

## Thor Broadcast H-1HDMI-DVBT-IPLL

# Thor Broadcast H-1HDMI-DVBT-IPLL User Manual

Low Latency HDMI DVB-T Modulator & IPTV Server

Model: H-1HDMI-DVBT-IPLL | Brand: Thor Broadcast

## 1. INTRODUCTION

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This manual provides detailed instructions for the installation, operation, and maintenance of the Thor Broadcast H-1HDMI-DVBT-IPLL Low Latency HDMI DVB-T Modulator & IPTV Server. This device is designed for professional video encoding and distribution, converting HDMI video sources into DVB-T terrestrial HDTV channels or IPTV streams.

The H-1HDMI-DVBT-IPLL offers a versatile solution for broadcasting, capable of encoding in MPEG-2 or H.264, and providing outputs including 8VSB, ASI, and IP. Its low latency design ensures efficient real-time video processing.

## 2. KEY FEATURES

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- 70 ms Low Latency HD Encoding for 1 Channel.
- Encodes to MPEG-2 or H.264 with 8VSB, ASI, & IP outputs.
- Network management accessible via web browser.
- Supports full HD encoding up to 1080p60.
- Functions as an Encoder, Modulator, IPTV Server, and ASI Mux.
- Configurable settings via front panel LCD or web interface.
- Adjustable RF channel output power (10 - 40 dBmV).

## 3. PRODUCT OVERVIEW

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The Thor Broadcast H-1HDMI-DVBT-IPLL unit features various input and output ports for comprehensive video signal management. Understanding these connections is crucial for proper setup and operation.

### 3.1. Rear Panel Connections



**Image:** Rear panel of the H-1HDMI-DVBT-IPLL. This view displays the HDMI input ports (HDMI1, HDMI2), RF IN, RF OUT, ASI IN, ASI OUT1, ASI OUT2, and the AC power input with a power switch.

- **HDMI Inputs:** Connect your HDMI video source(s) (e.g., Blu-ray players, cameras).
- **RF IN:** Radio Frequency input.
- **RF OUT:** Modulated DVB-T RF output for distribution to televisions.
- **ASI IN/OUT:** Asynchronous Serial Interface for professional broadcast integration.
- **AC Power Input:** For connecting the power cable (AC 100V-240V 50/60Hz 2A).

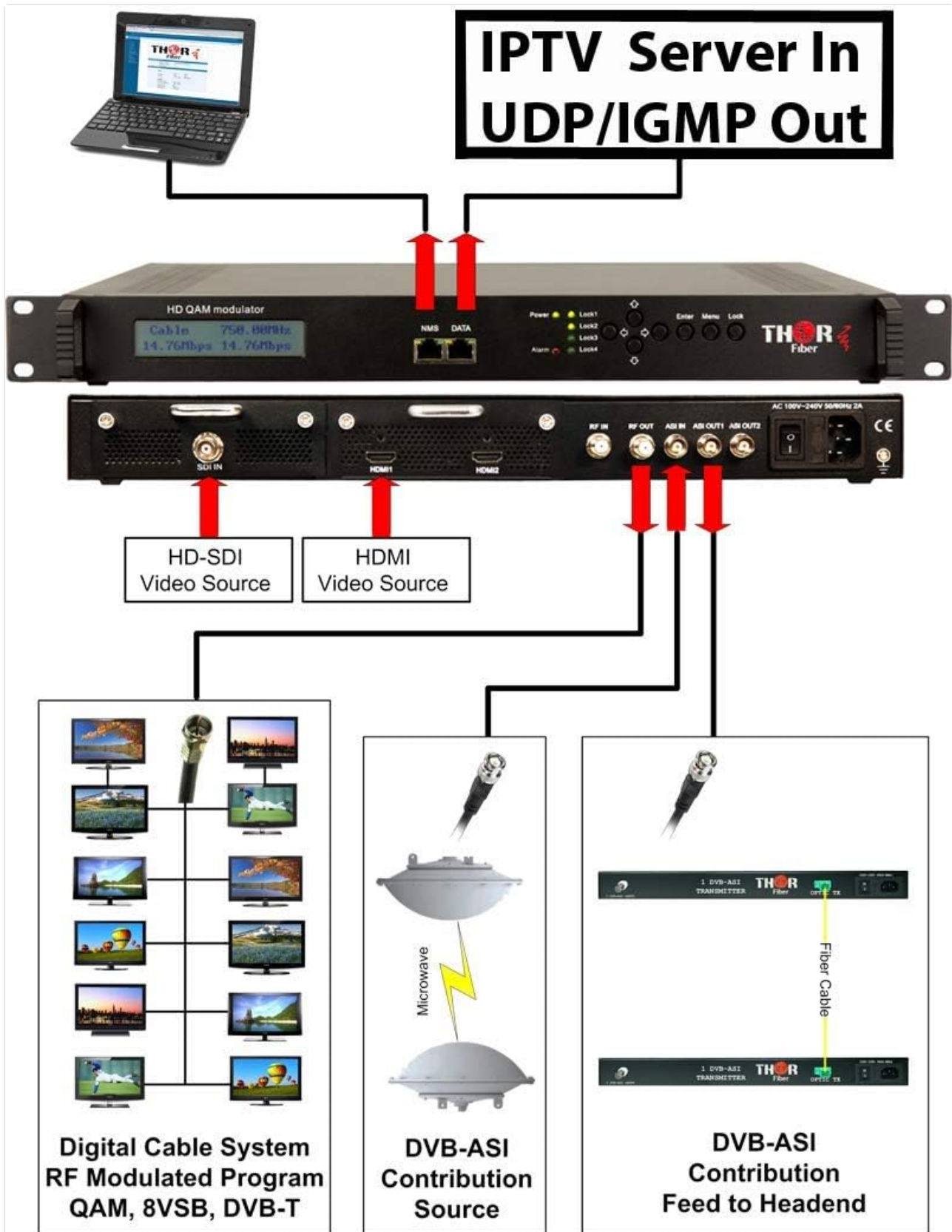
### 3.2. System Diagram



**Image:** A comprehensive system diagram showing the front and back of the modulator, HDMI source connections (Blu-ray, DVD, Fire Stick, Tablet), network connections for NMS and IPTV streaming, and RF output to multiple televisions.

This diagram illustrates typical connectivity scenarios, including HDMI source inputs, network management system (NMS) access, IPTV streaming, and RF output to multiple televisions.

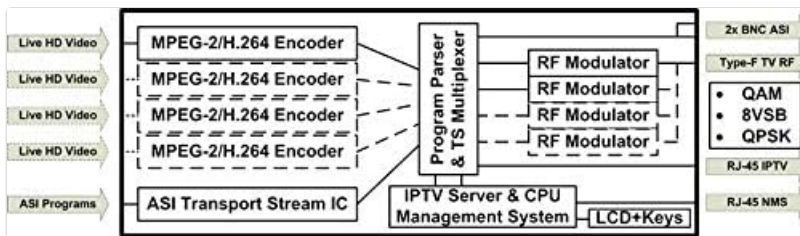
### 3.3. IPTV and ASI Integration



**Image:** Diagram detailing the integration of the device as an IPTV server (UDP/IGMP Out) and its role in DVB-ASI contribution and feeding a headend, alongside HDMI and HD-SDI video sources.

The unit supports advanced integration with IPTV systems and DVB-ASI infrastructure, allowing for flexible content distribution and contribution workflows.

### 3.4. Internal Block Diagram



**Image:** A block diagram illustrating the internal architecture, including MPEG-2/H.264 encoders, program parser & TS multiplexer, RF modulators, IPTV server & CPU management system, and various inputs/outputs.

This diagram provides an overview of the internal signal flow, from live HD video and ASI program inputs through encoding, multiplexing, and modulation stages to various outputs.

## 4. SETUP INSTRUCTIONS

1. **Power Connection:** Connect the provided AC power cable to the unit's power input and then to a suitable power outlet. Ensure the power switch on the rear panel is in the OFF position before connecting.
2. **HDMI Source Connection:** Connect your HDMI video source(s) (e.g., Blu-ray player, media server) to the HDMI input port(s) on the rear panel using high-quality HDMI cables.
3. **Network Connection (NMS):** Connect an Ethernet cable from the NMS network port on the unit to your network switch or router for web browser management access.
4. **Network Connection (IPTV):** If using IPTV streaming, connect a second Ethernet cable from the IPTV network port to your IPTV system.
5. **RF Output Connection:** Connect a coaxial cable from the RF OUT port on the unit to your distribution amplifier or directly to the antenna input of your televisions.
6. **ASI Connections (Optional):** If integrating with other broadcast equipment, connect ASI cables to the ASI IN and ASI OUT ports as required.
7. **Power On:** Once all connections are secure, switch the power button on the rear panel to the ON position. The unit's front panel LCD should illuminate.

## 5. OPERATING INSTRUCTIONS

### 5.1. Initial Configuration via Web Interface

1. **Access Web Interface:** Open a web browser on a computer connected to the same network as the NMS port of the modulator. Enter the default IP address (refer to the device's front panel LCD or documentation for the default IP).
2. **Login:** Enter the default username and password (typically "admin" for both, but check specific device documentation).
3. **Network Settings:** Configure the network settings (IP address, subnet mask, gateway) to match your network infrastructure.
4. **Input Configuration:** Select the active HDMI input channel. Configure video and audio parameters such as resolution, bitrate, and encoding format (MPEG-2 or H.264).
5. **Modulation Settings:** For DVB-T output, configure modulation parameters including RF channel frequency, bandwidth, constellation, and guard interval. Adjust the RF output power as needed (10-40 dBmV).
6. **IPTV Streaming Settings:** If using IPTV, configure the UDP unicast or IGMP multicast addresses and port numbers for your IPTV system.
7. **Save Settings:** After making changes, ensure you save the configuration to apply them.

## 5.2. Front Panel Operation

The front panel LCD and navigation buttons allow for basic monitoring and configuration adjustments without a computer. Use the "Enter," "Menu," and arrow buttons to navigate through the menus and modify settings. Refer to the on-screen prompts for specific options.

## 6. MAINTENANCE

- **Cleaning:** Regularly clean the exterior of the unit with a soft, dry cloth. Do not use liquid or aerosol cleaners. Ensure ventilation openings are free from dust and obstructions.
- **Ventilation:** Ensure adequate airflow around the unit to prevent overheating. Do not block ventilation slots.
- **Firmware Updates:** Periodically check the Thor Broadcast website for firmware updates. Follow the provided instructions carefully for any update procedures.
- **Cable Connections:** Periodically check all cable connections (HDMI, Ethernet, Coaxial, ASI) to ensure they are secure and free from damage.

## 7. TROUBLESHOOTING

Problem	Possible Cause	Solution
No power	Power cable disconnected; Power switch off; Power outlet fault.	Check power cable connection; Ensure power switch is ON; Test power outlet with another device.
No video output on TV	Incorrect HDMI input selected; RF output not connected; TV not tuned to correct channel; Incorrect modulation settings.	Verify HDMI source is active; Check RF cable connection; Scan for channels on TV; Review modulation settings in web interface.
No IPTV stream	Incorrect IPTV network settings; Network cable disconnected; Firewall blocking traffic.	Verify IPTV IP address and port settings; Check Ethernet cable connection; Ensure network firewall allows UDP/IGMP traffic.
Cannot access web interface	Incorrect IP address; Network cable disconnected; Computer not on same subnet.	Verify device IP address; Check NMS Ethernet cable; Ensure computer's IP is compatible with device's IP.

## 8. SPECIFICATIONS

Feature	Detail
Model Number	H-1HDMI-DVBT-IPLL
Product Dimensions	10 x 19 x 1.8 inches
Item Weight	4 pounds
Manufacturer	Thor Fiber
ASIN	B00KFS00F2
Date First Available	May 19, 2014

Feature	Detail
Compatible Devices	Television
Specific Uses For Product	TV
Connector Type	HDMI
Encoding Latency	70 ms (typical)
Encoding Formats	MPEG-2, H.264
Max Input Resolution	1080p60
RF Output Power	10 - 40 dBmV (adjustable)
Output Types	8VSB, ASI, IP (UDP unicast/IGMP multicast)

## 9. WARRANTY AND SUPPORT

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This product is covered by a standard manufacturer's warranty. For specific warranty terms and conditions, please refer to the documentation included with your purchase or visit the official Thor Broadcast website.

For technical support, troubleshooting assistance, or service inquiries, please contact Thor Broadcast customer support through their official channels. Have your product model number (H-1HDMI-DVBT-IPLL) and serial number ready when contacting support.

**Thor Broadcast Official Website:** [www.thorbroadcast.com](http://www.thorbroadcast.com)