

**FAQ - FREQUENTLY ASK QUESTIONS...**

**... ABOUT GSS.COMPACT / GSS.LAMINA HEAD-END STATIONS**

On the following pages you will find a list of frequently asked questions with explanations/suggestions for solutions to the topics...

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**How do I switch on the device? (only for GSS.compact)**

The device has no power switch and starts immediately after the operating voltage is applied.

**Power supply (only for GSS.lamina)**

Please observe the voltage specifications on the type label.

The unit has no primary power switch and is in standby mode after the operating voltage is applied. The Power-ON/OFF switch only switches the secondary DC voltages!

The mains cables are fitted with C13 non-removable couplings for power supply units. Release and remove the connectors by pulling back the red locking pin.



If only one power supply unit is connected or if a power supply unit module is defective, a warning tone sounds after switching on. The warning tone can be switched off with the "ALARM OFF" key. For complete disconnection from the mains, both mains plugs must be pulled out of the socket. Make sure that the mains plugs can be disconnected without difficulty.

**Configuration interfaces (only for GSS.lamina)**

The two configuration interfaces are connected via an internal 100-BASE-T switch. They must not be connected to an external switch at the same time (looping). The second interface is used to connect another lamina.

**I can't get a connection to the head-end station. What do I have to consider?**

Your PC and the configuration interface of the head-end station must be in the same network/IP address range! Cookies must be accepted and JavaScript must be activated. Use current browser versions.

You will find a detailed description in the chapter **Initial configuration** of the installation instructions.

**I have forgotten my IP address / password. How do I get access?**

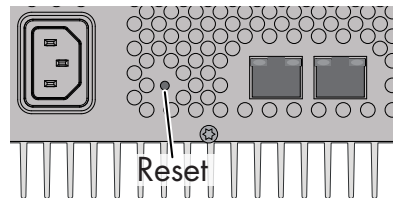
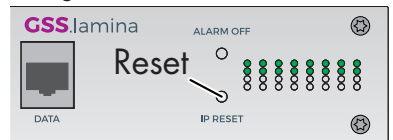
If you press the reset button for **longer than 5s**, the **network settings and the admin password** are reset!

Keep reset button pressed > LEDs off > LED "running light" red > all LEDs green > all LEDs off > release reset button -> The station restarts.

Factory settings:

IP address ..... **192.168.0.120**  
 Hostname..... **gss**  
 admin password ..... **geheim**

The following necessary "initial connection" is described in the chapter **Initial Configuration** of the assembly instructions.



**Firmware update - what do I have to consider?**

Therefore the firmware must be previously stored on your PC.

The current firmware version can be found at "www.mygss.eu".

Unpack the \*.zip file. You will receive a \*.tar update file + attached notes.

Please observe the enclosed instructions!

If your station has **firmware version V20 (and only then!)**, the firmware update **v20\_1\_uploadfix.tar** must be installed first (uploadfix is included in the zip file).

You can then install the current firmware.

Start the firmware update with the button **Load firmware update from PC**.

Select the \*.tar file with the new firmware in the following menu.

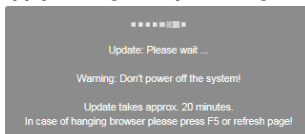
**A firmware update may take a long time to complete.**

**⚠ Aborting the firmware update or interrupting the power supply during the update might in worst case result in a defect of the device!**

During the update this warning is displayed.

After a few minutes the LEDs become off, shortly after that the LED for line 1 flashes (update is being installed).

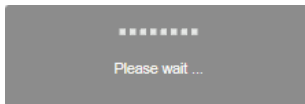
After a successful update, the following message is displayed:



✔ System updated successfully! System is going to reboot ... please wait at least 30 sec. before logging in again

The head-end station then restarts.

Wait until the station has restarted and log in. Check the firmware version in the "header" of the user interface.



**Remote access via OpenVPN does not work.**



For remote access, it is important that a gateway with Internet access is set in the network settings. The configuration interface must be connected to the Internet (even when the station is started). The outgoing TCP port 1194 must be open (e.g. in the router, Firewall etc.). Your PC must be connected to the Internet.

For older head-end stations (firmware version lower than V20) you must update the firmware.

**I no longer have the link for the OpenVPN connection. Can I only log in locally?**

The OpenVPN link is saved in the protocol file. If you have not saved a protocol file, only a direct connection to the station remains to copy the link again.

**After a "menu change", any changes made are reset**

Changes must be saved with the button  before leaving a menu. After that  is displayed for a short time in the upper right corner.

**The head-end station restarts from time to time (IP stations only). What is the problem?**

With IP stations, the network interfaces are monitored internally. If the connection to the gateway is interrupted for more than 3 minutes, the device restarts once for safety reasons!

Starting with firmware version 48 the gateway monitoring can be deactivated in the menu System > Network.

**When entering / displaying IDs (e.g. TS/ON-IDs) 0x is displayed before the input.**

The station is factory set to hexadecimal input/display of IDs. Decimal input/display can be set in the menu System > Firmware.

**Short-term picture errors - but no entry in the log book**

Logbook entries are the basis for e-mail notification. In the Notification menu you can set the reaction time from when entries for input signal or data overflow errors are entered in the logbook. If you have increased the response time here, correspondingly shorter errors are not entered in the logbook.


**I do not receive e-mail notifications**

For sending an e-mail, the configuration interface must be connected to the Internet and an e-mail account for sending must be defined in the Notification menu.

To prevent you from being flooded with e-mails (e.g. when reception conditions change), the function is blocked for a configurable period of time after an e-mail has been sent (menu System > Notification > Lock). The lock can be removed by deleting the logbook.

**I have entered all data of my e-mail account correctly, but the test e-mail does not work.**

The configuration interface must be connected to the Internet.

Before you can send the test e-mail, you must save the account settings. To do this, click on the button .

## LED codes - notes on functions and errors

The colours of the LEDs provide information on the status of the input or output signals (depending on the device type):

- Green.....Signal present / quality good (green in menu)
- Orange (green+red) .....Signal present / poor quality (orange in menu)
- Red .....no signal present (red in menu)
- Off .....Line is switched off (in menu grey)
- OFF in line 16 .....means that the media player is switched on for stations with C/T output and media player (yellow in the menu) – or – line is switched off (in menu grey).
- Red/green alternating .....Data overflow (in menu purple)

During a firmware update: After a few minutes the LEDs go out, shortly after that the LED for line 1 flashes -> the update is being installed.

If you press the reset button for longer than 5s, the network settings and the admin password are reset! Press and hold the reset button > LEDs off > LED "running light" red > all LEDs green > all LEDs off > release the reset button -> the station restarts.

Indications of errors (one LED lights up red - all other LEDs are off):

- Only the LED for line 1 lights up red ..... Transmitting board does not respond
- Only the LED for line 2 lights up red ..... Processor board does not respond
- Only the LED for line 3 lights up red ..... CA board does not respond
- Only the LED for line 4 lights up red ..... "Ethernet TX Error send" was not possible for >30sec
- Only the LED for line 5 lights up red ..... Processor board FPGA has wrong programming
- Only the LED for line 6 lights up red ..... Fan failure (only for GSS.lamina)
- Only the LED for line 15 lights up red .... internal failure
- Only the LED for line 16 lights up red .... internal failure

## SAT INPUT

### **Reception interference on individual reception bands**

Make sure that the levels are equal at all inputs! If there are large differences in level, strong input signals can interfere with weak input signals from an adjacent input.

### **One or more transponders are temporarily disturbed**

An LTE transmitter mast in the vicinity may interfere with SAT reception. If necessary, change the mirror location and use cables with high shielding effectiveness. This can also be remedied by LNBs with LTE blocking.

DECT telephones and radio-controlled systems can interfere with the SAT distribution. Install the latest firmware if required.

### **Which inputs are factory set?**

Factory setting for ASTRA 19.2° East reception:

Input 1 = Vertical Low band

Input 2 = Vertical High band

Input 3 = Horizontal Low band

Input 4 = Horizontal High band

The settings can be changed as required.

### **After a transponder change in the Input menu, the name of the previous transponder is still displayed**

When changing the transponder there is NO automatic change of the transponder name! You can enter a name of your choice or delete the transponder name so that the name of the first programme of the new transponder is entered.

### **Multi-satellite reception - how does it work?**

For multi-satellite reception, please note the dCSS/Unicable II mode. All SAT inputs are operated in dCSS/Unicable II mode. For this you need a specially programmed multiswitch for each input, which makes the 4 levels of a satellite available at one input. This way you can receive 4 satellites with 4 levels each at 4 SAT inputs. Unused inputs should be terminated with DC-decoupled termination resistors (FTD75).

## DVB-T/T2/C INPUT

### **Can I also receive "German" DVB-T2 signals?**

Yes; signals according to EN 302755 v1.3.1 and EN 300429 can be received

### **After a transponder change in the Input menu, the name of the previous transponder is still displayed**

When changing the transponder there is NO automatic change of the transponder name! You can enter a name of your choice or delete the transponder name so that the name of the first programme of the new transponder is entered.

**I want to output COFDM signals at the output - only QAM is displayed in the Output menu**


The factory setting for the output is QAM modulation. In the System > Firmware menu, you can change the output (all 16 lines) to COFDM modulation (restart required). A mixed operation of QAM and COFDM is not possible!

**One programme is / several programmes are not found in the search run**

Check TS-IDs of the output transponders. TS-IDs must not be used multiple times. After changes in the output menu, the NIT must also always be updated.

**Screen pixelated from time to time**

Note the maximum output data rate!

The maximum possible output data rate results from the settings for the output modulators. The background colour  in the Line column indicates an overflow of the output data rate. In this case, change the output settings or remove individual programmes from the data stream in the "Filter"/"Filter & CA"/"Multiplex" menu (depending on type).

**Ensure sufficient reserves for dynamic data rates!**

**A new programme of a transponder is not output**

If the station filter is activated, new services added to the transponder are suppressed until the service is activated (a hook is set).

**NIT and LCN - how does it work??**

A description of how to create a NIT and define the program location allocations (LCN) can be found in the download area of our homepage under Service > NIT - Step by Step - Important terms; Configuration example

[https://www.mygss.eu/Kopfstation/CD/Service/NIT\\_EN.pdf](https://www.mygss.eu/Kopfstation/CD/Service/NIT_EN.pdf)

Before you can assign LCNs, a NIT must have been created or imported.

**I would like to convert the programmes of a SAT transponder to COFDM**

As SAT transponders can transmit higher data rates than DVB-T transponders, you have to remove services from the data stream via the menu "Filter"/"Filter & CA"/"Multiplex" (depending on type)! Select SD transponders in the entry menu.

Even two HD services with high data rates can lead to data overflow with COFDM at the output.

The background colour  in the Line column indicates an overflow of the output data rate. **Ensure sufficient reserves for dynamic data rates!**

**I would like to convert all programmes of a SAT transponder to several COFDM transponders**

There are a few things to consider here - e.g. TS-IDs must not be used more than once.

A description of how to split a transponder can be found in the download area of our homepage under Service > Split transponders – How to split 1 input transponder into 2 output transponders (QAM/COFDM)

[https://www.mygss.eu/Kopfstation/CD/Service/Transponder%20splitten\\_EN.pdf](https://www.mygss.eu/Kopfstation/CD/Service/Transponder%20splitten_EN.pdf)

**I would like to expand a modular station with a Compact/Lamina**

Only one NIT/LCN should be present in a cable network. Create the NIT with the Compact/Lamina station and import there the NIT file (\*.oni) of the modular station that you have created with a PSW 1000 (from version 61 on) or a PSW 160 (from version 17 on).

You can also import the LCN file (\*.gsl) of the modular station that you created with a PSW 1000 (from version 61 on) or a PSW 160 (from version 17 on).

Note that S-IDs, TS-IDs and LCNs are not assigned twice.

**I receive German DVB-T2 transponders (DVB-T2 HD) and output them as DVB-T or DVB-C transponders. But many TV sets do not show a picture.**

With this conversion only the transmission signal is changed. However, the coding of the TV signals is not changed.

Due to the Digital Dividend II, the frequencies above 700 MHz will no longer be usable for terrestrial television in the future. In order to still be able to broadcast high-definition television in a smaller frequency spectrum, TV broadcasters have decided to use the efficient **HEVC codec (H.265)** for picture coding of DVB-T2 transponders in Germany. Therefore, receivers available outside Germany which can only receive H.264 are not suitable for the reception of German DVB-T2 programmes. Old receivers as well as receivers with integrated DVB-T2 tuner can only be used if they are already designed for HEVC (H.265). There are also receivers that display HEVC encoded picture but cannot play HE-AAC encoded sound. In this case no sound is audible for programmes broadcast in this way.

**From about 2019 receivers became HEVC-compatible - all older receivers will most likely not be able to display HEVC-coded programmes!**

**This requires transcoder solutions** in which the programmes are decoded and encoded in "real time" into a different format - please contact our sales department.

A similar problem exists for programmes that are only transmitted in MPEG-4 format. From about 2004, receivers became MPEG-4-compatible - older receivers can only process MPEG-2.

### **Sky Q Receiver does not work in cable network**

For the function of this receiver it is important that NIT and LCN have been created **according to standards!**

A description of how to create a NIT and define the programme location allocations (LCN) can be found in the download area of our homepage under Service > NIT – Step by Step - Important Terms; Configuration example

[https://www.mygss.eu/Kopfstation/CD/Service/NIT\\_EN.pdf](https://www.mygss.eu/Kopfstation/CD/Service/NIT_EN.pdf)

### **When I connect the streaming output to my network, the network is slow or blocked**

IP multicasting enables the sender of data to send data streams to entire groups of recipients in a targeted manner, making optimum use of transport and routing capacities. Without this transmission method, separate data packets would have to be sent to each receiving device, which would require enormous bandwidth and thus quickly lead to overload. One protocol that plays an important role in the organisation of the multicast receiver groups mentioned above in IPv4 networks is the Internet Group Management Protocol (see IGMP).

If you want to distribute media content (multicast IP streams) over a LAN network, the network must be configured for IGMP to prevent the network from being overloaded by the streamed data.

Explanations to the most important terms for the configuration of a streaming network can be found in the menu **Help > Multicast Setup** or in the download area of our homepage under Service > IPTV Network setup

[https://www.mygss.eu/Kopfstation/CD/Service/IGMP-Konfiguration\\_GS2210\\_EN.pdf](https://www.mygss.eu/Kopfstation/CD/Service/IGMP-Konfiguration_GS2210_EN.pdf)

### **What are multicast IP addresses?**

Multicast IP addresses are assigned to the streams. IGMP capable switches detect the addresses automatically and, if configured accordingly, forward the streams to client devices only when requested. This reduces the data traffic in the network enormously.

IP addresses in the range 224.0.0.0-239.255.255.255 are multicast addresses, but many addresses in this range are reserved ([www.iana.org/assignments/multicast-addresses](http://www.iana.org/assignments/multicast-addresses))

#### **Our recommendation:**

**Use the range 239.x.y.z!** It is suitable for streaming TV content.


**Use only the range 1...127 for x.**

**The range 0...255 is available for y and z.**

**Multicast IP addresses must NOT be used twice.**

### **Screen pixelated from time to time**

Note the maximum output data rate!

The maximum possible output data rate results from the settings for the output modulators or the DR adjustment/line. The background colour  in the Line column indicates an overflow of the output data rate. In this case, change the output settings or remove individual programmes from the data stream in the "Filter"/"Filter & CA"/"Multiplex" menu (depending on type).

Also note the maximum possible total output data rate for the streaming output, as well as the maximum data rate that your client devices can process (e.g. for MPTS data streams).

**Ensure sufficient reserves for dynamic data rates!**

### **No SPTS reception for stations with streaming input**

In a streaming network, the Ethernet switch to which the streaming source is connected must be configured as IGMP Querier, all other switches must support IGMP Snooping up to version 3 and be configured accordingly.

Explanations to the most important terms for the configuration of a streaming network can be found in the menu **Help > Multicast Setup** or in the download area of our homepage under Service > IPTV Network setup

[https://www.mygss.eu/Kopfstation/CD/Service/IGMP-Konfiguration\\_GS2210\\_EN.pdf](https://www.mygss.eu/Kopfstation/CD/Service/IGMP-Konfiguration_GS2210_EN.pdf)

### **Head-end stations with streaming input have regular dropouts**

The device requests the required multicast IP streams via the data input every 60 seconds. **Querier inquiries are not answered!** Take this into account when configuring the network (Querier Host Timeout > 60s). If the host timeout in the Querier switch is < 60s, depending on the "switch behavior" there may be dropouts until the device requests the stream again.



## The IPTV service list cannot be downloaded

The corresponding list is only generated if the protocol (UDP/RTP) required for the clients is set in the output menu.

## The channel list is no longer updated in the "linked" TV sets

Have you changed IP addresses? If you change the IP addresses of streaming outputs and IPTV devices are "linked" to the head-end station via the old IP address for the service list, you must import the changed path into the TV sets.

## IGMP - the Internet Group Management Protocol

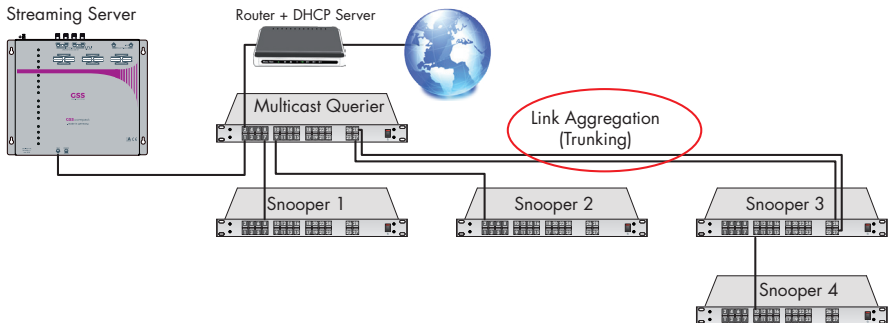
Normally every device in an Ethernet network has its own send and receive profile. With IP-TV the probability increases that several devices in a network want to receive the same signal at the same time. For the network, it would be an unnecessary use of bandwidth to transmit the same programme via separate streams (unicast) to different receivers.

This is where the principle of multicasting comes into play. A data stream is sent once, distributed and received simultaneously by several (but not all) receivers.

To broadcast all IP-TV programmes simply on suspicion in a network would exceed the capacity of the networks. It would be more efficient if a receiver that wants to receive a certain programme first expresses its interest. And only if one or more receivers in the network are interested in a programme will it be sent to the receiver(s). If the reception of a programme is stopped at the last receiver in the network, the sending activity in the network must also be stopped.

The Internet Group Management Protocol (IGMP) for the Internet Protocol Version 4 (IPv4) performs precisely this function of "expressing interest" and evaluating interests.

Using the IGMP protocol, a receiver can express its interest to join one or more specific multicast groups. A multicast group is defined by its specific IPv4 address from the address range 224.0.0.0 /4 (the multicast IP addresses assigned to the streams). Thus there is a multicast group for each stream.



In branched networks, this membership request is received by the switch (snooper) to which the receiver is connected and forwarded to the Querier switch in the network. The streaming source is connected to the Querier switch, it distributes the streams in the network. If the Querier switch sees no reason to deny a request, it starts sending the requested data stream. If a second receiver on the snooper switch wants to join the same multicast group, the snooper switch can accept the request to join and simply redistribute the data stream. From time to time the Querier-Switch asks the following Snooper-Switches, if and in which multicast groups there is still interest. These respond with the status which they themselves receive through their queries and corresponding reports from the recipients. If the last receiver has left a multicast group, the Querier-Switch receives reports from the Snooper-Switches and stops the transmission activity. If the Querier does not receive an answer to its requests within a certain time (Querier Host Timeout), it also stops sending activity. An Ethernet switch works on the principle that it distributes a data packet whose destination it does not know to all outgoing interfaces, except the interface through which the data packet was received. Normally, an Ethernet switch learns the various connected destinations by examining the

source addresses in the received data packets. With the help of this analysis, an Ethernet switch maintains a table with information about which targets are connected to which interfaces. The problem with multicasting is that a multicast address is not used as source address. An Ethernet switch cannot learn which receiver wants to receive which multicast data streams, and in the end it always sends multicast data streams to all outgoing interfaces. This can lead to an overload of receivers and network connections. To circumvent these problems, there is the so-called **IGMP snooping**. The principle is simple. A (snooper) switch monitors the data traffic. If IGMP messages are detected at an interface, they are read and the corresponding memberships are noted. A multicast data stream is then only forwarded to interfaces to which members are connected. In a streaming network, the Ethernet switch to which the streaming source is connected must be configured as IGMP Querier, all other switches must support IGMP Snooping up to version 3 and be configured accordingly.

Explanations to the most important terms for the configuration of a streaming network can be found in the download area of our homepage under Service > IPTV Network setup [https://www.mygss.eu/Kopfstation/CD/Service/IGMP-Konfiguration\\_GS2210\\_EN.pdf](https://www.mygss.eu/Kopfstation/CD/Service/IGMP-Konfiguration_GS2210_EN.pdf)

## CI

### Which CA module do I need?

Many CA modules are available on the market. Please note that the modules must be compatible with the cards of your provider and the number of programmes/PIDs that can be decrypted. Some providers also offer CA modules that do not require cards.

### Descrambling does not work

The CI module and the card must be activated by your provider.

Check whether the CA check is activated in the CA menu. If the CA check is activated, the CA module is restarted (reset) if individual PIDs are not descrambled. You can choose whether to monitor only Video PIDs or all PIDs.

### What does CI+ mean?

CI+ is a proprietary development of the DVB-CI standard. CI+ allows broadcasters to include usage rules information in the television signal. These instructions enable content providers to restrict the use of CI+ protected content to CI+ certified **clients**; they determine whether and how the respective content may be used.

Central descrambling in a head-end station can thus be prevented.

But different providers offer special contracts and cards, e.g. for hotels, which make a central descrambling in the hotel possible.

### I need 2 CA modules to descramble a transponder

Slots 1...6 are assigned to tuners 1...6. If one CA module is not sufficient to descramble all programmes of a transponder, the slots 6...4 can be assigned to the tuners 1...3 in addition:

- Modules 1 + 6 for Tuner 1,
- Modules 2 + 5 for Tuner 2 and
- Modules 3 + 4 for Tuner 3.

### What formats can the media player stream?

Transport stream format \*.ts;

With the software **Media2TS** you can convert almost all video formats into the transport stream format on a Windows PC.

Media2TS download:


[https://www.mygss.eu/Kopfstation/CD/Software/Standalone/media2ts\\_v3\\_update.zip](https://www.mygss.eu/Kopfstation/CD/Software/Standalone/media2ts_v3_update.zip)

### I would like to output several streams alternately - what has to be considered?

If you use several streams alternately, they should have the same IDs. The streams can be output alternately with the same settings (NIT). Nothing must be changed at the receivers.

### How do I identify that the media player is active (devices with C/T output)?

LED: The LED for line 16 is switched off!

Menu: The highlighted colour of the Line column indicates that the media player is activated for line 16 ().

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