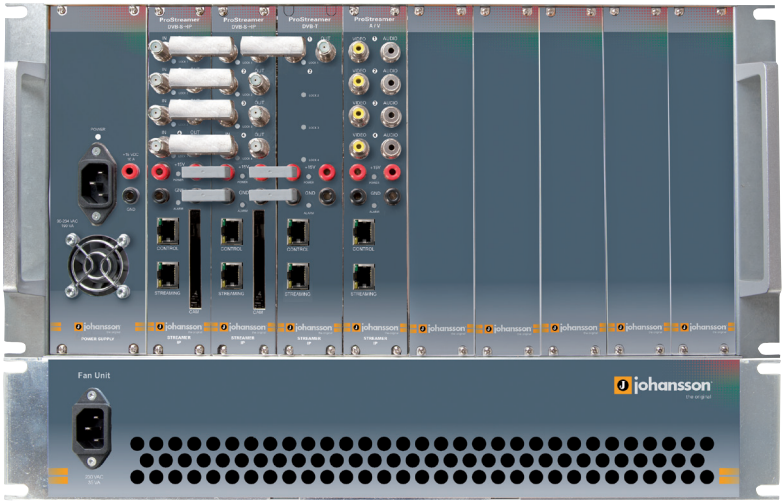
johansson

user
manual

ProStreamer

5202 / 5203
5210 / 5211
5230



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1 INTRODUCTION

THE PROSTREAMER RANGE

DVB-S(2) » REF. 5202, 5203

- 4 SAT inputs with 4 active loop-through outputs
- 4 transponders over 4 tuner matrix
- up to 16 FTA programs
- up to 12 encoded programs: ref. 5203
  (with associated multiservice CAM)

DVB-T » REF. 5210, 5211

- 1 RF input with active loop-through output
- 4 multiplexes over 4 tuner matrix
- up to 16 FTA programs
- up to 12 encoded programs: ref. 5211
  (with associated multiservice CAM)

A/V encoder » REF. 5230

- 4 A/V stereo inputs
- 4 programs

PACKAGE CONTENTS

Be sure all items listed below are included:

1	ProStreamer module
2	CAT6 ethernet cable
4	RF bridges (except for 5230)
2	DC bridges
4	DC blocked 75 Ω loads (5202/5203)
1	DC blocked 75 Ω load (5210/5211)
4	A/V cables (5230)

SAFETY INSTRUCTIONS

Read these instructions carefully before connecting the unit

To prevent fire, short circuit or shock hazard:

- Do not expose the unit to rain or moisture.
- Install the unit in a dry location without infiltration or condensation of water.
- Do not expose it to dripping or splashing.
- Do not place objects filled with liquids, such as vases, on the apparatus.
- If any liquid should accidentally fall into the cabinet, disconnect the power plug.

To avoid any risk of overheating:

- Install the unit in a well aery location and keep a minimum distance of 15 cm around the apparatus for sufficient ventilation.
- Do not place any items such as newspapers, table-cloths, curtains,… on the unit that might cover the ventilation holes.
- The unit must not be exposed to any source of heat (sun, heater,...).
- Do not place any naked flame sources, such as lighted candles, on the apparatus.
- Do not install the product in a dusty place.
- Use the apparatus only in moderate climats (not in tropical climates).
- Respect the minimum and maximum temperature specifications.

To avoid any risk of electrical shocks:

- Connect apparatus only to socket with protective earth connection.
- The mains plug shall remain readily operable.
- Pull out power plug to make the different connections of cables.
- To avoid electrical shock, do not open the housing of adapter.

Maintenance

Only use a dry soft cloth to clean the cabinet.

Do not use solvent.

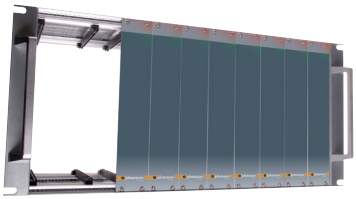
For repairing and servicing refer to qualified personnel.

Dispose according your local authority's recycling processes

ACCESSORIES

Power Supply » REF. 5050

- operating voltage: 15 V
- max. output current: 10 A
- can power up to 9 modules



19” sub-rack » REF. 5060

- can contain up to 9 modules*
  + power supply
- mounting in 19” rack or wall-mountable
  (bindings delivered)
- delivered with 8 blank plates mounted

* depending on the configuration

Fan Unit » REF. 5062

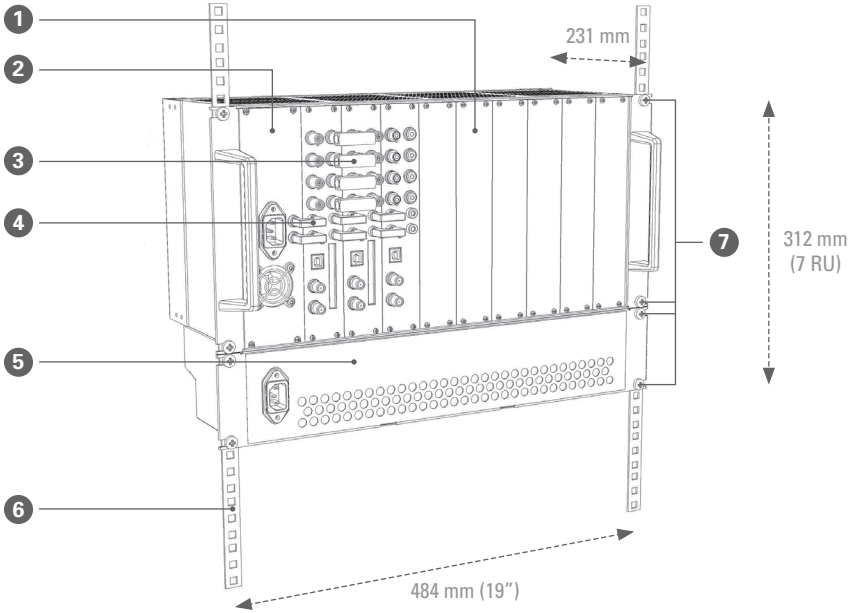
- voltage: 230 VAC
- essential for proper functioning
  of the system

2 INSTALLATION OF THE HARDWARE

Before mounting, install all modules in the sub-rack.
Place the power supply (ref. 5050) in the uppermost left slot of the rack (ref.5060).

19" RACK MOUNTING

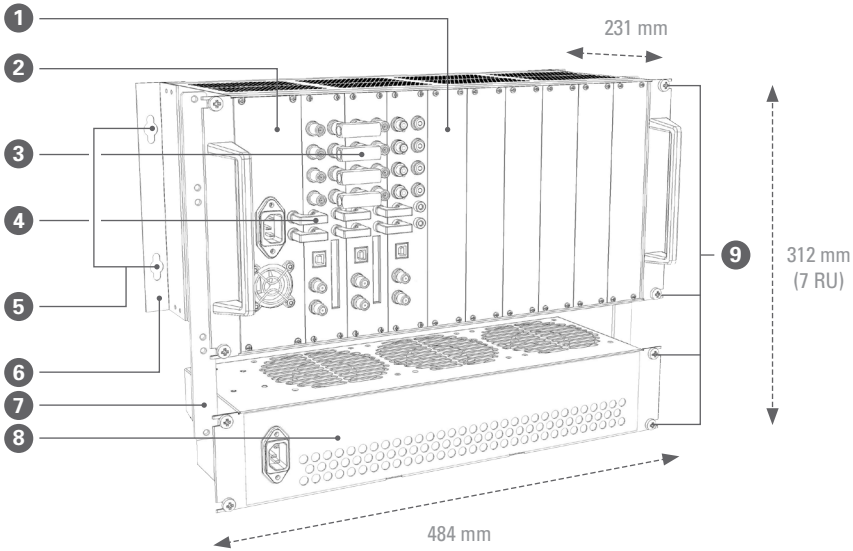
For rack mounting, attach the 19" sub-rack and the optional fan-unit in the rack as indicated by the picture.



1. 19" sub-rack (ref. 5060)
2. power supply (ref. 5050)
3. RF bridge for signal loop-through
4. power bridge for DC power loop-through
5. fan unit (ref. 5062)
6. 19" Rack
7. mounting screws

WALL MOUNTING

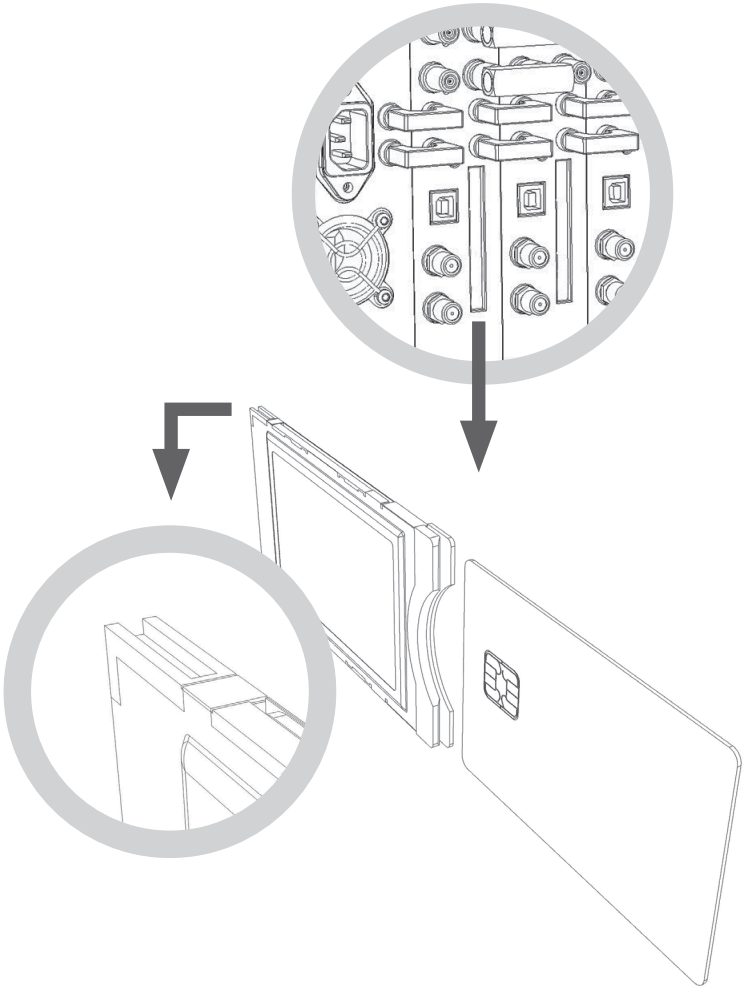
When mounting the headend to a wall, attach the fan-unit to the sub-rack with the delivered bindings. Attach the mounting brackets on the back of the sub-rack for the mural mounting.



1. 19" sub-rack (ref. 5060)
2. power supply (ref. 5050)
3. RF bridge for signal loop-through
4. power bridge for DC power loop-through
5. wall mounting holes
6. mounting brackets
7. bindings for attaching fan unit to the sub-rack
8. fan unit (ref. 5062)
9. mounting screws

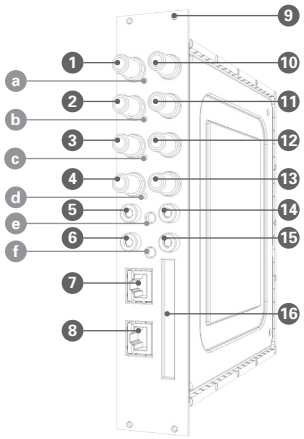
INSERTING CAM SLOT

Connect the RF and power bridges on consecutive modules to bridge the signal and power to the following modules. The CAM slot is inserted with the pit on the top as is indicated below. Insert the CAM card with the **chip pointing to the left side of the CAM module**.



MODULE OVERVIEW

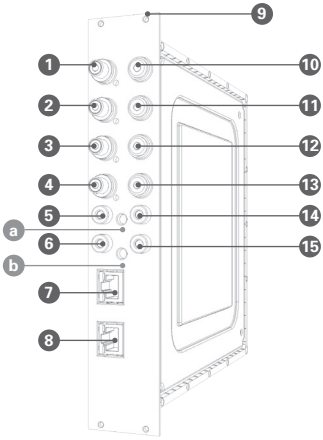
5202/5203



1. SAT input 1 (DiSEqC)
2. SAT input 2 (DiSEqC)
3. SAT input 3 (DiSEqC)
4. SAT input 4 (DiSEqC)
5. +15 VDC input
6. GND input
7. RJ-45 control port
8. RJ-45 streaming port
9. mounting screws
10. SAT output 1
    for loop-through to next module
11. SAT output 2
    for loop-through to next module
12. SAT output 3
    for loop-through to next module
13. SAT output 4
    for loop-through to next module
14. +15 VDC output for loop-through
15. GND output for loop-through
16. CI slot (5303S/T/Q only)

a. tuner 1 lock LED
b. tuner 2 lock LED
c. tuner 3 lock LED
d. tuner 4 lock LED
e. power indication LED
f. alarm indication LED

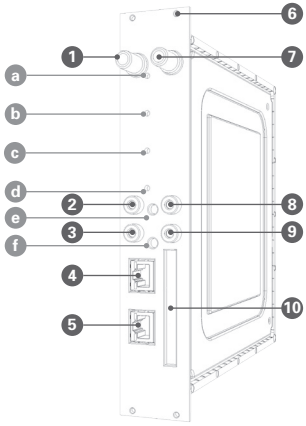
5230



1. CVBS IN 1 (Video IN 1)
2. CVBS IN 2 (Video IN 2)
3. CVBS IN 3 (Video IN 3)
4. CVBS IN 4 (Video IN 4)
5. +15 VDC input
6. GND input
7. RJ-45 control port
8. RJ-45 streaming port
9. mounting screws
10. stereo audio IN 1
11. stereo audio IN 2
12. stereo audio IN 3
13. stereo audio IN 4
14. +15 VDC output
    for loop-through
15. GND output
    for loop-through

a. power indication LED
b. alarm indication LED

5210/5211



1. Terrestrial input
2. +15 VDC input
3. GND input
4. RJ-45 control port
5. RJ-45 streaming port
6. mounting screws
7. terrestrial output for loop-through to next module
8. +15 VDC output for loop-through
9. GND output for loop-through
10. CI slot (5211 only)

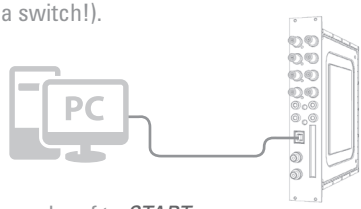
a. tuner 1 lock LED
b. tuner 2 lock LED
c. tuner 3 lock LED
d. tuner 4 lock LED
e. power indication LED
f. alarm indication LED

3 WEBGUI

SETTING THE NAME OF THE DEVICE

When first connecting the modules, **be sure to follow this exact procedure!**

- Connect the first module in the rack with your PC, using an RJ-45 Ethernet cable (without using a switch!).



- Open a browser and surf to *START*

- You will now enter the webGui. Go to the Configuration → Global menu:

- Change the name START to another name. Be sure to choose a logical name and **don't forget this name!** This name is the only way to connect to the module later on! It's advisable to print this name, and label the devices.

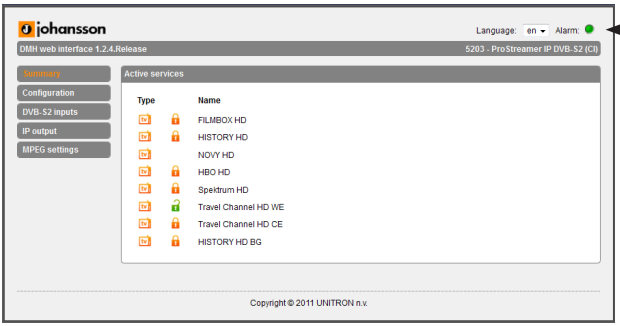
- After you press *APPLY*, the module will restart. This will take about 25 seconds. Afterwards, you can surf to the new name you just entered, to connect to the module.

- Repeat this procedure with the next modules (1 at a time).

- When all modules have a new name, you can connect all modules to the same network. The modules will now get a new IP address, but you can connect by surfing to the right name (the unique name you gave the module in the previous steps).

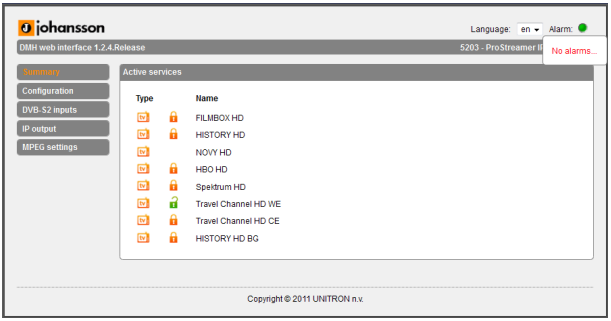
LOGGING IN TO THE DEVICE

Open your network browser, and surf to the name of the module. You will now log in to the module. After logging in, the Summary window appears.



status 'LED'

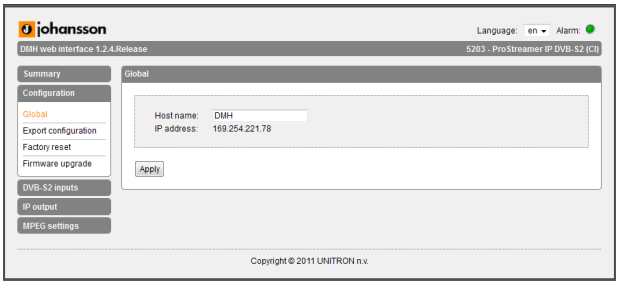
On this screen, you see all the services, streamed by this module. The type of module, the status and the language are visible on every screen. In the picture above, the status 'LED' is green, indicating that there are no alarms. The alarm status is shown when you move over the status 'LED' with your mouse.



GENERAL CONFIGURATION

GLOBAL

Here you can configure the hostname of the module. This name can be used to access the module by simply typing it into your browser as the address and surf to it. This is more convenient than using the IP address.



Just enter 'http://hostname' into your favorite browser (not case sensitive) and press enter:

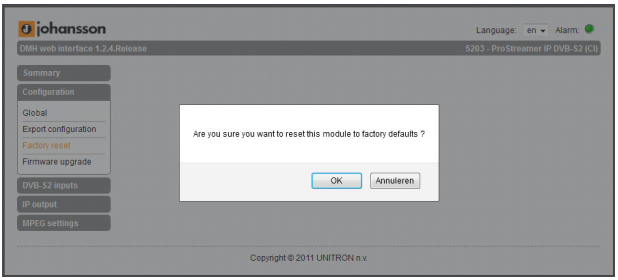
EXPORT CONFIGURATION

The configuration can be exported as an .xml-file.

Press *DOWNLOAD* to save the .xml-file.

FACTORY RESET

All settings can be reset to default by means of a factory reset.



FIRMWARE UPGRADE

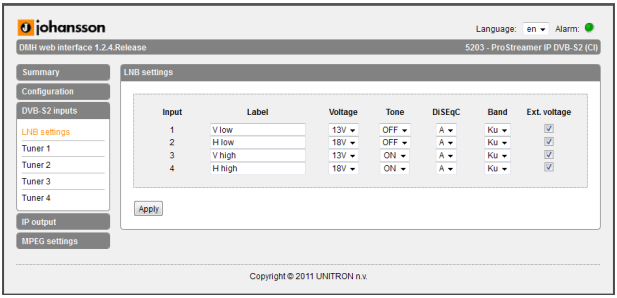
To upgrade the firmware of the device, click the Firmware upgrade menu item.

Click on the *BROWSE* button, and open the upgrade file. Click *UPLOAD* to send the file to the device, and click *START FIRMWARE* to install the new firmware on the device.

CONFIGURATION OF THE INPUT

DVB-S2 INPUT: 5202/5203

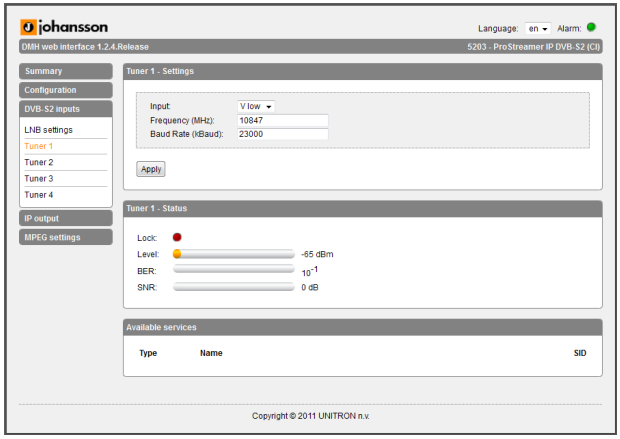
Go to the LNB Settings menu to configure the 4 LNB inputs.



- Input: Sequence number of the input (also indicated on the front of the actual module)
- Label: custom label for each input (e.g. V low, or ASTRA 19.2 V Low,…)
- Voltage: The LNB voltage to select the polarization
  - 13V: Vertical polarization
  - 18V: Horizontal polarization
- Tone: LNB tone to select low/high band
  - ON: high band
  - OFF: low band
- DiSEqC®: control of a DiSEqC® switch (A/B/C/D)
- Band: Satellite band
  - Ku-band: common in Europe
  - C-band: mostly used in the USA
- Ext. Voltage: Add 1V to the LNB voltage to compensate the cable losses for long coaxial cables.

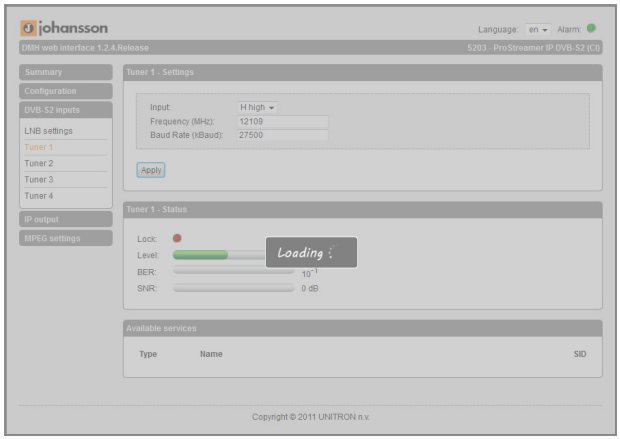
Press *APPLY* to confirm the parameters.

Go to the *TUNER* menu to configure the tuner frequency. The modules have 4 independent tuners, which can be assigned to every input, thanks to a built-in multiswitch.

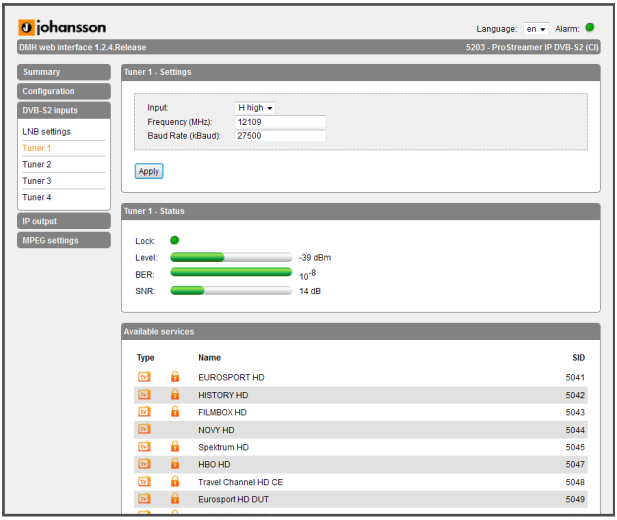


- Input: One of the 4 labels configured in the previous step. This selects the satellite input.
- Frequency: Transponder frequency
- Baud rate [kBaud]

Press *APPLY* to confirm the parameters. The module will now set the tuner to this frequency. Wait until the correct parameters are loaded.



When the tuner is able to lock on the frequency, the list of services from this transponder will be shown.



The status of the tuner is shown.

- Status:
  - Green: tuner locked
  - Red: tuner unlocked
- Level: input signal level [dBm]
- BER: Bit Error Rate
- SNR: Signal to Noise Ratio [dB]

The table 'Available services' shows all the services found in the transponder.

- Type: Type of data

  TV service

  radio service

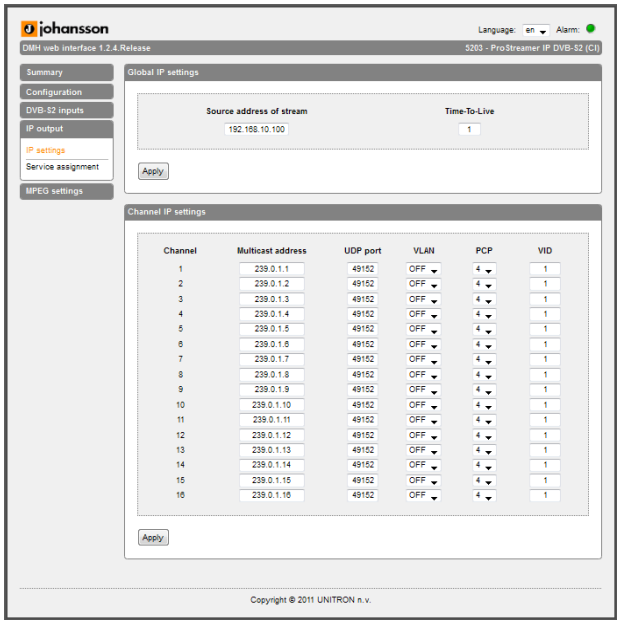
  locked service (encoded)

  unlocked service (decoded)

- Name: Service name
- SID: Service Identifier (unique ID for a service)

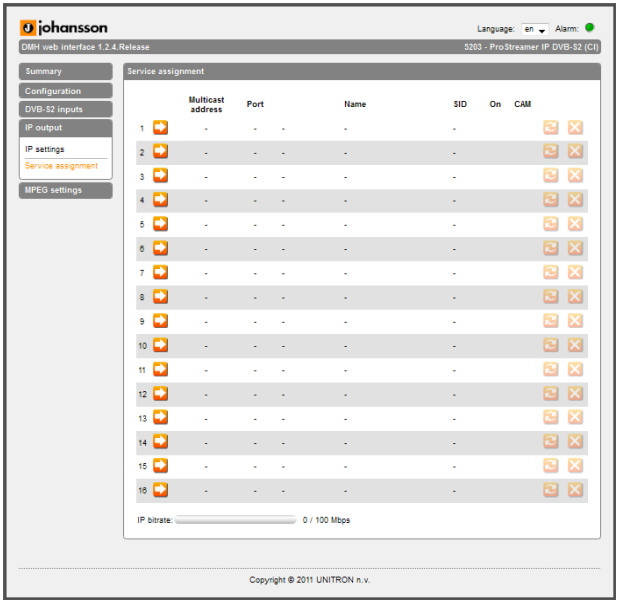
CONFIGURATION OF THE OUTPUT

Navigate to the *IP SETTINGS* menu to configure the IP addresses at the output.



- Channel: The number of the channel
- Multicast address: Multicast IP address of the 16 streams. These multicast addresses will be needed to receive the streams on a PC/TV.
- UDP port: UDP port number
- VLAN: turn VLAN ON/OFF
- PCP: Priority Code Point: a 3-bit field which refers to the IEEE 802.1p priority. It indicates the frame priority level. Values are from 0 (best effort) to 7 (highest); 1 represents the lowest priority. These values can be used to prioritize different classes of traffic (voice, video, data, etc)
- VID: VLAN Identifier: a 12-bit field specifying the VLAN to which the frame belongs.

Navigate to the *SERVICE ASSIGNMENT* menu to configure the streams.
Every Prostreamer module (except for the 5230) can stream up to 16 services.



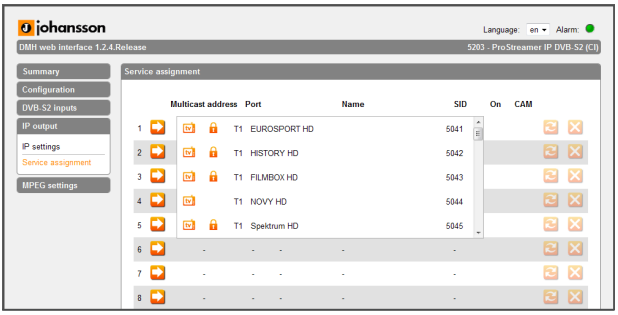
- Multicast address: IP address of the stream
- Port: UDP port of the application
- Name: Name of the service
- SID: Service ID: Unique number, which identifies the service
- ON: Check this box to enable the streaming of this service, uncheck to stop the streaming.
- CAM: Check this box to pass this stream through the CAM slot for decryption.
- Icons:

  add a new program to the list of services

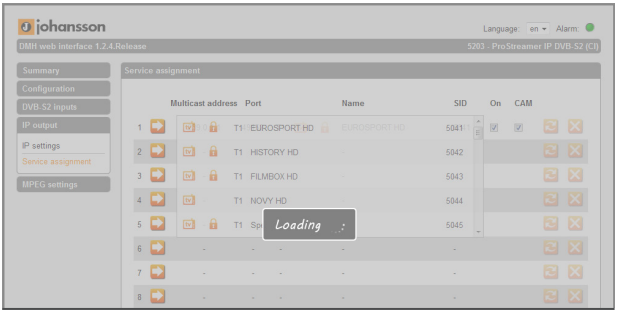
  update the current service,
  this icon will become active if some setting has changed

  delete the service from the list, pressing this icon will remove the program permanently (you can add it again)

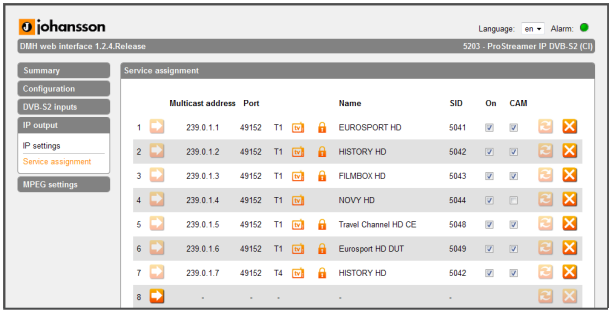
Press the button to add a new service.
A list of available services (from all 4 tuners) will appear on the screen.



Click on the service to be added and wait until the service is loaded into the list.



The list will be refreshed and the added service will appear.



You can add up to 16 programs, as long as the total bitrate is lower than 100 Mbps. The bitrate is shown in the bar on the bottom of the *SERVICE ASSIGNMENT* page:

If the bar is green, the total bitrate is good and the chance of having an overflow is quite small. However, if this bar becomes orange, this means the bitrate is close to an overflow. This will happen if the total bitrate is higher than 85 Mbps. If this happens, it is advisable to delete some services, until the bar becomes green again.

If the bar becomes red, there is an overflow. This can be due to the fact that the total bitrate exceeds 100 Mbps, or there can be a CAM overflow. Delete services until the bar becomes green again.

CONFIGURATION OF THE MPEG SETTINGS

This menu item is only visible with modules having a DVB-S2 input.

- Forward EPG tables:
  Forward Electronic Program Guide tables to the TV's
- CAS forwarding: Forward the Control Access System tables (CAT, EMM, ECM) to descramble the programs with a set-top box
  - CAT: Conditional Access Table
  - EMM: Entitlement Management Message
  - ECM: Entitlement Control Message
- Block others: Block private data
- PID share: Enable sharing of the PES, PCR and ECM

4 TECHNICAL SPECIFICATIONS

DVB-S2		5202	5203
INPUT	interface	4 x QPSK / 8PSK	
OUTPUT	standard protocols capacity	IEEE 802.3 10/100 Base-T Multicast IP/UDP up to 16 simultaneous streams (up to 100 Mbps)	
CONNECTORS	RF input with loop-through	8 x female F	
	power supply with loop-through	4 x 'banana socket'	
	management port	RJ-45	
	streaming port	RJ-45	
	PCMCIA CAM slot	no	yes
GENERAL	supply voltage	+15 VDC	
	consumption	0.6 A	0.8 A
	LED indications	4x lock status, power, alarm	
PERFORMANCE	transport stream processing	de-multiplexing of up to 4 transponders PSI/SI parsing PID filtering/remapping capability regeneration of PAT/PMT tables EMM/ECM pass-through IP/UDP encapsulation of up to 16 MPEG streams	
OPERATING TEMPERATURE	0 to +40°C		
DIMENSIONS	5RU x 8TE x 195 mm		

DVB-T		5210	5211
INPUT	interface	4 x COFDM	
OUTPUT	standard protocols capacity	IEEE 802.3 10/100 Base-T Multicast IP/UDP up to 16 simultaneous streams (up to 100 Mbps)	
CONNECTORS	RF input with loop-through	2 x female F	
	power supply with loop-through	4 x 'banana socket'	
	management port	RJ-45	
	streaming port	RJ-45	
	PCMCIA CAM slot	no	yes
GENERAL	supply voltage	+15 VDC	
	consumption	0.5 A	0.7 A
	LED indications	4x lock status, power, alarm	
PERFORMANCE	transport stream processing	de-multiplexing of up to 4 multiplexes PSI/SI parsing PID filtering/remapping capability regeneration of PAT/PMT tables EMM/ECM pass-through IP/UDP encapsulation of up to 16 MPEG streams	
OPERATING TEMPERATURE	0 to +40°C		
DIMENSIONS	5RU x 8TE x 195 mm		

5230
A / V

INPUT	interface	4 x A / V (CVBS)
OUTPUT	standard protocols capacity	4 streams
CONNECTORS	RF input with loop-through	video: 4 x CINCH audio: 4 x jack Ø 3,5 mm stereo
	power supply with loop-through	4 x 'banana socket'
	management port	RJ-45
	streaming port	RJ-45
GENERAL	supply voltage	+15 VDC
	consumption	0.65 A
	LED indications	power, alarm
PERFORMANCE	transport stream processing	encoding: video: MPEG-2 audio: MPEG-1 IP/UDP encapsulation of 4 MPEG streams
OPERATING TEMPERATURE	0 to +40°C	
DIMENSIONS	5RU x 8TE x 195 mm	

5 CONDITIONS OF WARRANTY

PERIOD OF WARRANTY

Unitron N.V. warrants the product as being free from defects in material and workmanship for a period of 24 months starting from the date of production indicated on it. See note below.

If during this period of warranty the product proves defective, under normal use, due to defective materials or workmanship, Unitron N.V, at its sole option, will repair or replace the product. Return the product to your local dealer for reparation.

THE WARRANTY IS APPLIED ONLY FOR DEFECTS IN MATERIAL AND WORKMANSHIP AND DOES NOT COVER DAMAGE RESULTING FROM

- Misuse or use of the product out of its specifications.
- Installation or use in a manner inconsistent with the technical or safety standards in force in the country where the product is used.
- Use of non-suitable accessories (power supply, adapters ...).
- Installation in a defect system.
- External cause beyond the control of Unitron N.V. such as drop, accidents, lightning, water, fire, improper ventilation…

THE WARRANTY IS NOT APPLIED IF

- Production date or serial number on the product is illegible, altered, deleted or removed.
- The product has been opened or repaired by a non-authorised person.

NOTE

Date of production is MMYY format, example 0411 = April 2011.
For the serial number barcodes, the date corresponds to the 4 first numbers.

6 UHF FREQUENCY TABLE

TV band	Channel	Frequency MHz
IV	21	470-478
	22	478-486
	23	486-494
	24	494-502
	25	502-510
	26	510-518
	27	518-526
	28	526-534
	29	534-542
	30	542-550
	31	550-558
	32	558-566
	33	566-574
	34	574-582
	35	582-590
	36	590-598
	37	598-606
V	38	606-614
	39	614-622
	40	622-630
	41	630-638
	42	638-646
	43	646-654
	44	654-662
	45	662-670
	46	670-678
	47	678-686
	48	686-694
	49	694-702
	50	702-710
	51	710-718
	52	718-726
	53	726-734
	54	734-742
	55	742-750
	56	750-758
	57	758-766
	58	766-774
	59	774-782
	60	782-790
	61	790-798
	62	798-806
	63	806-814
	64	814-822
	65	822-830
	66	830-838
	67	838-846
	68	846-854
	69	854-862

7 POWER CONVERSION TABLE

µV 75 Ω	dBµV	dBm
1	0	-109
1.5	3.5	-105.5
2	6	-103
2.5	8.0	-101
3	9.5	-99.5
3.5	11	-98
4	12	-97
4.5	13	-96
5	14	-95
6	15.5	-93.5
7	17	-92
8	18	-91
9	19	-90
10	20	-89
15	23.5	-85.5
20	26	-83
25	28	-81
30	29.5	-79.5
35	31	-78
40	32	-77
45	33	-76
50	34	-75
60	35.5	-73.5
70	37	-72
80	38	-71
90	39	-70
100	40	-69
150	43.5	-66.5
200	46	-63
250	48	-61
300	49.5	-59.5
350	51	-58
400	52	-57
450	53	-56
500	54	-55
600	55.5	-53.5
700	57	-52
800	58	-51
900	59	-50

mV 75 Ω	dBµV	dBm
1	60	-49
1.5	63.5	-45.5
2	66	-43
2.5	68	-41
3	69.5	-39.5
3.5	71	-38
4	72	-37
4.5	73	-36
5	74	-35
6	75.5	-33.5
7	77	-32
8	78	-31
9	79	-30
10	80	-29
15	83.5	-25.5
20	86	-23
25	88	-21
30	89.5	-19.5
35	91	-18
40	92	-17
45	93	-16
50	94	-15
60	95.5	-13.5
70	97	-12
80	98	-11
90	99	-10
100	100	-9
150	103.5	-5.5
200	106	-3
250	108	-1
300	109.5	+0.5
350	111	+2
400	112	+3
450	113	+4
500	114	+5
600	115.5	+6.5
700	117	+8
800	118	+9
900	119	+10
1000	120	+11

V 75 Ω	dBµV	dBm
1	120	+11
1.5	123.5	+14.5
2	126	+17
2.5	128	+19
3	129.5	+20.5
3.5	131	+22
4	132	+23
4.5	133	+24
5	134	+25
6	135.5	+26.5
7	137	+28
8	138	+29
9	139	+30
10	140	+31

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