

MULTI-CHANNEL HD/SD ENCODER

TECHNICAL SPECIFICATIONS

FEATURES

- Real-time digital transmission of HD/SD full motion imagery
- H.264/MPEG-4 AVC (Part 10) Baseline/Main/High Profiles (Optional MPEG-2)
- HD/SD-SDI or Composite Video Input Interface
- 1080p/1080i/720p/480i/576i
- Primary/Secondary Video Encoding
- MPEG-2 compliant TS multiplexing
- Fully configurable network interface for Transport Stream and Control
- Data Rates from 128Kbps to 20Mbps/Channel
- <50ms Encode Latency
- Stereo/dual-channel audio inputs per channel
- MPEG-1 Layer I/II Audio Compression
- Metadata Support
 - ◆ Synchronous VANC
 - ◆ Serial
 - ◆ Ethernet
 - ◆ Optional KLV Encoding
- MISB/STANAG Compliant
- 1PPS/IRIG-B Time Input
- Serial or Ethernet port configurable
- Airborne Qualified Package



The Model 6880R Multi-Channel Video Encoder compresses high definition and standard definition video and audio signals, multiplexing them with metadata and other system information for real-time video transmission and recording applications. The 6880R is a modular design, providing flexibility in the number of encoding channels by installing or removing dual-channel modules. The unit is capable of simultaneously encoding up to 8 channels of video with resolutions up to 1080p when fully populated. Utilizing the H.264 (MPEG-4 AVC Part 10) video compression algorithm, the encoder provides high quality video transmission at various resolutions and a wide range of bandwidths. The unit is built on an advanced multimedia architecture that extends encoding to multiple channels without increasing size and power. A "Primary/Secondary" encoding feature enables a second, lower resolution, lower bit rate copy of the video input to be independently configured and streamed simultaneously for a maximum of 16 streams.

Designed for any airborne or ground-mobile application, and specifically military ISR missions, the 6880R is compliant with the full motion video (FMV) standards developed by the US Government's Motion Imagery Standards Board (MISB) and STANAG. This includes compliance with the video compression, KLV metadata, and transport stream profiles required to ensure interoperability in US and Allied processing, dissemination, and exploitation (PED) systems. Full DO-160/MIL-810 environmental and EMI qualification ensures the 6880R meets flight-worthiness requirements.

The 6880R is easily integrated into any FMV system, providing auto-detection for composite video and all SMPTE standards. A fully configurable Ethernet interface allows for easy integration into any airborne or mobile network. Multi-format metadata interfaces are available along with serial, Telnet, or web-GUI for encoder set-up.

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MULTI-CHANNEL HD/SD ENCODER

VIDEO INPUT

Ports Up to 8
Format HD/SD-SDI (SMPTE) or Composite
Levels .3Vp-p; 75 Ohms/1Vp-p, 75 Ohms
Connector SMC

VIDEO COMPRESSION

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

TRANSPORT STREAM

Ports Two
Protocol ISO/IEC 13818-1
MPEG-2 Transport Stream
Video/Audio/Data
Format 10/100/1000 Ethernet IP
Configuration DHCP or Static Address
Selectable Ports
Auto Sense Full/Half Duplex
Unicast/Multicast
Data Rate 128Kbps - 20Mbps
Connector Circular MIL

METADATA INTERFACE

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

TIME INTERFACE

Ports One
Protocol 1PPS Sync/Free-run/IRIG-B
Format 0-10Vp-p; 50 Ohms
Connector Circular MIL

CONTROL

Ports Two
Format Serial or Ethernet (Telnet/Web Browser)
Protocol Delta's 3-character mnemonics

AUDIO INPUT

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

AUDIO COMPRESSION

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

LATENCY

Encoder <50ms (per channel)
Enc/Dec Tandem <100ms

ENVIRONMENTAL (MIL-STD-810)

Temp (Op) -40°C to +71°C (+60°C for 8-Ch)
Temp/Alt (Non-Op) -55°C to +85°C
Humidity 5%-95% RH, non-condensing
Altitude -2,000 to 50,000 Feet
Vibration MIL-STD-810F 514.5 Table C-9
Shock 6g, 11ms, sawtooth

EMI

MIL-STD-461E CS101, CS114-116, RS103,
RE102, CE-102

POWER

Volts +28VDC
Watts 25-70W
Connector Circular MIL

SIZE / WEIGHT

Chassis 4.71"H x 5.6"W x 8.44"D / 8-10lbs.



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