



TRIAx



# User guide

## QAM module

Model

**QAM module**

Item no.

**492055**

**492056**

Version

**891076B**

**05 - 2011**

EN

[triax.com](http://triax.com)

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# Introduction

## Disposal



Within in the European Union this label indicates that the product cannot be disposed of with the general household waste. Neither the headend nor the input and output modules can be disposed of with the general household waste.

For proper treatment and recycling of old products, please take them to designated collection points in accordance with your national legislation.

## Box content

A new output module is wrapped in antistatic bubble wrap and packed in a cardboard box when you receive it.

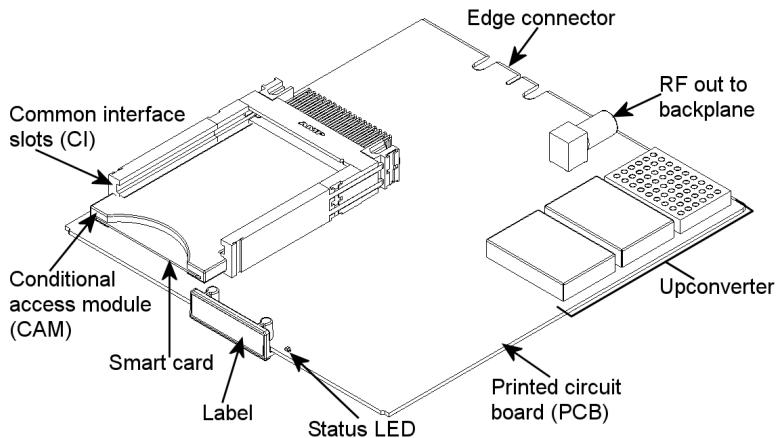
Included in the box is a user guide instructing you in how to use the TDX Service Tool to configure the module.

## QAM module

The QAM output module is one of the output modules that you can install in the output section of your TDX headend unit.

The QAM output module is available in two versions, one version with Common Interface (CI) and one without.

Below you can see an illustrated description of a QAM module with CI slots.



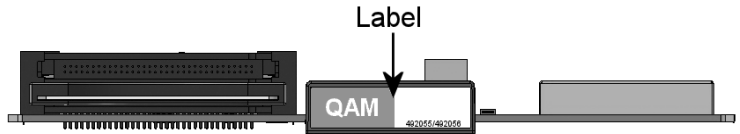
# Basics

## Labels

A label is placed on the output module where you can write the information regarding the configuration of the module.

Besides the information that you write on the label, the module type and part number are also displayed on the label.

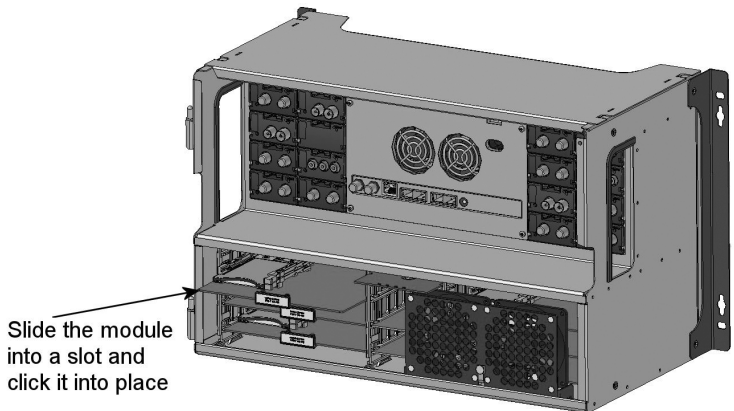
**Note** The coloured part at the top of the label also informs you of the module type. Each type of module is allocated a different coloured label.



On one of the other sides of the module you will find a label with a bar code printed on it.

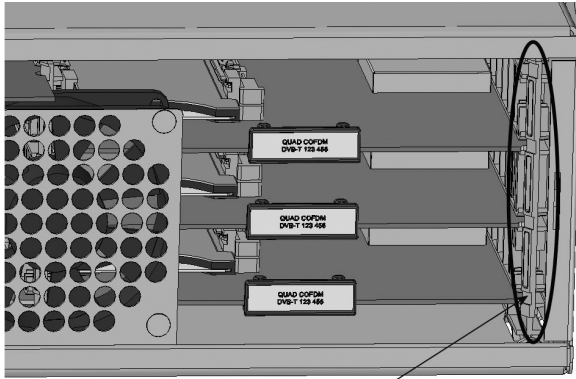
## Module installation

You install an output module by sliding the module into a module slot in the lower section of the headend unit and click it into place.



## Module removal

You release an output module from a slot by using the lock mechanism that is placed to the right of the modules in the output section. Move the lock mechanism slightly to release the module.

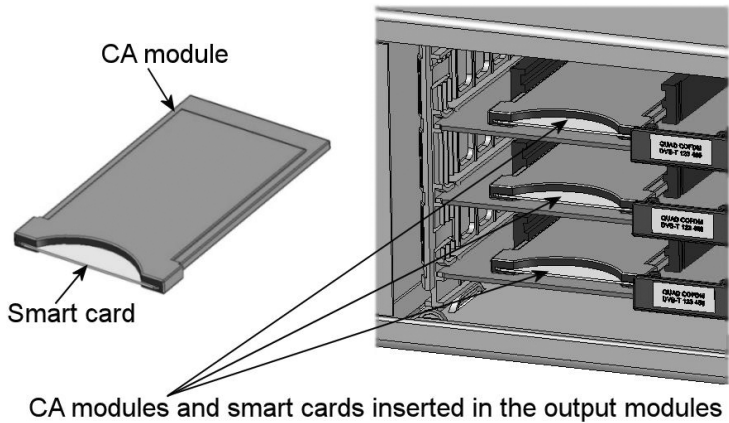


To take a module out of a slot in the output section, tip the lock mechanism, and then pull the module out

## CAM/Smart card

You can insert 2 Conditional Access modules (CA) into each of those output modules that have Common Interface (CI) slots.

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

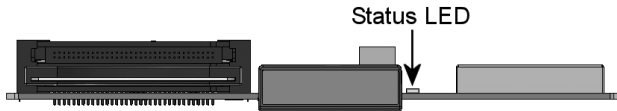


# Basics

## Status LED's

There is a status LED on the front of each module. The LED indicates whether the module functions according to its purpose or fails.

<b>Green - flashing</b>	The module has not been configured yet.
<b>Green</b>	No errors and everything is valid.
<b>Red</b>	Error.
<b>No colour</b>	Power has not been switched on.

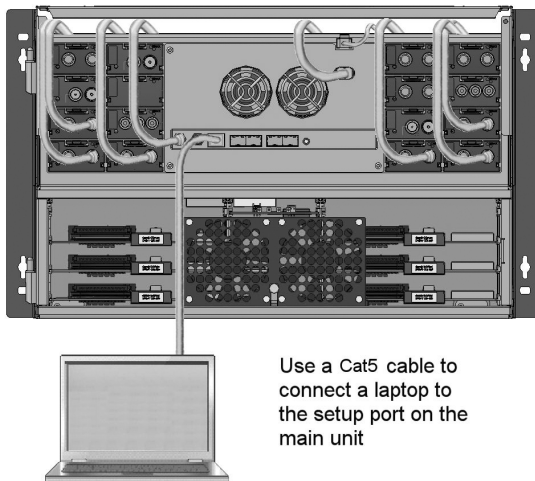


When you update the software of a module the status LED provides you with information about the updating process.

<b>Orange</b>	Boot loader state.
<b>Temporary off</b>	Initiation of the software update.
<b>Temporary green</b>	Every time the modules receives a valid data package. Repeated until the update is completed without errors.
<b>Red</b>	Software update failed.

## Configuration of system

In order to set up and configure the input modules within the headend system you have to connect your laptop (Windows based) to the RJ45 socket on the main headend unit using a Cat5 cable.



# TDX Service Tool

The Triax TDX Digital Headend system uses the programmes below and in addition to access the TDX Service Tool Microsoft© Silverlight Runtime version 3.0 is required.

## Recommendations:

Operating system: Windows XP or above.

Browser: Windows Internet Explorer version 6.0 or above.

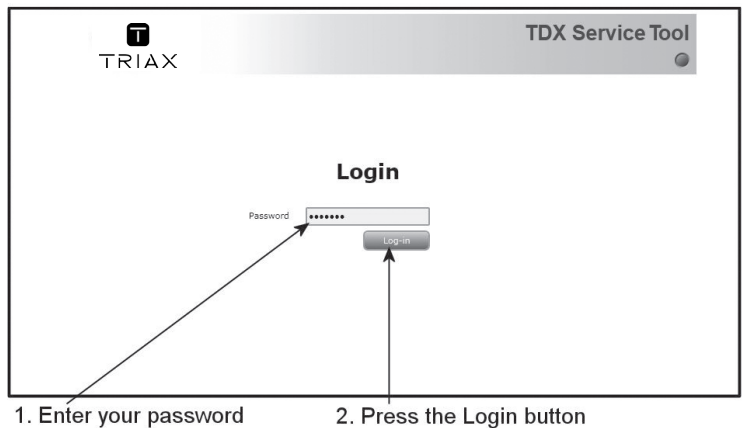
Additional software: Microsoft© Silverlight Runtime version 3.0 or above.

To access the TDX Service Tool, open your web browser on your computer and input the following IP address in the web address bar **http://192.168.0.100** and press enter.

**Note** Your laptop has to use a static IP address in order to access the TDX Service Tool using the above mentioned IP address.

## Log in

When you have loaded the TDX Service Tool from the TDX headend system to your laptop/computer the Login window of TDX Service Tool is displayed.



The first time you want to log in to your TDX headend system you have to enter the default password. The default password is: **triax1234**

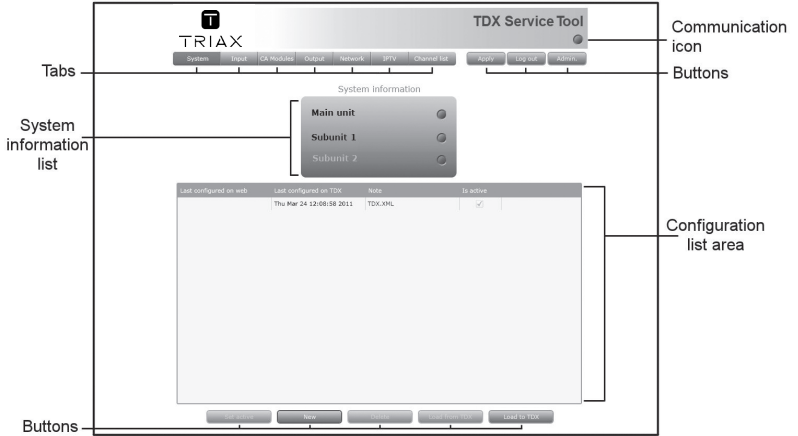
You can change the default password as soon as you have logged in to your headend system. For more information about changing passwords, see “Administration window” on page 9.

When you have pressed the Log in button the System window is displayed.

**Note** Every time you set up a new headend system you have to start from scratch in the TDX Service Tool, meaning that you will have change the default password, select which language you want to use in the TDX Service Tool and change the IP address if your TDX headend system is part of a distribution network.

# TDX Service Tool

**System window** The System window contains a number of tabs and buttons, information about connected units and a configuration list area.



**Communication icon** Informs you when the communication between the TDX system and the TDX Service Tool fails. For more information, see “Communication icon” on page 9.

**Tabs** Via the tabs you enter the different stages of setting up your input and output modules.

**Buttons** You use the buttons in the upper right-hand corner in connection with the TDX Service tool whereas you use the buttons below the configuration list area in connection with the entire setup itself.

**System information list** This list displays whether any subunits are connected to the main headend unit and also whether they are up and running.

**Configuration list area** This list area will display your present configuration of your headend system as well as the previous versions of the configuration.

**Note** In connection with every **new** headend system the System window in the TDX Service Tool will display an empty configuration list area.



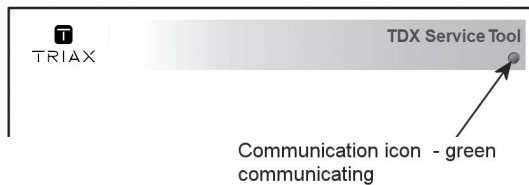
# TDX Service Tool

## Communication icon

The colour of the communication icon tells you when TDX Service Tool is not communicating properly with the TDX headend system.

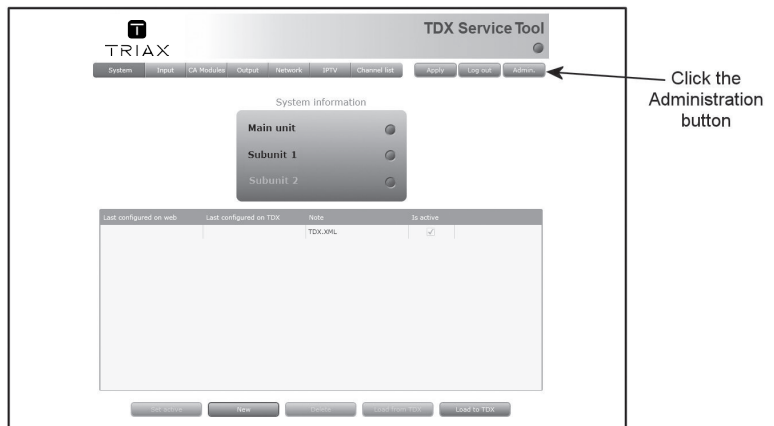
**Green:** The TDX Service Tool and your TDX headend system exchange information without any problems.

**Red:** The TDX Service Tool and your TDX headend system are not communicating properly. Press the F5 button to refresh the Internet browser and renew communication between the TDX Service Tool and the headend system.



## Administration window

To change password and language you have to open the Administration window by clicking the Admin. button in the top right-hand corner of the System window.

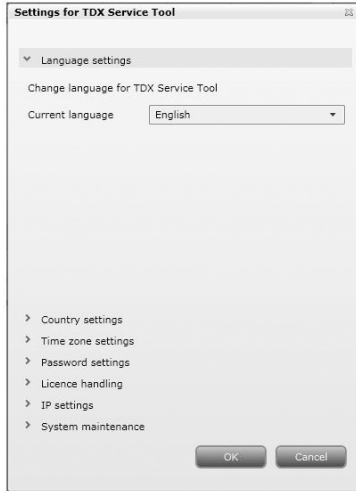


Click the Admin. button to open the Administration window.

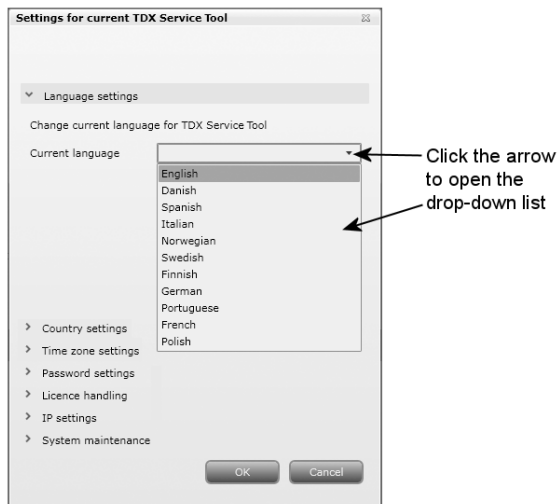
# TDX Service Tool

## Language settings

When you have opened the Administration window the Language settings area is displayed.

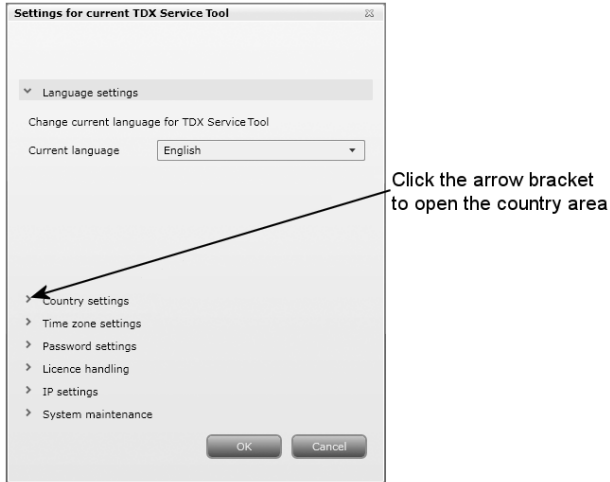


To select another language, click the arrow to the right of the Current language field to open the drop-down list with the languages you can choose from.

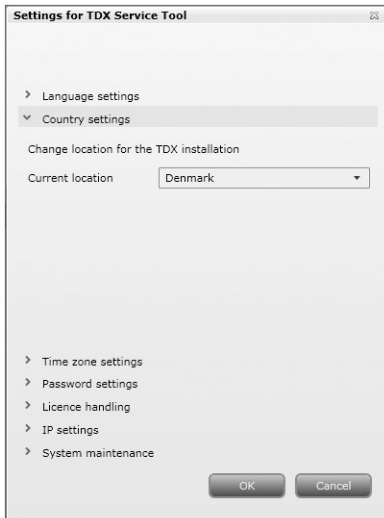


Select the language you want to use in the TDX Service Tool. The language you selected is now displayed in the Current language field.

**Country settings** To enter the Country settings area, click the arrow bracket to the left of Country settings.

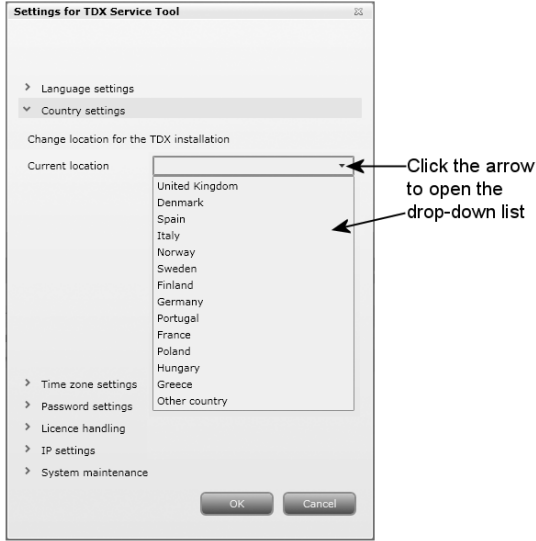


Now you can see the fields of the Country settings area.



To set the location of your TDX headend system, click the arrow to the right of the Country field to open the drop-down list with the countries you can choose from.

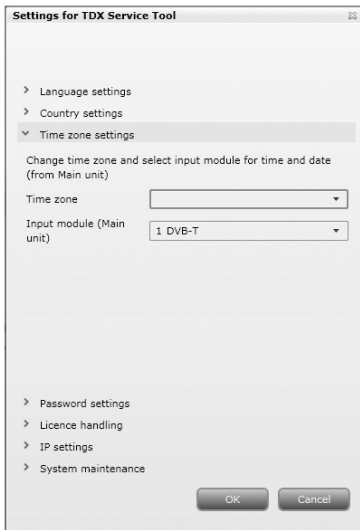
# TDX Service Tool



Select the country in which your TDX headend system is located. The country you selected is now displayed in the Country field.

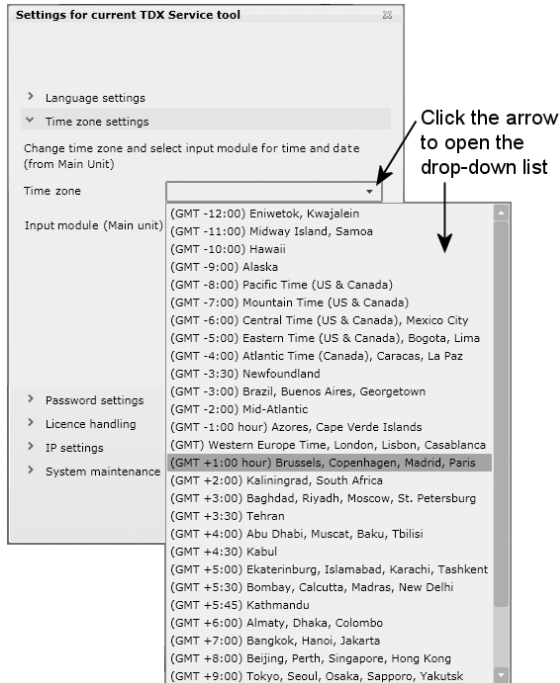
## Time zone settings

To enter the Time zone settings area, click the arrow bracket to the left of Time zone settings.



# TDX Service Tool

To set the time zone of your TDX headend system, click the arrow to the right of the Time zone field to open the drop-down list with the time zones you can choose from.

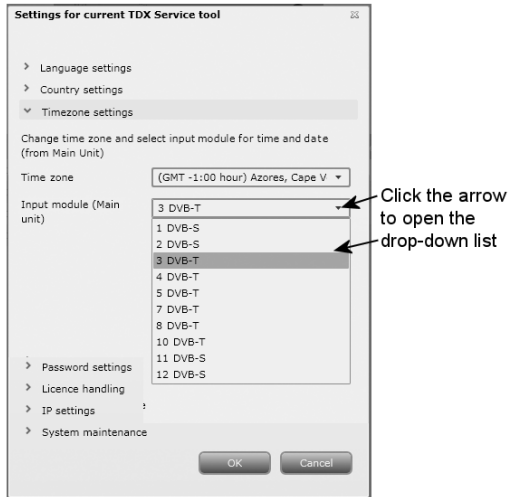


Select the time zone you want to use in connection with your TDX headend system.

The time zone you selected is now displayed in the Time zone field.

To set time in accordance with the time zone, click the arrow to the right of the Input module field to open the drop-down list that contains all the input modules installed in your main unit.

# TDX Service Tool

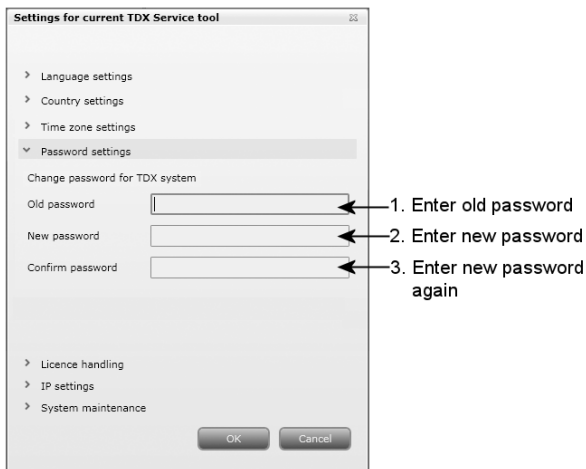


Select the input module you want to use for setting the time. The input module you selected is now displayed in the Input module field.

## Password settings

To enter the Password settings area, click the arrow bracket to the left of Password settings.

To change password enter the old password in the Old password field. Enter the new password in the New password field.



To verify the new password enter the new password once more in the Confirm password field.

**Licence handling** If you have bought licences to output services using e.g. IPTV you have to activate these licences in your TDX headend system using Licence handling in the Administration window.  
To enter the Licence handling area, click the arrow bracket to the left of Licence handling.

The screenshot shows the 'Settings for TDX Service Tool' dialog box with the 'Licence handling' section expanded. The 'View licenses and enter activation keys' section contains three input fields: 'Serial number' with the value '0492000012011020240', 'TDX unique ID' with the value '3187912C102F', and an empty 'Activation key' field. An 'Activate' button is located to the right of the 'Activation key' field. Below the input fields is a large empty text area. At the bottom of the dialog are 'OK' and 'Cancel' buttons.

Before you can activate a licence you have to contact Triax and provide information about the serial number displayed in the Serial number field and the ID displayed in the TDX unique ID field.

When Triax has received the ID of your TDX they will provide you with the activation key.

This screenshot is identical to the previous one, but with two arrows pointing to the 'Activation key' field and the 'Activate' button. The 'Activation key' field now contains the value '2CC72CDB60DB7F99'. The arrows are labeled '1. Enter activation key' and '2. Click the Activate button'.

Enter the activation key in the Activation key field then click the Activate button to access the licence you have bought.

# TDX Service Tool

Settings for TDX Service Tool

- > Language settings
- > Country settings
- > Time zone settings
- > Password settings
- > License handling

View licenses and enter activation keys

Serial number: 0492000012011020240

TDX unique ID: 3187912C102F

Activation key: [ ]

IP service Quantity: 12

Activate

OK Cancel

Information about the number of licences you have bought

**Note** When you have clicked the Activate button to access your licence your TDX unique ID is changed and the activation key is deleted. If you want to buy more licences you will have to contact Triax with the new TDX unique ID to get a new activation key to access an additional licence.

When you have accessed your licence you use e.g. the IPTV tab to select the services you want to output in connection with the licence.

## IP settings

If your TDX headend system is part of a network you have to change the IP address of the configuration port to include the main unit in the network. To enter the IP settings area, click the arrow bracket to the left of IP settings.

Settings for current TDX Service Tool

- > Language settings
- > Country settings
- > Time zone settings
- > Password settings
- > Licence handling
- > IP settings

Configuration Port: Unit link 1 | Unit link 2

Change IP, subnet and default gateway address

IP Address: 192.168.0.100

Subnet mask: 255.255.255.0

Default gateway: 192.168.0.1

OK Cancel

Enter new IP address

Enter new subnet mask

Enter new default gateway



# TDX Service Tool

Enter a new IP address, subnet mask and default gateway in the corresponding fields.

In case you need to reset the IP address to the factory default address, you have to use the ID switch.

To return to factory default settings do the following:

- Switch off the power to the main unit.
- Set the ID switch on the main unit to “7”, then switch on the power. The four LEDs flash red and yellow until the process of resetting the IP address has been completed.

If the reset process has been successful the LEDs will turn green.

If the reset process fails the LEDs will turn red.

- Switch off the power to the main unit.
- Set the ID switch on the main unit back to the initial setting.
- Switch on the power to the main unit.

Now you have reset the IP address to the factory default address.

**Important** To make a changed IP address take effect you have to reboot the TDX headend system using the Reboot button in the System maintenance area or switch off the power.

To output services using an IPTV system or to include a subunit in a network you have to enter an IP address, subnet mask and default gateway for each unit link socket you use.

With regard to IPTV you also have to enter a multicast IP address and a multicast port for each unit link socket you use. .

To enter the IP settings area, click the arrow bracket to the left of IP settings. Now click the Unit link 1 tab to display the relevant fields.

Settings for TDX Service Tool

- > Language settings
- > Country settings
- > Time zone settings
- > Password settings
- > License handling
- > IP settings
  - Configuration port: Unit link 1 | Unit link 2
  - Change IP, subnet and default gateway address
    - IP address: 255.255.255.255
    - Subnet mask: 255.255.255.255
    - Default gateway: 255.255.255.255
  - Enable RTP protocol:
  - First 3 octets of multicast IP address: 239 | 0 | 0
  - Multicast port: 50176
- > System maintenance

OK Cancel

Click the Unit link 1 tab to display the fields below

# TDX Service Tool

Enter a new IP address, subnet mask and default gateway in the corresponding fields.

**Settings for TDX Service Tool**

> Language settings  
> Country settings  
> Time zone settings  
> Password settings  
> License handling  
▼ IP settings

Configuration port: Unit link 1 | Unit link 2

Change IP, subnet and default gateway address

IP address: 192.168.0.200 ← Enter new IP address  
Subnet mask: 255.255.255.0 ← Enter new subnet mask  
Default gateway: 192.168.0.1 ← Enter new default gateway

Enable RTP protocol

First 3 octets of multicast IP address: 239 | 0 | 0  
Multicast port: 50176

> System maintenance

OK Cancel

In connection with IPTV the fields at the bottom of the area are needed as well.

Click the Enable RTP protocol check box if you want to use Real-time Transport Protocol in your IPTV system.

In case you cannot use the default values displayed in the two fields, enter a new multicast IP address and a multicast port in the corresponding fields.

**Settings for TDX Service Tool**

> Language settings  
> Country settings  
> Time zone settings  
> Password settings  
> License handling  
▼ IP settings

Configuration port: Unit link 1 | Unit link 2

Change IP, subnet and default gateway address

IP address: 192.168.0.200  
Subnet mask: 255.255.255.0  
Default gateway: 192.168.0.1

Enable RTP protocol  ← Click to select RTP protocol

First 3 octets of multicast IP address: 239 | 1 | 0 ← Enter multicast IP address  
Multicast port: 50177 ← Enter multicast port

> System maintenance

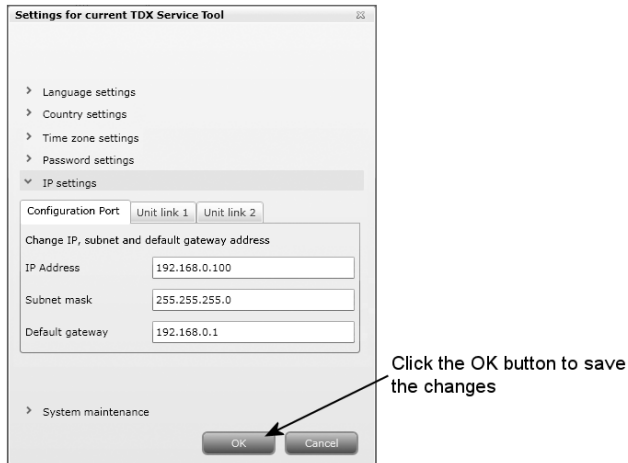
OK Cancel

# TDX Service Tool

Click the Unit link 2 tab if you have connected an IPTV system or a second subunit to the Unit link 2 socket and enter an IP address, subnet mask and default gateway and in connection with IPTV also a multicast IP address and a multicast port.

**Important** To make a changed IP address take effect you have to reboot the TDX headend system using the Reboot button in the System maintenance area or switch off the power.

When you have made the changes you want to make in the Administration window, click the OK button at the bottom of the Administration window to save the changes and return to the System window.



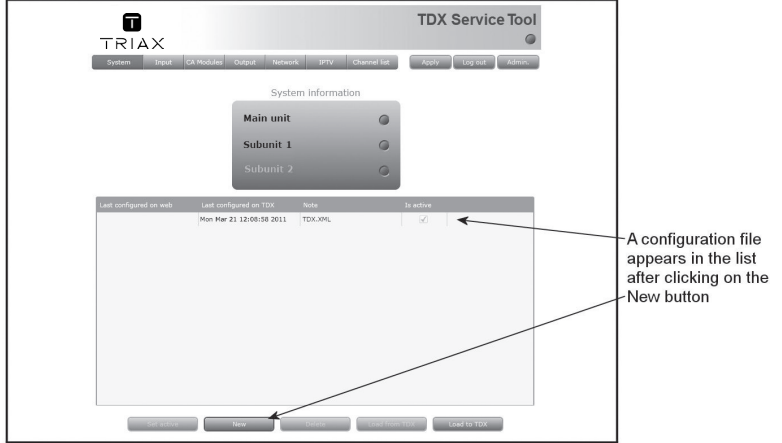
**Note** You only need to change password, language, time zone, country and IP addresses the first time you enter a new TDX headend system in order to set it up.

**WARNING - All unsaved changes will be lost in case of a power cut**

# TDX Service Tool

## Create a new system configuration

To create a new configuration, click the New configuration button in the System window.  
Now a configuration file is created and the file is listed in the configuration list area.



You use the buttons below the configuration list area to manage configuration files in your headend system.



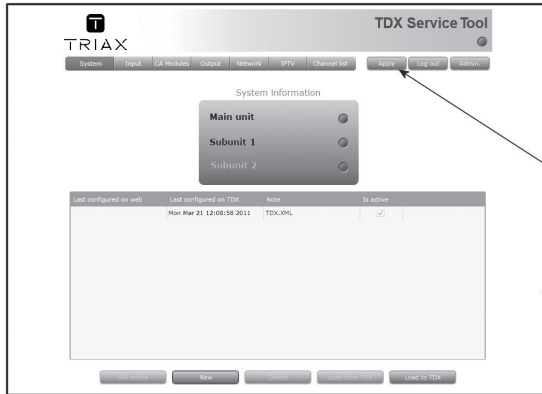
- Set active** Click this button when you want to activate a selected configuration file.
- New** Click this button to create a new configuration file.
- Delete** Click this button to delete a selected configuration file.
- Load to TDX** Click this button to download a configuration file from your computer/laptop to your TDX system. More information about downloading, see “Load to TDX” on page 45.
- Load from TDX** Click this button to upload the configuration file from the TDX system to your computer/laptop. More information about uploading, see “Load from TDX” on page 46.

To activate a new configuration file, select the file and click the Set active button, and the Apply button to save the configuration file.

# TDX Service Tool

## Save configuration

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



Click the Apply button to save the changes

## Apply

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

Click the Apply button to **save** the changes. When changes have been saved the “Apply” text loses the red colour.

**WARNING - All unsaved changes will be lost in case of a power cut**

## Change system configuration

When you change an existing configuration of your headend system the TDX Service Tool updates the date and time of the configuration file when you save the changes using the Apply button.



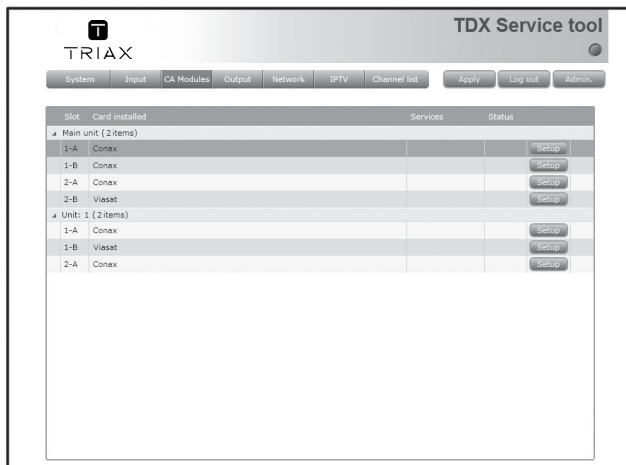
Date and time of configuration file have been updated

# TDX Service Tool

## CA Modules window

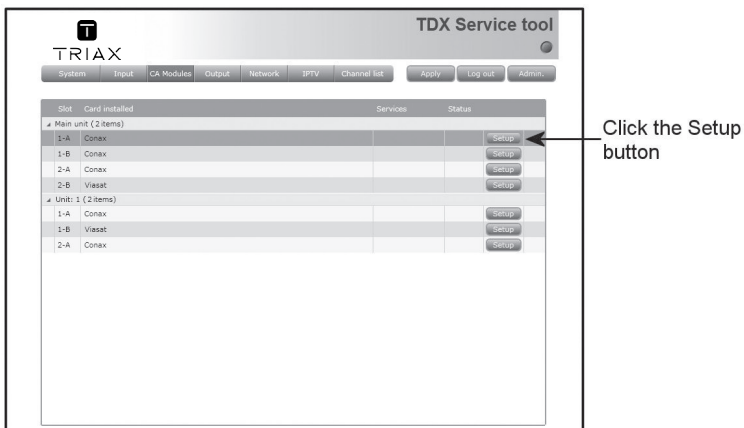
Click the CA Modules tab in the TDX Service Tool to display the CA Modules window.

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



You have to configure the CA modules one by one.

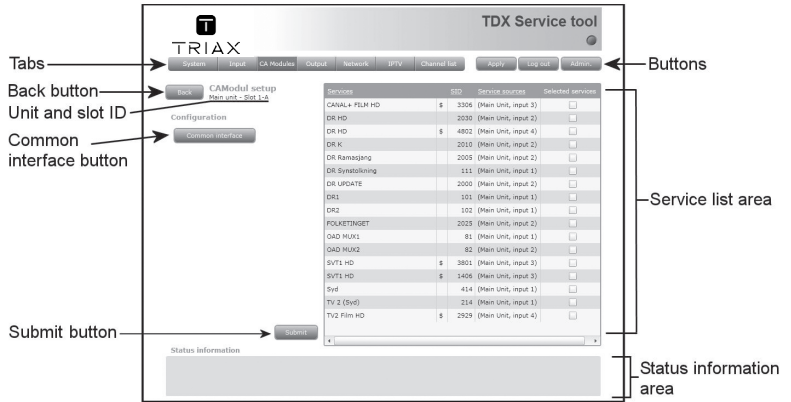
To display the Configuration window, click the Setup button of the CA module you want to configure.



# TDX Service Tool

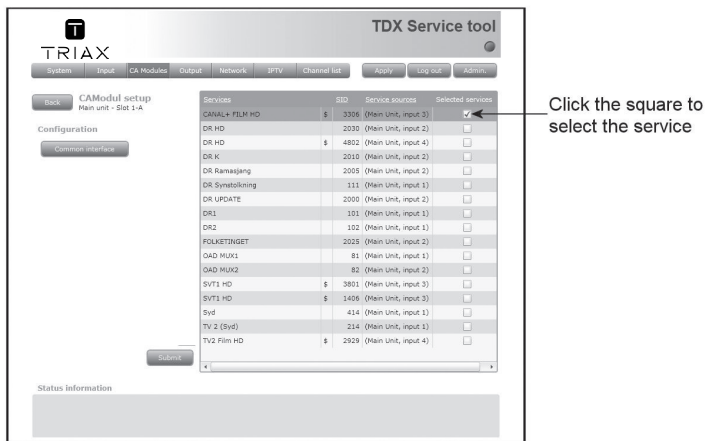
## CA Modules configuration window

The first time the TDX Service Tool displays the Configuration window for a CA module in a new configuration nothing is selected in the service list area.



In the Service list area you can select the service or services that you want to descramble. The services that have to be descrambled before you can output them are marked with a dollar sign - \$.

To select a service, click the check box (square) to the right of the service you want in the service list area.



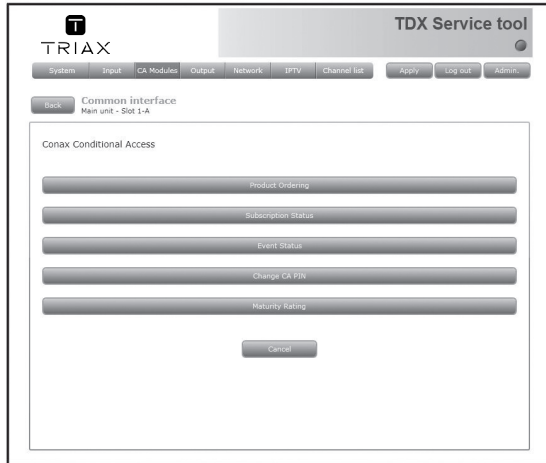
When you have selected the service you want to descramble you have to click the Submit button to save this information in the headend system and return to the CA Modules window.

You only need to use the Common interface button when you encounter problems with descrambled services.

# TDX Service Tool

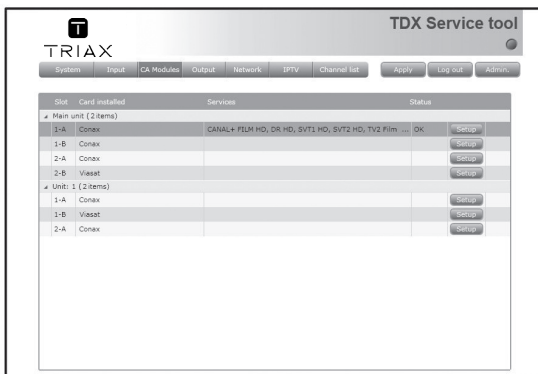
Clicking the Common interface button gives you access to information from the smart card inserted in the CA module. The type of information provided by the smart card depends on the card itself and its make.

Below is an example of the interface of a Conax card.



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

When you return to the CA Modules window the descrambled services will be displayed next to the CA module you have configured.



Remember to click the Apply button in the upper right-hand corner to save new settings in the configuration.

## Status information

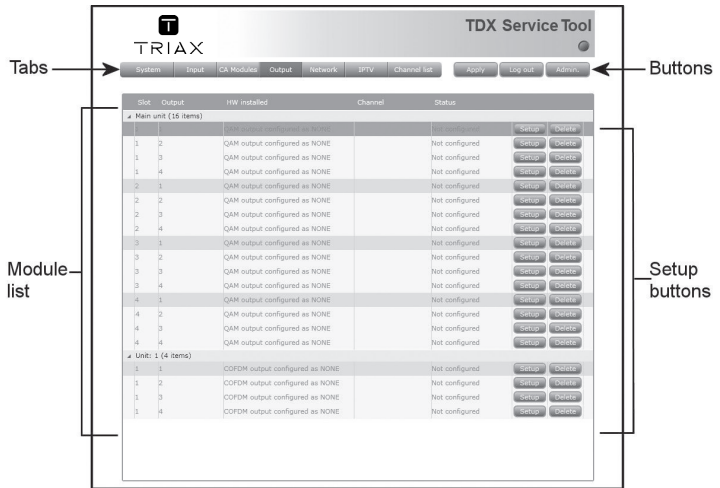
To be implemented later.



# TDX Service Tool

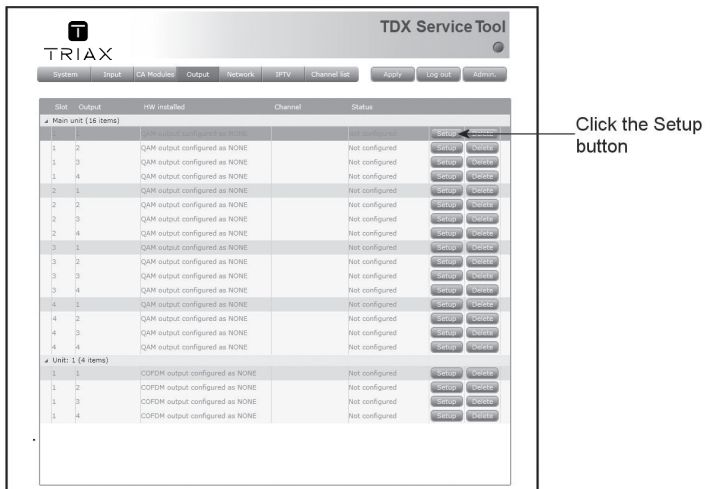
**Output window** Click the Output tab in the TDX Service Tool to display the Output window.

The first time you display the Output window in a new configuration the module list only displays the number and type of output modules that you have inserted in the main and subunits.



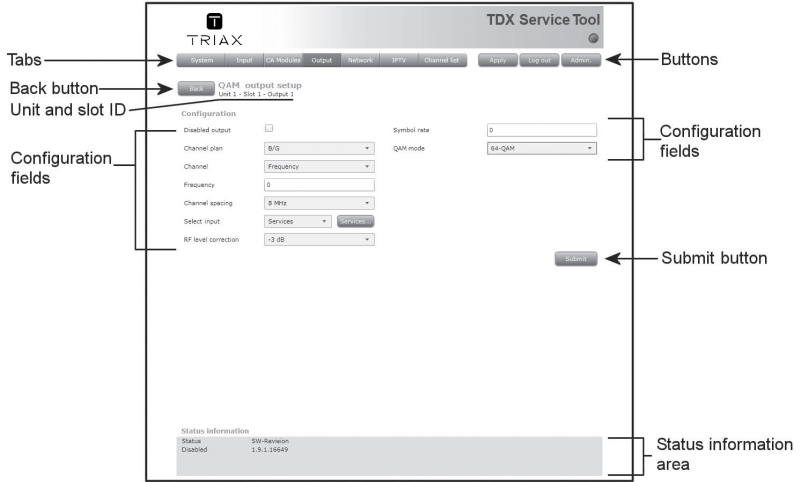
You have to configure the output modules one by one.

To display the Configuration window, click the Setup button of the QAM output module you want to configure.



# TDX Service Tool

## Configuration of output modules



The first time the TDX Service Tool displays the Configuration window for an output module in a new configuration the fields in the window will either display a default value or be empty.

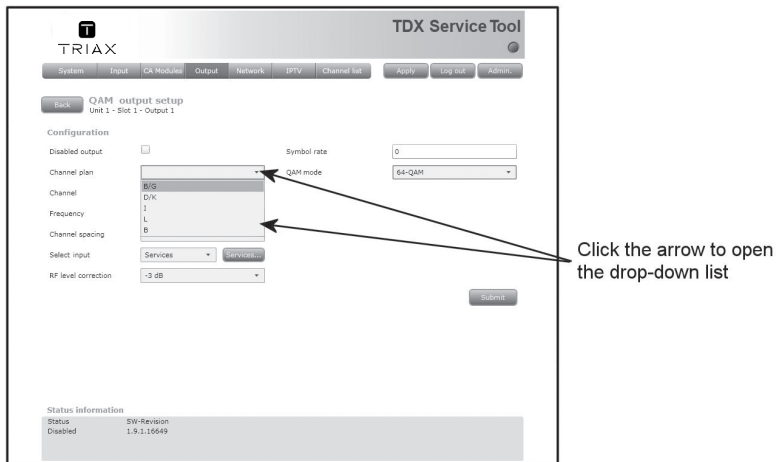
### Disabled output

If you want to disable this output, click the Disabled output check box.

### Channel plan

To select another TV system, click the arrow to the right of the Channel plan field to open the drop-down list with the systems you can choose from.

Select the system you want to use.



## **Channel, Frequency and Channel spacing**

You have two possibilities when you configure a QAM module:

- You can use the specifications of the channel plan or
- You can enter a frequency manually in order to search for the services you require.

### **Using the channel plans:**

To select the required channel, click the arrow to the right of the Channel field to open the drop-down list with the channels you can choose from.

Select the channel you want to use.

When you have selected a channel the Frequency and Channel spacing fields are automatically filled in.

### **Enter frequency manually:**

To be able to enter a frequency manually, click the arrow to the right of the Channel field to open the drop-down list with the channels you can choose from.

Select "Frequency" from the drop-down list.

Enter the desired frequency in kHz in the Frequency field.

To select the required channel spacing, click the arrow to the right of the Channel spacing field to open the drop-down list with the channel spacings you can choose from.

Select the channel spacing you want to use.

**Note** When you have selected a channel using the channel plan or entered a frequency manually then you have also set up the other three RF channels on the module in question. You only need to select services for each of the three other RF channels, or disable one or more of the three channels.

## **Select input**

You have two possibilities when you select services:

- You can select services from the TDX-pool or
- You can select services from a particular input module.

### **Services from the TDX-pool**

To select services from the TDX-pool, click the arrow to the right of the Select input field to open the drop-down list.

Select "Services" from the drop-down list.

To select services, click the Services... button next to Select input field to open the Select services window.

# TDX Service Tool

Configuration

Disabled output  Symbol rate 0

Channelplan B/G QAM mode 64-QAM

Channel 521 (306000)

Frequency (KHz) 306000

Channelspacing 7 MHz

Select input Services **Services**

RF level correction -3 dB

Submit

Status Information  
Status: Disabled  
SW-Version: 1.9.1.1649

Click the service button

Select service(s) from list

Services	SID	Service sources	Select service(s)
CANAL+ FILM HD	\$ 3306	(Main Unit, input 3)	<input type="checkbox"/>
CANAL+ FILM HD_descrambled	3306*	(Main Unit, cam 1-B	<input type="checkbox"/>
DR HD	2030	(Main Unit, input 2)	<input type="checkbox"/>
DR HD	\$ 4802	(Main Unit, input 4)	<input type="checkbox"/>
DR HD_descrambled	4802*	(Main Unit, cam 1-B	<input type="checkbox"/>
DR K	2010	(Main Unit, input 2)	<input type="checkbox"/>
DR Ramasjang	2005	(Main Unit, input 2)	<input type="checkbox"/>
DR Synstolkning	111	(Main Unit, input 1)	<input type="checkbox"/>
DR UPDATE	2000	(Main Unit, input 2)	<input type="checkbox"/>
DR1	101	(Main Unit, input 1)	<input type="checkbox"/>
DR2	102	(Main Unit, input 1)	<input type="checkbox"/>
FOLKETINGET	2025	(Main Unit, input 2)	<input type="checkbox"/>
SVT1 HD	\$ 1406	(Main Unit, input 3)	<input type="checkbox"/>
SVT1 HD_descrambled	1406*	(Main Unit, cam 1-B	<input type="checkbox"/>

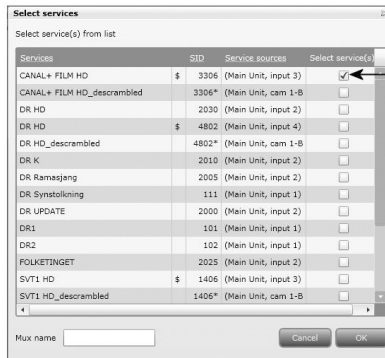
Mux name

Cancel OK

In the Select Services window you can select the service or services that you want to output.

**Note** By clicking one of those column headlines that are underlined in the Select services window you can sort the list into alphabetical or numerical order depending on which column headline you click.

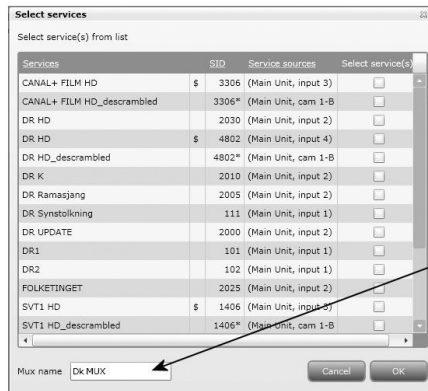
# TDX Service Tool



Click the square to select service

To select a service, click the check box (square) to the right of the service you want.

If you want to give your selection of services a name, enter the name in the Mux name field.



Enter name

Click OK to return to the Configuration window.

Now you continue to select or enter values in the other fields in the Configuration window.

**Note** When you have selected a service this service will no longer be available in the TDX-pool.

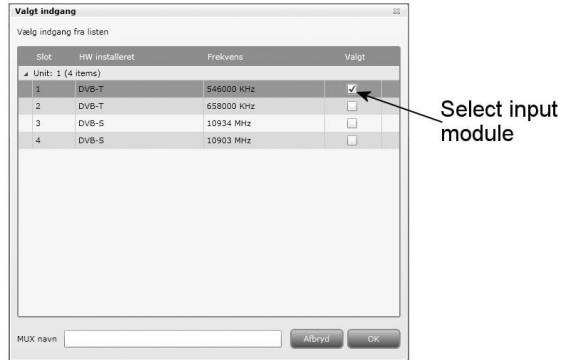
## Services from input module

To select the services from a particular input module, click the arrow to the right of the Select input field to open the drop-down list.

Select "Transparent" from the drop-down list.

# TDX Service Tool

To select services from an input module, click the Services... button next to Select input field to open the Select input modules window.



To select an input module, click the check box (square) to the right of the module you want to use.

If you want to give your selection a name, enter the name in the Mux name field.

Click OK to return to the Configuration window.

**Note** There is a limit to the number of services an output module is able to output. You can consult the TDX Web Configurator to avoid overloading the output module, i.e. select more services than the module in question is able to handle.

Next you select or enter values in the other fields in the Configuration window.

## RF level correction

To select another RF level correction, click the arrow to the right of the RF level correction field to open the drop-down list with the levels you can choose from. Select the level you want to use.

## Symbol rate

Enter the desired symbol rate (from 3500 to 7200 kS) in the Symbol rate field.

## QAM mode

To select which QAM mode to use, click the arrow to the right of the QAM mode field to open the drop-down list with the channels you can choose from. Select the QAM mode you want to use.

# TDX Service Tool

The screenshot shows the 'QAM output setup' window in the TDX Service Tool. The window title is 'QAM output setup' with a subtitle 'Unit 1 - Slot 1 - Output 1'. The 'Configuration' section includes the following fields: 'Disabled output' (checkbox), 'Channel plan' (dropdown menu showing 'B/G'), 'Channel' (dropdown menu showing 'S21 (306000)'), 'Frequency (KHz)' (text input showing '306000'), 'Channel spacing' (dropdown menu showing '7 MHz'), 'Select input' (dropdown menu showing 'Services' with a 'Services...' button), and 'RF level correction' (dropdown menu showing '-3 dB'). On the right side, 'Symbol rate' is a text input showing '6750' and 'QAM mode' is a dropdown menu showing '128-QAM'. A 'Submit' button is located at the bottom right. The 'Status information' section at the bottom shows 'Status: Disabled' and 'SW-Revision: 1.9.1.16649'.

**Note** When you display the Configuration window for an output module that has been configured, all fields are filled in and services have been selected.

If you want to change the existing values or services just follow the same procedure as when you configure an output module for the very first time.

When you have selected or inserted the values you want you have to click the Submit button to enter this information into the headend system and return to the Output window.

This screenshot is identical to the one above, showing the 'QAM output setup' configuration window. An arrow points from the text 'Click the Submit button to save your selections' to the 'Submit' button located at the bottom right of the configuration section.

Click the Submit button to save your selections

Remember to click the Apply button in the upper right-hand corner from time to time to save new settings in the configuration.

# TDX Service Tool

## Status information

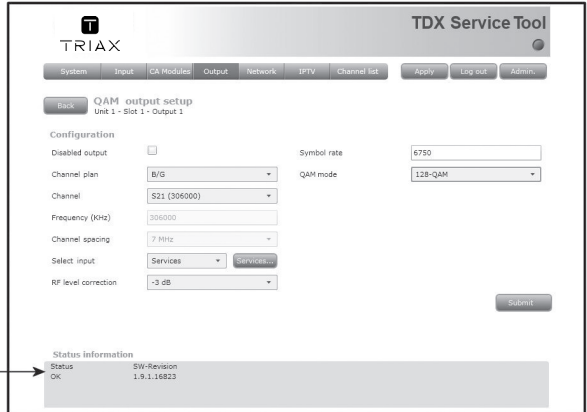
Status information is placed at the bottom of the Configuration window. The information displayed in the configuration window of a QAM module includes revision of software.

### Status

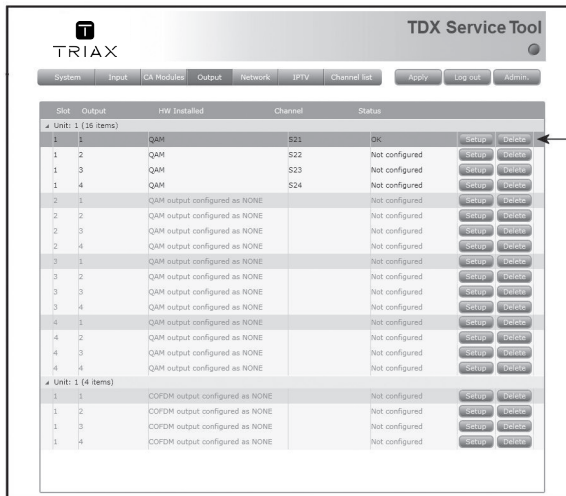
Informs you about the state of the output module.

### SW revision

Displays the software version of the output module.



When you return to the Output window the configuration of the output module is displayed in the module list.



Output module that has been configured



# TDX Service Tool

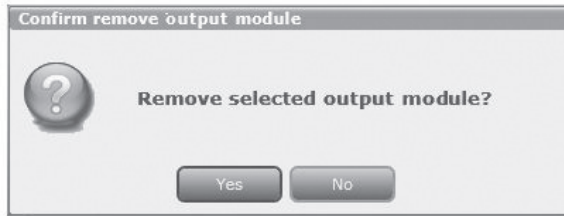
Now you can continue to configure the other output modules one by one, following the procedure described on the previous pages.

## Delete setup

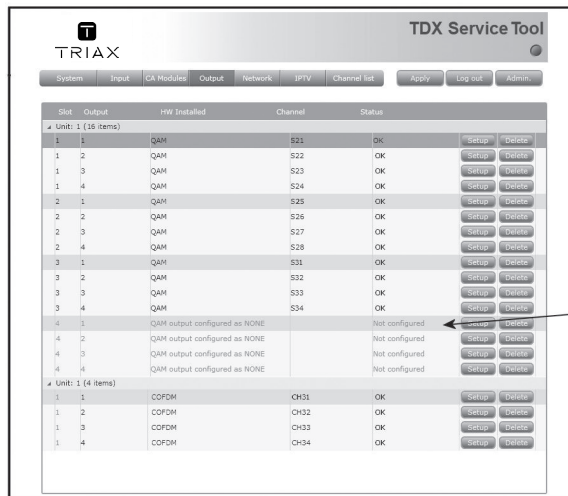
If you want to remove an output module and the associated configuration you can use the Delete button of the module in question in the Output window.

Click the Delete button of the QAM output module you want to remove.

A message window is displayed asking you to confirm that you want to remove the output module.



Until you have removed the output module physically from the headend unit the module list will display four lines with the writing in red.



The screenshot shows the TDX Service Tool interface with the "Output" tab selected. The table below shows the configuration for various output modules. The last four rows of the first unit are highlighted in red, indicating they have been deleted. An arrow points to these rows with the text "The configuration has been deleted".

Slot	Output	HW Installed	Channel	Status	Setup	Delete
Unit 1 (16 items)						
1	1	QAM	S21	OK	Setup	Delete
1	2	QAM	S22	OK	Setup	Delete
1	3	QAM	S23	OK	Setup	Delete
1	4	QAM	S24	OK	Setup	Delete
2	1	QAM	S25	OK	Setup	Delete
2	2	QAM	S26	OK	Setup	Delete
2	3	QAM	S27	OK	Setup	Delete
2	4	QAM	S28	OK	Setup	Delete
3	1	QAM	S31	OK	Setup	Delete
3	2	QAM	S32	OK	Setup	Delete
3	3	QAM	S33	OK	Setup	Delete
3	4	QAM	S34	OK	Setup	Delete
4	1	QAM output configured as NONE		Not configured	Setup	Delete
4	2	QAM output configured as NONE		Not configured	Setup	Delete
4	3	QAM output configured as NONE		Not configured	Setup	Delete
4	4	QAM output configured as NONE		Not configured	Setup	Delete
Unit 1 (4 items)						
1	1	COFDM	CH31	OK	Setup	Delete
1	2	COFDM	CH32	OK	Setup	Delete
1	3	COFDM	CH33	OK	Setup	Delete
1	4	COFDM	CH34	OK	Setup	Delete

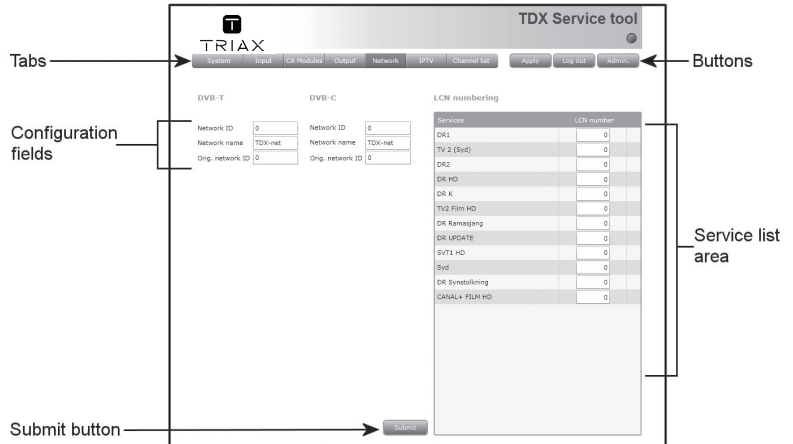
The configuration has been deleted

# TDX Service Tool

## Network window

Click the Network tab in the TDX Service Tool to display the Network window.

The first time you display the Network window the fields in the window will display a default value. The service list area will display all the digital services you have configured to output using the Output tab.



End-users may need the network ID if they have to make a NIT (Network Information Table) search when searching for services on their televisions or set-top boxes. Some set-top boxes may also need the original network ID in connection with a NIT search.

For both DVB-T and DVB-C you have to state network ID's and names.

### Network ID

Enter the required network ID in the Network ID field. If it is an open network, the network ID has to follow the "ETSI TR 101 211" guidelines. If it is a closed network you can determine the ID yourself.

### Network name

Enter a network name in the Network name field. The maximum number of characters you can enter in the field is 255.

### Orig. network ID

Enter the required original network ID in the Orig. network ID field.

In the service list area you determine the numerical output order of the digital services on the television or set-top box of the end-user.

### LCN number

Enter the desired number in the LCN number field to the right of each service in the service list area.

**Note** You cannot give the same LCN number to more services.

# TDX Service Tool

When you have entered the values you require you have to click the Submit button to save this information in the headend system.

The screenshot shows the TDX Service Tool interface with the 'Channel list' tab selected. The interface includes a navigation bar with 'System', 'Input', 'CA Modules', 'Output', 'Network', 'IPTV', and 'Channel list' tabs. Below the navigation bar, there are three main sections: DVB-T, DVB-C, and LCN numbering. The DVB-T section has fields for Network ID (13313), Network name (Triax Net), and Orig. network ID (70). The DVB-C section has fields for Network ID (43264), Network name (Triax Net), and Orig. network ID (70). The LCN numbering section has a table with columns for 'Transponder' and 'LCN number'. The table contains the following data:

Transponder	LCN number
DR1	1
TV 2 (Syd)	2
DR2	3
DR HD	4
DR K	5
TV2 Film HD	7
DR Ramasjeng	8
DR UPDATE	9
SVT1 HD	11
Syd	12
DR Synstolling	13
CANAL+ FILM HD	15

An arrow points from the text 'Click the Submit button to enter the information' to the 'Submit' button located at the bottom right of the configuration area.

Remember to click the Apply button in the upper right-hand corner to save new settings.

## Channel list

When you have finished configuring all the output modules you have inserted in the headend units the Channel list tab displays a list with all the channels and services that you have selected.

The screenshot shows the TDX Service Tool interface with the 'Channel list' tab selected. The interface includes a navigation bar with 'System', 'Input', 'CA Modules', 'Output', 'Network', 'IPTV', and 'Channel list' tabs. Below the navigation bar, there is a table with columns for 'Channel', 'Mux name', 'Services', and 'Output'. The table contains the following data:

Channel	Mux name	Services	Output
S21	Dk MUX	DR 1, DR 2, TV2, TV2Syd	QAM (Main Unit, Slot 1-1)
S22		DR Update	QAM (Main Unit, Slot 1-2)
S23		Sport 1, Sport 2	QAM (Main Unit, Slot 1-3)
S24		Disney, Cartoon	QAM (Main Unit, Slot 1-4)

# TDX Service Tool

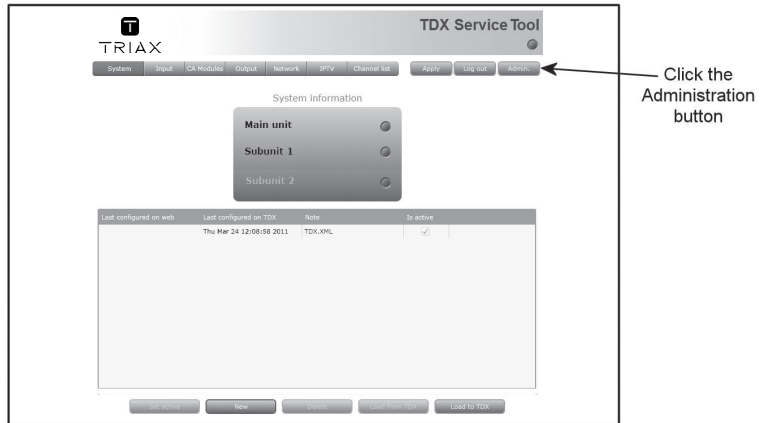
## Log file

You can save a log file that lists actions that have occurred in the TDX head-end system. This may be useful in case of problems with your TDX headend system.

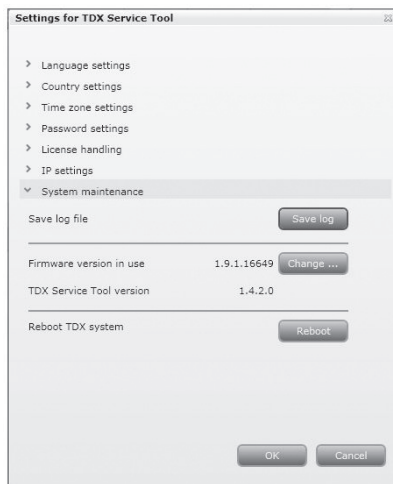
The size of the log file will be adequate for listing all actions that have occurred in the system for a couple weeks.

To save a log file on your computer/laptop you have to open the Administration window.

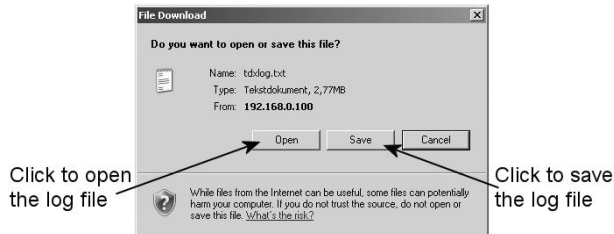
Click the Admin. button in the top right-hand corner of the TDX Service Tool window to open the Administration window.



To enter the System maintenance area, click the arrow bracket to the left of System maintenance.

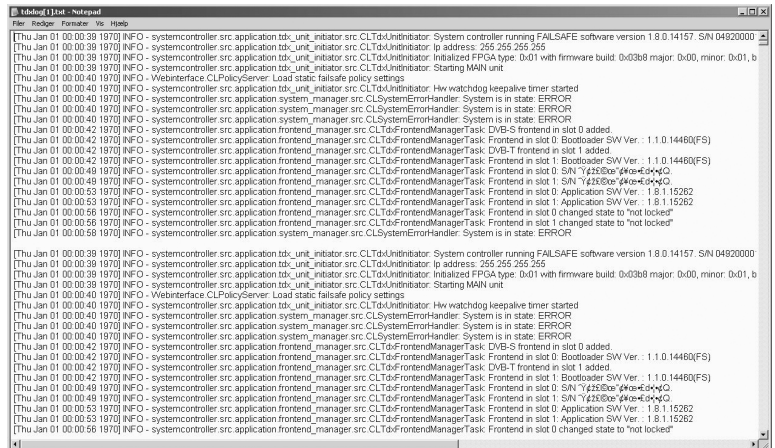


In the System maintenance area click the Save log button to open the File Download window.



In the File Download window you can either open the log file or save the file to your laptop/computer.

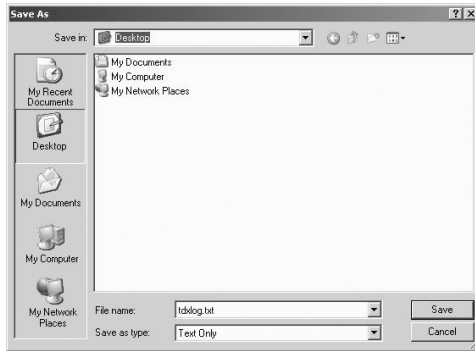
If you want to open the log file click the Open button in the File Download window.



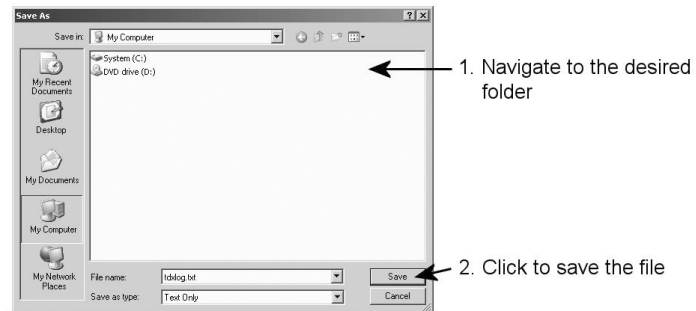
In case you need to save the log after having looked at the file in the Notepad window you can use the Save as command in the File menu of the Notepad window.

If you only want to save the log file when you open the File Download window, click the Save button to open the Save as window.

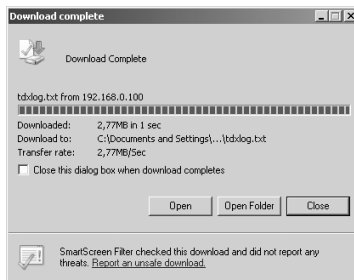
# TDX Service Tool



Navigate to the folder where you want to place the log file  
Click the Save button to save the file.



Clicking the Save button displays the Download window.



When the log file has been downloaded and saved, you can open the log file, open the folder where you have saved the log file or just close the window.

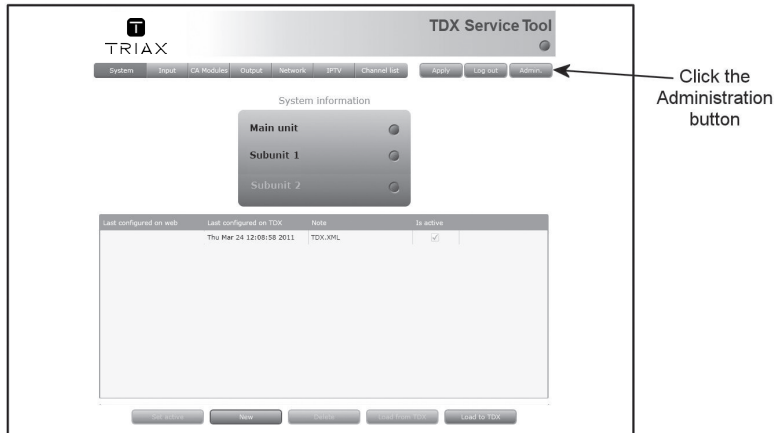
When you close the Download window you return automatically to the Administration window. Close this window by clicking the OK or Cancel button.

# TDX Service Tool

## Update firmware

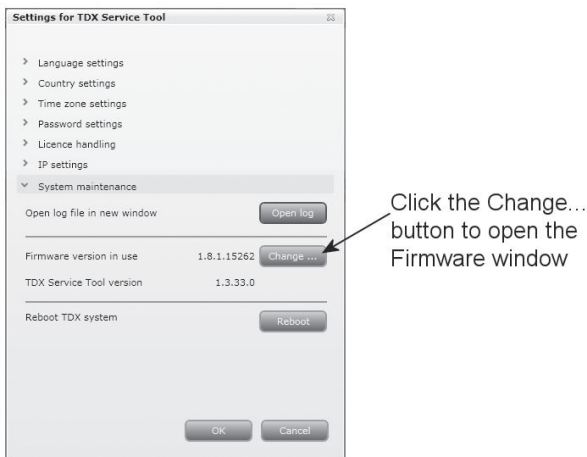
When firmware updates for your TDX system is available on the Triax home page, [www.Triax.com](http://www.Triax.com), you can download these updates to your computer and then upload the updates to your TDX system using the Administration window.

Click the Admin. button in the top right-hand corner of the TDX Service Tool window to open the Administration window.



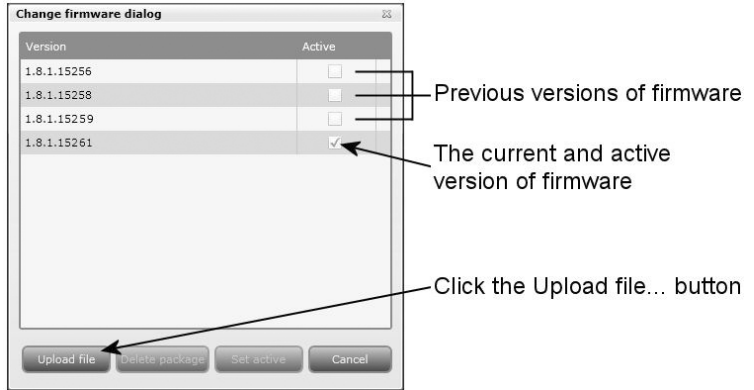
To enter the System maintenance area, click the arrow bracket to the left of System maintenance.

Click the Change... button to the right of the version number of the current firmware to open the Firmware window.

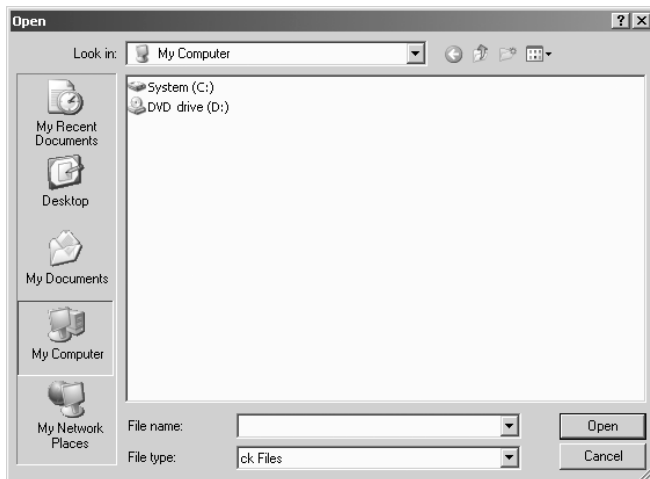


# TDX Service Tool

The Firmware window lists the current version of your TDX firmware as well as previous versions of the firmware.



Click the Upload file... button to display the Open window.



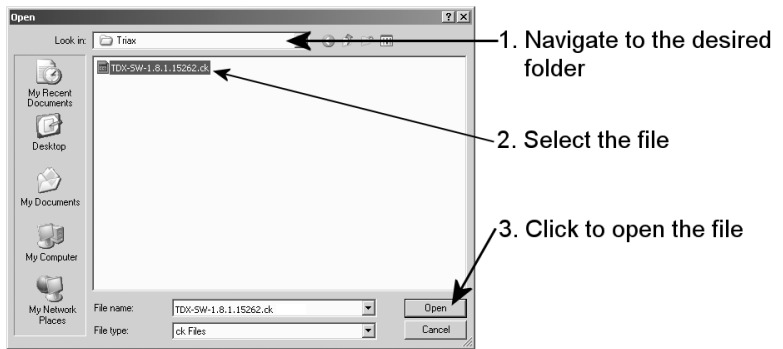
In the Open window navigate to the folder where you saved the update file when you downloaded it from the Triax home page.

Select the file.

Click the Open button to include the file in the list in the Firmware window

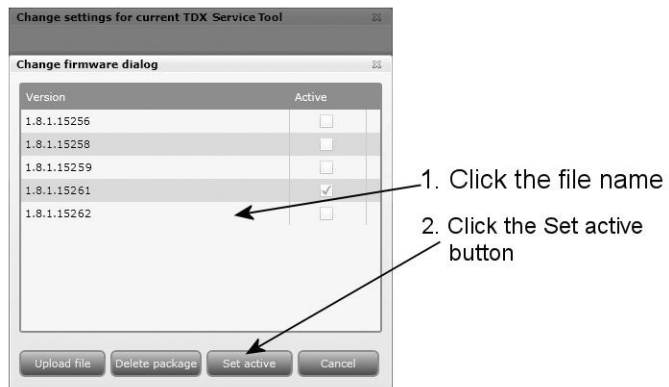


# TDX Service Tool



When you have clicked the Open button you return to the Firmware window. In the Firmware window the new update file is placed at the bottom of the list of updates.

Click the file name to select the file and then click the Set active button to transfer the update to the TDX system.



Clicking the Set active button displays the Firmware update window. In this window you select whether you want to update all firmware, i.e. modules, system controller and user interface, or only firmware that is in need of an update.

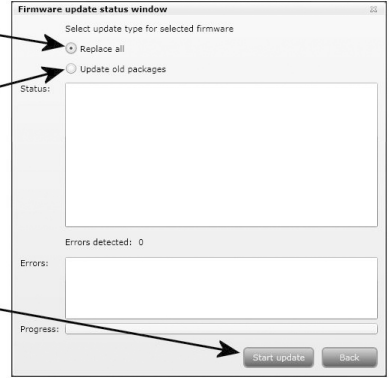
Triax recommend that you use the Replace all option when you want to update your firmware.

You should only use Update old packages if your TDX headend system consists mainly of new modules and a few older modules that might benefit from an update.

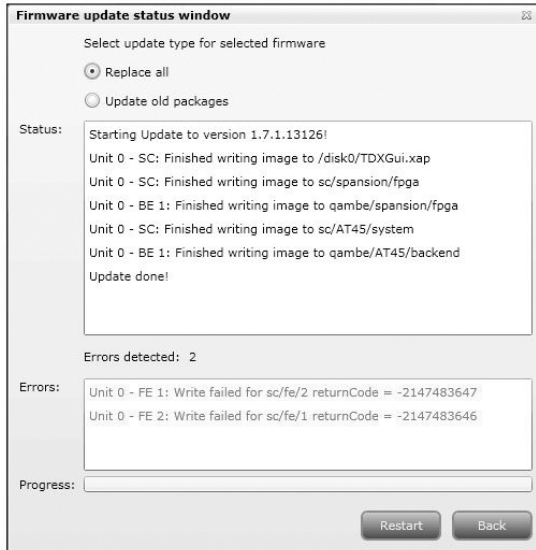
# TDX Service Tool

1. Click to update all firmware or click to update only firmware that needs updating

2. Click the Start update button to start updating



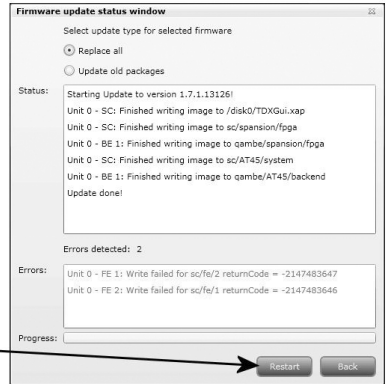
When updating the firmware, the Firmware update status window will display information about status and errors as well as the progress of the update itself. An update will take approximately 5 minutes.



When you have finished updating the firmware you have to reboot the system by clicking the Restart button in order to make the update effective.

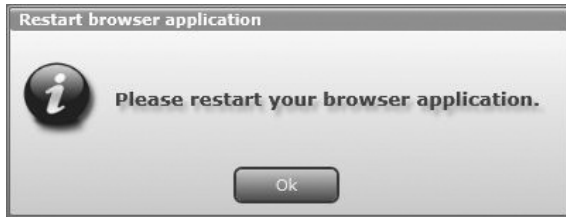
**Important** When rebooting the TDX headend system the distribution of services to all your end-users will be interrupted for a very short time.

# TDX Service Tool



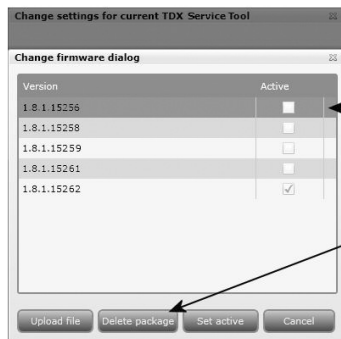
Click the Restart button to reboot the headend system

When you have rebooted the TDX headend system, a message window is displayed asking you to restart your Internet browser.



When you have restarted your browser you have to log into the TDX Service Tool in case you need to make any changes.

If your list of firmware updates needs to be tidied you can remove one or more of the previous firmware updates listed in the Change firmware window. Select the firmware update and click the Delete package button.



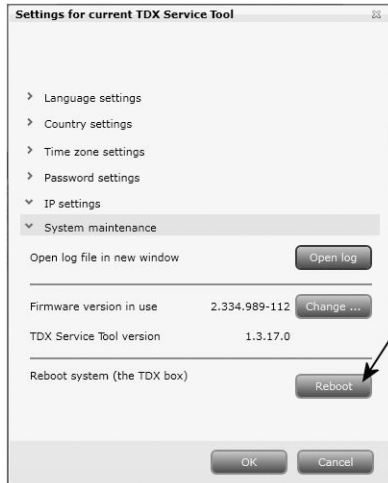
1. Select the file

2. Click the Delete Package button

# TDX Service Tool

**Reboot system** If you need to switch the TDX headend system off and then immediately start it again you can use the Reboot button in the System maintenance area of the administration window.

Click the Reboot button to reboot the TDX headend system.



Click the Reboot button to reboot the TDX headend system

**Note** You can also reboot the TDX headend system by switching off the power manually.

**Important** When rebooting the TDX headend system or switching off the power the distribution of services to all your end-users will be interrupted.

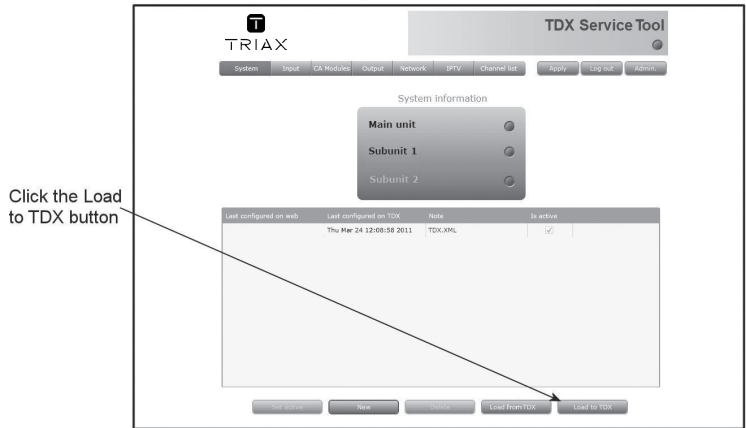
When the TDX system has been rebooted, you close the Administration window to return to one of the tab windows.

When you have restarted your browser you have to log into the TDX Service Tool if you need to make further changes.

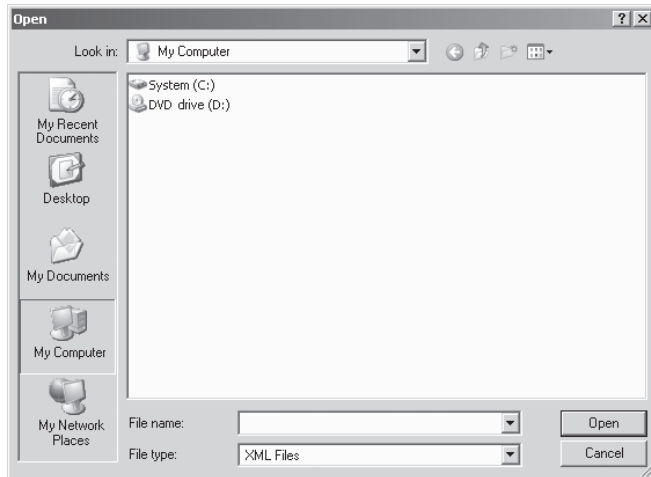
# TDX Service Tool

## Load to TDX

In case you want to load a configuration file made using the TDX Configurator from your computer/laptop to your TDX system you have to use the Load to TDX button on the System tab.



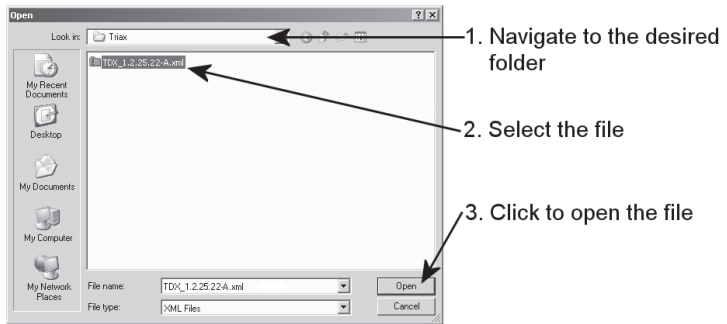
Click the Load to TDX button at the bottom of the System tab to display the Open window.



In the Open window navigate to the folder where you saved the configuration file from the TDX Configurator.

Select the file, then click the Open button to include the file in the configuration list on the System tab.

# TDX Service Tool



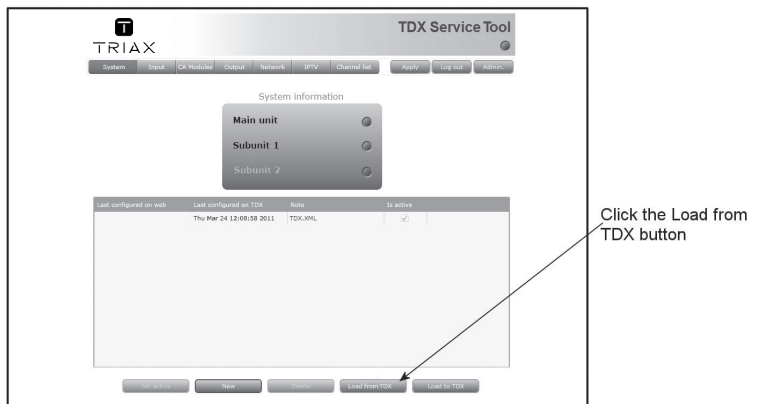
The configuration file will now be listed in the configuration list area.

If the name of the new configuration file is identical to the existing configuration file a number in brackets will be added to the name of the new file.

**Load from TDX** You can save a configuration file from your TDX headend system to your computer/laptop in case you want to use it in another TDX headend system that is identical to the one from which you want to save the configuration file.

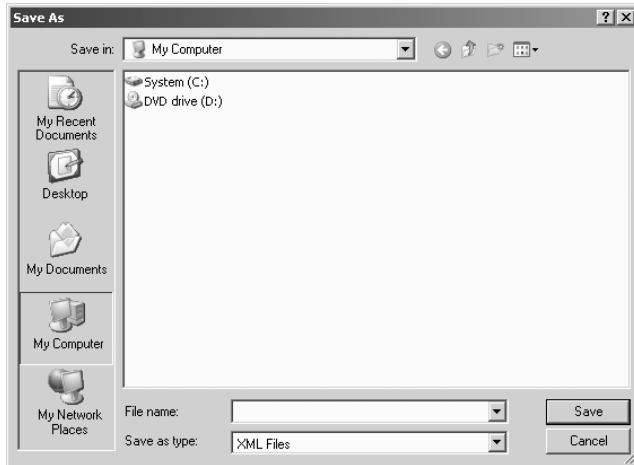
If, however, you load a configuration file into a dissimilar TDX system you will have to reconfigure all those modules that deviate from what is specified in the configuration file. All deviating modules will be marked in red.

To save a configuration file on your computer/laptop you have to use the Load from TDX button on the System tab.

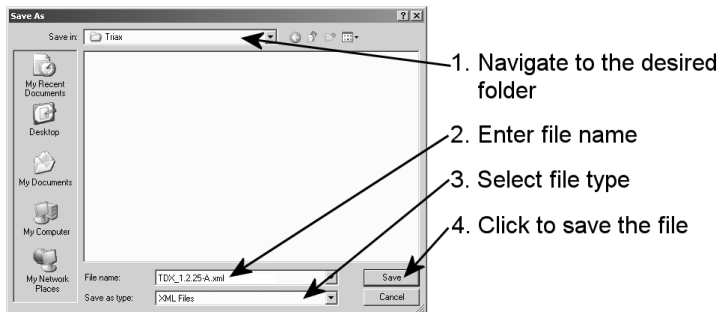


Click the Load from TDX button at the bottom of the System tab to display the Save As window.

# TDX Service Tool



Navigate to the folder where you want to save the configuration file.  
Enter the name of the configuration file in the File name field.  
Select file type in the File type field.  
Click the Save button to save the file.

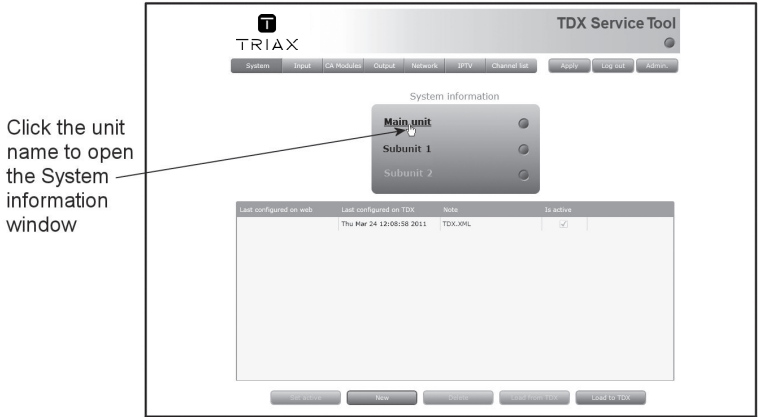


You return automatically to the System tab when you have saved the configuration file.

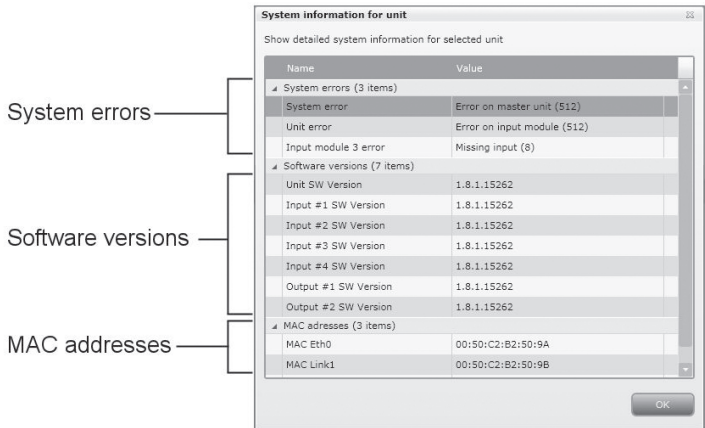
## System information

To get detailed information about the individual units you can click the unit in question in the System information list and open the System information window.

# TDX Service Tool



In the System information window you get information about system errors, which software version each of the input and output modules uses and the MAC addresses.



In connection with errors in your TDX headend system you can use the System information window as starting point for locating the errors.



Your notes

# Your notes

Your notes

Your notes



# TRIAX

[triax.com/support](https://triax.com/support)



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TRIAX A/S | Bjørnkærvej 3 | DK-8783 Hornsyld | Denmark