–60000.<sup>[7]</sup> In addition to the default range, all versions of Windows since Windows 2000 have the option of specifying a custom range anywhere within 1025–65535.<sup>[8][9]</sup>

## Packet structure

		UDP Header																															
Offse ts	Oct et	0					1					2					3																
Octet	Bit	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1
0	0	Source port										Destination port																					
4	32	Length										Checksum																					

The UDP header consists of 4 fields, each of which is 2 bytes (16 bits).<sup>[1]</sup> The use of the fields "Checksum" and "Source port" is optional in IPv4 (pink background in table). In IPv6 only the source port is optional (see below).

**Source port number**

This field identifies the sender's port when meaningful and should be assumed to be the port to reply to if needed. If not used, then it should be zero. If the source host is the client, the port number is likely to be an ephemeral port number. If the source host is the server, the port number is likely to be a well-known port number.<sup>[4]</sup>

**Destination port number**

This field identifies the receiver's port and is required. Similar to source port number, if the client is the destination host then the port number will likely be an ephemeral port number and if the destination host is the server then the port number will likely be a well-known port number.<sup>[4]</sup>

**Length**

A field that specifies the length in bytes of the UDP header and UDP data. The minimum length is 8 bytes because that is the length of the header. The field size sets a theoretical limit of 65,535 bytes (8 byte header + 65,527 bytes of data) for a UDP datagram. However the actual limit for the data length, which is imposed by the underlying [IPv4](#) protocol, is 65,507 bytes (65,535 – 8 byte UDP header – 20 byte [IP header](#)).<sup>[4]</sup>

In IPv6 [jumbograms](#) it is possible to have UDP packets of size greater than 65,535 bytes.<sup>[5]</sup> [RFC 2675](#) specifies that the length field is set to zero if the length of the UDP header plus UDP data is greater than 65,535.

**Checksum**

The [checksum](#) field may be used for error-checking of the header and data. This field is optional in IPv4, and mandatory in IPv6.<sup>[6]</sup> The field carries all-zeros if unused.<sup>[7]</sup>

**RTP: apart from: <https://tools.ietf.org/html/rfc3550>**

## Chapter 11:

RTP relies on the underlying protocol(s) to provide demultiplexing of RTP data and RTCP control streams. For UDP and similar protocols, RTP SHOULD use an even destination port number and the corresponding RTCP stream SHOULD use the next higher (odd) destination port number. For applications that take a single port number as a parameter and derive the RTP and RTCP port pair from that number, if an odd number is supplied then the application SHOULD replace that number with the next lower (even) number to use as the base of the port pair. For applications in which the RTP and RTCP destination port numbers are specified via explicit, separate parameters (using a signaling protocol or other means), the application MAY disregard the restrictions that the port numbers be even/odd and consecutive although the use of an even/odd port pair is still encouraged. The RTP and RTCP port numbers MUST NOT be the same since RTP relies on the port numbers to demultiplex the RTP data and RTCP control streams.

In a unicast session, both participants need to identify a port pair for receiving RTP and RTCP packets. Both participants MAY use the same port pair. A participant MUST NOT assume that the source port of the incoming RTP or RTCP packet can be used as the destination port for outgoing RTP or RTCP packets. When RTP data packets are being sent in both directions, each participant's RTCP SR packets MUST be sent to the port that the other participant has specified for reception of RTCP. The RTCP SR packets combine sender information for the outgoing data plus reception report information for the incoming data. If a side is not actively sending data (see [Section 6.4](#)), an RTCP RR packet is sent instead.

RTP (Real-Time Transport Protocol)	
<b>Familie:</b>	Netzwerkprotokoll
<b>Einsatzgebiet:</b>	Transport von Medien-Streams
<b>Port:</b>	beliebiger freier, gerader Port größer 1024
RTP im TCP/IP-Protokollstapel:	
<b>Anwendung</b>	<b>RTP</b>
Transport	UDP
Internet	IP (IPv4, IPv6)
Netzzugang	Ethernet Token Bus Token Ring FDDI ...
<b>Standard:</b>	RFC 3550 (RTP: A Transport Protocol for Real-Time Applications, 2003)

any port (even, not odd > 1024)

### Note: Regarding SAP (Session Announcement Protocol)

IPv4 global scope sessions use multicast addresses in the range 224.2.128.0 - 224.2.255.255 with SAP Announcements being sent to 224.2.127.254 Port 9875 (note that 224.2.127.255 is used by the obsolete SAPv0 and MUST NOT be used).

IPv4 administrative scope sessions using administratively scoped IP multicast. The multicast address to be used for SAP announcements is the highest multicast address in the relevant administrative scope zone.

For example, if the scope range is 239.16.32.0 - 239.16.33.255, then 239.16.33.255 is used for SAP Announcements.

### Note: IPv4 global scope sessions

use **multicast addresses** in the range 224.2.128.0 - 224.2.255.255 with SAP Announcements being sent to 224.2.127.254 Port 9875 (note that 224.2.127.255 is used by the obsolete SAPv0 and MUST NOT be used).

IPv4 administrative scope sessions using administratively scoped IP multicast. The multicast address to be used for announcements is the highest multicast address in the relevant administrative scope zone.

For example, if the scope range is 239.16.32.0 - 239.16.33.255, then 239.16.33.255 is used for SAP Announcements.

### Sources:

[http://www.etsi.org/deliver/etsi\\_en/300400\\_300499/300468/01.15.01\\_60/en\\_300468v011501p.pdf](http://www.etsi.org/deliver/etsi_en/300400_300499/300468/01.15.01_60/en_300468v011501p.pdf)

<https://www.dvb.org/standards>

As a **Multicast capable Switch** we recommend is the HP (ARUVA) 2530 24G or 48G.

(For Floor switches we have an own branded one and support IGMP as well) IGMP should be set to ON in the port configs. **The latest HP Firmware might not be the best choice.** Better to test IGMP functions before installation into a HOT running System and eventually do a downgrade of the Firmware. This one works:

Unit Information		Change ?
<b>Product Name:</b>	HP 2530-24G Switch (J9776A)	
<b>IP Address:</b>	192.168.0.30	
<b>Base MAC Address:</b>	a0 1d 48 45 26 40	
<b>Serial Number:</b>	CN41FP70DF	
<b>Mgmt Server:</b>	http://h17007.www1.hpe.com/device_help	
<b>Version:</b>	YA.15.18.0013, ROM YA.15.19	



We highly recommend to be able to configure your network and its switches by a skilled and certified technician. Many problems with streams occur because of wrong IGMP and also VLAN configurations. We are not in charge of managing your network. Please be aware about the IGMP-snooping feature in a Layer2 switch which isn't equal to or the same as the full IGMP protocol with queries / join / leave functions.

## Remark : With the Special Firmware-version & BLANKOM logo starring it supports SSH:

SSH login for enabled public image:

**Login:** root

**Password:** 930920

**Port:** 22

stbapp is the BLANKOM IPTV app, startup script is this one:

```
/usr/local/share/app/bin/stbapp_start.sh
```

So if you crash box with a full bouquet you can ssh in and launch the app again.

It might fail and it might launch, just like a regular boot with full bouquet.

`/usr/local/share/app/run.sh` is the actual app start script, called by the one above.

Play around with it, I use two shells, one to launch, one to monitor.

`/mnt/Userfs`

Holds the portal blocking file found out by Thr0wawayicus, `dls.backup`

It's not in clear text but keeping an original copy of this file let's us reverse to it if our portal would be included.

Then it's easy to block whatever adress box phones home to, or even write protect the file so it can't be updated.

But can only play around with this if I got a portal that's actually blocked, which I don't.

If you do, go ahead and try.

Box will always answer on SSH, it does not lock up, it's only the app that stops working, which of course makes the box utterly useless.

Example for locating the Channellist:

The channellist is stored as well as other configurations in

`/mnt/Userfs/data:`

Filename: `iptv.json`

ad.json	01.04.2020 12:37	JSON-Datei	1 KB
applications-storage.json	01.04.2020 12:37	JSON-Datei	1 KB
Authorization.config.json	01.04.2020 12:37	JSON-Datei	1 KB
bookmarks.json	01.04.2020 12:37	JSON-Datei	1 KB
iptv.json	01.04.2020 12:37	JSON-Datei	14 KB
iptv.last.json	01.04.2020 12:37	JSON-Datei	1 KB
keyboard.json	01.04.2020 12:37	JSON-Datei	1 KB
MAGIC CAST.config.json	01.04.2020 12:37	JSON-Datei	1 KB
portals.json	01.04.2020 12:37	JSON-Datei	1 KB
remoteControl.json	01.04.2020 12:37	JSON-Datei	1 KB

The IPTV channellist –also if imported from a \*.m3u – file – will be converted and stored their:

```
[{"time": "-1", "name": "%281%29%20Das%20Erste%20HD", "type": "81", "url": "udp%3A//@239.35.11.1%3A5000", "tsOn": true}, {"time": "-1", "name": "%282%29%20arte%20HD", "type": "81", "url": "udp%3A//@239.35.11.2%3A5000", "tsOn": true}, {"time": "-1", "name": "%283%29%20SWR%20BW%20HD", "type": "81", "url": "udp%3A//@239.35.11.3%3A5000", "tsOn": true}, {"time": "-1", "name": "%284%29%20SWR%20RP%20HD", "type": "81", "url": "udp%3A//@239.35.11.4%3A5000", "tsOn": true}, {"time": "-1", "name": "%285%29%20tagesschau24", "type": "81", "url": "udp%3A//@239.35.12.1%3A5000", "tsOn": true}, {"time": "-1", "name": "%286%29%20ONE", "type": "81", "url": "udp%3A//@239.35.12.2%3A5000", "tsOn": true}, {"time": "-1", "name": "%287%29%20arte", "type": "81", "url": "udp%3A//@239.35.12.3%3A5000", "tsOn": true}, {"time": "-1", "name": "%288%29%20PHOENIX", "type": "81", "url": "udp%3A//@239.35.12.4%3A5000", "tsOn": true}, {"time": "-1", "name": "%289%29%20ANIXE%20HD", "type": "81", "url": "udp%3A//@239.35.13.1%3A5000", "tsOn": true}, {"time": "-1", "name": "%2810%29%20QVC%20HD", "type": "81", "url": "udp%3A//@239.35.13.2%3A5000", "tsOn": true}, {"time": "-1", "name": "%2811%29%20HSE24%20HD", "type": "81", "url": "udp%3A//@239.35.13.3%3A5000", "tsOn": true}, {"time": "-1", "name": "%2812%29%20NICK/MTV+%20HD", "type": "81", "url": "udp%3A//@239.35.13.4%3A5000", "tsOn": true}
```

Partly content extracted: (UTF-8 content) (w/o any LF/CR – so all in one row...):

```
{ "time": "-1", "name": "%281%29%20Das%20Erste%20HD", "type": "81", "url": "udp%3A//@239.35.11.1%3A5000", "tsOn": true }, { "time": "-1", "name": "%282%29%20arte%20HD", "type": "81", "url": "udp%3A//@239.35.11.2%3A5000", "tsOn": true }, { "time": "-1", "name": "%283%29%20SWR%20BW%20HD", "type": "81", "url": "udp%3A//@239.35.11.3%3A5000", "tsOn": true }, { "time": "-1", "name": "%284%29%20SWR%20RP%20HD", "type": "81", "url": "udp%3A//@239.35.11.4%3A5000", "tsOn": true }, { "time": "-1", "name": "%285%29%20tagesschau24", "type": "81", "url": "udp%3A//@239.35.12.1%3A5000", "tsOn": true }, { "time": "-1", "name": "%286%29%20ONE", "type": "81", "url": "udp%3A//@239.35.12.2%3A5000", "tsOn": true }, { "time": "-1", "name": "%287%29%20arte", "type": "81", "url": "udp%3A//@239.35.12.3%3A5000", "tsOn": true }, { "time": "-1", "name": "%288%29%20PHOENIX", "type": "81", "url": "udp%3A//@239.35.12.4%3A5000", "tsOn": true }, { "time": "-1", "name": "%289%29%20ANIXE%20HD", "type": "81", "url": "udp%3A//@239.35.13.1%3A5000", "tsOn": true }, { "time": "-1", "name": "%2810%29%20QVC%20HD", "type": "81", "url": "udp%3A//@239.35.13.2%3A5000", "tsOn": true }, { "time": "-1", "name": "%2811%29%20HSE24%20HD", "type": "81", "url": "udp%3A//@239.35.13.3%3A5000", "tsOn": true }, { "time": "-1", "name": "%2812%29%20NICK/MTV+%20HD", "type": "81", "url": "udp%3A//@239.35.13.4%3A5000", "tsOn": true }
```

Compared to the channel.m3u file we have created and imported it looks totally different:

```
#EXTM3U
#EXTINF:-1,(1) Das Erste HD
udp://@239.35.11.1:5000
#EXTINF:-1,(2) arte HD
udp://@239.35.11.2:5000
#EXTINF:-1,(3) SWR BW HD
udp://@239.35.11.3:5000
```

```
#EXTINF:-1,(4) SWR RP HD
udp://@239.35.11.4:5000
#EXTINF:-1,(5) tagesschau24
udp://@239.35.12.1:5000
#EXTINF:-1,(6) ONE
udp://@239.35.12.2:5000
#EXTINF:-1,(7) arte
udp://@239.35.12.3:5000
#EXTINF:-1,(8) PHOENIX
udp://@239.35.12.4:5000
#EXTINF:-1,(9) ANIXE HD
udp://@239.35.13.1:5000
#EXTINF:-1,(10) QVC HD
udp://@239.35.13.2:5000
#EXTINF:-1,(11) HSE24 HD
udp://@239.35.13.3:5000
#EXTINF:-1,(12) NICK/MTV+ HD
udp://@239.35.13.4:5000
```

## Importing a playlist:

### Playlist - contents, loading in STB, writing to USB drive

[Playlist](#) is a formalized set of video and audio files that can be played back with media player. Internal playlist of BLANKOM STBs (Embedded portal playlist) is stored in **IPTV channels** application as [IPTV channels list](#).

BLANKOM STBs support (can analyze contents of) external playlist of [M3U](#) format that is a text file that has a filename extension of *.m3u*. The following description and examples are given for m3u playlists.

STB models starting from the *4xx* series can support additional playlist formats (see [Specifications](#)).

Channels of an external playlist can be added (imported) to STB's IPTV channels list. The import of channels is the main way of composing the *IPTV channels list*. Import of channels can be provided as follows:

1) from an external network, by URL;

## Add IPTV list (download playlist from URL)

### Adding IPTV list means downloading preset channel list from server:

- Call up the **Operations** window (tap **Menu** on RC).
- Select **Add IPTV list** - that opens **Add IPTV list** window.
- In **Add IPTV list** window:
  - Fill in **File Encoding** option - necessary encoding (utf-8 encoding is usually used in m3u-lists, otherwise - choose necessary encoding);
  - Fill in **URL** option - where the channel list is located;

- Click **Save (OK)**.

### Example of filling URL option:

1. `http://192.168.1.1/playlist.m3u`

2) from a specific folder of shared local network resource or USB drive.

## Loading playlist from USB drive or via SMB / NFS network

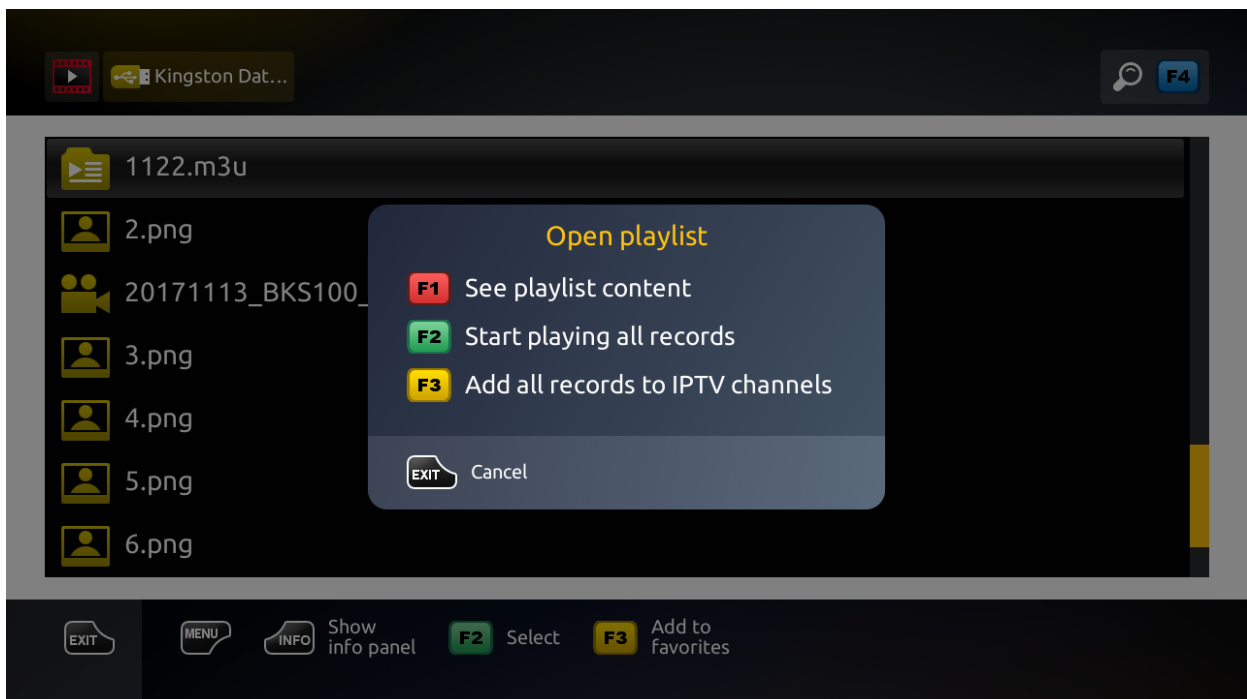
The playlist is a file that has the format as *filename.m3u*. The encoding type is UTF-8 (recommended).

[Example of playlist](#)

### Playlist loading

Playlist loads to STB from a USB drive or from a shared network folder (you must first provide network access to this resource - for example, see [Access to network PC \(SAMBA\)](#)).

- - Open [Home media](#).
  - Open a required folder containing the *playlist*. The folder can be located on the connected USB drive or shared network resource.
  - Open the playlist file (\*.m3u) with **OK** key on RC;
  - Select option in appeared window **Open playlist**:
    - **See playlist content (F1)** on RC);
    - **Start playing all records (F2)** on RC);
    - **Add all records to IPTV channels (F3)** on RC).



### Looking through playlist contents

Users are also allowed to add channels manually and make other [Operations](#) related to the *IPTV-channels list* (delete, edit channel, etc.).

### Add IPTV list (download playlist from URL)

Adding IPTV list means downloading preset channel list from server:

- Call up the **Operations** window (tap **Menu** on RC).
- Select **Add IPTV list** - that opens **Add IPTV list** window.
- In **Add IPTV list** window:
  - Fill in **File Encoding** option - necessary encoding (utf-8 encoding is usually used in m3u-lists, otherwise - choose necessary encoding);
  - Fill in **URL** option - where the channel list is located;
  - Click **Save (OK)**.

Example of filling URL option:

1. `http://192.168.1.1/playlist.m3u`

If channel list does not load:

- Address of file (URL) is incorrect;
- There is no connection to the server;
- File with this name was not found on server;
- File has the wrong format.

### Loading playlist from USB drive or via SMB / NFS network

The playlist is a file that has the format as *filename.m3u*. The encoding type is UTF-8 (recommended).

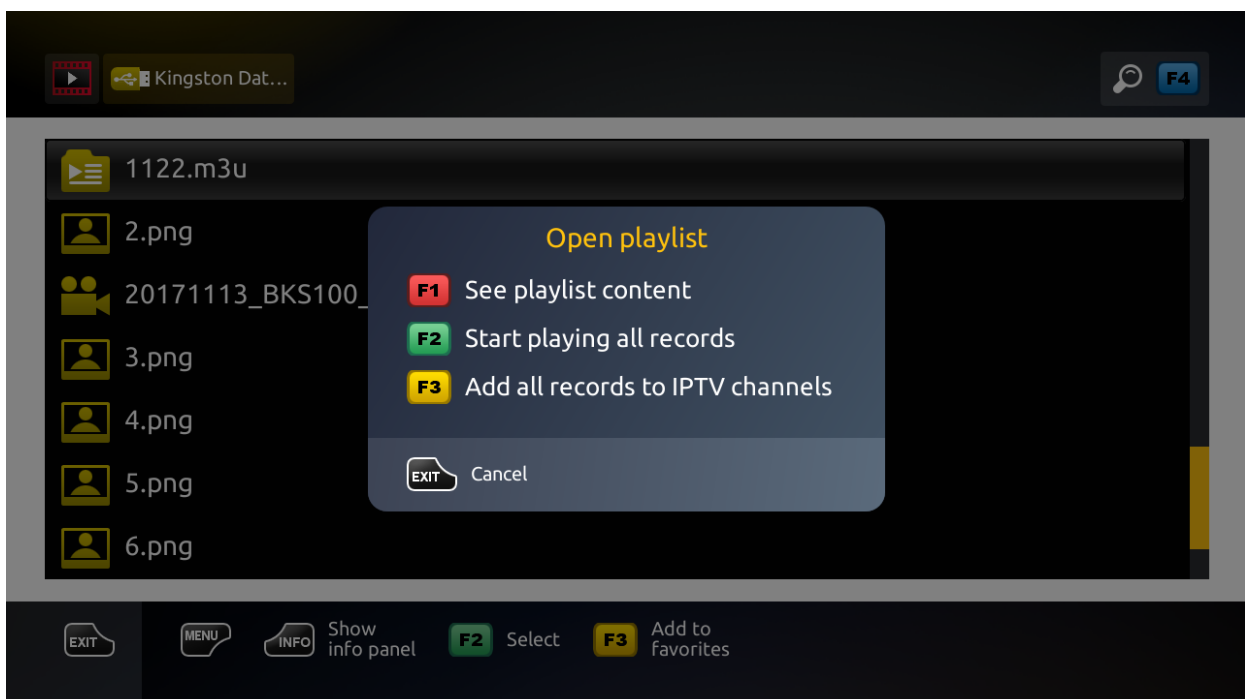
### Example of playlist (m3u file)

1. #EXTM3U
2. #EXTINF:0,HD Media
3. ffmpeg http://89.208.33.168:8100/
4. #EXTINF:0,HD Live
5. ffrt2 rtmp://wms002.pik-tv.com/live/piktv3pik3tv
6. #EXTINF:0, RBC
7. ffmpeg mmsh://tv.gldn.net/rbc
8. #EXTINF:0,ORANGE SPORT INFO TV
9. ffrt2 mmsh://livewm.orange.fr/live-multicanaux
10. #EXTINF:0,Радио Гора
11. ifm http://mirror.radiogora.ru:10040
12. #EXTINF:0,stream1
13. ffmpeg http://192.168.2.35:1935/live/1.stream/playlist.m3u8

## Playlist loading

Playlist loads to STB from a USB drive or from a shared network folder (you must first provide network access to this resource - for example, see [Access to network PC \(SAMBA\)](#)).

- - Open [Home media](#).
  - Open a required folder containing the *playlist*. The folder can be located on the connected USB drive or shared network resource.
  - Open the playlist file (\*.m3u) with **OK** key on RC;
  - Select option in appeared window **Open playlist:**
    - **See playlist content (F1)** on RC;
    - **Start playing all records(F2)** on RC);
    - **Add all records to IPTV channels(F3)** on RC).



## Looking through playlist contents

**See playlist content** option (**F1** on RC) opens playlist for looking through its contents. In channel list view mode (without playback), the following operations upon the channels are provided:

- Navigating through channel list (**Down** and **Up** buttons on RC - switch to the next and previous channel of the list, respectively; **Left** and **Right** buttons on RC- move to the beginning and the end of the list, respectively).
- Start playing back current channel by pressing **OK** on RC (description of operations with playlist in playback mode - see below, for **Start playing all records** option). When you exit the playback mode (by **Exit** button on RC), you return to a playlist viewing mode.
- Adding/Removing channels to [Favorites](#) (**F3** on RC).
- Copying required channels for adding them to [IPTV channels list](#):

1. select required channels from playlist (use the **F2** button on RC or **Select** command from [Operations](#) menu);

2. if you want to select all channels in the list - you must use **Select All** command from **Operations** menu;
3. copy selected channels (**Copy** command from **Operations** menu).

Copy command from Operations menu

4. go to **IPTV channels** window (**TV** button on RC);
5. in **IPTV channels** window, paste the copied channels into the main IPTV channel list or in the desired folder (press **Menu** button on RC to open **Operations** menu, activate **Paste** command).

### Start playing all records

**Start playing all records** option (**F2** on RC) starts playback of the first playlist channel. During channel playback the following operations are available:

- **OK** or **Exit** buttons on RC- switches to channel list viewing mode combined with **info-block** (reduced window displaying channel playback). You may can navigate through channel list (**Down** and **Up** buttons on RC - switch to the next and previous channel of the list, respectively; **Left** and **Right** buttons on RC- move to the beginning and the end of the list, respectively). Return to full-screen mode - by pressing the **OK** button.
- **Down / Up** buttons on RC - go to the next/previous channel.

### Add all records to IPTV channels

**Add all records to IPTV channels** option (**F3** on RC) adds entire contents of the playlist to the main [IPTV channels list](#).

### Export channels (write playlist to USB drive)

Export channels mean saving [IPTV channels list](#) to file on USB-drive in the format of *filename.m3u* (*filename* defines by user):

- Being in [IPTV channels list](#) open **Operations** menu (press **Menu** on RC).
- Select **Export channels** command.
- In appeared **Export channels** window:
  - in **File Location** select required USB-drive;
  - in **File name** enter a name of the playlist;
  - in **Save from groups** select:
    - **ON** - export channels from common list **IPTV channels** and from channel groups;
    - **OFF** - export channels only from common list **IPTV channels** (not including groups of channels).
  - click **Save (OK)**.

### Add operator's IPTV list

**Add operator's IPTV list** feature is used to load the playlist of certain operator [IPTV channels list](#) of STB (this feature should be agreed with the operator):

- Open **Operations** window (tap **Menu** on RC).
- Select **Add operator's IPTV list** command;

- In **Loading operator playlist** window fill in the next options:
  - **Country;**
  - **City;**
  - **Operator.**
- Click **Save (OK)**.

### Example of playlist (m3u file)

```

1. #EXTM3U
2. #EXTINF:0,HD Media
3. ffmpeg http://89.208.33.168:8100/
4. #EXTINF:0,HD Live
5. ffrt2 rtmp://wms002.pik-tv.com/live/piktv3pik3tv
6. #EXTINF:0, RBC
7. ffmpeg mmsh://tv.gldn.net/rbc
8. #EXTINF:0,ORANGE SPORT INFO TV
9. ffrt2 mmsh://livewm.orange.fr/live-multicanaux
10. #EXTINF:0,Радио Гора
11. ifm http://mirror.radiogora.ru:10040
12. #EXTINF:0,stream1
13. ffmpeg http://192.168.2.35:1935/live/1.stream/playlist.m3u8
  
```

**Not allowed:**

- **Empty newlines**
- **Headers by VLC player**

### Media content playback options

Channel playback options are set in the **URL** option (located in **Add** and **Edit** windows brought up in [Operations](#) menu of [Edit window](#)).

Format of **URL** option is as follows:

1. `Solution + Stream address`

where:

- *Solution* - provides the player with the required format and proper decoder for audio and video file/stream playback. The list of *Solution* values is shown in the table below.
- *Stream address* - network or local address of media content. It may contain an IP address, port number, and a path to file on the server.

Type of Solution	Description
<b>auto</b>	Automatic detection of content type, container, codec by given URL, if URL begins with rtp:, udp:, rtsp:.
<b>rtp</b>	Play string in format MPEG2TS. If the URL begins with rtp: then the RTP stream should be played.



If the URL begins with udp:

then the UDP stream should be played. Required codecs are set if additional information of the stream is present, for example, H.264, AC-3, etc.

<b>rtsp</b>	Play content from the RTSP server. Required codecs are set if additional information of the stream is present, for example, H.264, AC-3, etc.
<b>ifm</b>	Play an audio stream Internet radio.
<b>fm</b>	Play audio from MPEG-TS stream (udp:, rtp:).
<b><a href="#">ffmpeg</a></b>	Play HLS as well as various formats of audio-video files: avi, mkv, mpg, mp4, mov, wmv, AC-3. It is used, in general, for non-stream broadcasting, except for HLS.
<b>ffrt</b>	Play MPEG-TS streams from HTTP server.
<b>ffrt2</b>	Play streams with http, rtmp, ... But container can be non MPEG-TS type. Content looping is always on (SetLoop(true)).
<b>ffrt3</b>	Similarly to ffrt2, but assumes non-real-time stream. That is, with ability to pick position within the stream. Suitable for playing video from YouTube.
<b>ffrt4</b>	Similarly to ffrt2, but is used to quickly launch streaming using rtmp (rtmp:// ...).

Detailed information can be found in document: [JS API MAG200 \(Rev 1.20\) \(pdf\)](#) (Section *stb.PlaySolution. page 19.*) (Appendix 2. *Video content formats and examples of use. page 89*)

## To play streaming

Streaming specification should be as follows:

*rtp space URL*

For example:

1. rtp udp://10.20.30.40:1234
2. rtp rtp://10.20.30.40:1234

For access to stream with **RTSP-server** specification should be as follows:

*rtsp space URL*

More information can be found in document: [JS API MAG200 \(Rev 1.20\) \(pdf\)](#) (Section *stb.SetupRTSP page 35*)

## For broadcasting http

for example:

1. ffmpeg http://10.10.30.40:12434

It is also possible to use the following *Solutions* as fm, ffmt, ffmt2, ffmt3. Depending on type of streaming.

#### HLS-stream

HLS (HTTP Live Streaming) supports live streaming and video on demand (VoD) modes. To transfer audio and video data by HLS protocol, the MPEG2-TS transport stream is used. HLS protocol splits transport stream into fragments (files) that are stored on web server along with index-file that contains information about the order in which series files must be played. The index file extension is m3u8. In [example of playlist](#), channel in HLS format corresponds the last entry.

#### On this page:

- [Add IPTV list \(download playlist from URL\)](#)
- [Loading playlist from USB drive or via SMB / NFS network](#)
- [Export channels \(write playlist to USB drive\)](#)
- [Add operator's IPTV list](#)
- [Example of playlist \(m3u file\)](#)
- [Media content playback options](#)

#### Linked articles:

- [Specification JavaScript API \(SW ver. prior to 0.2.18\)](#)
- [Specification JavaScript API \(SW ver. from 0.2.18\)](#)

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Managing Director: Dipl.Ing. Murad ÖnoI

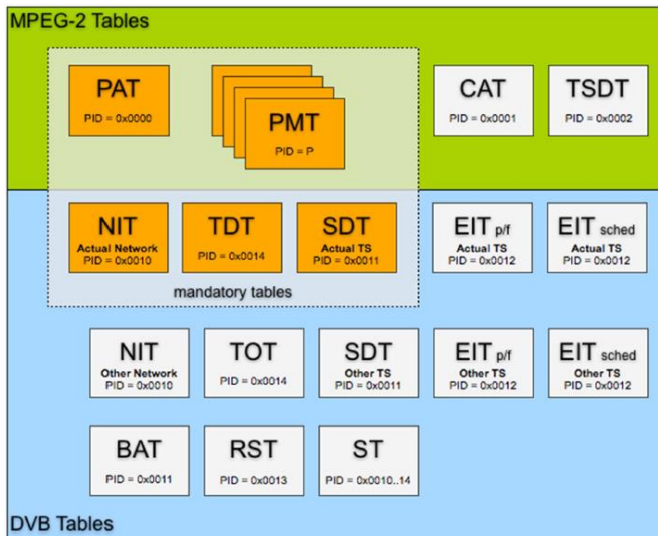
Commercial Register: HRB 206370 / District Court Hildesheim



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**ANNEX MPEG**

**MPEG PSI/SI Information's:**



**Table 1: PID allocation for SI**

Table	PID value
PAT	0x0000
CAT	0x0001
TSDDT	0x0002
reserved	0x0003 to 0x000F
NIT, ST	0x0010
SDT, BAT, ST	0x0011
EIT, ST, CIT (ETSI TS 102 323 [13])	0x0012
RST, ST	0x0013
TDT, TOT, ST	0x0014
network synchronization	0x0015
RNT (ETSI TS 102 323 [13])	0x0016
reserved for future use	0x0017 to 0x001B
link-local inband signalling	0x001C
measurement	0x001D
DIT	0x001E
SIT	0x001F

We assume, that the user is familiar with all abbreviations mentioned in this manual.

**Appendix A  
Product Disposal**



**Warning!** Ultimate disposal of this product should be handled according to all national laws and regulations.

**製品の廃棄**

この製品を廃棄処分する場合、国の関係する全ての法律・条例に従い処理する必要があります。

**警告**

本产品的废弃处理应根据所有国家的法律和规章进行。

**警告**

本产品的廢棄處理應根據所有國家的法律和規章進行。

**Warnung**



- **Warning:** Follow all instructions in the device-specific operating manual

## 2. Operation



- **Danger:** The device is only permitted to be operated in dry rooms in a non-tropical climate. In damp rooms or outdoors, there is the risk of short circuits (**risk of fire**) or electric shock (**danger of death**).
- **Danger:** Do not insert any objects through the ventilation slot. Risk of electric shock (**danger of death**).
- **Danger:** Do not put any containers filled with liquid (e.g. vases) on the device. There is a risk of electric shock (**danger of death**) or (**risk of fire**).
- **Danger:** No open sources of fire such as burning candles are permitted to be placed on the device (**risk of fire**).
- **Danger:** Ensure that there is a clearance of at least **20cm** around the device. The device ventilation is not permitted to be impaired by covering the
  - Ventilation openings with objects such as newspapers, tablecloths, curtains, etc. (**risk of fire**).
- **Warning:** Follow all instructions in the device-specific operating manual.

## 3. Maintenance



- **Danger:** Maintenance tasks must always be carried out by competent people (see EN 60065).
- **Danger:** Do not carry out servicing work during thunderstorms. There is a risk of electric shock (**danger of death**).
- **Warning:** (Only for devices with batteries): **Risk of explosion if** the battery is replaced improperly. Only replace with the same type!
- **Warning:** Batteries must not be subjected to excessive heat such as sunlight, fire or similar (**risk of explosion**).
- **Warning:** Only use the manufacturer's accessories or accessories with identical technical properties.
- **Warning:** (For optical transmitters and their peripheral distribution devices) unplug the mains plug before dismantling the device.

## 4. Repairs



- **Danger:** The device may only be opened by competent people (see EN 60065). Before opening the device, unplug the mains plug or disconnect the power supply; otherwise there is a **danger of death**! The device is only permitted to be connected to the power and operated when the **mains adaptor cover is installed**. This also applies when you clean the device or work on the connections.
- **Danger:** Repairs on the device may only be carried out by a specialist (see EN 60065) observing **the applicable VDE (German Association for Electrical, Electronic & Information Technologies) guidelines**.
- **Danger:** Only use components of the same type and with identical technical properties for the repair. Otherwise, there is a risk of electric shock (**danger of death**) and **risk of fire**.
- **Warning:** (For optical transmitters and their peripheral distribution devices) unplug the mains plug before dismantling the device.



If you have any queries regarding repairs, please contact our company service: E-mail: [info@blankom.de](mailto:info@blankom.de), contact: [www.blankom.de](http://www.blankom.de)

## 5. Sale



- **Caution:** If the device is sold, these safety instructions and the operating manual for the relevant device must be handed over to the purchaser.

## 6. Disposal



- **Caution:** Dispose of the device in accordance with the applicable environmental regulations.
- **Caution:** Dispose of batteries (if present) in accordance with the applicable environmental regulations.

## Sicherheitshinweise



Sicherheitshinweise bitte vor Montage bzw. Inbetriebnahme des Gerätes sorgfältig lesen und befolgen.

### 1. Installation

- Gefahr:** Das Gerät darf ausschließlich von sachverständigen Personen (siehe EN 60065), installiert und in Betrieb genommen werden.
- Gefahr:** Das Gerät und/oder die Verteilperipherie muß vor Inbetriebnahme gemäß EN 60728-11 vorschriftsmäßig geerdet sein (Potentialausgleich) und bleiben, auch wenn das Gerät ausgebaut wird.
- Gefahr:** Das Gerät darf nicht auf brennbarem Untergrund montiert werden (Brandgefahr).
- Gefahr:** Schließen Sie das Gerät nur an eine vorschriftsmäßig installierte Steckdose mit Schutzleiter an.
- Gefahr:** Planen Sie den Montage - bzw. Aufstellungsort so, daß Kinder nicht am Gerät und dessen Anschlüssen spielen können. Es droht Gefahr durch elektrischen Schlag (Lebensgefahr).
- Gefahr:** Wählen Sie einen Montage - bzw. Aufstellungsort, an dem unter keinen Umständen Flüssigkeiten oder Gegenstände in das Gerät gelangen können (z.B. Kondenswasser, Gießwasser etc.).
- Gefahr:** Lüftungsschlitze und Kühlkörper sind wichtige Funktionselemente an den Geräten. Bei Geräten, die Kühlkörper oder Lüftungsschlitze haben, muß daher unbedingt darauf geachtet werden, daß diese keinesfalls abgedeckt oder zugebaut werden. Sorgen Sie außerdem für eine großzügig bemessene Luftzirkulation um das Gerät. Damit verhindern Sie mögliche Schäden am Gerät sowie Brandgefahr durch Überhitzung. Gewährleisten Sie einen Mindestabstand von 20cm um das Gerät zu anderen Gegenständen.
- Gefahr:** Der Montage- bzw. Aufstellort muß eine sichere Verlegung aller angeschlossenen Kabel zulassen. Stromversorgungskabel sowie Zuführungskabel dürfen nicht durch irgendwelche Gegenstände beschädigt oder gequetscht werden. Es ist darüber hinaus unbedingt darauf zu achten, daß Kabel nicht in die direkte Nähe von Wärmequellen verlegt werden (z.B. Heizkörper, andere Elektrogeräte, Kamin etc.) (Brandgefahr), (Gefahr durch elektrischen Schlag).
- Gefahr:** Um sowohl Beschädigungen am Gerät als auch mögliche Folgeschäden (Brandgefahr) zu vermeiden, dürfen für Wandmontage vorgesehene Geräte nur auf einer ebenen Grundfläche montiert werden und nicht über Kopf.
- Warnung:** (Nur für optische Sender sowie deren Verteilperipherie) Blicken Sie auf keinen Fall direkt oder indirekt in den Laserstrahl. Schließen Sie das Gerät erst an die Stromversorgung an, wenn alle elektrischen und optischen Leitungen sicher verbunden sind.
- Warnung:** Die Sicherheitsbestimmungen der jeweils aktuellen Normen EN 60728-11 und EN 60065 sind zwingend einzuhalten.
- Warnung:** Befolgen Sie auch alle anwendbaren nationalen Sicherheitsvorschriften und Normen.
- Warnung:** Der Netzstecker des Gerätes muß jederzeit leicht erreichbar sein.
- Warnung:** Befolgen Sie alle Instruktionen in den gerätespezifischen Bedienungsanleitungen

### 2. Betrieb

- Gefahr:** Das Gerät darf nur in trockenen Räumen bei nicht tropischem Klima betrieben werden. In feuchten Räumen oder im Freien besteht die Gefahr von Kurzschluß (Brandgefahr) oder elektrischen Schlag (Lebensgefahr).
- Gefahr:** Stecken Sie keine Gegenstände durch die Lüftungsschlitze. Gefahr durch elektrischen Schlag (Lebensgefahr).
- Gefahr:** Stellen Sie keine mit Flüssigkeit gefüllten Gefäße (wie z. B. Vasen) auf das Gerät. Es droht Gefahr durch elektrischen Schlag (Lebensgefahr) oder (Brandgefahr).
- Gefahr:** Es dürfen keine offenen Brandquellen, wie z. B. brennende Kerzen, auf das Gerät gestellt werden (Brandgefahr).
- Gefahr:** Sorgen Sie für einen Freiraum von mindestens 20cm um das Gerät. Die Belüftung des Gerätes darf nicht durch Abdecken der Belüftungsöffnungen mit Gegenständen wie z. B. Zeitungen, Tischdecken, Gardinen usw. behindert werden (Brandgefahr).
- Warnung:** Befolgen Sie alle Instruktionen in der gerätespezifischen Bedienungsanleitung.

### 4. Wartung

- Gefahr:** Wartungsarbeiten sind stets von sachverständigen Personen (siehe EN 60065) vorzunehmen.
- Gefahr:** Keine Servicearbeiten bei Gewitter. Es droht Gefahr eines elektrischen Schlags (Lebensgefahr).
- Warnung:** (nur für Geräte mit Batterie): Explosionsgefahr bei unsachgemäßem Auswechseln der Batterie. Ersatz nur durch den gleichen Typ!
- Warnung:** Batterien dürfen nicht übermäßiger Wärme wie Sonnenschein, Feuer oder dergleichen ausgesetzt werden (Explosionsgefahr).
- Warnung:** Verwenden Sie nur das Zubehör des Herstellers oder Zubehör mit identischen technischen Eigenschaften.
- Warnung:** (Bei optischen Sendern sowie deren Verteilperipherie) ziehen Sie den Netzstecker bevor das Gerät ausgebaut wird.

### 5. Reparatur

- Gefahr:** Das Gerät darf nur durch sachverständige Personen (siehe EN 60065) geöffnet werden. Vor Öffnen des Gerätes Netzstecker ziehen bzw. Stromzuführung entfernen, andernfalls besteht Lebensgefahr! Das Gerät darf nur mit montierter Netzteilabdeckung an Spannung angeschlossen und betrieben werden. Dies gilt auch, wenn Sie das Gerät reinigen oder an den Anschlüssen arbeiten.
- Gefahr:** Reparaturen am Gerät sind ausschließlich vom Fachmann (siehe EN 60065) unter Beachtung der geltenden VDE-Richtlinien durchzuführen.
- Gefahr:** Verwenden Sie nur Bauteile des gleichen Typs und mit identischen technischen Eigenschaften für die Reparatur, andernfalls droht Gefahr eines elektrischen Schlags (Lebensgefahr) und Brandgefahr.
- Warnung:** (Bei optischen Sendern sowie deren Verteilperipherie) ziehen Sie den Netzstecker bevor das Gerät ausgebaut wird.

Bei Fragen zur Reparatur wenden Sie sich an den IRENIS-Service:

E-Mail: [info@blankom.de](mailto:info@blankom.de) , Kontakt: [www.blankom.de](http://www.blankom.de)

### 6. Verkauf

**Vorsicht:** Im Falle eines Verkaufs müssen diese Sicherheitshinweise und die Bedienungsanleitung des entsprechenden Gerätes dem Käufer ausgehändigt werden.

### 7. Entsorgung

**Vorsicht:** Entsorgen Sie das Gerät entsprechend den geltenden umweltrechtlichen Bestimmungen. Elektrische und elektronische Geräte dürfen nicht in den Hausmüll!

**Vorsicht:** Entsorgen Sie Batterien (falls vorhanden) entsprechend den geltenden umweltrechtlichen Bestimmungen.



Elektronische Geräte gehören nicht in den Hausmüll, sondern müssen - gemäß Richtlinie 2002/96/EG DES EUROPÄISCHEN

PARLAMENTS UND DES RATES vom 27. Januar 2003 über Elektro- und Elektronik-Altgeräte fachgerecht entsorgt werden. Bitte geben Sie dieses Gerät am Ende seiner Verwendung zur Entsorgung an den dafür vorgesehenen öffentlichen Sammelstellen ab.

*Electronic equipment is not household waste - in accordance with directive 2002/96/EC OF THE EUROPEAN PARLIAMENT AND THE COUNCIL dated 27th January 2003 on used electrical and electronic equipment, it must be disposed of properly. At the end of its service life, take this unit for disposal to an appropriate official collection point*

## Installation and safety instructions / Montage und Sicherheitshinweise

- Die beschriebenen Geräte dienen ausschließlich der Installation von Satelliten-Empfangsanlagen.
- *The equipment described is designed solely for the installation of satellite receiver systems.*
- Jegliche anderweitige Nutzung oder die Nichtbeachtung dieses Anwendungshinweises hat den Verlust der Gewährleistung bzw. Garantie zur Folge.
- *Any other use, or failure to comply with these instructions, will result in voiding of warranty cover.*
- Die Geräte dürfen nur in trockenen Innenräumen montiert werden. Nicht auf oder an leicht entzündlichen Materialien montieren.
- *The equipment may only be installed in dry indoor areas. Do not mount on or against highly combustible materials.*
- Die Geräte sind mit einer Potenzial-Ausgleichsleitung (Cu, mindestens 4 mm<sup>2</sup>) zu versehen.
- *The equipment must be provided with an earthing wire (Cu, at least 4 mm<sup>2</sup>).*
- Die Sicherheitsbestimmungen der jeweils aktuellen Normen EN 60728-11 und EN 60065 sind zu beachten.
- *The safety regulations set out in the current EN 60728-11 and EN 60065 standards must be complied with*
- Verbindungsstecker: HF-Stecker 75 Ohm (Serie F) nach EN 61169-24
- *Connector: HF plug 75 Ohm (series F) to EN 61169-24.*
- **Nicht benutzte Teilnehmerausgänge** sollten mit 75-Ohm Widerständen (z. B. EMK 03) abgeschlossen werden. (Verringerung der terrestrischen Signalwelligkeit)
- *Unused subscriber ports should be closed off by 75 Ohm resistors (e.g. EMK 03).*
- **Nicht benutzte Kaskadenausgänge** sind mit 75 Ohm Widerständen inkl. DC-Blocker abzuschließen. 75 Ohm Widerstände ohne Gleichspannungssperren können das Gerät beschädigen!
- *Unused trunk outputs must be terminated with 75Ohm resistors including DC Blocker. Otherwise the device may be inoperable or damaged.*
- Bitte überprüfen Sie die Anlage vor Inbetriebnahme auf evtl. Kurzschlüsse der Koaxial-Kabel. Es ist darauf zu achten, dass die Eingangsspiegel der SAT-Ebenen möglichst gleich hoch sind. Power-LEDs zeigen den Betrieb an. Falls die nicht leuchten, bitte die Stromzufuhr kontrollieren.
- *Please check the installation against shortage in coax cables and connectors before switching on. The input levels should be adjusted accordingly. Power-LED's showing operational mode. If this is not illuminated, please check the power source.*
- **Stromführendes Gerät**
- **Current-carrying unit**
- Nicht öffnen oder am Gerät manipulieren!
- *Do not open or tamper with the unit!*
- Bei Arbeiten an der Anlage immer die Netzstecker aus der Steckdose ziehen!
- *When working on the system always unplug the mains plug from the wall socket!*
- Auf ausreichenden Abstand achten! Nach allen Seiten mind. 5 cm!
- *Ensure adequate clearance! Min. 5 cm to all sides!*
- Nicht über Kopf montieren.
- *Do not install overhead.*
- Für die Geräteentwärmung muss freie Luftzirkulation möglich sein. Überhitzungsgefahr!
- *Free circulation of air must be possible to discharge the heat emitted by the unit. Risk of overheating!*
- Zulässige Umgebungstemperatur -20 bis +50°C
- *Permissible ambient temperature -20 to +50°C*

## Important notes: / Zur Beachtung

- Auf das Netzgerät dürfen keine mit Flüssigkeit gefüllten Gegenstände gestellt werden.
- *No liquid-filled items may be placed on top of the power supply unit.*
- Das Netzgerät darf nicht Tropf- oder Spritzwasser ausgesetzt sein.

- *The power supply unit must not be exposed to dripping or splashing water.*
- *Der Netzstecker muss ohne Schwierigkeiten zugänglich und benutzbar sein.*
- *The mains plug must be easily accessible and operable.*
- *Das Gerät kann nur durch Ziehen des Netzsteckers vom Netz getrennt werden.*
- *The only reliable method of disconnecting the unit from the mains is to unplug it.*
- *Bei größerem Durchmesser des Kabel- Innenleiters als 1,2 mm bzw. Grat können die Gerätebuchsen zerstört werden.*
- *If the inner cable conductor diameter is greater than 1.2 mm or in case of burr, the device sockets may be destroyed.*

**Bitte installieren Sie die Anschlüsse gemäß dem Aufdruck**

*Please install according to the sticker on the Multiswitch*

**Hinweis: Elektrische Installationen sollten nur durch geschultes Fachpersonal vorgenommen werden!**

*Note: Electrical installations should only be done by well-educated and skilled technicians!*

**Änderungen vorbehalten / Subject to change w/o notifications**