 FEATURES

› Tested and certified by an independent laboratory for full compliance with the environmental requirements (ambient operating temperature, mechanical shock, vibration, humidity with condensation, high-line/low-line voltage conditions and transient voltage protection) of NEMA TS-1/TS-2 and CALTRANS Traffic Signal Control Equipment Specifications.
› PoE (IEEE 802.3af) or +12 VDC Operating Power. PoE interface also provides +12 VDC local camera operating power
› User-Configurable for use as either a video encoder or video decoder.
› Multi-Encoding: Supports H.264, MPEG-4, MPEG-2, and MJPEG video compression standards
› High Video Quality: Up to D1 at 30 FPS. Scalable to 4CIF, CIF, and QCIF
› Dual & Triple Video Streaming
› Low End-to-End Latency: <135 Msec. (3-4 frames) (includes PTZ)
› Includes ComNet IVS GUI. Live video monitoring and optional mark-ups with on-screen display
› Integrated Premium Video Analytics Engine, with onboard rules management and responses, and video overlay display
› Pan-Tilt-Zoom Control Channel: Local serial data port, or remote control over IP
› Single Channel of simplex Audio with G.711 Compression, for intercom, paging and other applications
› Optional non-volatile 32 or 64 GB micro-SD cards, for local onboard storage and recording, with continuous & event-driven modes
› Optional Basic or Full Up analytics package
› Supports Numerous VMS Solution providers
› Alarm Input/Output Management and Contact Closures: Fully integrated via web interface, enterprise SNMP, and responses management user-interface
› Device automatically restarts upon a power failure.
› NTCIP Compliant
› Rugged, small profile aluminum housing for installations where space may be at a premium
› Ease of set-up and installation

 APPLICATIONS

› NTSC or PAL composite analog video, baseband audio, and pan-tilt-zoom serial data transmission over any copper, fiber optic, or wireless Ethernet-based local or wide area network
› Simple and cost-effective conversion of existing or legacy analog CCTV cameras to IP
› Integration of CCTV video onto an existing enterprise network or other platform
› ITS roadside and city center CCTV surveillance, and surveillance of high-value or mission-critical assets
› ITS Video Detection Systems (VDS)
› Video monitoring of manufacturing/factory shop floor and other processes in petrochemical refineries, wastewater treatment facilities, and other industrial automation and control applications in harsh or out-of-plant environments
› Industrial Machine Vision
› Electrical Substation Surveillance; Combine CCTV video and substation SCADA onto one common IP-based network

The ComNet CNVETX1 is a single-channel, camera-ready H.264/MPEG-4/MPEG-2, and MJPEG intelligent video server/video encoder or decoder unit, with video quality of up to D1 at 1 to 30 FPS, and dual or triple encoding/streaming. The CNVETX1 is industrially hardened for deployment in unconditioned/out-of-plant operating environments. It is user-configurable for use as an encoder or decoder. Incorporating a distributed intelligent video architecture, analog/composite video NTSC or PAL CCTV cameras with IP or full-duplex serial data pan-tilt-zoom control may be easily integrated onto any IP network. Full command and control of the various video encoding parameters are provided, including resolution, bit rate, and frame rate. A simplex mono audio channel is included. The ComNet IVS (Integrated Video Server) software allows for multiple simultaneous video streaming, and enables onboard video content management.
# CNVETX1 Video Encoder/Decoder Unit

## SPECIFICATIONS

### Video

**Video Interface**
- Supports Electronic Industries Alliance (EIA) EIA-170 standard.

**Input**
- Single channel, composite video (1 Vpp 75 Ohm NTSC/PAL)

**Output**
- Single channel, composite video (1 Vpp 75 Ohm NTSC/PAL)

**Resolution**
- D1, 4CIF, CIF, QCIF at 1 - 30 fps (programmable for all resolutions)

**Compression**
- H.264, MPEG-4, MPEG-2, MJPEG

**Bit Rate**
- Configurable from 32Kbps to 20Mbps

**Streaming**
- Dual and triple streaming

**GOP Structure**
- Configurable via web browser and/or XML API

**Video Settings**
- User-selection of hue, contrast, brightness, saturation, and sharpness

**On-Screen Display**
- Non-volatile display of logo, free text, and real-time clock (RTC). RTC displays time of day, calendar, alarm interrupts, and watch-dog timer.
  - Century, year, month, date, day, hour, minute, second, 1/10th and 1/100th of a second are displayed in 24 hour BCD format.

**Analytics**
- Optional Basic Video Motion Detection (VMD)
- Object classification (vehicle, person and other).

**VMS Support**
- RTSP integration & streaming supports numerous VMS solutions, including FLIR 360 Cameleon V4 version 2014.1.x, American Dynamics HDVR; Cisco Systems VSOM 4.x/VSMS 6.x; Exacq exacqVision; Milestone Systems XProtect 6.5f, XProtect Corporate 4, XProtect Professional 8, XProtect Enterprise 8; OnSSI NetDMS; Orsus (NICE) Situator; DVTel Latitude 6.0; Genetec Omnicast 4.5 and higher; ICX 360 Cameleon; InsightVideoNet (MediaSolv) MMS 5.x; Smith Detections FirstView.

### Network

**Interface**
- 10/100Base-TX Fast Ethernet

**Protocols**
- RTP, RTSP, HTTP, UDP, DHCP, NTP, TCP/IP, IGMPv3, ARP, SNMPv2, ICMP

### Alarms / Contacts

**Alarm/Sensor Inputs**
- Two TTL
  - Two solid-state relays & one DPDT electromechanical relay. Solid-state relay contacts rated at 400 Nanoamps @ 300 VDC, non-inductive load.
  - DPDT relay contacts rated at 0.3 A @ 125 VAC or 1.0 A @ 30 VDC, non-inductive load.

**Alarm/Sensor Outputs**
- One channel, full duplex RS-232, RS-422, or RS-485 (2 or 4 wire)
  - 115 Kbps, Max.

**Serial Data**
- American Dynamics D-RS-422, Phillips-TC7560, Pelco-D, Pelco-P, RS-422 Dome, & Vicon. Advanced Virtual Serial Port (VSP) API + Remote Control over IP, Bosch Bi-Phase, BBV Star Card, CyberScan 1

**PTZ Support**
- Processor Speed
  - 594MHz

**Flash Memory**
- 32MB

**DDR Memory**
- 256MB DDR II

**Optional Onboard Storage**
- Non-volatile, with 32 or 64 GB of capacity available for local/edge-of-network recording
  - via micro SD Card
  - Linux 2.6.x

### Embedded OS

**Connectors**
- Audio
  - 3.5mm audio jack
- Video
  - BNC, Gold-plated center pin
- Ethernet/PoE
  - RJ-45
- Serial Data
  - 12-pin terminal block. Mating connector included
  - Shared with serial data connector
- Power
  - 2 mm TH1, male. Mating connector (female plug) included

**Audio Interface**
- Simplex communications

**Audio Maps Video**
- Audio Input: 0.1V RMS, balanced or unbalanced

**Audio Output**
- Line-Level Output: 1.0V RMS, balanced or unbalanced

**Input/Output Impedance**
- Hi-impedance or 600 ohms. Minimum load impedance 600 ohms

**Sampling Rate**
- 96Khz, Max.

**Resolution**
- 16-bit, with oversampling

**Audio Compression**
- G.711
## SPECIFICATIONS

### Power
- **Power Input**: +12 VDC @ 0.5 A max
- **PoE**: +48 VDC, IEEE 802.3af compliant. Unit functions as a PD (Powered Device)
- **Output Power**: +12 VDC @ 0.5 A available for CCTV cameras requiring +12 VDC operating power
- **Power Consumption**: Encoder or decoder: 4.5W Typical; 6W Max. Encoder or decoder, when powering CCTV camera: +12V DC @ 1.0 A (12 watts max.)
- **PoE Power Class**: Class 0

### Mechanical
- **Indicating LEDs**: Power, Video, Analytics Engine
- **Size (L × W × H)**: 3.48 × 2.6 × 1.67 in (8.85 × 6.62 × 4.26 cm)
- **Shipping Weight**: <0.5 lb / 2.5 kg

### Environmental
- **MTBF**: >100,000 hours
- **Operating Temp**: -40° C to +75° C
- **Storage Temp**: -40° C to +85° C
- **Relative Humidity**: 0% to 95%, with condensation

### Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNVETX1</td>
<td>Video Encoder / Decoder</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Options (Sold Separately)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrilly Rated DC Plug-in Power Supply, 90-264 VAC, 50-60 Hz (-40° to +75° C)</td>
<td></td>
</tr>
<tr>
<td>Commercial Grade DC Plug-in Power Supply, 90-264 VAC, 50-60 Hz (0° to +40°C)</td>
<td></td>
</tr>
<tr>
<td>Optional non-volatile 32 or 64 GB micro-SD card for local onboard storage and recording</td>
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<tr>
<td>Basic Video Motion Detection (VMD) &amp; Object Classification</td>
<td></td>
</tr>
<tr>
<td>Full-Up VMD &amp; Object Classification</td>
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</tbody>
</table>

In a continuing effort to improve and advance technology, product specifications are subject to change without notice.

## TYPICAL APPLICATIONS

1. **CCTV Analog camera with PTZ**
   - **PoE or +12 VDC**
   - **Ethernet Network**
   - **CNVETX1 Encoder**
   - **Monitor**

2. **CCTV Analog camera with PTZ**
   - **PoE or +12 VDC**
   - **Ethernet Network**
   - **CNVETX1 Encoder**
   - **Computer / Workstation with Internet Browser Software**