TECHNICAL SPECIFICATIONS

FEATURES

- Real-time, secure, full-motion video over any analog or digital datalink
- H.264 video compression for full-motion video even at low bit rates (Optional MPEG-2)
- Multiple output interfaces (Pre-mod, UDP-IP, Synchronous Serial)
- Range performance to the horizon
- MISB/STANAG Compliant
- KLV Metadata Support
- AES Encryption
- Reed-Solomon FEC
- <200ms Latency
- Fully configurable network interface
- Data Rates from 64Kbps to 6Mbps
- Stereo/dual-channel audio inputs
- MPEG-1 Layer I/II Audio Compression
- RS-232 or Ethernet port configurable
- Compact, lightweight Encoder
- Rack-mount Decoder, 1RU
- -20°C to +71°C Operation

Delta's Video Encoding/Decoding System is designed primarily for those applications using FM video transmitters and receivers for transmission of ISR video. Delta's Models 6005R and 6105 provide the capability to convert analog video transmission to standards-compliant, digital formats with network distribution capabilities. The addition of encryption and forward error correction provides for enhanced range and security of existing datalinks. Standard Ethernet and synchronous serial interfaces also make these units drop-ins for digital datalink applications.

Utilizing MPEG-4 AVC (H.264) encoding, the 6005R/6105 provides flexibility for optimizing video performance for any given bit rate. User-configurable parameters permit the user to adjust the video/audio/data features in accordance with mission requirements. The units are configured via Ethernet or serial port and provides control for comm rate, GOP structure, video, audio, encryption, FEC, and network configuration.

These units are built around an advanced, high-speed DSP media processor, working with fully optimized codecs. Both units are compatible with other Delta products and can be easily integrated with other manufacturers’ standards-compliant equipment. Delta's technology has been integrated, tested, and flown in numerous applications and with various airborne platforms and is compatible with MISB and STANAG standards.
### VIDEO
- **Input/Output**: Composite
- **Format**: NTSC/PAL
- **Connector**: 25p Pin, Micro-D

### AUDIO
- **Ports**: Two
- **Channels**: None, Left, Right, Stereo
- **Format**: Balanced (Line Level)
- **Levels**: 2.8Vp-p (1Vrms)
- **Impedance**: 10K Ohms
- **Connector**: 25p Pin Micro-D/LEMO

### METADATA INTERFACE
- **Protocol**: KLV/Clear
- **Format**: RS-232/Ethernet
- **Connector**: DB-9S/RJ-45

### CONTROL
- **Ports**: Two
- **Format**: RS-232/TCP/IP
- **Protocol**: Delta’s 3-character mnemonics

### POWER
- **Encoder**
  - **Input**: 18-36VDC
  - **Watts**: 4W
  - **Connector**: 25 Pin, Micro-D
- **Decoder**
  - **Input**: 96-240VAC
  - **Watts**: 20W
  - **Connector**: IEC-320

### TRANSPORT STREAM I/O
- **Ports**: Three
- **Format**: PCM/RS-422/UDP/IP
- **Connector**: 25 Pin Micro-D/BNC/RJ-45

### SIZE
- **Encoder**: 2” x 5” x 1”
- **Decoder**: 1RU 19” x 12” x 1.75”

### VIDEO COMPRESSION
- **Algorithm**: H.264 /MPEG-4 AVC (Part 10)
- **Format**: H.264 Baseline/Main Profile
- **Resolutions**: D1/2CIF/CIF
- **GOP Structure**: Inter/Intra; I/II

### AUDIO COMPRESSION
- **Algorithm**: MPEG-1 Layer I/II
- **Sample Rates**: 8K/16Ksps
- **Sync**: Lip synchronized with video

### TRANSPORT STREAM
- **Protocol**: ISO/IEC 13818-1
- **Data Rate**: 64Kbps to 6Mbps
- **Format**: 10/100 Ethernet IP
- **Configuration**: DHCP or Static Address Selectable Ports Unicast/Multicast

### LATENCY
- **Encoder/Decoder**: <200ms

### ENCRYPTION
- **Algorithm**: AES CFB-64
- **Key Length**: 128, 196, 256

### FORWARD ERROR CORRECTION
- **Algorithm**: Reed-Solomon
- **Format**: 16 Parity Bytes per 204 Byte Packet

### ENVIRONMENTAL (Encoder)
- **Temp/Alt (Op)**: DO-160D, Section 4, Category D2 -20°C to +71°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)