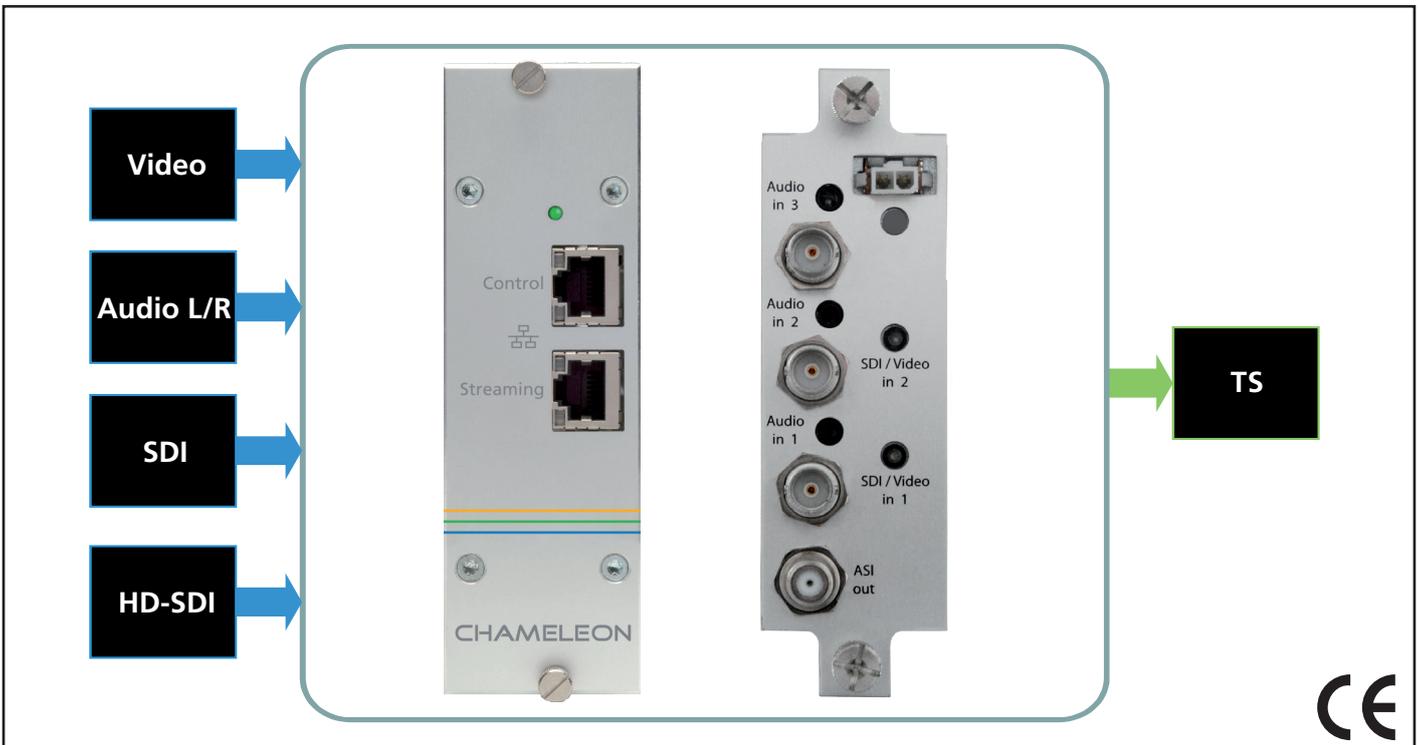
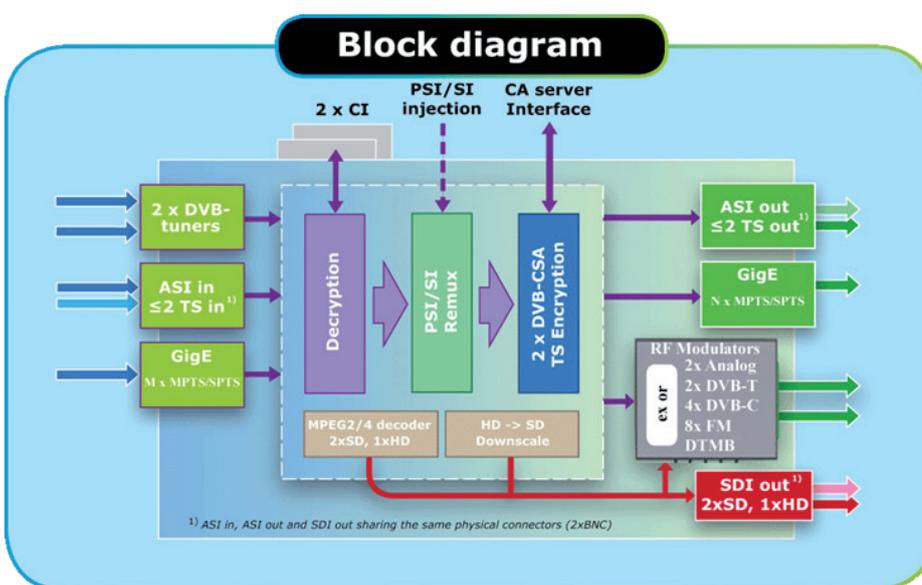


GNHWENCW Chameleon Encoder module



The CHAMELEON product line is the first ever to cover almost every need for Cable-TV and SMATV distribution with only one main hardware. This can be extended with the Chameleon Encoding module.

The CHAMELEON ENCODER adds the feature of MPEG encoding to the CHAMELEON product line. With the same form factor as the Standard CHAMELEON modules, the CHAMELEON ENCODER can be used in any CHAMELEON base unit. The CHAMELEON ENCODER allows you to add services available in audio/video format or in SDI/HD-SDI format to your digital network.



GNHWENC Features:

- Encoding of 1 HD-SDI or 2 SD-SDI / analogue video signals
- 2 x analogue/digital video input
- 2 x analogue stereo audio input
- Gigabit Ethernet output
- Output format: MPEG-4 over UDP/IP
- Control and management via web

Block diagram of the Chameleon.

1. THE CHAMELEON ENCODER CONNECTORS

IP connectors for Management and Streaming

The Chameleon encoder has 3 GigE IP ports. When mounted in a GN50 base unit, both Management and Streaming are using the backplane connector (SGMII). This connector is situated behind the front panel, and for GN50 mounting the front panel shall be removed. For other base units, there are 2 RJ45 ports at the front of the unit; the top Management port (eth1) and the bottom Streaming port (eth0).

Connectors for A/V, SD/HD-SDI and ASI

At the rear of the Chameleon encoder, there are input and output connectors. From bottom and up:

- ASI out for TS output (F connector)
- Input for HD-SDI, SDI 1 or baseband video 1 (BNC). When encoding HD-SDI, only one input is allowed, and this input has to use this connector. This connector is referred to as "Physical port One" in the UI.
- Audio input for HD-SDI, SDI1 or baseband video 1 (3.5 mm jack).
- Input for SDI 2 or baseband video 2 (BNC). This connector is referred to as "Physical port Two" in the UI.
- Audio input for SDI2 or baseband video 2 (3.5 mm jack).

Note that HD_SDI and SDI inputs also supports embedded audio.

LED indicators for SDI or Video in

The right side of the rear of the Chameleon encoder had 2 LED indicators that will show green on detected HD-SDI, SDI or baseband video input.



Management port (eth1)

Streaming port (eth0)

For GN 50:
Management & Streaming ports (eth1) (behind the frontpanel)

Not in use

Not in use

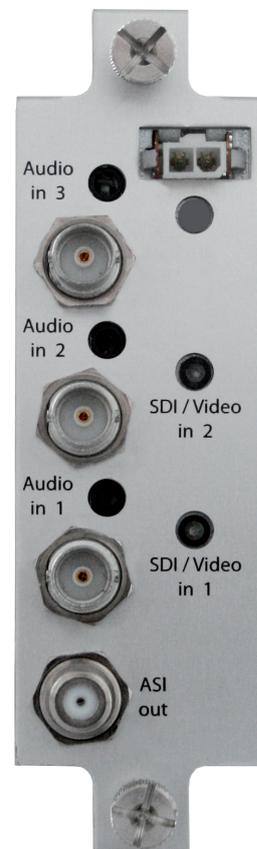
Audio in 2

SDI/Video in 2

Audio in 2

HD-SDI/
SDI/Video in 1

ASI out



Not in use

SDI/Video indicators
Green LED for detected input

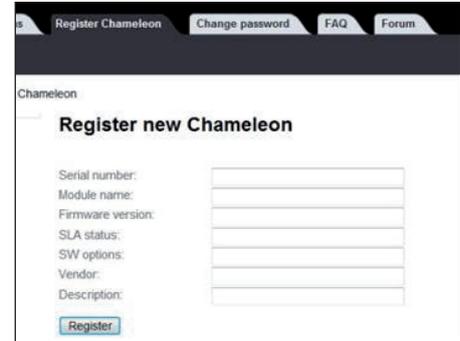
2. General information and SW options

Getting started

When delivered, you need to register your Chameleon module at the chameleonconnect.tv portal. Once your module is registered, you can download the SW options from the portal, and upload them to your module.

Registering your Chameleon at the chameleonconnect.tv portal

- Log in to the chameleonconnect.tv portal
- Click on the Register Chameleon tab in the top bar
- Fill out the registration form, serial number etc.
- Click on 



The screenshot shows a web interface for registering a new Chameleon module. At the top, there are navigation tabs: "Register Chameleon", "Change password", "FAQ", and "Forum". Below the tabs, the page title is "Chameleon" and the main heading is "Register new Chameleon". The form contains the following fields: "Serial number:", "Module name:", "Firmware version:", "SLA status:", "SW options:", "Vendor:", and "Description:". Each field is followed by a text input box. At the bottom of the form is a "Register" button.

Download/upload SW options (entitlement file)

- Under My Chameleons, click on the serial number for your Chameleon
- In the Edit Chameleon view, click on Download file, saving the entitlement file enabling your SW

options on your PC

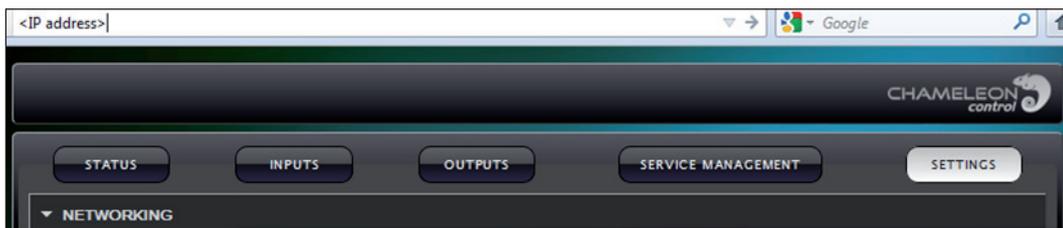
- Connect to your Chameleon using the web GUI or IP Supporter
- Upload the entitlement file to your Chameleon

Connecting to the Chameleon web UI

Connecting to the default IP address: 192.168.0.20

The Chameleon default IP address is 192.168.0.20, Netmask 255.255.255.0.

Set the IP address on your computer or for your network adaptor to an address in the same address range. Use a standard web browser to connect by typing the IP address of the Chameleon in the address field.



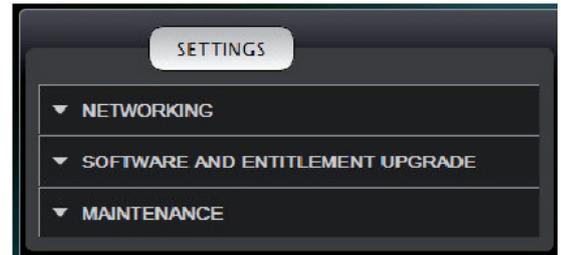
3. SETTINGS: MANAGING THE CHAMELEON ENCODER

Under SETTINGS, all module specific settings are managed:

NETWORKING: Networking settings for IP interfaces

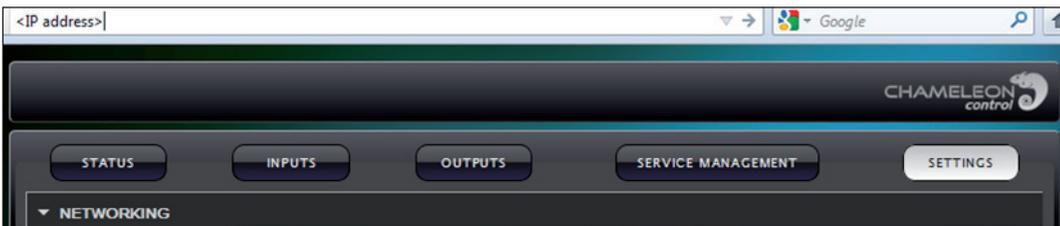
SOFTWARE AND ENTITLEMENT UPGRADE:
Software upgrade, used both for uploading new FW and for uploading SW options (entitlement files)

MAINTENANCE: Software reboot



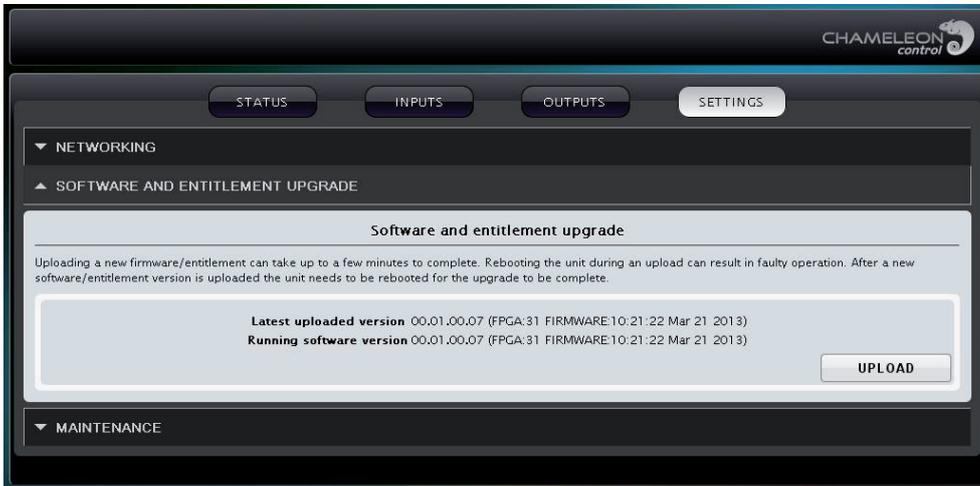
Changing the IP address

It is recommended to change to a unique IP address in your network. You can change the IP address under SETTINGS / NETWORKING, or by using the IP Supporter Tool.



4. SW & SW OPTIONS UPGRADE

Both FW and SW options are uploaded via the SOFTWARE AND ENTITLEMENT UPGRADE in the SETTINGS tab. Additionally, there is status information about the running software version, and, if a new software is uploaded, also about the latest (not running) software version.



Uploading Firmware

1. Click **UPLOAD**. Click **Browse...** in the pop-up, and select the software file (*.img file) to be uploaded from your computer
2. Click the Upload button
3. After upload complete message, reboot the module

Software options

The Chameleon encoder functionalities are enabled by SW options, licence keys that can be uploaded at any time as entitlement files enabling different functionalities. The SW options are unique for each Chameleon encoder module, and hence you must have a SW option specifically created for your Chameleon encoder to enable functionalities.

To get an overview of all different SW options currently available, please contact your sales representative or contact the Chameleon Support.

List of uploaded SW options

Under the Status tab, all enabled SW options are listed.

Uploading software options

1. Click **UPLOAD**. Click **Browse...** in the pop-up to browse for the software options file (*.ent) for this specific Chameleon encoder module

Note: The SW options file will have the format <serial number>.ent. If you need to, you can download the entitlement file from the chameleonconnect.tv portal, see §3.

2. Locate the software options file on your computer, and select it
3. Click the Upload button
4. Reboot the module

5. Defining/adding inputs

Note: The detailed type of Input you can define in the Video settings tab.

Add input

1. Click the INPUTS tab, and Add new input.
2. Select input source in the drop down list and Video input in the Video & Audio settings
3. Type or select the appropriate parameters and settings.
4. Click the SAVE button.

Supported Video formats are :

MPEG-4 H.264 / AVC HP, L4

HD: 1080i50, 720p50 16Mbit/s

average, 24Mbit/s peak

SD: 576i50 10Mbit/s max

Audio formats are MPEG-1 L2, MPEG-2 AAC-LC, Dolby* digital AC3

Add new input

Choose input type: HD SDI Encoder

Input enabled: ON OFF

Name: New Encoder input2

Physical port: Two

Output bitrate (kbit/s): 13500

Service provider name: wisi

Service name: program 1

Video settings

Video input: HD-SDI (dropdown menu open showing HD-SDI, Analog SD-SDI, HD-SDI)

Video bitrate mode: VBR

Video target bitrate (kbit/s): 8000

Video max bitrate (kbit/s): 10000

Profile: High

Number of consecutive B frames: 2

Gop length: 30

Coded picture buffer size (kB): 10000

Audio settings

Audio input: Group 1/2

Audio level (dB): 0

Audio coding: MPEG

Audio bitrate (kbit/s): 192

SAVE CANCEL

Status information

After clicking Save, the status of the input will be shown at the top.

The status includes information about the interface (tuner etc.), and about video format.

Encoder Input 1 ENCODER (Port 1) Video input format: 720p50

Input enabled: On

Name: Encoder input 1

Physical port: One

Output frequency (kHz): 13500

Null packet stuffing: Yes

Video input: HD-SDI

Video bitrate mode: VBR

Video target bitrate (kbit/s): 8000

Video max bitrate (kbit/s): 10000

Profile: High

Number of consecutive B frames: 2

Gop length: 30

Coded picture buffer size: 10000

Audio input: Group 1/2

Audio level (dB): 0

Audio impedance (Ohm): 600

Audio coding: MPEG 1/2

Audio bitrate (kbit/s): 192

Service provider name: wisi

Service name: program 1

EDIT

Add more inputs

Re-iterate the "Add input" process.

* Dolby and the double-D symbol are trademarks of Dolby Laboratories.

Manufactured under license from Dolby Laboratories.

6. Defining/adding outputs

Add output

1. Click the OUTPUTS tab, and Add new output.
2. Select output type in the drop down list.
Note: The outputs you can select depends on the SW options and operation mode. (IP / ASI)
3. Type or select the appropriate parameters and settings.
4. Click the SAVE button.

Output Type	Name	Input source	Output enabled
ASI (BNC 1)	ASI 1	New Encoder input 1	On
IPTV	IPTV 1	New Encoder input 1	On

Add more outputs

Re-iterate the "Add output" process.

Output Type	Name	Input source	Output enabled
ASI (BNC 1)	ASI output 1	Encoder input 1	On
IPTV	IPTV output 1	Encoder input 1	On

7. Service and support

Support

For information and help, please contact our support organisation.

WISI

E-mail: support@chameleonconnect.tv

Telephone: +49 7233 66 621

WISI Norden

E-mail: support@chameleonconnect.tv

+46 141 22 91 15

E-mails sent to the above e-mail address will be available to all support staff.

Additional Info is available online at chameleonconnect.tv

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