

# DT-QAM-ENCMOD-8 User Manual



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## Introduction

The DT-QAM-ENCMOD-8 is designed with 8 HDMI input connectors. After encoding and multiplexing, the device will modulate the signals into DVB-T/ T2, DVB-C, ATSC, ISDB and DTMB standards. Thanks to its IP input port in the front panel, it can take in the IP signal and output in RF signal as well.

## Features

1. Video encoding in H.264 and audio encoding in MPEG and AAC.
2. Supports all major resolutions from 480i through 1080P
3. Supports CA PID filtering, remapping and PSI/SI editing
4. Easy configuration with built-in Web UI

## Specifications

Input	
Input Connector	RJ45 - 1 GbE and HDMI - 8
Transport Protocol	UDP, RTP
Max Input IP Address	256
Input Transport Stream	MPTS and SPTS

Output					
Standard	DVB-C	DVB-T	ATSC	J.83B	DTMB
Bandwidth	6M	6, 7 or 8 M	6M	6 M	8 M
Constellation	64 QAM, 256 QAM	QPSK, 16QAM, 64QAM	8VSB	64 QAM, 256 QAM	QPSK, 16QAM, 32QAM, 64QAM QAM_4NR
Other Settings	Symbol Rate	Code Rate	-	-	Code Rate
	-	Guard Interval			Interleave
		2K, 4K, 8K			Sync Frame
		-			PN Phase

RF	
Output Level	≥ 45dBmV
Frequency Range	50-999.999 MHz
Out-band Rejection	≥60 dB
MER	Typ. 38 dB

General	
Power Consumption	60 W
Weight	8.2 lbs (3.71 kg)
Dimensions	12.52 x 10.24 x 1.73" (318 x 260 x 44 mm)
Language	English
Warranty	1-Year Limited Warranty

**TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER FROM THIS UNIT. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.**

<b>WARNING: TO PREVENT SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE</b>	
 	<b>CAUTION</b> RISK OF ELECTRIC SHOCK DO NOT OPEN

## Safety Instructions

1. Read all safety and operating instructions before you operate the modulator
2. Retain all safety and operating instructions for future reference
3. Heed all warnings on the modulator and in the safety and operating instructions
4. Follow all installation, operating and use instructions.
5. Unplug the modulator from the AC power outlet before cleaning. Use only a damp cloth for cleaning the exterior of the modulator
6. Do not use accessories or attachments not recommended by us, as they may cause hazards, and will void the warranty
7. Do not operate the modulator in high-humidity areas, or expose it to water or moisture.
8. Do not place the modulator on an unstable cart, bracket or table. The modulator may fall, causing serious personal injury and damage to the modulator. Install the modulator only in a mounting rack designed for 19" rack-mounted equipment.
9. Do not block or cover slots and openings in the modulator. These are provided for ventilation and protection from overheating. Never place the modulator near or over a radiator or heat register.
10. We strongly recommend using an outlet that contains surge suppression or ground fault protection. For added protection during a lightning storm, or when the modulator is left unattended for long periods of time, unplug it from the wall outlet or PDU and disconnect the lines between the modulator and its source. This will prevent damage caused by lightning or power line surges.
11. Do not overload wall outlets or extension cords, as this can result in a risk of fire or electrical shock.
12. Never insert objects of any kind into the modulator through openings as the objects may touch dangerous voltage and will void the warranty. Refer all servicing to authorized service personnel.
13. Unplug the modulator from the wall outlet or PDU and refer servicing to authorized service personnel whenever the following occurs:
  - The power supply cord or plug is damaged
  - Liquid has been spilled into or objects have fallen into modulator
  - The modulator has been exposed to rain or water
  - The modulator has been dropped or the chassis has been damaged
  - The modulator exhibits a distinct change in performance

When replacement parts are required, ensure that the service technician uses replacement parts specified by us.



## Unpacking and Handling

A full DT-QAM-ENCMOD-8 is shipped with all equipment assembled, wired, factory tested, and then packaged in an appropriate shipping container.

- DT-QAM-ENCMOD-8 digital modulator (QTY=1)
- Power Cord and 3-pin plug (QTY=1)

## Mechanical Inspection

Inspect the front and rear of the equipment for shipping damage. Make sure the equipment is clean, and no wire, cable, or connectors are broken, damaged or loose.

## Precautions

- Avoid heat buildup
- Ensure easy access to rack wiring
- Facilitate servicing and maintenance
- Avoid direct heating or air conditioning
- Make sure rack supports are sufficiently rigid to support racks
- Beware of dripping water onto equipment from leaky roofs, waveguide roof entries and cold water pipe condensations

## Damage in Shipment

Should any damage be discovered after unpacking the unit, immediately contact DataTronix at 800-688-9282.

## Installation

The DT-QAM-ENCMOD-8 is designed to be installed in a rack shelf or a standard rack. Please follow the instructions below to install the DT-QAM-ENCMOD-8 digital modulator:

1. Connect the power plug to the jack
2. Connect the video source to the DT-QAM-ENCMOD-8 modulator
3. Connect the DT-QAM-ENCMOD-8 to your laptop or computer
4. Power up the modulator

## Front Panel View



1. **PWR** Indicate power on.
2. **RUN** The light will keep flashing when system is on.
3. **CH1-CH8**
4. **DEFAULT** - Press for 10 seconds to restore the encoder to the factory setting (Like the network setting and PID settings).
5. **NMS** - Net management system port  
 [IP:192.168.1.30; USER NAME: user ; PASSWORD: user]

## Rear Panel View



1. **HD INPUT PORTS:** Feed the HDMI signals into the modulator. The HD port
2. **RF OUT:** 40dBmV maximum output is provided at this port
3. **TEST:** Output level read at this point will be down 20dB from the actual output
4. **POWER CORD:** 12V 5A power source
5. **ON/OFF SWITCH:** Turns the unit on or off
6. **GDN:** For modulator grounding

### WARNING:

For the protection of your equipment and its proper working, it is necessary to connect the DT-QAM-ENCMOD-8 to a ground connection.

## Web Management

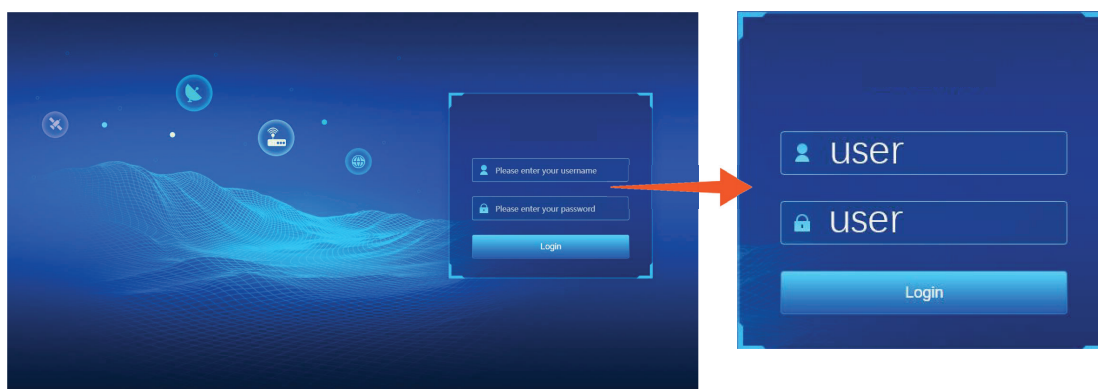
### Login:

The DT-QAM-ENCMOD-8 has a user friendly interface for programming and monitoring the device. The user can access to the built-in web UI by logging into Google Chrome, Firefox or Microsoft Edge accounts. (The best browsers)

The default user name and the default password are the following:

Username: **user**

Password: **user**



### NOTE:

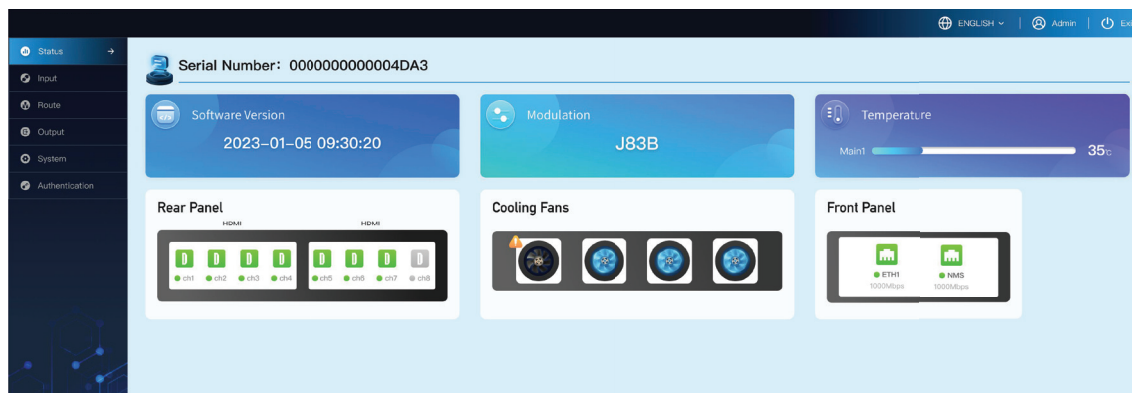
Please make sure your computers IP address is in the same subnet as the modulator.

Reminders:

1. Please change the user name and password if needed.
2. Username/password are case-sensitive and may contain letters or numbers.
3. Username/password must be a minimum of 1 byte and a maximum of 32 bytes in length.

### System Page:

This page is a read-only one which displays the general health of the unit, such as temperature, Input and output ports and Serial number. The information is provided as a quick way to monitor the system or assist with troubleshooting issue.



**Serial Number:** The unique ID for this modulator.

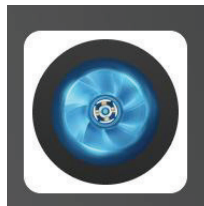
**Modulation:** Indicates the RF output modulation.

**Software Version:** If there's something wrong with this device, please send this information to us.

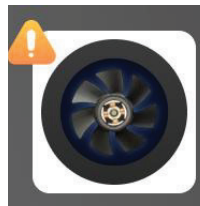
**Temperature:** Indicates the CPU working temperature in real-time.

**Rear Panel:** Indicates the input connector status. The green color means the HDMI cable is well connected while the gray means disconnected.

**Cooling Fans:** There are four cooling fans installed in the left side of the case.



The fan is working.



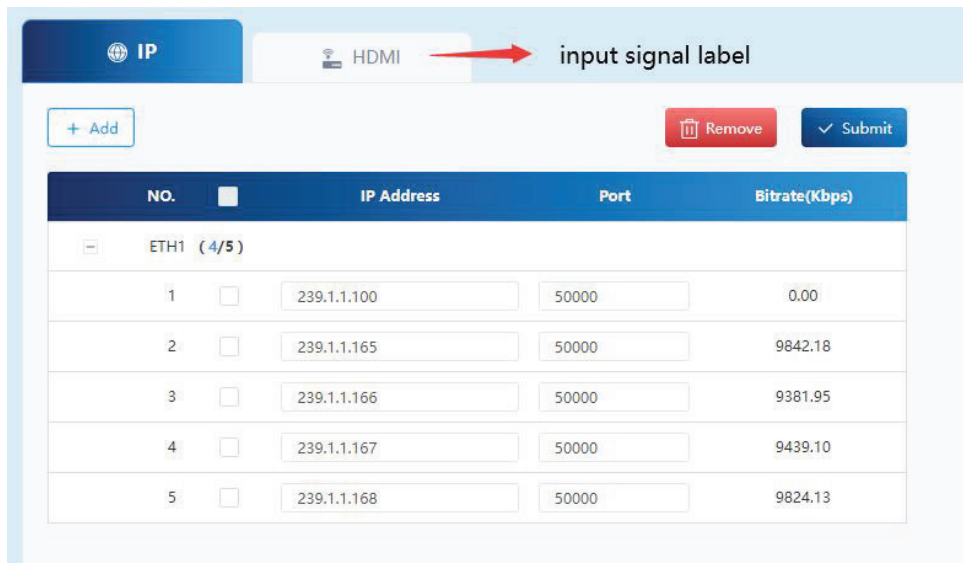
The fan is down. Please replace it.

**Front Panel:** The running status of the CPU

**Setting Flow:**



**Input Settings:**



NO.	IP Address	Port	Bitrate(Kbps)
1	239.1.1.100	50000	0.00
2	239.1.1.165	50000	9842.18
3	239.1.1.166	50000	9381.95
4	239.1.1.167	50000	9439.10
5	239.1.1.168	50000	9824.13

In the input setting page, there might be different labels with different input cards. The first one here is the IP input signal and the second label is HDMI input signal.



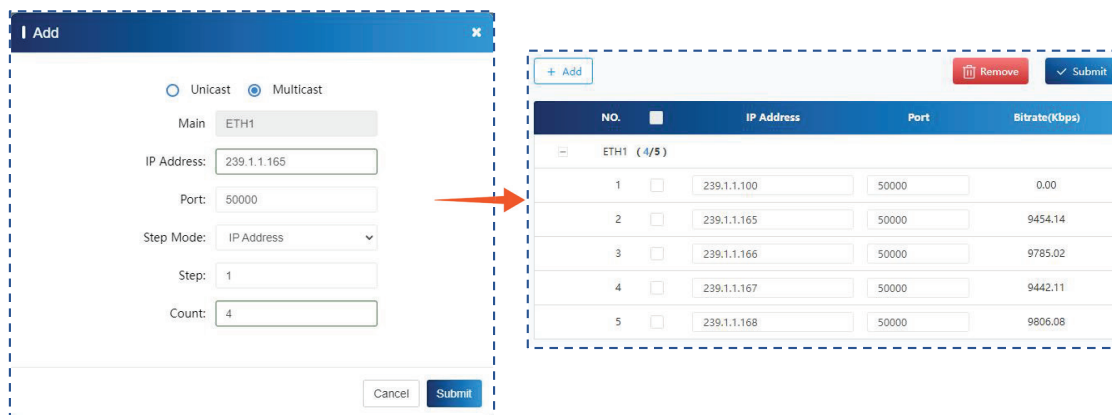
## IP Signal

Click the +Add button to add the IP address. >>>Choose the Multicast in normal situation and input your IP address.

>>>Click Submit and the system will analysis the programs in IP address, which will be listed out in the Router.

For quick input, we also provide step mode. There are three modes in it --IP address, Port and IP address with port.

Choose any of them to meet your plan.



The 'Add' dialog box shows the following configuration:

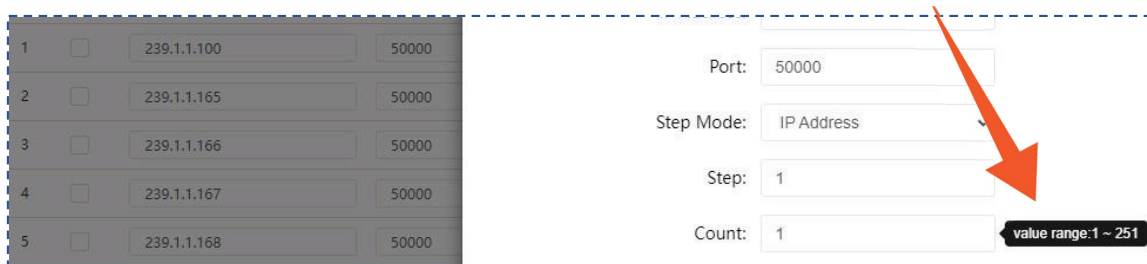
- Unicast:  Multicast:
- Main: ETH1
- IP Address: 239.1.1.165
- Port: 50000
- Step Mode: IP Address
- Step: 1
- Count: 4

The resulting table shows the following data:

NO.	IP Address	Port	Bitrate(Kbps)
1	239.1.1.100	50000	0.00
2	239.1.1.165	50000	9454.14
3	239.1.1.166	50000	9785.02
4	239.1.1.167	50000	9442.11
5	239.1.1.168	50000	9806.08

**Step:** The value range is from 1 to 10.

**Count:** The maximum value is 256. Notice that the note for this box is the available input number.



The IP address list table shows the following data:

1	239.1.1.100	50000
2	239.1.1.165	50000
3	239.1.1.166	50000
4	239.1.1.167	50000
5	239.1.1.168	50000

The 'Add' dialog box shows the following configuration:

- Port: 50000
- Step Mode: IP Address
- Step: 1
- Count: 1

A tooltip indicates: value range: 1 ~ 251

**Remove:** To delete the IP address that you don't want.

**Submit:** This Submit only be used when you modify the IP address manually.



The 'Remove' button is red with a trash icon, and the 'Submit' button is blue with a checkmark icon.

### HDMI Signal

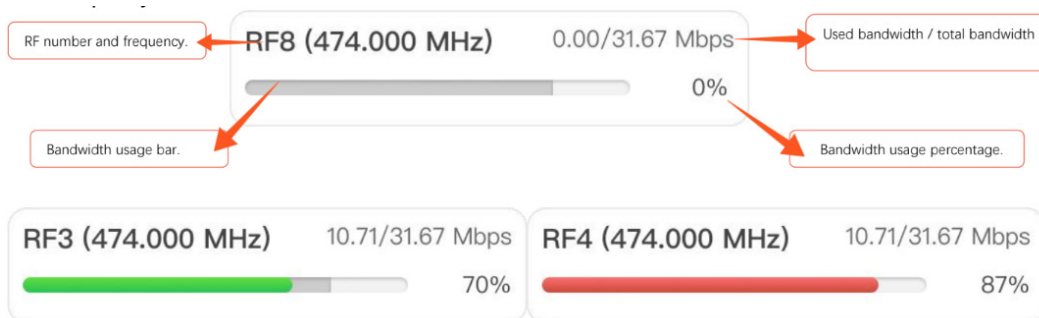
NO.	Status	Channel	Enable	Input Resolution	Out Resolution	Service Name	Video Format	Audio Format	Set Bitrate(Kbps)	Real Bitrate(Kbps)
1	<span style="color: green;">●</span>	1-1	<input checked="" type="checkbox"/>	1920X1080_59P	1920X1080_30P	DTV	H264_VIDEO_STREAM	MPEG_AUDIO	8000	8473.54
2	<span style="color: green;">●</span>	1-2	<input checked="" type="checkbox"/>	1920X1080_59P	1280X720_60P	DTV	H264_VIDEO_STREAM	MPEG_AUDIO	8000	7811.78
3	<span style="color: green;">●</span>	1-3	<input checked="" type="checkbox"/>	1920X1080_59P	1920X1080_30P	DTV	H264_VIDEO_STREAM	MPEG_AUDIO	8000	8091.52
4	<span style="color: green;">●</span>	1-4	<input checked="" type="checkbox"/>	1920X1080_59P	1920X1080_30P	DTV	H264_VIDEO_STREAM	MPEG_AUDIO	8000	8434.43
5	<span style="color: grey;">●</span>	2-1	<input checked="" type="checkbox"/>	UNKNOWN	UNKNOWN	DTV	H264_VIDEO_STREAM	MPEG_AUDIO	8000	0.00
6	<span style="color: grey;">●</span>	2-2	<input checked="" type="checkbox"/>	UNKNOWN	UNKNOWN	DTV	H264_VIDEO_STREAM	MPEG_AUDIO	8000	6786.05
7	<span style="color: grey;">●</span>	2-3	<input checked="" type="checkbox"/>	UNKNOWN	UNKNOWN	DTV	H264_VIDEO_STREAM	MPEG_AUDIO	8000	6786.05
8	<span style="color: grey;">●</span>	2-4	<input checked="" type="checkbox"/>	UNKNOWN	UNKNOWN	DTV	H264_VIDEO_STREAM	MPEG_AUDIO	8000	6665.73

<b>Status</b>	Green light indicates normal working conditions. Greyed out indicates either the port is unused, or input is not detected.
<b>Channel</b>	1-1 means the first HDMI port in the first card
<b>Enable</b>	Enable and disable the HDMI input port
<b>Input Resolution</b>	Display the input resolution
<b>Output Resolution</b>	Downscale the input resolution
<b>Service Name</b>	Input the service name here
<b>Video Format</b>	For this device, it only supports H.264
<b>Audio Format</b>	Select from MPEG and AAC
<b>Set Bitrate</b>	Set the output bit rate here. And the maximum rate is 20,000Kbps.
<b>Real Bitrate</b>	The real output bit rate

The screenshot shows the router's configuration interface. At the top, there are eight RF channel settings (RF1 to RF8) with frequency, bitrate, and status indicators. A red '1' is placed over the RF2 settings. Below this is a 'Show' dropdown menu set to 'All' and an 'RF Channel' dropdown set to 'All'. A red '2' is placed over the 'RF Channel' dropdown. The main part of the interface is a table of input channels. A red '3' is placed over the table. The table has columns for NO., Type, Channel, Service Name, Status, RF Channel, and Action. The first few rows are IP addresses, and the last eight rows are HDMI ports (1-1 to 2-4). A red '4' is placed over the bottom right corner of the table. At the bottom of the interface, there are statistics: 'Total programs: 12', 'Forwarded programs: 3', and 'Not forwarded programs: 9'.

The router setting is the most important in this modulator. This is where you are able to view all input channels, and forward to output frequencies

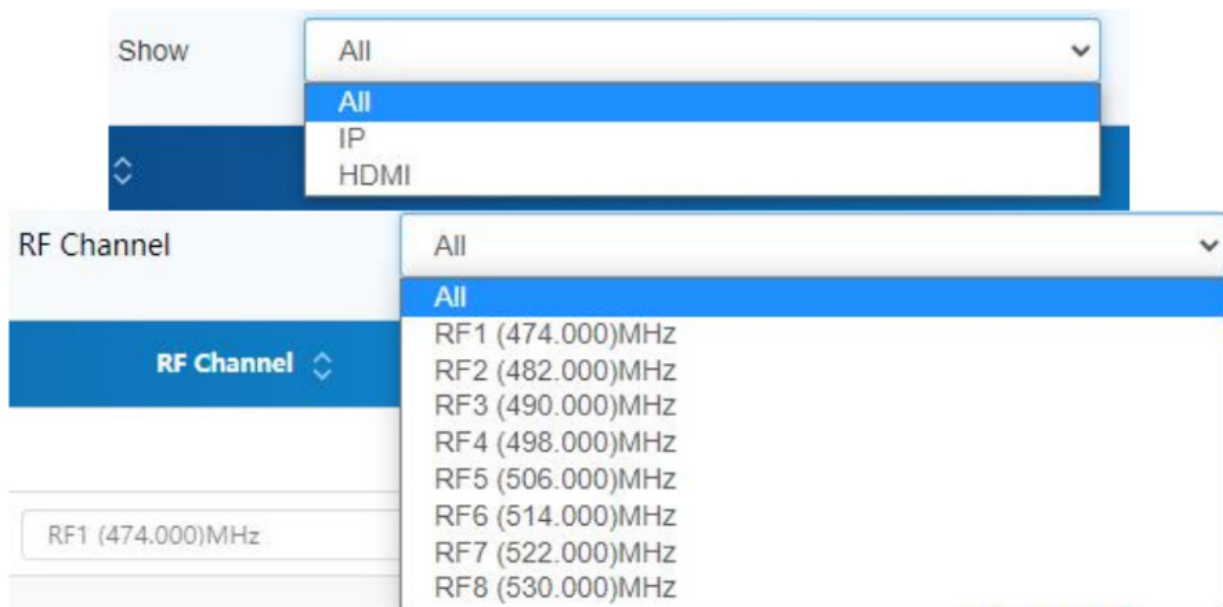
### Frequency Bars



The usage indicator bar will move while the user sends programs to the output frequency. It is not recommended to exceed 80% of the total bandwidth. If the input bitrate exceeds 80%, the barcolor will turn Red from Green as a warning signal..

### List Filter

The Router List contains too much information and streams. That's why we provide the list filter to show the information that users require.



### Router List

NO.	Type	Channel	Service Name	Status	RF Channel	Apply	Action
IP ETH1 239.1.1.165:50000 (1/1)							
1	IP	0-2	31	<span style="color: green;">●</span>	RF1 (474.000)MHz	<input type="button" value="Apply"/>	<input type="button" value="Cancel"/>
HDMI 1-1 (0/1)							
1	HDMI	1-1	DTV	<span style="color: green;">●</span>	RF1 (474.000)MHz	<input type="button" value="Apply"/>	<input type="button" value="Forward"/>

In this list, you can see all the input streams and send the programs to the preset frequencies by the Forward button.

	Common PID edit : Program number/Service name/Provider/Major number/Minor number
	Timeout setting/ CA filtering enable / PID remapping : we recommend you to enable this to save PID trouble.
	PSI/SI viewer. It will display the PSI/SI table here.
	Refresh. This ICON only appears in IP stream and satellite stream.

**STOP!** DO NOT set the PMT PID, VIDEO PID and AUDIO PID with the same ID.

### Stream Information

**Total programs: 9**
**Forwarded programs: 1**
**Not forwarded programs: 8**

This information is a summary of the router list, which is very helpful to the operators.

### Output

Channel List : In the OUTPUT page, we can reschedule the program and PIDs in a much easier way.

NO.	Source	RF Channel	PRGNUM(S)	Service Name(S)	PRGNUM(D)	Short Name(D)	Major Num.(D)	Minor Num.(D)	Action
RF 1 (474.000 MHz) 18.86/26.97 Mbps (1)									
1	HDMI(1-1)	RF1 (474.000 MHz)	1	DTV	2	DTV	1	1	
RF 2 (482.000 MHz) 16.91/26.97 Mbps (2)									
1	HDMI(1-3)	RF2 (482.000 MHz)	1	DTV	34	DTV	2	1	
2	HDMI(1-2)	RF2 (482.000 MHz)	1	DTV	33	DTV	2	0	
RF 3 (490.000 MHz) 8.40/26.97 Mbps (1)									
RF 4 (498.000 MHz) 8.28/26.97 Mbps (1)									
RF 5 (506.000 MHz) 0.01/26.97 Mbps (0)									
RF 6 (514.000 MHz) 0.01/26.97 Mbps (0)									
RF 7 (522.000 MHz) 0.01/26.97 Mbps (0)									
RF 8 (530.000 MHz) 0.01/26.97 Mbps (0)									

Source

All

All

IP

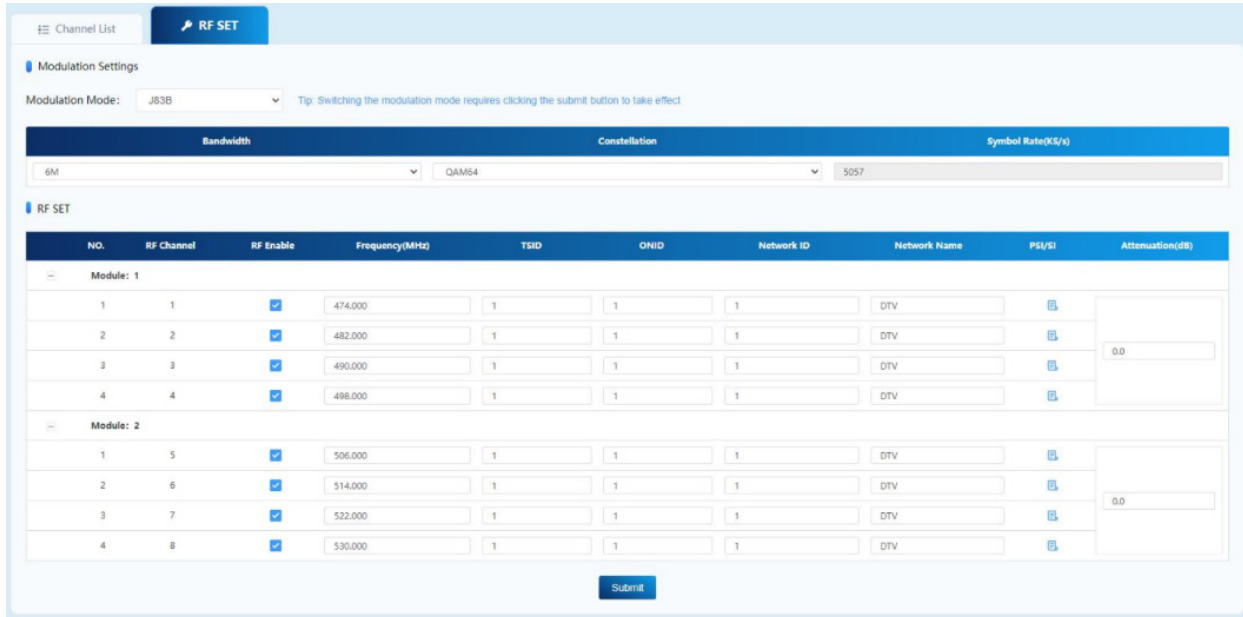
HDMI

Remove Submit

We also provide a filter here for quick view.  
 Remove : Delete and Batch delete.  
 Submit : Please click submit to apply the changes in this list.

## RF Setting

In this page, you can set up the output modulation with its parameters and the output frequencies.



The screenshot shows the 'RF SET' configuration page. At the top, there are tabs for 'Channel List' and 'RF SET'. Below the tabs, the 'Modulation Settings' section includes a 'Modulation Mode' dropdown set to 'J83B' and a tip: 'Tip: Switching the modulation mode requires clicking the submit button to take effect.' Below this, there are three input fields: 'Bandwidth' (6M), 'Constellation' (QAM64), and 'Symbol Rate(Ks/s)' (5057). The main 'RF SET' section is a table with columns: NO., RF Channel, RF Enable, Frequency(MHz), TSID, ONID, Network ID, Network Name, PSI/SI, and Attenuation(dB). The table is divided into two sections: 'Module: 1' and 'Module: 2'. Each module contains four rows of channel configurations. A 'Submit' button is located at the bottom right of the table.

NO.	RF Channel	RF Enable	Frequency(MHz)	TSID	ONID	Network ID	Network Name	PSI/SI	Attenuation(dB)
Module: 1									
1	1	<input checked="" type="checkbox"/>	474.000	1	1	1	DTV	<input type="checkbox"/>	
2	2	<input checked="" type="checkbox"/>	482.000	1	1	1	DTV	<input type="checkbox"/>	
3	3	<input checked="" type="checkbox"/>	490.000	1	1	1	DTV	<input type="checkbox"/>	0.0
4	4	<input checked="" type="checkbox"/>	498.000	1	1	1	DTV	<input type="checkbox"/>	
Module: 2									
1	5	<input checked="" type="checkbox"/>	506.000	1	1	1	DTV	<input type="checkbox"/>	
2	6	<input checked="" type="checkbox"/>	514.000	1	1	1	DTV	<input type="checkbox"/>	
3	7	<input checked="" type="checkbox"/>	522.000	1	1	1	DTV	<input type="checkbox"/>	0.0
4	8	<input checked="" type="checkbox"/>	530.000	1	1	1	DTV	<input type="checkbox"/>	

**Reminder:** The output frequencies are 4 continuous ones. You only need to fill the first one and the system will show the other three.

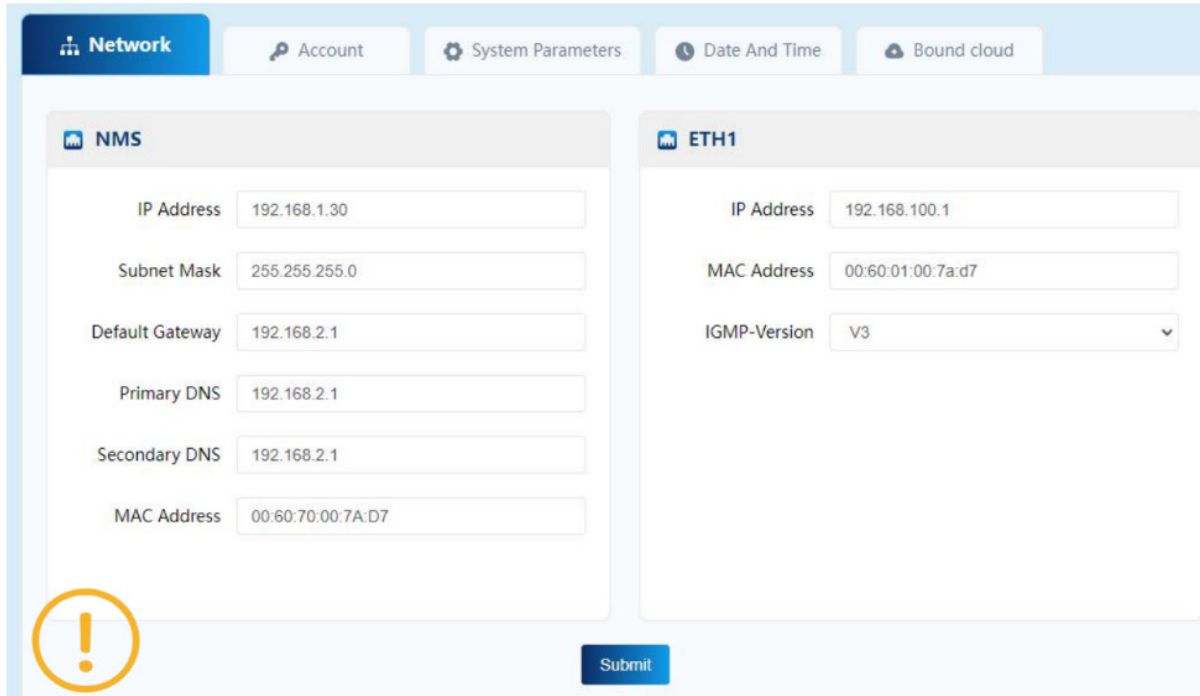
<b>Mode Modulation</b>	Our device supports all the major modulation, but it will display one in a regular device. Please contact our sales for more OEM requirements.
<b>Modulation Settings</b>	Different combination will have different bandwidth. We suggest you leave it as defaulted.
<b>RF Enable</b>	RF channel enable
<b>Frequency</b>	Input the frequency in the first box and the system will do the rest.



The screenshot shows the 'PSI/SI' configuration dialog box. At the top, there are checkboxes for various PSI/SI types: PAT, PMT, SDT, NIT, CAT, TDT, TOT, MGT, and CVCT, all of which are checked. Below this, there is a tree view showing the configuration for 'PSI' and 'PMT'. The 'PSI' section is expanded to show 'SECTION: 0' with various parameters like table\_id, section\_syntax\_indicator, section\_length, transport\_stream\_id, version\_number, current\_next\_indicator, section\_number, last\_section\_number, and CRC\_32. The 'PMT' section is also expanded to show 'PROGRAM\_2' and 'SECTION: 0' with parameters like table\_id, section\_syntax\_indicator, section\_length, program\_number, version\_number, current\_next\_indicator, and section\_number. At the bottom of the dialog, there are 'Cancel' and 'Submit' buttons.

By clicking the PSI/SI button, the system will pop up the channel PSI/SI table for your reference.

## System Network Setting



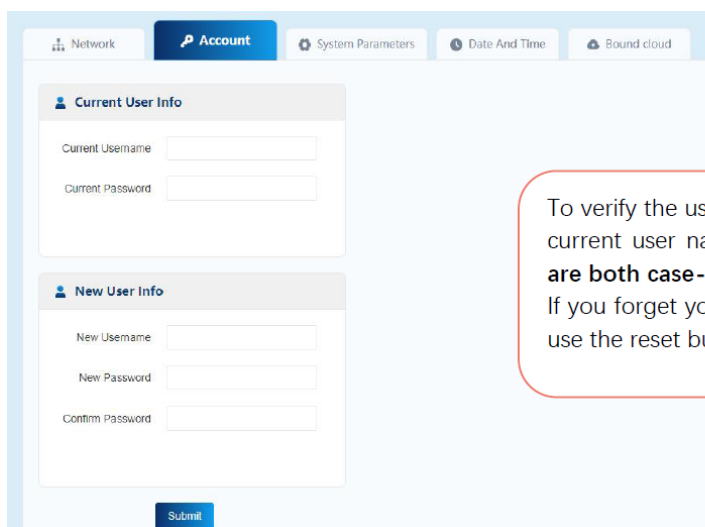
The screenshot shows the 'Network' configuration page with two main sections: 'NMS' and 'ETH1'. The 'NMS' section includes fields for IP Address (192.168.1.30), Subnet Mask (255.255.255.0), Default Gateway (192.168.2.1), Primary DNS (192.168.2.1), Secondary DNS (192.168.2.1), and MAC Address (00:60:70:00:7A:D7). The 'ETH1' section includes fields for IP Address (192.168.100.1), MAC Address (00:60:01:00:7a:d7), and IGMP-Version (V3). A yellow warning icon is present in the bottom left, and a 'Submit' button is at the bottom center.

Making changes in this area can affect the system communication. **PROCEED WITH CAUTION.**

Management in IP address should only be changed when it is necessary to manage the entire system from a different subnet. Otherwise, please leave what it is.

IGMP Version : If your input IP stream contains IGMP, please select the right version to match the input ones.

## Account



The screenshot shows the 'Account' configuration page with two main sections: 'Current User Info' and 'New User Info'. The 'Current User Info' section includes fields for Current Username and Current Password. The 'New User Info' section includes fields for New Username, New Password, and Confirm Password. A 'Submit' button is at the bottom center.

To verify the user name and the password, please input your current user name and password. **Please notice that they are both case-sensitive.**

If you forget your new user name or new password, you can use the reset button in the front panel to restore.

## System Parameter

**↑ Upgrade System from file**

Click the Browse button below and import the upgrade file, and then click the Upgrade button to upgrade the system. The device will automatically restart, when the upgrade is completed.

**↻ Restore to factory settings**

Click the Restore button to restore the device into the factory setting. The device will automatically restart, when the restore is completed.

**↻ Reboot**

Click the Reboot button to reboot the device.

**📁 Export Settings**

Click the Backup button, then the device will backup all the current settings into your computer.

**📁 Import Settings**

Click the Browse button below and import the restore file, and then click the Restore button to restore the device. The device will automatically restart, when the restore is completed.

**Upgrade system from file:** Upgrade the modulator with the latest software.

**Restore to factory settings:** The restore function will recover the input and output settings and the IP address to the factory mode.

**Reboot:** To reboot the modulator.

**Export Settings:** Back up the input and output settings to your computer.

**Import Settings:** Recover the settings to the modulator from your computer.

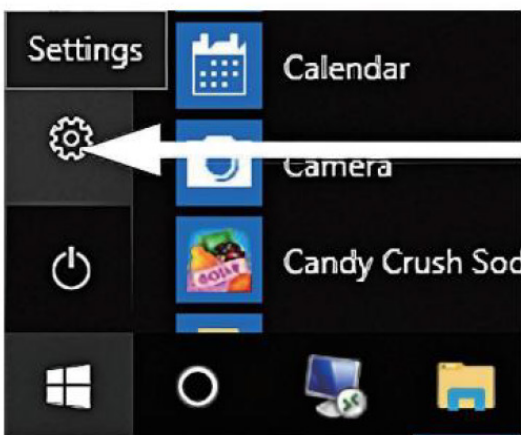
**NOTICE:** Additional reset option.

Press the default button on the front panel for 3 to 5 seconds. Restore is complete when the run light begins flashing.

## Quick IP Ethernet Connection Guide

**NOTICE:** Make sure you login your operation system as the administrator.

1. Go to “Window Start”



2. Go to Window Settings
3. Go to “ Network & Internet”
4. Go to “Ethernet” on the left side of the menu



**Go to Ethernet**

5. Go to “ Change adapter options”

**Go to Adapter Options**

Related settings

[Change adapter options](#)

6. Double click on the Ethernet Source or Right Click and select “Properties”



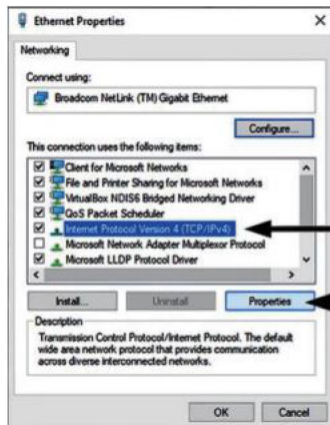


## 7. Open Properties



**Open Properties**

## 8. Go to "Internet Protocol Version 4 (TCP/IPv4)"

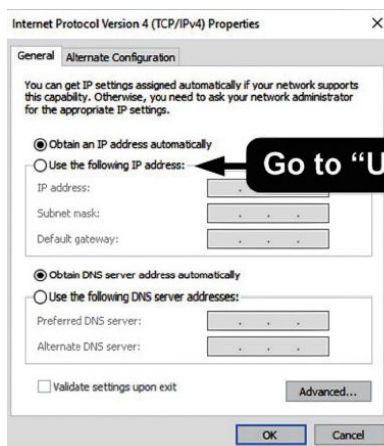


**Go to Internet Protocol Version 4 (TCP/IPv4)**

**Go to Properties**

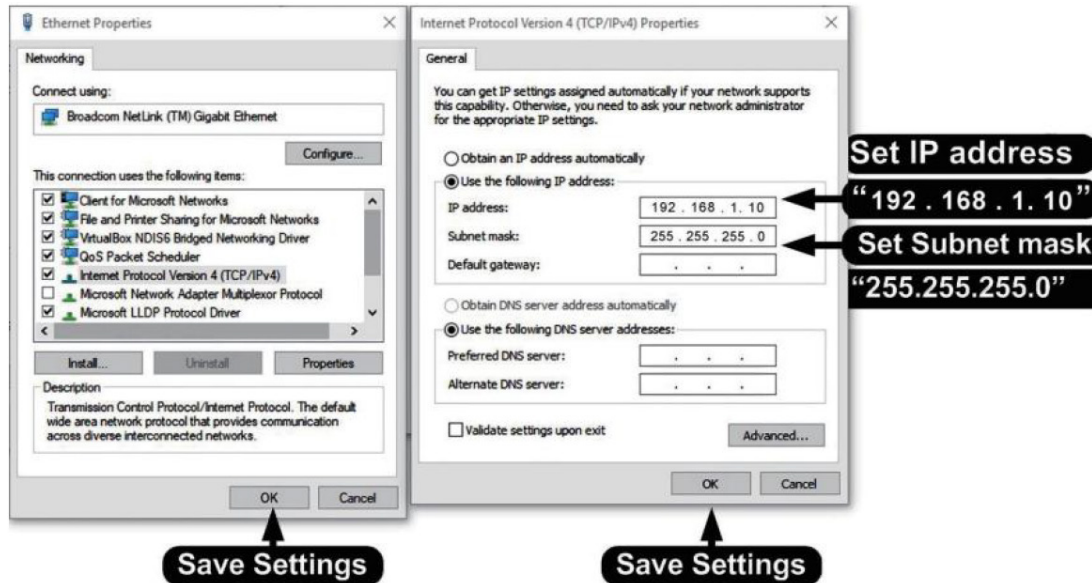
## 9. Go to "Properties"

## 10. Go to "Use the following IP address"



**Go to "Use the following IP address"**

## 11. Set IP address



Set IP address: 192.168.1.10  
 Set Subnet mask: 255.255.255.0  
 Set Default gateway: 192.168.1.1

## 12. Save all the settings.

## Common Troubleshooting

	Symptom	Recommended Action
1	Power LED is not lit.	1-1 means the first HDMI port in the first card
2	Can't login to the NMS	Enable and disable the HDMI input port
3	The WEB UI is not in order and can't save the settings	Display the input resolution
4	CH1 to CH8 LED are not lit	Downscale the input resolution
5	Unknown shown in the NMS	Input the service name here
6	Other issue	For this device, it only supports H.264



## Warranty

### DATATRONIX 1-Year Limited Warranty

DATATRONIX. (the “Company”) warrants to the Original Purchaser that the item purchased is free from defects in workmanship or material under normal use. This warranty starts on the date of shipment of the hardware to the Original Purchaser.

During the warranty period, the Company agrees to repair or replace, at its sole option, without charge to Original Purchaser, any defective component. To obtain service, the Original Purchaser must return the item to the Company properly packaged for shipping. All defective products must be returned to the Company within thirty (30) days of failure. Products must be returned with a description of the failure and Return Merchandise Authorization (RMA) number supplied by the Company. To receive a RMA number and a return shipping address on where to deliver the hardware, call 610-429-1821. The shipping, and insurance charges incurred in shipping to the Company will be paid by Original Purchaser, and all risk for the hardware shall remain with the Original Purchaser until such time as Company takes receipt of the hardware. Upon receipt, the Company will promptly repair or replace the defective unit, and then return said unit to Original Purchaser, shipping prepaid. The Company may use reconditioned or like-new parts or units, at its sole option, when repairing any hardware. Repaired products shall carry the same amount of outstanding warranty as from original purchase. Any claim under the warranty must include dated proof of purchase or invoice. In any event, the Company’s liability for defective hardware is limited to repairing or replacing the hardware.

This warranty is contingent upon proper use of the hardware by Original Purchaser and does not cover: if damage is due to Acts of God (including fire, flood, earthquake, storm, hurricane or other natural disaster), accident, unusual physical, electrical, or electromechanical stress, modifications, neglect, misuse, operation with media not approved by the Company, tampering with or altering of the hardware, riot, war, invasion, act of foreign enemies, hostilities (regardless of whether war is declared), civil war, rebellion, revolution, insurrection, military or usurped power or confiscation, terrorist activities, nationalization, government sanction, blockage, embargo, labor dispute, strike, lockout or interruption or failure of electricity, air conditioning, or humidity control, Internet, network, or telephone service.

The warranties given herein, together with any implied warranties covering the hardware, including any warranties of merchantability or fitness for a particular purpose, are limited in duration to one year from the date of shipment to the Original Purchaser. Jurisdictions vary with regard to the enforceability of warranty limitations, and you should check the laws of your local jurisdiction to find out whether the above limitation applies to you.

The Company shall not be liable to your for loss of data, loss of profits, lost savings, special, incidental, consequential, indirect, or other similar damages arising from breach of warranty, breach of contract, negligence, or other legal action even if the Company or its agent has been advised of



the possibility of such damages, or for any claim brought against your by another party. Jurisdictions vary with regard to the enforceability of provisions excluding or limiting liability for incidental or consequential damages. You should check the laws of your local jurisdiction to find out whether the above exclusion applies to you.

This warranty allocates risks of product failure between Original Purchaser and the Company. The Company's hardware pricing reflects this allocation of risk and the limitations of liability contained in this warranty. The warranty set forth above is in lieu of all other express warranties, whether oral or written. The agents, employees, distributors, and dealers of the Company are not authorized to make modification to this warranty, or additional warranties binding on the Company. Accordingly, additional statements such as dealer advertising or presentations, whether oral or written, do not constitute warranties by the Company and should not be relied upon.

This warranty gives you specific legal rights. You may also have other rights which vary from one jurisdiction to another.