



# MGW Pico Encoder

## Ultra-Compact HD/SD H.264 Encoder



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MGW Pico Encoder is the world's smallest H.264 HD/SD portable encoding appliance. With 3G/HD/SD-SDI and Composite inputs, low power consumption and robust industrial design, the appliance is ideal for field-based applications. MGW Pico Encoder provides two simultaneous H.264 encoding channels (HD+SD) and features error-free content delivery on private and public networks using Zixi™ stream protection or industry standard SMPTE 2022 Pro-MPEG error correction technology.

For sensitive applications, MGW Pico Encoder supports dual KLV metadata ingest and transport in compliance with STANAG 4609 and MISB standards.

### PRODUCT HIGHLIGHTS

- World's smallest professional HD H.264 encoder with 3G/HD/SD-SDI and Composite inputs
- Superb HD and SD H.264 AVC compression quality up to full HD 1080p
- Up to 2 simultaneous H.264 encoding channels
- Zixi Error Correction and Pro-MPEG FEC built-in for reliable stream transmission
- Less than 65 millisecond encoding latency
- Full-frame snapshots stored in internal memory or delivered over IP to remote location
- Metadata support: MISB KLV / STANAG and CoT (SDI, IP and Serial)
- Under 6 Watts power consumption is ideal for vehicle integration or for use with battery packs
- Industrial-grade, fanless design with no moving parts, 100% silent

## Technical Specifications - General

### Video Inputs

- 1 x 3G/HD/SD-SDI: SMPTE 259M-C, SMPTE 292M, SMPTE 274M, SMPTE 296M, SMPTE 424M, SMPTE 425M Level A (BNC, 75 Ohm)
- 1 x Analog Composite: PAL/NTSC (BNC, 75 Ohm)

### Input Resolutions / frame rates:

1920x1080p @ 60, 59.94, 50, 30, 29.97, 25, 24 Hz  
1920x1080i @ 60, 59.94, 50 Hz  
1280x720p @ 60, 59.94, 50, 30, 29.97, 25 Hz  
720x480i @ 59.94 Hz  
720x576i @ 50 Hz

### Audio Inputs

- 1 x SDI Embedded audio (Stereo or Mono)
- 1 x Analog unbalanced audio (via breakout cable)

### Video Output

- H.264 (ISO/IEC 14496-10 AVC MPEG-4 part 10). Modes:
  - o Baseline Profile L3
  - o Main Profile L3 and L4
  - o High Profile L4 and L4.1
- Bit Rate: 100 Kbps - 15 Mbps



- Frame Rate: 5-60 fps. Down sampling modes: 3/4, 2/3, 1/2, 1/3, 1/4
- Bit Rate Regulation Modes: Constant (CBR), Variable (VBR)
- Output Resolutions: Configurable from QCIF up to 1920x1080p30 / 1280x720p60
- Encoding Latency: 65 milliseconds

### Audio Output

- MPEG-4 AAC-LC (ISO/IEC 14496-3)
- Stereo and mono modes
- Bit Rate: 32Kbps - 192Kbps in Stereo, 16Kbps - 192Kbps in Mono
- Sampling Rate: 48 kHz

### Network Protocols

- Streaming:
  - UDP TS
  - RTP TS
  - RTP ES (RTSP)
  - Unicast and Multicast modes
- Error Correction:
  - Zixi™ technology for up to 30% packet loss recovery
  - RTP TS with Forward-Error-Correction (FEC SMPTE 2022)
- Peripheral:
  - HTTPS, 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
- System and channel event logging

### Security

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

### Metadata

- Up to 2 simultaneous KLV metadata stream per channel
- Support for KLV over IP, Serial and SDI (MISB STD 0605.7, VANC per SMPTE 336M)
- Support for CoT over Serial/RS-232
- Absolute Time System and Timestamps (MISB STD 0603.4)
- Time Stamping and Transport of Compressed Motion Imagery and Metadata (MISB STD 0604.5)
- Security Metadata Universal and Local Sets for Digital Motion Imagery (MISB STD 0102.11)
- Cursor on Target (CoT) Conversions to Key- Length-Value (KLV) Metadata (MISB STD 0805.1)
- UAS Datalink Local Metadata Set (MISB STD 0601.11, STD 0902.6)
- STANAG 4609 output stream over UDP/IP
- JITC-MIS Compliant streaming of HD/SD ISR video

## Environmental / Regulation

- Operating Temperatures: -40° C to +50° C (-40° F to +122° F)
- Relative Humidity: 5% to 95% (non-condensing)
- EMC Standards: FCC part 15 class A and CE
- Power: 12VDC, 6W Max
- MTBF: Ground – 9.00 years. Airborne – 12.70 years. Naval Sheltered 10.30 years. (As per MIL-HDBK-217F)
- Not controlled under ITAR
- TAA Compliant

## Physical

- 1.02" H x 4.33" W x 2.91" D (26mm H x 110mm W x 74mm D)
- 0.55lb (0.25Kg)
- Enclosure: Industrial-grade rugged 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
- Mounting holes for seamless installation in vehicles / on flat surface

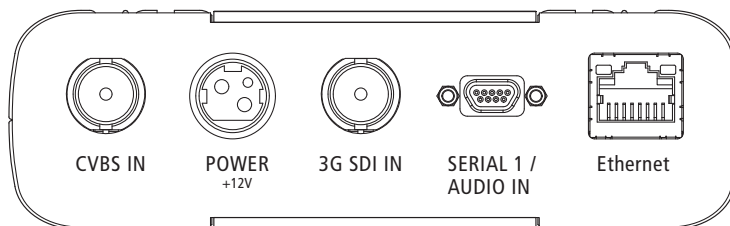
## Advanced Features

- Low latency HD streaming from SDI and Composite sources with audio and metadata
- Hardware based resolution and frame rate scaling
- Zixi™ stream protection for reliable transmission of video, audio and metadata over lossy network links
- Live and full frame Snapshot capture in RAW, JPEG or JPEG-LS format stored in internal memory or transferred via IP to a remote location.
- Live Stream Preview through the web interface.
- Ultra low power consumption for 1080p streaming - under 6W

## Ordering Information

Part Number	Description	Features		
		Encoding Resolution	Stream Protection	KLV
17364	MGW Pico Live	SD		
17366	MGW Pico Connect	HD	✓	
16788	MGW Pico ISR	HD	✓	✓

## Rear Panel Interfaces



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