

# H-HDMI-RF-Petit-IR

## HDMI Modulator with return remote control IR

Digital Full HD 1080p ATSC, QAM J.83B, DVB-T, ISDB-T over Coax



**Compact HDMI-compliant modulator with loop-out and IR** so you can change the source Set Top Box from a different one via a Television. However, you can still use this modulator with any HDMI source like Blu-Ray, Apple TV, ROKU, PC, etc.

You can connect any amount of TV's you want to the RF output and view your programs over your existing coax network in up to 1080p resolution. You can also inject an RF input into the modulator, like an Antenna, and then add your HDMI-sourced product to inject into the ATSC channel lineup on a vacant frequency. This added accessibility along with the IR and digital link passing through your coax network will make adding programs, and adjusting the channel on your STB an easy-to-use solution.

Furthermore, the modulator also has an HDMI loop-out so if you have your unit stationed near a TV, and use the IR to control a second TV, the first TV can be fed with the HDMI input for monitoring or viewing. There is an LCD display with easy-to-use buttons, and of course, there is an RJ45 input so you can add your modulator to the LAN and control it through a WEB GUI. This unit also has all the major RF modulation standards built in, QAM(J83A/B), ATSC, ISDBT, and DVBT.

### Features

- HDMI Input - HDCP compliant ( works with any HDMI device )
- HDMI Loop-out for convenient monitoring on a local TV
- 10/100 Ethernet NMS port for control and setup
- RF output could be set to any CATV format as QAM, ATSC, DVB-T, or ISDB-T
- RF output power is +100dB $\mu$ V(30dB Attenuation); enough for distributing HDTV video to 100's TV over the existing coax cable network
- RF power could be controlled over the network via NMS Gui (Proprietary)
- MPEG2 video encoding
- AC3 Audio encoding, MPEG1, and AAC options
- Video bit rate 5-25Mbps can manage over the network
- Supports any CATV RF agile channels from 50-950Mhz, channels 2 -135,
- Supports output resolutions up to 1080p; input 720 or 1080
- Compact size
- Install multiple units onto your TV system
- IR Return with 9Vdc
- Easy to see LED lights

## Specifications

<b>Encoding Section-Video</b>	
Encoding	MPEG2
Interface	HDMI x 2 (1×input/1×loop out)
Resolution	Input: 720@50p,720@60p 1080@50I/P,1080@60I/P Output: up to 1080p30
Bit rate	5-25Mbps
<b>Encoding Section-Audio</b>	
Encoding	MPEG-1 Layer2, AAC, AC3
Sample rate	48KHz
<b>System</b>	
Management	LCD + Control buttons/Ethernet Web GUI
<b>Modulation</b>	
MER	Typ. 35dB
RF range	50~950MHz, 1KHz step
RF output level	100dBμV (30dB attenuation)
Standard	ATSC
Constellation	8VSB
Standard	QAM J.83B, annex A , DVB-T, ISDB-T
Constellation	64QAM, 128QAM, 256QAM
<b>IR return path connections</b>	
RF output	2 RF outputs (one providing accessory power supply 9 Volts DC for IR pass)
DC switch	Power supply 9 Volts DC for IR pass
IR OUT	IR emitter output
<b>General</b>	
Power supply	DC 12V 1A
Dimensions	225*105*41mm
Weight	680g

## **CATV RF Modulation Technologies: A Comprehensive Overview of Standards and Distribution**

### Introduction:

Cable Television (CATV) distribution relies on advanced Radio Frequency (RF) modulation technologies to deliver a multitude of channels seamlessly over coaxial networks. The modulation standards vary across countries, contributing to the diversity of CATV technologies worldwide. This article delves into the distinctions between modulation standards such as Off Air 8VSB ATSC, DVB-C Annex B, DVB-T, and ISDB-T, shedding light on their bandwidths, encoding formats, and the indispensable role of amplifiers in ensuring reliable signal distribution.

### Modulation Standards Across Continents:

CATV RF distribution employs different modulation standards in various regions. In the United States, Mexico, Canada, and some Latin American countries, Off Air 8VSB ATSC is a prevalent standard. Its bandwidth, with a data rate of 19.3 Mbps, allows for high-quality signal transmission. Conversely, DVB-C Annex B is utilized in the US, Canada, and Mexico, with QAM 256 providing a robust 38 Mbps data rate, and QAM 64 delivering 27 Mbps.

In Europe, the Middle East, and Africa, DVB-T is the standard of choice. This standard accommodates different bandwidths, providing a flexible solution for diverse broadcasting needs. Meanwhile, Japan and countries like Chile and Argentina leverage ISDB-T, showcasing the adaptability of CATV technologies to regional preferences.

### Encoding Formats and Compression Techniques:

The encoding formats play a pivotal role in determining the efficiency of signal transmission. In the United States, Mexico, and Canada, MPEG2 is commonly used, while H.264 is favored in other countries. These formats facilitate the compression of audio and video data, ensuring efficient utilization of available bandwidth.

### Diversity in Audio Codecs:

CATV RF modulation technologies also exhibit diversity in audio codecs. Dolby AC3, MPEG2, and MPEG1 audio compression are commonly employed, each offering distinct advantages in terms of audio quality and bandwidth utilization. The choice of audio codec often depends on regional preferences and technological considerations.

### Distribution Over Coaxial Networks:

Distributing multichannel content over coaxial networks is remarkably streamlined. Coaxial networks refer to the interconnected system of coaxial cables, splitters, taps, and combiners that facilitate the distribution of signals to individual households. Coaxial splitters divide the incoming signal into multiple paths, ensuring each subscriber receives their desired channels without signal degradation.

### Coaxial Network Components:

Coaxial splitters, taps, combiners, and RF amplifiers are essential components of CATV distribution networks. Splitters divide the signal into multiple paths, taps allow controlled signal extraction, and combiners merge signals from different sources. RF amplifiers play a crucial role in overcoming signal attenuation and insertion loss, ensuring that the signal remains strong throughout the distribution network.

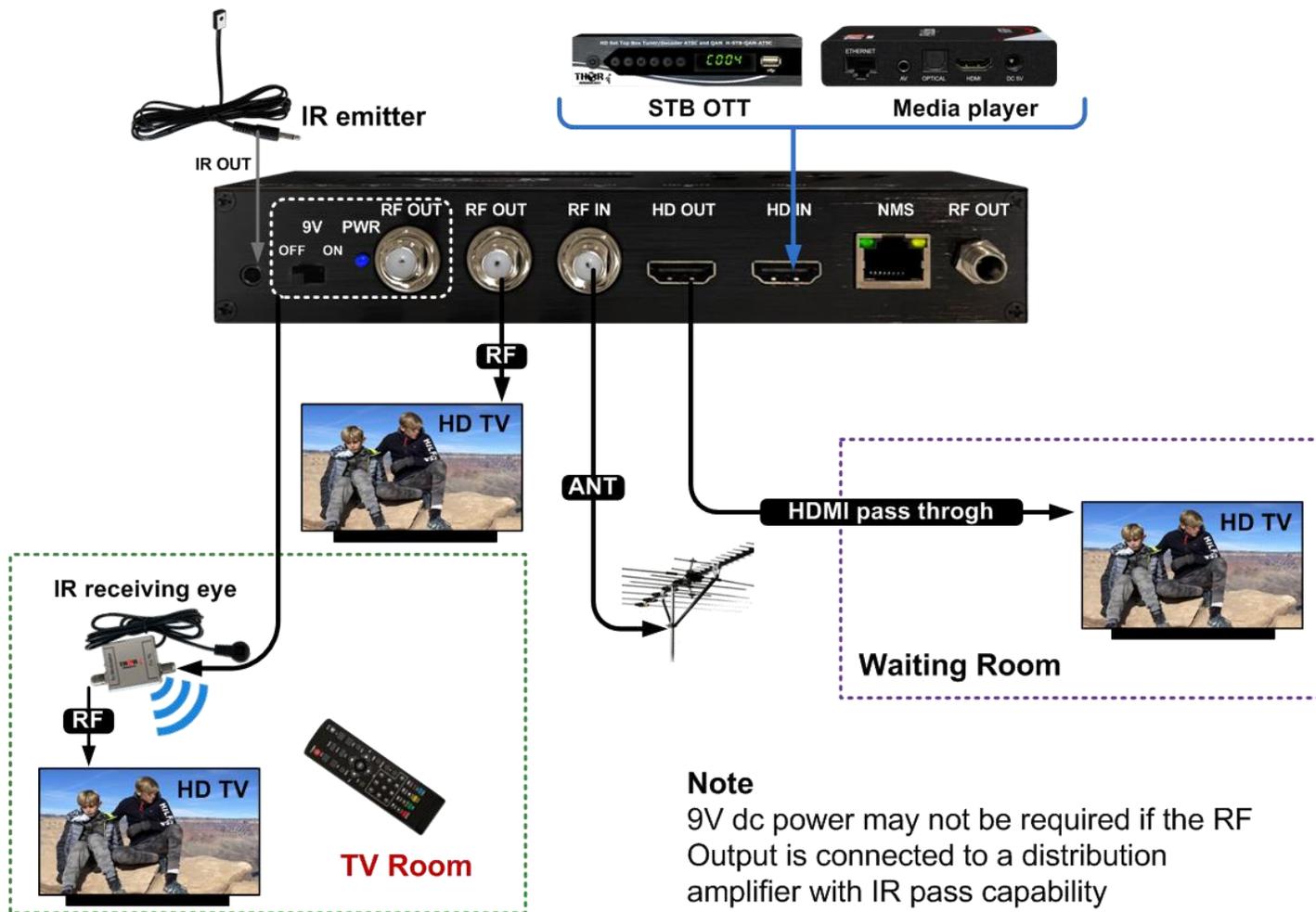
### Understanding RF Amplifiers:

RF amplifiers are integral to CATV distribution networks. They boost the signal strength, compensating for losses incurred during transmission. RF insertion loss, resulting from cable attenuation and passive components like splitters and combiners, is effectively counteracted by strategically placed amplifiers along the distribution network.

### Conclusion:

CATV RF modulation technologies form a sophisticated tapestry of standards and technologies, adapting to the unique requirements of different regions. Understanding the nuances of modulation standards, encoding formats, and distribution components is crucial for ensuring efficient and reliable CATV signal distribution over coaxial networks worldwide. As technology continues to evolve, CATV systems will likely witness further advancements, enhancing the quality and diversity of content delivered to viewers across the globe.

## 2.2 Installation Operation



## 2.3 Connect more modulators

