Thor Broadcast SDI-QAM-IP & SDI-QAM-IPLL Product Lines

Thor HD-SDI to QAM modulators are combination devices That bundle real time HD hardware encoders with a managed program stream multiplexer and agile RF QAM modulator. Each chassis can encode up to 4 channels of HD-SDI video to MPEG-2 or H.264 and modulate the programs on up to 4 QAM carrier outputs. In Addition to the encoded programs, the unit can also modulate programs encoded externally via an ASI input. This platform is most commonly used by large or Organizations That Broadcasters own SDI matrix routers. This platform is ideal for corporate or MATV systems in-house HD video distribution from SDI sources. This platform is not recommend for broadcast headend signal origination due to lack of 708 closed captioning support. For Broadcasters Requiring the FCC mandated 708 captioning and Dolby AC / 3 audio please contact a sales representative.

QAM: Quadrature Amplitude Modulation (ITU-T J.83)

Thor encoder modulators are available for all major world television systems. Quadrant Amplitude Modulation (QAM) is commonly used in cable TV systems due to its high bandwidth abilities. The International Telecommunications Union (ITU) Defines the standards for QAM under the J.83 standard. Thor QAM-IP chassis support all three primary J.83 QAM standards; ITU-T J.83A, J.83B, and J.83C. Any QAM-IP chassis can be set to output RF carriers under either of These three standards without the need to change the firmware. J.83A and J.83C are Primarily used in European systems and are commonly known as DVB-C. US cable TV systems are based on J.83B, Which in the United States is commonly Referred to simply as 'QAM". QAM-IP chassis are available from Thor with many different types of video input and encoder cards. These encoder modules are independent of the modulator chassis system.

SDI-QAM-IP Modulator Chassis with HD-SDI Encoder Cards

HD-SDI uncompressed digital video is commonly used in broadcasting and professional AV systems due to its convenience. Serial Digital video can be Carried over single conductor coax cables and typically employ common BNC connectors. HD-SDI carries the same digital video data as HDMI, but without all complicated digital content protection (DCP) and HDCP trouble. Thor multichannel encoder modulator chassis systems support card encoder input configurations from 1 to 4 channels. These cards are available in both standard and low latency versions.

available Models	input Configuration	latency
• **H-1SDI-QAM-IP** • **H-1SDI-QAM-IPLL**	**1x HD-SDI 1080p60**	• **700-1200 ms** • **70-125 ms (LL)**
• **H-2SDI-QAM-IP** • **H-2SDI-QAM-IPLL**	**2x HD-SDI 1080p60**	• **700-1200 ms** • **70-125 ms (LL)**
• **H-4SDI-QAM-IP** • **H-4SDI-QAM-IP**	**4x HD-SDI 1080p60**	• **700-1200 ms** • **70-125 ms (LL)**

Data Sheet: User's Manual: CATV QAM Channel

H-1 / 4SDI-QAM-IP H-1 / 4SDI-QAM-IP Center Frequency

QAM-IPLL: Low Latency Encoding Option

That unit model numbers include "LL" Indicate That model includes Thor's low latency encoding option. This new feature reduces the time delay between the video input and output encoded program by more than 10 times. Standard model encoder modulator chassis systems typically have an encoding latency of 700-1200 ms depending on encoding parameters and output configurations. For many applications, adding Approximately 1 second latency does not make a difference. For other applications, dry as live events; 1 second delay is very noticeable and Prevents modulation from being used in distribution systems. The solution is a live video broadcast applications is the Low Latency upgrade option for the encoders. IPLL models typically have an encoding latency of Approximately 70-110ms, making them suitable for distribution of live video events. Contact Thor and sales representative today for more information on encoding latency.

Encoder Card Compatibility between Modulator Chassis

Chassis systems with custom encoder card configurations are available for supporting multiple input video formats in a single chassis. Thor SDI-QAM-IP line of encoder modulators are designed for high quality distribution of broadcast quality video over coax cable. These systems are available in many configurations for a wide range of applications. This page covers models for a specific video input type combined with a modulator chassis programed for a specific output format. It is important to note that the encoder card types usually we can be combined with encoder cards for other video types. For custom model configurations please contact Thor Directly for pricing and availability. While the bridge firmware for Thor modulator chassis is inter-compatible; not all hardware will work with all software. Thor Representatives are available for free design and consultation service. If you have any questions or Concerns about the Thor system, contact a representative at 1-800-521-8467 Directly.

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