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User Manual

TDHI 4H-IP
HD IP Streaming Server

Article				Article no.
TDHI 4H-IP	HD IP Streaming Server			492081
Version	V1.3	Date	2024/5/3	EN

triax.com

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1 Safety regulations and notes

ATTENTION

Please read this user manual before using the streamer. It contains important information about operating your streamer kit.

Our limited warranty applies when the product is handled properly for intended use, in accordance with its operating instruction. However, the warranty may be void in the following cases:

- Repair, product modification or alteration have been performed by unauthorized service personnel
- Damages caused by accidents, including but not limited to, lightning, water, fire, or moisture
- Use of an AC adapter not compatible with the product and its voltage rating
- The model number on the product has been altered, deleted, removed or made illegible.

CAUTION

- The device meets the EU **EMC, Rohs** and **LVD (Safety)** directives as follows:
  - **EMC directive 2014/30/EU**
    EN 55032 : 2015 + A11:2020
    EN 55035 : 2017 + A11:2020
    EN 61000-3-2 : 2014
    EN 61000-3-3 : 2013

  - **Rohs2 directive 2011/65/EU**
    EN 63000 : 2018

  - **LVD directive 2014/35/EU**.
    EN IEC 62368-1 : 2020 + A11:2020

- The safety requirements are according to the standards EN 62368-1 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 connectors are tightly mounted, and that cables and connectors are of the right quality / screening.
- 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 (CR 2032 type) as backup power source for the clock.

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 of 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

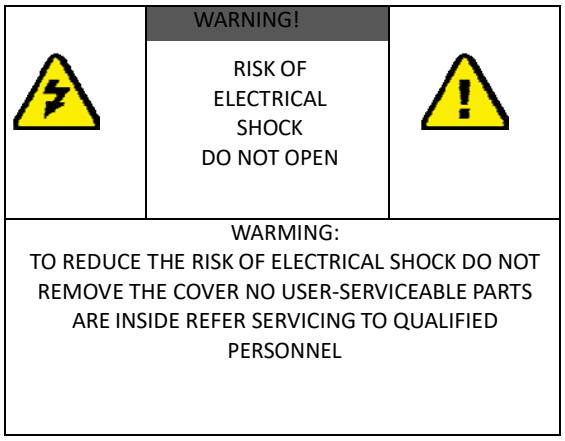
- The HD IP streamer is an indoor product
- Do not expose the unit to rain or moisture.
- Install the unit in a dry location without infiltration or condensation of water. In case of the formation of condensation wait until the system is completely dried.
- Do not expose it to dripping or splashing.
- If any liquid should accidentally fall into the cabinet, disconnect the power plug.
- Install the unit where it is protected from direct exposure to sunlight.
- Install the unit not within the immediate vicinity of heat sources.
- Do not install the unit in cabinets or recesses which are not ventilated.
- Do not place any vessels containing liquids on the unit.
- Do not place anything on the unit which could initiate fires.
- Place the unit on a flat, hard and stable surface

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 unit is adequately ventilated.
- Put the streamer in a property ventilated area, away from direct sunlight or any source of heat.

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.
- Be sure the power cord is routed so that it will not be stepped on or pinched by heavy items.
- Pull out power plug when making connections of cables, such as any Media player device connection.
- Always disconnect the power cord from the power outlet if it is left unattended for a long period of time and when you are not using your streamer kit. This reduces the risk of electric shocks or fire and protect the product from lightning.
- To avoid electrical shock, do not open the housing.



WEEE disposal

Electronic devices should never be disposed of in the household rubbish. In accordance with directive 2011/65/EU of the European Parliament and the European Council from June 8, 2011 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 Declaration of Conformity

Declaration of Conformity

The manufacturer: TRIAX UK I Treorchy I RCT I CF42 6DL I UK

declares that the product: **492081 TDHI 4H-IP (HD IP Streaming Server)**

is compliant to the directives:
LVD – 2014/35/EU
RoHS – 2011/65/EU,
EMC – 2014/30/EU

by meeting the following harmonized standards:

EMC directive 2014/30/EU

EN 55032 : 2015 + A11:2020
EN 55035 : 2017 + A11:2020
EN 61000-3-2 : 2014
EN 61000-3-3 : 2013

Rohs2 directive 2011/65/ EU

EN 63000 : 2018

LVD directive 2014/35/ EU

EN IEC 62368-1 : 2020 + A11:2020

TRIAX TRIAX UK

Glenn Vaughan
CEO

2023-12-13

3 Revision history

Version 1.0	user manual - First release	05/2022
Version 1.1	update with new pictures	05/2023
Version 1.2	document update	08/2023
Version 1.3	document update	05/2024

4 TDHI 4H-IP STREAMING SERVER Overview

4.1 Product description

TDHI 4H-IP Streaming Server allows users to stream HDMI source over Network to IP Box or computers within Network

4.1.1 Description of controls and components

1	TDHI 4H-IP	Model name
2	LCD Display	Configuration and system status
3	Key PAD / Home	Return to previous or Start menu
4	Key PAD / Left & Right	Move Right / Left between menu / characters
5	Key PAD / Upper & Down	Increase / Decrease the field value Increase / Decrease value of the password
6	Key PAD / Enter	Select parameter / menu
7	IP output	RJ-45,GbE / 10M, 100M, 1000M
8	Ethernet Port	RJ-45,GbE / Chrome
9	LED	Indicates device is encoding (HDMI Only)
10	Audio/Video Input * 4	HDMI
11	AC input	AC 100~240V / 50~60Hz

Front and rear panels

4.2 Technical data

INTERFACES	
Ethernet (output)	1Gbps, RJ-45
Video Input	HDMI
Audio Input	HDMI
ENCODING	
Video Format	HD:H.264 AVC/HP@L4.0 SD:MPEG-2/MP@ML
Audio Format	MPEG2/AAC
Resolution	HD: 1080P25,1080P30, 1080i 50/60 Max SD 480i,576i
Video bitrate	13 Mbps MAX
Audio bitrate	384Kbps
INPUT	
Video Input	HDMI: 1080P 25/30, 1080i 50/60 Max
Streaming Protocols	UDP/RTP multicasting UDP/RTP unicasting
MANAGEMENT / CONTROL	
Web Management	RJ-45 Ethernet port
GENERAL	
Power Supply	AC 100~240V 50/60Hz
Consumption	18 W
Languages	English
Dimensions	19” * 12.5” * 1.75”
Weight	2800g

5 TDHI 4H-IP STREAMING SERVER Mounting

5.1 Installing the device in rack

The TDHI 4H-IP Streaming Server must be 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!

5.2 Packaging content

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

Part Description	Quantity
TDHI 4H-IP Streaming Server	1 EA
Power cord	1 EA
User Manual	1 EA

5.3 Connecting the device

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).

6 TDHI 4H-IP STREAMING SERVER Installation

6.1 Start setup

DEVICE Programming and Setup

1. Apply power.
2. Connect Audio / Video source

Connecting to the GUI Interface:

1.Connect an Ethernet cable directly to the Web Management Ethernet port on the rear panel of the HD IP streaming server or connect the Ethernet cable to an Ethernet switch /router. Connect an Ethernet Cable to your PC.

2. Using a Windows-based PC Select Windows Icon

3. Check Streamer IP address can be configured by using the LCD screen on the front of the unit using the right button.

4. After selecting Network- the IP streamer Icon will show up on the right side under Media Devices. Each device found will be displayed by the Device Address.

5. Right Click on the device icon, Select 'View Device Webpage

6.1.1 Static IP address

A static on the computer you for assistance on using static IP addresses. (triax sentence)

The IP streaming server will use an assigned Web IP address “192.168.1.99 “ and IP out address “192.168.2.100” for first sample. the IP Setting is Static mode

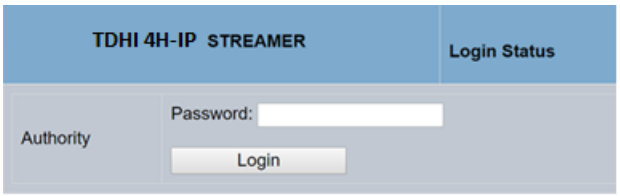
6.1.2 Status LED

LED : Indicates device is encoding (HDMI Only)

6.2 Interface (GUI)

6.2.1 Login

Login Password:
Default Password: 0000



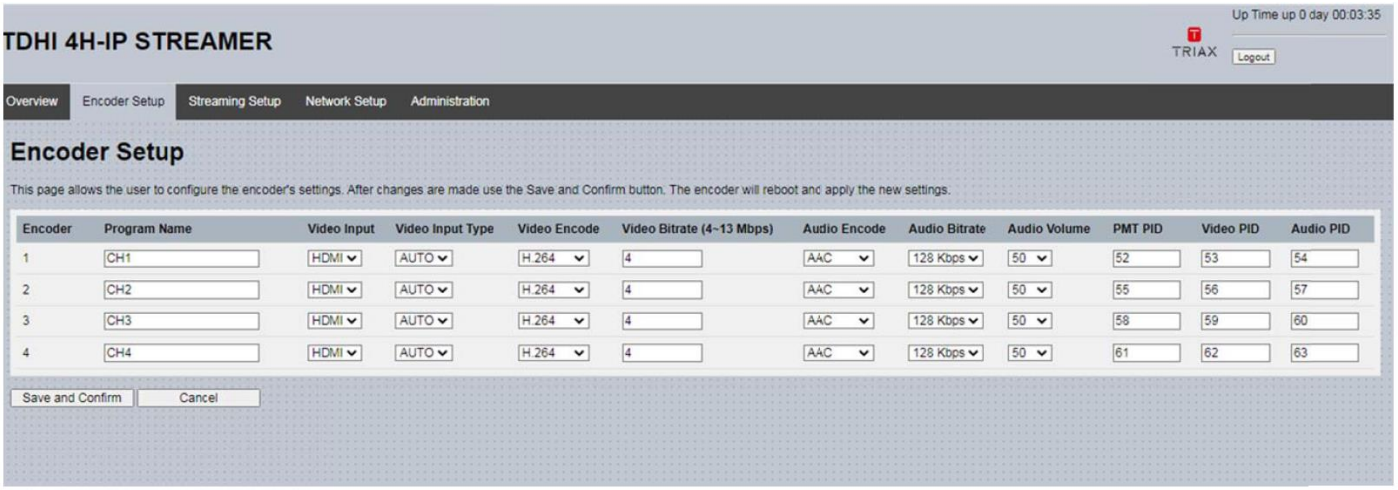
When the installer setup the unit for the first time he MUST change the password to a individual and unique password.

6.2.2 Admin menu overview

Display the current status and settings for Encoder & Streaming

6.3 Settings

6.3.1 Encoder setup

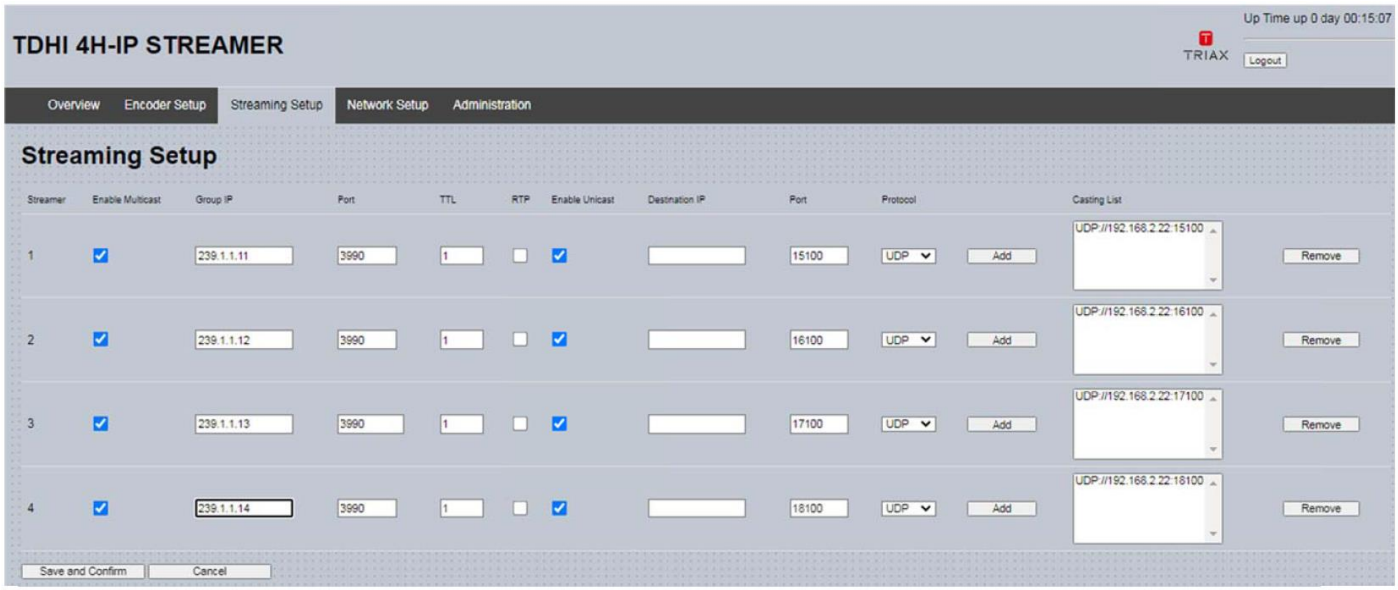


6.3.2 Local save

Perform “Save and Confirm” 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 IP streamer

6.3.3 Streaming setup



Use the Streaming Setup Page to setup your required streaming method.

To stream using Multicast and Unicast enabling function.

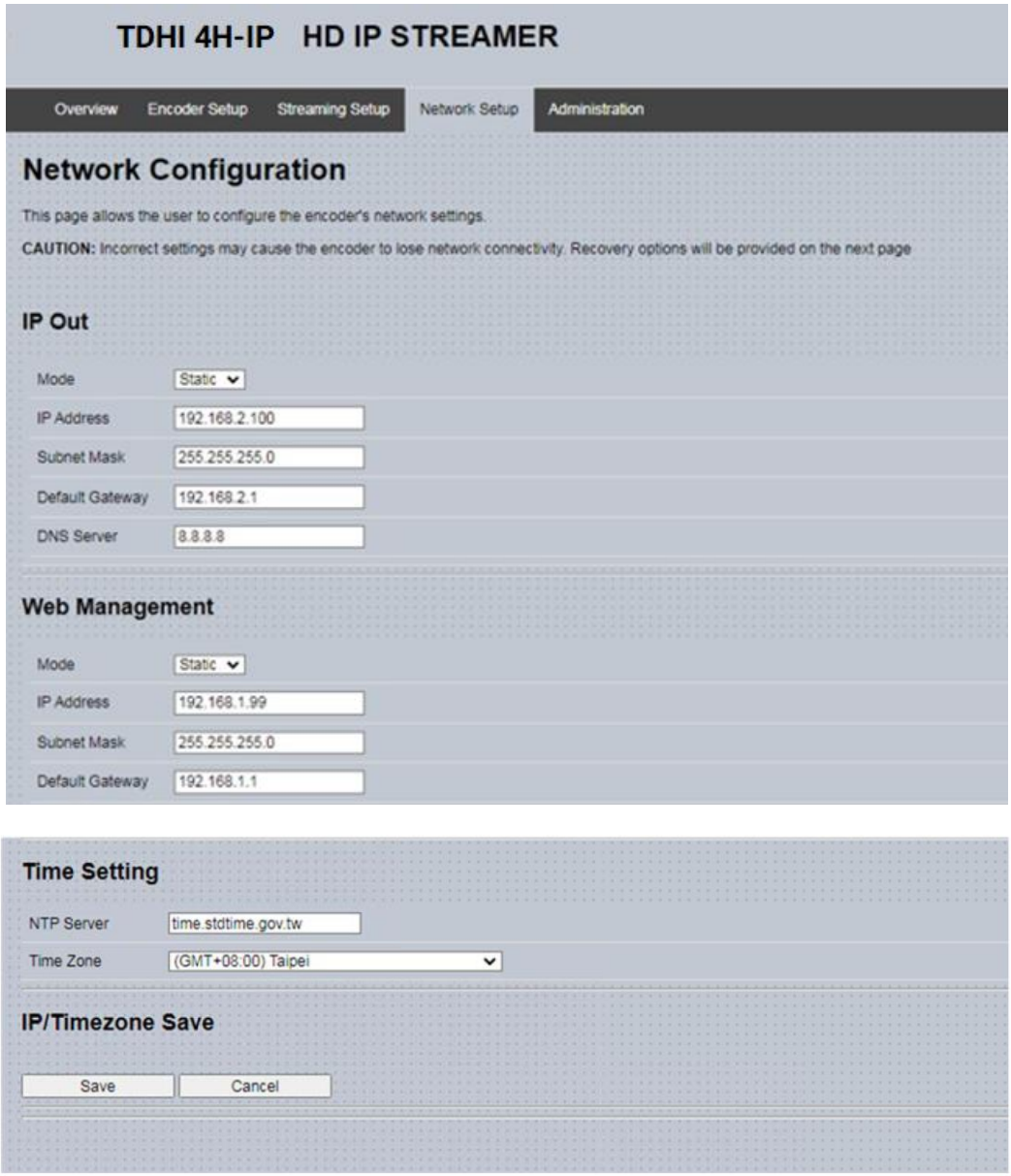
“Save and Confirm” all changes/settings.

Note: Default IP address (Multicast UDP) is 235.0.0.0 for streamers. Ensure when setting up the streamers that a unique Multicast UDP address is used for streamer.

6.3.4 Network configuration

Use the IP Setup Tab to configure the device’s IP address, Mask, Gateway,

Perform apply once all parameters are set.



6.3.5 Administration

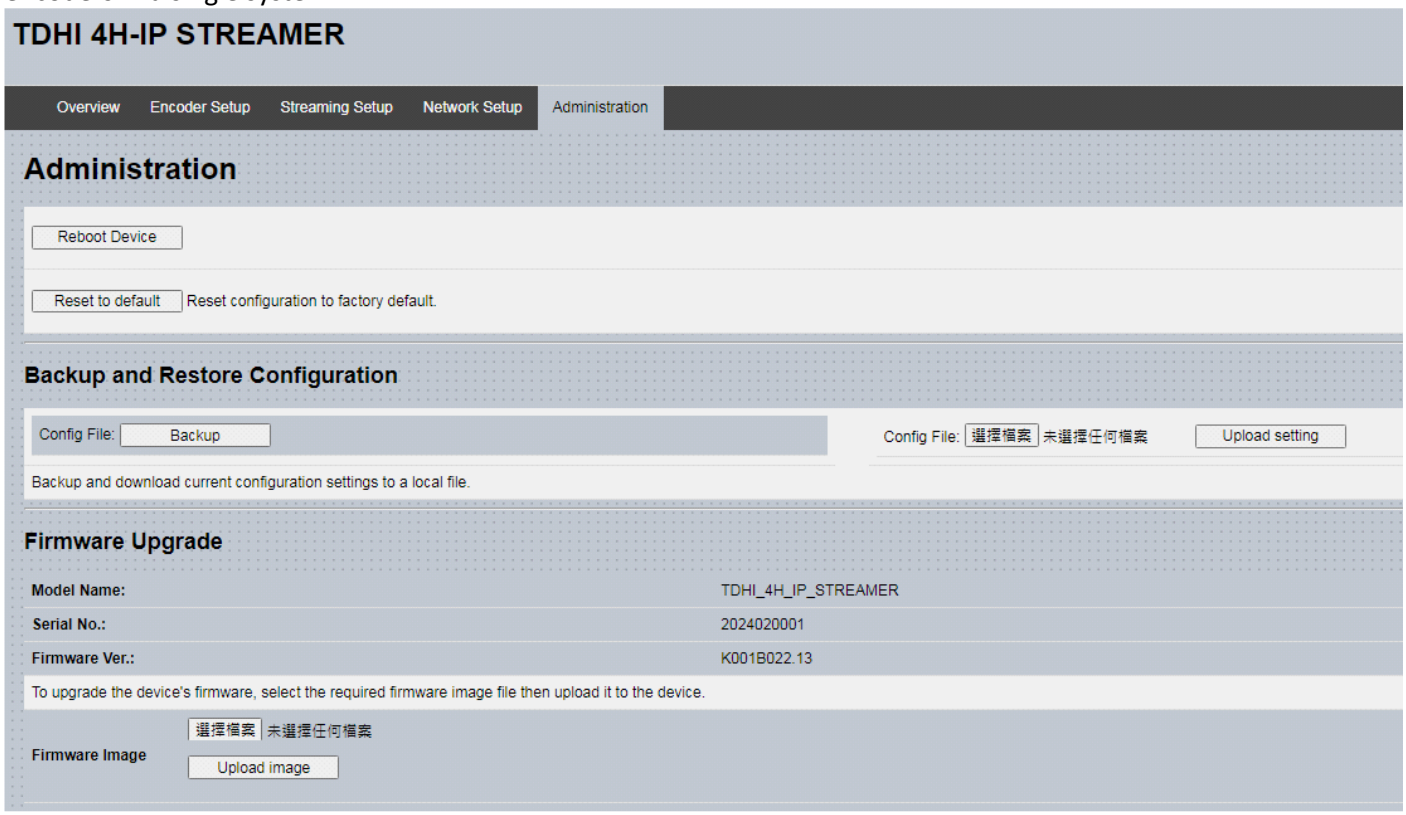
Selecting “Reset to default” will automatically reset all saved settings back to factory default settings.

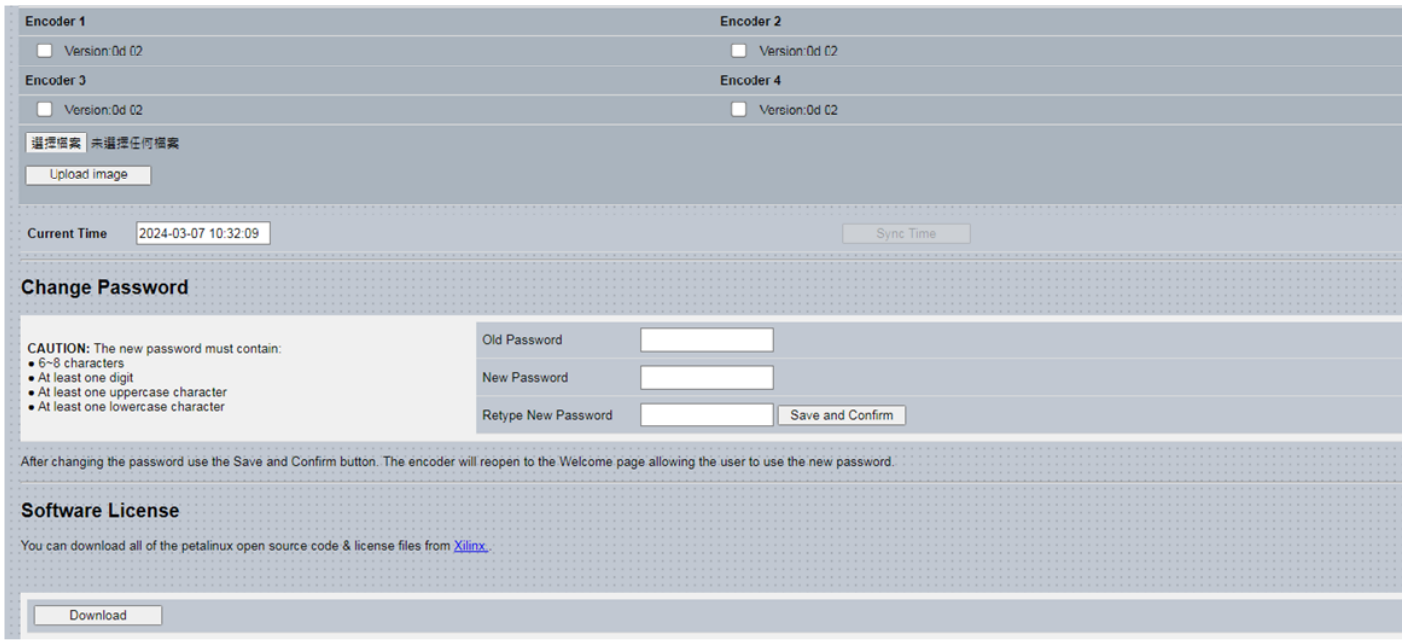
All saved settings will be lost.

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

Administration Page Functions	Actions
Reboot Device	Reboot device.
Reset to Default	Reset configuration to factory default.
Configuration	User can upload the file with pre-saved configuration settings to device.
Firmware Upgrade	Upload a saved firmware file
Change Password	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.





Saving your configuration files:

We highly recommend you save your configuration files.
Simply Click the “Backup” button and the config files will be saved to your computer.
To upload a configuration file- simply click “Choose File” then locate the file you want to upload.
Click “Upload Settings” to install the configuration files.
This function is helpful to the installer when installing a large number of streamer in a single system.
We highly recommend saving the settings of your streamer.
A “ backup_ param. config” file will be created. Locate the file follow up browser settings.

6.4 The menu tree

6.4.1 Streamer Web-UI

MAIN		Layer 1 (ITEM)		Layer 2(DEFAULT)	Layer 2 (VALUE)
Encoder setup	1	Program Name		CH1	
	2	Video Input		HDMI	HDMI
	3	Video Input Type		AUTO	HDMI: AUTO
	4	Video Encode		H.264	H.264, MPEG-2
	5	Video Bitrate(4~13 Mbps)		4	4~13 Mbps
	6	Audio Encode		AAC	MPEG-2, AAC
	7	Audio Bitrate		128 Kbps	384,320,256,224,192,160,128, 112,96,64
	8	PMT PID		52	50~8190
	9	Video PID		53	50~8190
	10	Audio PID		54	50~8190
	11	Save and Confirm /Cancel			
Streaming Setup	1	MultiCasting	Enable MultiCast		
	2		Group IP	235.0.0.0	
	3		MultiCast Port	5301	1~65535
	4		MultiCast TTL	1	1~255
	5		Enable RTP		
	6	UniCasting	Enable UniCast		
	7		Destination IP		
	8		Destination Port	15100	
	9		Protocol	UDP	UDP/RTP
	10	Casting List		15100	
	11	Save and Confirm /Cance			
Network Configuration	1	IP Out	Mode	Static	DHCP, Static
	2		IP Address	192.168.2.100	
	3		Subnet Mask	255.255.255.0	
	4		Default Gateway	192.168.2.1	
	5		DNS Server	8.8.8.8	
	6	Web Management	Mode	Static	DHCP, Static
	7		IP Address	192.168.1.99	
	8		Subnet Mask	255.255.255.0	
	9		Default Gateway	192.168.1.1	
	10	Time Setting	NTP Server	time.stdtime.gov.tw	
	11		Time Zone	Pls. use local NTP server	
	12	IP/Timezone	Save /Cancel		

6.4.2 Streamer Configuration via Front Panel LCD

MAIN		Layer 1 (ITEM)	Layer 2(DEFAULT)	Layer 2 (VALUE)
System	1	NTP Server	time.stdtime.gov	
	2	Time Zone	Pls. use local NTP server	
	3	Change Password		
	4	Firmware Version	K001B022.16.5	
	5	Loader Version	L001B006	
IP Out	1	DHCP(eth0)	no	
	2	IP(eth0)	192.168.002.100	
	3	Sub Mask(eth0)	255.255.255.000	
	4	Getway(eth0)	192.168.002.001	
	5	DNS(eth0)	8.8.8.8	
Web Management	1	DHCP(eth1)	no	no, yes
	2	IP(eth1)	192.168.001.099	
	3	Sub Mask(eth1)	255.255.255.000	
	4	Getway(eth1)	192.168.001.001	
Encoder 1	1	PROG. name	CH1	
	2	Video Input	HDMI	HDMI
	3	Input Type	AUTO	HDMI: AUTO
	4	Video Encode	H.264	H.264, MPEG-2
	5	Video Bitrate	4	4~13 Mbps
	6	Audio Encode	AAC	MPEG-2, AAC
	7	Audio Bitrate	128 Kbps	384,320,256,224,192,160,128, 112,96,64
	8	PMT PID	0052	50~8190
	9	Video PID	0053	50~8190
	10	Audio PID	0054	50~8190
Streamer 1	1	Multicast	no	no, yes
	2	Multicast TTL	001	
	3	Multicast GRP	235.000.000.000	
	4	Multicast RTP	no	no, yes
	5	Multicast Port	05301	
	6	Unicast Enable	no	no, yes
	7	Unicast Protocol	UDP	UDP/RTP
	8	Unicast IP 1,2,3,4	000.000.000.000	
	9	Uni-IP 1,2,3,4 UDP	UDP	UDP/RTP
	10	Uni-IP 1,2,3,4 Port	00001	
Factory Default	1	Restore Default ?	Yes	
	2	Save Config?	no	no, yes

6.4.3 Product specification

Interfaces	
Ethernet (output)	1Gbps, RJ-45
Video Input	HDMI
Audio Input	HDMI
Encoding	
Video Format	HD:H.264 AVC/HP@L4.0 SD:MPEG-2/MP@ML
Audio Format	MPEG2/AAC
Resolution	HD: 1080P25,1080P30, 1080i 50/60 Max SD 480i,576i
Video bitrate	13 Mbps MAX
Audio bitrate	384Kbps
Input	
Video Input	HDMI:1080P 25/30, 1080i 50/60 Max,
Streaming Protocols	UDP/RTP multicasting UDP/RTP unicasting
Management / Control	
Web Management	RJ-45 Ethernet port
GENERAL	
Power Supply	AC 100~240V 50/60Hz
Consumption	18 W
Languages	English
Dimensions	19” * 12.5” * 1.75”
Weight	2800g

7 TDHI 4H-IP STREAMING SERVER connected to TRIAX headend

The TDHI 4H-IP STREAMING SERVER connects to the TRIAX headend systems via a FREE of charge 4 IP-IN license. Please contact your TRIAX support team for further information and for receiving the headend license.

8 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
end-user	A person that uses a TV or receiver.
Installer	A person that installs, deploys and maintains the streamer/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