



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 applications. 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 a variety of video source 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.

The MGES-7000 blade supports SMPTE2110 video, audio and metadata inputs for efficient encoding and high quality broadcast feed streaming.

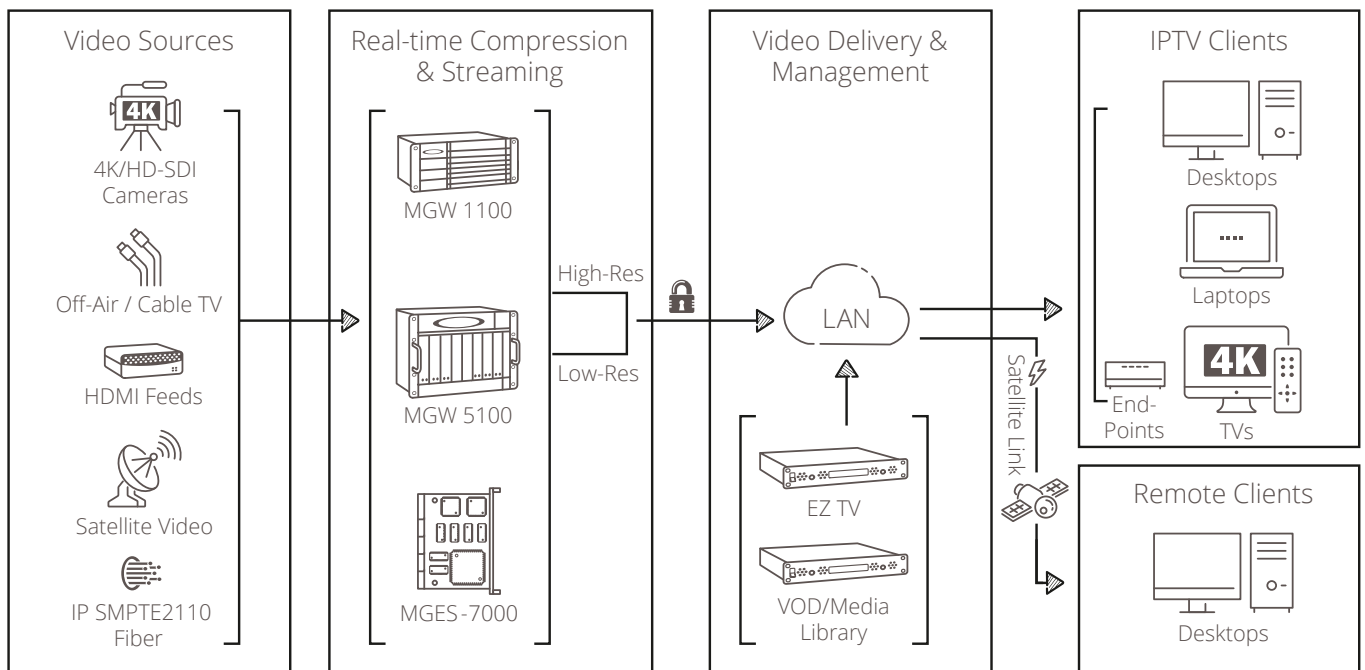
Coupled with the Media Gateway MGW family of carrier-grade IPTV platforms, IPTV providers can serve up to 208 IPTV channels from the MGW 5100 (10-RU), up to 96 IPTV channels from the MGW 1100 (4-RU) and up to 16 IPTV channels from the MGW 1000 (1-RU). MGW Managed platform integrates and supports NMOS infrastructure, handling SMPT2110 receivers' registration and connection commands.

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

EDID (Extended Display Identification Data) customization is supported, allowing the user to simulate different source capabilities.

Features & Benefits

- Unmatched density:
 - 8x HD/SD hardware encoders and eight dedicated secondary encoders, each supporting up to 1080p60 resolution
 - 4x 4Kp60 channels 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
- AC-3 and E-AC-3 Passthrough
- Modular design, hot swappable rear interface cards supporting SDI, HDMI and SMPTE2110 interfaces



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, 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
- AC-3 and E-AC-3 Pass-through

HDR Support

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

Region of Interest (ROI)

- Allows up to three distinctive areas in the picture
- Set quality parameters for each region independently
- Enhances picture quality for the selected region

Closed Captioning

- CEA 608/708 VANC extraction per SMPTE 334M

Video Interface Rear Blades

- Serial Digital interface rear blade with 8x SDI inputs
 - 4 x 12-SDI
 - 4 x 3G-SDI
- HDMI rear blade with 8x HDMI inputs
 - 4 x HDMI 2.0b
 - 4 x HDMI 1
- SMPTE 2110 rear blade with 4x SFP cartridge connectors
 - SFP+ (10Gb)
 - SFP28 (25Gb)
 - Uncompressed SDI over IP up to 4Kp60

SMPTE 2110

- SMPTE2110-10 - System and synchronization
- SMPTE2110-20 - Uncompressed video
- SMPTE2110-30 - Uncompressed audio
- SMPTE2110-40 - Ancillary data (closed captions)
- PTPv2

Streaming Protocols

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

Ordering Information

17533 MGES-7000 Standard

17873 MGES-7000 TS*