

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 (Optional MPEG-2 for SD applications)
- HD/SD-SDI & Composite Input Interface
- 1080p/1080i/720p/480i/p
- MPEG-2 Transport Stream - MISB/STANAG Compliant
- Fully configurable 1000 BaseT network interface (Optional Redundancy)
- Synchronous Metadata Support for SDI and Asynchronous metadata support via serial or Ethernet (optional on-board KLV Encoding)
- Data Rates from 256Kbps to 20Mbps (per channel)
- <30 ms 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 BaseT) 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.

A division of Delta Information Systems, Inc.

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MULTI-CHANNEL H.264 HD/SD VIDEO ENCODER

VIDEO INPUT

Ports Four (one per channel)
Format Composite / S-video / HD-SD SDI
Levels 1 Vp-p / y=0.7; c=.03 / 0.3Vp-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

Streams Two per channel
Ports Two 1000 BaseT Ethernet
Protocol ISO/IEC 13818-1
MPEG-2 TS-over UDP
Video / Audio / Data
Data Rate 256Kbps 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 (Web, Telnet)
Protocol Delta's 3-character mnemonics

AUDIO INPUT

Ports Four (one per channel)
Modes None, Left, Right, Stereo
Format Balanced (Line Level)
Levels 2.8 Vp-p (1Vrms)
Impedance 10K Ohms
Connector Circular MIL

AUDIO COMPRESSION

Algorithm MPEG-1 Layer I/II
Sample Rates 48Ksps
Sync Lip synchronized with video

LATENCY

Encoder <30 ms
Encoder/Decoder <100 ms

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) 0°C to 50°C (Fig. 4-2)
Temp (Storage) -55°C to +85°C (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: 10 Hz-2000 Hz (Fig. 8-1 (B))
Endurance Curve B1, 3 hours: 10 Hz-2000 Hz (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

Volts +28VDC
Watts 69W
Connector Circular MIL

SIZE/WEIGHT

Chassis 1.700"H x 19.120"W x 13.995"D
Weight 16 lbs.

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