



The EnerLinks HD encoder is a multi-channel compression system for high definition digital video or standard definition analog video. It is designed specifically to be compatible with the industry's most advanced ISR sensors, and allows any IP based data link to transmit standards based, H.264 compressed Full Motion Video (FMV). Used as an advanced front-end signal processing system, the EnerLinks HD encoder is data link agnostic and can be readily integrated with any TCDL, CDL, COFDM, or Mesh communications system that supports Internet Protocol.

This small, lightweight, and rugged encoder is an easy addition to any manned or unmanned aerial system (UAS), or other airborne platforms such as targeting pods. It is ideal for the most demanding ISR applications that call for quality high-definition motion imagery. The encoder is also I/O rich with two HD-SDI digital video ports, four NTSC/PAL analog video ports, and an interface port for TCP/IP or UDP/IP over Ethernet. This spectrum of I/O interfaces is useful for integration with the most advanced

HD sensor systems. Multiple H.264 hardware compression engines provide a range of video delivery options including up to two simultaneous streams of HD video, up to four simultaneous streams of SD video, or one HD stream with up to two SD streams. This unique capability will save significant space, weight and power in forthcoming ISR platforms featuring multiple EO/IR sensors.

This advanced HD encoder will accept a KLV metadata input stream via its Ethernet interface and it is also capable of time aligning this metadata to a video frame using MISB Standard 0604.1.

The encoder encapsulates the MPEG-2 transport streams in IP packets and passes them over Ethernet to a data link capable of down-linking IP traffic, such as the Common Data Link (CDL). The data link then transmits the streams to a ground receiver such as a ROVER or a CDL ground station. This standards-based approach allows consumption of the video streams on the ground by third-party viewing and exploitation software systems without additional ground hardware.

EnerLinks HD Encoder At-A-Glance

- » HD video encoding for any IP based data link
- » Multiple H.264 hardware compression engines
- » 1 to 2 simultaneous HD video streams
- » 1 to 4 simultaneous SD video streams
- » Time synchronized KLV metadata
- » Data link and ground system agnostic
- » Compatible with most viewers and exploitation systems
- » Rugged, submersible packaging



EnerLinks HD Encoder provides quality high definition motion imagery for the most demanding ISR applications.

INPUTS

Digital Video

- » HD-SDI (2); mini BNC connector

Analog Video

- » NTSC, PAL, CCIR and RS-170 monochrome input
- » Composite video (4), or Y/C (2) selectable; SMA type connectors
- » Adjustments for brightness, contrast, tint, saturation

Digital Interface

Ethernet 100 Base-T for IP-based data sources

VIDEO COMPRESSION

H.264

- » 1 to 2 simultaneous HD channels
- » 1 to 4 simultaneous SD channels
- » Baseline Profile Codec (level 3), I and P frames
- » HD Formats: 720p60, 720p59.94, 1080p29.97
- » SD Formats: NTSC 720x480; PAL 720x576

METADATA

- » KLV format, MISB Standard 0604.1 synchronization to H.264 video

CONTROL & CONFIGURATION

- » GUI via web-based interface over Ethernet or Command line interface via serial port or USB

The EnerLinks HD encoder accepts high definition video, including 1080p and 720p, as un-compressed, un-encrypted digital signals via the HD- SDI ports. The encoder is also capable of accepting standard definition video inputs through the four NTSC / PAL ports.

ENVIRONMENTAL

- » Cooling by conduction to the mounting baseplate
- » Operating Temp: -20° to +70°C baseplate temperature
- » Non-operating Temp: -40° to +85°C
- » Altitude: 70,000 feet
- » Humidity: to 95% non-condensing
- » Shock and Vibration: consistent with fixed-wing and helicopter environments in MIL-STD-810F
- » Submersible in 1 meter water per MIL-STD-810F

SIZE (L X W X H)

7.5" x 5" x 1.8"

WEIGHT

2.1 lbs

POWER

- » 28 VDC (per MIL-STD-704) normal operation
- » Power consumption < 24 watts

CUSTOMIZATION

The SWaP envelope available for data link hardware in tactical UASs is typically both limited and platform specific. Requirements are driven by programs, customers, and specific UASs. The EnerLinks HD Encoder can be tailored and repackaged to meet the unique constraints of the aircraft equipment.

All active ports are auto-sensed. System settings and status may be controlled and viewed in real time through a serial command line interface or through a supplied web-based GUI.



CONTACT

1935 CORDELL COURT
EL CAJON, CA 92020-0911

WEB WWW.VIASAT.COM/ISR-DATA-LINKS
TEL 619.438.6000
EMAIL ENERLINKS@VIASAT.COM