

**STATE OF NEW JERSEY
BUREAU OF ITS ENGINEERING
DEPARTMENT OF TRANSPORTATION
TRENTON, NEW JERSEY 08625**

MATERIAL SPECIFICATIONS FOR HARDENED VIDEO ENCODER/DECODER PAIR

Hardened Video Encoder/Decoder Pair consists of one encoder unit and one decoder unit. Each unit is to conform to the following specifications:

1-1 Standards and Certifications

- IEEE 802.3 10 Base T
- IEEE 802.3u 100 Base TX
- IEC60068-2-1:1990 + A1:1993 + A2: 1994
- IEC60068-2-1:1974 + A1:1993 + A2: 1995
- ISO/IEC 13818
- ISO/IEC 14496-2
- FCC

1-2 Functional Requirements

Provide the following capabilities:

- The video encoder/decoder pair is to be capable of transporting NTSC video and serial data from one location to another location over the Ethernet network by encoding/decoding the video and data streams. Each video channel and data channel is to have the capability to configure to independent IP address and port number. Encoder is to provide for conversion of NTSC video and serial data to digital video (MPEG-4) and digital data for transmission over Ethernet based communication system. Decoder is to provide for conversion of digital video (MPEG-4) and digital data back to NTSC video and serial data.
- Transparent serial port supporting any asynchronous serial protocol.
- Compression: MPEG-4 simple profile .
- MPEG-4 Resolution: Scalable from 176x128 to 704x480 pixels 1CIF, 2CIF, 4CIF, 1-30 FPS user selectable for each stream.
- Bandwidth: 30 Kbps to 6Mbps user selectable for each stream.
- Transport Protocols: RTP/IP, TS/UDP/IP, SAP, TCP/IP, Multicast IP, DNS, NTP, HTTP, FTP and DHCP client, Unicast.
- JPEG capture, Motion detection, Text overlay

1-3 Management

- Web configuration, telnet
- Network
- HTTPS for secure Web based management
- Single Sign In and password protection

1-4 Interface and Connectors

- Serial Interface: EIA RS-232/RS-422/RS-485, DB9 connector.
- Video Interface: 1 Composite, 1Vpp into 75 ohms (NTSC), BNC Female connector.
- Ethernet Network: 10/100Base-T Cat5e, RJ 45 connector.

1-5 Indicators

- LED Indicator showing Power Status.
- LED Indicators showing status and activity of each port.

1-6 Mechanical Specifications

- Max. Dimension not to exceed 9.3" L X 19"W x 1.75" H
- Max. Weight not to exceed 8 Lbs

1-7 Environmental Specifications (Field device in cabinet)

- Operating Temperature: -22°F to +140 °F
- Operating Humidity: 95% non-condensing at 122°F

1-8 Electrical Power

Equip the power supply with a minimum of a 6 foot power cord terminating in a standard three (3) prong line plug. Maximum power requirements are not to exceed 16 watts for each unit.

1-9 Software

Provide Software License(s) with the unit.

1-10 Identification

Identify each hardened unit with a metal plate containing the serial number with bar code identification. Provide phenolic nameplate with switch designation shown on Contract Documents. Provide manuals and training documentation, and electronic version of custom configurations on compact disc media.

1-11 Standard Configuration

Type	Encoder/Decoder		
	Minimum Number of Required Ports		
	NTSC Video	RS232/422/485	10/100 Base Tx
Type A	1	1	1
Type B	2	2	2
Type C	8	3	2

Each video channel and data channel is to have the capability to configure to independent IP address and port number.

1-12 List of Equipment

Provide the following with each Hardened Video Encoder/Decoder Pair:

- Documentation
- External power supply (if required)

- All required custom connections
- Mounting brackets/shelf (if required)