Product Information Datasheet

IPTV to 16/32 CLEAR CHANNEL RF QAM/ATSC Modulator

IPTV to RF Converter, DTV Modulator, Edge modulator, IPTV modulator

Preview

Short Description

CABLE TV Headend in a Box. QAM modulator for IP Edge QAM / ATSC /DVB-T /ISDB-T applications. This 1RU chassis has 2 GE inputs with SFP interface allowing up to 1024 channels TS streams of UDP/RTP, unicast and multicast streams. Maximum input of each GE input is 840 Mbps that will be output through the RF output on 16 non-adjacent QAM carriers in the range of 50-960Mhz.

Table of Contents

Description

IP to 8 or 16 or 32 QAM CATV RF or ATSC Agile Edge Modulator

H-IPRF-32QAM IP to 32 RF Agile QAM Edge Modulator

H-IPRF-16QAM IP to 16 RF Agile QAM Edge Modulator

H-IPRF-16ATSC IP to 16 RF Agile ATSC Edge Modulator

H-IPRF-8ATSC IP to 8 RF Agile ATSC Edge Modulator

H-IPRF-16DVBT IP to 16 RF Agile DVB-T Edge Modulator

H-IPRF-8DVBT IP to 8 RF Agile DVB-T Edge Modulator

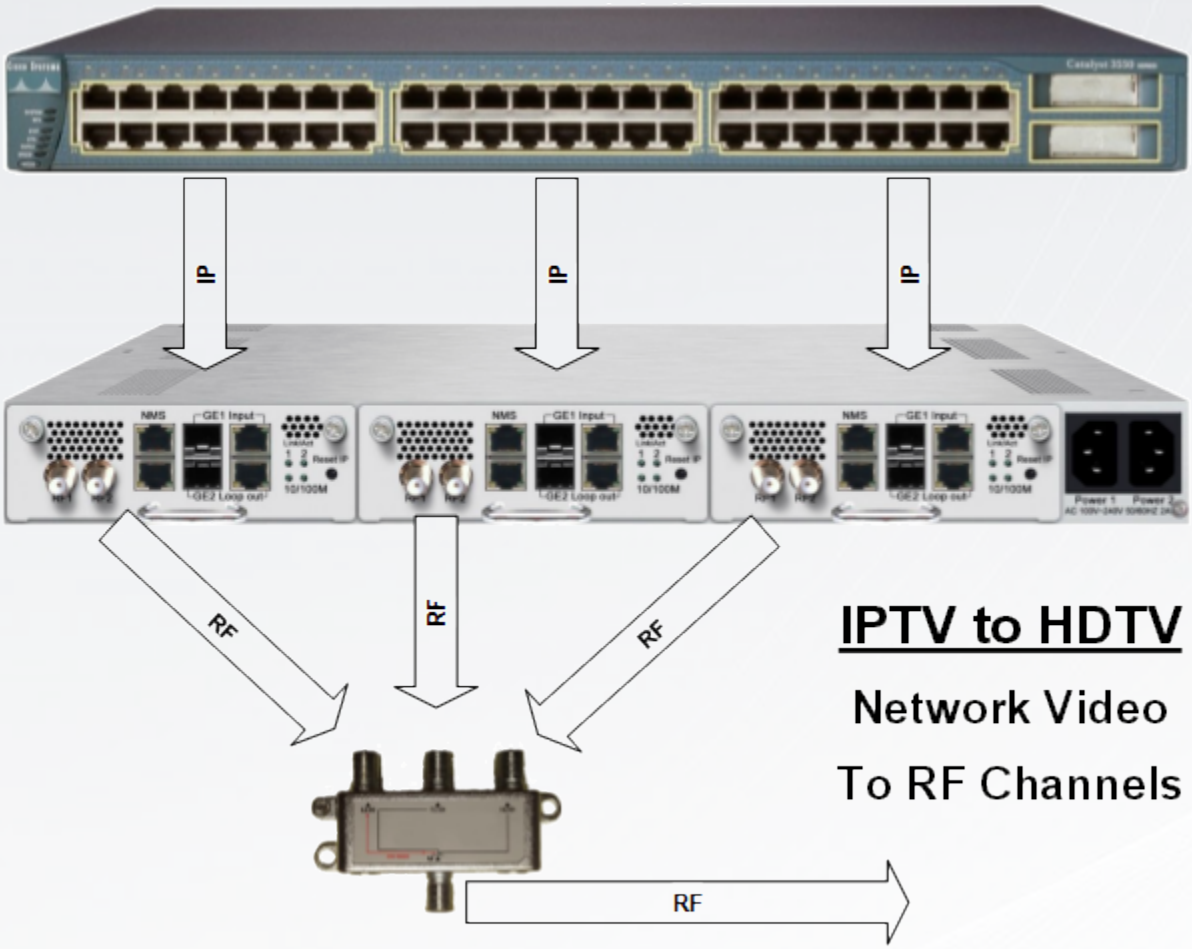
QAM modulator for IPTV backbone to Clear QAM RF

Thor Broadcast model H-IPTV-16QAM will modulate IPTV transport streams to Clear-QAM RF channels for DVB-C applications

The H-IPTV-16 QAM modulator is a simple all-in-one utility device to convert up to 1024 IP Transport Streams in UDP / RTP into 16 non-adjacent QAM Channels. This Thor Broadcast high-density IP to QAM modulator is designed to take content delivered via an IP backbone or CDN system and modulate the programming onto digital QAM cable channels for distribution over coax. This product includes a 1RU chassis supporting two individual Ethernet inputs injecting up to 840Mbps on each Ethernet RJ45 connector outputs all programming onto a single RF F-Type connector for easy output into your RF Coax infrastructure. This single RU form factor allows you create your own IPTV to RF headend in a single chassis. All QAM Channels and IP inputs are managed from the easy to use NMS RJ45 port connection on the front of the unit allowing you to quickly and easily access your programming from Thor’s easy to read GUI that can be accessed from anywhere on your network. The IPTV programming input is standard headend format, meaning basic UDP / RTP unicast/multicast IGMP v2 / v3 addresses and port format. This impressive density allows a single chassis to convert an IPTV Ethernet backbone feed to be converted to a full lineup of digital cable DVB-C channels for easy distribution.

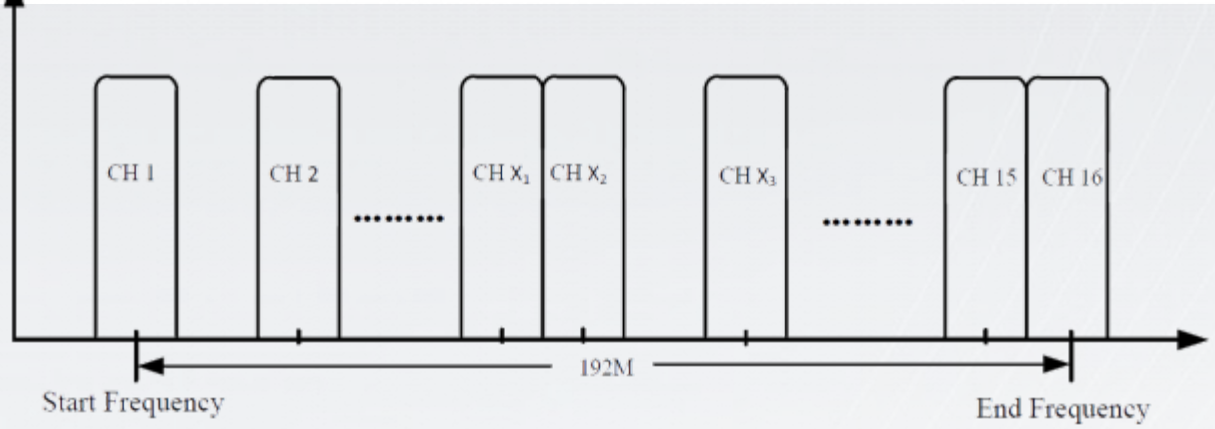
APPLICATION:

In Addition to high-density IPTV-QAM modulators for any application, Thor also Specializes in Hybrid Fiber Coax (HFC) and Fiber to the Home (FTTH) equipment and system design. Thor’s full turnkey solution product line even extends to headend encoding platforms with the goal of being the only equipment provider you will ever need. A full staff of trained application engineers is available to answer any questions you might have and to recommend solutions available that you're not aware of. Contact a sales representative today if you would like more information on receiving a free consultation and system design.

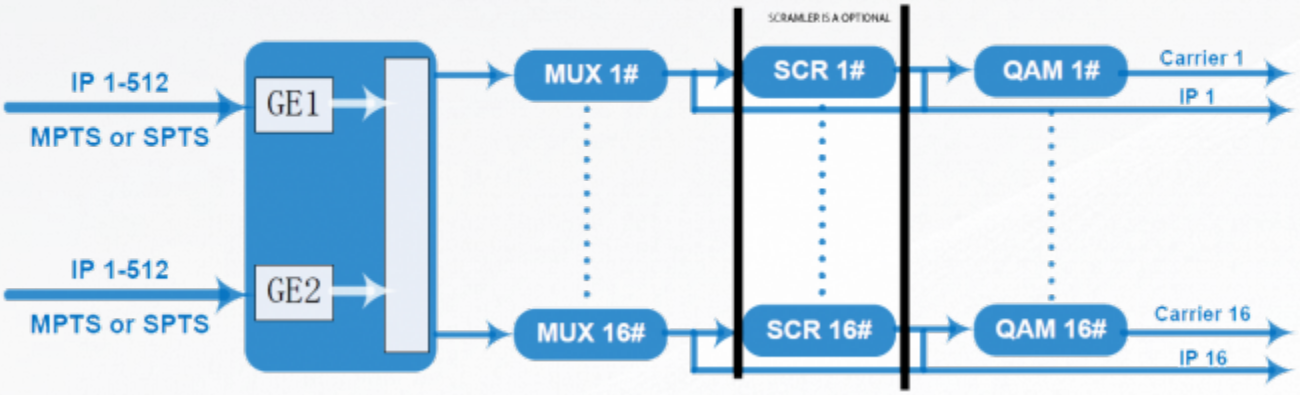


Thor part number H-IPTV-QAM systems are specifically designed to utilize bandwidth to the incoming IP Transport Streams and reallocating that bandwidth on the RF QAM frequencies. The amount of programs that you are able to inject into the QAM systems is only limited by the bandwidth provided. Essentially you can create a lower amount of HD (High Definition) programming or an extensive amount of SD (Standard Definition) programming. This can even trasnport IPTV 4K streams and convert them to QAM cable channels. The 16 non-adjacent QAM channels are uniquely setup in the NMS so you can place them in any QAM headend that will allow programming to be set and configured in any channel lineup. With auto or manual PID remapping functionality, you'll be able to set exactly the channel configuration of your choice allowing added flexibility to the customization of your channels. Maximizing these Gigabit Ethernet ports will allow input up to 840mb/s each producing 16 QAM Channels. Creating your own custom headend has never been easier using Thor Broadcasts newest IPTV to-QAM CATV headend in a box. Please call a sales associate now for more information or send an inquiry using our Thor Dash button.

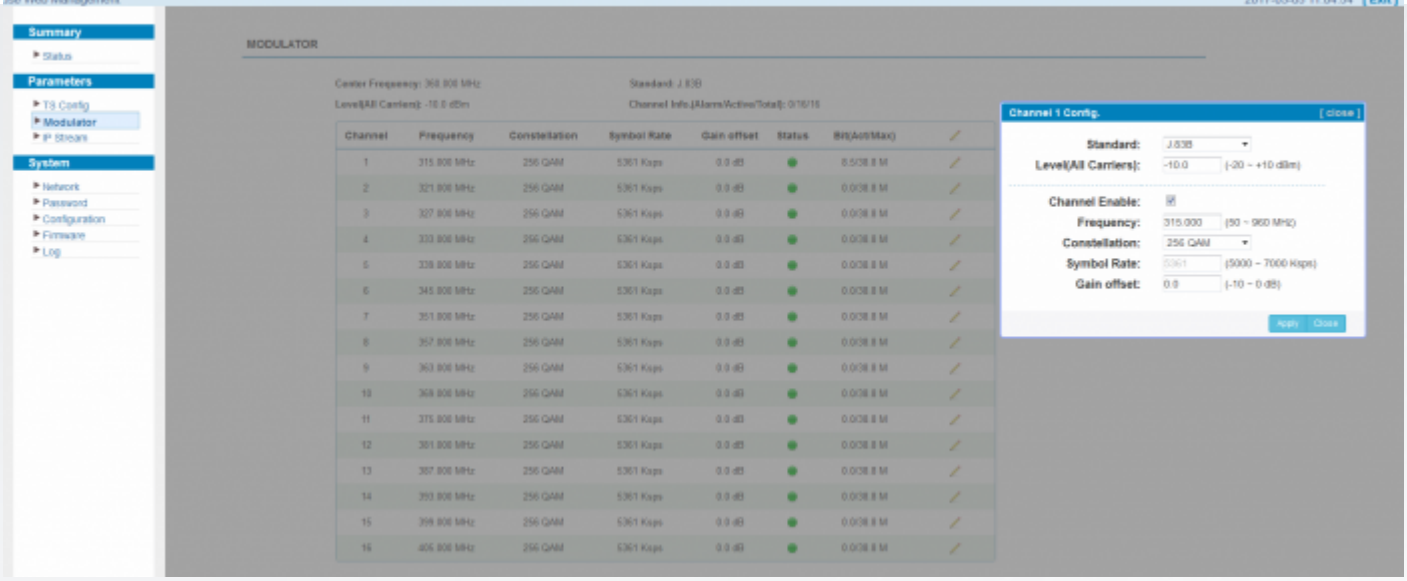
Carrier Setting

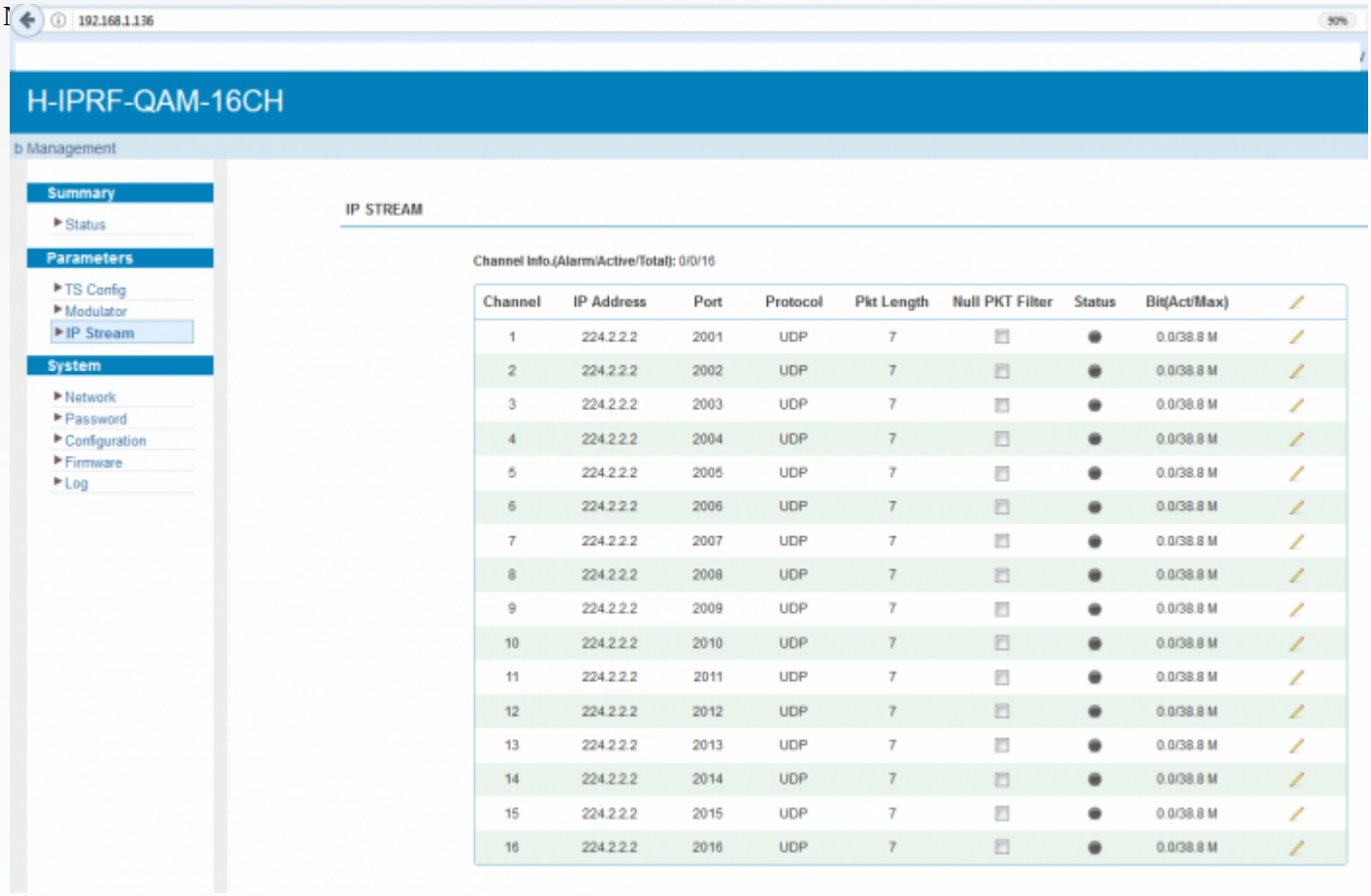


Principle Chart

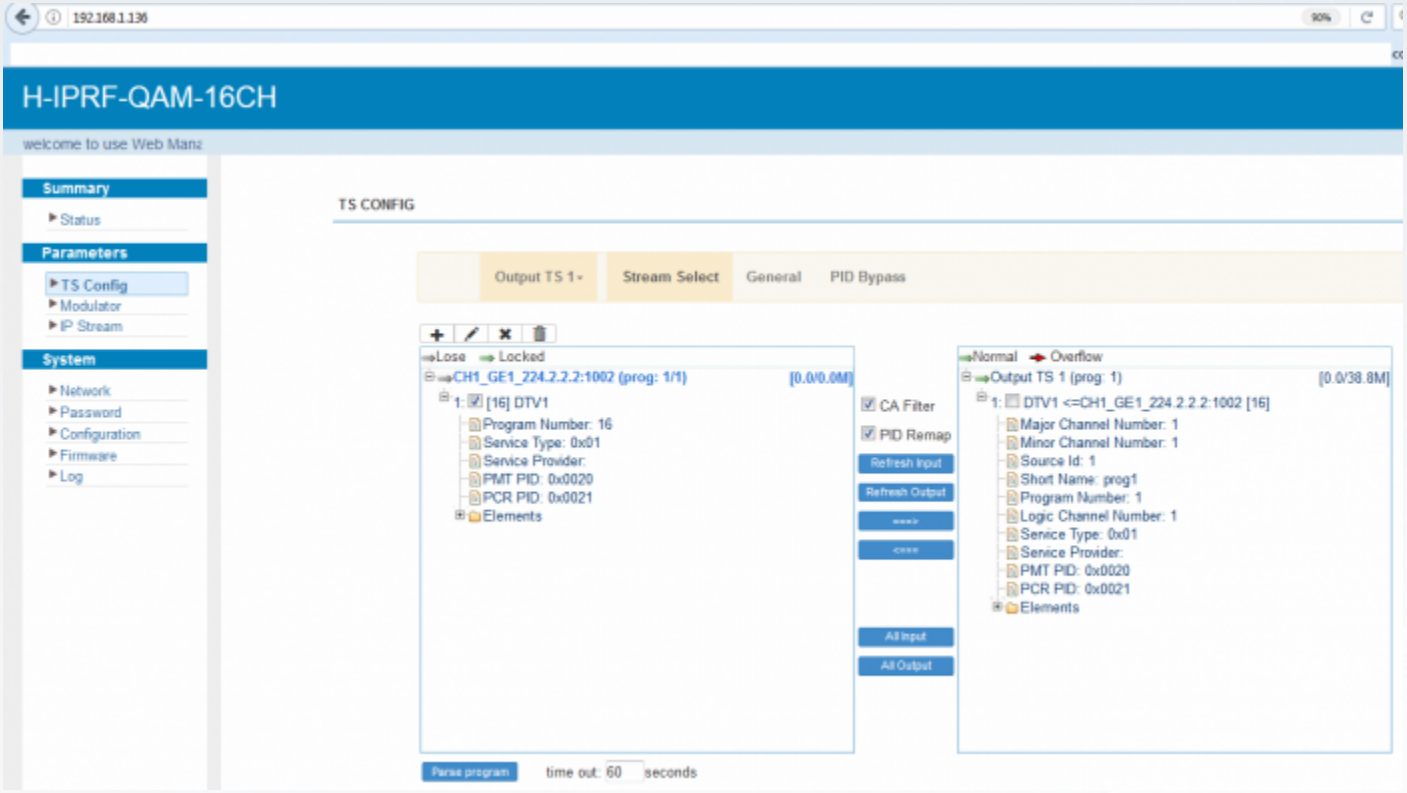


NMS Setup WEB Page GUI: Frequency setup page in Thor IP to QAM Edge modulator


Summary
Status
Parameters
TS Config
Modulator
IP Stream
System
Network
Password
Configuration
Firmware
Log
MODULATOR
Channel
Frequency
Constellation
Symbol Rate
Gain offset
Status
Bit(Act/Max)
Channel 1 Config.
[close]
Standard:
Level(All Carriers):
Channel Enable:
Frequency:
Constellation:
Symbol Rate:
Gain offset:
Apply
Close


192.168.1.136
H-IPRF-QAM-16CH
Summary
Status
Parameters
TS Config
Modulator
IP Stream
System
Network
Password
Configuration
Firmware
Log
IP STREAM
Channel Info.(Alarm/Active/Total): 0/0/16
Channel
IP Address
Port
Protocol
Pkt Length
Null PKT Filter
Status
Bit(Act/Max)
1 224.2.2.2 2001 UDP 7 0.0/38.8 M
2 224.2.2.2 2002 UDP 7 0.0/38.8 M
3 224.2.2.2 2003 UDP 7 0.0/38.8 M
4 224.2.2.2 2004 UDP 7 0.0/38.8 M
5 224.2.2.2 2005 UDP 7 0.0/38.8 M
6 224.2.2.2 2006 UDP 7 0.0/38.8 M
7 224.2.2.2 2007 UDP 7 0.0/38.8 M
8 224.2.2.2 2008 UDP 7 0.0/38.8 M
9 224.2.2.2 2009 UDP 7 0.0/38.8 M
10 224.2.2.2 2010 UDP 7 0.0/38.8 M
11 224.2.2.2 2011 UDP 7 0.0/38.8 M
12 224.2.2.2 2012 UDP 7 0.0/38.8 M
13 224.2.2.2 2013 UDP 7 0.0/38.8 M
14 224.2.2.2 2014 UDP 7 0.0/38.8 M
15 224.2.2.2 2015 UDP 7 0.0/38.8 M
16 224.2.2.2 2016 UDP 7 0.0/38.8 M

NMS Setup WEB Page GUI : IP streams multicast Input details page IP to QAM Edge Modulator

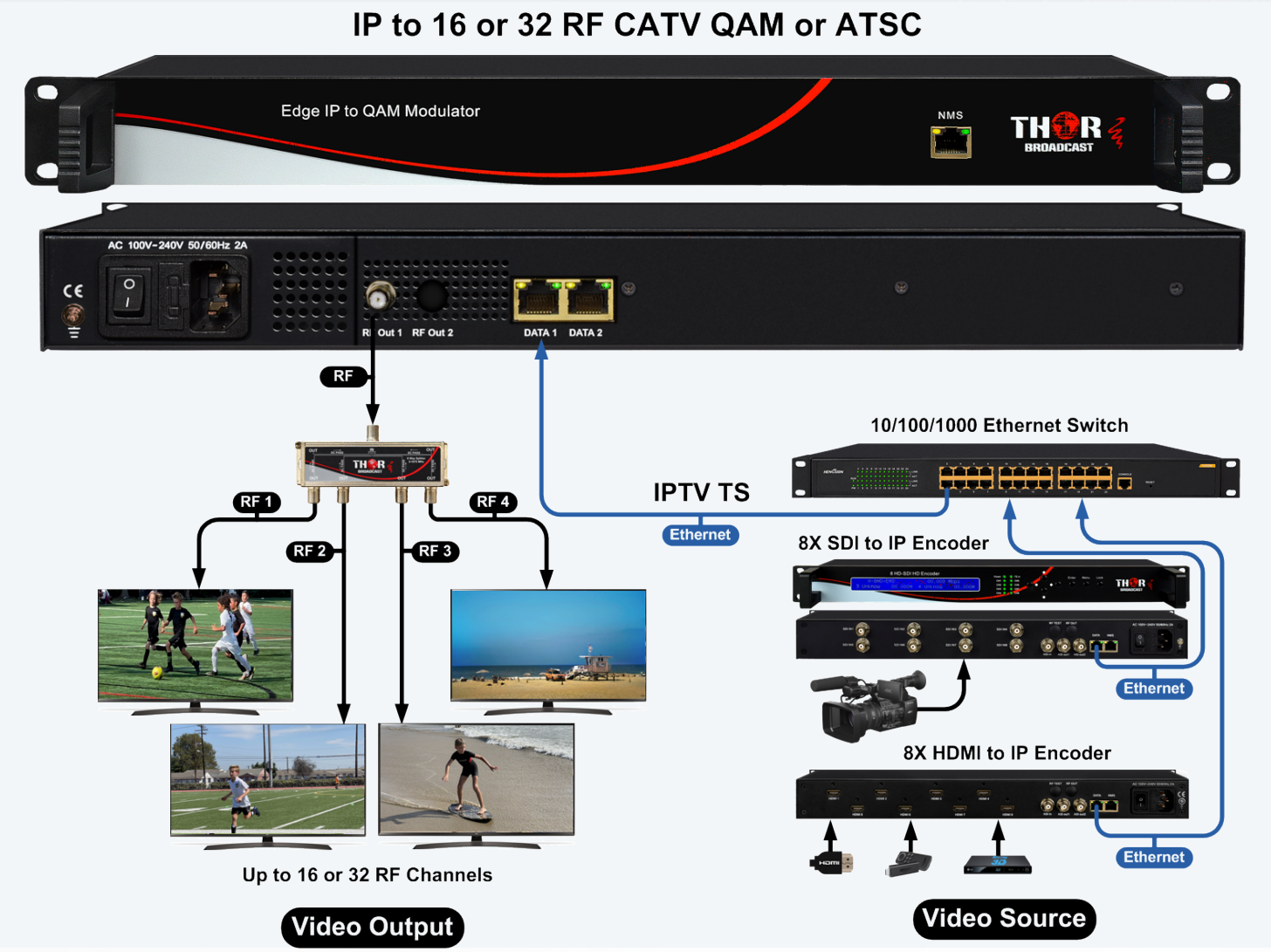


Specification

input	input	512 × 2 IP inputs, 2x 100 / 1000M Ethernet port (SFP)
	Transport Protocol	TS over UDP / RTP unicast and multicast, IGMP V2 / V3
	Transmission Rate	Max 840Mbps for each input GE
mux	Channel input	1024
	Output Channel	16
	max PIDs	180 per channel
	Functions	PID remapping (auto / manually optional)
		PCR accurate adjusting
		PSI / SI table Automatically generating
Scrambling parameters	Max simulscrypt CA	4
	Scramble Standard	ETR289, ETSI 101 197, ETSI 103 197
	Connection	Local / remote connection
Modulation parameters	QAM Channel	16 non-adjacent carriers
	Modulation Standard	EN300 429 / ITU-T J.83A / B
	symbol Rate	5.0 ~ 7.0Msps, stepping 1ksps
	Constellation	16, 32, 64, 128, 256QAM
	FEC	RS (204, 188)
RF Output	Interface	1 F-type output for 16 carriers, 75 impedance
	RF Range	50 ~ 960MHz, stepping 1kHz

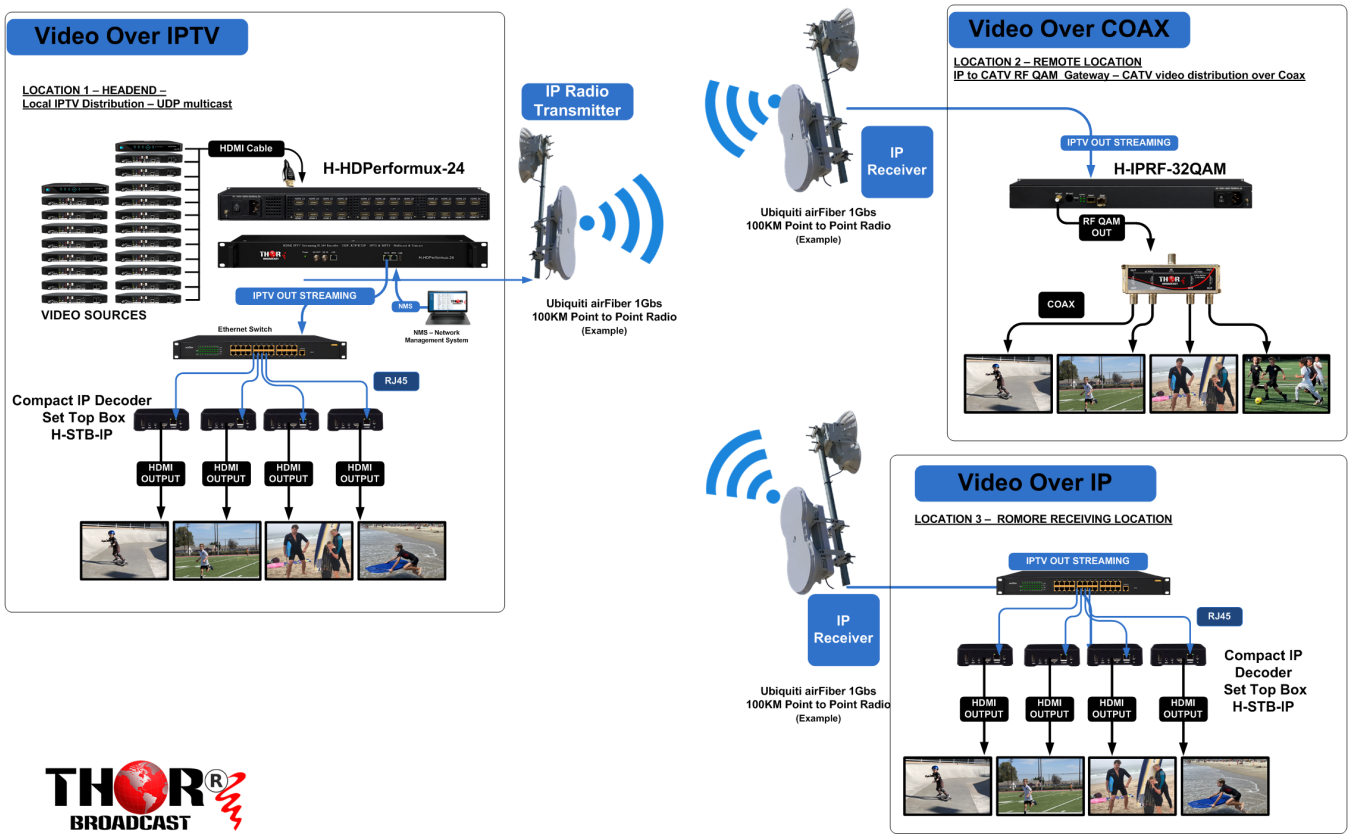
Output Level	-20dBm ~ + 10dBm (~ 87 117dbV), 0.1dB stepping	
MAYOR	40dB	
ACLR	-60 dBc	
TS output	16 IP output over UDP / RTP / RTSP, unicast / multicast, 2 x 100 / 1000M Ethernet Ports	
System	Network management software (NMS)	
General	Dimensions	420mm × 440mm × 44.5mm (WxLxH)
	Weight	10lbs
	Temperature	0 ~ 45°C (Operation) -20 ~ 80°C (Storage)
	Power Supply	AC 100V ± 10%, 50 / 60Hz or 220V AC ± 10%, 50 / 60Hz
	Consumption	15.4W

Drawings


IP to 16 or 32 RF CATV QAM or ATSC
Edge IP to QAM Modulator
NMS
THOR BROADCAST
AC 100V~240V 50/60Hz 2A
RF Out 1
RF Out 2
DATA 1
DATA 2
RF
RF 1
RF 2
RF 3
RF 4
IPTV TS
Ethernet
10/100/1000 Ethernet Switch
8X SDI to IP Encoder
Ethernet
8X HDMI to IP Encoder
Ethernet
Up to 16 or 32 RF Channels
Video Output
Video Source

Video Over IP - Wireless – and over Coax Application Example

Distribute Video over IP in one location, send IP wirelessly to the second location, and convert to CATV RF QAM – then send to the third location and distribute that video over IPTV – UDP multicast.



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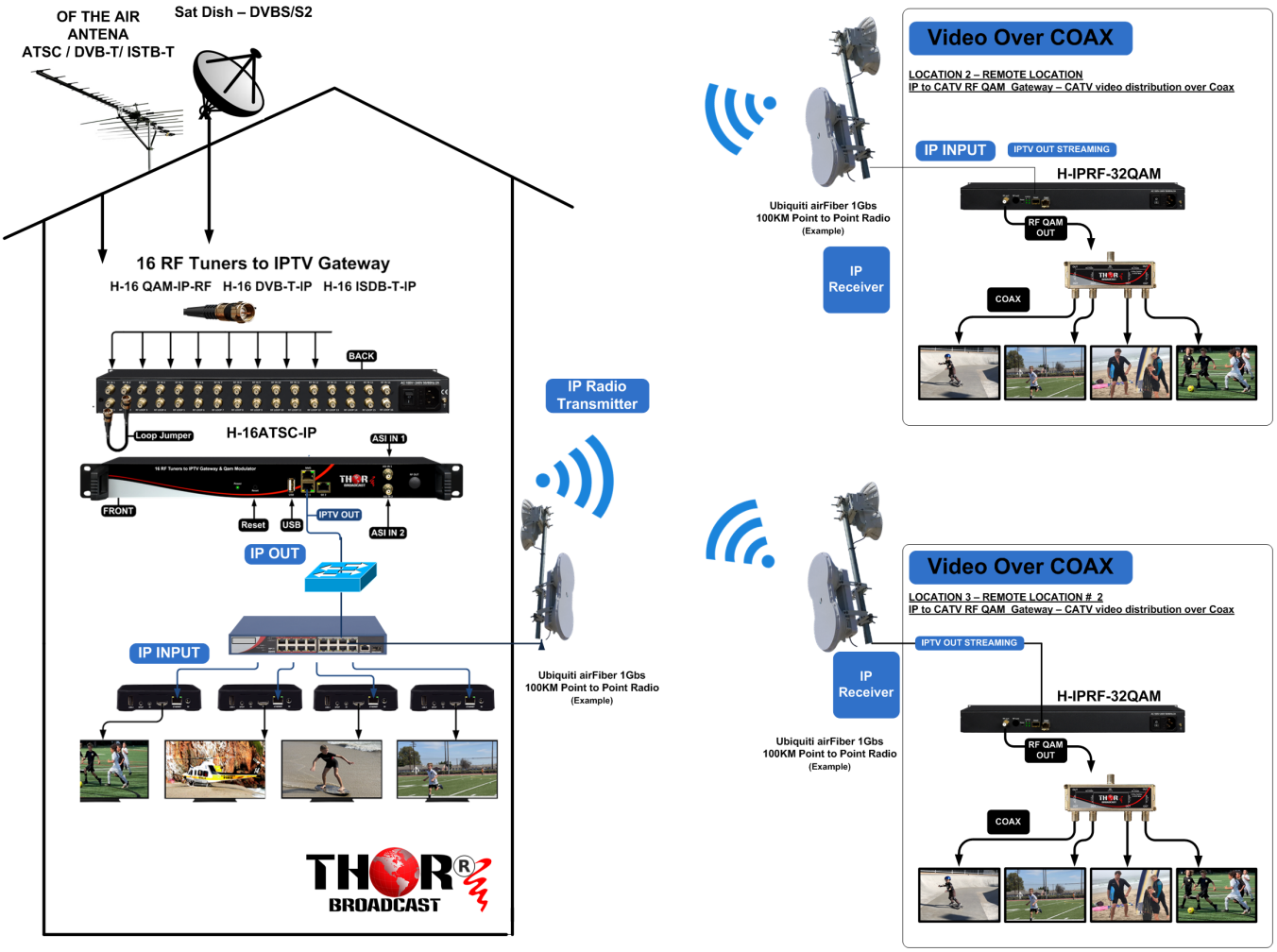
Application Example:
Send Your VIDEO IP Streams Over The AIR Wirelessly - Point to Multipoint
Head-end - RF to IP conversion – AND – IP to RF conversion in Remote locations

1) **ATSC / DVB-S/S2 / DVB-T / ISDB-T to IP OUT – UDP Multicast**
2) **Wireless IP Links**
3) **IP UDP Multicast to CATV RF (QAM/ASTC/DVB-T/ ISDB-T)**



Contact Us

Thor Broadcast Sales	Customer Service/ Support
Email: Sales@ThorFiber.com Phone: 1(800)521-THOR (8467) Ext 1 FAX: 1(800)521-6384	Phone: 1-800 521-THOR(8467) Ext 2 Email: Support@ThorFiber.com

More about product: https://thorbroadcast.com/product/iptv-to-16-32-clear-channel-rf-qam-atsc-modulator.html