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HDIQ 1

HDMI to QAM/DVB-T Encoder

Operating Manual

Version 09-2020A

Before starting operation of the device

NOTE: *Read this operating manual through carefully! It contains important information about installation, ambient conditions and maintenance of the device. Keep this operating manual for future use and for handover in the event of a change of owner or operator. A PDF version of this manual is available to download on the ASTRO website (there may be a more recent version).*

The ASTRO company confirms that the information in this manual was correct at the time of printing, but it reserves the right to make changes, without prior notice, to the specifications, the operation of the device and the operating manual.

Contents

Symbols and conventions used

Symbols used in these instructions

Pictograms are visual symbols with specific meanings. You will encounter the following pictograms in this installation and operating manual:

Warning about situations in which electrical voltage and non-observance of the instructions in this manual pose a risk of fatal injuries.

Warning about various dangers to health, the environment and material.

Recycling symbol: indicates components or packaging materials which can be recycled (cardboard, inserts, plastic film and bags). Used batteries must be disposed of at approved recycling points. Batteries must be completely discharged before being disposed of.

This symbol indicates components which must not be disposed of with household rubbish.

Proper use

The HDIQ 1 is an HDMI to QAM/DVB-T converter. It is solely intended for the conversion of signals.
Modification of the devices or use for any other purpose is not permitted, and will immediately void any guarantee provided by the manufacturer.

Target group of this manual

Installation and starting operation

The target group for installation and starting operation of the ASTRO headend technology are qualified experts who have training enabling them to perform the work required in accordance with EN 60728-11 and EN 60065. Unqualified persons are not allowed to install and start operation of the device.

Device configuration

Target group for the configuration of the ASTRO headend are persons who have received instructions and have training enabling them to perform a configuration. Knowledge of EN 60728-11 and EN 60065 is not necessary for configuration.

Device description

The delivery is comprised of the following parts:

- ☐ HDMI to QAM/DVB-T converter HDIQ 1
- ☐ Power supply unit
- ☐ Operating manual

[1] Display
[2] Betriebszustandsleuchte
[3] Alarm indicator light
[4] USB indicator light
[5] Lock button
[6] RF output
[7] RF input
(for connection of an external DVB-C/T signal
[8] Closed captioning jack
(for asdding external subtitles)
[9] RJ 45 ethernet-jack
[10] HDMI input jack
[11] USB jack
[12] Input jack for external 12 V DC power supply unit
[13] Grounding terminal

Figure 1: HDIQ 1 signal converter

The HDIQ 1 signal converter encoder has a CE marking. This confirms that the products comply with the relevant EC directives and adhere to the requirements specified therein.

Important safety information

To avoid any potential risks to the greatest extent possible, you must adhere to the following safety information:

ATTENTION: ***Failure to observe this safety information may result in personal injury due to electrical and thermal dangers!***

Proper use

- ☐ Only use the device at the approved operating sites and in the ambient conditions allowed (as described in the following), and only for the purpose described in the section “Proper use”.

Before starting operation of the device

NOTE: *Read this operating manual attentively! It contains important information about installation, ambient conditions and maintenance of the device. Keep this operating manual for future use and for handover in the event of a change of owner or operator. A PDF version of this manual is available to download on the ASTRO website (there may be a more recent version).*

- ☐ Check the packaging and the device for transport damage immediately. Do not start operation of a device that has been damaged.
- ☐ Transporting the device by the power cable may damage the mains cable or the strain relief, and is therefore not permitted.

Installation and operation

- ☐ The device may only be installed and operated by qualified persons (in accordance with EN 60065) or by persons who have been instructed by qualified persons. Maintenance work may only be carried out by qualified service personnel.
- ☐ An installation site must be provided that prevents children from playing with the device and its connections.
- ☐ The electrical connection conditions must correspond to the specifications on the device type plate.

- To avoid damage due to overheating, the device may only be installed on vertical surfaces. The connection for the power supply unit must point to the right. The installation basis should be level and non-flammable. Operating position: Device vertical, with HF sockets at the bottom and external DC power supply connection on the right.
- The permitted ambient temperatures specified in the technical data must be complied with. If the device overheats, the insulation used to isolate the mains voltage may be damaged.
- The device and its cable may only be operated away from radiant heat and other sources of heat.
- To avoid trapped heat, ensure there is good ventilation on all sides (minimum interval of 20 cm to other objects). Installing the device in recesses or covering the installation location, e.g. with curtains, is not permitted. Ventilation openings may not be covered.
- If the device is installed in a cabinet, ensure adequate air convection is possible to avoid exceeding the maximum permitted ambient temperature.
- Do not place any objects on the device or on the external power supply unit.
- The subscriber network must be earthed in accordance with EN 60728-11, and must remain earthed even when the device is removed.
- The device and the power supply unit do not provide protection against water and may therefore only be operated and connected in dry rooms. The device and the external power supply unit must not be exposed to splashing or dripping water, condensation or similar effects of water, as this may impair the isolation from the mains voltage.
- The mains plug of the external power supply unit is used as a mains voltage disconnection unit in the event of servicing and danger, and must therefore be accessible and usable at any time. The external power supply unit is operational when connected to the mains power. If the power supply unit is also connected to the DC socket of the device, the device is also in operation.
- The device may only be powered by the supplied external power supply unit. The supplied external power supply unit may only be used to power the device supplied with the external power supply unit.

- ☐ All adhere to all applicable national safety regulations and standards.
- ☐ Excess mechanical loads (e.g. falling, impacts, vibrations) may damage the insulation used to provide protection from mains voltage.
- ☐ High excess currents (lightning strike, surges in the power utility grid) may damage the insulation used to provide protection from mains voltage.
- ☐ If there is no information about intended use (e.g. operating site, ambient conditions), or the operating manual does not include the corresponding information, then you must consult the manufacturer of this device to ensure that the device may be installed. If you do not receive any information on this from the manufacturer, do not start operating the device.
- ☐ The device may only be operated in rooms in which the permissible ambient temperature can be maintained should climatic conditions vary (e.g. due to sunlight).
- ☐ Do not install the device and external power supply unit in locations with excessive dust formation, as this may impair the isolation from the mains voltage.

Electromagnetic compatibility (EMC)
In order to avoid malfunctions from occurring when operating radio and telecommunications equipment, as well as other operating units or broadcasting services, the following points must be observed:

- ☐ Before installation, the device must be checked for mechanical damage. Damaged or bent covers or housings may not be used.
- ☐ During operation, the device must always be covered by the components provided for this purpose. Operation with an opened cover is not permitted.
- ☐ The braided line or the contact springs may not be damaged or removed.

Maintenance

- The operating display only shows whether the DC current, which supplies the device components, has been disconnected. However, operating displays (on the power supply unit or the device) that are not lit up in no way indicate that the device is completely disconnected from the mains voltage. There may still be voltages in the external power supply unit that are dangerous to touch. Even after disconnection from the mains, there may still be voltages in the external power supply unit that remain dangerous to touch for several minutes. Do not open the case of the device or the external power supply unit.
- Read carefully: EN 60728-11 – Part 1, Safety requirements / No service tasks during electrical storms!
- Disconnect the mains plug before cleaning the device!

Repair

- Repairs may only be performed by the manufacturer. Improperly performed repairs may result in considerable dangers for the user.
- If malfunctions occur, the device must be disconnected from the mains and authorised experts must be consulted. The device may need to be sent to the manufacturer.

General information

- Store or use the device in a safe location, well out of reach of small children. It may contain small parts that can be swallowed or inhaled. Dispose of any small parts that are not needed.
- Plastic bags may have been used for packaging the device. Keep these plastic bags away from babies and children in order to avoid any danger of suffocation. Plastic bags are not toys.
- Do not store the device near chemicals or in places in which any leakage of chemicals may occur. Organic solvents or fluids in particular may cause the housing and/or cables to melt or disintegrate, presenting a danger of fire or electric shock. They may also cause device malfunctions.
- Do not connect the mains adapter provided to any other products.

Warranty conditions

The general terms and conditions of ASTRO Bit GmbH apply.
You will find these in the current catalogue or on the Internet under “www.astro-kom.de”.

Performance description

The HDIQ 1 is used to modulate local HDMI sources (e.g. camera, set-top box, PC) into a QAM or DVB-T output channel. The device offers the following performance features:

- ☐ TS loop via USB (playback of a recorded transport stream from a USB stick in loop)
- ☐ QAM signal is fed out via the F socket
- ☐ Different resolutions
- ☐ Local operation via keypad and LCD
- ☐ Power supply via 12 V plug-in power supply unit
- ☐ Wall mounting

To use the device properly, carefully read the following safety and operating instructions.

Disposal

All of our packaging material (cardboard boxes, inserts, plastic film and bags) is completely recyclable.
After use, this device must be disposed of in an orderly manner as electronic scrap in accordance with the current disposal regulations of your district / country / state.

ASTRO Bit is a member of the Elektro system solution for the disposal of packaging materials. Our contract number is 80395.

Installation proposal

PREPARATION:

Before you fix the device in place, first drill four holes in a perpendicular mounting surface and insert suitable wall plugs. To do this place the device on the wall and mark the four points at which the holes are to be drilled.

Proceed as follows to fasten the device:

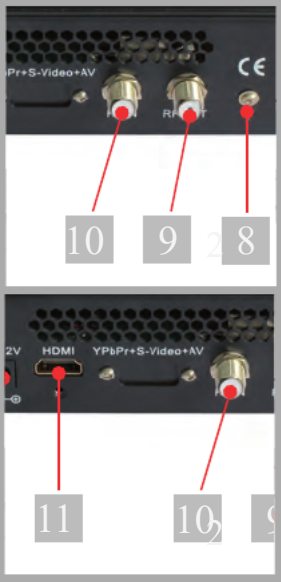
TASK

1. Place the back of the device against the mounting surface so that its attachment points are exactly above the four screw heads. The connection sockets of the device must point downwards.
2. Now push the housing slightly downwards until the upper edges of the attachment points press against the screws.

RESULT:

The device is now fixed and can be connected to the power supply unit.

Connecting



PREPARATION:

To connect the HDIQ 1 connectors proceed as follows:

TASK

1. Plug one F connector each into the input [7] and output [6] jack (see left) of the device. Make sure that the coaxial cables are laid with a sufficient bending radius.
2. Connect the ground terminal [13] of the HDIQ 1.
3. Insert the plug of the HDMI cable into the HDMI socket [10] of the HDIQ 1.
4. Insert the plug of the second HDMI cable into the HDMI socket of the device whose transport stream is to be processed by the HDIQ 1 (e.g. camera signal, DVD player).

RESULT:

The device is now connected and you can start the configuration (see next section “Configuration”).

ATTENTION: *If F-connectors are handled improperly or carelessly, compliance with the EMC limit values cannot always be ensured.*

Figure 3 shows a connection example for the HDIQ 1:

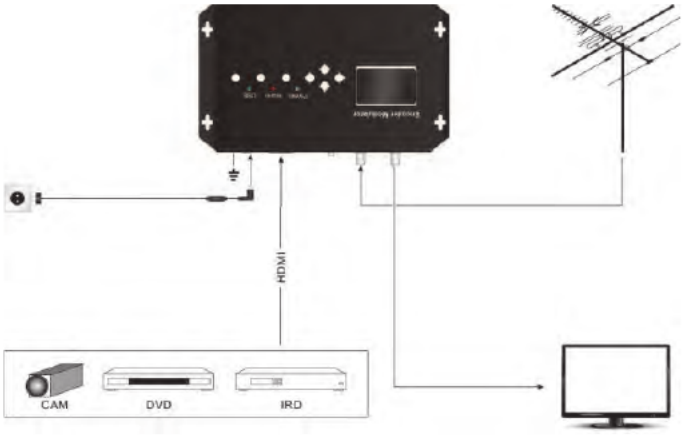


Figure 3: Connection example

Figure 4 shows a connection example with cascade connection of two HDIQ 1 devices. In order to create additional capacities for input signals, several HDIQ 1 can be interconnected. To do this, you must connect the HF output of one device to the HF input of another.

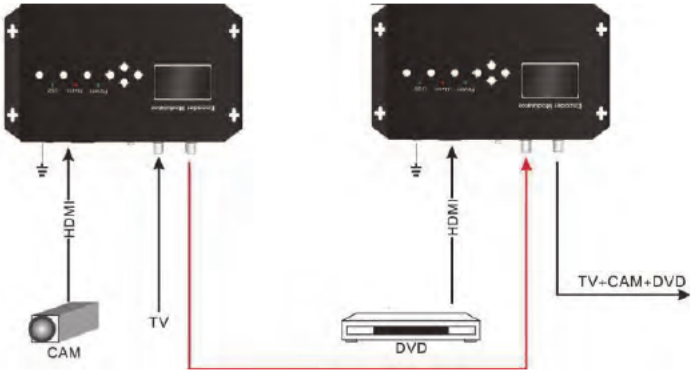
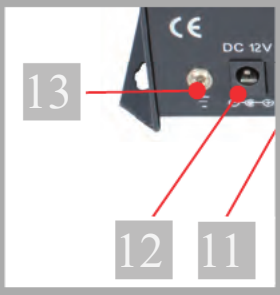


Bild 4: Connection example with cascade



Starting operation

To start operation of the HDIQ 1, you must connect the device to the mains using the supplied power supply unit. You do so like this:

- ☐ Insert the plug of the power supply unit into the power supply socket of the device [12] (see left).
- ☐ Connect the mains plug of the power supply unit to the mains.

If the operating status lamp [2] (see left, below) is glows continuously the unit is ready for operation.

ATTENTION: *If the operating status light flashes or does not light up, it may be that*
- The power supply unit is defective
- The device is defective, or
- An inadmissible operation is present (e.g. operating error, wrong power supply unit).
(See "Maintenance and repair" section)

NOTE: *The use of another power supply unit with a different output voltage or polarity can lead to the destruction of the device as well as to malfunctions and voids the warranty!*

Operating elements and display

The HDIQ 1 is operated via an LC display and a keypad on the top of the device. Here you will also find three LEDs that indicate the status of the device.

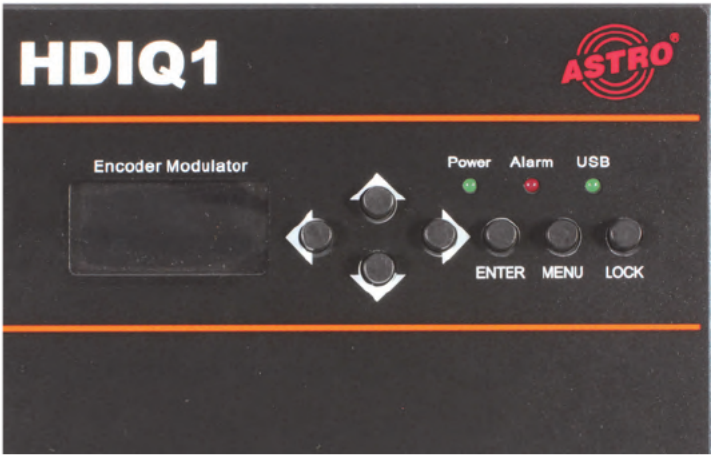


Figure 5: Operating elements

LC display

Displays the selected menu and parameter settings. The backlight is activated as soon as the power supply unit of the device is connected to the mains voltage.

LED

- `Power`: Lights up as soon as the device is connected to the operating voltage.
- `Alarm`: Lights up in the event of an error, e.g. if no input signal is present.
- `USB`: Lights up when a USB data source is connected.

Keypad

- `Arrow buttons`: Use these buttons to navigate through the individual menus and to change parameter settings.
  `Up and down arrow`: Scroll through the menu
  `Left and right arrow`: Set parameters
- `Enter`: Use this button to access a submenu (if a triangle is visible in front of the currently displayed menu item) or to save a new setting.
- `Menu`: Use this button to switch from a submenu to the next higher menu level.
- `Lock`: Use this button to block input via the keypad to prevent accidental misuse. Press the Lock button again to enable the keypad again.

NOTE: *Immediately after the device is connected to the operating voltage, it is started and the keypad is initially blocked. If you want to operate the HDIQ 1, press the Lock button to unlock the keypad.*

Programming

After switching on, the device is initialised. The display shows the information in a set sequence:

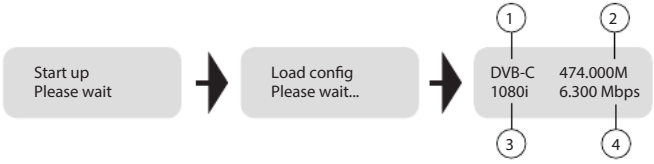


Figure 6: The display after switching on

- `1`: Modulation of the output signal
- `2`: Output frequency
- `3`: resolution of the input signal
- `4`: Data rate of the output signal

Now press the Lock button to unlock the keypad.
You are now in the main menu. This contains the following menu items:

- `Status`: Here you will find the status indicators of the device (Alarm, Uptime).
- `Encoder`: Here you set the parameters for the encoder of the device (video, audio).
- `Modulator`: Here you set the parameters for the modulator (HF frequency, symbol rate, HF level, etc.).
- `IP Stream`: Here you set the parameters for the transport stream (TSID, ONID, NIT, EIT).
- `USB device`: Here you can configure the use of the USB port (record transport stream, play transport stream, update software, etc.).
- `Network`: Here you can change the IP address of the sevice as well as the subnet mask.
- `System`: Here you can make various system settings (save configuration, factory reset, display system version, etc.).

Menu overview

Operating elements for navigation in the menu structure

Use the ENTER button to move to the next menu level. Press the MENU button to return to the next higher menu level.

Use the up and down arrow buttons to move within a menu level to the next or previous menu item.

↓↑ Buttons

To change individual parameters, use either the up or down arrow buttons, the left and right arrow buttons or all four, depending on the parameter.

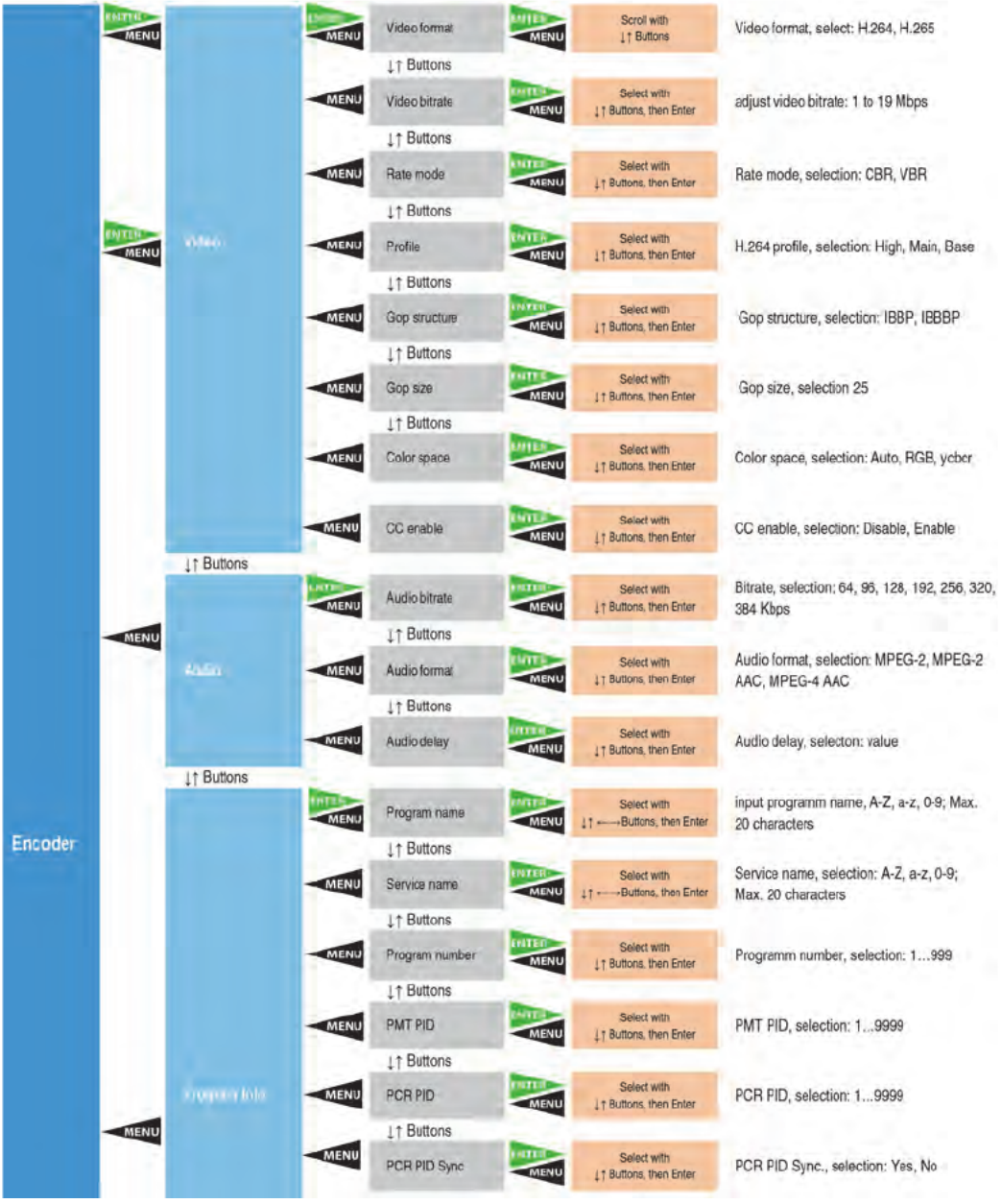
Select with ↓↑ Buttons, then Enter	switch on or of RF-carrier
Select with ←→Buttons, then ENTER	Key lock, selection: Yes or No
Select with ↓↑ ←→Buttons, then ENTER	Password, selection: type in a six-figure numerical code

“Status” menu

If no HDMI signal available: Message e. g. „Video 1 not lock“. Alarm LED is red (also when there is a data overflow at the output).

Runtime from the moment of activation

“Encoder” menu

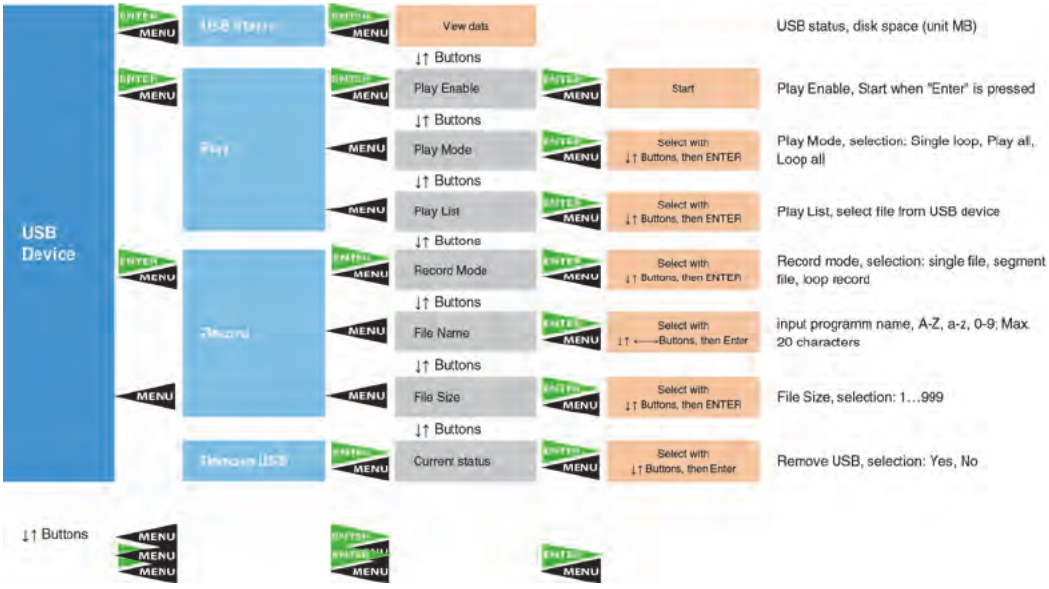


“QAM Modulator” menu

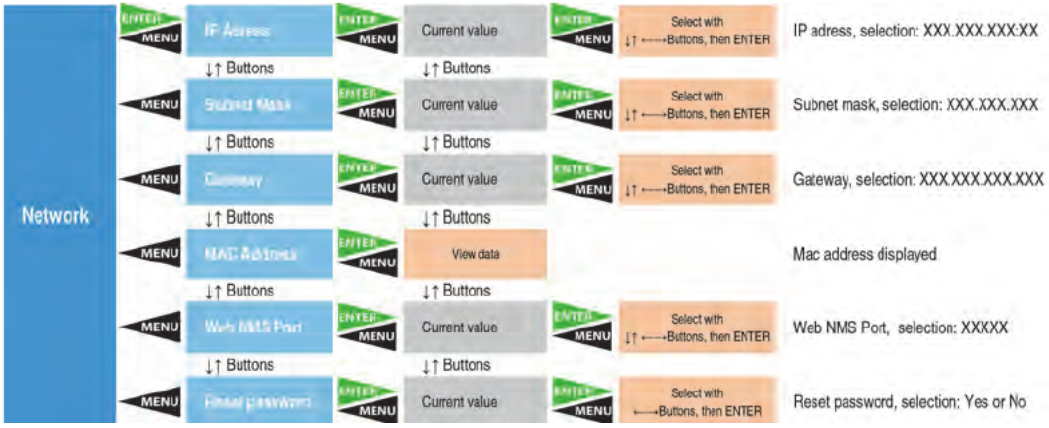
“DVB-T Modulator” menu

“IP Stream” menu

“USB device” menu



“Network” menu



“System” menu


System
MENU
Current value
Select with ←→Buttons, then ENTER
Save adjustments, selection: Yes or No
↓↑ Buttons
Current value
Select with ←→Buttons, then ENTER
Restore last values, selection: Yes or No
↓↑ Buttons
Current value
Select with ←→Buttons, then ENTER
Restore factory setup, selection: Yes or No
↓↑ Buttons
Current value
Select with ↓↑ Buttons, then ENTER
Switch off display; selection: after 5, 10, 30, 45, 60, 90, 120 seconds
↓↑ Buttons
Current value
Select with ↓↑ ←→Buttons, then ENTER
Password, selection: type in a six-figure numerical code
↓↑ Buttons
Current value
Select with ←→Buttons, then ENTER
Key lock, selection: Yes or No
↓↑ Buttons
Current value
View data
The Device number is displayed. (Serial number ...)
↓↑ Buttons
Current value
View data
Soft- and Hardwareversion is displayed.

Programming via webbrowser

You can configure the Network Encoder HDIQ 1 via a web browser interface.

NOTE: Make sure that the IP address of the device is not the same as that of your PC or laptop. This would otherwise result in an IP conflict.

Login

The IP address of the device is: 192.168.0.136
Change the IP address of the PC / laptop as follows:
192.168.99.xxx (where xxx can be between 1 and 254, except 64 to avoid IP conflicts).
Connect the device to your PC or laptop via an Ethernet cable and use the ping diagnostic tool (ping command) to determine whether the HDIQ 1 and your PC / laptop are on the same network.
If this is the case, enter the IP address of the HDIQ 1 in the address line of the browser and press the Enter key.
You should now see the login screen (see figure 6 below).

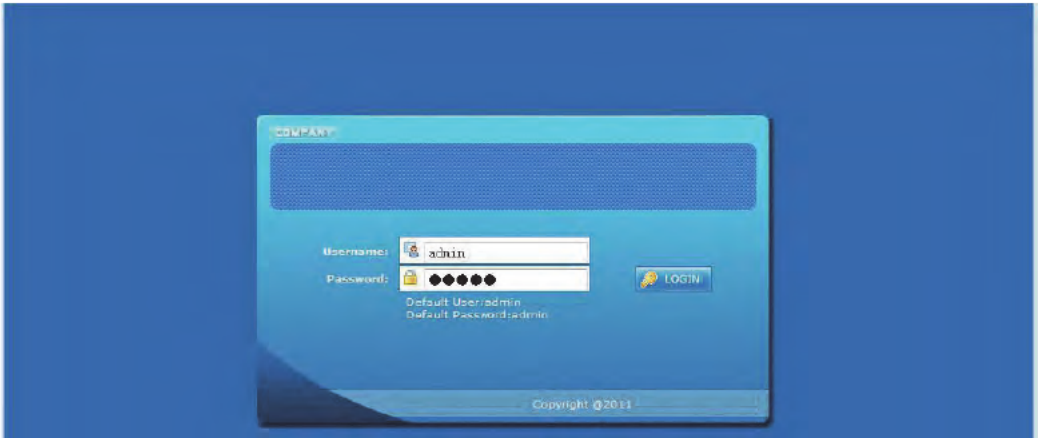


Figure 6: Login

Enter your user name and password here. The user name and password are “admin” by default. Then click on the “Login” button to access the configuration interface.

NOTE: The menu structure of the web surface is slightly different from the menu structure of the devices display.

Statusübersicht

After logging in, the interface displays a status overview (see figure 7).

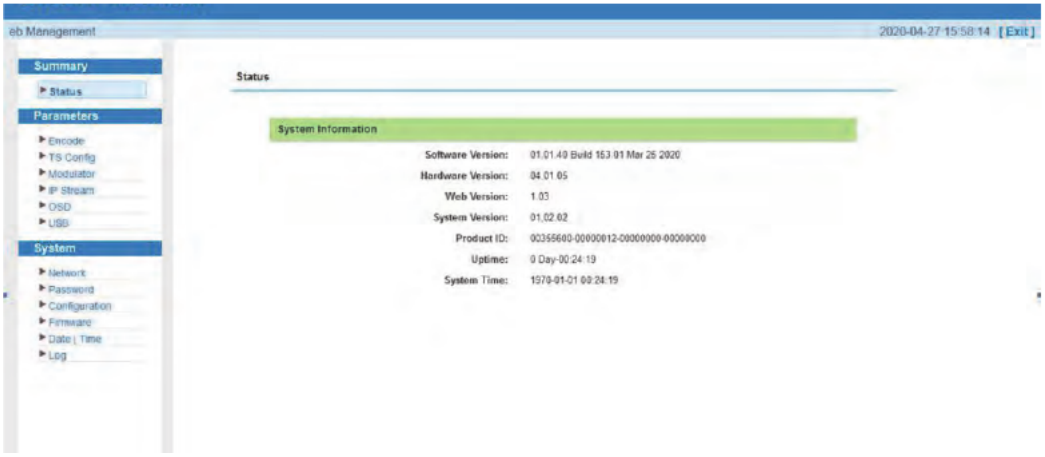


Figure 7: Status overview

The status overview shows information about soft- and hardware, operating time since the last restart of the device (Uptime) and the system time (as far as updated).

Editing and saving encoder settings

To edit encoder parameters, click on „Encode“ in the main menu on the left (see figure 7). You will see the following input form:

Figure 8: Encoder settings

The overview in figure 9 shoes possible and recommended settings in the „Video“ section:

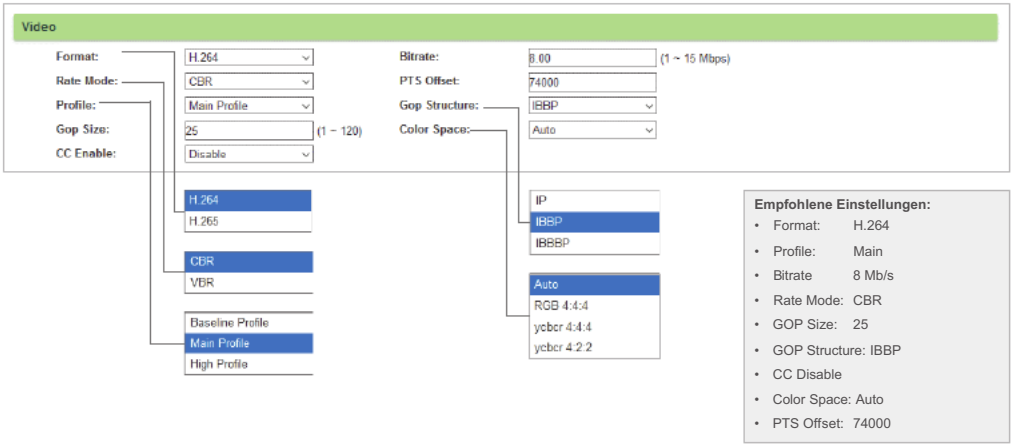


Figure 9: Video settings

After adjusting the parameters as desired, click on the „Apply“ button to save your settings.

The overview in figure 10 shoes possible and recommended settings in the „Audio“ section:

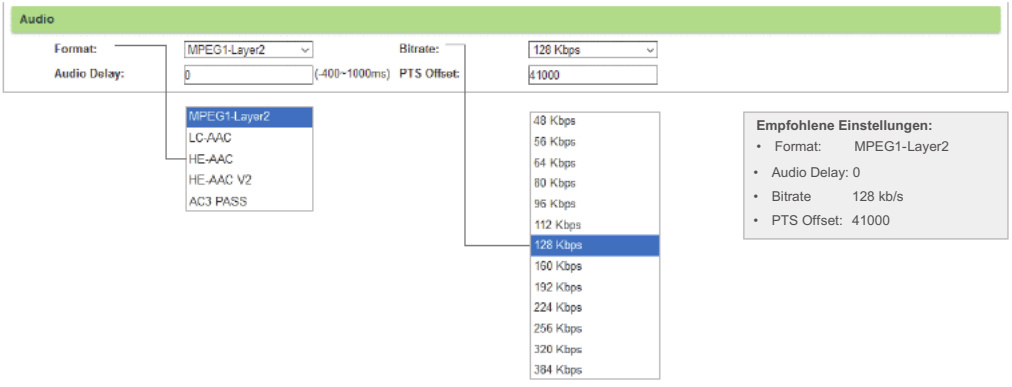


Figure 10: Audio settings

After adjusting the parameters as desired, click on the „Apply“ button to save your settings.

The overview in figure 11 shoes settings in the „Program“ and „System“ sections:

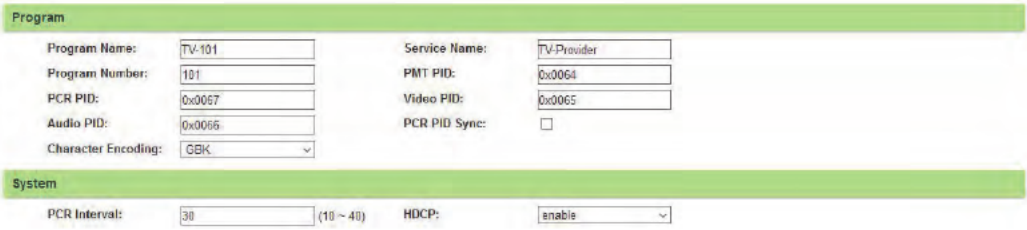


Figure 11: Settings in the „Program“ and „System“ section.

After adjusting the parameters as desired, click on the „Apply“ button to save your settings.

The overview in figure 12 shoes settings in the „Status“ and „Debug“ section:

Figure 12: Settings in the „Status“ and „Debug“ section.

Edtiting transport stream parameters

To edit transport stream parameters, clicken on „TS Config“ in the main manu on the left side of the screen. You will see the following input form now:

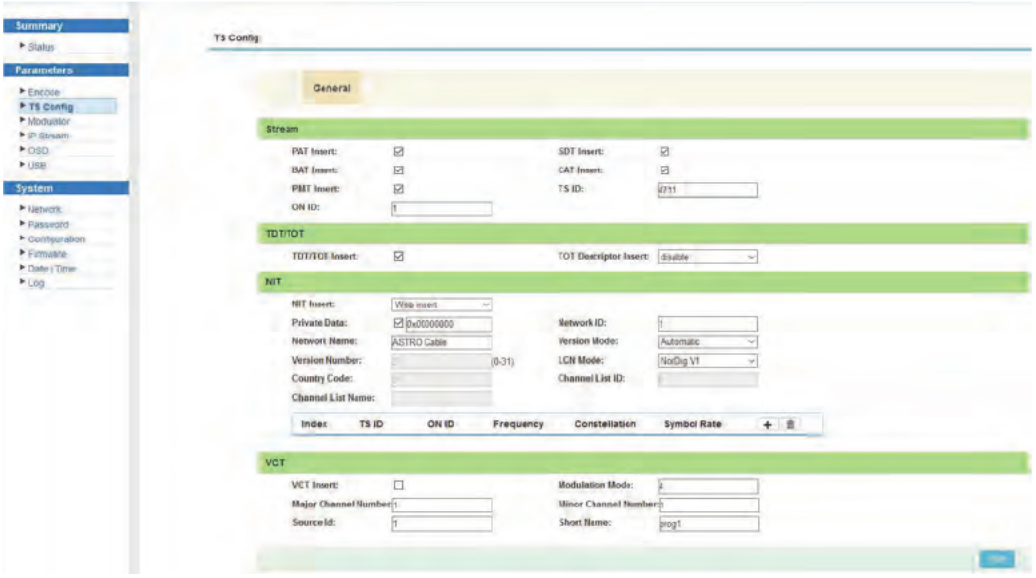


Figure 13: Settings in the „TS Config“ menu

Here you can choose if a NIT will be added and, if yes, in which mode it will be inserted (see figure 14 below).

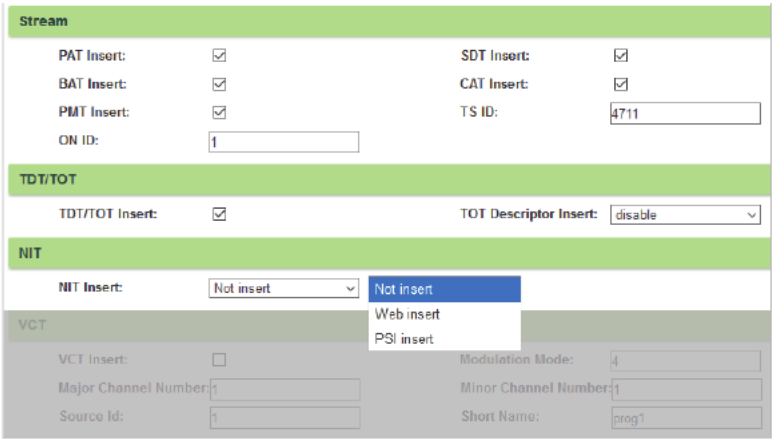


Figure 14: Settings in the „NIT“ section

- `Not insert`: no NIT will be added
- `Web insert`: NIT will be added manually. External NIT entries can be added.
- `PSI insert`: NIT will be edited via PSI to the transport stream.

NOTE: *VCT can only be used in conjunction with an ATSC output signal.*

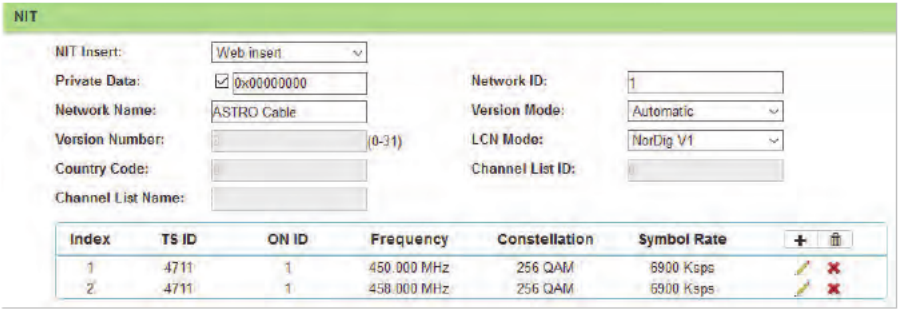


Figure 15: Detail settings in the „NIT“ section

The following detailed settings are recommended for a NIT (see figure 15 above):

- ☐ `NIT insert`: Web insert
- ☐ `Version mode`: Automatic
- ☐ `LCN Mode`: NorDig V1

Figure 16 shows a transport stream example:

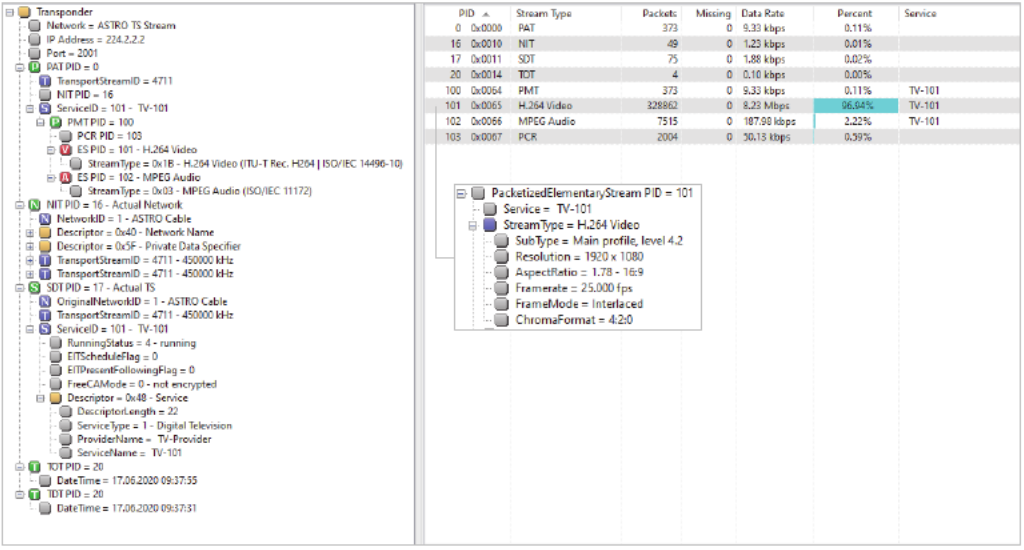


Figure 16: Transport stream example

Independent from the actual service type the outputted transport stream will be marked as Service Type 1 (SDTV).
Video resolution and framerate are automatically resumed from the input signal.
Level (in this case 4.2) will be automatically chosen from the encoder depending on the video resolution.

After adjusting the parameters as desired, click on the „Apply“ button to save your settings.

Configuring the modulator

To configure the modulator, click on „Modulator“ in the main menu on the left side of the screen. You will see the following overview:

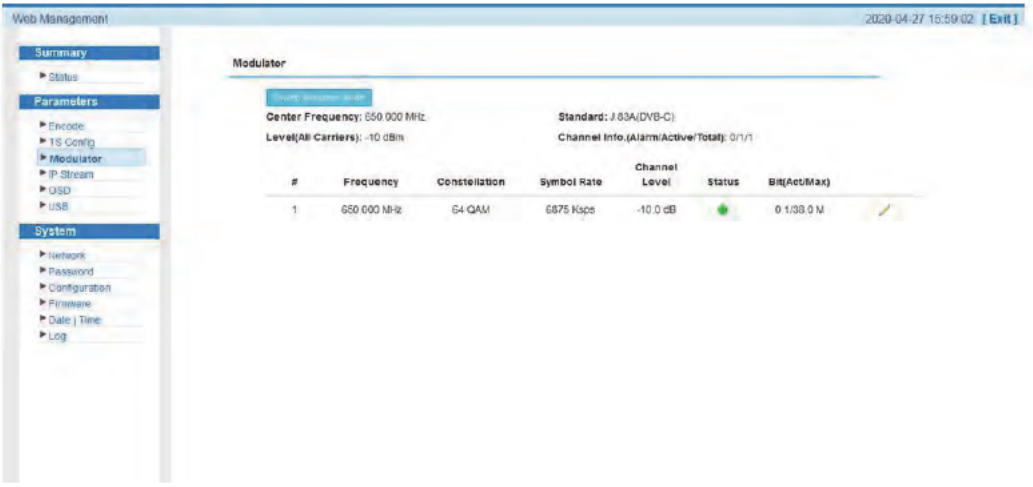


Figure 17: „Modulator“ menu

To choose the desired modulation type, click on „Switch Modulator Mode“. A popup window opens where you can choose the desired modulation type from the dropdown list „Current Mode“ (see figure 18).

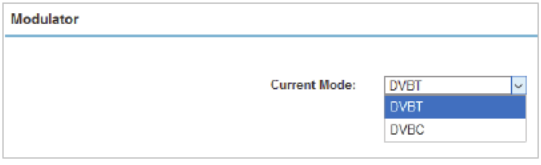


Figure 18: „Modulator“ menu

Confirm your choice by clicking „OK“.

NOTE: *The new modulation type is now displayed. You will see an advice that you must restart the device to load the firmware for the chosen modulation type.*
Pull off the power supply unit of the device, wait a minute and put the power supply into the wall outlet again.

After the reboot you will see an overview of the current configuration of the modulation type you had chosen before. Figure 19 shows the input form for DVB-C; figure 20 the input form for DVB-T:

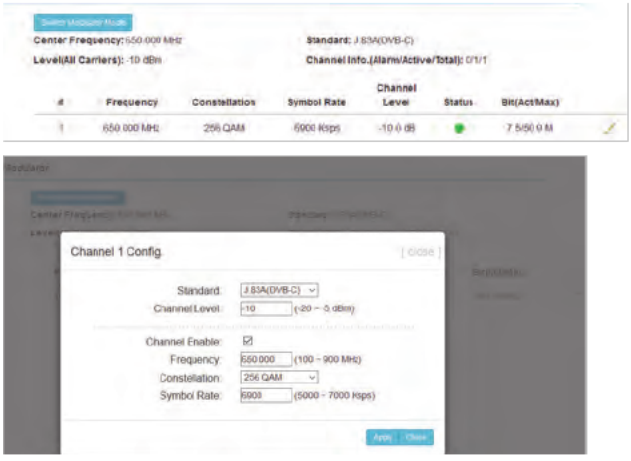


Figure 19: Configuration of DVB-C Modulator

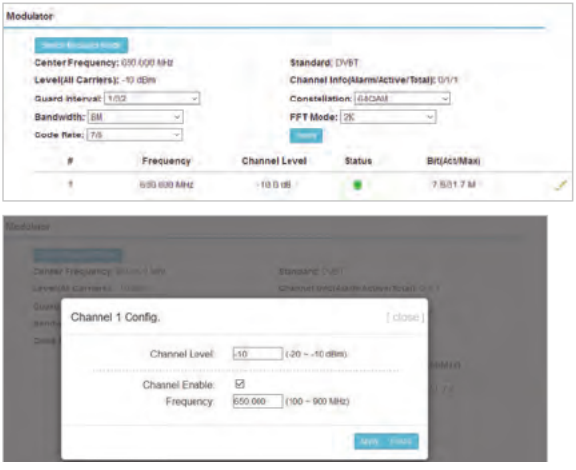


Figure 20: Configuration of DVB-T Modulator

Click on the pencil symbol to open the input form for editing the parameters.
After adjusting the parameters as desired, click on the „Apply“ button to save your settings.

IP Stream konfigurieren

To edit IP stream parameters, click on „IP Stream“ in the main menu on the left side of the screen. You will now see the following input form:

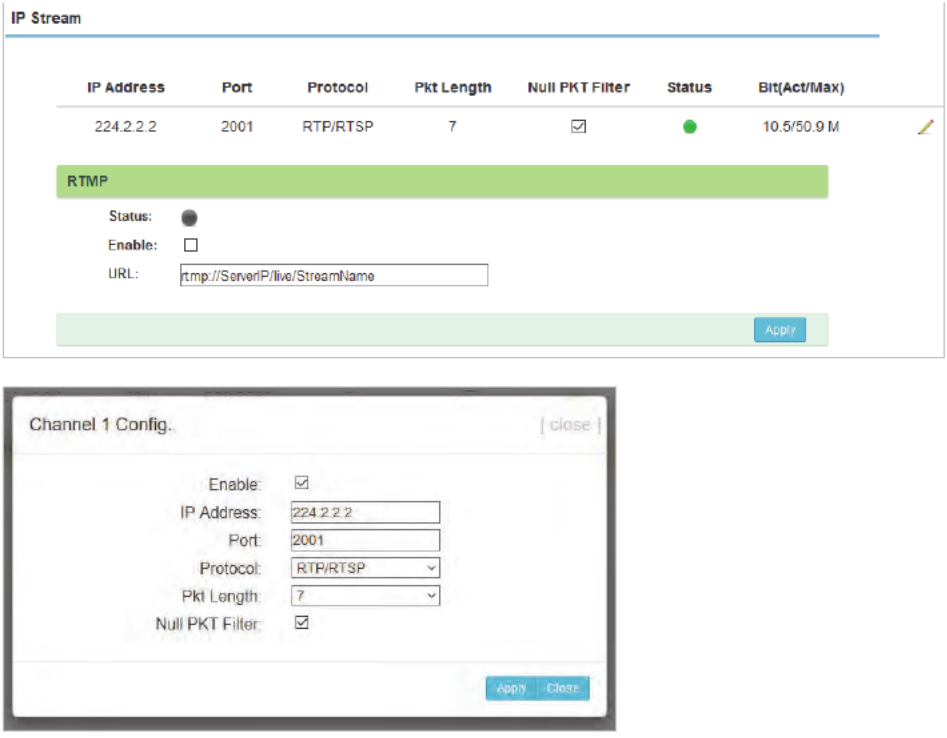


Figure 21: IP stream configuration

Click on the pencil symbol to open the input form for editing the parameters. You can choose from the following parameter values:

- `Protocol`: Choose UDP, RDP or RTSPP.
- `Pkt Length`: Choose the packet length (values from 1 - 7 possible).
- `Null Pkt Filter`: Activate the checkbox for filtering of null packets (PID 8191).

After adjusting the parameters as desired, click on the „Apply“ button to save your settings.

Configuring the onscreen display (OSD)

To edit the parameters for the onscreen display, click on „OSD“ in the main menu on the left side of the screen. You will now see the following view:

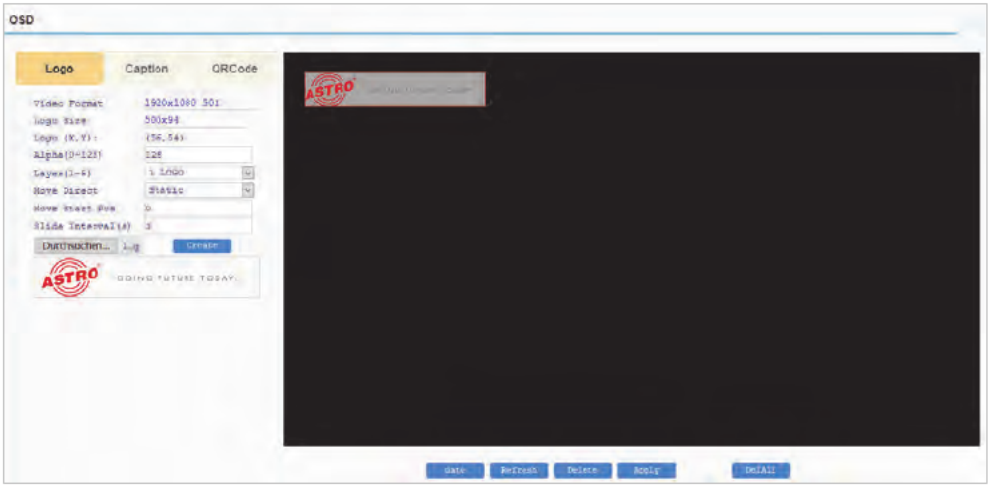


Figure 22: OSD - Editing a logo

Here you can choose an image file (Logo) by clicking on „Search“ and then clicking on „Create“ to upload the chosen file.
Click on the „date“ below the image preview to open the popup window for adjusting the time lapse of the displayed logo.

After adjusting the parameters as desired, click on the „Apply“ button to save your settings.

If you want to insert a text ticker, first click on „Caption“ in the upper left corner. You will now see the following view:

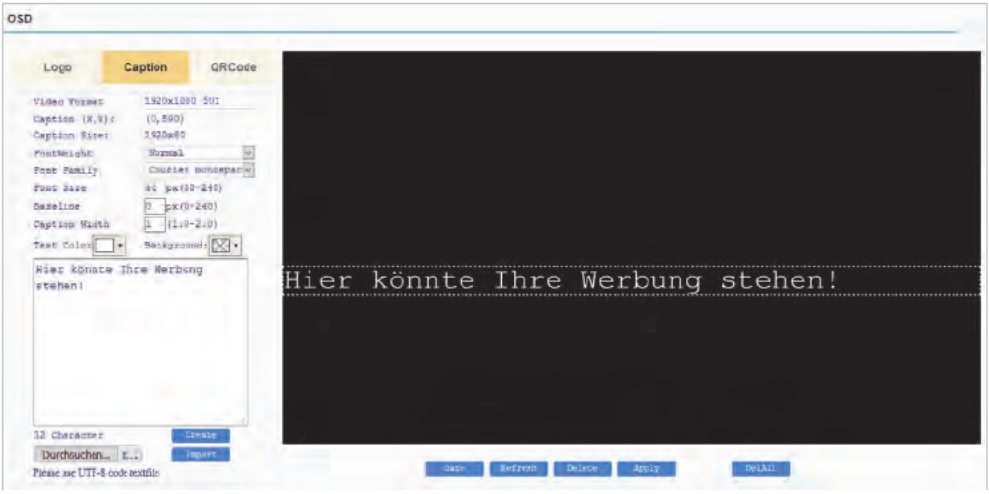


Figure 23: OSD - editing a ticker text

Type the desired text into the input text field. Your text can then be formatted by adjsuting the text parameters (font heigth, font type, etc.).
Via the „Background“ button you can additionally change the backgroundcolor as desired.
If you want to delete your entries, click on „DelAll“.
You can also use a stored text file as a ticker text by clicking on „Search“ and then selecting the text by clicking on „Create“.

After adjusting the parameters as desired, click on the „Apply“ button to save your settings.

If you want to display a QR code, click on „QRCode“ in the upper left corner. You will now see the following view:

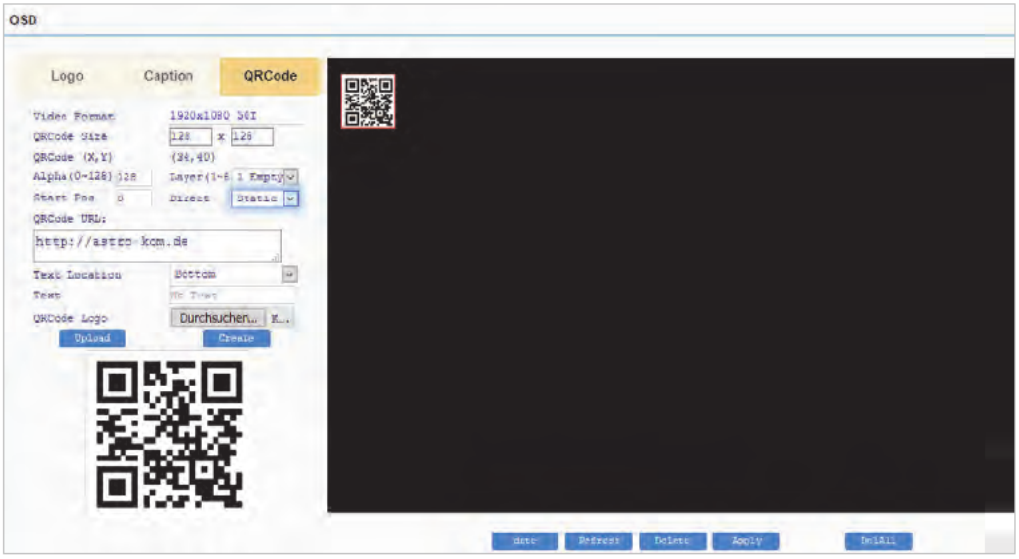


Figure 24: OSD - inserting a QR code

Type in the QR code URL into the input field.
Select the desired image file via „Search“ and then click on „Create“.
If you want to delete your entries, click on „DelAll“.

After adjusting the parameters as desired, click on the „Apply“ button to save your settings.

Recording and playing a transport stream via USB

NOTE: Only transport streams that were recorded on the USB storage device before can be played!

To configure the recording resp. playing of a transport stream on/from a USB data storage medium, click on „USB“ in the main menu on the left side. You will see the following view:

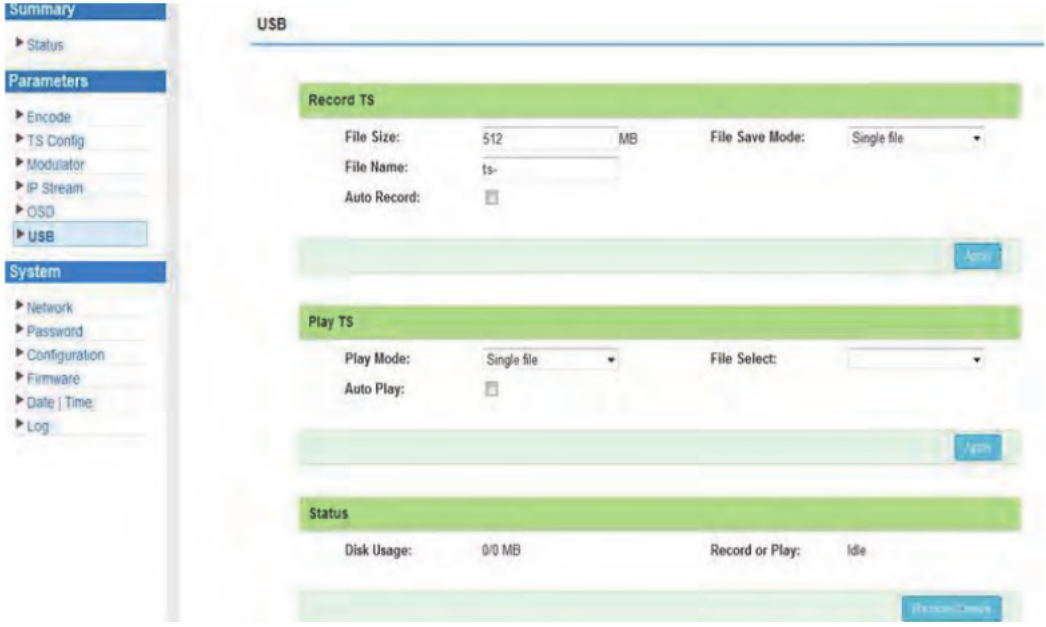


Figure 25: recording and playing back a transport stream

Select the desired recording mode in the dropdown list „File save mode“ within the first section „Record TS“:

- `Single file`: Recording will be saved in one single file.
- `Segment file`: Recording will be split into segments of a fixed size. Type in the desired file size in the input field „File Size“.
- `Loop record`: Recording will be overwritten by a new file when a chosen file size is reached.

Type in the desired file name into the input field „File Name“.
Activate the Checkbox „Auto Record“, if the recording should start automatically.

After adjusting the parameters as desired, click on the „Apply“ button to save your settings.

Select the desired play mode in the dropdown list „Play Mode“ within the section „Play TS“:

- `Single file`: Play one file (transport stream).
- `Single loop`: Play one file looped.
- `Play all`: Play all files one after another.
- `Loop all`: Play all files looped.

Please note:

- Files to be played must be transport streams (*.ts).
- Files to be played must be stored in the root directory of the USB Stick (no navigation within the directory of the stick possible).
- When playing files from a stick, playback can be delayed or interrupted from time to time, depending on the quality of the stick and the videoencoding of the transport stream.
- A videoencoding according to the specifications of the HDMI signal is recommended.

After adjusting the parameters as desired, click on the „Apply“ button to save your settings.

In section „Status“ the recorded data size is on the storage medium is displayed.

Network settings

To edit network settings, click on „Network“ in the main menu on the left side. You will now see the following view:

Figure 26: Network settings

Type in the IP address for the device and the subnetmask into the appropriate input fields.

After adjusting the parameters as desired, click on the „Apply“ button to save your settings.

Changing the password

To change the user name and/or the password, click on „Password“ in the main menu on the left side. You will see the following view now:

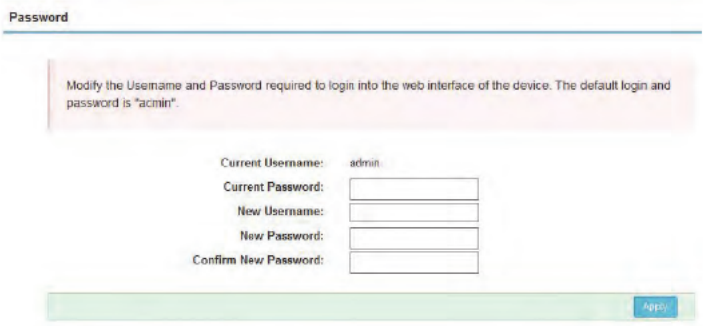


Figure 27: Editing user name and password

Type in the desired data into the appropriate input fields.

After adjusting the parameters as desired, click on the „Apply“ button to save your settings.

Configuration of the device

NOTE: To make your parameter choices available as a device configuration, you must store them! Otherwise your data will be lost after the next reboot of the device!

To load or save a device configuration, click on „Configuration“ in the main menu on the left side. You will see the following view now:

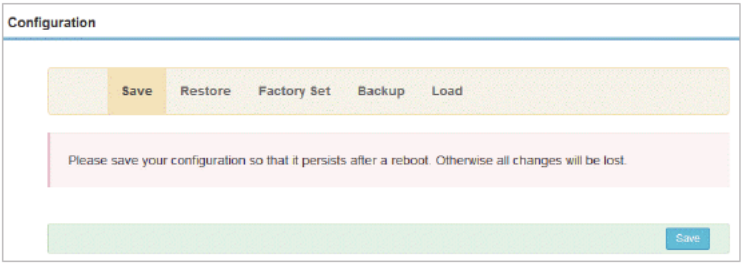


Figure 28: Device configuration

The following functions are available in the „Configuration“ menu:

- `Save:` Save current settings
- `Restore:` Load last saved configuration
- `Factory Set:` Load factory setup
- `Backup:` Save current configuration locally
- `Load:` Upload saved configuration

Execute each of the functions by clicking on the blue button.

Firmware Update

If you want to make a firmware update, click on „Firmware“ in the main menu on the left side. You will see the following view now:

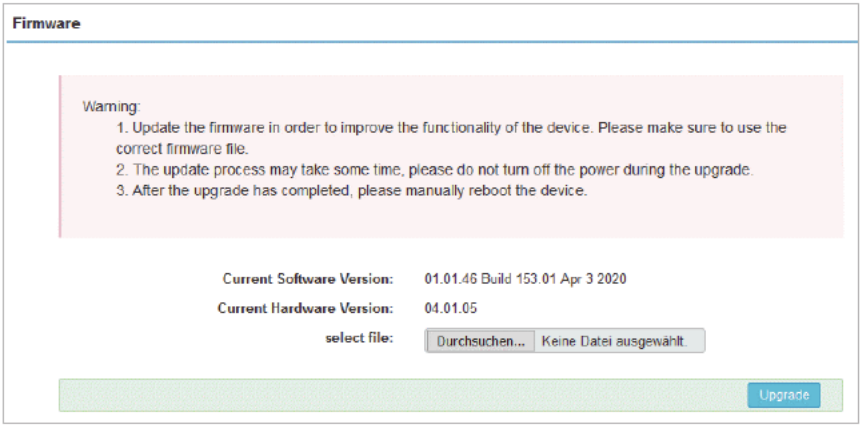


Figure 29: Firmware Update

Click on „Search“ to select an update file.
Click on „Upgrade“ to start the update process. After successfully finishing the update, you must manually reboot the device (pull off the power supply unit from the wall outlet, wait a minute and then put the power supply unit into the outlet again).

Setting date and time

To set date and time, click on „Date / Time“ in the main menu on the left side. You will see the following view now:

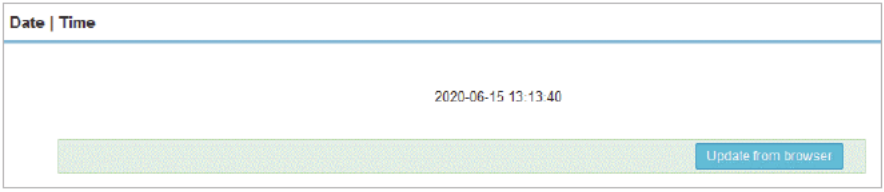


Figure 30: Date and time

Click on „Update from browser“ to assume the time setting of your PC or Laptop.

Rebooting the device

To reboot the device, click on „Reboot“ in the main menu on the left side. You will see the following view now:

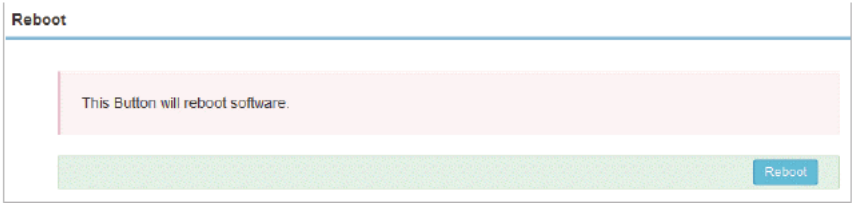


Figure 31: Restarting the device

Click on „Reboot“ to restart the device.

NOTE: Restarting via the Reboot button does not make up for a manual reboot, as needed e. g. for a change of the modulation type or a firmware update!

Log files

To export log files, click on „Log“ in the main menu on the left side. You will see the following view now:

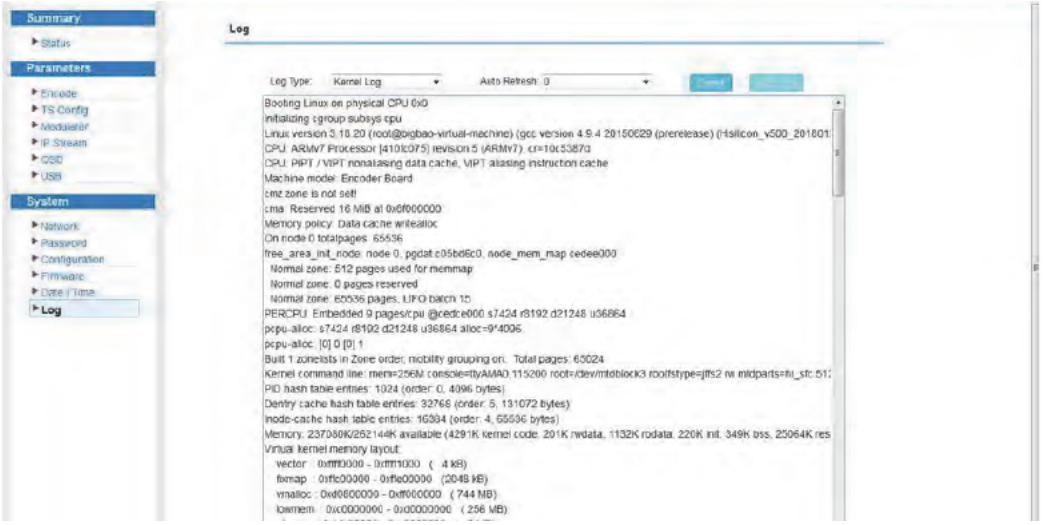


Figure 32: Log files

Select the desired log file in the dropdown list „Log Type“.
Then select the time interval to update the log file in the dropdown list „Auto Refresh“.
Finally click on „Export“ to export the file.

Troubleshooting

If the device is not functioning correctly, please perform the following checks:

- ☐ Check whether the device has been connected to the specified mains voltage.
- ☐ Check whether the coaxial cables are connected correctly, and that there are no breaks or short circuits in the connectors.
- ☐ Check whether the output level on the device is within the permissible limits for the operating level.

If the problem cannot be resolved, please contact the ASTRO customer service.

Maintenance and repair

ATTENTION: ***The following safety information must be observed when performing maintenance and repair work. Failure to observe this safety information may result in personal injury due to electrical and thermal dangers!***

- ☐ The operating display only shows whether the DC current, which supplies the device components, has been disconnected from the mains voltage. If the operating display (for the power supply unit or the device) does not light up, this does not mean that the device has been fully disconnected from the mains voltage. There may still be voltages in the external power supply unit that are dangerous to touch. Do not open the case of the device or the external power supply unit.
- ☐ Read carefully: EN 60728 - Part 1 Safety requirements: No service work during thunderstorms.
- ☐ A defective device may only be repaired by the manufacturer

  to ensure that components with the original specification are used (e.g. power cable, fuse). Improperly performed repairs may result in considerable dangers for the user or installer. If malfunctions occur, the device must therefore be disconnected from the mains and authorised experts must be consulted. The device may need to be sent to the manufacturer.

Country codes

Country	ONID	NID	PDS
Others	0x0000	0x0000	0x00000000
Australia	0x2024	0x3201	0x0000233A
Austria	0x2028	0x3301	0x00000028
Belgium	0x2038	0x3401	0x00000028
Taiwan	0x209E	0x3301	0x00000028
Czech Republic	0x20CB	0x3101	0x00000028
Denmark	0x20DO	0x3201	0x00000028
Estonia	0x20E9	0x3201	0x00000028
Finland	0x20F6	0x3301	0x00000028
France	0x20FA	0x3301	0x00000028
Germany	0x2114	0x3002	0x00000028
Indonesia	0x2168	0x2005	0x00000028
Ireland	0x2174	0x3201	0x00000028
Israel	0x2178	0x3301	0x00000028
Italy	0x217C	0x3001	0x00000028
Latvia	0x21AC	0x3001	0x00000028
Netherlands	0x2210	0x3101	0x00000028
New Zealand	0x222A	0x3401	0x00000028
Norway	0x2242	0x3401	0x00000028
Philippines	0x2260	0x3103	0x00000028
Poland	0x2268	0x3401	0x00000028
Singapore	0x22BE	0x3201	0x00000028
Slovak Republik	0x22BF	0x3001	0x00000028
Slovenia	0x22C1	0x3201	0x00000028
South Africa	0x22C6	0x3001	0x00000028
Hungary	0x22C7	0x3401	0x00000028
Portugal	0x22C8	0x3401	0x00000028
Spain	0x22D4	0x3101	0x00000028
Sweden	0x22F1	0x3101	0x00000028
Switzerland	0x22F4	0x3201	0x00000028
UK	0x233A	0x3002	0x0000233A

TSID default: 0x01(editable)

Technical data

Type		HDIQ 1
Order number		380 277
EAN-Code		4026187198978
Encoding		
Video-Encoding		HEVC/ H.265 , MPEG 4 AVC/H.264
Interface		HDMI
Resolutions		1920*1080_60P, 1920*1080_50P; 1920*1080_59.94P, 1920*1080_59.94i; 1920*1080_60i, 1920*1080_50i; 1280*720_60p, 1280*720_59.94 1280*720_50P
Video bitrates	[Mbps]	1 ... 15
Audio encoding		MPEG-1 Layer 2, LC-AAC, HE-AAC, HE-AAC V2; AC3 Pass-through
Sample rate	[kHz]	48
Bit rate	[kbps]	48~384Kbps (MPEG-1 Layer 2& LC-AAC) 24~128 Kbps (HE-AAC) 18~56 Kbps (HE-AAC V2)
DVB-C Modulation		
Standards		J.83A (DVB-C), J.83B
MER	[dB]	≥ 43
Constellations		J.83A: 16/32/64/128/256QAM; J.83B: 64/ 256 QAM
Bandwidth	[MHz]	J.83A: 8; J.83B: 6
RF frequency	[MHz]	30~960, 1 KHz steps
RF output level	[dBm)	-16~ -36 (71~91dbµV), 0,1dB steps
Symbol rate	[Ksps]	5000 - 9000
DVB-T Modulation		
Standard		DVB-T COFDM
Bandwidth	[MHz]	6, 7, 8
Constellations		QPSK, 16QAM, 64QAM
Code Rate		1/2, 2/3, 3/4, 5/6, 7/8
Guard Interval		1/32, 1/16, 1/8, 1/4
Transmission Mode		2K
MER	[dB]	≥ 35
RF frequency	[MHz]	100-900, 1KHz steps
RF output level	[dBm)	-63 ~ -16, 1dB steps
System		
Management		Web-GUI, LED + Keyboard
Language		English
LCN Insertion		yes

Update		Web update
Common data		
Management		buttons on device, LCD
Dimensions	[mm]	160 x 120 x 52
Power supply	[VDC]	12
Weight	[kg]	< 1
Ambient temperature	[°C]	0 …+45

ASTRO Strobel Kommunikationssysteme GmbH

These operating instructions have been written by:
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