

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

**MATERIAL SPECIFICATIONS FOR HARDENED VIDEO ENCODER**

Provide Hardened Video Encoders that conforms to the following specifications:

1-1 Standards and Certifications

Institute of Electrical and Electronics Engineers (IEEE) and Operating Standards:

- IEEE 802.3 10 Base-T
- ISO/IEC 14496-2 Simple profile video standard

Safety Certifications:

- Electromagnetic Emissions: Federal Communication Commission (FCC) Part 15, (Sub Part B, Class A)

1-2 Functional Requirements

- Convert analog video and serial PTZ data to MPEG4 Video stream for transmission over Ethernet Network.
- Compatible with NJDOT digital video operating system - GENETEC Omnicast.
- Transparent serial port supporting any asynchronous serial protocol.
- Compression: MPEG-4 simple profile and MJPEG
- Number of MPEG-4 Streams: Dual Streams
- MPEG Resolution: Scalable from 176x128 to 704x480 pixels 1CIF, 2CIF, 4CIF, user selectable for each stream.
- Bandwidth: 30 Kbps to 6Mbps user selectable for each stream.
- Transport Protocols: RTP/IP, UDP/IP, TCP/IP, Multicast IP
- Other Protocols: DNS, NTP, HTTP, FTP and DHCP client

1-3 Management

- HTML Web Browser with Password Protection, Telnet
  - Flash memory of video codec and firmware upgrade over the network
  - \*HTTPS based Authentication
- \*For Broadband and ISP applications

1-4 Interface and Connectors

- Serial Interface (PTZ): EIA RS-422/RS-485  
Transparent serial port supporting any asynchronous serial protocol.
- Video: 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: 5" L X 4"W x 2" H

- Max. Weight not to exceed: 1 lb

1-7 Environmental Specifications

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

1-8 Electrical Power

The power supply is to be equipped with a minimum of a six (6) foot power cord terminating in a standard three (3) prong line plug. Maximum power requirement is not to exceed 10 watts for each unit.

1-9 Software

Provide Software License(s) with the unit.

1-10 Identification

Identify Hardened Video Encoder 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

Input		Output	
Minimum Number of Required Ports		Minimum Number of Required Ports	
NTSC Video	1	Ethernet RJ45	1
RS-422/485 (PTZ)	1		

The 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:

- Documentation
- External power supply (if required)
- All required custom connections
- Mounting brackets/shelf (if required)