VITEC OG Modular System

VITEC's OG Modular System delivers a reliable and flexible high-density solution for encoding and decoding IP video applications.

Suitable for IPTV distribution and video contribution projects, VITEC OG delivers the best video quality and latency performance while ensuring reliability for continuous operation.

VITEC provides IP encoding and decoding OG cards to address dense IPTV applications such as distribution, contribution and remote production.

VITEC OG cards

VITEC OG cards comprise of a main board and a rear I/O module. There are multiple chassis options for OG cards, such as the modular, managed Diamond C10, the compact and portable Diamond C1, and the high-density OGX.

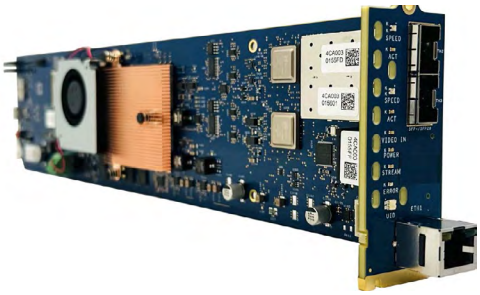
The flexibility of VITEC OG enables several configurations. For example, the following configurations in a 2RU format:

- 10x UHD HEVC decoders for Multi-channel/dense decoding applications such as contribution or direct-to-web applications (10x MGW Ace Decoder OG)
- 10x UHD HEVC encoders for 4K contribution (10x MGW Diamond OG)
- 40x HD HEVC/H.264 encoded channels for IPTV distribution (10x MGW Diamond OG)
- 8x HD encoded/decoded channels for full-duplex applications (2x MGW Diamond OG and 8x MGW Ace Decoder OG)
- 20x HD HEVC/H.264 encoded channels for IPTV distribution from HDMI (10x MGW Diamond-Hx OG)

Diamond C10 Chassis delivers advanced capabilities:

- Centralized management and consolidated streaming from a single network interface
- Stream failover and network interface redundancy
- Included redundant power supplies
- Up to 9 VITEC OG cards in a 2RU format
- Dashboard client software for simplified management of OG cards and chassis

Encoders

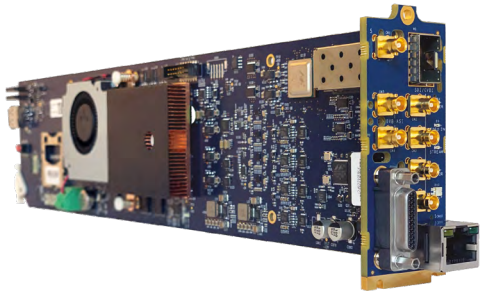


Diamond-IP OG Encoder

Diamond-IP OG is a quad-channel HD or single-channel 4K HEVC video encoder. It features SMPTE ST 2110 capture and a powerful encoding engine with the ability to output up to eight streams simultaneously.

Diamond-IP OG delivers exceptional video quality and ensures seamless interoperability with SMPTE ST 2110 standards for uncompressed and JPEG-XS video over high-speed fiber IP networks.

- Low-latency streaming from SMPTE ST 2110 sources
- SMPTE ST 2022-7: 4Kp60 Hitless redundancy capture over dual 25G interfaces
- NMOS Stream Discovery and Registration
- Up to 8x output streams
- Next-generation HEVC (H.265) compression support to reduce network bandwidth utilization by up to 50% compared to H.264
- Stream protection for reliable video/audio and metadata transmission (Zixi, SRT, RIST and Pro-MPEG)



MGW Diamond OG Encoder

MGW Diamond OG encoder offers 4K or multi-channel HD HEVC and H.264 encoding from SDI inputs.

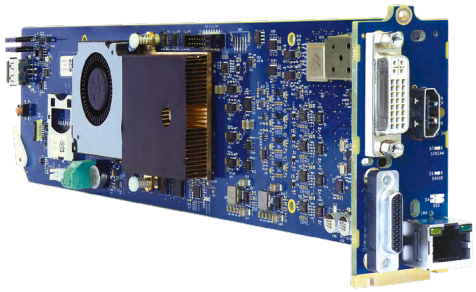
MGW Diamond OG captures up to 4x 3G/HD/SD-SDI or Composite inputs and streams live up to 8 live channels, addressing diverse applications within sports, enterprise and broadcast markets. Featuring Ultra High Definition and High Dynamic Range (HDR) support, MGW Diamond OG can capture and stream 4Kp60 HDR10 or HLG video from either its 4x 3G-SDI or 12G-SDI inputs.

- Low-latency streaming from 4x SDI/Composite sources simultaneously
- Support for Ultra High Definition (4K) and High Dynamic Range (HDR)
- Up to 8x output streams
- Next-generation HEVC (H.265) compression support to reduce network bandwidth utilization by up to 50% compared to H.264
- Stream protection for reliable video/audio and metadata transmission (Zixi, SRT, RIST and Pro-MPEG)

MGW Diamond+ OG Encoder

MGW Diamond+ OG is a broadcast-grade HEVC, H.264 and MPEG-2 IP encoder which is ideal for contribution or point-to-point streaming applications. It features a powerful encoding engine with the ability to output up to 4 independent streams simultaneously.

- Up to 4Kp60 input and encoding support
- HEVC and H.264 with interlaced encoding support
- Support for 32 channels of audio
- Large protocol support including UDP/RTP TS and SRT



MGW Diamond-Hx OG Encoder

MGW Diamond-Hx OG encoder offers 4K or multi-channel HD HEVC and H.264 encoding from HDMI, DVI-I, RGBHV inputs. MGW Diamond-Hx OG captures up to 2x 4K HDMI, DVI-I or RGBHV inputs and streams up to 4 live channels, addressing diverse applications within sports, enterprise, government and broadcast markets. Featuring Ultra High Definition and High Dynamic Range (HDR) support, MGW Diamond-Hx OG can capture and stream 4Kp60 HDR10 or HLG video from either HDMI, DVI-I or RGBHV inputs.

- Low-latency streaming from 2x HDMI, DVI-I or RGBHV sources simultaneously
- Support for Ultra High Definition (4K) and High Dynamic Range (HDR)
- Up to 4x output streams
- Next-generation HEVC(H.265) compression support to reduce network bandwidth utilization by up to 50% compared to H.264
- Stream protection for reliable video/audio and metadata transmission (Zixi, SRT, RIST and Pro-MPEG)

Decoders

MGW Ace OG Decoder

MGW Ace Decoder OG is a single channel HEVC and H.264 decoding card allowing 4:2:2 10-bit up to UHDp60 quality video. MGW Ace Decoder is designed to always provide the best possible viewing experience and never miss a single frame.

VITEC's OG IP decoding appliances deliver broadcast quality video decoding with low latency at any rate, on any network. The OG card, combined with VITEC's 100% hardware processing make the decoder family ideal for any video streaming IPTV application, production studios, broadcast facilities or in the field.

- 4K HEVC and HD H.264 decoding of streams with optimal latency
- Broadcast quality decoding up to 4:2:2, 10 bits, 100Mbits
- Reliable, low-latency stream delivery with built-in Zixi, SRT, RIST and Pro-MPEG stream protection
- Up to 16 channels of audio decoding Rich, Industry standard video and audio output interfaces to match any setup
- Time-synchronized playback across several decoders

Chassis

Diamond C10 - Managed Chassis

Diamond C10 is a modular high-density managed chassis, compatible with VITEC OG cards. It is ideal for organizations looking for an easy, reliable and affordable way to create a digital IPTV head-end to stream a high number of channels.

Diamond C10 uses a highly efficient integrated controller card which serves as the single point of interaction with the network, manages all hardware modules in the system and has automatic triggers for redundancy and failover. The hot-swappable design allows cards with different interfaces, encoding or decoding capabilities to be mixed and matched as required. The platform delivers reliability and performance for continuous operation, with adaptive cooling and redundant power supplies included. Up to 9 VITEC OG cards can be loaded into Diamond C10 chassis.

Diamond C1 - Compact and Portable

Diamond C1 enables VITEC OG users to integrate a Diamond or Ace Decoder OG card for use in a desktop or rack-mounted environment. The chassis also features adaptive cooling and dual redundant power supplies. The OG card type is displayed on the front panel LCD screen, along with real-time status information.

OGX Chassis

The openGear OGX chassis provides density and flexibility allowing a mix and match of cards between vendors. It provides hot swap capability and optional redundant power supply.

OGX chassis allows up to 10 VITEC OG cards to be loaded in a 2RU.

	Diamond C1	Diamond C10	OGX
Consolidated Management		✓	
Consolidated Streaming		✓	
OG Card Slots	1	9	10
Dual AC Redundant PSU	✓ (built-in)	✓ (included)	✓ (optional)
Status Monitoring	✓	✓	✓
Dimensions (Height x Width)	1RU x Half 19-inch	2RU x 19-inch	2RU x 19-inch
Advanced Features	Front panel LCD interface for card/chassis status including IP addresses, card status/error, fan/ temperature/PSU status	Centralized Channel Configuration Channel Failover Front panel LCD interface for IP address	Front panel LCD interface for IP address

VITEC OG Solution Highlights

- Scalable and flexible solution with VITEC OG cards
- Reliable solution thanks to VITEC's proven hardware and OG chassis redundant power supplies
- SD to 4K support, HEVC end-to-end solution
- Large protocol support for the best interoperability
- Reliable Stream Transport protection for QoS (support for Zixi, SRT, RIST and Pro-MPEG)

Remote Contribution

Live feeds from remote events are captured and streamed back to the broadcast station for production then distribution.