User Manual

MOD404TC 4xHDMI Modulator (COFDM/QAM)

Article				Article no.
MOD404TC	MOD404TC 4CH HDMI 1080P60 Modulator			300313
Version	V1.1	**Date**	2026/03	**EN**

triax.com

Table of content

1 Safety Instructions

Read these instructions carefully before connecting the unit

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 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 safety requirements are according to the standards EN 62368-1 resp. EN 60728-11 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.

⚠ To prevent fire, short circuit or shock hazard:

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

⚠ To avoid any risk of overheating:

- Install the unit in a well aired location and keep a minimum distance of 5 cm around the apparatus for sufficient ventilation.
- Do not place any items such as newspapers, tablecloths, curtains, on the unit that might cover the ventilation holes.
- Do not place any naked flame sources, such as lit candles, on the apparatus.
- 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.

To avoid any risk of electrical shocks:

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

Maintenance

Only use a dry soft cloth to clean the cabinet.

Do not use solvent.

For repairing and servicing, refer to qualified personnel.

Dispose according to your local authority's recycling processes

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 Introduction

2.1 Product description

The TRIAX MOD404TC is a versatile quad HDMI modulator designed to distribute high-quality digital audio and video signals over existing coaxial cable networks. It supports up to four HDMI sources, including surveillance cameras, media players, satellite receivers, and computers.
The unit integrates H.264 encoding with selectable DVB-T (COFDM) or DVB-C (QAM) modulation, converting HDMI signals into RF output for reliable distribution to multiple receivers such as TVs or set-top boxes — even across long cable distances.
The MOD404TC automatically adjusts the compression rate according to the available bandwidth and selected DVB-T/C modulation parameters, ensuring optimal signal quality and efficient spectrum usage.

2.2 Key features

- 4× HDMI Inputs
- Dual Output Modulation: DVB-C / DVB-T (2-in-1 solution)
- Wide Video Resolution Support:
  - Input: 480i/p, 576i/p, 720p, 1080i/p
  - Output: **Up to 1080p @ 50/60Hz**
- Output Frequency Range:
  - DVB-T: 177 – 858 MHz
  - DVB-C: 105 – 858 MHz
- Efficient RF Distribution:
  - 2 RF output channels for 4 HDMI sources
  - (2 HDMI sources per RF channel)
- Adjustable RF Output Level:
  - 95 dBµV minimum
  - 0-30 dB attenuator (1 dB step adjustment)
- High Signal Quality: MER ≥ 35 dB
- User-Friendly Control:
  - Integrated LCD display and front-panel buttons
  - Web-based control and firmware updates
- Compact & Wall-Mountable Design
- Preconfigured Default Settings for DVB-C and DVB-T

2.3 Installation

Preparation before installation:

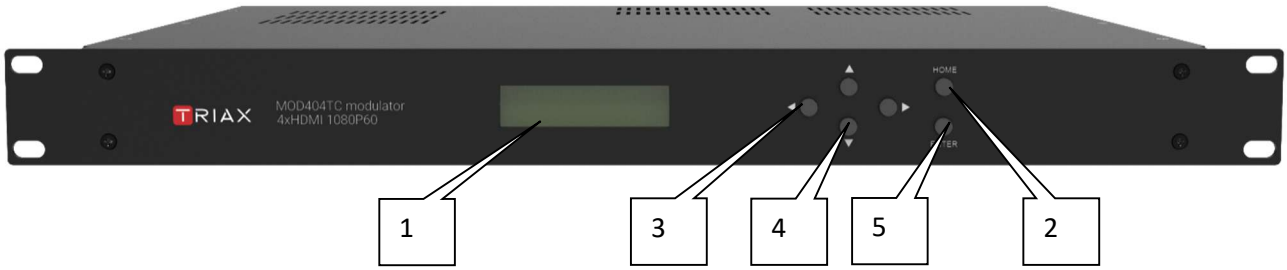
- **Observe instructions given at chapter 1**
- Potential equalisation: equalise the potential (PE) by connecting the PE connection terminal to a PE rail (supplied by customer) using the PE wire (Cu 4 mm² - 9 mm²).
- Install the unit in a well aired location and keep a minimum distance of 5 cm around the modulator for sufficient ventilation. Please don’t block the cooling holes of the device.

2.4 Packaging content

Please check whether the following items are present in the package. If any items are missed or damaged, please call your dealer.

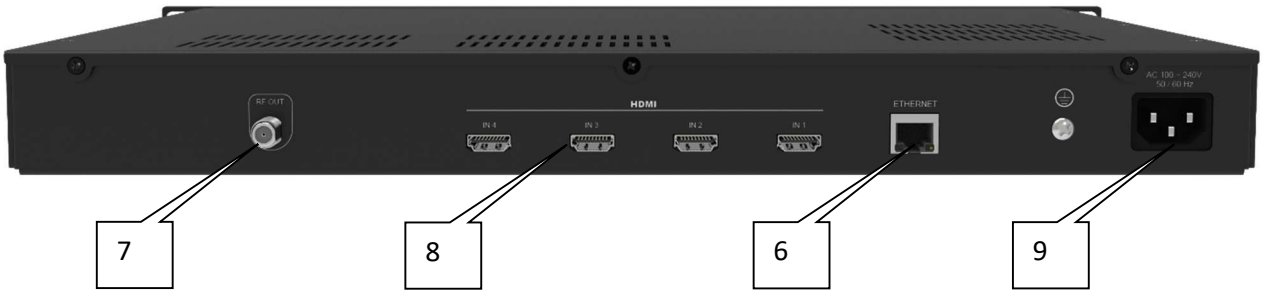
- One MOD404TC modulator
- One Power Cable

2.5 Front panel



Identification	Item	Remark
1	LCD Display	Configuration and system status
2	Keypad / Home	Return to start menu
3	Keypad / Left & Right	Move Right / Left between menu / characters
4	Keypad / Upper & Down	Increase / Decrease value of the figure / field
5	Keypad / Enter	Select parameter / menu

2.6 Rear panel



Identification	Item	Remark
6	Ethernet Port	RJ-45
7	RF output	“F”-Female 75Ω
8	HDMI Input*4	HDMI IN
9	AC input	AC 100~240V / 50~60Hz

3 Technical Specifications

INPUT	
Input Channel	4
Input Connectors	HDMI
Video System	480i/p, 576i/p, 720p, 1080i/p
RF OUTPUT	
Type	1 F-type output ports for 2 carriers, 75 Ω
Frequency	DVB-T: 177 - 858 MHz, DVB-C: 105 - 858MHz
Output Level	95 dBuV Min.
RF Level Adjustment	0 ~ -30dB
Attenuation step	1dB per step
MER	35dB Min.
MODULATION	
Video Resolution	1080p 50/60 Max
Video Compression	H.264 High/Main profile
Video Bit Rate	12Mbps Max
Audio Compression	MPEG-2/AAC
Audio Bit Rate	192Kbit/s
Editable Field	Service Name, Service ID, LCN, NIT Version, TS ID, Network Name, Network ID, Original Net ID, Country
DVB-T	
Standard	DVB-T (ETSI EN 300 744)
Carrier (OFDM Mode)	2K,8K
Guard Intervals	1/4, 1/8, 1/16, 1/32
Code Rate (FEC)	1/2, 2/3, 3/4, 5/6, 7/8
Constellations	16QAM, 64QAM, QPSK
Bandwidth	6MHz, 7MHz, 8MHz, 7-8MHz
DVB-C	
Standard	DVB-C (ETSI EN 300 429 V1.2.1)
Constellation	16, 32, 64, 128, 256QAM
Symbol rate	2.0 ~ 6.96 Mbs symbols
Bandwidth	7MHz, 8MHz
MANAGEMENT / CONTROL	
Configuration	6 Local keys on Upper cover
Web Management	RJ-45 Ethernet port
GENERAL	
Display	LCD panel @ 2 x 16 characters (on front panel)
Power Supply	AC 100~240V 50/60Hz
Consumption	17 W
Languages	English
Dimensions	19”x12.5”x1.75”
Weight	2.2kg

4 Modulator settings

A Web server is built in. Users can directly view the basic operating parameters and network parameters of the modulator through web browsers like IE Microsoft IE, Google Chrome, Mozilla Firefox, etc…

4.1 How to setup you PC for the IP address to connect to the device

On your laptop:

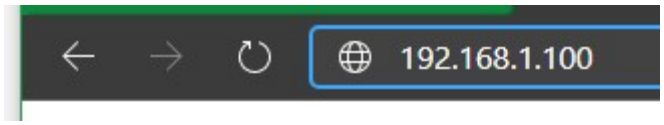
- Settings, Ethernet, “Change adapter options”
- Double-click the Ethernet connection you need to modify
- Select “Properties” and double-click “Internet Protocol Version 4 (TCP/IPv4)”
- Change the IP address to something close to the device e.g. 192.168.1.10 if the device to test has 192.168.1.100
- Change the Subnet mask to 255.255.255.0 and accept by pressing “OK” and “OK”.

Type the IP address 192.168.1.100 into a browser and login using “admin” and the unique password provided on the modulator label.

Connecting to the GUI Interface:

- Connect an Ethernet cable directly to the Ethernet port on the rear panel of the modulator or connect the Ethernet cable to an Ethernet switch /router. Connect an Ethernet Cable to your PC.
- Use a Windows-based PC Select Windows Icon
- Check IP address from front panel display.

- Enter the IP address in web browser
-

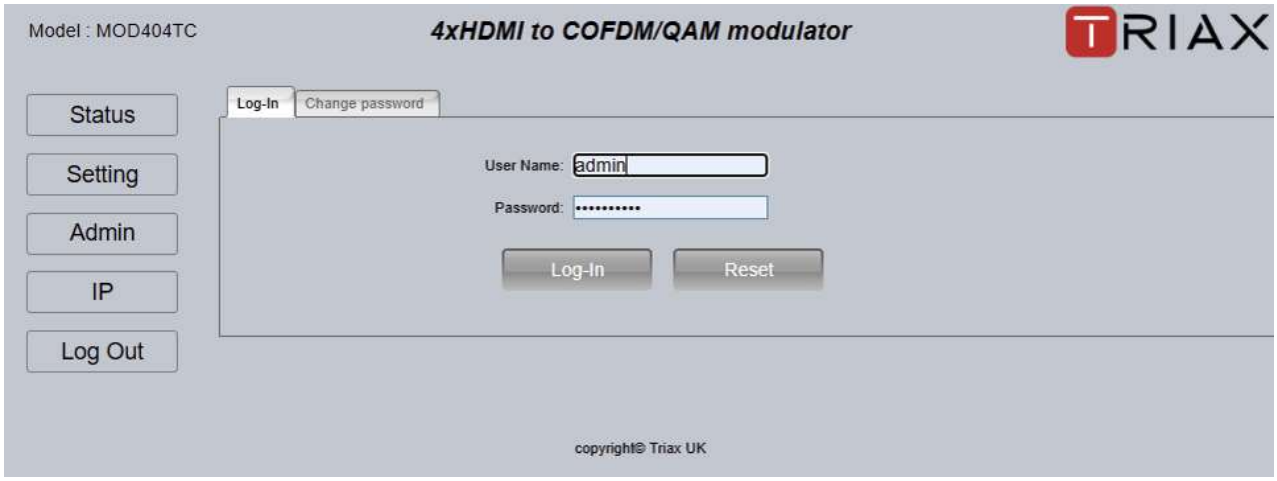


4.2 Step 1: Login

Modulator Programming and Setup via GUI Interface:

- Login Password:
- Default password: *********

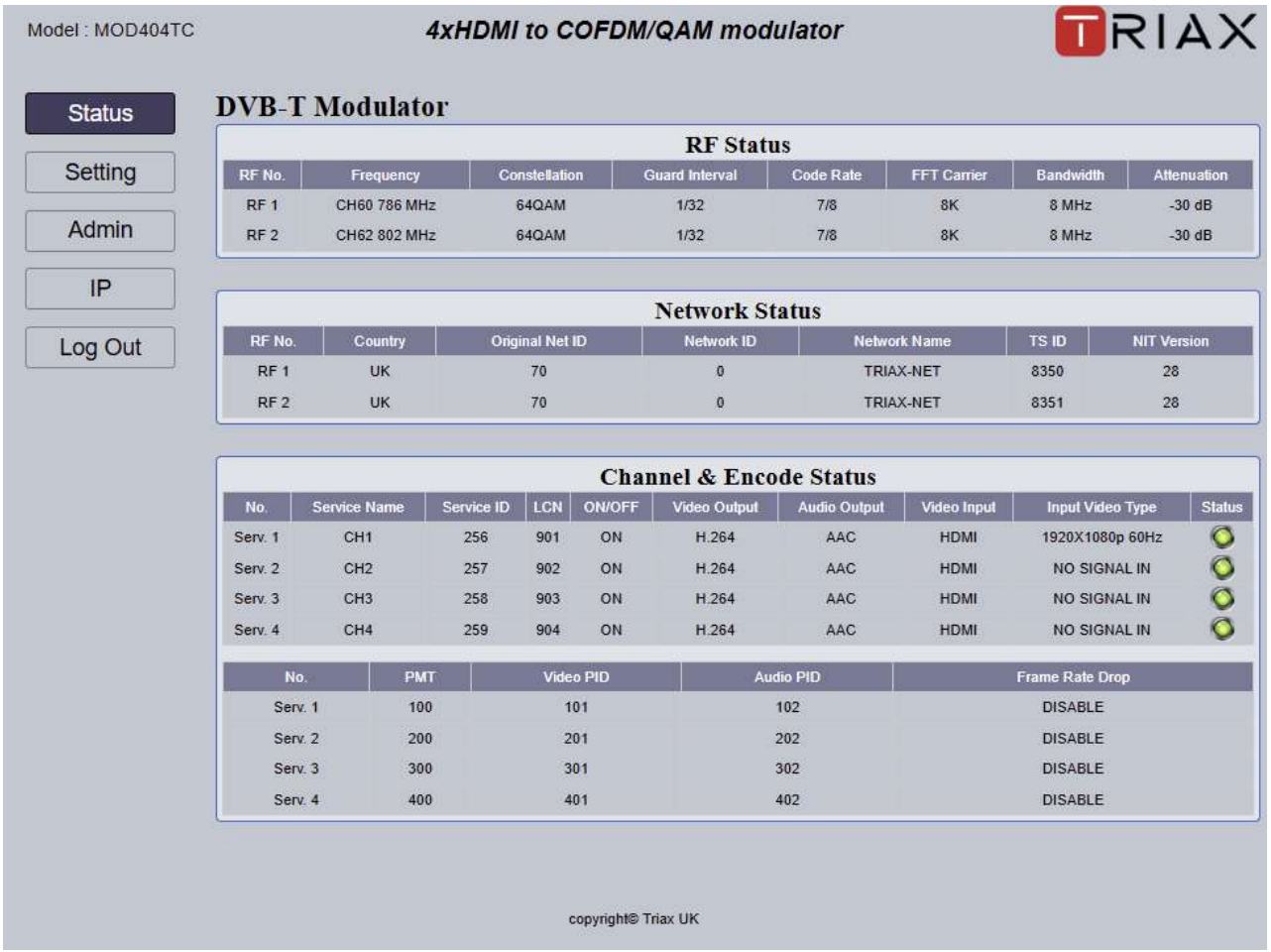
Enter the default login Username and Unique password as per the product label.
When the installer setup the unit for the first time he MUST change the password to an individual and unique password.



4.3 Step 2: Click and Select “Status”

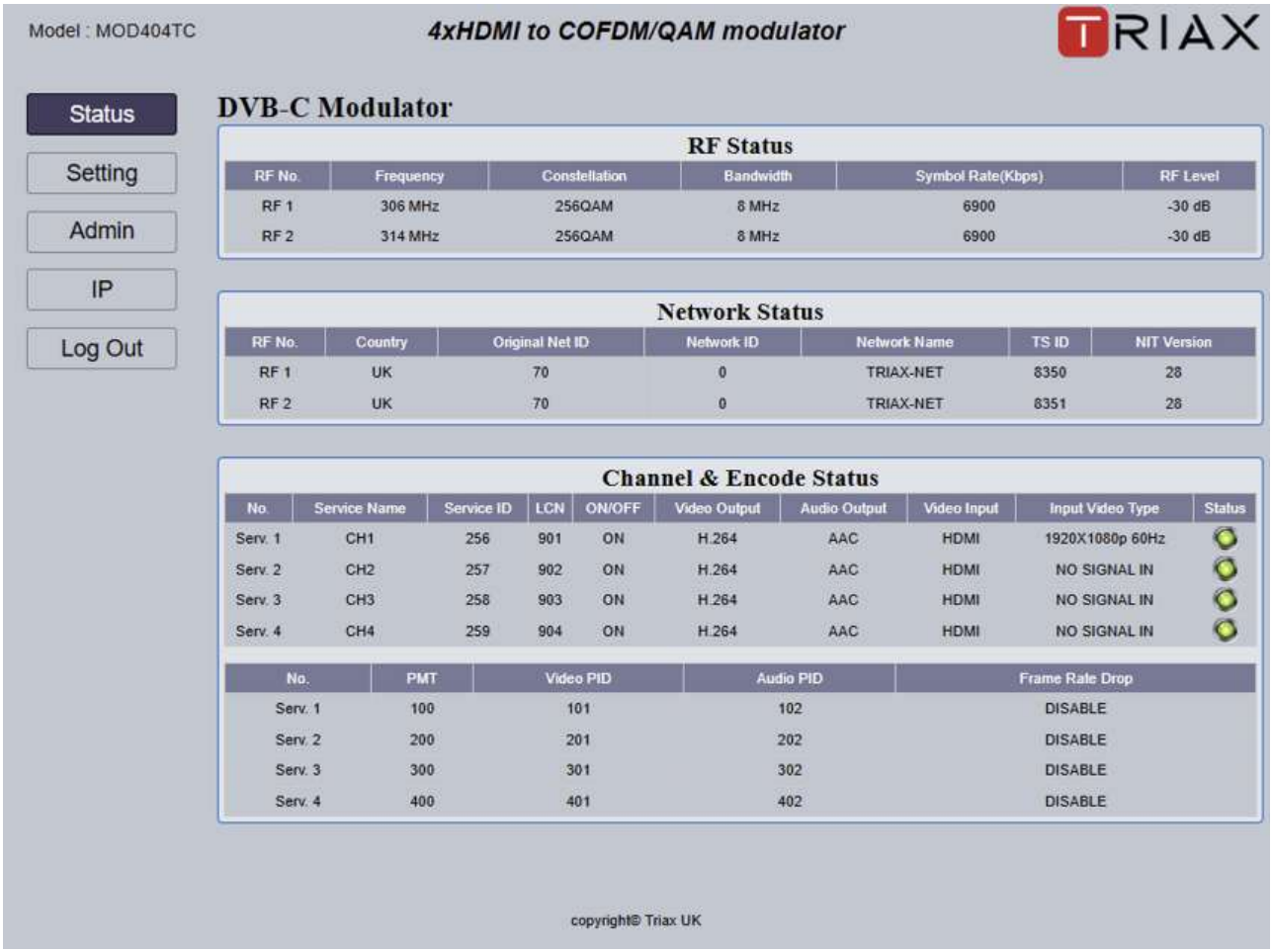
This page gives you an overview of Modulator’s

- RF status
- Network status
- Channel & Encode status



- Status LED: A green light indicates that this service is on, and grey indicates that this service is off.
- Input Video Type Indicator: Displays the video format detected on the HDMI input.

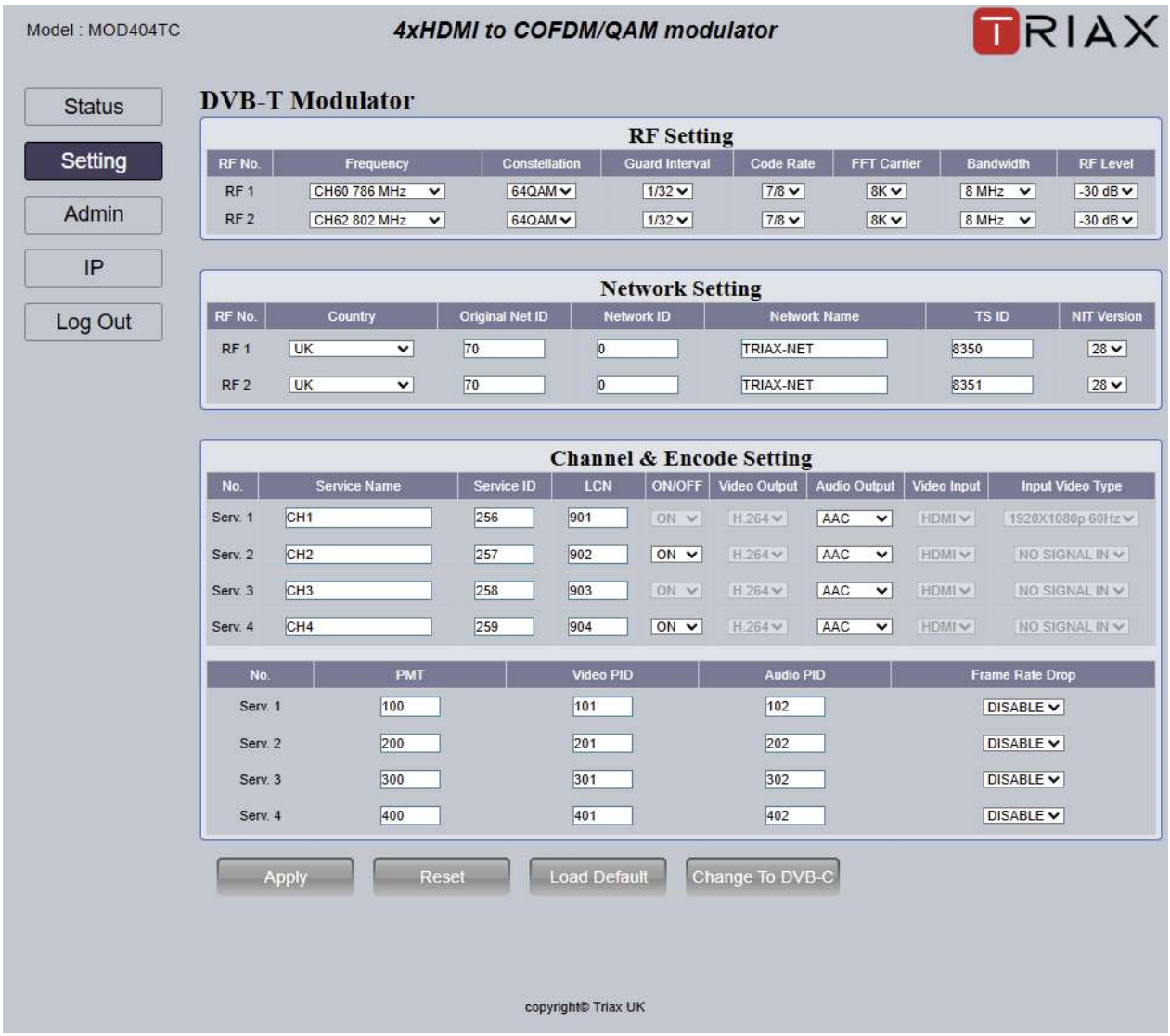
To change from DVB-T to DVB-C status or Settings, select Change to DVB-C



- Status LED: A green light indicates that this service is on, and grey indicates that this service is off.
- Input Video Type Indicator: Displays the video format detected on the HDMI input.

4.3.1 DVB-T settings

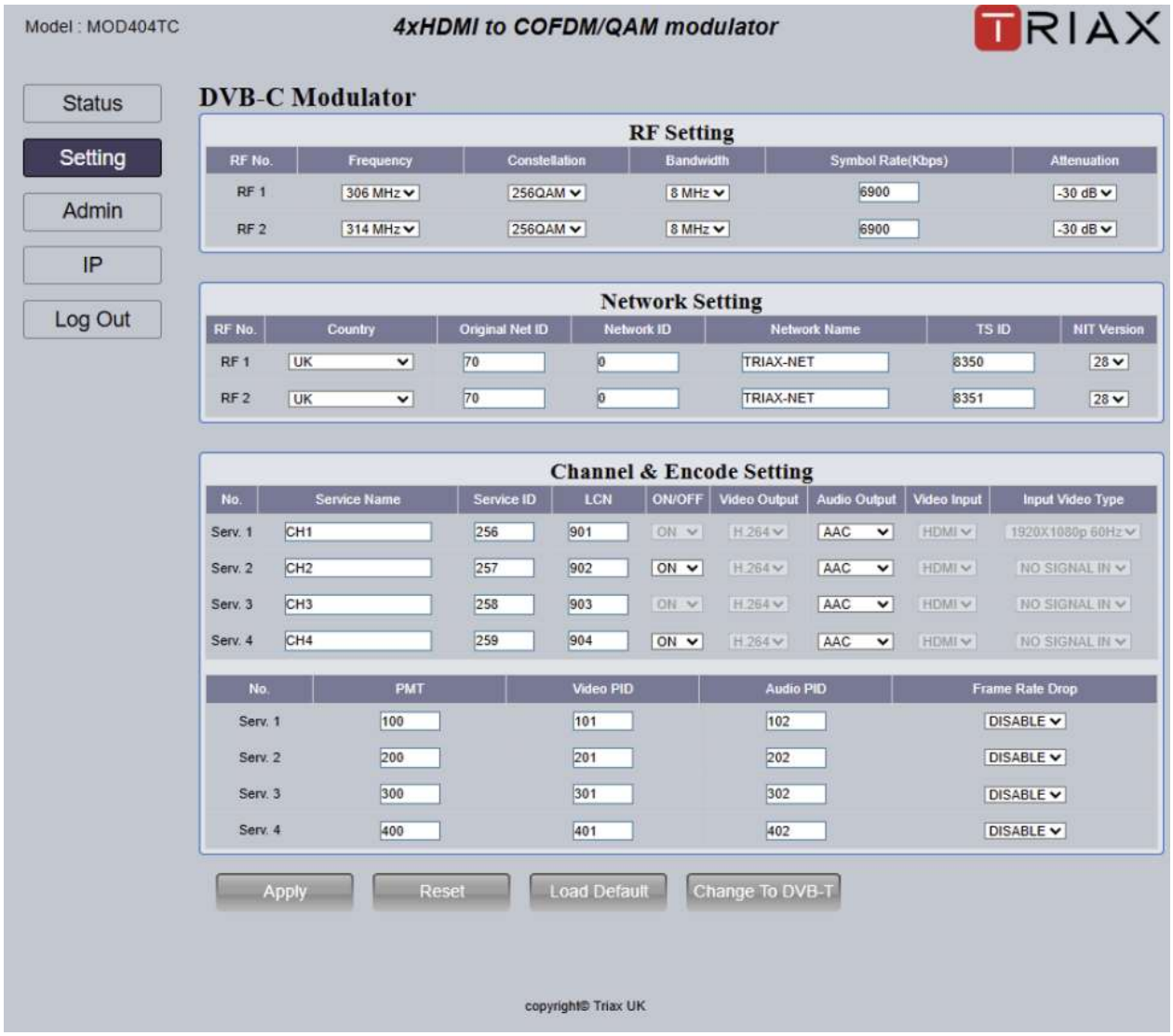
Use this Setting page to edit and set the RF settings, Network settings and Channel & encode setting as shown below.



To change from DVB-T to DVB-C Settings, select Change to DVB-C

4.3.2 DVB-C settings

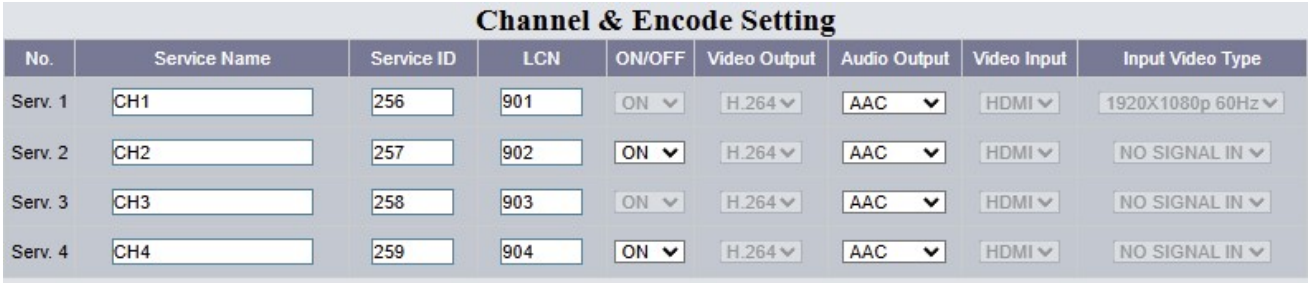
Use this Setting page to edit and set the RF settings, Network settings and Channel & encode setting as shown below.



4.4 Step 4: Local Save

Perform apply once all parameters are set.

Changes made to an individual setup tab may require the installer to perform a apply to the device if you are only making changes to one parameter of the encoder.

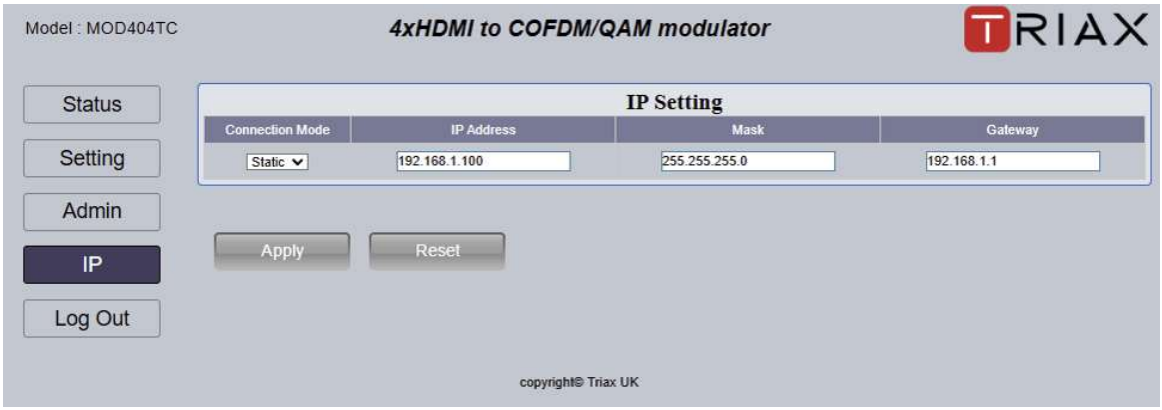


4.5 Step 5: IP settings

Use the IP section to configure the device's IP address, Mask, Gateway, …

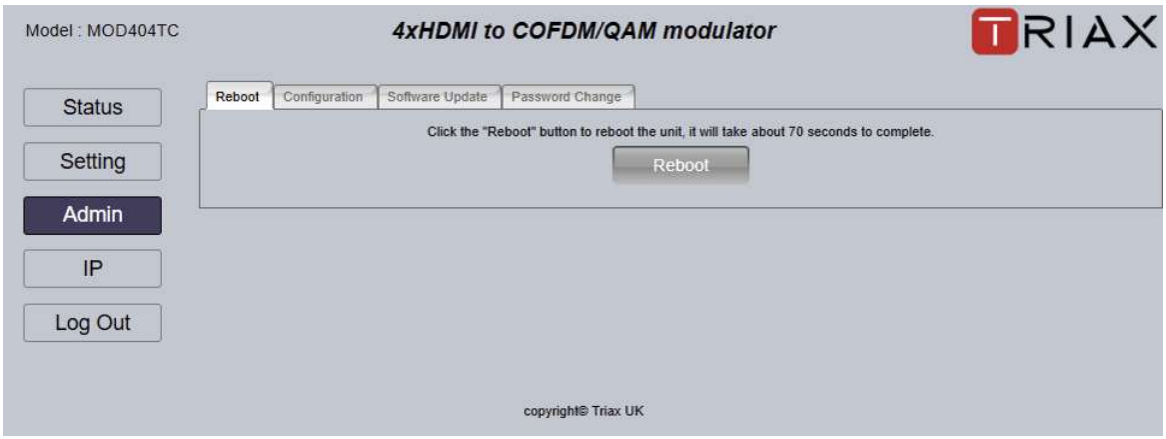
4.6 Step 6: Save IP Configuration

Press "Apply" once all parameters are set.



4.7 Step 7: Administration

Use the Admin Setup Tab to set the device's reboot, configuration, software update, password change,



Administration Page Functions	**Actions**
Reboot	Reboot device. All unsaved settings will be lost.
Configuration	User can upload the file with pre-saved configuration settings to device.
Software Upgrade	Upload a saved firmware file
Password Change	Create and save new password for GUI

To upload a configuration file- simply click "Choose File" then locate the file you want to upload. Click "Upload" to install the configuration files. This function is helpful to the installer when installing a large number of encoders in a single system.

***Frame Rate Drop Function**

Function designed for scenarios where the HDMI input is 1080p50/60. As certain TVs may not support decoding 1080p50/p60 signals, enabling this feature allows the modulator to downscale the output to 1080p25/30 resolution for better compatibility.

5 Menu tree

5.1 DVB-T menu tree

DVB-T Setting	NO	Layer 1	Value	Layer 2
Network Edit	1	Country	Other	AUSTALIA, CROATIA, CZECH, DENMARK, ESTONIA, FINLAND, FRANCE, IRELAND, ITALY, LATVIA, NETHERLANDS, NEW ZEALAND, NORWAY, POLAND, PORTUGAL, SLOVAK, SWEDEN, UK, Other
	2	Original Network ID	8350	1 - 65535
	3	Network ID	13057	1 - 65535
	4	Network Name	Private Network	
	5	TS ID	128	1 - 65535
	6	NIT Version	0	0 - 31
CH & Enc Edit	1	CHX Service Name	CH 1	
	2	CHX Service ID	1	1 - 65535
	3	CHX LCN	1	1 - 1023
	4	CHX ON/OFF	ON	ON, OFF
	5	CHX Video Output	H.264	
	6	CHX Audio Output	MPEG-2	MPEG-2/AAC
	7	CHX Video Input	HDMI	
	8	CHX Input Video	No SIGNAL IN	
	9	CHX Status	Running	
	10	CHX PMT	37	
	11	CHX Video PID	32	
	12	CHX Audio PID	33	
	13	CHX FRAME DROP	DISABLE	DISABLE, ENABLE
RF Edit	1	Frequency	178.75MHz	177.00 MHz - 858.00 MHz
	2	Constellation	64QAM	
	3	Guard Interval	1/32	
	4	Code Rate	7/8	
	5	FFT Carrier	8K	
	6	Bandwidth	8 MHz	6, 7, 8, 7 - 8 MHz
	7	RF Level	00 dB	00 ~ -30 dB

5.2 DVB-C Menu Tree

DVB-C Setting	NO	Layer 1	Value	Layer 2
Network Edit	1	Country	Other	AUSTALIA, CROATIA, CZECH, DENMARK, ESTONIA, FINLAND, FRANCE, IRELAND, ITALY, LATVIA, NETHERLANDS, NEW ZEALAND, NORWAY, POLAND, PORTUGAL, SLOVAK, SWEDEN, UK, Other
	2	Original Network ID	8350	1 - 65535
	3	Network ID	13057	1 - 65535
	4	Network Name	Private Network	
	5	TS ID	128	1 - 65535
	6	NIT Version	0	0 - 31
CH & Enc Edit	1	CHX Service Name	CH 1	
	2	CHX Service ID	1	1 - 65535
	3	CHX LCN	1	1 - 1023
	4	CHX ON/OFF	ON	ON, OFF
	5	CHX Video Output	H.264	
	6	CHX Audio Output	MPEG-2	MPEG-2/AAC
	7	CHX Video Input	HDMI	
	8	CHX Input Video	No SIGNAL IN	
	9	CHX Status	Running	
	10	CHX PMT	37	
	11	CHX Video PID	32	
	12	CHX Audio PID	33	
	13	CHX FRAME DROP	DISABLE	DISABLE, ENABLE
RF Edit	1	Frequency	105.00 MHz	105.00 MHz - 858.00 MHz
	2	Constellation	64QAM	16, 32, 64, 128, 256 QAM
	3	Bandwidth	8 MHz	7, 8 MHz
	4	Symbol Rate (Kbps)	6900	2000 - 6900
	5	RF Level	00 dB	00 ~ -30 dB
IP Edit	1	Connection Mode	Static	Static, DHCP
	2	IP Address	192.168.001.100	
	3	Mask	255.255.255.000	
	4	Gateway	192.168.001.001	
Load Default	1	Load Default? Yes No		
Change to DVB-T	1	Change to DVB-T Yes No		
Change to DVB-C	1	Change to DVB-C Yes No		
Change Password	1	New Password ********		

6 MOD404TC Default Configuration

6.1 DVB-T default values

DVB-T Setting	NO	Layer 1	Value	Comment
Network Edit	1	Country	UK	
	2	Original Network ID	70	
	3	Network ID	0	
	4	Network Name	TRIAX-NET	
	5	TS ID	8350	
	6	NIT Version	28	
CH&Enc Edit	1	Service Service Name	CH…	see value on table
	2	Service Service ID	256…259	see value on table
	3	Service LCN	901…904	see value on table
	4	Service ON/OFF	ON	
	5	Service Video Output	H.264	
	6	Service Audio Output	AAC	
	7	Service Video Input	HDMI	
	8	Service Input Video	No SIGNAL IN	
	9	Service Status	Running	
	10	Service PMT	100…400	see value on table
	11	Service Video PID	101…401	see value on table
	12	Service Audio PID	102…402	see value on table
	13	Service FRAME DROP	DISABLE	
RF Edit	1	Frequency	Channels UHF 60 and 62	
	2	Constellation	64QAM	
	3	Guard Interval	1/32	
	4	Code Rate	7/8	
	5	FFT Carrier	8K	
	6	Bandwidth	8 MHz	
	7	RF Level	-30 dB	

Table value					
CH	**Service ID**	**LCN**	**PMT**	**Video PID**	**Audio PID**
CH1 for channel 1	256	901	100	101	102
CH2 for channel 2	257	902	200	201	202
CH3 for channel 3	258	903	300	301	302
CH4 for channel 4	259	904	400	401	402

6.2 DVB-C default values

DVB-C Setting	NO	Layer 1	Value	Comment
Network Edit	1	Country	UK	
	2	Original Network ID	70	
	3	Network ID	0	
	4	Network Name	TRIAX-NET	
	5	TS ID	8350	
	6	NIT Version	28	
CH&Enc Edit	1	Service Service Name	CH…	see value on table
	2	Service Service ID	256…259	see value on table
	3	Service LCN	901…904	see value on table
	4	Service ON/OFF	ON	
	5	Service Video Output	H.264	
	6	Service Audio Output	AAC	
	7	Service Video Input	HDMI	
	8	Service Input Video	No SIGNAL IN	
	9	Service Status	Running	
	10	Service PMT	100…400	see value on table
	11	Service Video PID	101…401	see value on table
	12	Service Audio PID	102…402	see value on table
	13	Service FRAME DROP	DISABLE	
RF Edit	1	Frequency	306.00 MHz & 314 MHz	
	2	Constellation	256QAM	
	3	Bandwidth	8 MHz	
	4	Symbol Rate (Kbps)	6900	
	5	RF Level	-30 dB	

Table value					
CH	Service ID	LCN	PMT	Video PID	Audio PID
CH1 for channel 1	256	901	100	101	102
CH2 for channel 2	257	902	200	201	202
CH3 for channel 3	258	903	300	301	302
CH4 for channel 4	259	904	400	401	402

7 EU Declaration of Conformity

The product Declaration of Conformity can be downloaded from the product page at www.triax.com

8 Conditions of warranty

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

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

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

- Misuse or use of the product outside of its specifications,
- Installation or use in a manner inconsistent with the technical or safety standards in force in the country where the product is used,
- Use of non-suitable accessories (power supply, adapters...),
- Installation in a defective system,
- External cause beyond the control of TRIAX UK such as drop, accidents, lightning, fire, …

THE WARRANTY IS NOT APPLIED IF

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

NOTE

Date of production can be found in the product's serial number code. The format is "0MOD404TC002026030001 ».

- 0: is always a 0
- MOD404TC: article number (300133)
- 00: hardware version
- 202603: production year & week
- 0001: counter

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