

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
- Synchronous Serial or Ethernet TS Interfaces
- Fully configurable network interface
- Data Rates from 128Kbps to 25Mbps
- <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
- IRIG-B Time Input (Optional)
- Serial or Ethernet port configurable
- Airborne Qualified Package



The Model 6820R 2-Channel Encoder is an HD/SD video encoder that compresses video and audio signals, multiplexing them with metadata and other system information for real-time video transmission applications. The 6820R is capable of simultaneously encoding two channels of video with resolutions up to 1080p. 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 four streams.

Designed for any airborne application, and specifically military ISR missions, the 6820R is compliant with the full motion video standards developed by the US Government's Motion Imagery Standards Board (MISB). 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 6820R meets flight-worthiness requirements.

The 6820R is easily integrated into any FMV system, providing for legacy composite or S-video inputs and all SMPTE standards. The unit provides Ethernet and synchronous serial transport interfaces along with multi-format metadata interfaces. Serial or Telnet control, and an easy to use web-GUI are provided for encoder set-up.

A division of Delta Information Systems, Inc.

747 Dresher Road, Suite 125 • Horsham, PA 19044-2247 • Tel (215) 657-5270 • Fax (215) 657-5273 • www.deltadigitalvideo.com

VIDEO INPUT

Ports	Two independent inputs
Format	SD/HD/3G-SDI (SMPTE) or Composite, Auto-detect format, resolution, frame rate
Levels	.3Vp-p; 75 Ohms/1Vp-p, 75 Ohms

VIDEO COMPRESSION

Algorithm	H.264 /MPEG-4 AVC (Part 10)
Profile	Baseline/Main/High
Resolutions	1080p/1080i/720p/480i/576i
Frame Rate	1-60
GOP Structure	Inter/Intra; Variable Size

TRANSPORT STREAM

Ports	Ethernet or RS-422
Protocol	ISO/IEC 13818-1 MPEG-2 Transport Stream containing Video/Audio/Data
Data Rate	128Kbps - 20Mbps
Ethernet Protocol	Transport Stream over UDP, unicast or multicast
RS-422 Protocol	Transport Stream over synchronous serial interface

ETHERNET INTERFACE

Format	10/100/1000 Base T, Auto Sense Bitrate, Auto Detect Duplex
Configuration	DHCP or Static Address

METADATA INTERFACE

Ports	Asynchronous serial (2), UDP (2), SDI-VANC (2)
Format	KLV or unformatted data

TIME INTERFACE

Ports	1PPS/IRIG-B, SDI-VANC
1PPS Levels	0-10Vp-p; 50 Ohms

CONTROL

Ports	Asynchronous Serial (1), Telnet, Web Browser
Serial Levels	RS-232/RS-422
Serial/Telnet Protocol	Delta's 3-character command set

AUDIO INPUT

Ports	Two independent stereo inputs
Format	Balanced (Line Level)
Levels	2.8Vp-p (1Vrms)
Impedance	10K Ohms

AUDIO COMPRESSION

Channels	None, Left, Right, Stereo
Algorithm	MPEG-1 Layer I/II or ADPCM
Sample Rates	48Ksps
Sync	Lip synchronized with video

LATENCY

Encoder	<50ms (per channel)
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

SIZE / WEIGHT

Chassis	2.5"H x 4.5"W x 7"D / 3.75 lbs.
----------------	---------------------------------