

HIGH DEFINITION ENCODER

TECHNICAL SPECIFICATIONS

FEATURES

- Real-time digital transmission of High Definition motion imagery
- H.264/MPEG-4 AVC (Part 10) Baseline Profile
- HD-SDI Input Interface; SMPTE 292/424 Compliant
- 1080p/1080i/720p/480i/p
- MPEG-2 compliant TS multiplexing
- Synchronous Serial or Ethernet TS Interfaces
- Fully configurable network interface
- Data Rates from 250Kbps to 15Mbps
- <50ms Latency
- Stereo/dual-channel audio inputs
- MPEG-1 Layer I/II Audio Compression
- Metadata Support
 - ◆ Synchronous VANC
 - ◆ Serial
 - ◆ Ethernet
 - ◆ Optional KLV Encoding
- MISB/STANAG Compliant
- Serial or Ethernet port configurable
- Web Browser, Airborne Qualified Package



The Model 6800R Encoder is a High-definition (HD) Encoder that compresses video and audio signals, multiplexing them with metadata and other system information for real-time transmission to a remote decoder unit. The 6800R 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 6800R is easily integrated into most airborne video transmission systems. The standards-compliant transport stream is output on both a synchronous serial interface (RS-422) or Ethernet port (10/100M Base-T) for direct connection to the data link or recorder. The transport stream can be applied to Delta's HD decoder or played through a compliant software decoder.

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

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VIDEO INPUT

Ports One
Format HD SDI; SMPTE-259/292/424
Levels .3Vp-p; 75 Ohms
Connector SMC

VIDEO COMPRESSION

Algorithm H.264 /MPEG-4 AVC (Part 10)
Format H.264 Baseline
Resolutions 1080p/1080i/720p/480i/p/576i/p
Frame Rate 30/60/60/30
GOP Structure Inter/Intra; Variable Size
24/25/29.97/30/59.94/50/60

TRANSPORT STREAM

Ports Two
Protocol ISO/IEC 13818-1
MPEG-2 Transport Stream
Video/Audio/Data
Data Rate 250Kbps to 15Mbps
Format 10/100 Ethernet IP
Configuration DHCP or Static Address
Selectable Ports
Auto Sense Full/Half Duplex
Unicast/Multicast
Connector RJ-45
Format RS-422
Configuration Clock/Data
Connector Circular MIL (J1)

METADATA INTERFACE

Ports Three
Protocol KLV/Clear
Format SDI-VANC/Ethernet
Connector Circular MIL (J1)

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 (J1)

AUDIO COMPRESSION

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

LATENCY

Encoder/Decoder <50ms
Enc/Dec Tandem <100ms

ENVIRONMENTAL (DO-160D)

Temp/Alt (Op) DO-160D, Section 4, Category D2
-55°C to +70°C
Temp/Alt (Non-Op) DO-160D, Section 4, Category D2
-55°C to +85°C
Humidity DO-160D, Section 6, Category B
5%-95% RH, non-condensing
Vibration DO-160D, Section 8, Category S,
Figure 8-3, Profile M
Shock DO-160D, Section 7, Category A,
Figure 7-2, Operational
(6g, 11ms, sawtooth)

EMI

MIL-STD-461E CS101, CS114-116, RS103,
RE102, CE-102
DO-160E Section 18, AF Conducted
Susceptibility
Section 21, Conducted Emissions

POWER

Volts +28VDC
Watts 20W
Connector Circular MIL (J4)

SIZE / WEIGHT

Chassis 2.5"H x 4.5"W x 7"D / 3 lbs.

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