

## VNP-100 Video Network Processor

High Performance, low latency leader.

IPtec specializes in facilitating high performance, low latency services over IP networks.

IPtec provides reliable, high quality products for low latency video and telemetry services. These products enable customers to transport high quality video and telemetry signals over IP networks.

<http://www.iptec-inc.com>

### Standalone Video/Audio Codec

**Broadcast quality video/audio streaming over IP**

**Low Latency Video/Audio transmission option**

**Media Friendly Customer/User Interfaces**

**Integrated Loopbacks, Test Patterns, and Alarms**

**Configuration via user-friendly WEB interface**

**SNMP Manageability**



### Broadcast Quality Video & Audio Processing

The VNP-100 is a standalone, high-quality video codec supporting bidirectional transmission of real-time video and audio signals over IP Networks. The system enables multiple, user selectable compression algorithms depending on Software and Hardware configuration options. The system also enables transmission of Non-compressed SD & HD video over 10Gb/s IP networks.

### Multiple Video/Audio user interfaces

The VNP-100 encoder compresses a Standard- or High Definition video source with accompanying audio signals for transmission over IP Networks.

The Encoder accepts NTSC, PAL composite video formats with analog audio, as well as HDMI video with embedded audio streams (Optionally SDI/HD-SDI/3G-SDI video signals with embedded audio streams, as well as AES/EBU Audio signals).

Independent of the encoder configuration, the VNP-100 decoder reconstructs a SD/HD Video signal with accompanying audio signals from an IP packet stream. The recovered video and audio signals are available as baseband NTSC/PAL composite video signals with baseband audio signals, or as HDMI video signals with embedded audio streams (Optionally as SDI/HD-SDI/3G-SDI video signals with embedded audio streams).

### Flexible System configurations

The VNP-100 is also available in single and dual Encoder or decoder configurations for uni-directional video/audio transmission for applications requiring high channel density in a small "foot-print" (up to 4 V/A channels per 1RU).

### Applications

- Broadcast contribution and distribution
- Surveillance (including Real time surveillance)
- Tele-Presence
- Medical imaging
- Tele-robotics

### Network Interface

The VNP-100 is equipped with both optical (1/10Gb/s) and electrical network interfaces, supporting 10/100/1000Mbps. Multiple bridged Ethernet interfaces provide flexible installation and interconnectivity options.

### Powerful Management

The VNP-100 is remotely manageable via a standard WEB interface and SNMP. Performance monitoring and system configuration capabilities facilitate installation and management in large networks.

# VNP-100 Overview and features

- Video Interfaces: HDMI and composite video I/O (NTSC & PAL) optional (Auto sensing SDI/HD-SDI/3G-SDI with embedded audio)
- Audio Interfaces: Analog baseband, HDMI with embedded audio optional (AES-EBU and SDI/HD-SDI/3G-SDI with embedded audio)
- Support KLV Meta data injection in Transport stream (source form: Serial data port, IP UDP port, & VANC)
- Close Caption and VANC data service supported
- Transmission and/or VANC/TS insertion of IRIG, SMPTE & NTP timing information including Timing offset for coding & video processing delay
- Serial data transmission (RS232, RS422 & others, "push to talk functionality")
- IP Encapsulation/De-encapsulation of DVB/ASI Streams or Compressed Video/Audio (TS)
- Multiple Video and Audio Compression algorithms
- Compression Latency: 2-10mS for Low latency compression schemes (DIRAC & Proprietary encoding) & 250mS, 350mS & 600mS for MPEG2/H.264 compression systems
- Integral analog and digital video format conversion
- Video picture scaling
- Audio embedding and de-embedding
- Electrical & Optical Ethernet network/user interfaces
- UDP and RTP IP network protocols
- Up to 4 IP Uni-cast, Broadcast, and IGMP Multi-cast connections supported per service.
- Remote Management
- Small "foot-print" with high Video/Audio channel density
- Multiple System configurations: Bi-directional video Codecs (Encoder and Decoder) or Uni-directional Single & Dual Encoders or decoders

## VNP-100 Technical Specifications

### Base System interfaces

#### Baseband Video Input & Output

Composite 1Vp-p Video (PAL/NTSC), 75 Ohms unbalanced, BNC connector  
HDMI (640X480 to 1920X1200@60, with embedded audio support for SD & HD video)

#### Baseband Audio

##### Analog Audio Input ports

Density: 1 stereo or 2 mono  
Format: balanced  
Impedance: > 10Kohms or 600 ohms, user selectable  
Max input level: +21 dBu  
Connection: DB-9

##### Analog Audio Output ports

Density: 1 stereo or 2 mono  
Format: balanced  
Impedance: 25 ohms or 600 ohms, user selectable  
Max output level: +21 dBu  
Connector: DB-9

##### Serial Data port

Density: 1 port Bi-directional  
Connector: DB-9

### Optional Video/Audio interfaces

#### Video Input

Density: 1 BNC connector  
Format: SDI, HD-SDI, 3G-SDI (with support for embedded audio), DVB/ASI

#### Audio Input

Density: 1 port  
Format: AES/EBU, balanced 110 ohms  
Connector: DB-9

#### Video Output

Density: 1 BNC connector  
Format: SDI, HD-SDI, 3G-SDI (with support for embedded audio), DVB/ASI

#### Audio Output

Density: 1 port  
Format: AES/EBU, balanced 110 ohms  
Connector: DB-9

### Compression Options (Hardware configurations)

**Video:** MPEG-2, H264, JPEG2000, Proprietary Low latency compression, Dirac Compression, No-compression  
**Audio:** SMPTE302, MPEG-1 Layer 1 & 2, AAC-3

### Remote Management

Built-in Web-based GUI and SNMPv2 and v3

### Ethernet Network Interface

One pluggable SFP module. 100/1000/10000Base-X  
Two RJ45.10/100/1000Base-T

### Physical Dimensions

1RU, 1/2-width 19". Two units fit in a 19": (H x W x D)  
1.75" x 8.50" x 10.00" (4.45 x 21.59 x 25.54) cm

### Environmental Conditions

Operating Temperature: 0 to 40°C (32F to 104F)  
Storage Temperature: -40 to 70°C (-40F to 158F)  
Relative Humidity: 5% to 90% (Non Condensing)

### Power

100 – 264V AC (47 – 63Hz) < 25W