H-THUNDER-12 MODULATOR

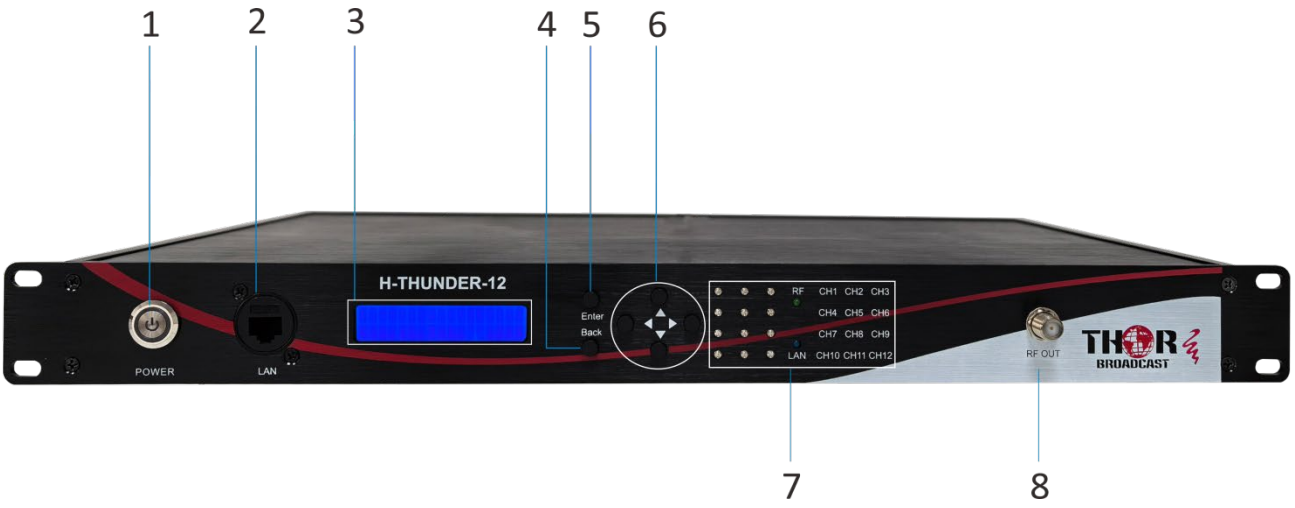


H-THUNDER-12

TECHNICAL SPECIFICATIONS

Encoding Section-Video		
Encoding	MPEG2	
Interface	12×HDMI	
Resolution	Input	Output
	480i, 576i, 720p@50/60 1080p@50/60, 1080i@50/60	Max.1080p@30
Bit rate	6-19 Mbps Default: 9 Mbps	
Encoding Section-Audio		
Encoding	MPEG-1 Layer2, AAC, AC3	
Sample rate	48KHz	
Modulator Section		
MER	Typ. 35dB	
RF range	50~950MHz, 1KHz step	
RF output level	100dBμV(30dB Attenuation)	
RF out	Output 4 frequency points	
Standard	**ATSC**	
Constellation	8VSB	
Standard	**QAM J.83B**	
Constellation	64QAM, 256QAM	
System		
Management	LCD + Control buttons/Ethernet	
Language	English	
Upgrade	Ethernet	
General		
Power supply	AC 100-240V 50/60Hz	
Dimensions	484×300×44mm	
Weight	2800g	

APPEARANCE INTRODUCE



1. Power button
2. LAN Port
3. LCD Panel
4. Back (Cancel/Return)
5. Enter Key
6. Directional keys (up, down, left, right)
7. Status LED
8. RF output



1. HDMI Input*12
2. Power Switch
3. Power Supply Input

LED LAMP

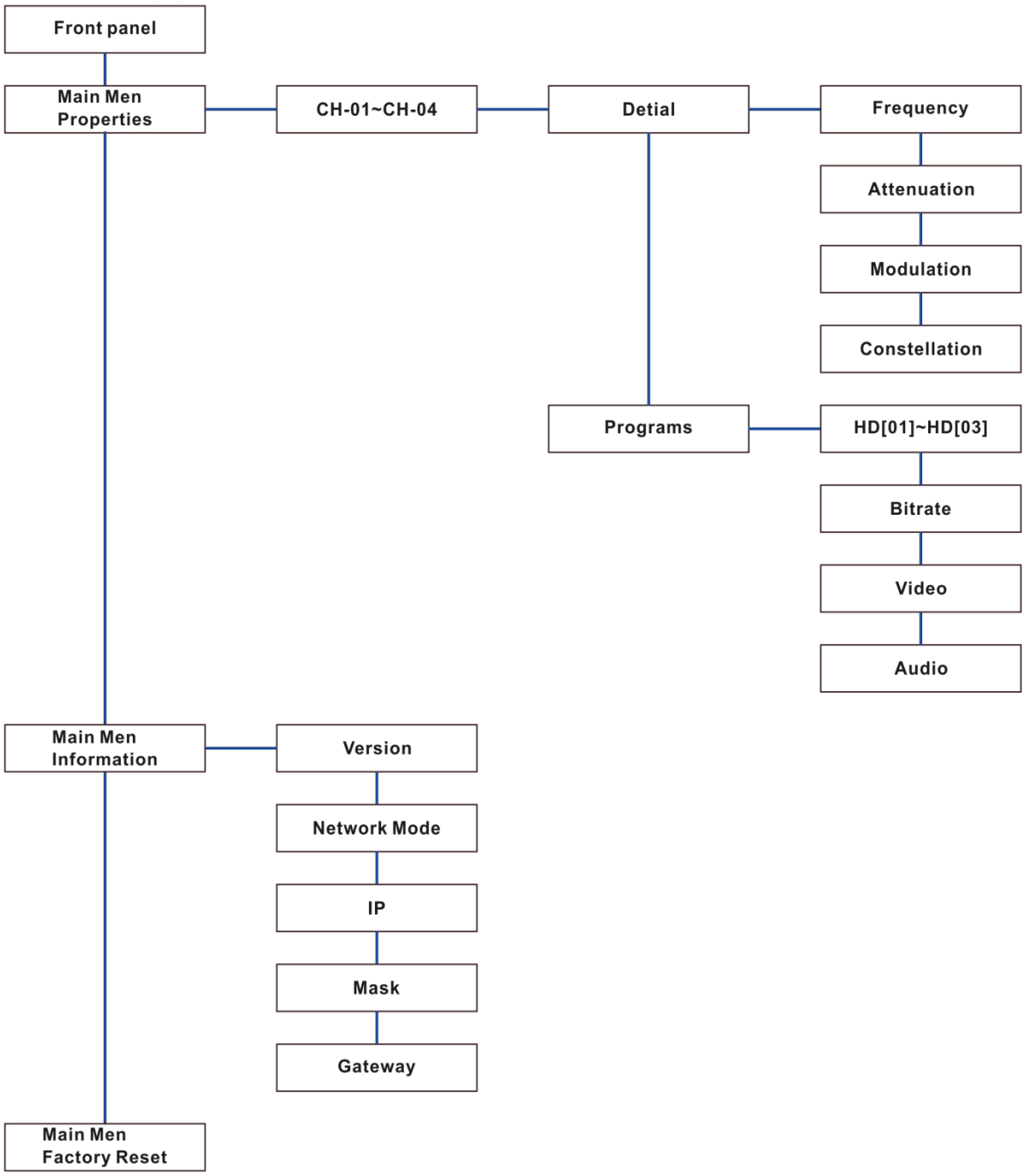


1.CH1~CH12: Dual-color LED (Green: Source connected / Blue: No source)

2.RF LED: Green (RF Output Active)

3.Lan LED: Blue (LAN Connected)

LED MEUE TREE



WEB OPERATION INSTRUCTION

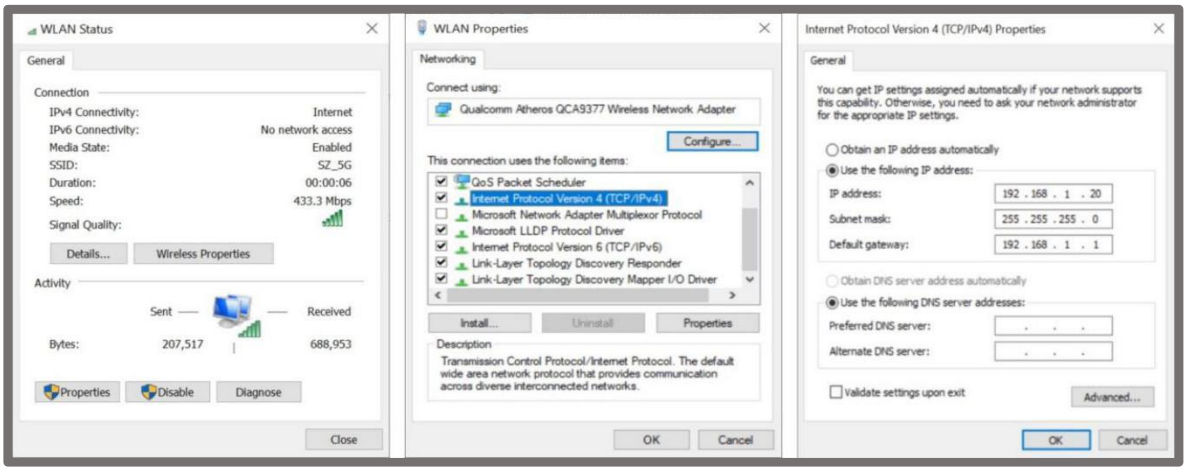
The device is configured using NMS. Access to the NMS is via the network connection

1. IP Address of Computer Setting

We must choose the static IP address according to the default gateway address. The first three numbers must be the same (192.168.1.x in the example).

System Control> Network Connections> LAN Connection> Properties> Internet Protocol Version 4 TCP/IPv4 (or Version6 TCP/IPv6)> Properties> Use the following IP address:

IP address Computer: 192.168.1.20 and Subnet mask: 255.255.255.0.

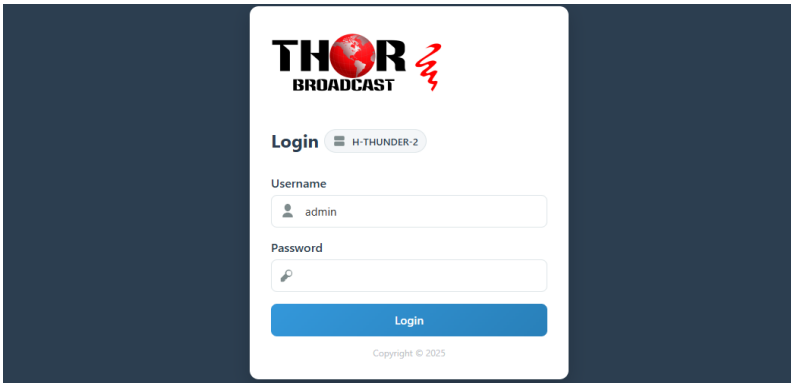


2. Login

2.1 Please open your computer's browser. (e.g.: Chrome, Edge)

2.2 Please log in before operation.

Default IP is **192.168.0.188**; Username: **admin** Password: **admin**



3. Dashboard Introduction

The Dashboard page is mainly divided into two sections: Channels and Programs.

Channels: This section mainly displays the status of the RF outputs.

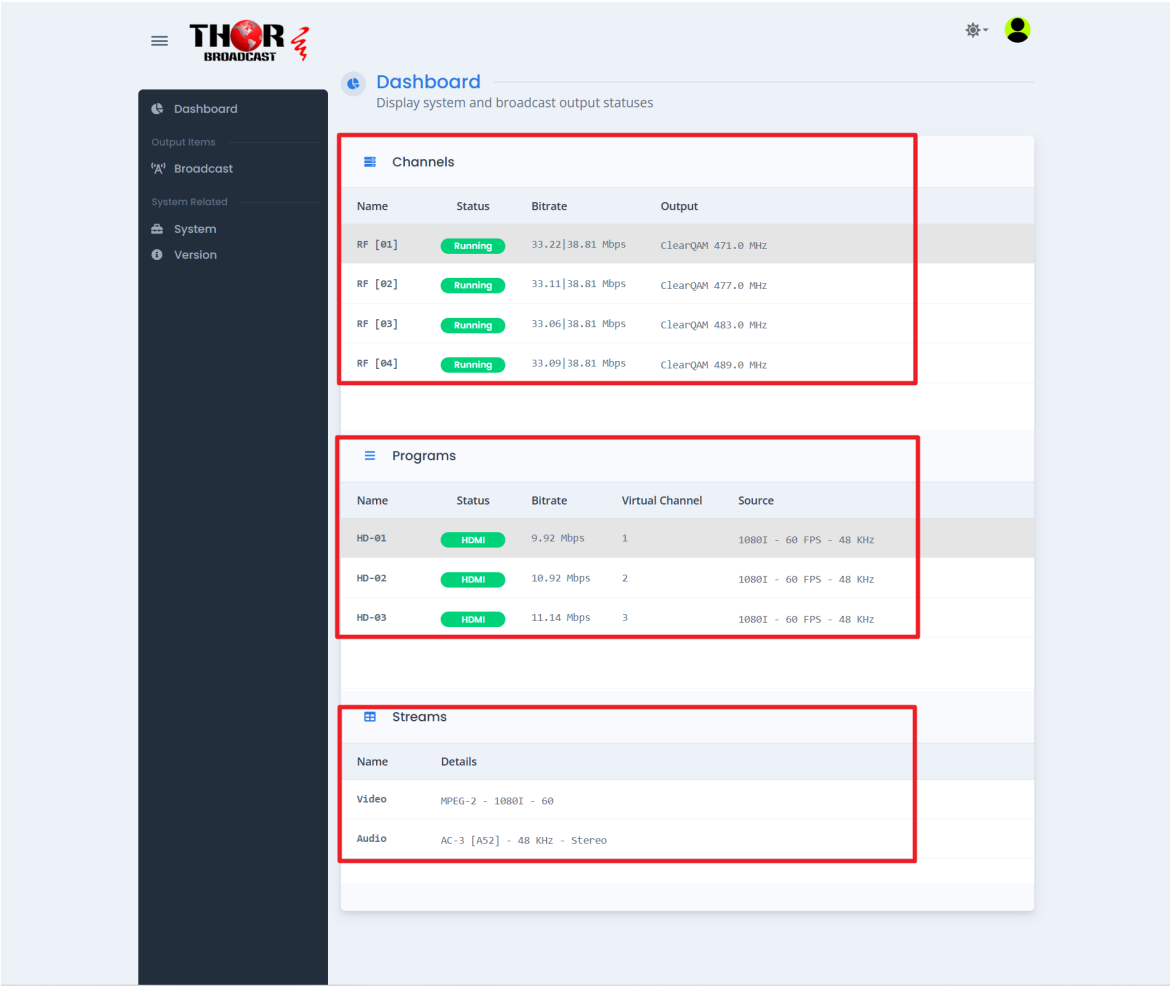
1. Name: RF Output Channel
2. Status: RF Output Status
3. Bitrate: Current bitrate / Maximum RF standard bitrate
4. Output: Output standard and frequency

Programs: This section mainly displays the status of the HDMI input sources.

1. Na Name: HDMI Source
2. Status: HDMI Status. Displays the boot logo when no source is available.
3. Bitrate: Current input bitrate
4. Source: Source Resolution / Frame rate / Audio Sampling Rate

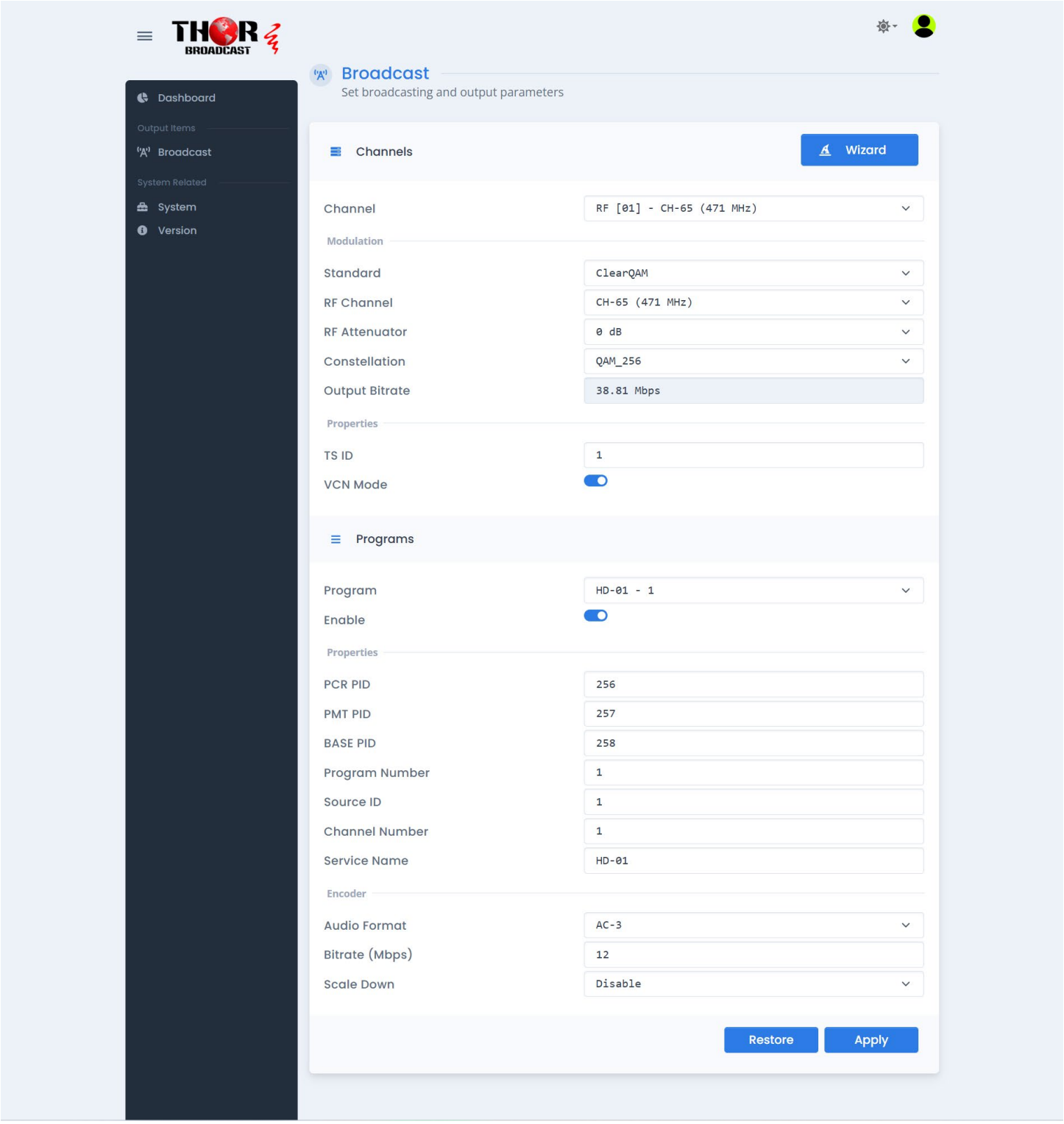
Streams

1. Video: Current Video Information
2. Audio: Current Audio Information



4. Broadcast Settings

Broadcast Settings support two operation modes: per-channel configuration and setup wizard.

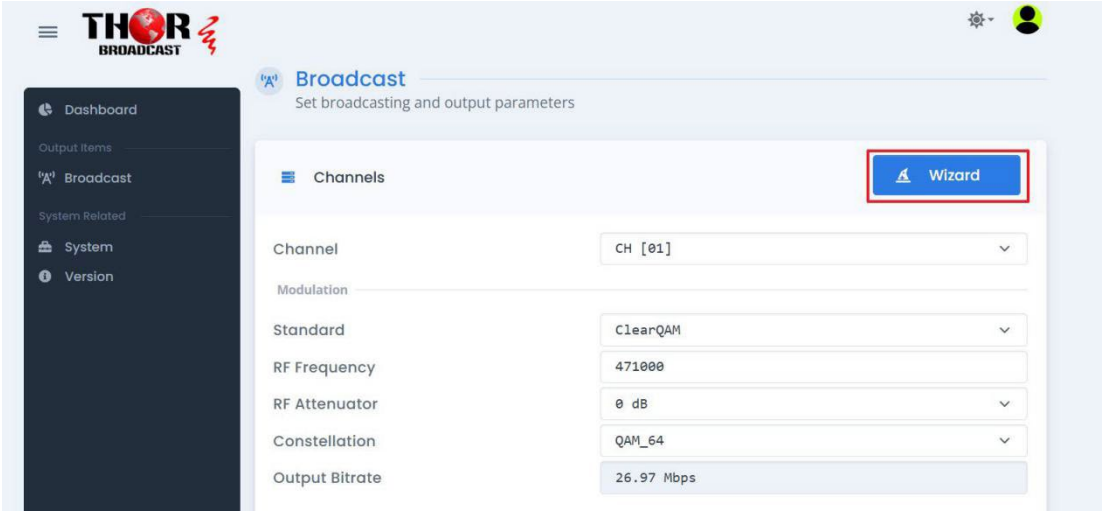


VCN Mode can be enabled to manually set the Channel Number.

This setting only changes the channel number; it does not change the QAM RF output frequency.

Wizard Operation Steps

1. Click the Wizard option to start the setup wizard.

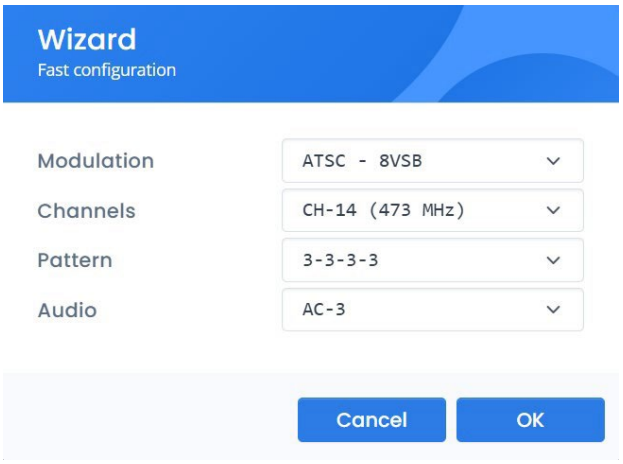


2.Select the modulation standard: ATSC or QAM.

3.Select the channel frequency.

4.Select Audio Format

5.Click OK to return to the Broadcast page.

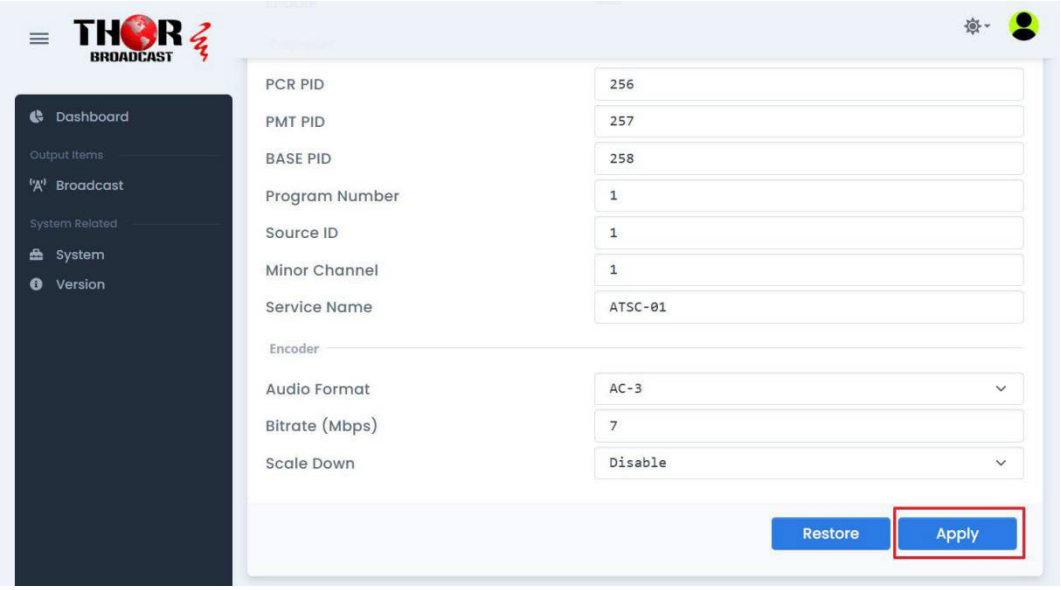


***Pattern:**

1. The configuration "3-3-3-3" indicates that each RF channel carries an average of three programs.
2. The "2-2-4-4" configuration means that the first two RF channels output two programs each, allowing a higher bitrate and improved picture quality. The remaining RF channels output four programs each, using a lower bitrate and providing standard picture quality.

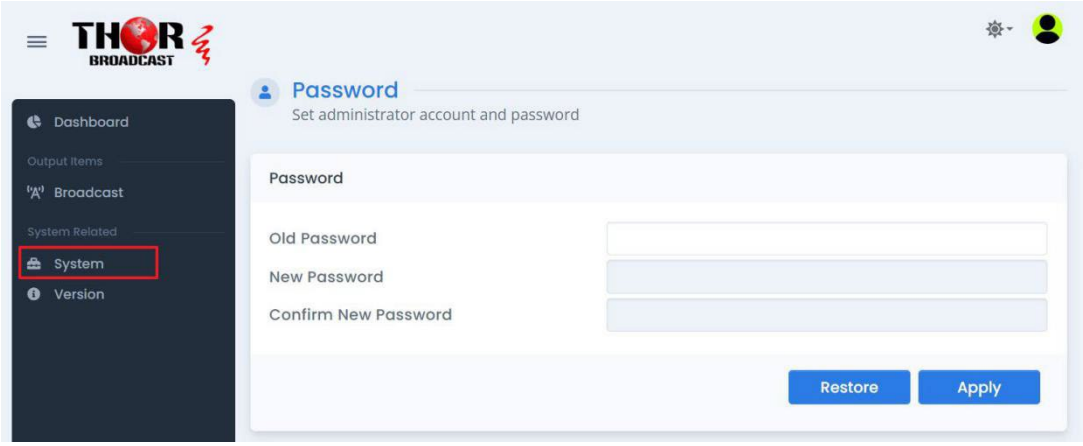
6.The system will automatically arrange all RF channels and programs.

7.After clicking Apply, the system will start applying the modified configuration parameters.



5. Password

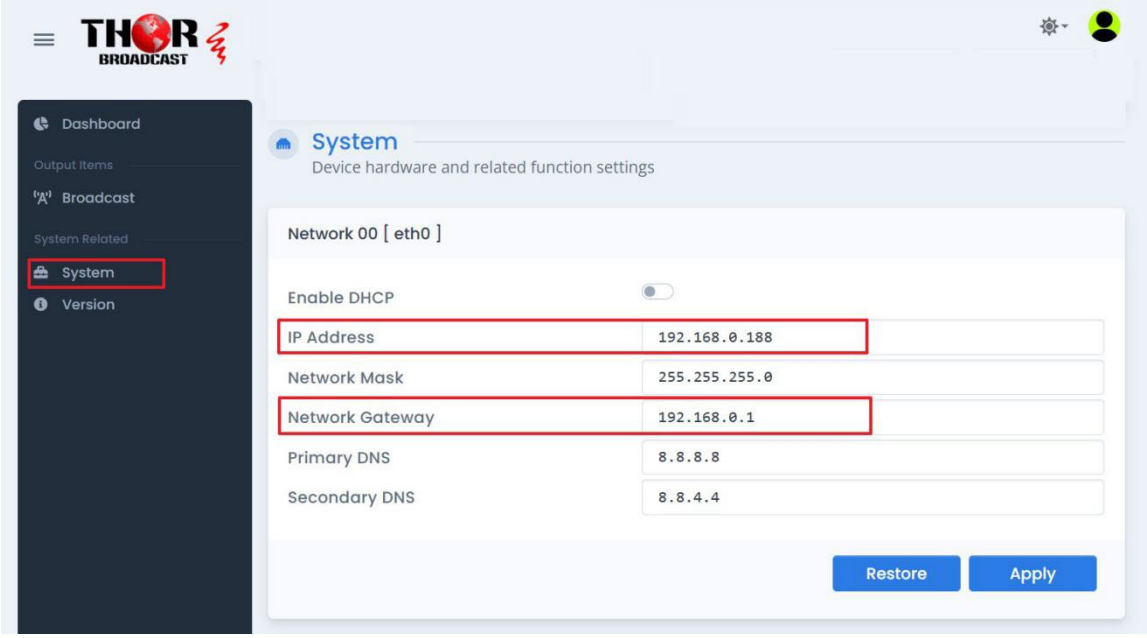
Please select the "System" option; after entering this webpage, you can change the password.



6.IP Address Setting

Please click the "System" option and modify the IP address.

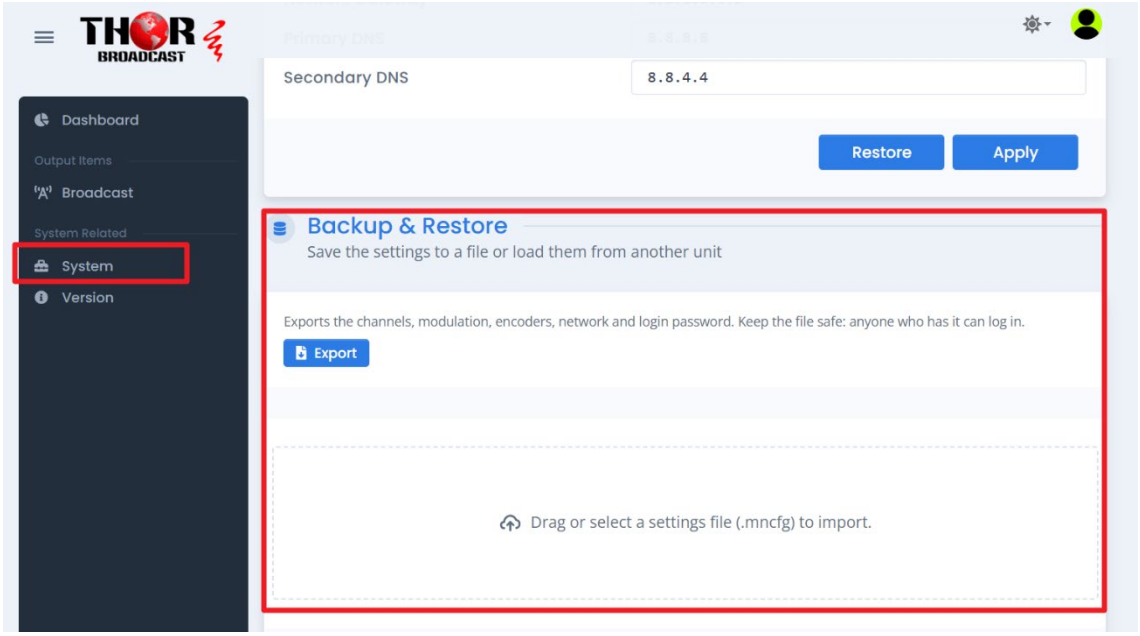
Note: The IP address must be in the same subnet as the Network gateway.



7. Configuration Backup & Restore

Export the current device configuration to a file for backup, or import a configuration file to restore settings.

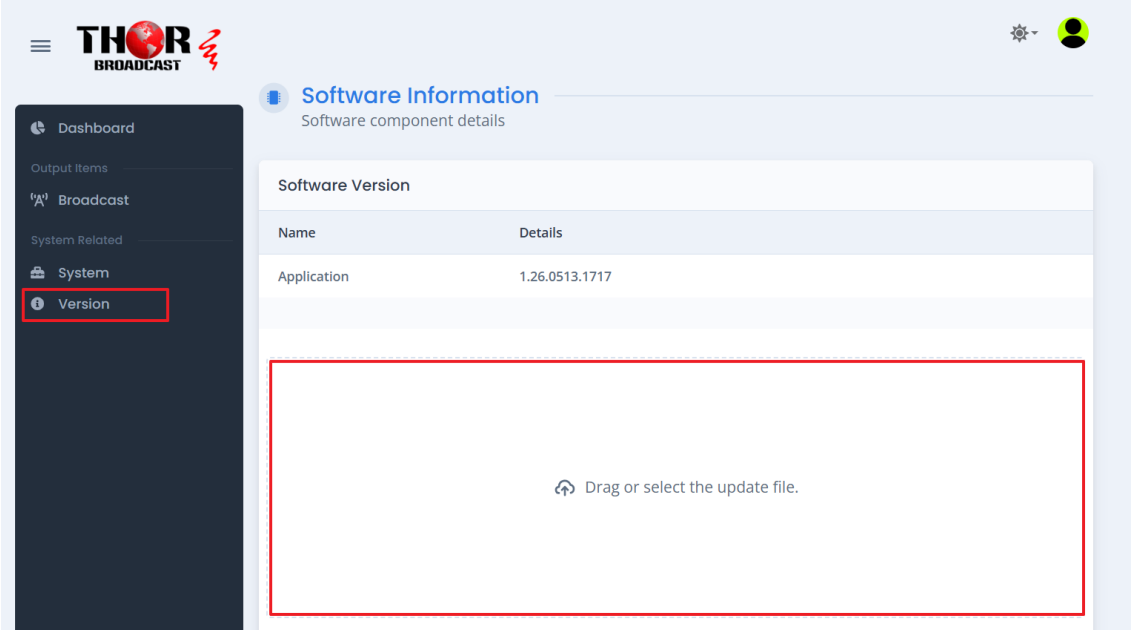
Please click “System,” then select “Backup & Restore” to import or export the device configuration.



8.Upgrade

Please click the "Version Info" option. Select the application to update.

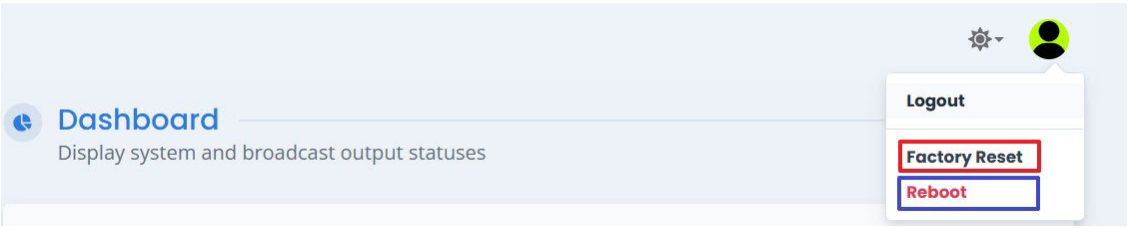
Click the "Drag or select the update file" area, then choose the file to update, or drag the file into this area.



9.Factory Reset and Reboot

Factory Reset: Restores the device settings to the factory default state. All user-defined configurations (such as network parameters, accounts, passwords, and channels settings)will be erased.

Reboot: Equivalent to turning the device off and then back on. It does not delete any user settings or files



10.Troubleshooting

Problem	Possible Cause	Solution
Cannot access the Web UI	Incorrect IP address or network connection	Verify that the device IP address is correct, ensure that the Ethernet cable is securely connected, and confirm that the PC is on the same subnet as the device.
Login failed	Incorrect username or password	Verify the username and password. If the password has been forgotten, restore the device to its factory default settings.
No video is displayed	No valid input signal	Ensure that the HDMI source device is powered on and properly connected. Verify that the input resolution is supported by the device.
No audio output	Unsupported audio format or no audio source	Ensure that the source device is outputting audio and verify that the selected audio format is supported.
No RF output	RF output is disabled or configuration has not been applied	Verify the RF output settings and click **Apply Changes** after modifying the configuration.
TV cannot find any channels	Incorrect RF frequency or TV standard	Verify the RF output frequency and modulation standard, then perform a channel scan on the TV.

Device does not respond	System error	Restart the device. If the problem persists, restore the device to its factory default settings and configure it again.

Additional Notes

- Always click Apply Changes after modifying the settings to apply the changes.
- Do not turn off the device or disconnect the power cable during a firmware update.
- Ensure that the total output bitrate does not exceed the maximum RF output bandwidth.
- It is recommended to use high-quality HDMI and Ethernet cables to ensure stable systemoperation.
- If the problem persists after performing the above checks, please contact technical support andprovide the device firmware version, system information, and a description of the issue.