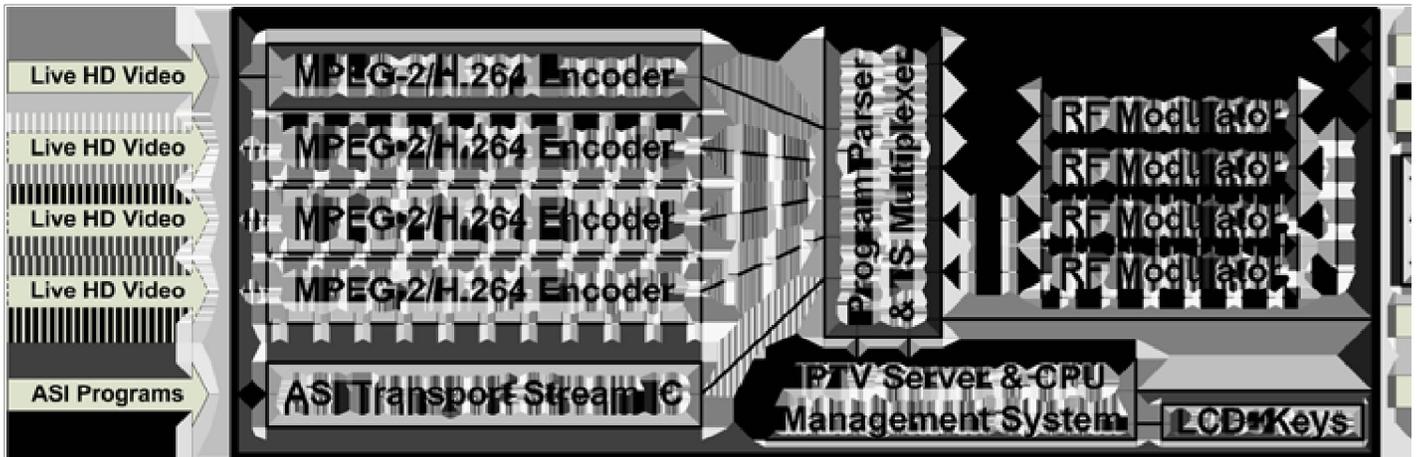






## Internal System Architecture



## Product Features

- Integrates fully independent encoders with a multiplexer and modulator
- Modulates up to 4 adjacent QPSK, QAM-16/64 carriers with up to 28 Mbps each
- Supports full HD 1080p60 input & encoding from any HDMI digital video source
- Each encoder independently configured: supports all standard HDTV resolutions
- IPTV output on second network port in UDP IGMP Multicast or Unicast format
- DVB-ASI output on mirrored BNC terminals for use in broadcasting systems
- Fully network managed device with all settings configurable through web browser

## **Digital Video Broadcast: Terrestrial DVB-T Modulation Standard**

The DVB-T standard is the world's most widely adopted radio frequency modulation standard for digital video broadcast over terrestrial systems. This standard is used throughout the world for both cable and over the air digital video broadcast systems. The standard was first used in the United Kingdom, and has since gained in acceptance in over 90 worldwide countries. This standard supports the original DVB-T modulation protocols for both QPSK and QAM16/64. This chassis outputs either 2 or 4 adjacent RF carriers and can distribute programming anywhere between those channels. The unit also supports ingestion of externally encoded programming via the ASI input. The ASI input can be parsed for up to 120 Mbps of incoming programming based on model hardware and software selection.

## **HDMI-QAM-IP: Modulator Chassis with HDMI Encoder Cards**

The HDMI video standard is commonly found in consumer and professional devices all over the world. It is a versatile connector with many parallel lines for bi-directional communication. The latest standards support full rate HD video at 1080p60 with new standards being released to support ultra high resolution 4K video. Thor encoder cards support any HDMI input from any device that provides HD video output in standard HDTV resolutions and aspect ratios.

## **DVBT-IPLL: Low Latency Encoding Option**

Unit model numbers that include "LL" indicate that model includes Thor's low latency encoding option. This new feature reduces the time delay between video input and encoded program output 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 doesn't make a difference. For other applications, such as live events; 1 second delay is very noticeable and prevents modulation from being used in distribution systems. The solution to 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 a Thor sales representative today for more information on encoding latency.

