



VITEC Encoders & Decoders

Appliances and Modular Systems

VITEC develops its own high-performance codecs to deliver low latency, high-quality video over a broad range of reliable and versatile encoder products.

VITEC encoders enable video to be streamed directly onto an IP network, creating channels from the output of a wide range of sources, including broadcast feeds, cameras, TV set-top boxes, digital signage systems and computers. They are designed to minimize glass-to-glass latency over any IP network including the internet.

VITEC encoders are available in a variety of form factors:

- Portable appliances
- Modular system
 - MGW Blade
 - OG
 - Avedia
- Rugged appliances
- PCIe cards

Refer to the table and speak to our sales teams to help you determine the right encoder to meet your requirements.

Features & Benefits

- Minimize glass-to-glass latency
- Send secure and reliable video streams over the internet using Zixi™, SRT or RIST protocols
- Benefit from reliable, high-quality compression and low power consumption per channel
- Enjoy hassle-free, intuitive setup and an easy-to-manage interface
- IP multicast streaming enables delivery to an unlimited number of end points
- Provide live TV within digital signage or as part of an interactive IPTV portal
- Deliver video streams to mobile devices



VITEC Encoder Range comparison table

	MGW Diamond/ Diamond OG	MGW Diamond+ OG	MGW Diamond-H/ Diamond-Hx OG	MGW Ace	MGW Pico	MGES 7000	38-Series
4K HDR over 12G-SDI or 4 x 3G-SDI (2SI)	✓	✓	✓ ⁶			✓	
3G/HD-SDI	✓	✓	✓ ⁴	✓	✓	✓	
SD-SDI	✓	✓	✓ ⁴	✓	✓	✓	
HDMI			✓	✓		✓	✓
HDMI Loophrough			✓ ⁴				
Record to USB	✓ ⁴		✓ ⁴				
DVI- (A&D)			✓ ⁵	✓ (DVI-D)			
Composite	✓			✓	✓		
DVB-ASI Support				✓			
Analog Unbalanced Audio	✓	✓	✓	✓	✓		
Analog Balanced Audio & Digital Audio (2x AES)				✓			
Metadata (KLV/STANAG) Ingest & Stream	✓			✓	✓		
Dual Ethernet Port (Management/Streaming)	✓	✓	✓	✓		✓	✓ ⁷
PoE+ (Power over Ethernet)			✓ ⁴				
HEVC/H.265	✓	✓	✓	✓		✓	
AVC/H.264	✓	✓	✓	✓	✓	✓	✓
MPEG-2		✓					
Uncompressed SMPTE 2110						✓	
Audio Encoding channels (mono)	32	32	32	16	4	16	2
No. of Output Channels	8	8 ⁸	4	2	2	8	4
UDP TS	✓	✓	✓	✓	✓	✓	✓
RTP/RTSP	✓	✓	✓	✓	✓		
RTMP	✓	✓	✓	✓			
Ultra Low Latency Mode				✓			
AES Encryption	✓	✓	✓	✓	✓	✓	✓
Zixi, SRT, RIST & ProMPEG	✓	✓ ¹	✓	✓	✓ ³	✓ ²	✓ ²
Web GUI	✓	✓	✓	✓	✓	✓	✓
HTTPS API	✓	✓	✓	✓	✓	✓	✓
SNMP				✓			
Latency Monitoring Time-Synced Playback	✓	✓	✓	✓			
Appliance	✓		✓	✓	✓		✓
Modular System - OG	✓	✓	✓				
Modular System - MGW Blade						✓	
Modular System - Avedia							✓

1- Zixi, SRT & RIST only
2 - SRT only
3 - Zixi & Pro-MPEG only

4 - Appliance version only
5 - OG card version only
6 - 12G-SDI only

7 - c1210 chassis only
8 - 16 channels with dual target

Encoders

Our range of portable encoding and streaming appliances, OG encoders and modular blade systems deliver broadcast-quality video with minimal latency, at any bit rate and broadcast-grade HEVC/H.264/MPEG-2 compression. The industrial-grade construction combined with VITEC's 100% hardware processing make the family of encoders ideal for any video streaming and IPTV application, stationary or in the field.

Applications

- IPTV distribution
- Remote contribution
- Streaming Intelligence, Surveillance and Reconnaissance (ISR) video feeds from ground and airborne vehicles over RF or satellite link
- Multi-site and/or multi-channel IP video contribution
- Streaming video to desktop/laptop, TV and mobile devices
- Broadcast Contribution over IP
- Provide live TV within digital signage or as part of an interactive IPTV portal
- Deliver video streams to mobile devices

Encoder	Features & Benefits	Applications
<p>HEVC/H.265 - AVC/H.264</p> <p>MGW Diamond Encoder 4K/Quad-Channel HD HEVC encoder appliance</p>  <p>4K/Quad-Channel HD HEVC OG Encoder</p> 	<ul style="list-style-type: none"> • 1x 4K60p or 4x HD HEVC/H.264 encoder from SDI/Composite • 1x 12G-SDI and 4x 3G-SDI inputs • Up to 8 streams output, 4:2:2 10-bit encoding • 32x audio channels, HDR, Closed captions and AES encryption • KLV/STANAG metadata processing • 1x 1Gb/s network for streaming and 1x 1Gb/s network for management (shared) • Appliance version features USB recording for storage and review of footage • Available as small form factor appliance (MGW Diamond) or as an OG card (MGW Diamond OG) for use in the Diamond C10 or OG-X chassis 	<ul style="list-style-type: none"> • Multi-site and/or multi-channel IP video contribution • Dense IPTV distribution with up to 40x HD or 10x 4K channels and 2RU (OG card) • Remote contribution • Streaming ISR video feeds from ground and airborne vehicles over RF or satellite link (portable appliance) • Streaming video to desktop/laptop, TV and mobile devices over bandwidth-constrained links
<p>HEVC/H.265 - AVC/H.264</p> <p>MGW Diamond-H Encoder 4K/Dual-Channel HD HEVC Encoder appliance</p>  <p>4K/Dual-Channel HD HEVC OG Encoder</p> 	<ul style="list-style-type: none"> • 1x 4K60p or 2x HD HEVC/H.264 encoder from HDMI/DVI/RGBHV • OG encoder available as 2x HDMI inputs (MGW Diamond-H2 OG) or 1x HDMI and 1x DVI/RGBHV inputs (MGW Diamond-H1 OG) • Appliance encoder available as 2x HDMI and 1x SDI input • Up to 4 streams output, 4:2:2 10-bit encoding • 32x audio channels, HDR support • AES encryption to secure content & metadata • 1x Gb/s network for streaming and 1x 1Gb/s network for management (shared) • HDMI loopthrough and Power over Ethernet PoE+ on the appliance • Appliance version features USB recording for storage and review of footage • Available as small form factor appliance (MGW Diamond-H) or as an OG card (MGW Diamond-H OG) for use in the Diamond C10 or OG-X chassis 	<ul style="list-style-type: none"> • Multi-site and multi-channel IP Video contribution • IPTV Distribution from analogue/digital video sources • Direct-to-web from HDMI sources • Streaming Intelligence, Surveillance and Reconnaissance (ISR) video feeds from ground and airborne sources across LANs and WANs • Streaming video to desktop/laptop, TV and mobile devices over bandwidth-constrained links • Distribution of TV content/PC screen on an organizational network

HEVC/H.265 - AVC/H.264

Encoder

Features & Benefits

Applications

MGW Diamond+ OG Encoder

4K/Multi-Channel HD HEVC, H.264 & MPEG-2 encoder



- 1x 4K60p or 4x HD HEVC/H.264 encoder from SDI
- 2x 12G-SDI and 2x 3G-SDI inputs
- Up to 8 stream output (16 streams with dual target), 4:2:2 10-bit encoding, 32x audio channels, HDR support
- HEVC, H.264, MPEG-2 encoding up to 100Mbs
- Progressive and interlaced encoding support
- AES encryption to secure content and metadata
- 2x 10Gb/s SFP, 1x 1Gb/s shared
- For use in the Diamond C10 or OG-X chassis

- Broadcast Contribution over IP
- Site-to-site primary distribution
- Remote production over any network
- Remote/at-home production over the Internet/REMI
- IPTV distribution

HEVC/H.265 - AVC/H.264

MGW Ace Encoder

Compact HEVC/H.265 hardware encoder



- Ultra Low Latency mode 1080p60 4:2:2 10-bit HEVC encoding from SDI, HDMI and Composite
- HDR support, closed captions, AES encryption and 16x audio channels and DVB-ASI output
- 2x 1Gb/s network for streaming and management
- KLV/STANAG metadata processing
- Portable, low-power hardware design

Broadcast & Enterprise

- Satellite news gathering and field broadcasting
- Low latency point-to-point contribution over Internet using Zixi™, SRT or ProMPEG
- Remote/at-home production (REMI) over dedicated transmission links or the Internet
- Bandwidth-efficient HEVC point-to-point streaming concurrently with live event distribution through Content Delivery Network using RTMP streaming (certified on Akamai's CDN and AWS Media Live)
- Sharing PC screen views over IP with local and remote users
- Full HD 1080p monitoring

ISR

- Streaming Situational Awareness and FMV content across LANs and WANs with KLV/STANAG metadata (up to 2 KLV streams supported)
- ISR video from ground and airborne vehicles over RF link or satellite
- Streaming full motion video to desktop, TV and mobile devices over bandwidth-limited links

AVC/H.264



MGW Pico Encoder

Low-latency pocket size H.264 encoder




- Ultra-small HD/SD encoder – under 6W power
- 3G/HD/SD-SDI and Composite input
- KLV/STANAG metadata processing for ISR

- Point-to-point video contribution requiring low delay
- Satellite news gathering and field broadcasting
- Intelligence security and surveillance (ISR) video from mobile and airborne/ground vehicles over RF link or satellite
- Dissemination of situational awareness and full motion video (FMV) content across LANs and WANs
- Full HD 1080p monitoring

Encoder	Features & Benefits	Applications
<p>MGES 7000</p>  <p>HEVC/H.265 - AVC/H.264</p>	<ul style="list-style-type: none"> • High Density 4K/UHD/HD HEVC & H.264 IPTV Encoding Blade • SDI, HDMI or SMPTE 2110 inputs • 8x 1080p60 or 4x UHD60 encoding in HEVC or H.264, up to 4:2:2 • 16x audio channels, HDR, closed captions and AES encryption • High availability architecture with no moving parts for 24/7 application reliability • Built-in scaler converts HD to HD or HD to SD in various resolutions and frame rates • For use with MGW Blade Chassis 	<ul style="list-style-type: none"> • Enterprise and Corporate IPTV • Replacement of legacy cable TV systems with efficient TV over IP • Video monitoring and video confidence • Over-the-Top (OTT) web streaming • Telco IPTV • Terrestrial and mobile TV • Training and distance learning
<p>38-Series</p>  <p>AVC/H.264</p>	<ul style="list-style-type: none"> • Stream AES-protected audio-visual streams to an unlimited number of end-points • Minimize glass-to-glass latency with full multicast delivery when streaming live video • Encode HD or SD H.264 streams from an HDMI video input over your existing network • Send secure and reliable video streams over the internet using the SRT protocol • Deliver high-quality streams into NDI production environments • Highly reliable modular blade-into-chassis design allows 'hot swapping' to minimize downtime • For use with Avedia Chassis 	<ul style="list-style-type: none"> • Enterprise and Corporate IPTV

Decoders

Decoder	Features & Benefits	Applications
<p>MGW Ace Decoder Professional 4K HEVC & H.264 decoder</p>  <p>4K HEVC, H.264 & MPEG-2</p>	<ul style="list-style-type: none"> • HEVC/H.264/MPEG-2 decoding of 4K/HD/SD feeds • Broadcast quality decoding up to 4:2:2, 10 bits, 100Mbps • 16x audio channel decode • DVB-ASI In, closed captions, stream forwarding, latency monitoring • KLV over SDI • Available as an OG for use in the Diamond C10 or OG-X chassis • Available as a portable appliance 	<ul style="list-style-type: none"> • DSNG contribution decode over satellite, cellular networks and more • Remote/at-home production (REMI) over dedicated transmission links or the Internet • Point-to-point live contribution on private or public networks • Low latency point-to-point contribution over the Internet using Zixi™ or SMPTE 2022 ProMPEG • Situational awareness and Full Motion Video (FMV) display on video walls and monitors • HEVC, H.264 or MPEG-2 IP feed monitoring over SDI/HDMI or Composite

Chassis options

Chassis

OG

OG Chassis are professional IP streaming chassis supporting hot-swappable VITEC OG cards. They deliver high-density, high-quality low-latency streaming for IPTV distribution, contribution and remote production.

Diamond C10 Chassis

Dense, modular and managed IP Streaming Chassis .
Up to 9 VITEC OG cards & a network controller card in a 2RU form factor.



Diamond C1 Chassis

Single-slot IP Streaming Chassis with a compact form factor.



OG-X OpenGear Chassis

Dense, modular IP Streaming Chassis.
Up to 10 OG cards in a 2RU form factor.



MGW Blade System

MGW Blade Chassis is a professional IPTV carrier-grade platform available in a 1RU, 4RU or 10RU form factor. It can host up to 2, 6 or 13 blades respectively, achieving up to 192 streaming channels.



Avedia Chassis

Avedia Chassis targets IPTV distribution applications and can host from 1 to 10 RF Gateway and 38-Series encoder blades. It is designed for a wide range of configurations and budgets.

c1101

Chassis with one hot-swap module slot.



c1103

Chassis with three hot-swap module slots



c1210

Chassis with ten hot-swap module slots, dual Ethernet, redundant power supplies and fans.

