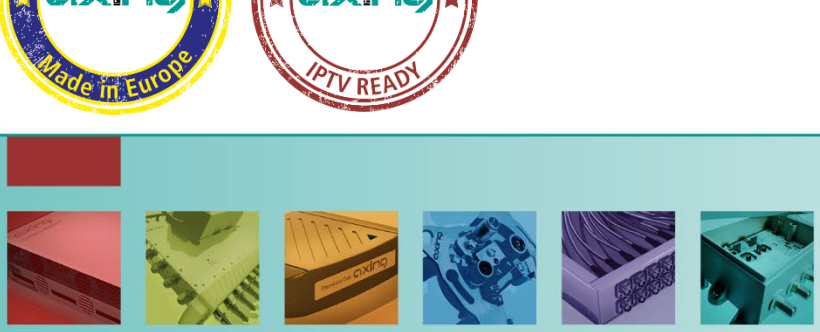
Competence in Communication Technologies

CHP - Compact High Performance Headends

HKI 40-00 | HKI 80-00
4-way HDMI IP encoder
8-way HDMI IP encoder
premium-line

Operation instructions



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⚠ WARNING

- ➔ Observe the safety instructions supplied with the device! They are also available at the following Internet address: https://download.axing.com/BAs/Sicherheitshinweise_9sprachig.pdf
- ➔ Use the device only as described in these operating instructions and in particular in accordance with the state of the art. If the device is used for other purposes, no warranty will be assumed!

CE Herewith AXING AG declares that the marked products comply with the valid guidelines.

WEEE Nr. DE26869279 | Electrical and electronic components must not be disposed of as residual waste, it must be disposed of separately.

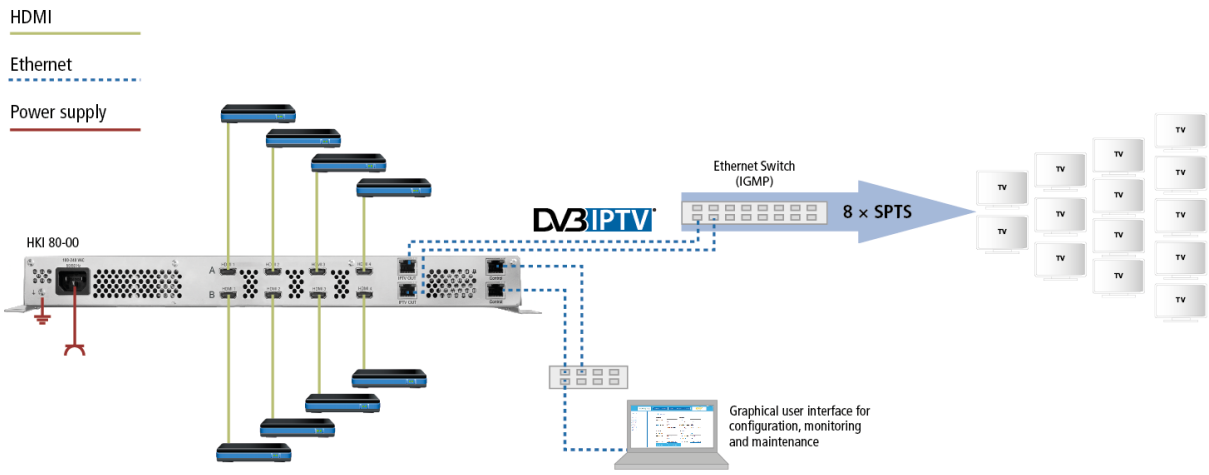
1. Product description

1.1. Field of application

The devices are only intended for distributing signals from HDMI sources via an IPTV-capable network in buildings. If a device is used for other purposes, no guarantee is given!

1.2. Product description

The HDMI IP encoder is used to transmit HDMI signals in IPTV networks. It converts the HDMI input signals into separate SPTS streams. H.264 encoding leads to efficient compression with high picture quality. Configuration is carried out via a web-based interface. The device comes in a 19" housing with one rack unit and has a built-in switching power supply.



Features

HKI 40-00

- 4 × HDMI in 4 × SPTS
- 4 HDMI inputs
- One IPTV output - H.264 encoding

HKI 80-00

- 8 x HDMI in 8 × SPTS
- 8 HDMI inputs
- Two IPTV outputs - H.264 encoding

Common

- Web-based configuration
- Built in power supply
- 19" unit, 1 RU

1.3. Scope of delivery

1 × HKI 40-00 or HKI 80-00

1 × AC power cord

1 × Quick start guide

1 × Safety instructions

1.4. Input

The HKI 40-00 has four HDMI inputs. Connect them to up to four HDMI sources.

The HKI 80-00 has eight HDMI inputs. Connect them to up to eight HDMI sources.

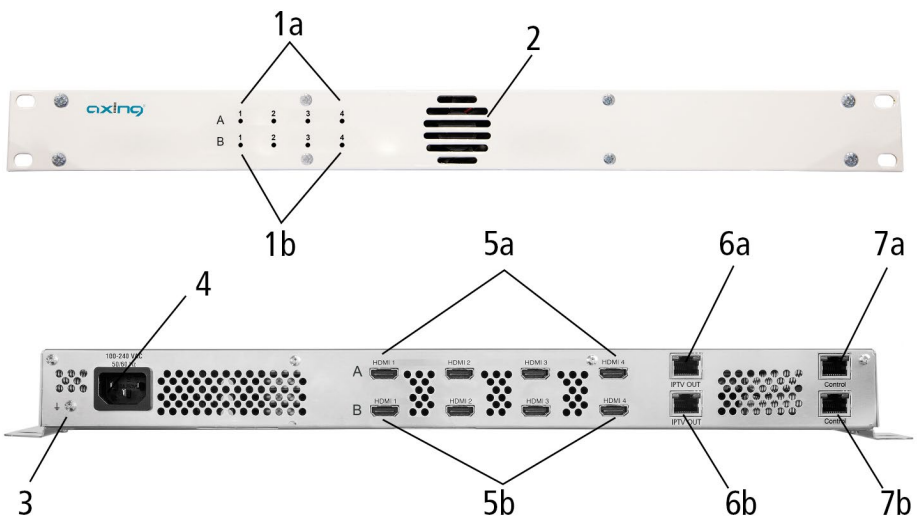
1.5. Output

The HDMI signals are then converted into four or eight Single Program Transport Streams (SPTS) and can be distributed via Ethernet using suitable switches.

1.6. Graphical user interface

The settings can be changed via the graphical user interface. To access the user interface and thus configure the devices, you need a standard PC/laptop with a network interface and the current version of the installed web browser.

1.7. Display elements and connectors



HKI 40-00 includes one module, Module A.

HKI 80-00 includes two modules, Module A and Module B.

1a/b	LEDs for the input signals		
	green	=	HDMI signal ok
	green flashing	=	low resolution signal
	out	=	no HDMI signal
2	Fan		
3	Equipotential bonding connection		
4	Mains connection		
5a/b	HDMI inputs		
6a/b	RJ-45 Ethernet connectors IPTV output		
7a/b	RJ-45 Ethernet connectors Control		

2. Mounting and Installation

➔ Installation must be performed by authorized and skilled electricians only.

➔ Before mounting and installation, pull the mains plug!

Note: For 19-inch rack mounting, there must be at least 5 cm clearance in front of and behind the unit.

➔ Slide the device into the 19“ rack.

➔ Fix the device with four screws.

➔ Comply with EN 60728-11.

2.1. Equipotential bonding

The device must be connected to the equipotential bonding. This serves to avoid dangerous overvoltages (caution: fire/life hazard) according to EN 60728-11.

➔ Use the equipotential bonding connection at the device (3).

2.2. HDMI installation

The HKI 40-00 has four HDMI inputs, the HKI 80-00 has eight.

➔ Connect them to suitable HDMI sources.

2.3. IPTV output

The HKI 40-00 has one IPTV output, the HKI 80-00 has two.

➔ Connect the IPTV output(s) to an IGMP-capable Ethernet switch. Use Cat 7 cable or higher.

2.4. Power supply

⚠ CAUTION

The Device has a built-in power supply (100 ... 240 VAC / 50 ... 60 Hz).

➔ Do not connect the device unit until all assembly and installation work has been completed.

➔ Use the supplied power cord.

➔ Connect the power cord to an appropriate wall outlet.

3. Configuration

The device is configured via the graphical user interface. To access the user interface, you need a standard PC/laptop with a network interface, a commercially available network cable and the latest version of the installed web browser.

HKI 40-00 includes one module, Module A

Default IP address of module A: 192.168.0.168

Subnet mask: 255.255.255.0

HKI 80-00 includes two modules, Module A and Module B.

Each module has its own configuration interface and its own IP address.

Default IP address of module A: 192.168.0.168

Default IP address of module B: 192.168.0.170

Subnet mask: 255.255.255.0

3.1. Accessing the configuration interface:

➔ Change the IP address of your PC/laptop, e.g. to 192.168.0.11, subnet mask: 255.255.255.0

➔ Connect the PC to the RJ-45 Ethernet connector Control.

➔ Enter the IP address of the connected module in the web browser.

The configuration screen is password-protected:

➔ Enter the default password: *Ramsen8262.*

Changing the password:

➔ Please change the password immediately after the first commissioning and choose a sufficiently safe password. Keep this password at a safe place.

➔ Menu item: **System** > **Set password** (see 3.6.6 on page 18).

Notes:

- If the browser is closed while you are still logged in, an automatic logout occurs 2.5 minutes later.
- If the browser window stays open, there is no automatic logout. It allows monitoring the installation via the web browser.

3.2. IPTV settings

➔ Click on **OUTPUT** on the main menu.

In the IPTV settings, the source's IP address and the corresponding port are clearly listed to enable precise signal assignment. Additionally, the status indicates whether the connection is functioning properly, ensuring a stable and reliable transmission.

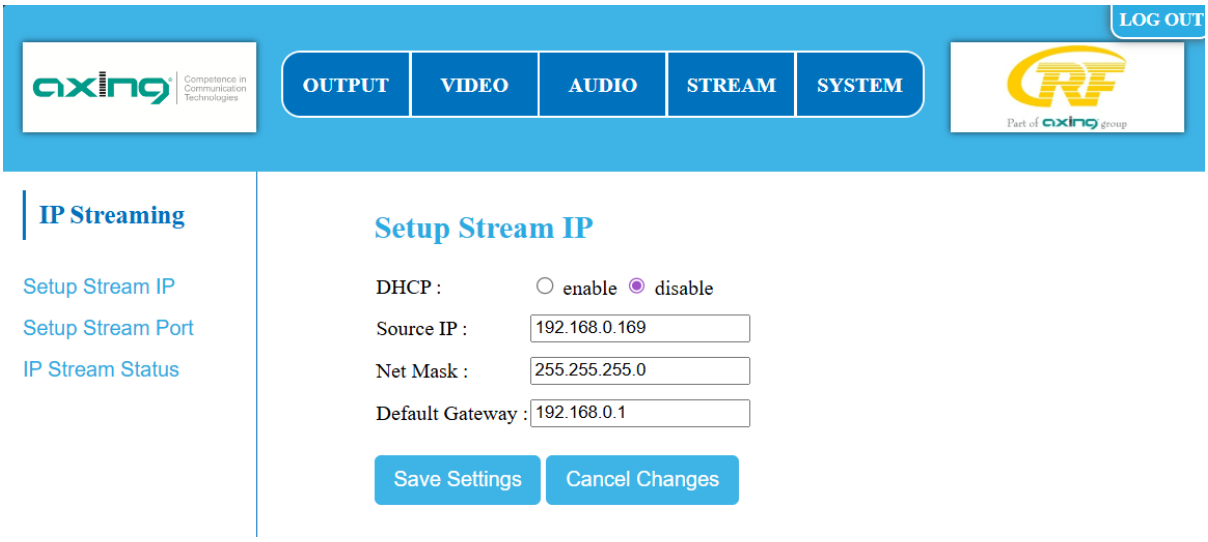
3.2.1. Setup Stream IP

Dynamic IP address

➔ For **DHCP**, select **enable** to include the device in a network with a DHCP server.
The device then receives the IP address, netmask and gateway address from the DHCP server in the IPTV network.

Static IP address

➔ Select **disable** to connect the device to a network with a fixed IP address. In this case, enter the IP address, the netmask and the gateway address.



➔ Click **Save Settings** to save your settings.

3.2.2. Setup Stream Port

For each HDMI source (1 ... 4), set the streaming parameters.

➔ For *Protocol*, select whether the output stream is to be output according to *RTP* or *UDP*.

➔ Select *unicast IP* or *multicast IP* and enter the corresponding IP address.

➔ Enter the *Receiver Port* as well.

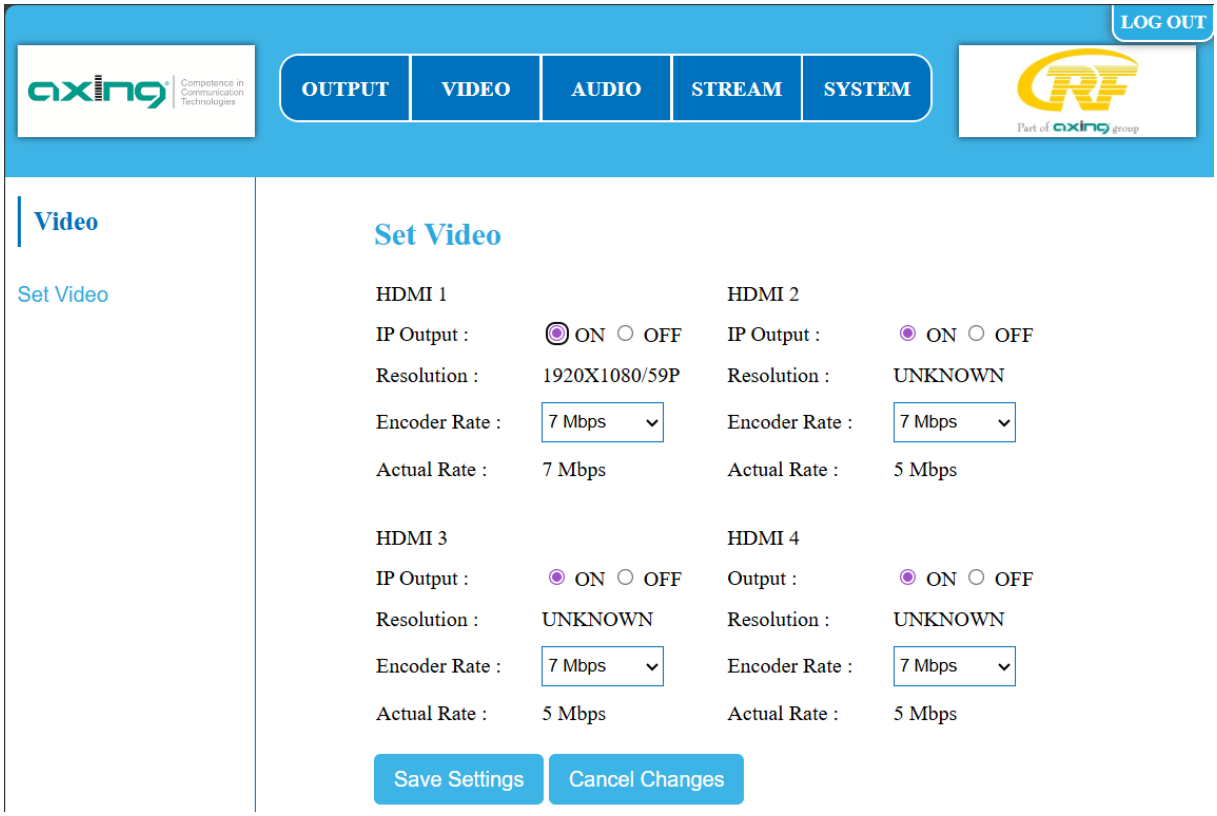
➔ Click **Save Settings** to save your settings.

3.2.3. IP Stream Status

Under **IP Stream Status**, the status of the IP stream is displayed.

3.3. Video

➔ In the main menu, click **Video**.



The settings for **Video** can be made for each of the four HDMI input ports (1 … 4).

➔ For **IP Output**, select whether or not to output an IPTV stream (ON/OFF).

The **Resolution** field indicates the resolution of the connected video source.

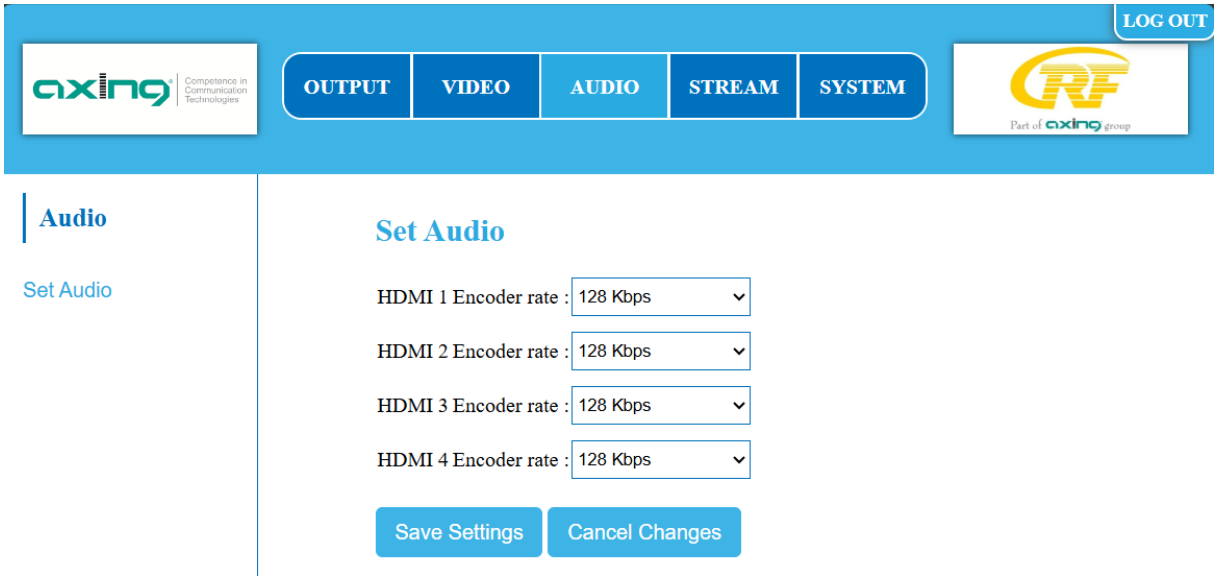
➔ For each video source, set the **Encoder Rate** to **Auto** or select a value between **4 ... 14 Mbps**.
If you select **Auto**, make sure that the output data rate is not exceeded.

The **Actual Rate** field indicates the bit rate.

➔ Click **Save Settings** to save your settings.

3.4. Audio

➔ On the main menu, click **Audio**.



The settings for the audio source can be made for each of the four input ports.

➔ Set the bit rate to **128**, **192**, **256** or **384 Kbps** for each audio source in the **Encoder Rate** field.

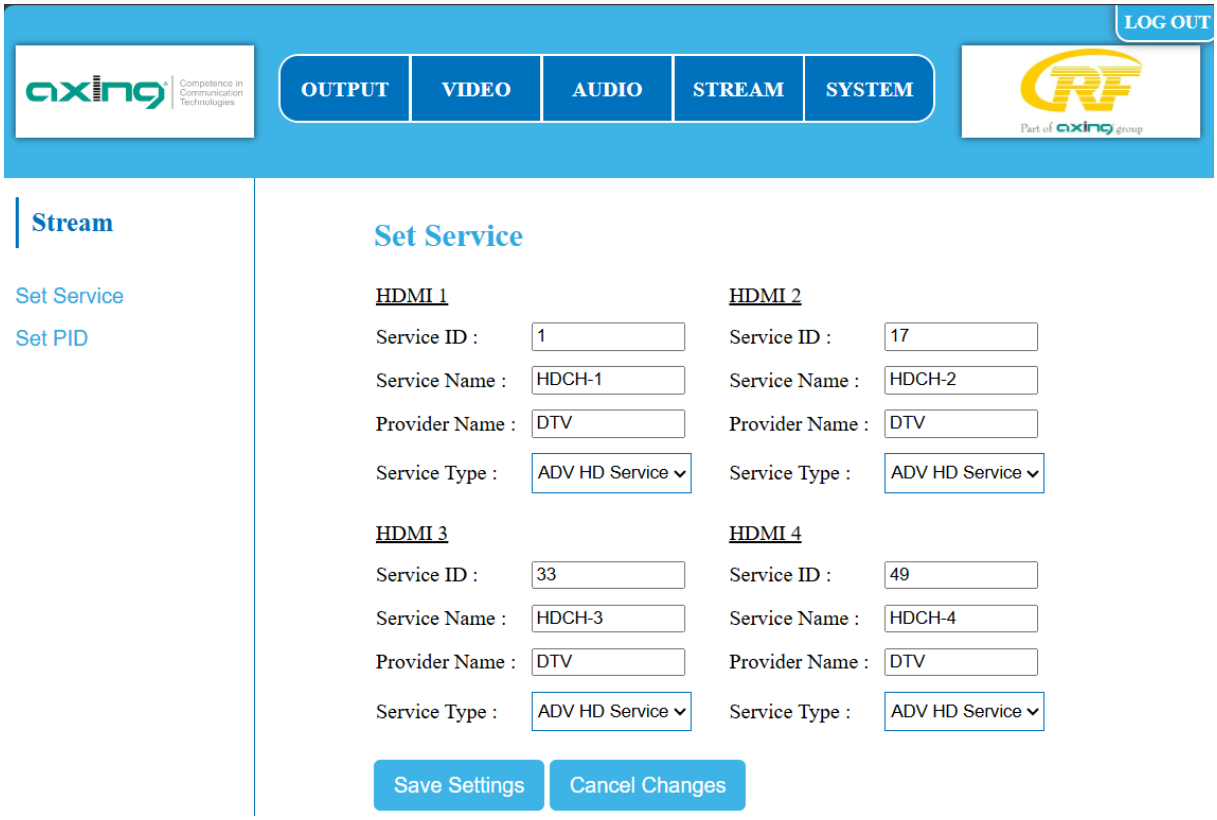
➔ Click **Save Settings** to save your settings.

3.5. Output streams

➔ On the main menu, click **Stream**.

Settings can be made for each of the four output streams.

3.5.1. Service



➔ In the **Service ID** field, type an ID between 1 and 65535.
The service IDs of all streams in your network must be unique.

➔ Enter a maximum 15-character name in the **Service Name** field.
These are displayed as program names in the TV set after the program scan.

➔ Enter a maximum 15-character name in the **Provider Name** field.

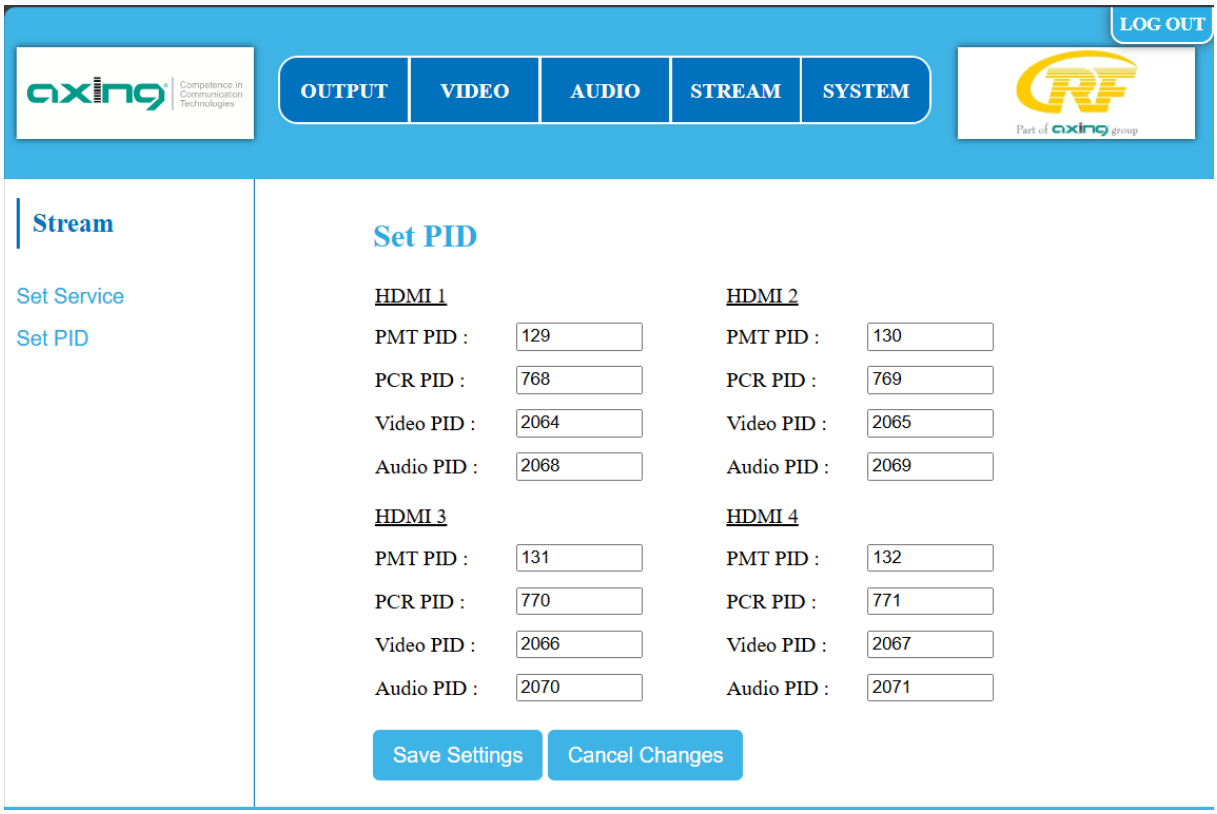
➔ In the **Service Type** selection field, select for each stream whether it is output in *HD*, *SD*, *ADV HD* or *ADV SD*.

➔ Click **Save Settings** to save your settings.

3.5.2. PID

NOTICE

Packet identifier changes should only be performed by experienced users.



Enter the **PMT PID** (Program Map Table), **PCR PID** (Program Clock Reference), **Video PID** and **Audio PID** in the appropriate fields.

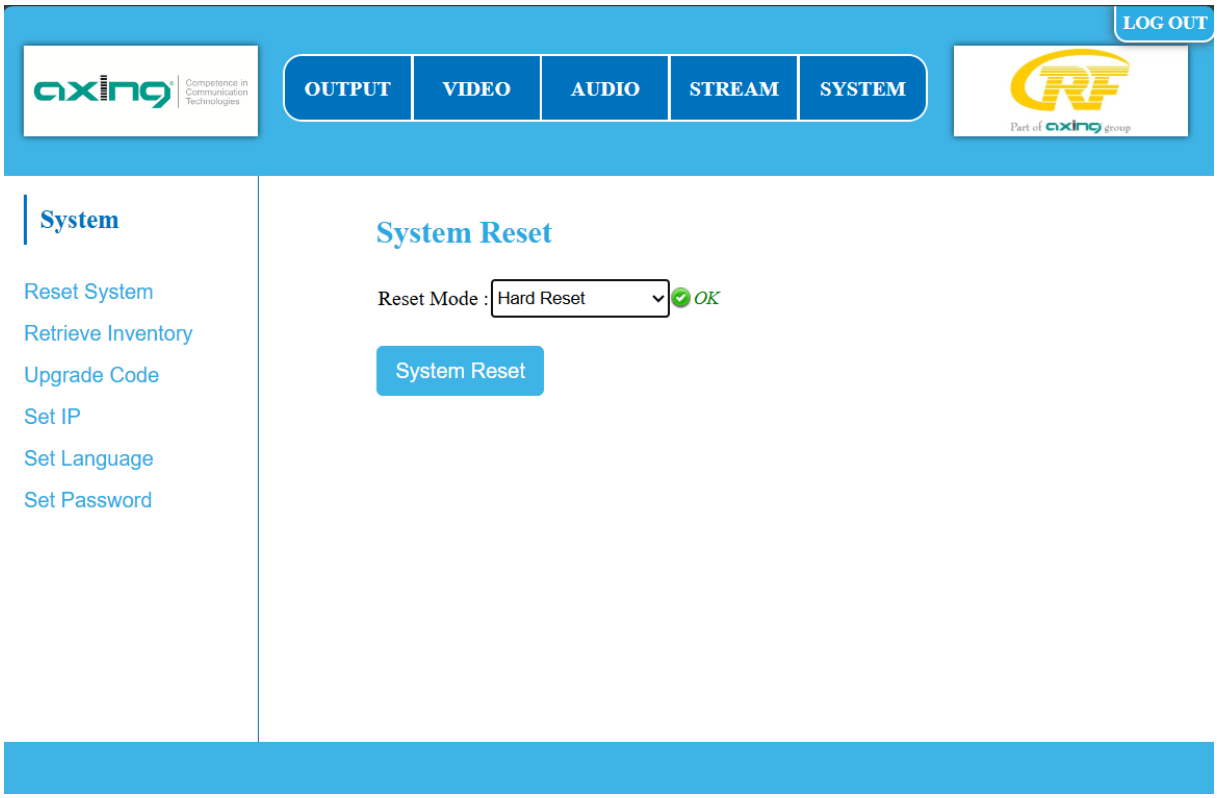
➔ Click **Save Settings** to save your settings.

3.6. System

➔ On the main menu, click **System**.

In the **System** menu item, the system can be reset, a software update is carried out, the IP address changed, a new password assigned.

3.6.1. Reset



➔ In the **Reset Mode** field, select whether you want to perform a hardware reset or whether you want to reset the device to its factory settings.

➔ Click on **System Reset** to perform the reset.

3.6.2. Retrieve Inventory

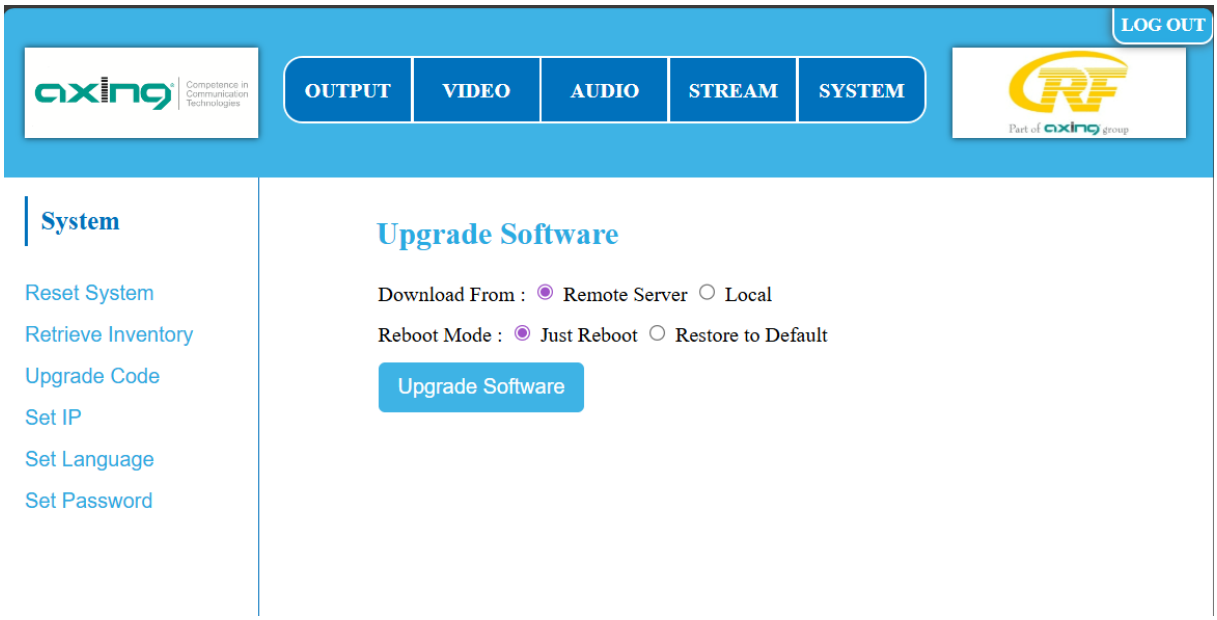
Under **Retrieve Inventory** you will find the current version of the device.

3.6.3. Upgrade Software

The software can be updated under **Upgrade Code**.

- The version of the currently installed software can be found in the menu item "Retrieve Inventory".
- The version of the currently available software can be found on the Internet at https://axing.com/en/downloads/software-and-firmware/
  > Software for Encoders

A software upgrade will be downloaded directly from the remote server. This requires an existing internet connection of the device.



➔ Select Download From **Remote Server**.

➔ Click **Upgrade Software**.
The device establishes a connection to the remote server and downloads the software.
The download progress is displayed.

After the download the upgrade of the device begins. The remaining time is displayed.

Do not switch off the device during the upgrade!

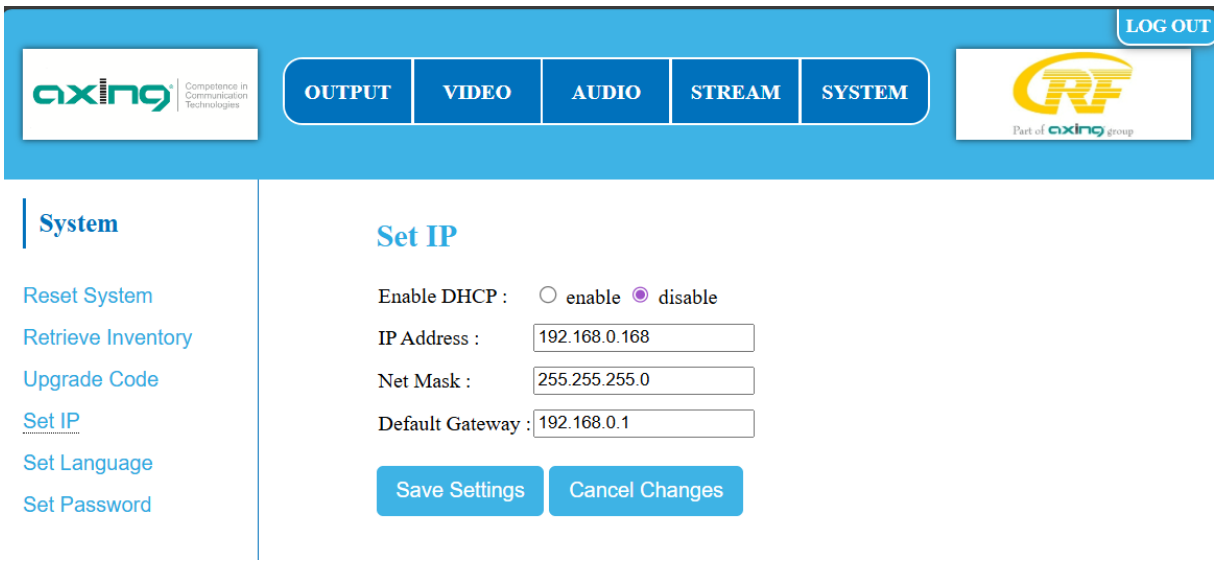
3.6.4. IP Adress

Dynamic IP address

➔ For **Enable DHCP**, select **enable** to include the device in a network with a DHCP server. The headend then receives the IP address, netmask and gateway address from the DHCP server in the network.

Static IP address

➔ For **Enable DHCP**, select **disable** to link the device to a network with a fixed IP address. In this case, enter the IP address, the netmask and the gateway address.



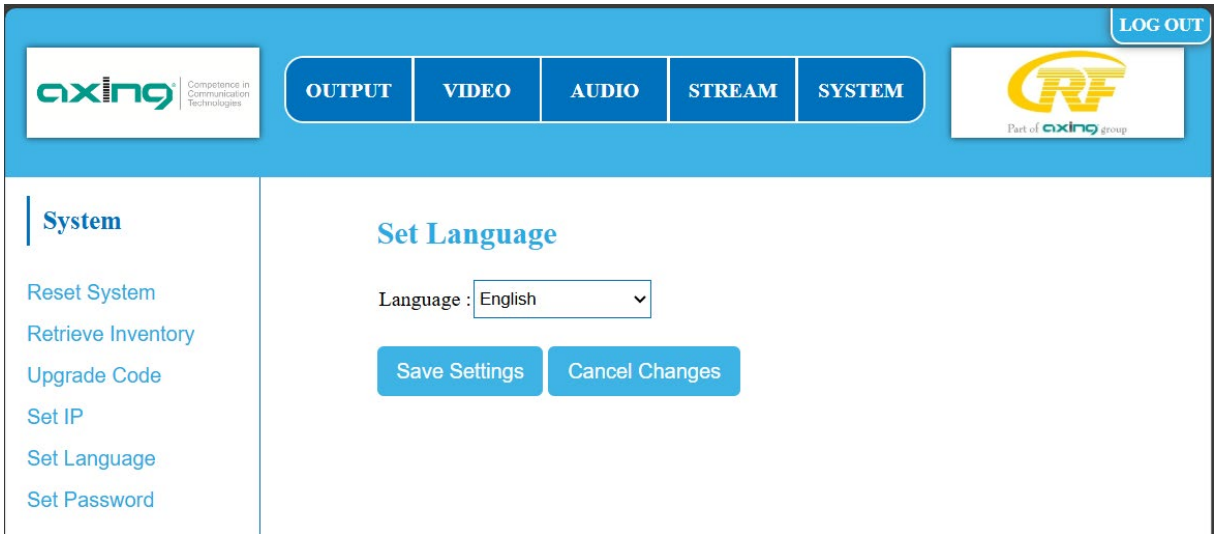
➔ Click **Save Settings** to save your settings.

➔ After the changes have been saved, the device is restarted automatically.

➔ After restarting, you must enter the new IP address in the browser and log in again.

3.6.5. Language

Here you can select the language of the interface.

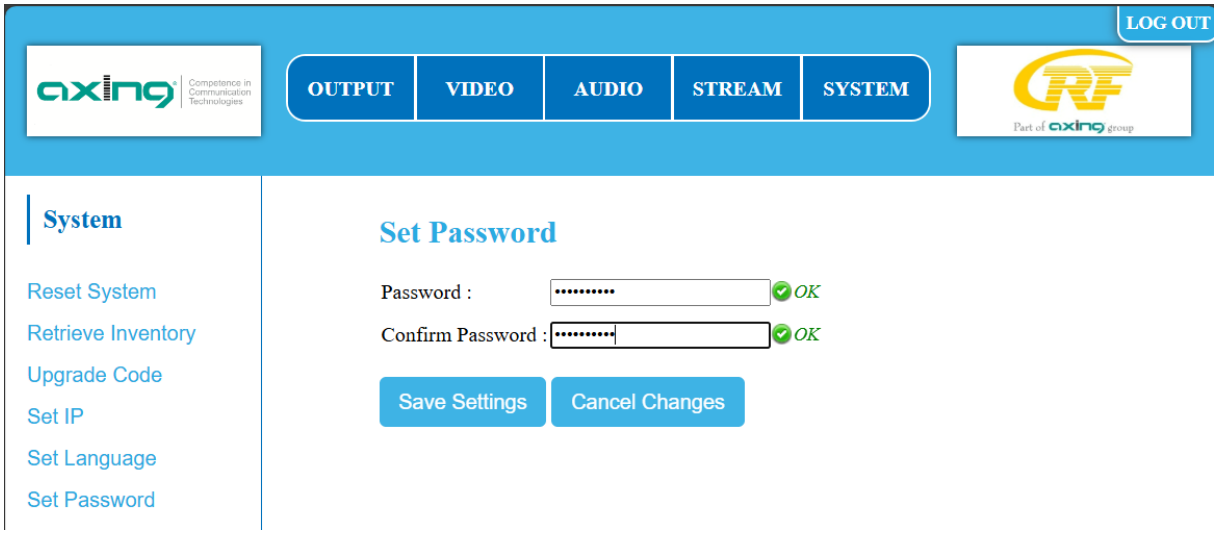


➔ Click **Save Settings** to save your settings.

3.6.6. Password

The factory-set password is: Ramsen8262.

After the first commissioning of the cassette, the factory-set password should be changed immediately.



➔ Enter a new password with 8 to 10 characters and / or numbers.

➔ Re-enter the password.

➔ Click **Save Settings** to save your settings.

➔ After the changes have been saved, the Login page is displayed, you must log on again.

4. Technical specifications

Type	HKI 40-00	HKI 80-00
Inputs		
Number	4 × HDMI	8 × HDMI
Supported protocols	HDMI 1.3, 1.4a HDCP 1.4	
Video resolution	1080p@50 Hz | 1080p@60 Hz	
IP output		
Transportstreams	4 × SPTS	8 × SPTS
Total net data rate	56 Mbps	2 × 56 Mbps
Supported transport protocols	UDP	
Supported application protocols	RTP	
Audio codecs	AAC, AAC+, AAC++, MP3	
Video codecs	H.264	
Interfaces		
Ethernet connectors	2 × RJ 45	4 × RJ 45
Ethernet standards	IEEE 802.3, 100 Base-T @ Control IEEE 802.3, 1000 Base-T/1 GbE @ IPTV OUT	
Supported configuration protocols	HTTP, AXING SMARTPortal*	
General		
Operating temperature range (acc. to EN 60065)	–10 °C … +50 °C	
Operating voltage	100 … 240 VAC/50 … 60 Hz	
Power consumption	15 W	30 W
Dimensions (W × H × D) appr.	480 × 47 × 253 mm	
Weight	2.900 kg	3.800 kg
Comments	* encrypted, cloud-based application for configuration, monitoring and remote maintenance	

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