User's Manual

Mini Modular Type HD Modulator

8VSB/QAM

Model No : TAMM-QAM

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1. Safety Instructions & Precautions

- Do not operate the Unit in high-humidity areas, or expose it to water or moisture. No objects filled with liquid should be placed on the device.
- Disconnect the unit from the wall outlet prior to cleaning. Use a light, damp cloth (no solvents) to dust or clean the product.
- Do not block or cover slots and openings in the Unit. These are provided for ventilation and protection from overheating. Never place the Unit near or over a radiator or heat register. Do not place the Unit in an enclosure such as a cabinet without proper ventilation.
- We strongly recommend using the enclosed ground wire connecting to the ground cable of your house/building to avoid voltage spikes or ground fault.
- Never insert objects of any kind into the Unit through openings, as the objects may touch dangerous voltage points or short out parts. This also could cause fire or electrical shock.
- For using Mini Modular System's Products, space under and above Mini modular chassis is always necessary.
- There are no user serviceable parts in this device. Repairs should only be made by qualified and factory authorized service providers or by the factory itself. Failing to follow these guidelines may void the warranty and could cause unsafe conditions.

The lightning flash with arrow-head symbol within an equilateral triangle is intended to alert you to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electrical shock to persons.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

The exclamation point within an equilateral triangle is intended to alert you to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

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.

Instructions

The TAMM-QAM is an agile encoder/modulator designed for use in TV signal distribution. It will encode and modulate an HDMI signal in MPEG2 in SD or HD and output a QAM channel or an 8VSB channel.

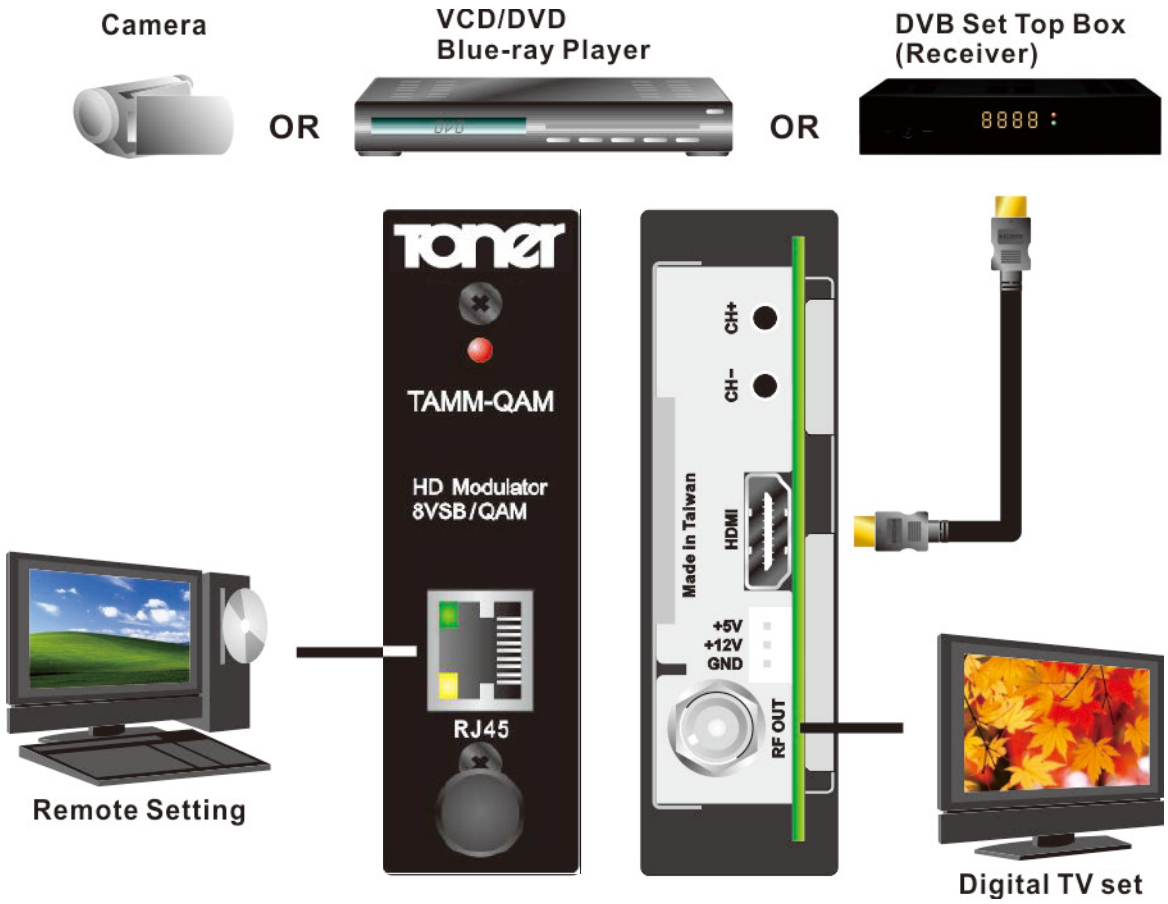
Insert the TAMM-QAM in an appropriate rack chassis such as the TMMRC-12 or similar. When inserting the modulator card, edges are designed to fit in the slide slots in the chassis. Once the modulator is installed, plug in the wiring harness to the mating plug on the rear of the modulator. NOTE the plug can only be inserted one way, do not force it and reversing the electrical connection will cause damage.

Once the modulator is installed, connect the HDMI cable and the RF output connector as needed to the system.

On the front of the TAMM-QAM, you will find one RJ45 connector to connect the modulator to a computer for setup. The default IP address is 192.168.1.149.

2. Operation Guide

2-1. Connection Diagram



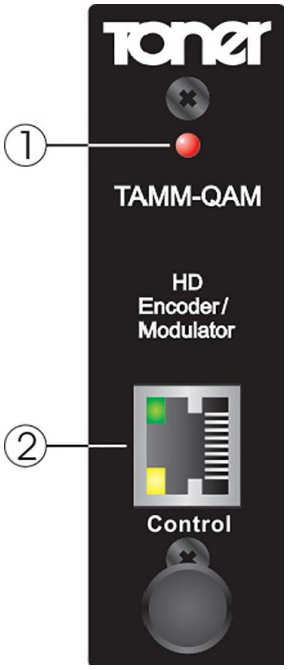
A. Connect the power supply.

B. Connect the HDMI source to this product.
HDMI can reach HD resolution 1080p.

C. Connect the RF Output to the RF network, STB or the TV set directly.
* According to your headend system, set the output power attenuation on this product properly.

D. For safety purpose, use the ground wire enclosed with the modulator to connect to your ground cable.

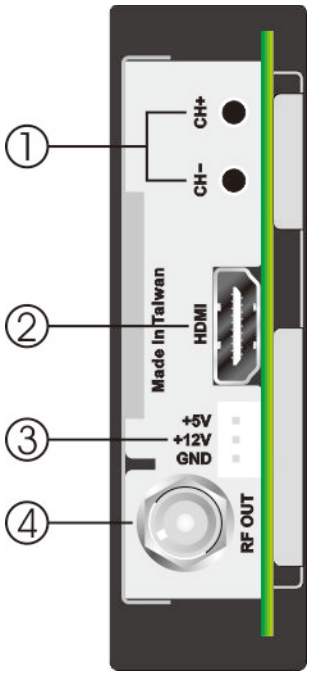
2-2. Front Plate



1. Power LED Indicator

2. RJ45 : for Remote Setting

2-3. Rear Panel



1. Channel Up / Down

2. HDMI : Digital A/V Input

3. DC 5V/12V IN：5V/12VDC power supply input

4. RF OUT：F type connector for RF output

**** Important notes for HDMI input ** :**

When HDMI signal is off-and-on or re-plug, or changing the video resolution, the unit will auto detect video signal.
During the time of auto detection video pictures would freeze or black. However video pictures continuously display again in 15 seconds or so.
Most other brand units in the market would need to re-boost the unit once HDMI signal is off-and-on or re-plug, or changing the video resolution.

2-4. Functions of Operating Button

Please see following instructions of buttons on the rear panel to operate in each setting category.

“CH+” / “CH-” :

1. For channel change.

2. For Software Update :
   Step 1. Keep depressing both Channel Up/Down key buttons
   Step 2. Power on the modulator
   Step 3. Now follow up software update procedures

3. For IP Default :
   Step 1. The modulator is on after powering.
   Step 2. Keep depressing both Channel Up/Down key buttons for 3 seconds
   Step 3. Now IP address is factory default.

3. System Configurations

Configuration can be processed through web.

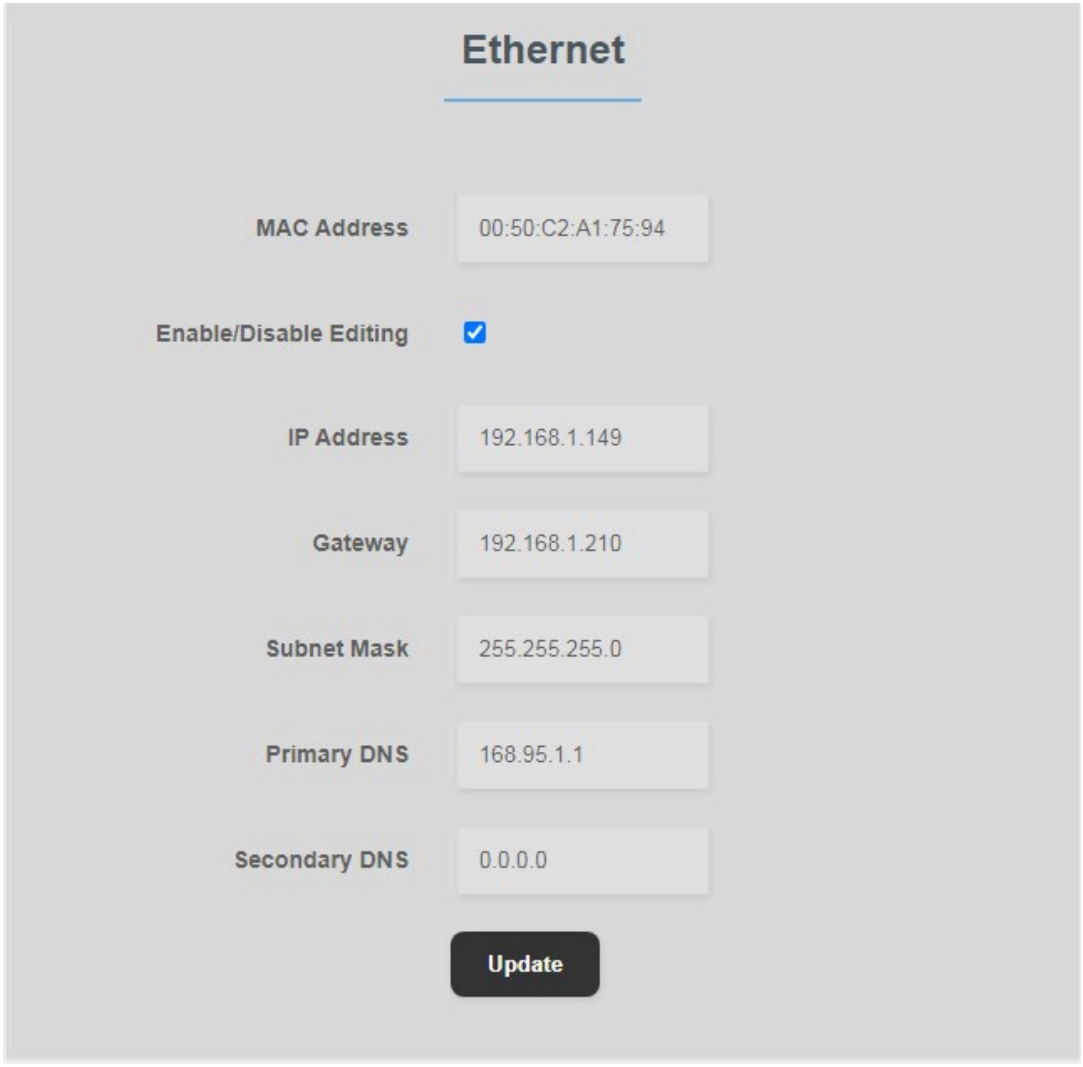
3-1. Configure through web

Set an IP address of the modulator from the front panel if you don’t want to use the default IP address. Connect the modulator to the computer through RJ45 cable.

Enter the IP address of the modulator (Default address: 192.168.1.149) on web browser

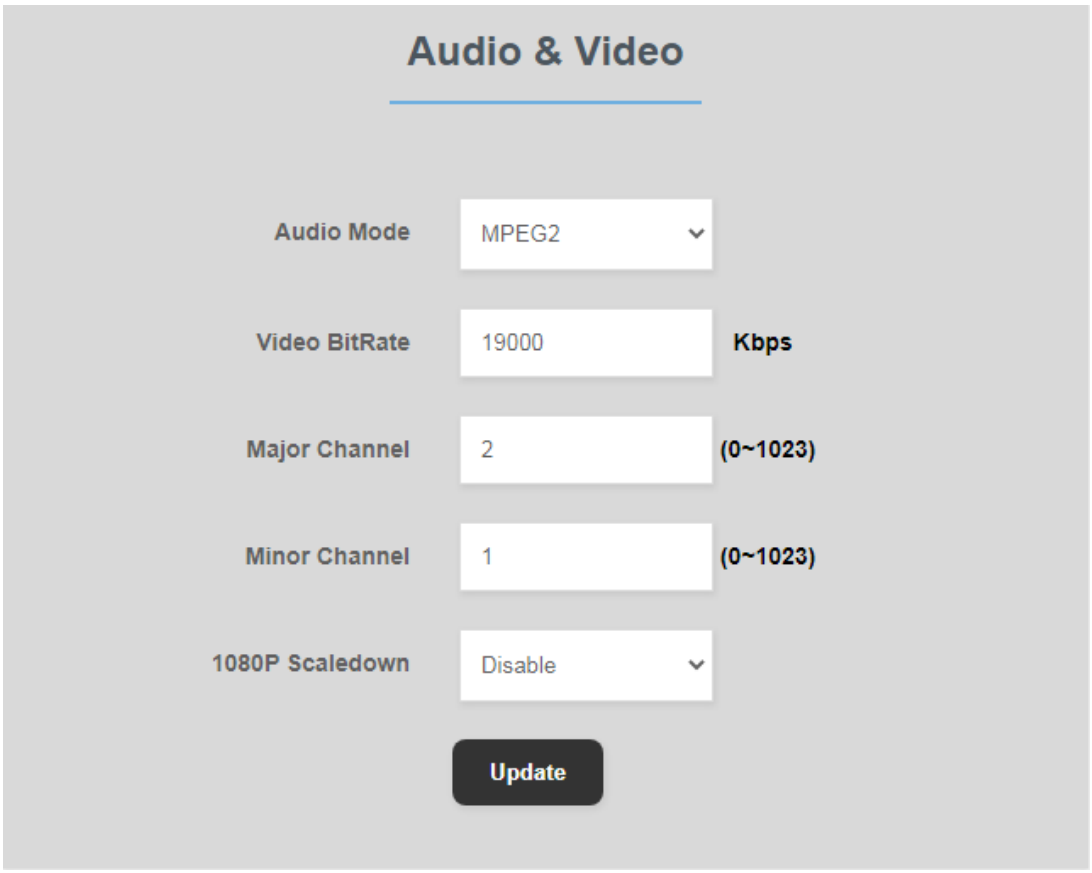
★ **Press <Update> after changing settings in each category. Go to SAVE page to save the configurations.**

3-1-1. Ethernet– For Web Configuration



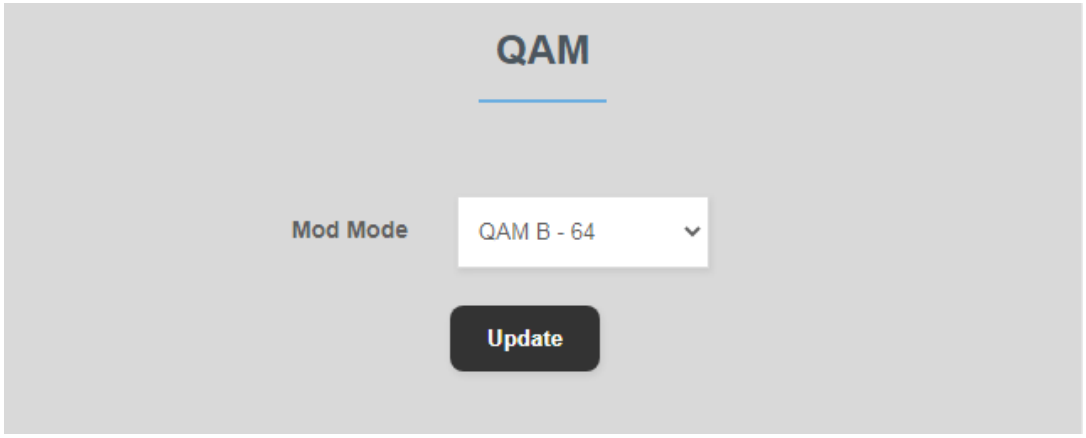
- All the values are locked. Uncheck <Enable/Disable Editing> to edit.

3-1-2. Audio & Video- Audio & Video Input Configuration



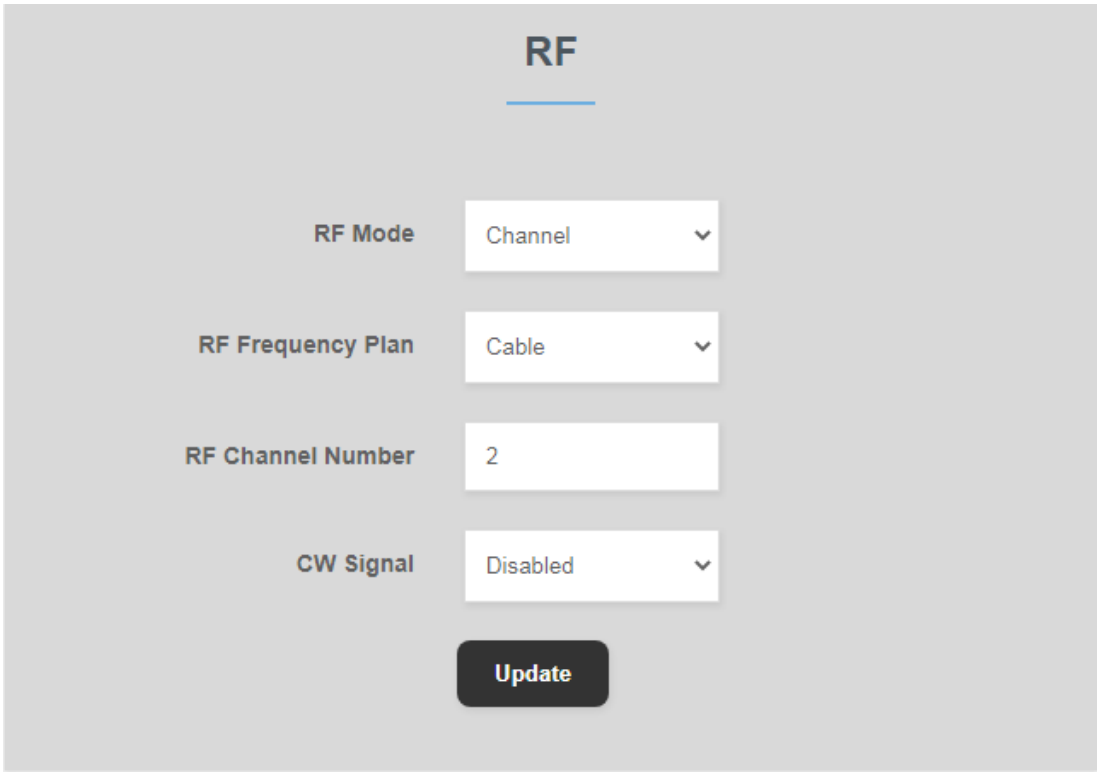
- Video BitRate range : 5000~20000 kb/s

3-1-3. QAM - constellation setup



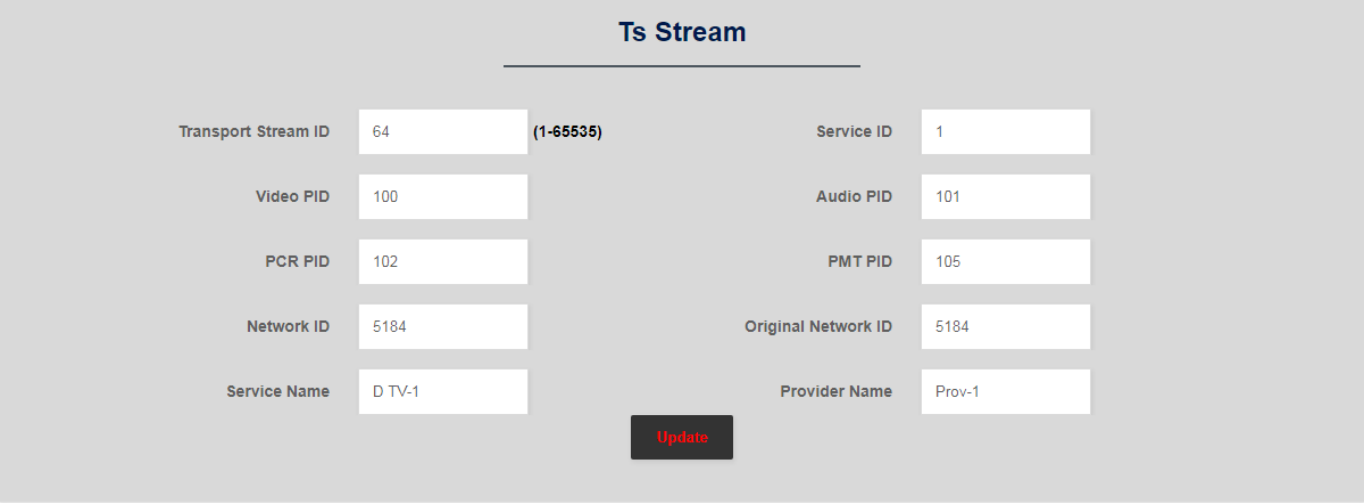
3-1-4. RF - RF Output Configuration

Channel Mode



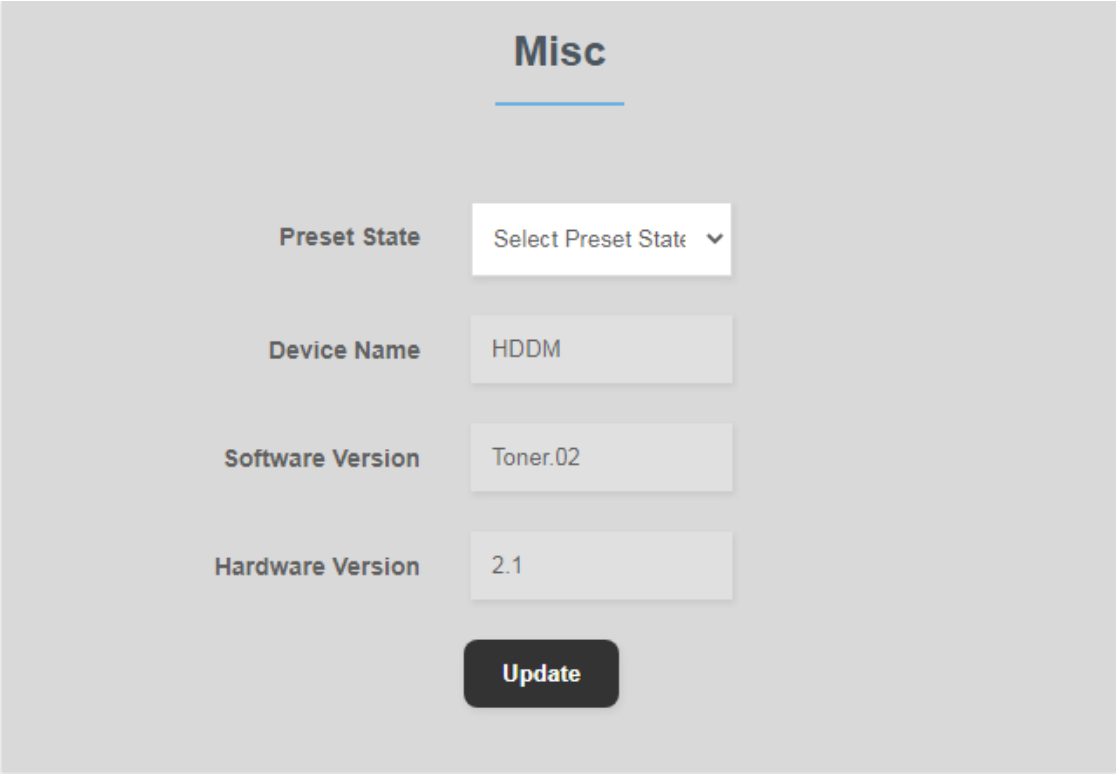
- Remain “CW Signal” in “Disable”. This option is only for testing purpose in factory. The modulator can’t work if enable this function.

3-1-5. Ts Stream– stream editing



- The value of Video PID /Audio PID /PCR PID/ PMT PID should be unique to each other.

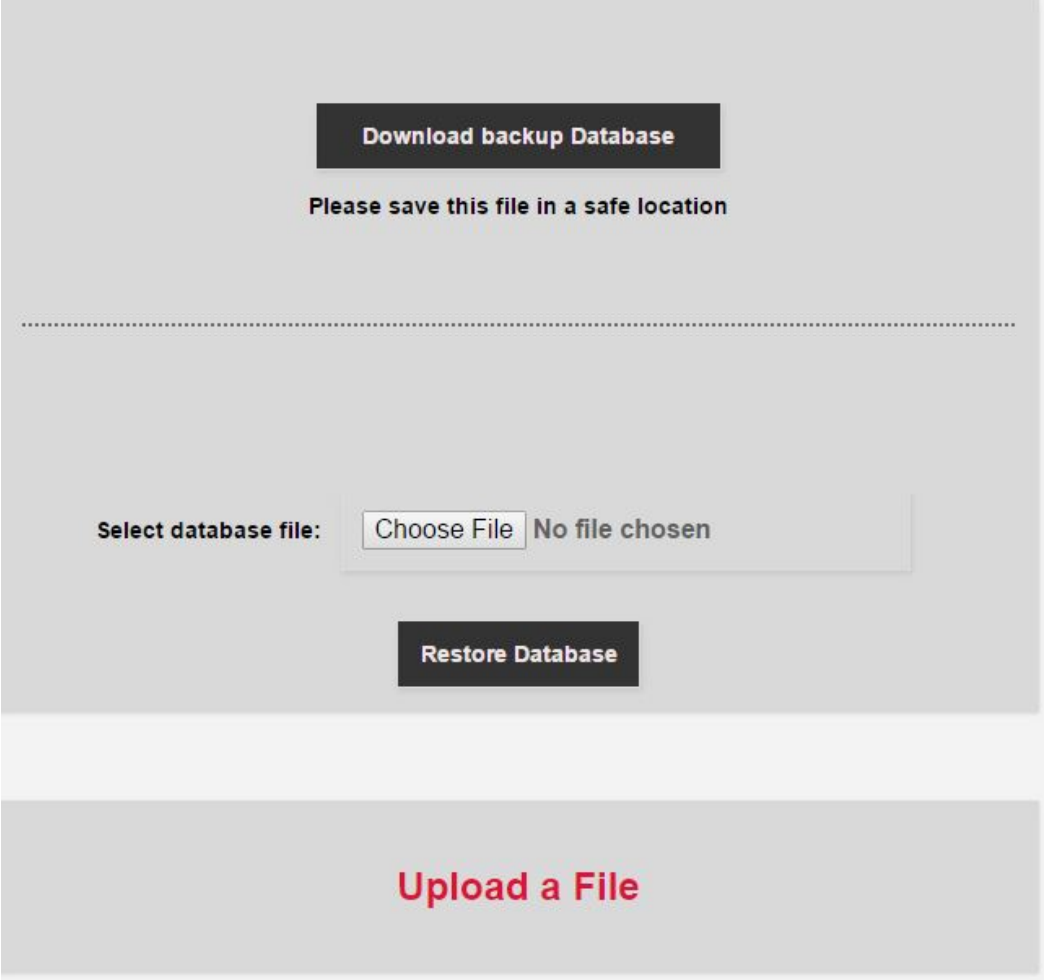
3-1-6. Misc– For system configuration



- Options of Factory default setting (Preset)：

  B-64 (Annex B, 64QAM) / B-256 (Annex B, 256QAM) / 8VSB

3-1-7. Save – To save changes of configuration



3-1-8. Copy – To copy your exiting data, please take the following steps :

1. Go to “Save” tab in browser.
2. Click “Backup / Restore”.
3. Click “Download backup Database” button. Setting will be exported into a configuration file.

3-1-9. Restore – To restore your saved data, please take the following steps :

1. Go to “Save” tab in browser.
2. Click “Backup / Restore”.

3. Click “Choose File” to select the configuration file.

4. Click “Restore Database”.

3-1-10. Preset Values

The following table shows only differences between presets. Items not shown in the table are the same as default.

8VSB	**B-64 (Default)**
Frequency plan : NTSC-AIR	Frequency plan : NTSC-CATV
Modulation mode : 8VSB	Modulation mode : QAM_B_64
B-256	
Frequency plan : NTSC-CATV	
Modulation mode : QAM_B_256	

4. IP Network Connection thru RJ45

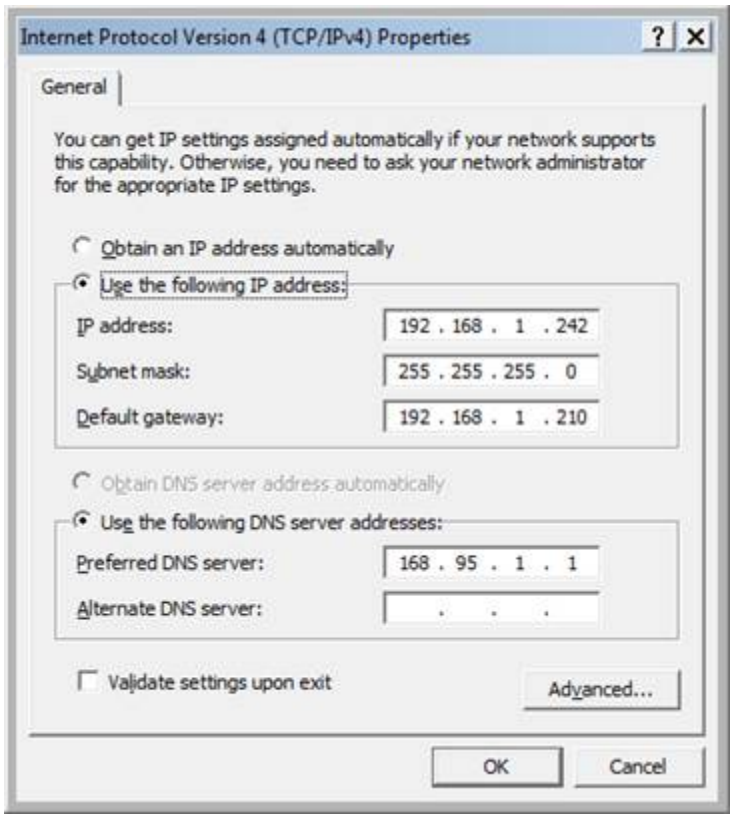
4-1. Using factory’s IP address/domain

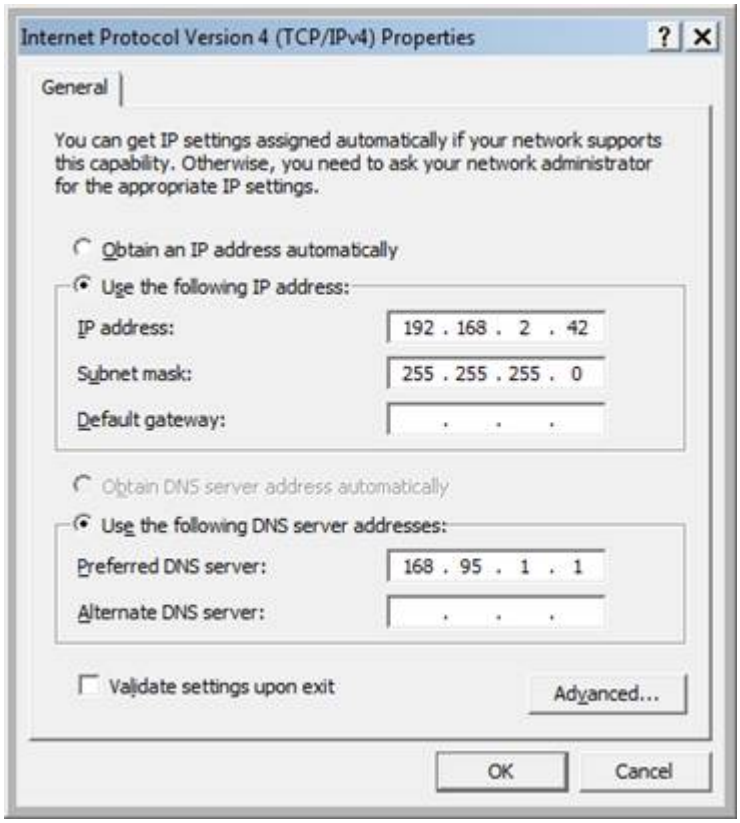
Please refer to IP address labeled on the modulator.

4-2. Using non factory’s IP address/domain or Router

4-2-1. Connection - PC<==>Modulator

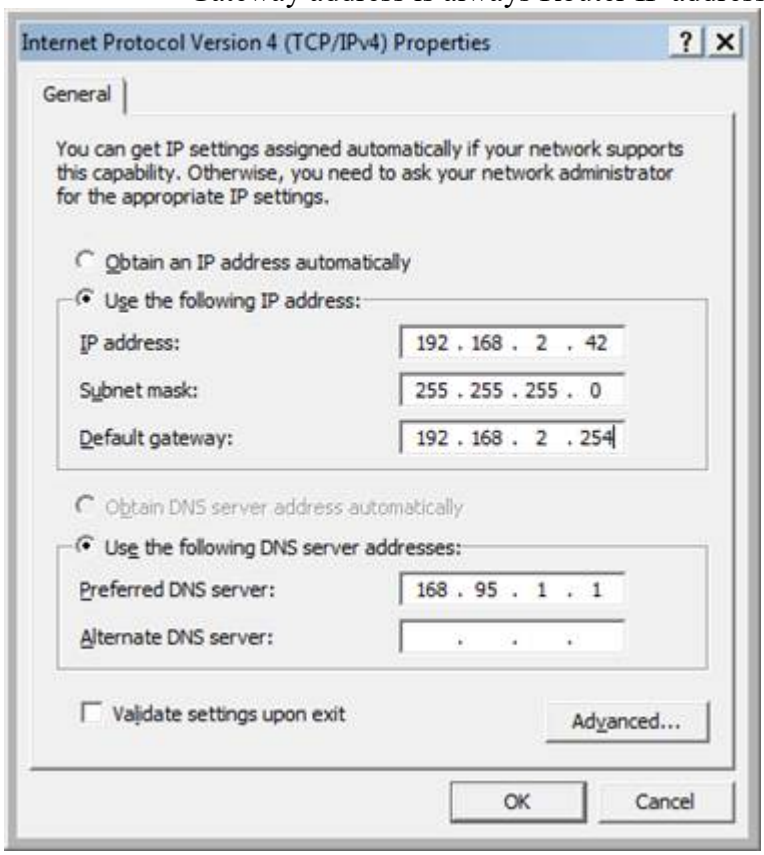
Example: Change IP 192.168.1.242 to 192.168.2.42


Internet Protocol Version 4 (TCP/IPv4) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address: 192 . 168 . 1 . 242
Subnet mask: 255 . 255 . 255 . 0
Default gateway: 192 . 168 . 1 . 210
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server: 168 . 95 . 1 . 1
Alternate DNS server:
Validate settings upon exit
Advanced...
OK
Cancel


Internet Protocol Version 4 (TCP/IPv4) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address: 192 . 168 . 2 . 42
Subnet mask: 255 . 255 . 255 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server: 168 . 95 . 1 . 1
Alternate DNS server:
Validate settings upon exit
Advanced...
OK
Cancel

4-2-2. Connection - PC<==>Router<==>Modulator

Example: Gateway:192.168.2.xxx

*Your Router and Network Domain are used (such as 192.168.2.0 or 192.168.100.0).

*Gateway address is always Router IP address such as 192.168.2.254.