MGW Premium Encoder

Multi-channel H.264 Encoder

Multi-channel portable encoding MPEG-4 H.264 appliance featuring Full HD processing, best-in-class connectivity options, low latency streaming and KLV metadata support. The ideal encoding solution for portable encoding applications combining cost effective, low latency streaming and broadcast quality video delivery with Zixi™ and ProMPEG FEC protection.

Technical Specification

Video Inputs

- 2 x 3G/HD-SDI/SD-SDI (SMPTE 259M-C, SMPTE 292M, SMPTE 274M, SMPTE 296M, SMPTE 424M, SMPTE 425M)
- 1 x HDMI
  (support for HDCP and non-HDCP protected sources)
- 1 x DVI-I (Y, Pb, Pr / RGBHV analog DVI-A sources and Y, Cb, Cr digital DVI-D sources)
- 4 x Composite (RCA via provided break-out cable)
- 4 x S-Video Y/C (RCA via provided break-out cable)

Input Resolutions / frame rates:

- 1920x1080p @ 60, 59.94, 50, 30, 29.97, 25, 24 Hz
- 1920x1080i @ 60, 59.94, 50 Hz
- 1600x1200p @ 85, 60, 50 Hz
- 1366x768p @ 60, 50 Hz
- 1280x800p @ 60, 50 Hz
- 1280x768p @ 60, 50 Hz
- 1024x768p @ 60, 50 Hz
- 1280x720p @ 60, 59.94, 50, 30, 29.97, 25 Hz
- 720x480p @ 30, 29.97 Hz
- 720x480i @ 59.94 Hz
- 720x576p @ 25 Hz
- 720x576i @ 50 Hz

Audio Inputs

- 2 x SDI Embedded audio
- 1 x HDMI Embedded audio
- 1 x Analog unbalanced stereo audio, AC-coupled (mini-jack)
- 4 x Analog unbalanced stereo audio pairs (RCA L/R via provided break-out cable)

Video Output

- H.264 (ISO\IEC 14496-10 AVC MPEG-4 part 10). Modes:
  - Baseline Profile L3
  - Main Profile L3 and L4
  - High Profile L4 and L4.2
- Bit Rate: 100 Kbps - 14 Mbps
- Frame Rate: 5-60 fps. Down sampling modes: third, half, three quarters
- Bit Rate Regulation Modes: Constant (CBR), Variable (VBR)
- Output Resolutions: Configurable from QCIF up to full HD 1920x1080p60
- Encoding Latency: 65 milliseconds (TurboVideo™ mode)

Audio Output

- MPEG-4 AAC-LC (ISO/IEC 14496-3), MPEG-1 L2
- Stereo and mono modes
- Bit Rate: 32Kbps - 256Kbps in Stereo, 16Kbps - 128Kbps in Mono
- Sampling Rate: 16 kHz - 48 kHz

Network Protocols

- Streaming:
  - UDP, RTP, RTSP, SAP, MPEG-2 Transport encapsulation, unicast and multicast modes
- Error Correction:
  - Zixi™ technology for up to 30% packet loss recovery
  - SMPTE-2022 ProMPEG Forward-Error-Correction (FEC)
- Peripheral:
  - HTTPS, DHCP, NTP, SSH, SAP

Management

- Secure Web based remote management interface (HTTPS)
- Dashboard with dynamically updating I/O signal detection and streaming stats
- SSH interface with "get/set" or XML API for integration with 3rd party control software
- Autostart mode recovers saved configuration after power cycle
- Remote firmware and software upgrade capability via command line
- System and channel event logging

Security

- Real-time AES encryption for video, audio and metadata. Interoperability with EZ TV and FITIS systems
- Password-protected HTTP and CLI control interfaces

Metadata

- CoT over serial RS-232, KLV over IP, KLV over SDI (VANC per SMPTE 336M)
- UAS Datalink Local Metadata Set (MISB STD 0601.5, STD 0902)
- Time Stamping and Transport of Compressed Motion Imagery and Metadata (MISB STD 0604.2)
- Cursor on Target (CoT) Conversions to Key-Length-Value (KLV) Metadata (MISB EG 0805)
- Security Metadata Universal and Local Sets for Digital Motion Imagery (MISB STD 0102.8)
- STANAG 4609 output stream over UDP/IP

Environmental/Regulation

- Operating Temperatures: -20° C to +50° C (-4° F to 122° F)
- Relative Humidity: 5% to 95% (non-condensing)
- MTBF: Ground - 6.70 years. Airborne - 8.47 years (As per MIL-HDBK-217F)
- EMC Standards: FCC part 15 class A and CE
- Power: 9-12VDC, 13W Max
- Not controlled under ITAR
- TAA Compliant

Physical

- With enclosure: 1.75" H x 7.48" W x 4.66" D (44.6mm H x 190mm W x 118.4mm D) 2.42lb (1.098Kg)
- Board only: 1.38" H x 7.08" W x 4.52" D (35.1mm H x 180mm W x 115mm D) 0.372lb (0.169Kg)
- Enclosure: Industrial-grade rugged aluminum case, rack-mount kit available as add-on
- Status LED's for power, network activity, streaming and video source indications
- Fan-less, no moving parts design, 100% silent operation
- Adjustable mounting holes for seamless installation in vehicles / onto flat surfaces

Advanced Features

- Encode and stream single source in up to four different compression settings to multiple destinations
- Hardware based resolution and frame rate scaling
- Real-time image stabilization chip optimized for footage from ground and airborne vehicles
- Motion-adaptive adjustment of bit-rate utilization during static scenes
- Built-in Zixi and ProMPEG FEC Error correction technologies
- High profile HD encoding for broadcast-grade applications

Ordering Information

12899 - MGW Premium ENC SD - 4 x Standard Definition channels
12299 - MGW Premium ENC HD - 2 x High Definition or 4 x Standard Definition channels
14716 - MGW Premium ENC SD to HD upgrade license

Note: Customers may upgrade SD units to HD licenses by purchasing a firmware upgrade