



User Manual

TDcH – compact Headend

Article		Article no.
TDcH 16S-I-Q	Compact Headend	492780
TDcH 16S-Q		492790
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		EN

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1 Safety regulations and notes

ATTENTION

- Failure to comply with the specified precautionary measures may cause serious injury to persons or damage to property.
- The assembly, installation, additional electrical wiring, servicing installation and commissioning may only be performed by suitably qualified persons, technicians or installers in compliance with safety regulations.
- Damage due to improper installation and commissioning, defective connectors on cables or any other incorrect handling will void the warranty.

CAUTION

- The devices meet the EU directives **2011/65/EU, 2014/30/EU and 2014/35/EU**.
- The safety requirements are according to the standards EN/DIN EN 50083 resp. IEC/EN/DIN EN 60728 and must be observed, especially concerning equipotential bonding and earthing.
- Observe the relevant country-specific standards, regulations and guidelines on the installation and operation of antenna systems.
- Before starting installation or service work disconnect the receiving system from mains.
- Installation or service work should NEVER be undertaken during electrical / thunderstorms.
- Avoid short circuits!
- To ensure electromagnetic compatibility, make sure all connections are tight and that the covers are screwed on securely.
- Take action to prevent static discharge when working on the device!
- Due to the risk of fires caused by lightning strikes, we recommend that all mechanical parts (e.g. distributor, equipotential bonding rail, etc.) be mounted on a non-combustible base. Wood panelling, wooden beams, plastic covered panels and plastic panels are all examples of combustible bases.



Back up battery:

The unit includes a preinstalled Lithium battery (CR2032) as backup power source for the clock.

Type: Varta 6032101501, Battery, Coin Cell, Single Cell, 3 V, 2032, 230 mAh

Do not attempt to replace the non-rechargeable coin-cell battery. Replacement of the battery must only be done by a special trained technician.

There is a danger of an explosion if the coin-cell battery is incorrectly placed. The lithium battery contains lithium and can explode if it is not properly handled, or disposed of. Replace only with a battery of the same type. To avoid possible injury or death, do not: (1) Throw or immerse into water, (2) allow it to heat more than 100°C (212°F) or (3) attempt to repair or disassemble it. Dispose of it as required by local ordinance or regulations and your company's safety standards.



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. In case of the formation of condensation wait until the system is completely dried.
- Do not expose it to dripping or splashing.
- If any liquid should accidentally fall into the cabinet, disconnect the power plug.
- Install the head-end station where it is protected from direct exposure to sunlight
- Install the head-end station not within the immediate vicinity of heat sources
- Do not install the head end in cabinets or recesses which are not ventilated.
- Do not place any vessels containing liquids on the head-end station.
- Do not place anything on the head-end station which could initiate fires.



To avoid any risk of overheating

- Install the unit in a well aired location and keep a minimum distance around the apparatus for sufficient ventilation
- Do not place anything on the unit that might cover the ventilation holes.
- Do not install the product in a dusty place
- Use the apparatus only in moderate climates (not in tropical climates)
- Respect the minimum and maximum temperature specifications
- Ensure that the headend station is adequately ventilated.



To avoid any risk of electrical shocks

- Controller must be correctly grounded according to applicable national regulations.
- For a complete disconnection from the mains, the mains plug must be pulled out of the mains socket. Ensure that the mains plug can be pulled out without difficulties.
- Pull out power plug when making connections of cables.
- To avoid electrical shock, do not open the housing.



To avoid interferences with LTE services in Europe

- Do not select a channel higher than UHF 48 in countries with LTE II / 700 operation
- Do not select a channel higher than UHF 60 in countries with LTE I / 800 operation

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- Use coaxial cables with screening effectiveness of >85dB (Class A) at least or >95dB (Class A+)



WEEE disposal



Electronic devices should never be disposed of in the household rubbish. In accordance with directive 2002/96/EC of the European Parliament and the European Council from January 27, 2003 which addresses old electronic and electrical devices, such devices must be disposed of at a designated collection facility. At the end of its service life, please take your device to one of these public collection facilities for proper disposal.

2 Revision history

Version 1.0	TDcH Compact Headend user manual - First release
Version 1.1	Management Port description added

3 TDcH Compact Headend

3.1 Packing contents

1 piece	TDcH compact headend
1 piece	Mains cable
2 pieces	Wall mounting brackets
4 pieces	Screws

3.2 Technical data

Interfaces

Satellite inputs	4 x F connectors 75 Ω 400 mA per input LNB power feed
RF out	1 x F connector 75 Ω
HF measuring output	1 x F connector 75 Ω -20 dB
Management Interface	1 x 1000 Base-T (RJ 45)
SimulCrypt / DRM	1 x 1000 Base-T (RJ 45) not supported with first software release
Ip-in and -out	1 x 1000 Base-T (SPF) not supported with first software release
CI slots	8 x PCMCIA (front access)
USB	USB 2.0 Type A conn (Data transfer, additional storage,...) not supported with first software release

DVB-S2X input

Number of transponders	16
Frequency range	950 – 2150 MHz
Level range	44 – 90 dB μ V
Return loss	> 10dB
DVB-S modulation	QPSK; 8PSK, 16APSK, 32APSK (16 and 32APSK not supported with SW1.0)
DVB-S modes	QPSK 1/2, 2/3, 3/4, 5/6, 7/8
DVB-S2 modes	QPSK 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 8PSK 3/5, 2/3, 3/4, 5/6, 8/9, 9/10 16APSK 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 32APSK 3/4, 4/5, 5/6, 8/9, 9/10

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Multistream	chip set prepared but not supported with SW1.0
Symbol rate DVB-S	QPSK: 1 – 45 MSymb/s
Symbol rate DVB-S2	QPSK: 4.5 – 45 MSymb/s
	8PSK: 4.5 – 45 MSymb/s
	16APSK: 4.5 – 39 MSymb/s
	32APSK: 4.5 – 32 MSymb/s
Max. data rate / tuner	83 Mbit/s
Viterbi decoding	1/2; 2/3; 3/4; 5/6; 7/8; automatically / manually
Input selection	DiSEqC 1.0 Control 13/18VDC and 22kHz

CI interfaces (TDcH 16S-I-Q only)

Supported CAM vendors	Aston, Neotion, SMARDTV, SMiT
Supported modules and cards	Conax: Canal Digital (Nordic), Telewizja (Poland), T Home (Hungary) Cryptoworks: ORF (Austria), UPC Direct (Hungary) Irdeto: ORF (Austria) Nagravision: Canal Digital (NL), Canal + (France), Cyfra (Poland), Cyfrowy (Poland), Multicanal (Spain), UPC, NDS, Viasat (Nordic + Baltic) Viaccess: Canal+ (France), Eurosport (Poland)
Supply voltage	5V

QAM output

Frequency range	306 – 862 MHz
Channels	S 21 – C 69
Channel settings	16 channels in a row, single channel can be switched off
Modulation scheme	QAM 16, 32, 64, 128, 256
Output level range	85 – 95 dBμV
Dynamic phase error	< 0.3
MER	> 43 dB
Return loss	> 10dB
Symbol rate	3.5 – 7.2 MS/s

General

Mains supply	100 - 264 V AC, 50/60 Hz
Ground connection	Ground clamp
Power consumption	typ. 35W, max. 90W
Ambient temperature	-10°C to +50°C
Dimensions in mm	(L x W x H) 430 x 220 x 90
Weight	3,9 kg CI version 492780
	3,4 kg FTA version 498790

3.3 Description

TDcH compact Headend supports DVB-S and DVB-S2 conversion to QAM with the possibility to decrypt services centrally in the headend.

Built for both wall mounting and 19" racks and equipped with 4 DVB-S/S2 inputs, 16 DVB-S2X tuners, 16 QAM modulators and 8 CI (TDcH 16S-I-Q) slots.

The TDcH compact headend is optimised and engineered to meet specific TV distribution requirements in hospitality, multi-dwelling units and related sectors.

Our brand new, intuitive platform smoothly integrates easy installation, an elegant graphical user interface, central decryption, remote access, and straightforward TV service updates with LCN.

3.3.1 Features

4 x SAT IF inputs

- Integrated multi switch
- DiSEqC support
- LNB LOF configuration

16 x DVB-S2 tuners

8 x CI interfaces

16 x QAM full band modulators

- Electronically adjustable output level
- Suitable for adjacent channels

Symbol rates and modulation individually adjustable

Transport Stream Processing

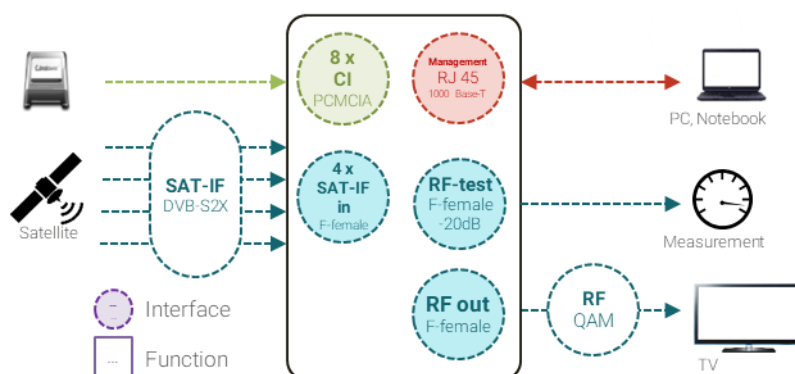
- Network Information Table (NIT) for complete head-end station
- LCN (Logical Channel Numbering)

Service Filtering with the option to:

- Remove unwanted services
- Remove services to minimize data rate

HTML user interface via self-signed HTTPS

3.3.2 Block diagram



Note: CI interface on TDcH 16S-I-Q only

1. Mounting the TDcH rack

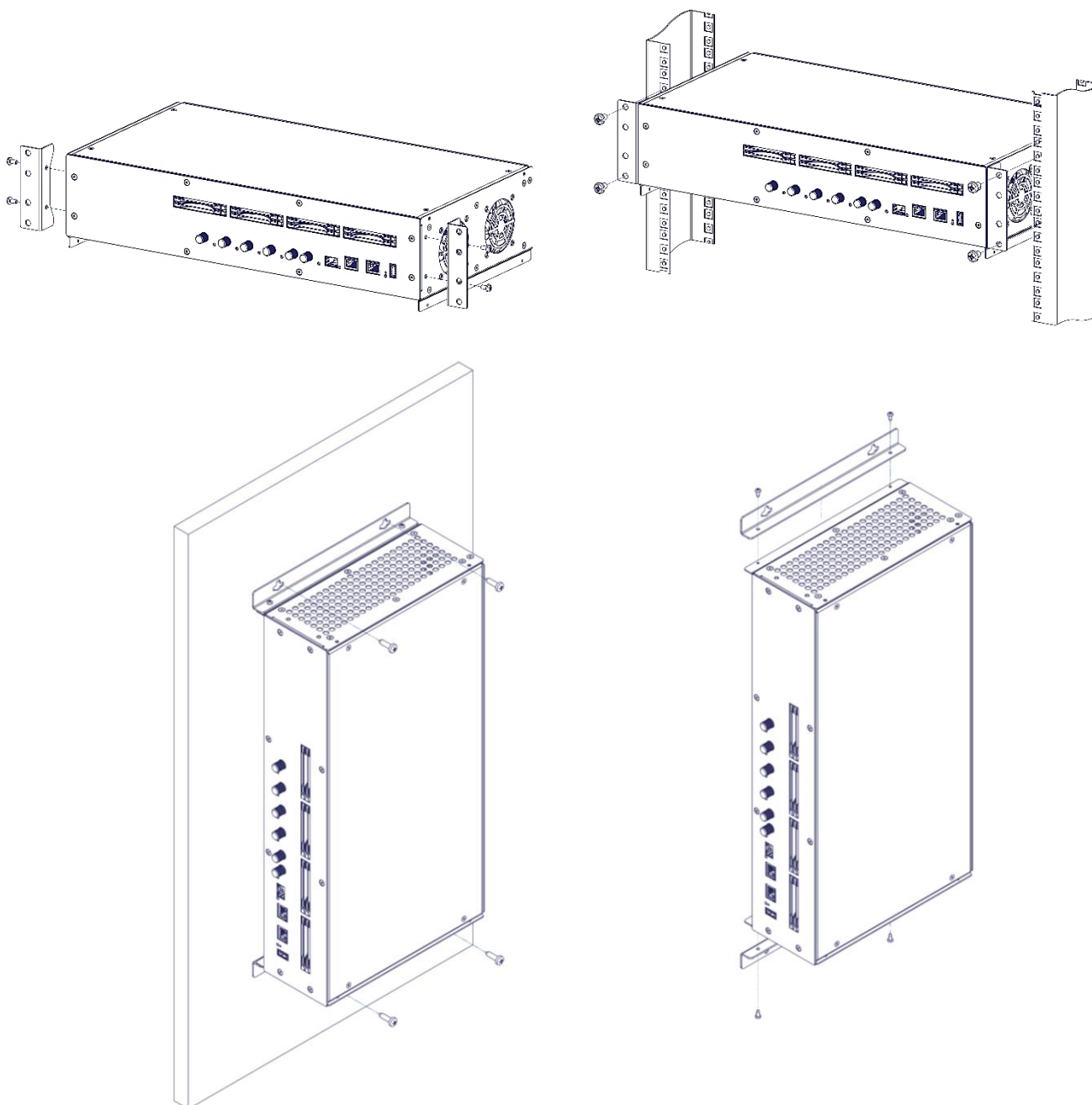
3.4 Installing the device

The TDcH can be mounted in a 19" rack or wall mounted in any direction needed.

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Ensure that the TDcH is correctly grounded, according to applicable national regulations.

Ensure that min. 4 cm ventilation space is available on both sides of the equipment, so that the fans and ventilation holes are not covered!

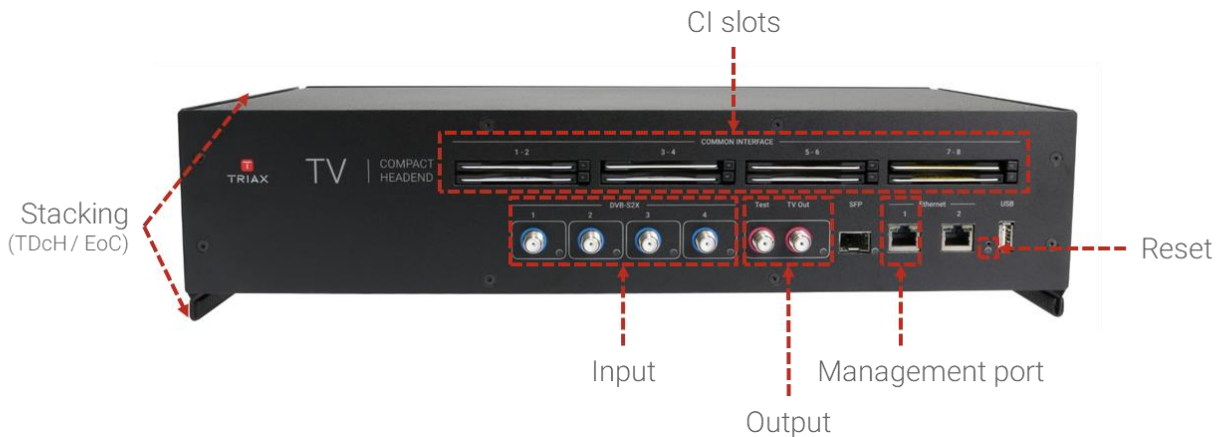


Potential equalisation:

Equalise the potential (PE) in accordance with IEC/EN/DIN EN 60728.

Connect the PE connection terminal to a PE rail (supplied by customer) using the PE wire (Cu 4 mm² - 9 mm²).

3.5 Device overview



3.6 Connecting the device

- Connect the SAT IF inputs to the corresponding outputs of an LNB or multi switch. Make sure that all inputs have the same level and are in the required level range!
- Connect the attached main cable to the IEC connector.
- Connect the mains cable to a mains socket with protective conductor connection. Thereby note the voltage specified on the device.
This device has no power switch and starts immediately after connecting the operating voltage.
- Configure the device as described in the chapter “Installation & Easy Setup”
- If the programming is finished connect the RF output to the cable network.

4 Installation & Easy Setup

4.1.1 Static IP address

A static address must be used on the computer you use to configure the headend. Refer to the computer’s operating software documentation for assistance on using static IP addresses.

4.1.2 Physical connection to headend

Connect a Cat5e shielded cable or better between the computer’s network port and the management port on the headend.

Note:

Please use Ethernet port 1 to connect your PC to the headend

Ethernet port 2 is reserved for further use.



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Currently the management GUI can be reached at this port. The port is configured to get the IP address via DHCP.

4.1.3 Starting service tool

- Open a web browser window.
- Enter **http://192.168.0.100** in the web address field. Press **Enter**.
- Enter the password. Press the **Login** button.

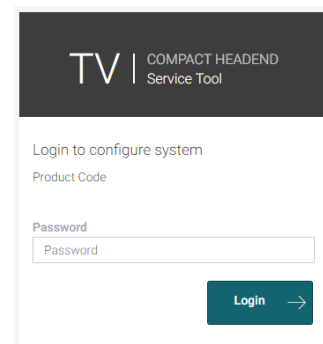
Note:

Password = **triax1234** when the service tool is opened on each headend for the first time.

Up to 10 sessions can be opened and logged in to the same TDcH user interface!

If the user does not log out the session will be kept open.

When the 11th session is opened the first login session will be closed.



4.1.4 Status LED

Below the reset button there is a general system status LED.

The following status LED indications are available:



Off:	The system is turned off
Blinking green:	The system is starting up
Blinking orange (green+red):	SW update under process
Steady green:	System is up running OK
Steady red:	An error occurs in the system. Log in to the system to get more information

Note:

Please note that the status LED on the Inputs and TV-out is not supported in software version 1.0.

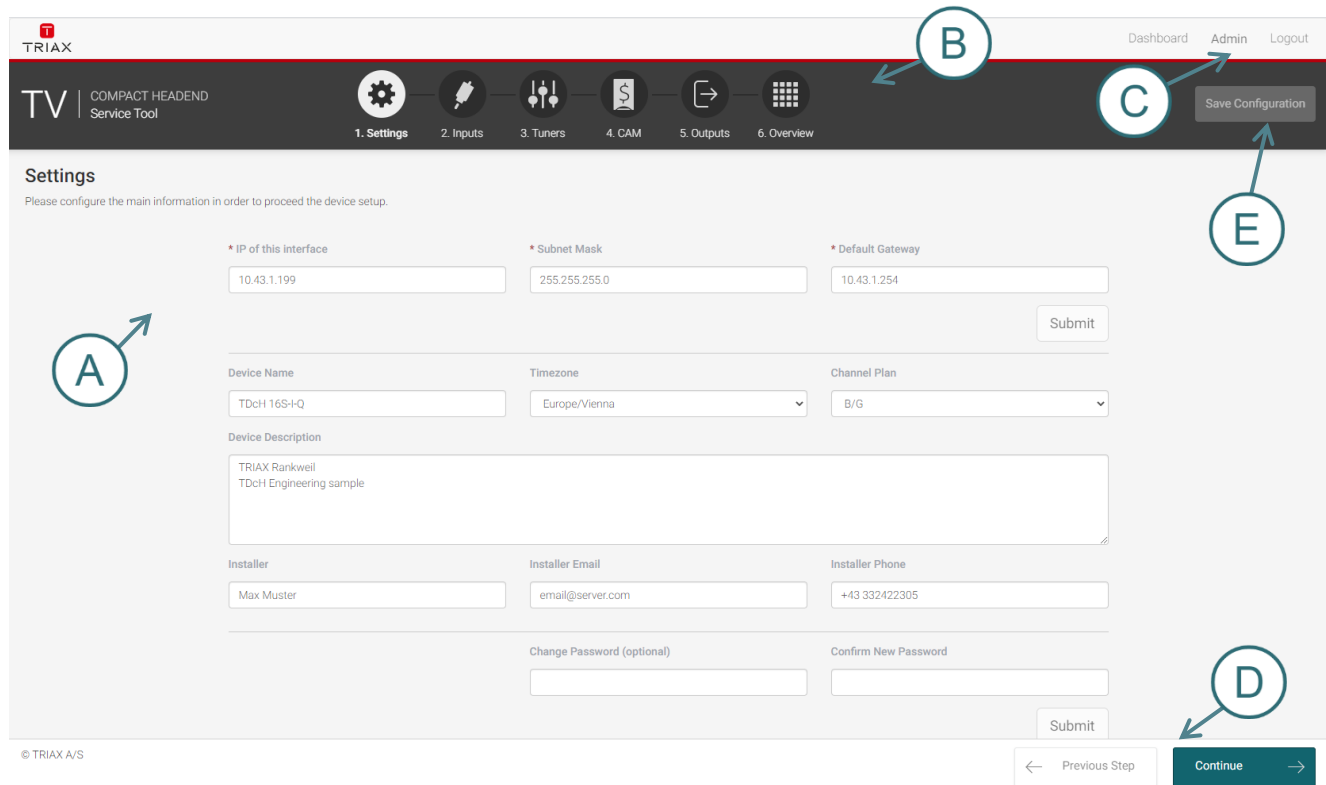
4.1.5 Reset button

The following Reset functions are available:

- When the reset button is pressed (during startup) until the LED blinks green, then the system resets to factory defaults.
- When the reset button is pressed (during startup) until the LED blinks red, then the system starts in recovery mode.



4.2 TDcH interface (GUI)



Settings

Please configure the main information in order to proceed the device setup.

* IP of this interface: 10.43.1.199

* Subnet Mask: 255.255.255.0

* Default Gateway: 10.43.1.254

Submit

Device Name: TDcH 16S-I-Q

Timezone: Europe/Vienna

Channel Plan: B/G

Device Description: TRIAX Rankwell
TDcH Engineering sample

Installer: Max Muster

Installer Email: email@server.com

Installer Phone: +43 332422305

Change Password (optional):

Confirm New Password:

Submit

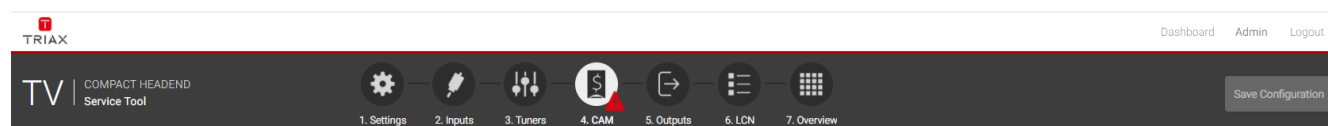
Previous Step Continue

- A. Information window
- B. Navigation bar
- C. Administrator and Dashboard menu
- D. Installation wizard function to continue or go one step back
- E. Save Configuration


When logged in, you will be met by 7 panes

- 1. Settings basic settings of the system (TDcH setup)
- 2. Inputs assign input cables to available tuners
- 3. Tuners configure to desired provider and services
- 4. CAM assign services to CAMs
- 5. Outputs assign services to outputs
- 6. LCN assign services to required LCN number
- 7. Overview see the complete assignment from inputs to outputs

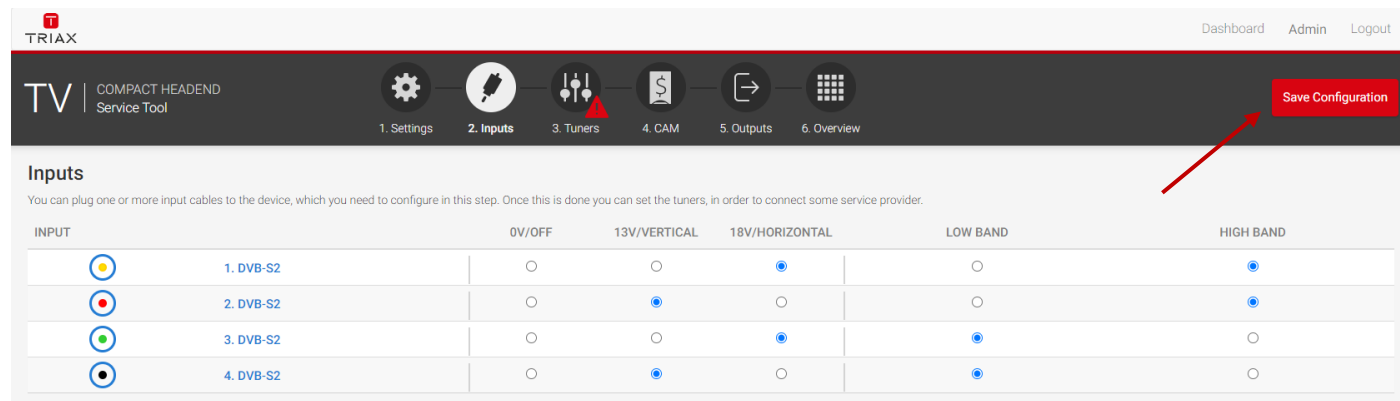
4.2.1 Error indication:



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If there is an error in any part of the configuration, the user interface indicates this with a  symbol in the relevant sector of the navigation menu. In other parts of the user interface the error symbol is also used to indicate an error or configuration failure.

4.2.2 Safe configuration:



Inputs

You can plug one or more input cables to the device, which you need to configure in this step. Once this is done you can set the tuners, in order to connect some service provider.

INPUT		0V/OFF	13V/VERTICAL	18V/HORIZONTAL	LOW BAND	HIGH BAND
	1. DVB-S2	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
	2. DVB-S2	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
	3. DVB-S2	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
	4. DVB-S2	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

An important button when you change your configuration of the headend system is the “Save Configuration” button placed in the upper right-hand corner of the TDX Service Tool window.

Whenever you have made changes in your configuration, the “Save Configuration” button turns red to tell you that you have unsaved changes that need to be saved.

Click the “Save Configuration” button to save the changes. When changes have been saved, the “Save Configuration” button loses the red colour.

4.2.3 Admin options

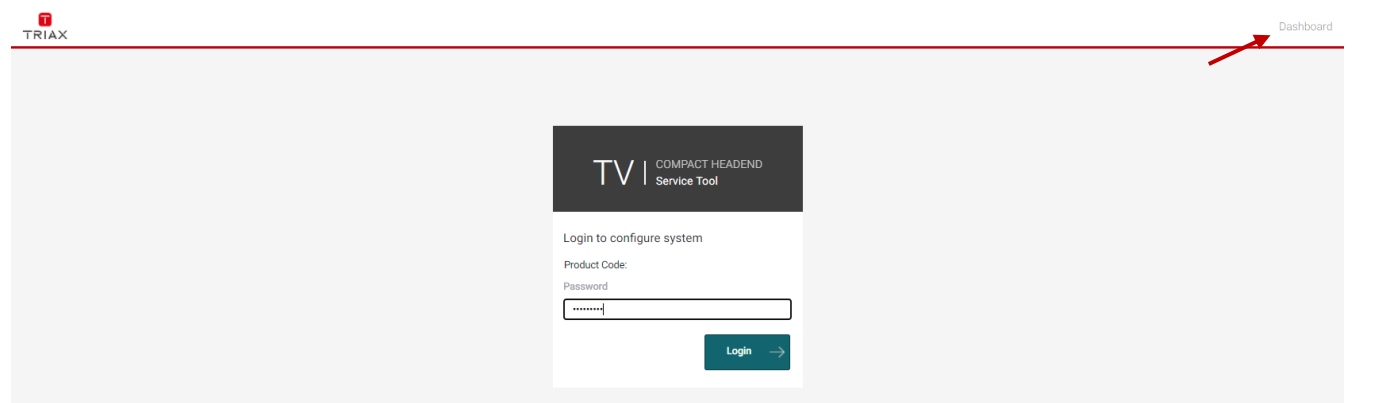
At the top right you can switch between the Dashboard and the Configuration. Enter the Admin menu or Logout.

4.2.4 Dashboard

There are two possibilities to open the Dashboard overview of a TDcH.

One possibility is to open the Dashboard when you are logged in to the system by pressing the Dashboard in the Administrator menu.

Or you can open the Dashboard from the login page.



TRIAX

TV | COMPACT HEADEND Service Tool

Login to configure system

Product Code:

Password

Login →

Dashboard Admin Logout

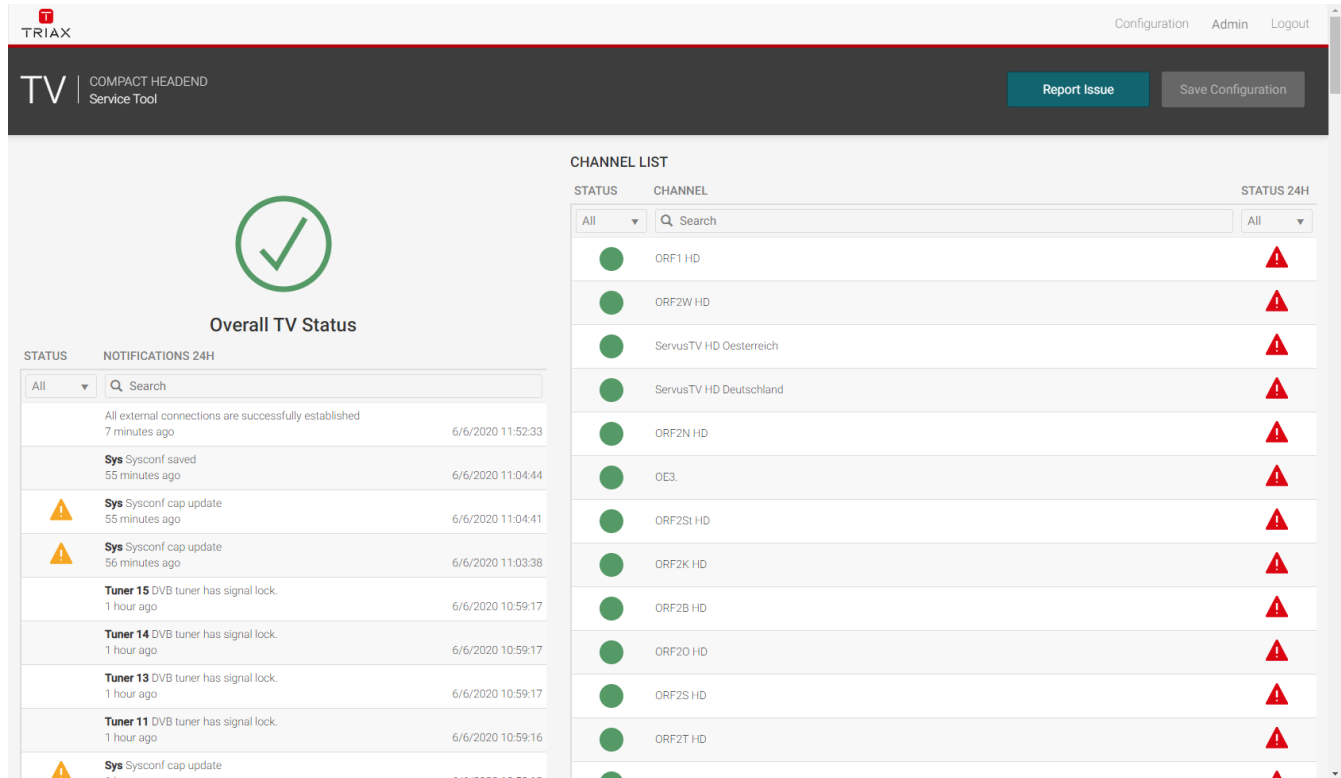
Save Configuration

Note:

For the Dashboard, it is not required to log in and to know the password.

This Dashboard is also for hotel employees to give an overview during a failure analysis or report an issue to the installer.

In the Dashboard view you will find the overall TV Status. The window is divided in two sectors. The left side shows all notifications of the last 24 hours and the right side shows a status on TV service level.

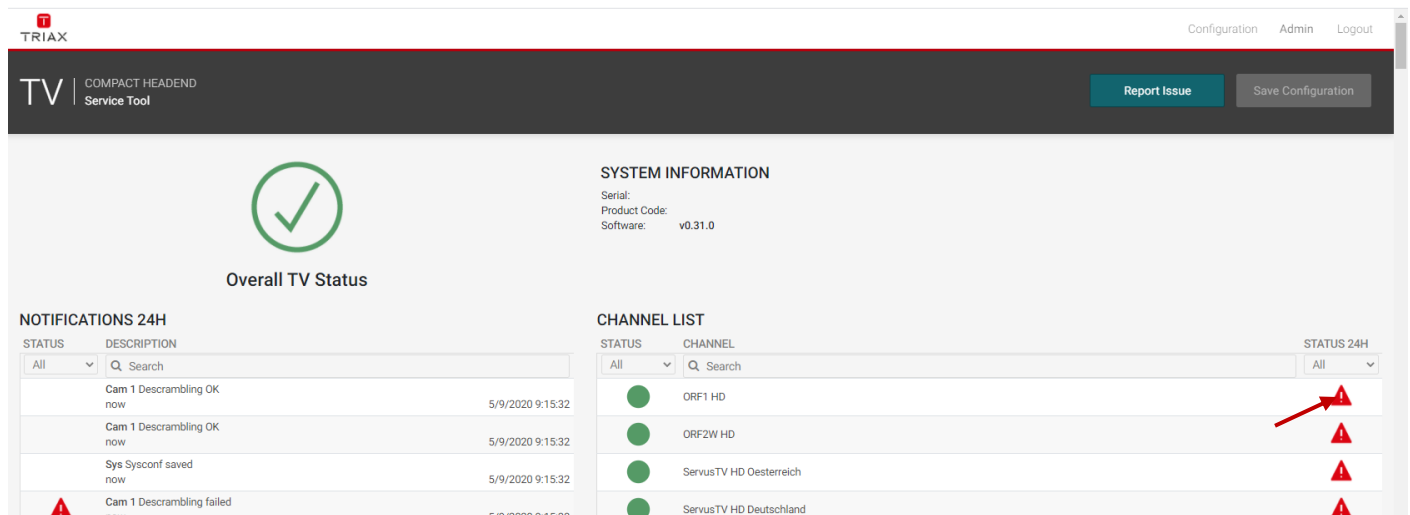


The dashboard displays the overall TV status and a list of channels. The overall status is indicated by a green checkmark icon. The channel list shows the status of various channels, with some channels marked as 'All' and others as 'Status 24H'.

STATUS	NOTIFICATIONS 24H
All	Q Search
	All external connections are successfully established 7 minutes ago 6/6/2020 11:52:33
	Sys Sysconf saved 55 minutes ago 6/6/2020 11:04:44
!	Sys Sysconf cap update 55 minutes ago 6/6/2020 11:04:41
!	Sys Sysconf cap update 56 minutes ago 6/6/2020 11:03:38
	Tuner 15 DVB tuner has signal lock. 1 hour ago 6/6/2020 10:59:17
	Tuner 14 DVB tuner has signal lock. 1 hour ago 6/6/2020 10:59:17
	Tuner 13 DVB tuner has signal lock. 1 hour ago 6/6/2020 10:59:17
	Tuner 11 DVB tuner has signal lock. 1 hour ago 6/6/2020 10:59:16
!	Sys Sysconf cap update 1 hour ago 6/6/2020 10:59:13

STATUS	CHANNEL	STATUS 24H
All	Q Search	All
	ORF1 HD	!
	ORF2W HD	!
	ServusTV HD Osterreich	!
	ServusTV HD Deutschland	!
	ORF2N HD	!
	OE3.	!
	ORF2St HD	!
	ORF2K HD	!
	ORF2B HD	!
	ORF2O HD	!
	ORF2S HD	!
	ORF2T HD	!
	ORF2L HD	!

4.2.5 Channel Status Details



The dashboard displays the overall TV status and a list of channels. The overall status is indicated by a green checkmark icon. The channel list shows the status of various channels, with some channels marked as 'All' and others as 'Status 24H'.

STATUS	DESCRIPTION
All	Q Search
	Cam 1 Descrambling OK now 5/9/2020 9:15:32
	Cam 1 Descrambling OK now 5/9/2020 9:15:32
	Sys Sysconf saved now 5/9/2020 9:15:32
!	Cam 1 Descrambling failed now 5/9/2020 9:15:30

STATUS	CHANNEL	STATUS 24H
All	Q Search	All
	ORF1 HD	!
	ORF2W HD	!
	ServusTV HD Osterreich	!
	ServusTV HD Deutschland	!

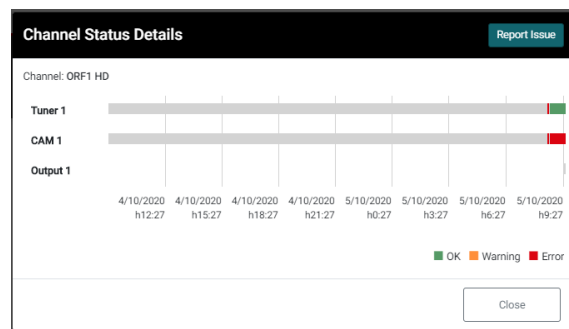
TDcH Compact Headend

When you are in the Dashboard mode and click on the error indication on the right side, a Channel Status Details window will pop up.

In this window you can find the status over the last 24 hours.

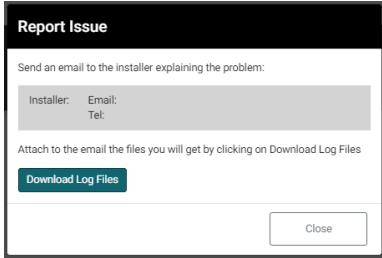
The window also shows where the failure has occurred, such as the tuner, CAM or output.

This also helps to evaluate where the errors took place and the possible reasons for the failure.



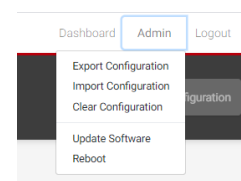
4.2.6 Report Issue:

By pressing the report issue button, a window opens where you can download the log file. Please send us the log file together with your issue explanation.



4.2.7 Admin menu

In the Admin Menu you have the option to Export the current configuration, import a configuration file, and clear the configuration.



Export Configuration

Note:

The configuration file is not human readable!

Clear Configuration

Note:

The function "Clear Configuration" will set the delete the configuration, set the IP address to the default IP address and also set the password to the default password!

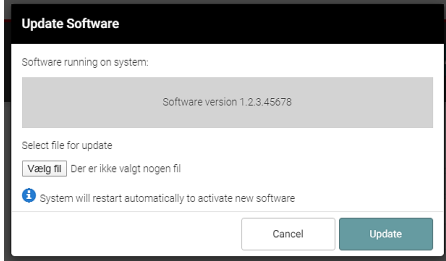
Update Software

It is possible to update the software and reboot the system.

Reboot

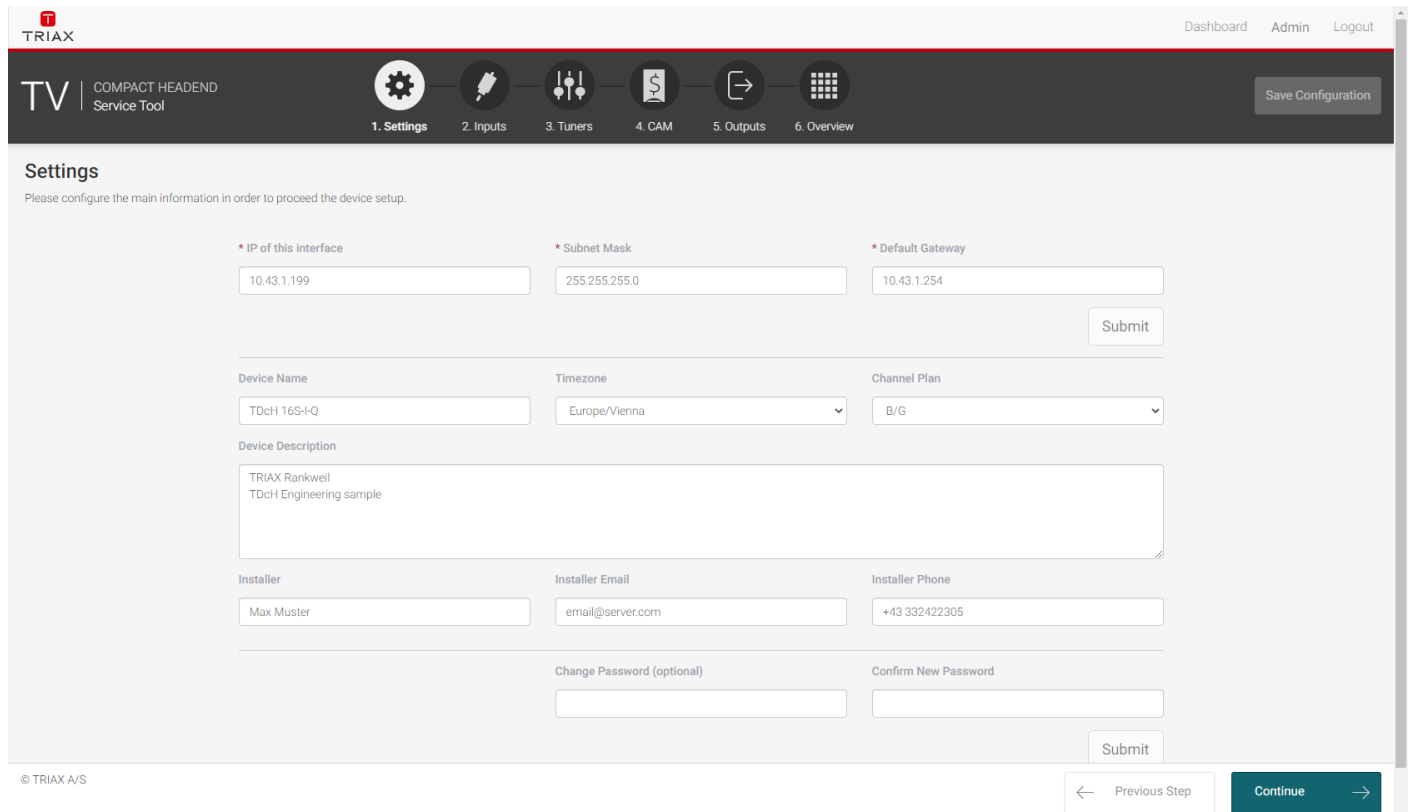
Note:

During reboot any unsaved configuration will be lost



4.3 Settings

Start with the folder “Settings” to set up the general settings and information of the TDcH compact headend.



Settings
Please configure the main information in order to proceed the device setup.

IP Configuration:
 * IP of this interface: 10.43.1.199
 * Subnet Mask: 255.255.255.0
 * Default Gateway: 10.43.1.254
 Submit

Device Information:
 Device Name: TDcH 16S-I-Q
 Timezone: Europe/Vienna
 Channel Plan: B/G
 Device Description: TRIAX Rankwell
 TDcH Engineering sample

Installer Information:
 Installer: Max Muster
 Installer Email: email@server.com
 Installer Phone: +43 332422305

Password Reset:
 Change Password (optional):
 Confirm New Password:
 Submit

Navigation: Previous Step, Continue

4.3.1 IP address of this interface:

This is the IP address of the Management port (Ethernet 1) of the compact Headend.

It may be necessary to specify specific IP addresses for the headend to avoid network IP address conflicts.



Note: If a PC is connected direct to the Management port with an Ethernet cable, the network address of the PC has to be in the same range as the compact headend. The TDcH management port IP addresses can be reset to factory default settings if required. This is done via the reset button on the headend unit.

4.3.2 System reset

The following reset functions are available:

1. When the reset button is pressed (during start up) and until the LED blinks green, then the system resets to factory defaults.
2. When the reset button is pressed (during start up) until the LED blinks red, then the system starts in recovery mode.



4.3.3 Subnet Mask

This is the Subnet Mask for the network the Management Port is connected to.

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4.3.4 Default Gateway

This is the Default Gateway in the network the Management Port is connected to.

4.3.5 Device Name:

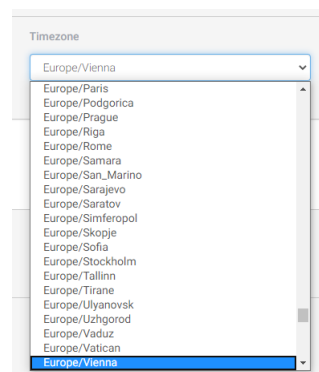
Description field to give the compact Headend or project any name.

4.3.6 Timezone:

Click on the “Timezone” field to open the drop down and select the time zone where the compact headend is installed.

The time zone is important because this is the offset which is added to the UTC time received with the service and sent out in the TOT to the TV.

Please test after the final installation if the time shown on the TV or in the EPG menu of the TV corresponds to the local time.



4.3.7 Channel Plan

Klick on the “Channel Plan” field to open the drop down and select the Channel Plan you would like to use.



Channel Plan description:

System B/G		System I		System D/K		System L		System B/G New Zealand	
Name	Center frequency	Name	Center frequency	Name	Center frequency	Name	Center frequency	Name	Center frequency
S-21	306,00	S-21	306,00	S-21	306,00	S-21	306,00	CH21	474,00
S-22	314,00	S-22	314,00	S-22	314,00	S-22	314,00	CH22	482,00
S-23	322,00	S-23	322,00	S-23	322,00	S-23	322,00	CH23	490,00
S-24	330,00	S-24	330,00	S-24	330,00	S-24	330,00	CH24	498,00
S-25	338,00	S-25	338,00	S-25	338,00	S-25	338,00	CH25	506,00
S-26	346,00	S-26	346,00	S-26	346,00	S-26	346,00	CH26	514,00
S-27	354,00	S-27	354,00	S-27	354,00	S-27	354,00	CH27	522,00
S-28	362,00	S-28	362,00	S-28	362,00	S-28	362,00	CH28	530,00
S-29	370,00	S-29	370,00	S-29	370,00	S-29	370,00	CH29	538,00
S-30	378,00	S-30	378,00	S-30	378,00	S-30	378,00	CH30	546,00
S-31	386,00	S-31	386,00	S-31	386,00	S-31	386,00	CH31	554,00
S-32	394,00	S-32	394,00	S-32	394,00	S-32	394,00	CH32	562,00
S-33	402,00	S-33	402,00	S-33	402,00	S-33	402,00	CH33	570,00
S-34	410,00	S-34	410,00	S-34	410,00	S-34	410,00	CH34	578,00
S-35	418,00	S-35	418,00	S-35	418,00	S-35	418,00	CH35	586,00
S-36	426,00	S-36	426,00	S-36	426,00	S-36	426,00	CH36	594,00
S-37	434,00	S-37	434,00	S-37	434,00	S-37	434,00	CH37	602,00
S-38	442,00	S-38	442,00	S-38	442,00	S-38	442,00	CH38	610,00
S-39	450,00	S-39	450,00	S-39	450,00	S-39	450,00	CH39	618,00
S-40	458,00	S-40	458,00	S-40	458,00	S-40	458,00	CH40	626,00
S-41	466,00	S-41	466,00	S-41	466,00	S-41	466,00	CH41	634,00
CH21	474,00	CH21	474,00	CH21	474,00	CH21	474,00	CH42	642,00
CH22	482,00	CH22	482,00	CH22	482,00	CH22	482,00	CH43	650,00

CH23	490,00	CH23	490,00	CH23	490,00	CH23	490,00	CH44	658,00
CH24	498,00	CH24	498,00	CH24	498,00	CH24	498,00	CH45	666,00
CH25	506,00	CH25	506,00	CH25	506,00	CH25	506,00	CH46	674,00
CH26	514,00	CH26	514,00	CH26	514,00	CH26	514,00	CH47	682,00
CH27	522,00	CH27	522,00	CH27	522,00	CH27	522,00	CH48	690,00
CH28	530,00	CH28	530,00	CH28	530,00	CH28	530,00	CH49	698,00
CH29	538,00	CH29	538,00	CH29	538,00	CH29	538,00	CH50	706,00
CH30	546,00	CH30	546,00	CH30	546,00	CH30	546,00	CH51	714,00
CH31	554,00	CH31	554,00	CH31	554,00	CH31	554,00	CH52	722,00
CH32	562,00	CH32	562,00	CH32	562,00	CH32	562,00	CH53	730,00
CH33	570,00	CH33	570,00	CH33	570,00	CH33	570,00	CH54	738,00
CH34	578,00	CH34	578,00	CH34	578,00	CH34	578,00	CH55	746,00
CH35	586,00	CH35	586,00	CH35	586,00	CH35	586,00	CH56	754,00
CH36	594,00	CH36	594,00	CH36	594,00	CH36	594,00	CH57	762,00
CH37	602,00	CH37	602,00	CH37	602,00	CH37	602,00	CH58	770,00
CH38	610,00	CH38	610,00	CH38	610,00	CH38	610,00	CH59	778,00
CH39	618,00	CH39	618,00	CH39	618,00	CH39	618,00	CH60	786,00
CH40	626,00	CH40	626,00	CH40	626,00	CH40	626,00	CH61	794,00
CH41	634,00	CH41	634,00	CH41	634,00	CH41	634,00	CH62	802,00
CH42	642,00	CH42	642,00	CH42	642,00	CH42	642,00	CH63	810,00
CH43	650,00	CH43	650,00	CH43	650,00	CH43	650,00	CH64	818,00
CH44	658,00	CH44	658,00	CH44	658,00	CH44	658,00	CH65	826,00
CH45	666,00	CH45	666,00	CH45	666,00	CH45	666,00	CH66	834,00
CH46	674,00	CH46	674,00	CH46	674,00	CH46	674,00	CH67	842,00
CH47	682,00	CH47	682,00	CH47	682,00	CH47	682,00	CH68	850,00
CH48	690,00	CH48	690,00	CH48	690,00	CH48	690,00	CH69	858,00
CH49	698,00	CH49	698,00	CH49	698,00	CH49	698,00		
CH50	706,00	CH50	706,00	CH50	706,00	CH50	706,00		
CH51	714,00	CH51	714,00	CH51	714,00	CH51	714,00		
CH52	722,00	CH52	722,00	CH52	722,00	CH52	722,00		
CH53	730,00	CH53	730,00	CH53	730,00	CH53	730,00		
CH54	738,00	CH54	738,00	CH54	738,00	CH54	738,00		
CH55	746,00	CH55	746,00	CH55	746,00	CH55	746,00		
CH56	754,00	CH56	754,00	CH56	754,00	CH56	754,00		
CH57	762,00	CH57	762,00	CH57	762,00	CH57	762,00		
CH58	770,00	CH58	770,00	CH58	770,00	CH58	770,00		
CH59	778,00	CH59	778,00	CH59	778,00	CH59	778,00		
CH60	786,00	CH60	786,00	CH60	786,00	CH60	786,00		
CH61	794,00	CH61	794,00	CH61	794,00	CH61	794,00		
CH62	802,00	CH62	802,00	CH62	802,00	CH62	802,00		
CH63	810,00	CH63	810,00	CH63	810,00	CH63	810,00		
CH64	818,00	CH64	818,00	CH64	818,00	CH64	818,00		
CH65	826,00	CH65	826,00	CH65	826,00	CH65	826,00		
CH66	834,00	CH66	834,00	CH66	834,00	CH66	834,00		
CH67	842,00	CH67	842,00	CH67	842,00	CH67	842,00		
CH68	850,00	CH68	850,00	CH68	850,00	CH68	850,00		
CH69	858,00	CH69	858,00	CH69	858,00	CH69	858,00		
						CH70	866,00		
						CH71	874,00		
						CH72	882,00		

TDcH Compact Headend

4.3.8 Device Description

Text field for project description.

4.3.9 Installer

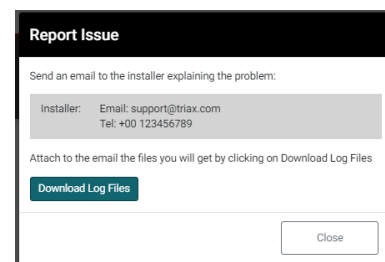
Text field for the installer or company name who is responsible for the installation.

4.3.10 Installer Email and Phone

Text field for the email address and phone number of the installer.

Note:

Please note that this information is used in the report Issue window which can be accessed from the Dashboard.



Report Issue

Send an email to the installer explaining the problem:

Installer: Email: support@triax.com
Tel: +00 123456789

Attach to the email the files you will get by clicking on Download Log Files

[Download Log Files](#)

[Close](#)

4.3.11 Change Password

1. Specify a new password in the “Change Password” field.
2. Re-specify the new password in the “Confirm New Password” field.
3. Press submit to change the password.

4.4 Inputs

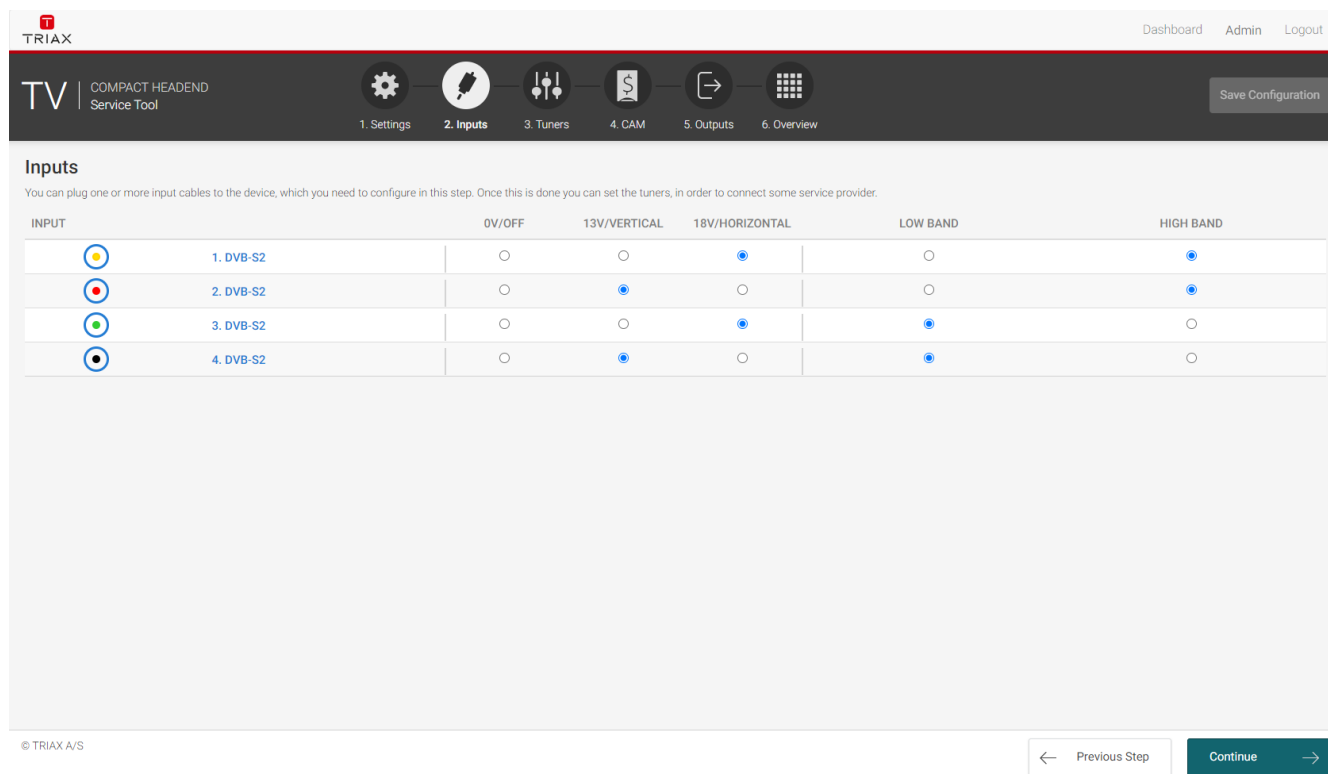
The TDcH 16S-I-Q and TDcH 16S-Q compact headend has 4 SAT-IF inputs marked with DVB-S2 and a blue colour ring.







Note:

Each input has a LED indicator. The LED indicator is not supported in the first software release

Open the folder “Inputs” to set up the input configuration.



The screenshot shows the TRIAX TV Compact Headend Service Tool interface. The top navigation bar includes links for Dashboard, Admin, and Logout. Below this is a menu with icons for 1. Settings, 2. Inputs (selected), 3. Tuners, 4. CAM, 5. Outputs, and 6. Overview. A 'Save Configuration' button is visible on the right. The main content area is titled 'Inputs' and contains a table for configuring input parameters.

INPUT		0V/OFF	13V/VERTICAL	18V/HORIZONTAL	LOW BAND	HIGH BAND
	1. DVB-S2	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
	2. DVB-S2	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
	3. DVB-S2	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
	4. DVB-S2	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

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Select the required parameters for each input:

13/18V: for Vertical or Horizontal polarisation

LOW/HIGH for the Band

The input colour shows the setting following the same colour codes TRIAX uses on LNBs and multiswitches.


INPUT	
	1. DVB-S2
	2. DVB-S2
	3. DVB-S2
	4. DVB-S2

Yellow: Horizontal, High Band

Red: Vertical, High Band

Green: Horizontal, Low Band

Black: Vertical, Low Band



[Dashboard](#)
[Admin](#)
[Logout](#)

TV | COMPACT HEADEND
Service Tool

1. Settings
2. Inputs
3. Tuners
4. Outputs
5. LCN
6. Overview

Save Configuration

Inputs

You can plug one or more input cables to the device, which you need to configure in this step. Once this is done you can set the tuners, in order to connect some service provider.

INPUT	0V/OFF	13V/VERTICAL	18V/HORIZONTAL	LOW BAND	HIGH BAND
<div style="display: flex; align-items: center;"> <div style="border: 1px solid #ccc; border-radius: 50%; width: 20px; height: 20px; margin-right: 5px; display: flex; align-items: center; justify-content: center;"> <div style="width: 10px; height: 10px; background-color: #000; border-radius: 50%;"></div> </div> <div>1. DVB-S2</div> </div> <div style="margin-top: 5px;"> <div style="display: flex; justify-content: space-between;"> <div>LOF Low (MHz) <input type="text" value="9750"/></div> <div>LOF High (MHz) <input type="text" value="10600"/></div> <div>LOF Switch (MHz) <input type="text" value="11700"/></div> <div>Satellite Position <div style="border: 1px solid #ccc; padding: 2px;">DiSEqC off</div></div> </div> </div>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
<div style="display: flex; align-items: center;"> <div style="border: 1px solid #ccc; border-radius: 50%; width: 20px; height: 20px; margin-right: 5px; display: flex; align-items: center; justify-content: center;"> <div style="width: 10px; height: 10px; background-color: #008000; border-radius: 50%;"></div> </div> <div>2. DVB-S2</div> </div>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
<div style="display: flex; align-items: center;"> <div style="border: 1px solid #ccc; border-radius: 50%; width: 20px; height: 20px; margin-right: 5px; display: flex; align-items: center; justify-content: center;"> <div style="width: 10px; height: 10px; background-color: #ff0000; border-radius: 50%;"></div> </div> <div>3. DVB-S2</div> </div>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
<div style="display: flex; align-items: center;"> <div style="border: 1px solid #ccc; border-radius: 50%; width: 20px; height: 20px; margin-right: 5px; display: flex; align-items: center; justify-content: center;"> <div style="width: 10px; height: 10px; background-color: #ffff00; border-radius: 50%;"></div> </div> <div>4. DVB-S2</div> </div>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

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← Previous Step
Continue →

When you press the expand button you can open the DiSEqC settings:

INPUT	0V/OFF	13V/VERTICAL	18V/HORIZONTAL	LOW BAND	HIGH BAND
<div style="display: flex; align-items: center;"> <div style="border: 1px solid #ccc; border-radius: 50%; width: 20px; height: 20px; margin-right: 5px; display: flex; align-items: center; justify-content: center;"> <div style="width: 10px; height: 10px; background-color: #000; border-radius: 50%;"></div> </div> <div>1. DVB-S2</div> </div> <div style="margin-top: 5px;"> <div style="display: flex; justify-content: space-between;"> <div>LOF Low (MHz) <input type="text" value="9750"/></div> <div>LOF High (MHz) <input type="text" value="10600"/></div> <div>LOF Switch (MHz) <input type="text" value="11700"/></div> <div>Satellite Position <div style="border: 1px solid #ccc; padding: 2px;">DiSEqC off</div></div> </div> </div>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
<div style="display: flex; align-items: center;"> <div style="border: 1px solid #ccc; border-radius: 50%; width: 20px; height: 20px; margin-right: 5px; display: flex; align-items: center; justify-content: center;"> <div style="width: 10px; height: 10px; background-color: #008000; border-radius: 50%;"></div> </div> <div>2. DVB-S2</div> </div>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
<div style="display: flex; align-items: center;"> <div style="border: 1px solid #ccc; border-radius: 50%; width: 20px; height: 20px; margin-right: 5px; display: flex; align-items: center; justify-content: center;"> <div style="width: 10px; height: 10px; background-color: #ff0000; border-radius: 50%;"></div> </div> <div>3. DVB-S2</div> </div>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
<div style="display: flex; align-items: center;"> <div style="border: 1px solid #ccc; border-radius: 50%; width: 20px; height: 20px; margin-right: 5px; display: flex; align-items: center; justify-content: center;"> <div style="width: 10px; height: 10px; background-color: #ffff00; border-radius: 50%;"></div> </div> <div>4. DVB-S2</div> </div>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

DiSEqC off

1/A

2/B

3/C

4/D

DiSEqC supports four satellite positions. Please select the needed positions if required.

Additional to the DiSEqC settings the menu also shows the default values of the (Local-Oscillator-Frequency)

LOF Low: Local Oscillator Frequency for the low band Frequencies

LOF High: Local Oscillator Frequency for the high band Frequencies

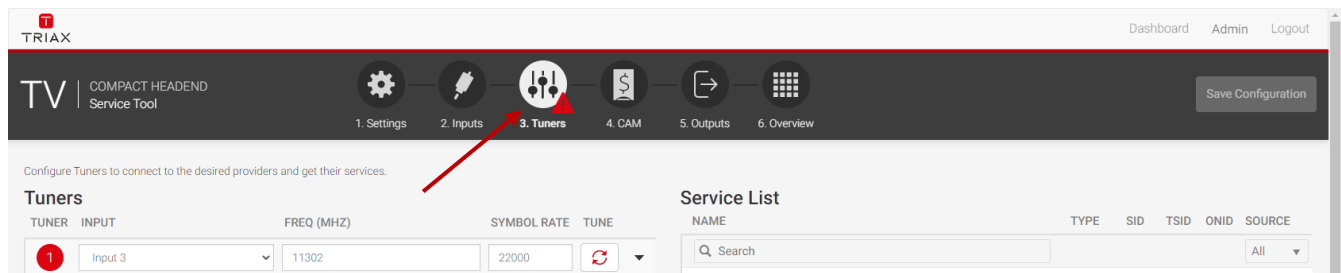
LOF Switch: Border frequency between low and high band

Note:

Please note that if you change the configuration of a Input you have to press tune in the Tuners menu to take over the new input settings! The tuners are not automatically retuned!

4.5 Tuners

Click the “Tuner” folder in the Compact Headend Service Tool to display the Tuner window.



Configure Tuners to connect to the desired providers and get their services.

Tuners

TUNER	INPUT	FREQ (MHZ)	SYMBOL RATE	TUNE
1	Input 3	11302	22000	

Service List

NAME	TYPE	SID	TSID	ONID	SOURCE
Q Search					
All					

The “Tuner” folder shows all input tuners. The colour of the tuner number shows the status of each tuner.

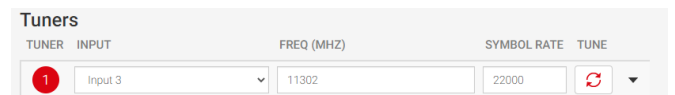
Grey: Tuner is not used



Tuners

TUNER	INPUT	FREQ (MHZ)	SYMBOL RATE	TUNE
1	Input 1	0	0	

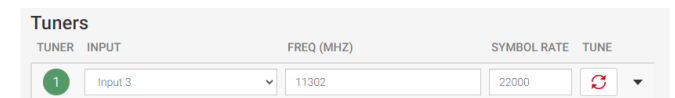
Red: Tuner is not set up correctly or input signal is missing.



Tuners

TUNER	INPUT	FREQ (MHZ)	SYMBOL RATE	TUNE
1	Input 3	11302	22000	

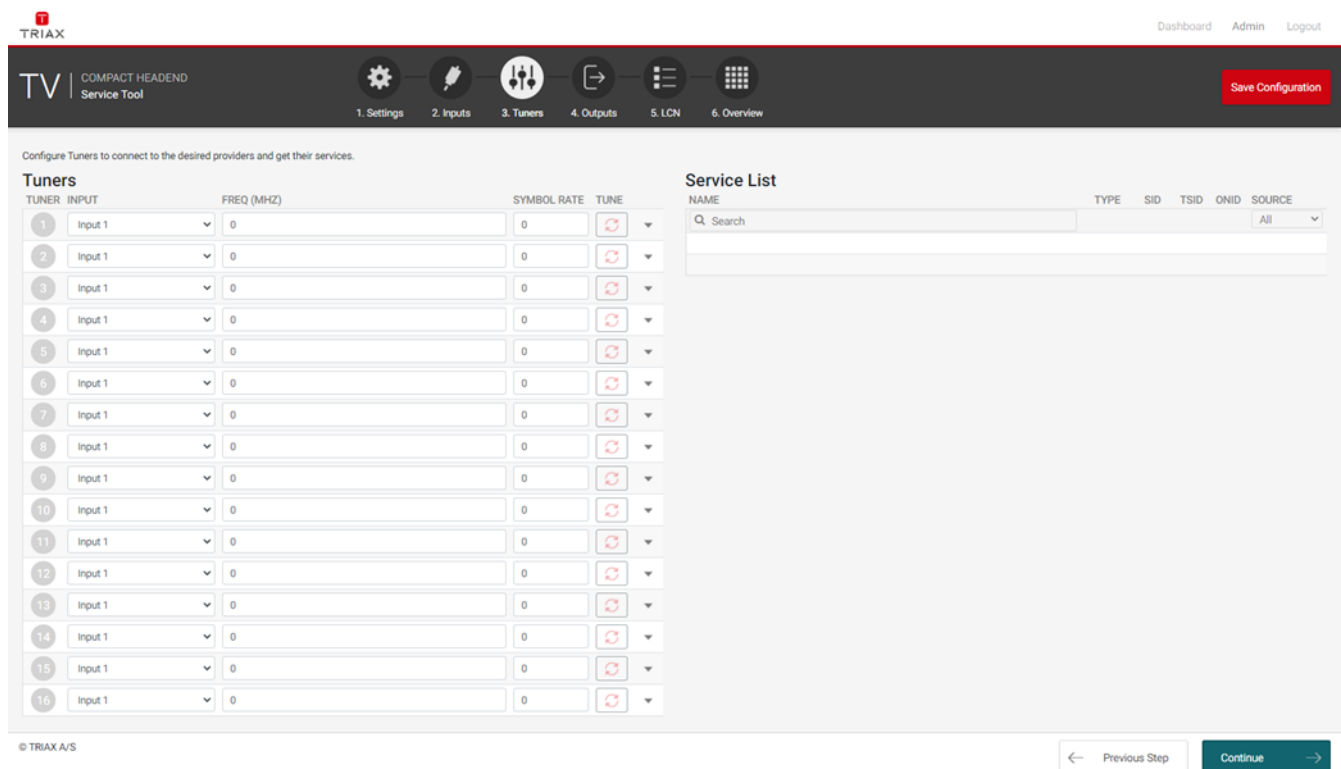
Green: Tuner is locked and working.



Tuners

TUNER	INPUT	FREQ (MHZ)	SYMBOL RATE	TUNE
1	Input 3	11302	22000	

The first time the Compact Headend Service Tool displays the tuner configuration window in a new configuration, the configuration fields and the list of services will be empty or display default values.



Configure Tuners to connect to the desired providers and get their services.

Tuners

TUNER	INPUT	FREQ (MHZ)	SYMBOL RATE	TUNE
1	Input 1	0	0	
2	Input 1	0	0	
3	Input 1	0	0	
4	Input 1	0	0	
5	Input 1	0	0	
6	Input 1	0	0	
7	Input 1	0	0	
8	Input 1	0	0	
9	Input 1	0	0	
10	Input 1	0	0	
11	Input 1	0	0	
12	Input 1	0	0	
13	Input 1	0	0	
14	Input 1	0	0	
15	Input 1	0	0	
16	Input 1	0	0	

Service List

NAME	TYPE	SID	TSID	ONID	SOURCE
Q Search					
All					

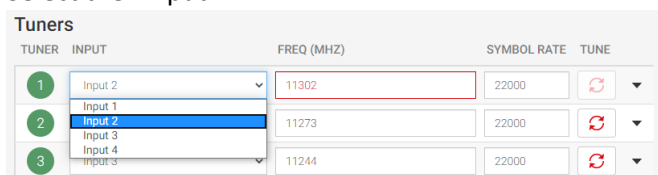
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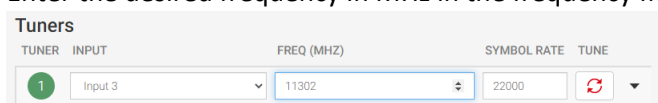
To set up a tuner you have to follow the following steps:

1. Select the “Input”:

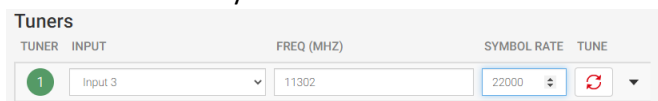


- To select the required input / SAT-IF signal, click on the input field to open the drop-down list with the inputs you can choose from.
- Select the input you want to use.

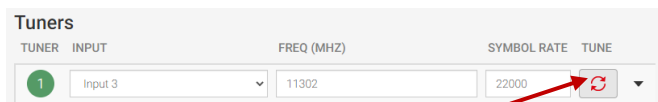
2. Enter the desired frequency in MHz in the frequency field:



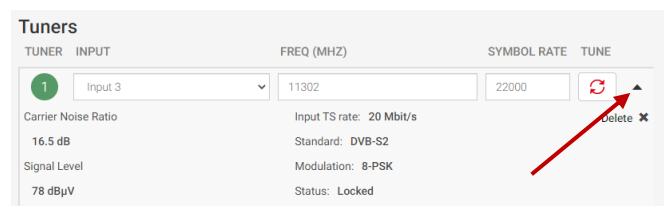
3. Enter the desired symbol rate:



4. Click the “TUNE” button to enter the information into the headend system:

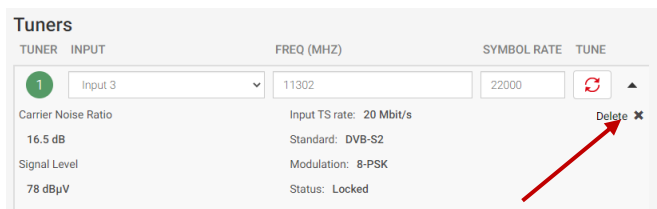


By clicking on the expand button, information details from the selected transponder will be shown:



Carrier Noise Ratio:	Shows the carrier to noise ratio of the input signal
Signal Level:	Displays the actual signal Level
Input TS rate:	Displays the actual symbol rate.
Standard:	Shows the standard of the input signal
Modulation:	Shows the modulation of the input signal
Status:	shows the status of the tuner

To delete the tuner input, press the “Delete x” – a warning will appear:



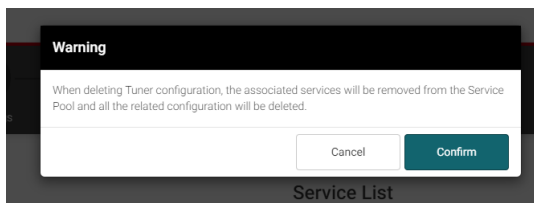
Tuners

TUNER	INPUT	FREQ (MHZ)	SYMBOL RATE	TUNE
1	Input 3	11302	22000	

Carrier Noise Ratio: 16.5 dB
Signal Level: 78 dBuV

Input TS rate: 20 Mbit/s
Standard: DVB-S2
Modulation: 8-PSK
Status: Locked

A warning will appear:

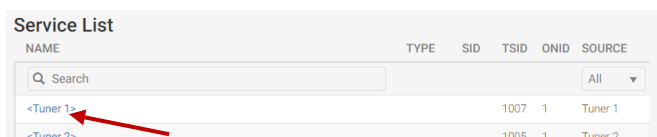


Warning

When deleting Tuner configuration, the associated services will be removed from the Service Pool and all the related configuration will be deleted.

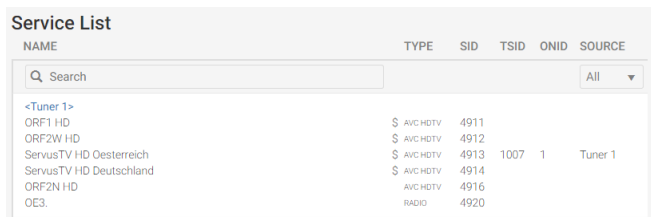
4.5.1 Service List:

Press Tuner number to see available streams, their type, name and SID + TSID and ONID



Service List

NAME	TYPE	SID	TSID	ONID	SOURCE
<Tuner 1>			1007	1	Tuner 1
<Tuner 2>			1005	1	Tuner 2



Service List

NAME	TYPE	SID	TSID	ONID	SOURCE
<Tuner 1>					
ORF1 HD	\$ AVC HDTV	4911			
ORF2W HD	\$ AVC HDTV	4912			
ServusTV HD Osterreich	\$ AVC HDTV	4913	1007	1	Tuner 1
ServusTV HD Deutschland	\$ AVC HDTV	4914			
ORF2N HD	AVC HDTV	4916			
OE3.	RADIO	4920			

- Name: Name of the TV or Radio Service
- Type: Audio and Video type of the Service
- SID: Service Identifier
- TSID: Transport Stream Identifier
- ONID: Original Network Identifier
- Source: Tuner number the service is received

4.6 CAM

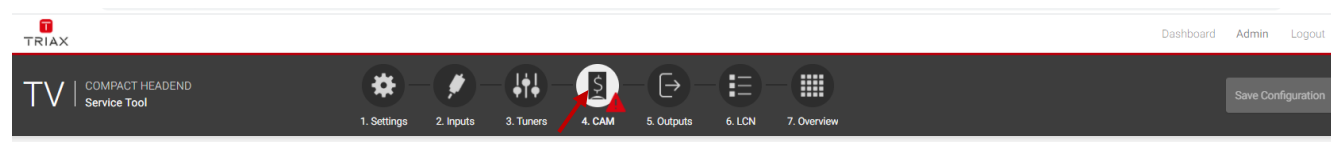
Note:

This functionality is not available on the FTA Version TDcH 16S-Q.

Click the “CAM” tab in the TDcH Service Tool to display the CA Modules and administration window.



TDcH Compact Headend



The first time you display the CAM window in a new configuration the module list only displays the number and type of the CA modules that you have inserted in the TDcH.

Assign services to Cams.

Service List

STATUS	NAME	TYPE	SID	TSID	ONID	SOURCE	DESTINATION
All	Q Search					All	All
●	<Tuner 1>			1007	1	Tuner 1	
●	<Tuner 2>			1005	1	Tuner 2	
●	<Tuner 3>			1003	1	Tuner 3	
●	<Tuner 4>			1005	1	Tuner 4	
●	<Tuner 5>			1019	1	Tuner 5	
●	<Tuner 6>			1011	1	Tuner 6	


CAM

SLOT	CARD	LOAD	USED PIDS
1	ORS MULTI PRO CAM	0 of 96 Mbit/s	12
2		0 of 50 Mbit/s	0
3	ORS MULTI PRO CAM	0 of 96 Mbit/s	18
4		0 of 50 Mbit/s	0
5		0 of 50 Mbit/s	0
6		0 of 50 Mbit/s	0
7		0 of 50 Mbit/s	0
8		0 of 50 Mbit/s	0

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← Previous Step Continue →

You have to configure the CAM modules individually. When you open the Configuration window for a CA module in a new configuration, only default values are displayed.


TRIAX

Dashboard Admin Logout

TV | COMPACT HEADEND Service Tool

1. Settings

2. Inputs

3. Tuners

4. CAM

5. Outputs

6. Overview

Save Configuration

Assign services to Cams.

Service List

STATUS	NAME	TYPE	SID	TSID	ONID	SOURCE	DESTINATION
All	Q Search					All	All
●	<Tuner 1>			1007	1	Tuner 1	CAM 1
●	<Tuner 2>			1005	1	Tuner 2	CAM 3
●	<Tuner 3>			1003	1	Tuner 3	Output 3
●	<Tuner 4>			1019	1	Tuner 4	Output 4
●	<Tuner 5>			1011	1	Tuner 5	Output 5
●	<Tuner 6>			1010	1	Tuner 6	Output 6
●	<Tuner 7>			1025	1	Tuner 7	Output 7
●	<Tuner 8>			1061	1	Tuner 8	Output 8
●	<Tuner 9>			1039	1	Tuner 9	Output 9
●	<Tuner 10>			1082	1	Tuner 10	Output 10
●	<Tuner 11>			1091	1	Tuner 11	Output 11
●	<Tuner 12>			33	133	Tuner 12	Output 12

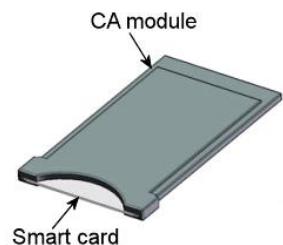
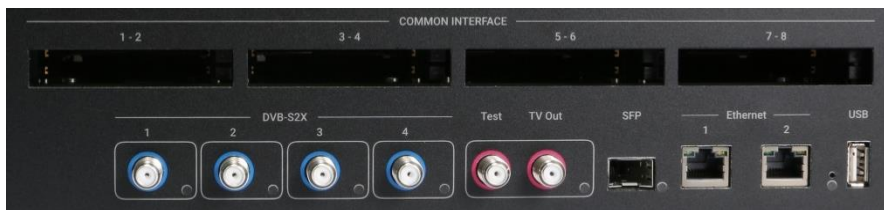
CAM

SLOT	CARD	LOAD	USED PIDS
1	ORS MULTI PRO CAM	<div></div> 20 of 96 Mbit/s	0
2		<div></div> 0 of 50 Mbit/s	0
3	ORS MULTI PRO CAM	<div></div> 20 of 96 Mbit/s	0
4		<div></div> 0 of 50 Mbit/s	0

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Previous Step
Continue

4.6.1 CAM / Smart card



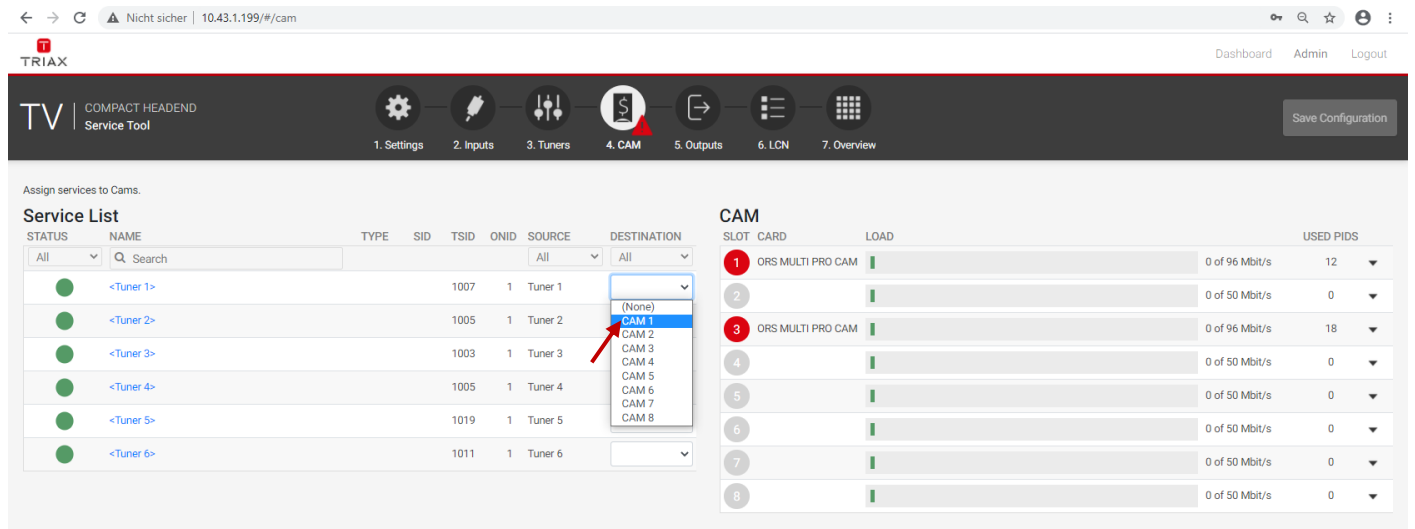
You can insert 8 Conditional Access Modules (CAM) into the TDcH

Each CA module is able to unscramble at least one service. Which services depend on the service provider of the CAM module and smart card.

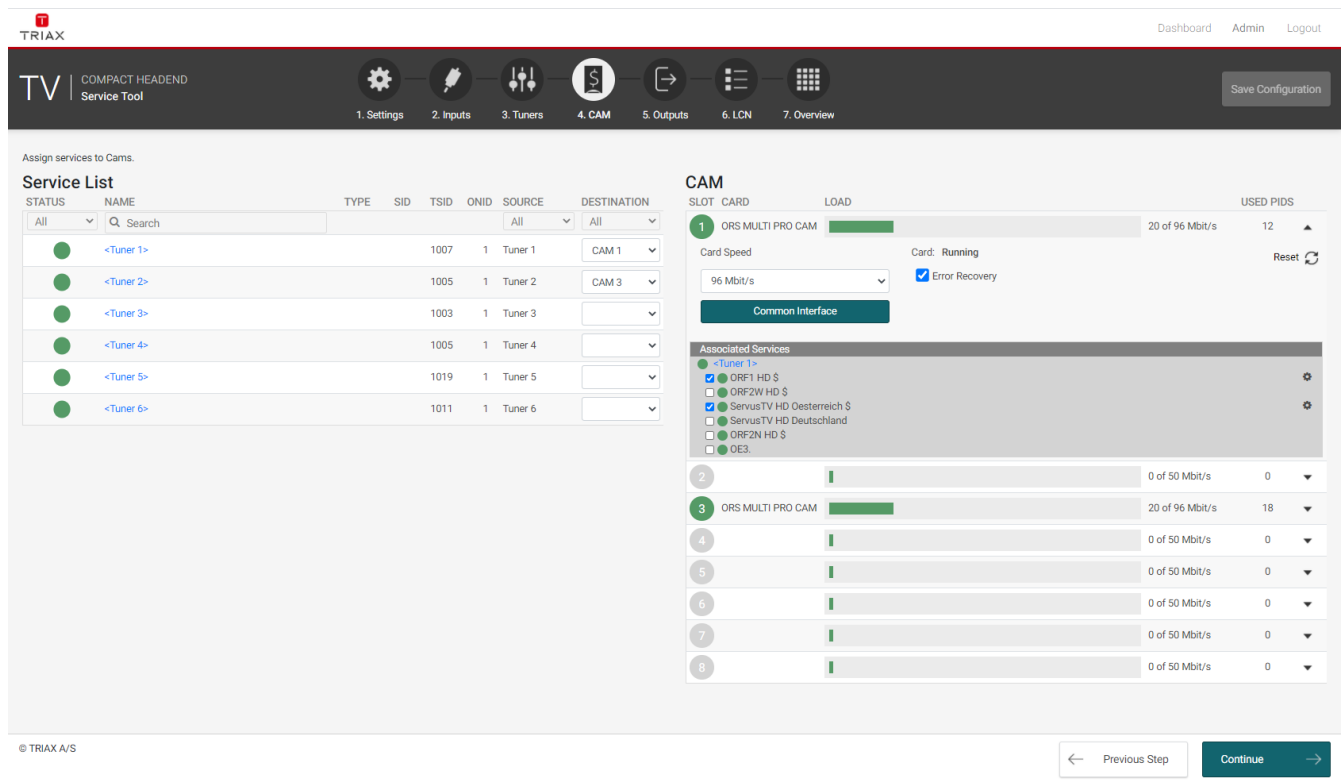
4.6.2 CAM configuration

At the first step you have to assign to a CAM module the transponder which contains the services the CAM module should handle. To assign the tuner open the drop-down menu under DESTINATION and choose the CAM module slot.

TDcH Compact Headend

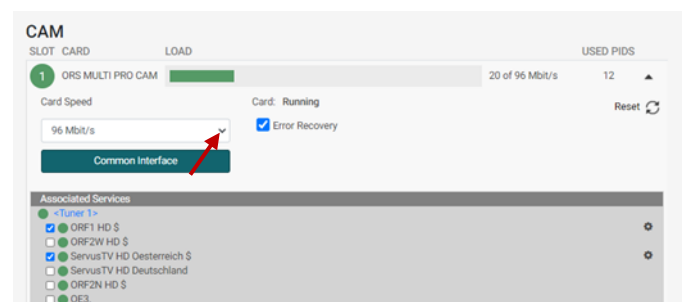


By clicking the expand button on the CAM menu the detailed configuration menu opens.



Card speed:

Open the drop-down list with the card speeds if you want a higher card speed than the default card speed. Select the required card speed.



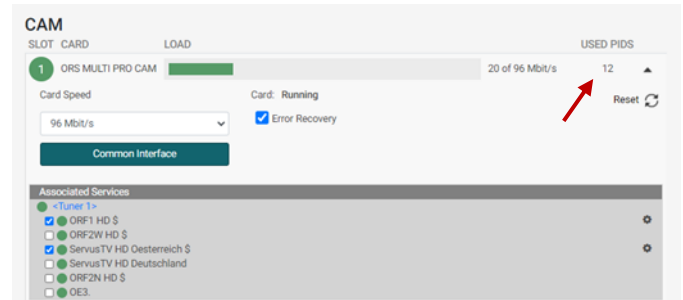
Service list area (Associated Services)

Select the service(s) that you want to descramble in the Service list area by clicking the service(s) at the selected button. Scrambled services are marked with a dollar sign - \$.

Used PIDs:

This number shows how many PIDs the CAM is using for descrambling the TV services.

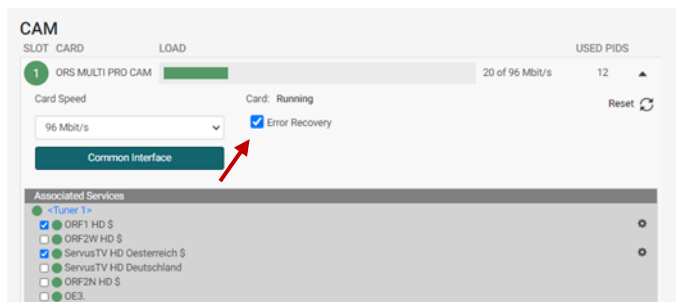
Please secure that the CAM module is not overloaded with used PIDs. How many PIDs a CAM module can support depends from the CAM module. Please ask the CAM supplier or the program operator in cases you are unsure how many PIDs the CAM module is able to support.



Error Recovery

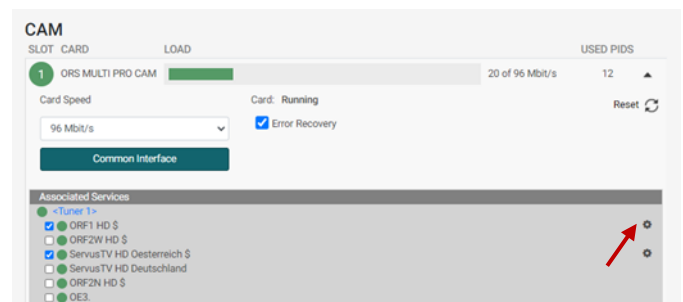
If you select the “Error Recovery” checkbox then the automatic error recovery is enabled for all services.

The Error Recovering function does a constant monitoring of the signal transmission status through the CA module. The CA module is automatically reset if the signal transmission fails. When a CA module is reset, the signal transmission is interrupted for all the services associated with that CA module. The “Error Recovery” checkbox should not be enabled for services where signals are not transmitted on a 24-hour basis.



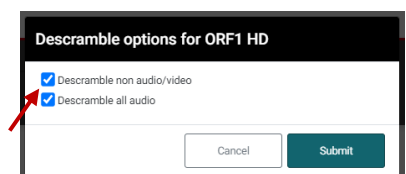
Filter options

To change the Filter options for a service, click the Setup button of the service in question to open the Filter options window.



To descramble all PIDs that are not audio or video related, click the “Descramble non audio/video” PIDs checkbox.

By default all audio PIDs (Packet Identifier) associated with the service are descrambled.

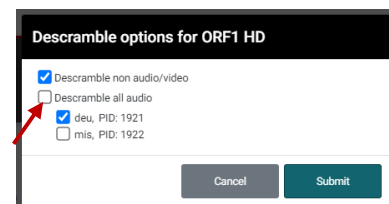


TDcH Compact Headend

To descramble only selected audio PIDs you have to deselect the Descramble all audio PIDs checkbox. Deselecting the Descramble all audio PIDs checkbox displays a field with a drop-down list below the checkbox.

Open the drop-down list and select the the language of the audio PID you want to descramble.

An additional field with a language drop-down list is displayed every time you select a language. You can descramble as many audio PIDs as you need.



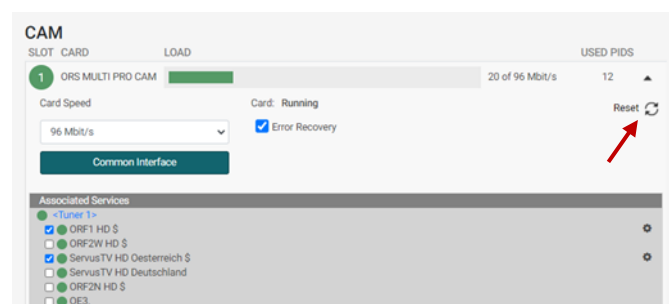
4.6.3 Common interface

Clicking the Common interface button gives you access to information from the smart card inserted in the CA module. The type of information provided by the smart card depends on the card itself and its make.

Please refer to the user guides of the CA modules and smart cards you have inserted in the output modules for further information.

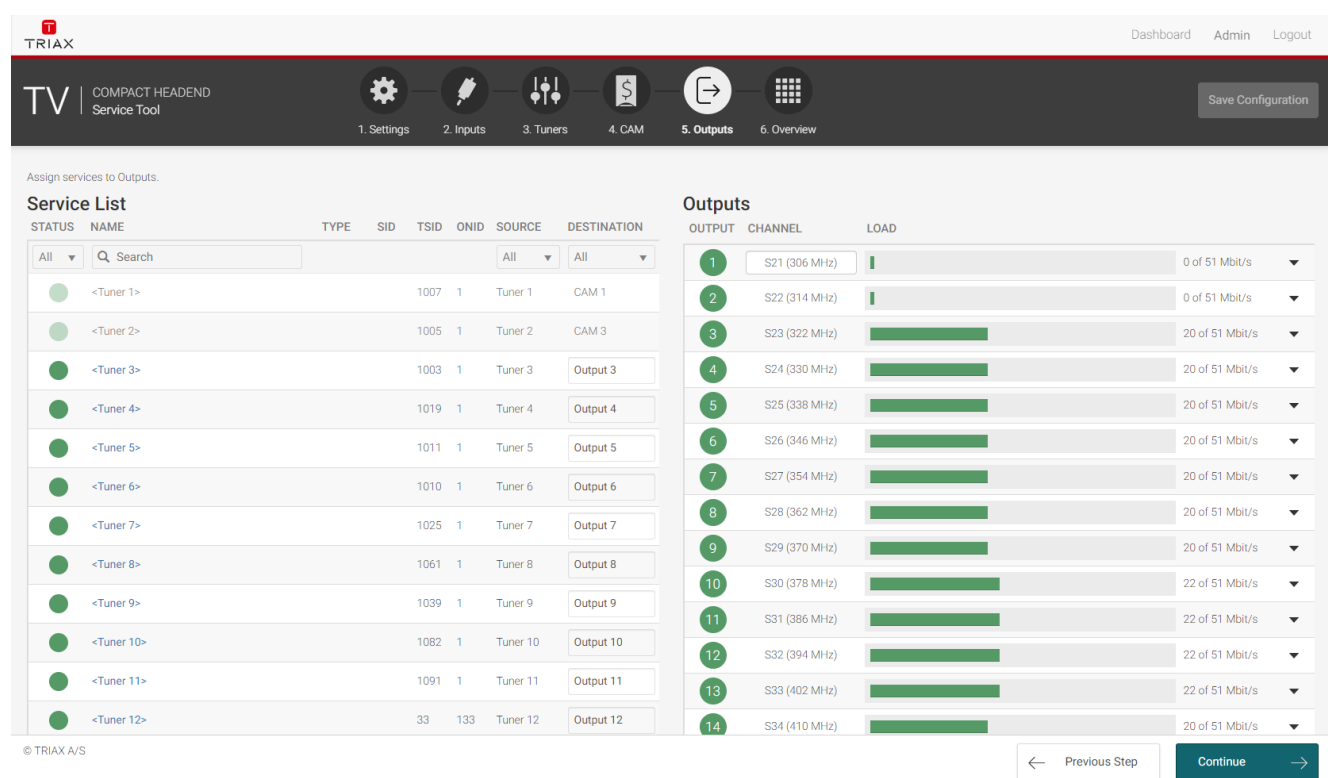
4.6.4 Reset CAM

If the CA module malfunctions, click the Reset CAM button to reboot the CA module. When a CA module is reset, the signal transmission is interrupted for all the services associated with that CA module.



4.7 Outputs

The Output folder is for assigning services to the output channels.



Assign services to Outputs.

Service List

STATUS	NAME	TYPE	SID	TSID	ONID	SOURCE	DESTINATION
All	Q Search	All	All				
●	<Tuner 1>			1007	1	Tuner 1	CAM 1
●	<Tuner 2>			1005	1	Tuner 2	CAM 3
●	<Tuner 3>			1003	1	Tuner 3	Output 3
●	<Tuner 4>			1019	1	Tuner 4	Output 4
●	<Tuner 5>			1011	1	Tuner 5	Output 5
●	<Tuner 6>			1010	1	Tuner 6	Output 6
●	<Tuner 7>			1025	1	Tuner 7	Output 7
●	<Tuner 8>			1061	1	Tuner 8	Output 8
●	<Tuner 9>			1039	1	Tuner 9	Output 9
●	<Tuner 10>			1082	1	Tuner 10	Output 10
●	<Tuner 11>			1091	1	Tuner 11	Output 11
●	<Tuner 12>			33	133	Tuner 12	Output 12

Outputs

OUTPUT	CHANNEL	LOAD
1	S21 (306 MHz)	0 of 51 Mbit/s
2	S22 (314 MHz)	0 of 51 Mbit/s
3	S23 (322 MHz)	20 of 51 Mbit/s
4	S24 (330 MHz)	20 of 51 Mbit/s
5	S25 (338 MHz)	20 of 51 Mbit/s
6	S26 (346 MHz)	20 of 51 Mbit/s
7	S27 (354 MHz)	20 of 51 Mbit/s
8	S28 (362 MHz)	20 of 51 Mbit/s
9	S29 (370 MHz)	20 of 51 Mbit/s
10	S30 (378 MHz)	22 of 51 Mbit/s
11	S31 (386 MHz)	22 of 51 Mbit/s
12	S32 (394 MHz)	22 of 51 Mbit/s
13	S33 (402 MHz)	22 of 51 Mbit/s
14	S34 (410 MHz)	20 of 51 Mbit/s

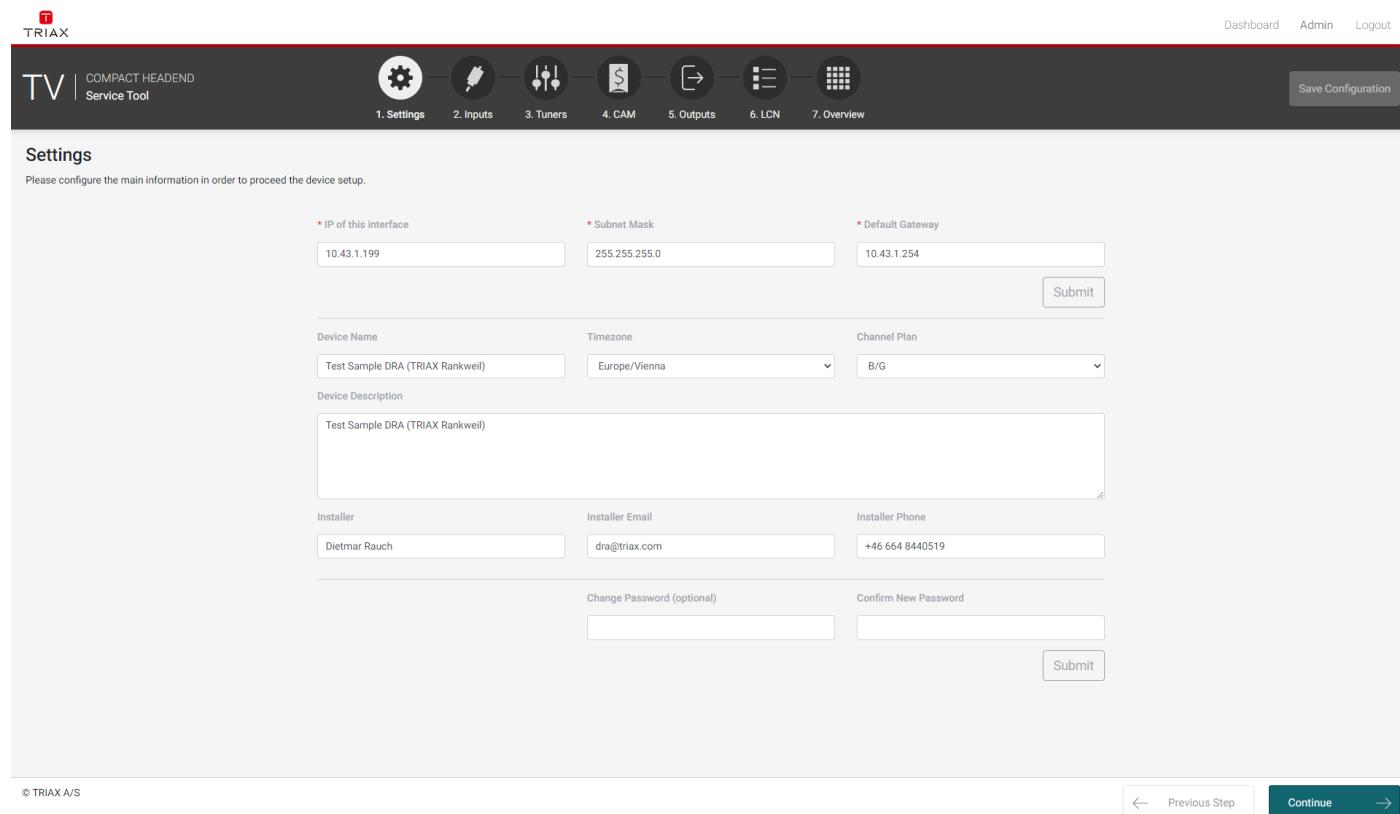
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← Previous Step Continue →

The first time the Service Tool displays the Configuration window for the output in a new configuration, the fields in the window will display default values and/or be empty, and the output will be disabled.

Channel plan:

Before starting the Output configuration please be sure that the channel plan is set in the Settings folder!



Settings
Please configure the main information in order to proceed the device setup.

* IP of this interface: 10.43.1.199
* Subnet Mask: 255.255.255.0
* Default Gateway: 10.43.1.254
Submit

Device Name: Test Sample DRA (TRIAX Rankweil)
Timezone: Europe/Vienna
Channel Plan: B/G

Device Description: Test Sample DRA (TRIAX Rankweil)

Installer: Dietmar Rauch
Installer Email: dra@triax.com
Installer Phone: +46 664 8440519

Change Password (optional):
Confirm New Password:

Submit

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Previous Step Continue

Select input:

Select under DESTINATION for each Input or CAM module the output you would like to use. (direct conversion)

Service List							
STATUS	NAME	TYPE	SID	TSID	ONID	SOURCE	DESTINATION
All	Q Search					All	All
●	<CAM 1>			1007	1	CAM 1	Output 1
●	<CAM 3>			1005	1	CAM 3	(None)
●	<Tuner 1>			1007	1	Tuner 1	Output 1
●	<Tuner 2>			1005	1	Tuner 2	Output 7
●	<Tuner 3>			1003	1	Tuner 3	Output 8
●	<Tuner 4>			1005	1	Tuner 4	Output 9
●	<Tuner 5>			1019	1	Tuner 5	Output 10
●	<Tuner 6>			1011	1	Tuner 6	Output 11
							Output 12
							Output 13
							Output 14
							Output 15
							Output 16
							Output 5
							Output 6

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QAM output frequency:

You can configure a QAM output frequency by using the specifications of the channel plan or by entering a frequency manually.

Using the channel plan definitions:

Open the drop-down list with the predefined channels and select the channel you want to use.

Note:

The Channel is only needed for Output 1 – all others are set automatically!

Enter a frequency manually:

Click into the frequency field and enter the frequency direct. Enter the desired frequency in MHz in the Frequency field.

Note:

The Channel is only needed for Output 1 all others are set automatically!

Open with the expand button the detailed output configuration menu.

Constellation:

To select which QAM mode to use, open the dropdown list and select the QAM mode you want to use.

Symbol rate:

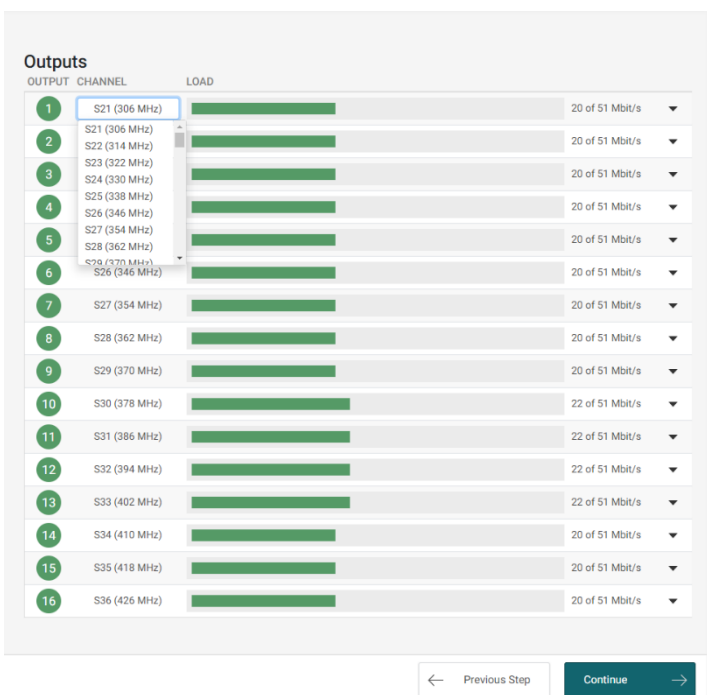
Enter the desired symbol rate (from 3150 to 7200 kS) in the Symbol rate field.

Level correction:

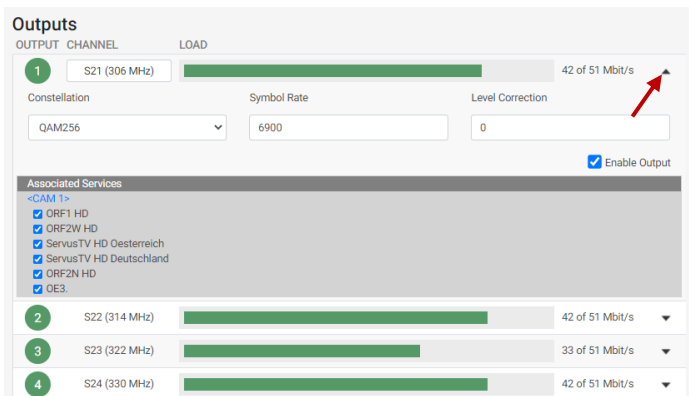
RF output level correction can be set for each output channel. The level correction can be between 0 and -16 dB.

Enable Output:

If you want to enable this channel, click the Enable Output checkbox.



OUTPUT	CHANNEL	LOAD
1	S21 (306 MHz)	20 of 51 Mbit/s
2	S21 (306 MHz)	20 of 51 Mbit/s
3	S22 (314 MHz)	20 of 51 Mbit/s
4	S23 (322 MHz)	20 of 51 Mbit/s
5	S24 (330 MHz)	20 of 51 Mbit/s
6	S25 (338 MHz)	20 of 51 Mbit/s
7	S26 (346 MHz)	20 of 51 Mbit/s
8	S27 (354 MHz)	20 of 51 Mbit/s
9	S28 (362 MHz)	20 of 51 Mbit/s
10	S29 (370 MHz)	20 of 51 Mbit/s
11	S30 (378 MHz)	22 of 51 Mbit/s
12	S31 (386 MHz)	22 of 51 Mbit/s
13	S32 (394 MHz)	22 of 51 Mbit/s
14	S33 (402 MHz)	22 of 51 Mbit/s
15	S34 (410 MHz)	20 of 51 Mbit/s
16	S35 (418 MHz)	20 of 51 Mbit/s
17	S36 (426 MHz)	20 of 51 Mbit/s



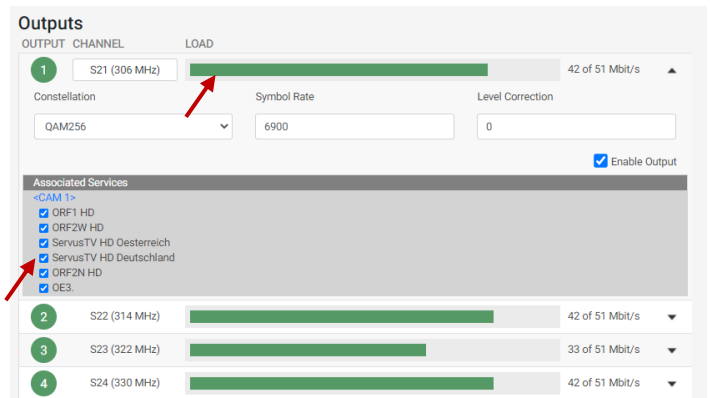
OUTPUT	CHANNEL	LOAD
1	S21 (306 MHz)	42 of 51 Mbit/s
2	S22 (314 MHz)	42 of 51 Mbit/s
3	S23 (322 MHz)	33 of 51 Mbit/s
4	S24 (330 MHz)	42 of 51 Mbit/s

Service filtering:

In the “Associated Services” field it is possible to deselect all Services which should not be included in the output.

This function can be used:

- to filter unwanted services from the output
- to reduce the payload if the transponder is overloaded



Outputs

OUTPUT	CHANNEL	LOAD
1	S21 (306 MHz)	42 of 51 Mbit/s
2	S22 (314 MHz)	42 of 51 Mbit/s
3	S23 (322 MHz)	33 of 51 Mbit/s
4	S24 (330 MHz)	42 of 51 Mbit/s

Constellation: QAM256 Symbol Rate: 6900 Level Correction: 0

☒ Enable Output

Associated Services

<CAM 1>

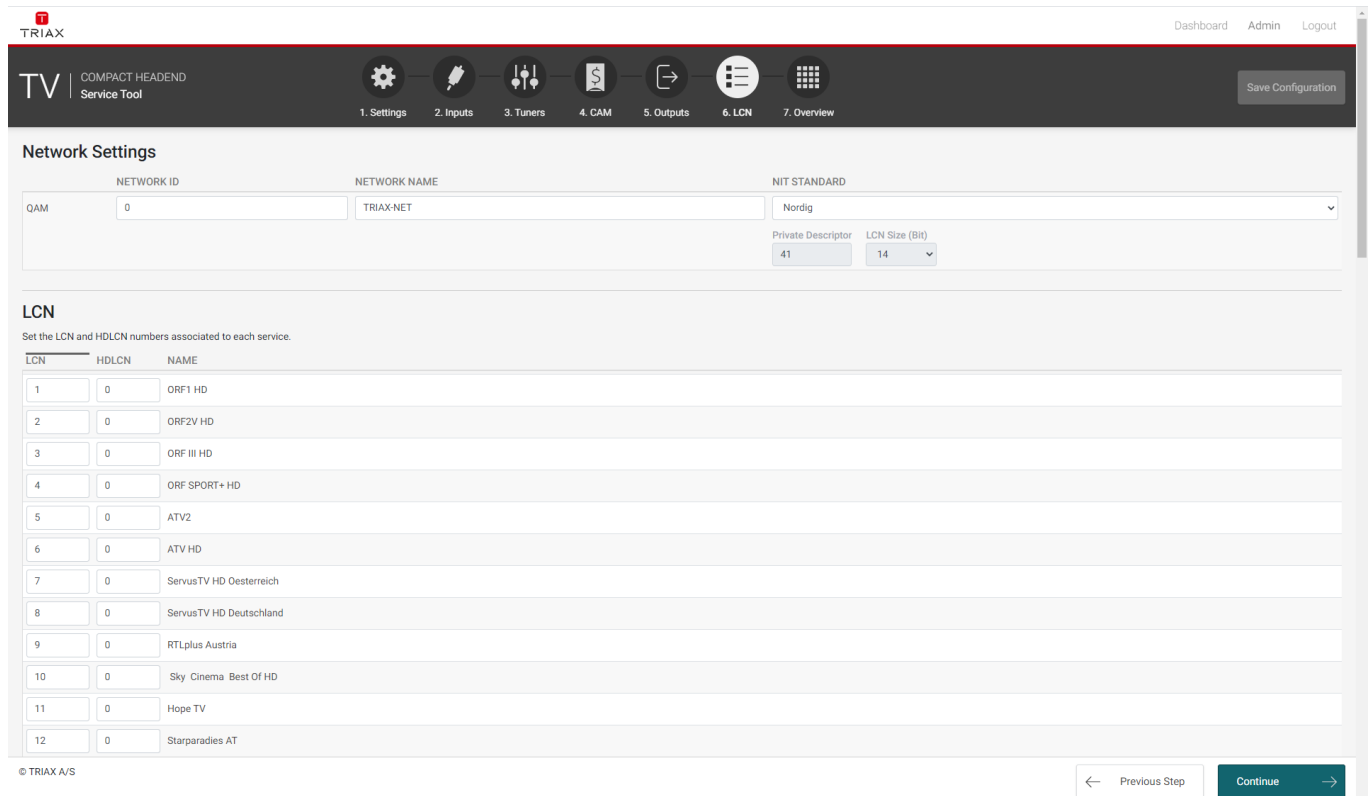
- ☒ ORF1 HD
- ☒ ORF2V HD
- ☒ ServusTV HD Osterreich
- ☒ ServusTV HD Deutschland
- ☒ ORF2N HD
- ☒ OE3

LOAD monitor

The payload monitor is a real time monitor, which visually indicates the amount of data that is currently being transmitted.

4.8 LCN

Under the page 6. LCN it is possible to set the Network Settings parameters and administer the LCN (Local Channel Number) numbers.



Network Settings

NETWORK ID: QAM 0 NETWORK NAME: TRIAX-NET NIT STANDARD: Nordig

Private Descriptor: 41 LCN Size (Bit): 14

LCN

Set the LCN and HDLCN numbers associated to each service.

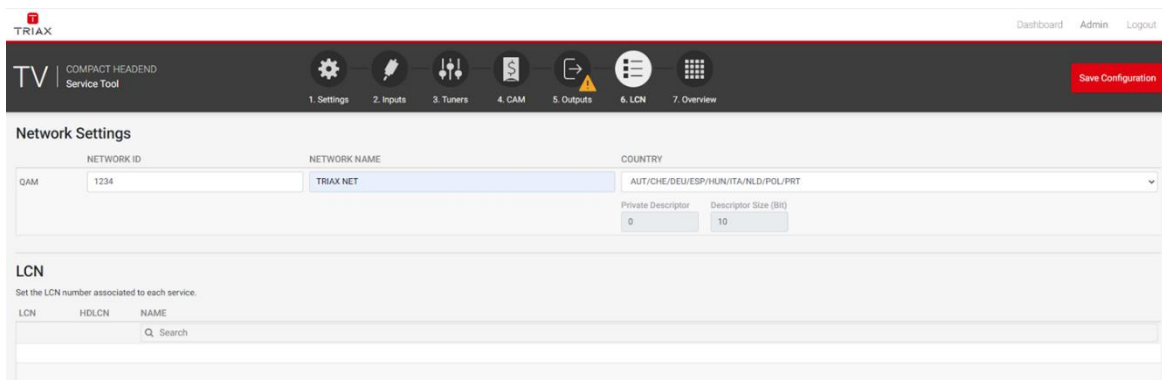
LCN	HDLCN	NAME
1	0	ORF1 HD
2	0	ORF2V HD
3	0	ORF III HD
4	0	ORF SPORT+ HD
5	0	ATV2
6	0	ATV HD
7	0	ServusTV HD Osterreich
8	0	ServusTV HD Deutschland
9	0	RTLplus Austria
10	0	Sky Cinema Best Of HD
11	0	Hope TV
12	0	Starparadies AT

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Previous Step Continue

TDcH Compact Headend

4.8.1 Network Settings



Network Settings

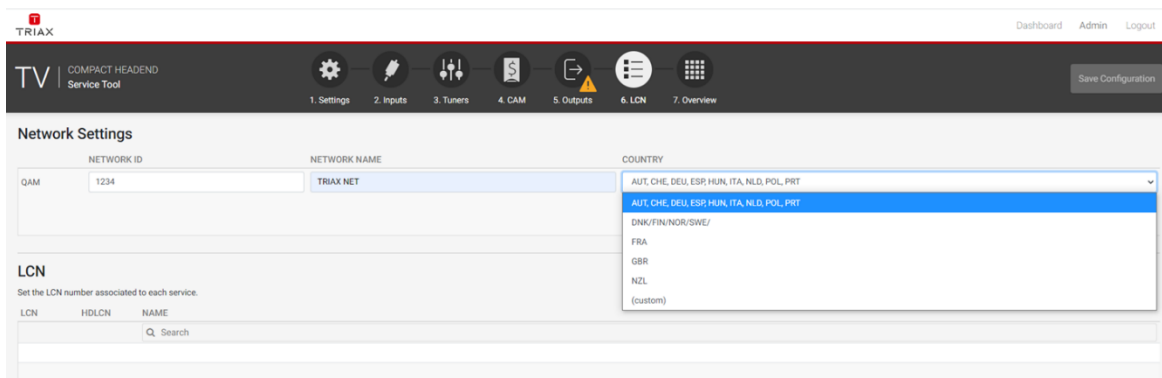
NETWORK ID: 1234
 NETWORK NAME: TRIAX NET
 COUNTRY: AUT/CHE/DEU/ESP/HUN/ITA/NLD/POL/PRT
 Private Descriptor: 0
 Descriptor Size (Bit): 10

LCN

Set the LCN number associated to each service.

LCN	HDLCN	NAME
Q Search		

Country: Group of countries listed by the 3-letter country ID as described in the ISO 3166 standard. The “Private Descriptor” and “Descriptor Size (Bit)” are greyed out and will be set with the default setting depending on the country group



Network Settings

NETWORK ID: 1234
 NETWORK NAME: TRIAX NET
 COUNTRY: AUT, CHE, DEU, ESP, HUN, ITA, NLD, POL, PRT
 DNK, FIN, NOR, SWE
 FRA
 GBR
 NZL
 (custom)

LCN

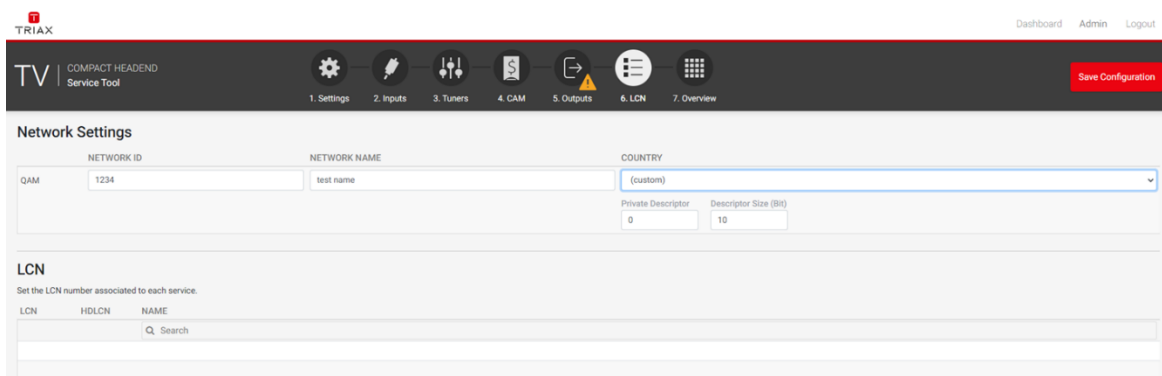
Set the LCN number associated to each service.

LCN	HDLCN	NAME
Q Search		

Supported countries:

AUT, CHE, DEU, ESP, HUN, ITA, NLD, POL, PRT
 DNK, FIN, NOR, SWE
 FRA
 GBR
 NZL

Custom: The “Private Descriptor” and “Descriptor Size (Bit)” can be set manually.



Network Settings

NETWORK ID: 1234
 NETWORK NAME: test name
 COUNTRY: (custom)
 Private Descriptor: 0
 Descriptor Size (Bit): 10

LCN

Set the LCN number associated to each service.

LCN	HDLCN	NAME
Q Search		

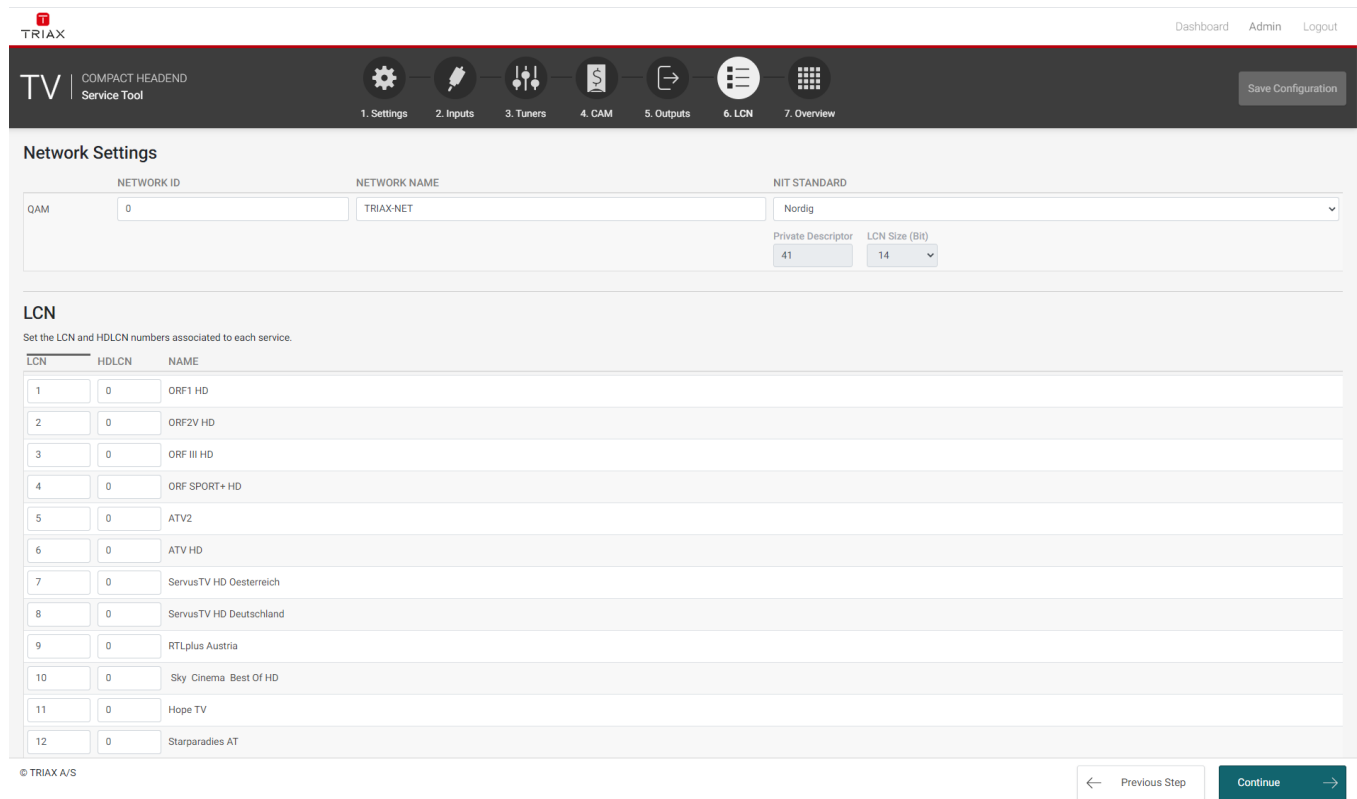
If the TDcH is sold to a country not listed in the drop-down list, then two options exist:

- choose a suitable group (eg. Australia: choose NZL, GBR or similar)

- choose “(custom)” and you can set the two settings to whatever you require.
When selecting “(custom)” → notice the “Private Descriptor” and “Descriptor Size (Bit)” are possible to change.

4.8.2 LCN

Assign LCN numbers to desired services. LCN and HD-LCN numbers in the range 0 - 1023 can be set.



The screenshot shows the TRIAX TDcH Compact Headend Service Tool interface. The top navigation bar includes links for Dashboard, Admin, and Logout. The main menu has icons for Settings, Inputs, Tuners, CAM, Outputs, LCN, and Overview. The 'LCN' tab is selected.

Network Settings

QAM: 0
 NETWORK ID: 0
 NETWORK NAME: TRIAX-NET
 NIT STANDARD: Nordig
 Private Descriptor: 41
 LCN Size (Bit): 14

LCN

Set the LCN and HDLCN numbers associated to each service.

LCN	HDLCN	NAME
1	0	ORF1 HD
2	0	ORF2V HD
3	0	ORF III HD
4	0	ORF SPORT+ HD
5	0	ATV2
6	0	ATV HD
7	0	ServusTV HD Osterreich
8	0	ServusTV HD Deutschland
9	0	RTLplus Austria
10	0	Sky Cinema Best Of HD
11	0	Hope TV
12	0	Starparadies AT

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Navigation buttons: Previous Step, Continue

When **Continue** is pressed, the next menu pane is shown.

4.9 Overview

The overview page is a fast and easy overview with a sort and search function. There is also the possibility to navigate direct to specific information and settings if needed.



Dashboard Admin Logout

TV

COMPACT HEADEND
Service Tool

1. Settings

2. Inputs

3. Tuners

4. CAM

5. Outputs

6. Overview

Save Configuration

Overview

SERVICE	TYPE	SID	TSID	ONID	SOURCE	CAM MODULE	OUTPUT	LCN
<input type="text" value="Q Search"/>					<input type="text" value="Q Search"/>	<input type="text" value="Q Search"/>	<input type="text" value="Q Search"/>	<input type="text" value="Q Search"/>
ORF1 HD	S AVC HDTV	4911	1007	1	DVB-S2 11302H 22000		306.000 MHz	
ORF2W HD	S AVC HDTV	4912	1007	1	DVB-S2 11302H 22000		306.000 MHz	
ServusTV HD Oesterreich	S AVC HDTV	4913	1007	1	DVB-S2 11302H 22000		306.000 MHz	
ServusTV HD Deutschland	AVC HDTV	4914	1007	1	DVB-S2 11302H 22000		306.000 MHz	
ORF2N HD	S AVC HDTV	4916	1007	1	DVB-S2 11302H 22000		306.000 MHz	
OE3.	RADIO	4920	1007	1	DVB-S2 11302H 22000		306.000 MHz	
ORF2St HD	S AVC HDTV	13301	1005	1	DVB-S2 11273H 22000		314.000 MHz	
ORF2K HD	S AVC HDTV	13302	1005	1	DVB-S2 11273H 22000		314.000 MHz	
ORF2B HD	S AVC HDTV	13303	1005	1	DVB-S2 11273H 22000		314.000 MHz	
ORF2O HD	S AVC HDTV	13304	1005	1	DVB-S2 11273H 22000		314.000 MHz	
ORF2S HD	S AVC HDTV	13305	1005	1	DVB-S2 11273H 22000		314.000 MHz	
ORF2T HD	S AVC HDTV	13306	1005	1	DVB-S2 11273H 22000		314.000 MHz	
ORF2V HD	S AVC HDTV	13307	1005	1	DVB-S2 11273H 22000		314.000 MHz	
ORF III HD	S AVC HDTV	13308	1005	1	DVB-S2 11273H 22000		314.000 MHz	
ORF SPORT+ HD	S AVC HDTV	13309	1005	1	DVB-S2 11273H 22000		314.000 MHz	
flimmit Zusatzpaket	AVC HDTV	13310	1005	1	DVB-S2 11273H 22000		314.000 MHz	
Aristo.TV	AVC TV	13311	1005	1	DVB-S2 11273H 22000		314.000 MHz	
R9 Oesterreich HD	AVC HDTV	13312	1005	1	DVB-S2 11273H 22000		314.000 MHz	

Previous Step

Finish & Save

Service:	Name of the TV or Radio Service
Type:	Type of the Service (HD, SD, TV, Radio, ...)
SID	Service identifier of the service used at the Output
TSID	Transport stream identifier used at the output
ONID	Original network identifier of the service
SOURCE	Location from where the service is received
CAM MODULE	Used CAM module for decrypting the service
OUTOUT	Output channel information of a Service
LCN	Local Channel number of the Service

4.9.1 Alphabetic order

With a click on the Column description as a sample "SERVICE" the corresponding column will be sorted in alphabetical order. With a second click the alphabetical order is reversed.

4.9.2 Search

In the Search fields it is possible to search for a specific text. Start typing and the list will show only names with the characters included in the same row as in the search field.

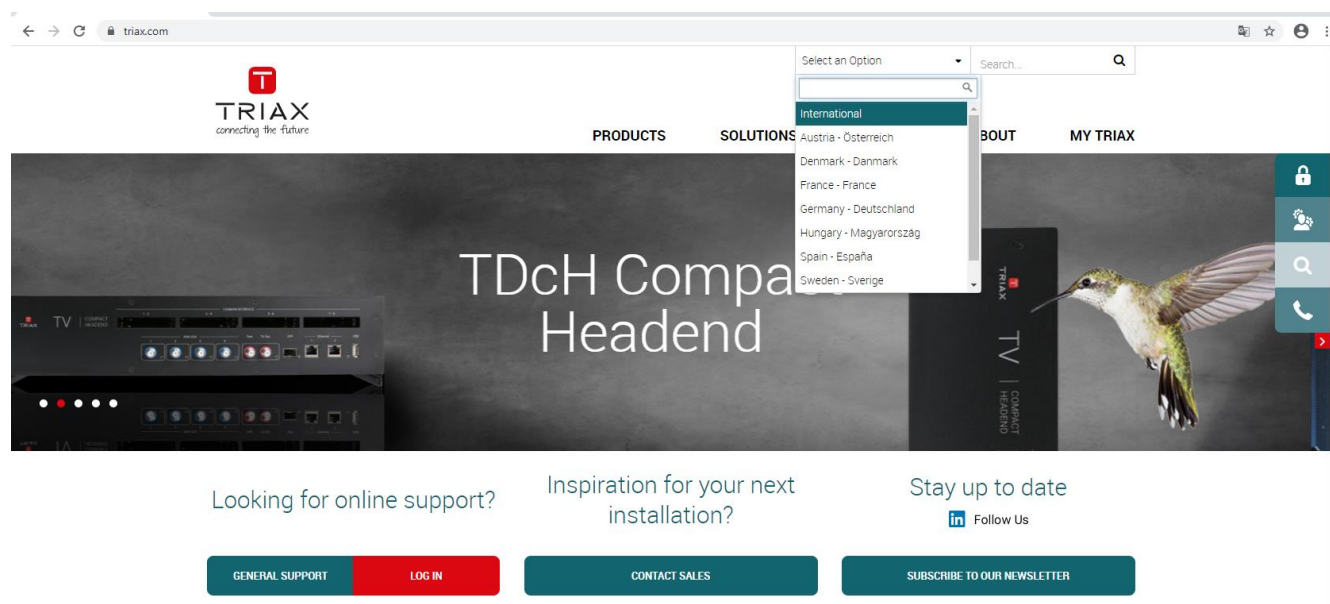
4.9.3 Mouseover

Mouseover entries can be clicked to switch to the main table of this entry.

5 Support

Support information in your language will be found on our country sites.

Go to www.comptel.com and select your country.



Registered users can access our support sites at: <https://www.comptel.com/mycomptel>

If not a registered user, please create a login.



....Support site is located at: <https://comptel.freshdesk.com/en/support/home>

6 Terms and Abbreviations

Term	Explanation
TBA	To Be Added
TBD	To Be Determined
PID	Packet Identification; According to standard ISO 13818-1
SID	Service Identification; According to standard ISO 13818-1
TSID	Transport Stream Identification
NIT	Network Identification Table; According to standard ETSI EN 300 468
NID	Network Identification used in NIT; According to standard ETSI EN 300 468
ONID	Original Network Identification used in NIT; According to standard ETSI EN 300 468
STB	Set Top Box; DVB receiver that is connected to a TV set
Receiver	A device that receives a signal from a headend. An example could be a TV-set or a STB.
end-user	A person that uses a receiver.

TDcH Compact Headend

Installer	A person that installs, deploys and maintains the headend system
i/f	Interface
TS	Transport Stream; According to standard ISO 13818-1
ES	Elementary Stream; According to standard ISO 13818-1
Service	According to ETSI EN 300 468