Data Sheet: QAM-IP Digital TV Modulators

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Integrated Encoder / Modulator / IP Server

QAM-IP Digital HDTV modulators are combination devices for distribution of high definition program content. The chassis supports up to four input cards that can accept a variety of program content. The system integrates hardware encoders, a broadcast multiplexer, digital HDTV modulator, and IPTV server.

The QAM-IP system provides a flexible platform for large scale distribution of any program source through modern cable TV (QAM256) or ATSC free to air (8VSB) digitally modulated HDTV channels. All settings can be made through the front panel keyboard and LCD. For remote management an integrated web server on a separate network interface allows control and configuration over HTTP for all settings. In addition to Cable TV output, IPTV streaming video is provided through a dedicated network port. All input programs are available through the IP output. IPTV can be used for wireless distribution to remote displays. Encoding is provided by high level FPGA hardware systems, and can encode video to broadcast quality programs at 1080p60 resolutions and frame rates. QAM-IP was designed to simplify cable headend operations by combining encoding, multiplexing, and modulation in one platform; however they are also ideally suited for in house distribution of content in hotels and restaurants. Digital HDTV channels on different frequencies can be combined to create channel lineups of hundreds of HD programs that can be distributed to thousands of displays over simple coax antenna cable. Additionally the platform supports content ingestion via DVB-ASI input. This allows additional programming to be added to the digital channel and IP outputs as sub programs. As many as 10 additional SD and 3 additional HD programs can be added to each channel carrier. The IPTV output provides null packet filtering to reduce bandwidth and is an industry standard UDP MPEG-TS feed. This can be directly connected to a local media server for RTSP and HTTP streaming to devices such as phones, tablets, DLNA enabled TVs, IP set top boxes, or viewed on a computer running software such as VLC.

Application Drawing: H-4HDMI-QAM-IP
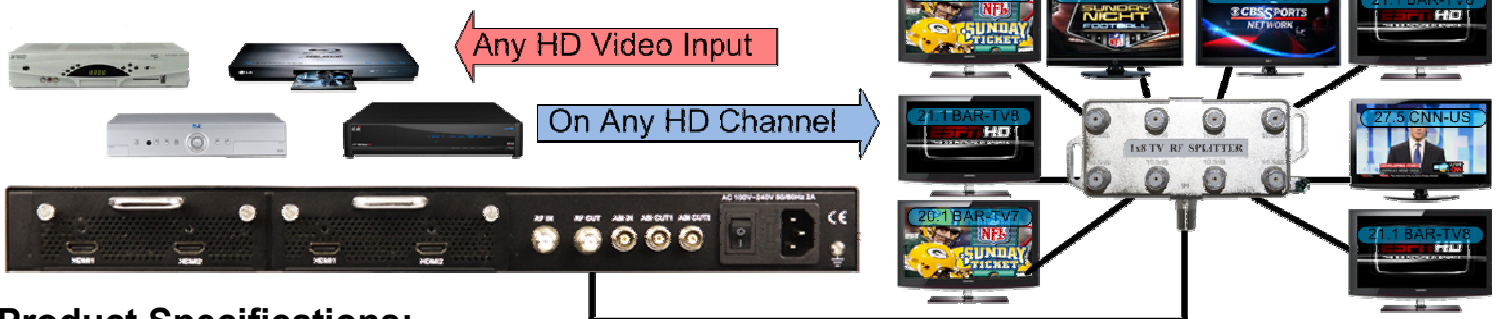
Product Specifications:

Video Inputs

HDMI or HD-SDI	1-4 Independent HD 1080p/720p Resolutions 60, 59.94, and 50 fps Embedded Audio

Encoding Parameters

	1-4 Independent Encoder MPEG-2 or H.264 HP@L4 HD High Profile 1920x1080p/1280/720p 0.4 – 20 Mbps Latency 400-800 ms Independent PID settings

Audio Parameters

Encoding Profiles	MPEG1 Layer 2 MPEG2-AAC Dolby AC3 (option)

DVB-ASI

ASI Input	1 ASI MPTS Input Modification or remapping of PIDs ASI Pass-through or Multiplex option
ASI Output	Standard MPTS Output ASI Input is Multiplexed with system output

RF Output

Modulation Standard	QAM, 8VSB, DVB-C, DVB-T,
RF Power Level	Adjustable Output 0 - -30 dBm
Frequency Range	30-960 MHz with 1 KHz step
MER	≥42dB

Stream output

	2×ASI outputs, BNC interface MPTS over UDP, 10/100Base-T Ethernet interface (UDP unicast / multicast)