

# MGES - 7000

High Density 4K/UHD/HD HEVC & H.264 IPTV Encoding Blade



Featuring the highest density available on the market, VITEC's 4K/UHD/HD HEVC & H.264 IPTV 8-input blade offers real-time hardware encoding of 4K/UHD, high definition and standard definition video. MGES-7000 is best in class for flexibility, and with the increased density of blade-server configurations, it supports both HEVC (H.265) and H.264 codecs. This includes advanced features such as secondary channel, integrated resolution and frame-rate scaling, AES 256/128-bit encryption and low latency mode.

MGES-7000 is the ideal multichannel blade encoder for in-house broadcast applications, real-time high-quality sport events, and any low delay IPTV distribution application. It's a future proof encoder solution that meets the current IPTV demands of H.264 and HD encoding with the advanced capabilities of HEVC encoding, 4K/UHD and HDR. This allows for technological growth and supports market trends, including variety of video sources inputs such as SDI, HDMI and SFP fiber connectors based on SMPTE2110.

The MGES-7000 offers best-in-class density with four 4Kp60 or 8 3G/HD/SD inputs ports for live sources of SDI, HDMI or IP (SMPTE2110) video. The blade uses hardware-based encoding chips supporting 4:2:2/4:2:0 10 & 8 bit H.264 and HEVC codecs for maximum flexibility and future proof solutions including secondary video streams up to 1080p60 for each input.

The MGES-7000 Blade's advanced H.264 and HEVC tools make it flexible and suitable for a variety of markets that demand high quality IPTV distribution, low latency applications, and require support for legacy H.264 players as well as cutting edge new 4K HEVC end-points. This can all be managed with an easily configured web UI.

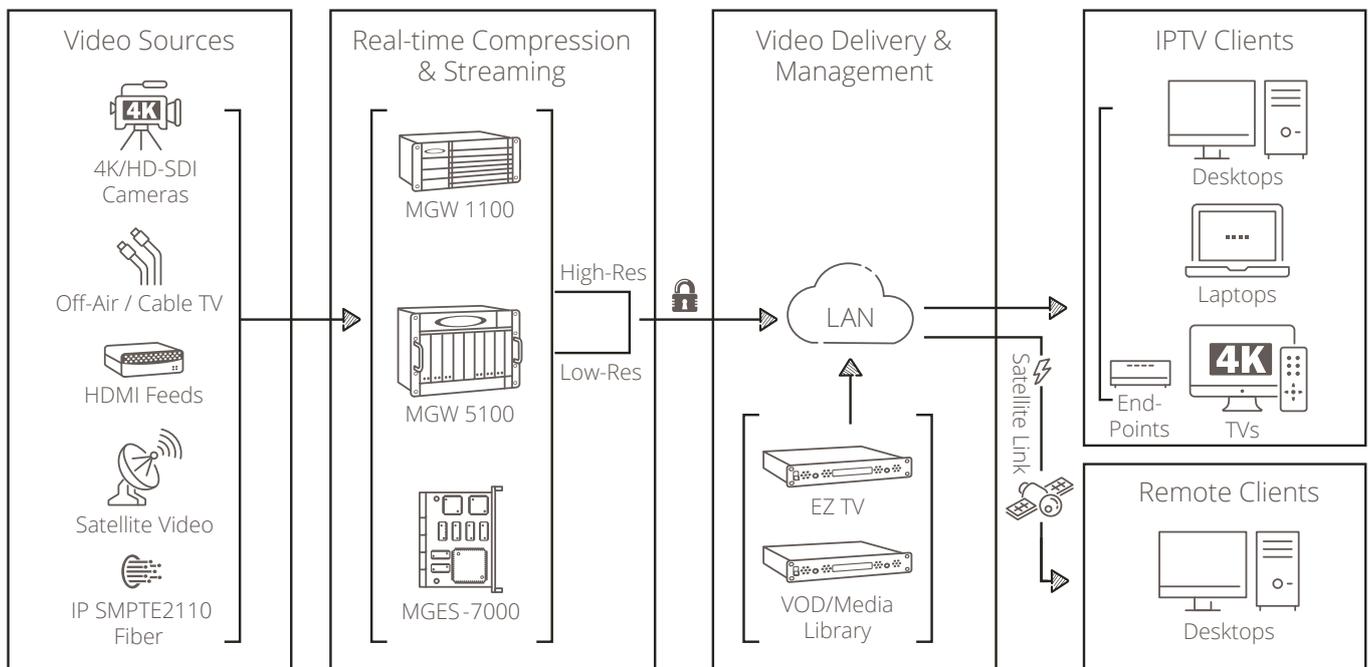
Coupled with the Media Gateway MGW family of carrier-grade IPTV platforms, IPTV providers can serve up to 208 IPTV channels from the MGW 5100 (10-RU), up to 96 IPTV channels from the MGW 1100 (4-RU) and up to 16 IPTV channels from the MGW 1100 (1-RU).

VITEC's Smoothing™ algorithm guarantees low jitter for flawless IP over any network - LAN and WAN.

MGES-7000 ROI (Region Of Interest) allows up to 3 distinctive areas in the picture to be defined with enhanced quality providing higher picture quality to selected regions.

## Benefits

- Unmatched density:
- Eight HD/SD hardware encoders and eight dedicated secondary encoders, each supporting up to 1080p60 resolution
- Four channels 4Kp60 and four dedicated HD secondary channels
- Future proof encoder that supports both H.264 and HEVC
- Best-in -class, superior video quality at all bit-rates, from low bit rate streaming to broadcast-quality data rates
- Real-time 256/128-bit AES encryption secures content and metadata
- High availability architecture with no moving parts for 24/7 applications
- Built-in scalar converts HD to HD or HD to SD in various resolutions and frame rates
- Real-time Smoothing™ to ensure highest Quality of Service over any IP medium
- Audio Dolby Digital Passthrough
- Region Of Interest support for enhanced video quality to selected regions



## Technical Specification

### 4K & HD Encoding

#### Video Codec

- Conforms to ISO / IEC14496-10 (H.264/AVC) High profile Level 4.2
- Conforms to ISO/IEC23008-2 ITU-T (H.265) Main profile 5.2
- 3840x2160 60p/59.94p/50p/30p/29.97p/25p
- 1920x1080 60p/59.94p/50p/30p/29.97p/25p
- 1280x720 60p/59.94p/50p/30p/29.97p/25p
- 720x480 29.97p
- 720x576 25p
- Chroma sampling: 4:2:2, 4:2:0, 8 & 10 bit
- Encoding Rate
  - 4K: 2M - 30M
  - HD: 400K - 15M
  - SD: 100K - 8M
- Aspect Ratios 16:9, 4:3 (SD resolutions)
- CBR Support with traffic shaping, Capped VBR
- Downscaling from 4K/UHD to HD and to SD (down to QCIF)
- Frame Rate down-conversion: down to 12 fps
- GOP Length: 1-300
- GOP Structure: I, IP, IBP, IBBP, up to I(7B)P
- Low Latency Mode
- AES 128/256 Encryption

#### Audio Codec

- Up to 2 stereo pairs (embedded in SDI or HDMI)
- Sampling Frequencies: 48khz
- AAC LC (32 to 256Kbps)
- AAC-LD (16 to 256 Kbps)
- Mono, stereo
- Dolby Pass – through

#### HDR Support

- HDR 10\10+ automatic detection and pass-through of HDR metadata

#### Closed Captioning

- CEA 608/708 VANC extraction per SMPTE 334M

#### Inputs and Outputs

Available Input Blades

Serial Digital interface rear blade with 8 SDI inputs

- 4 x 12-SDI
- 4 x 3G-SDI

HDMI Rear blade with 8 HDMI inputs

- 4 x HDMI 2.0b
- 4 x HDMI 1

SMPTE 2110 Rear blade with SFP cartridge connectors

- SFP+ (10Gb)
- SFP28 (25Gb)
- Uncompressed SDI over IP up to 4Kp60

#### Transport Outputs

- MPEG-2 Transport Stream encapsulation over UDP/IP
- Multicast and Unicast
- SRT output