![DELTA Digital Video logo]

MODEL 6840R
MULTI-CHANNEL H.264 HD/SD VIDEO ENCODER

TECHNICAL SPECIFICATIONS

FEATURES

- Real-time digital transmission of High/Standard Definition motion imagery

- H.264/MPEG-4 AVC (Part 10) Baseline

- HD/SD-SDI & Composite Input Interface (optional RGB)

- 1080p/1080i/720p/480i/p (optional RS-343)

- MPEG-2 Transport Stream - MISB/STANAG Compliant

- Fully configurable network interface/ 1000 BaseT (Optional Redundancy)

- Synchronous Metadata Support via serial, Ethernet, or SDI (optional on-board KLV Encoding)

- Data Rates from 256Kbps to 20Mbps (per channel)

- <30ms Encode Latency

- Stereo/dual-channel audio inputs

- MPEG-1 Layer I/II Audio Compression

- RS-232 or Ethernet port configurable

- Rugged, Airborne Package

The Model 6840R Video Encoder is a High / Standard Definition (HD/SD) Encoder that compresses video and audio signals, multiplexing them with metadata and other system information for real-time transmission for ISR applications. The 6840R uses the H.264 (MPEG-4 AVC Part 10) video compression algorithm to provide high-quality video even at HD resolutions. The H.264 standard is the most efficient compression algorithm and was created for the transmission of high resolution video. The unit is built around an advanced, high-speed FPGA architecture, working in conjunction with a DSP, to facilitate the data moving and processing required for HD video compression.

The 6840R is easily integrated into most airborne video transmission systems. The standards-compliant (MISB/STANAG) transport stream is output on a Ethernet port (1000 Base-T) for direct connection to any network. The transport stream can be applied to Delta's HD decoder or played through compliant exploitation systems.

The encoder's video, audio, metadata, and system parameters are easily controlled via the Ethernet port or asynchronous serial interface.

MODEL 6840R
MULTI-CHANNEL H.264 HD/SD VIDEO ENCODER

VIDEO INPUT

Ports Four
Format Composite/HD-SD SDI
Levels 1Vp-p/.3Vp-p; 75 Ohms
Connector BNC

VIDEO COMPRESSION

Algorithm H.264 /MPEG-4 AVC (Part 10)
Format H.264 Baseline
Resolutions 1080p/1080i/720p/480i/p
Frame Rate 25/29.97/30/50/59.94/60
GOP Structure Inter/Intra (I/IP); Variable Size; Infinite GOP

TRANSPORT STREAM

Ports Two
Format 1000 baseT Ethernet IP
Protocol ISO/IEC 13818-1
MPEG-2 TS-over UDP
Video/Audio/Data
Data Rate 256K to 20Mbps
Configuration DHCP or Static Address
Selectable Ports
Auto Sense Full/Half Duplex
Unicast/Multicast
Connector Circular Mil

METADATA INTERFACE

Ports Three (per channel)
Protocol KLV/Clear
Format SDI VANC, RS-232/RS-422, Ethernet
Connector Circular MIL

CONTROL

Ports Two
Format RS-232; TCP/IP
Protocol Delta's 3-character mnemonics

AUDIO INPUT

Ports Two
Channels None, Left, Right, Stereo
Format Balanced (Line Level)
Levels 2.8Vp-p (1Vrms)
Impedance 10K Ohms
Connector Circular MIL

AUDIO INPUT

Ports Two
Channels None, Left, Right, Stereo
Format Balanced (Line Level)
Levels 2.8Vp-p (1Vrms)
Impedance 10K Ohms
Connector Circular MIL

AUDIO COMPRESSION

Algorithm MPEG-1 Layer I/II
Sample Rates 8K/16Ksps
Sync Lip synchronized with video

LATENCY

Encoder <30ms
Encoder/Decoder <100ms

ENVIRONMENTAL / EMI (RTCA/DO-160F Test)

Induced Signal Susceptibility	Section 19
RF Susceptibility - Conducted	Section 20
RF Susceptibility - Radiated	Section 20
Emission of RF Energy - Conducted	Section 21
Emission of RF Energy - Radiated	Section 21

Temp (Op) 0ºC to 50ºC (Fig. 4-2)
Temp (Storage) -55ºC to +85ºC (Fig. 4-1)
Humidity Category A-Standard Cycle 95% RH (Fig. 6-1, 2 cycles)
Power MIL-STD-704
Vibration
   Performance Curve B, 10 minutes: 10Hz-2000Hz (Fig. 8-1 (B))
   Endurance Curve B1, 3 hours: 10Hz-2000Hz (Fig. 8-4 (B1)
Shock
   Operational Terminal peak sawtooth: 6g for 11 msec duration (Fig. 7-2 OP Shock)
   Impulse Crash Safety Terminal peak sawtooth: 20g for 11 msec duration (Fig. 7-2 Crash Safety)
   Crash Safety Sustained 9g, 3 seconds

Altitude 35K Ft (Section 4.6.1, Fig. 4.6)

POWER

Watts 56W
Connector Circular MIL

SIZE/WEIGHT

Chassis 1.75"H x 19.0"W x 12"D
Weight 13lbs.