

## 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 transmission 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, HDMI video with embedded audio streams as well as SDI/HD-SDI/3G-SDI video signals with embedded audio streams, and 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, HDMI video signals with embedded audio streams and SDI/HD-SDI/3G-SDI video signals with embedded audio streams.

### Flexible System configurations

The VNP-100 is available in bi-directional codec configuration as well as 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 HD and 2 SD V/A channels per 1 RU).

### 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, AES-EBU and SDI/HD-SDI/3G-SDI with embedded audio
- Close Caption and VITC (SMPTE 12M) data serviced 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: 2mS for Low latency compression schemes (Proprietary encoding) for MPEG2/H.264/AVC-I 50/100 compression
- system Latency: Encoding 150mS, 200mS & 650mS, Decoding Latency 100mS & 300mS
- Integral analog and digital video format conversion
- Video picture scaling
- Audio embedding and de-embedding
- Electrical & Optical Ethernet network/user interfaces
- UDP, RTP, RTP/w FEC IP network protocols
- Uni-cast, Broadcast, and IGMP Multi-cast connections supported for each service.
- Remote Management
- Small "foot-print" with high Video/Audio channel density
- Multiple System configurations: Bi-directional video Codec (Encoder/Decoder), Uni-directional Single & Dual Encoders or decoders, and Transcoding.
- Note for H.264 Encoding of 1080p60 video formats and appropriate software must be installed.

## VNP-100 Technical Specifications

### Base System interfaces

#### Baseband Video Input & Output

Composite 1Vp-p Video (PAL B/D/G/H/I/M/N & NTSC M), 75 Ohms unbalanced, BNC connector

#### HDMI Input & Output Interfaces

HDMI (720X480i30 to 1920X1080@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 (RS232/422)

Connector: DB-9

#### Serial Digital Video/Audio interfaces

##### SDI Video configurable Input or output

Density: 2 BNC connector

Configurable for: 2 inputs or 2 outputs or 1 input & 1 output

Formats: SDI, HD-SDI, 3G-SDI (with support for embedded audio), DVB/ASI

#### Digital AES/EBU Audio Interface

Density: 2 ports

Configurable for: 2 inputs or 2 outputs or 1 input & 1 output

Format: AES/EBU, balanced 110 ohms

Connector: DB-9

#### Compression Options (Hardware configurations)

**Video:** No-compression, MPEG-2, H264, AVC-I 50/100, Proprietary Low latency compression

**Audio:** SMPTE302, MPEG-1 Layer 2, AAC-LC, HE-AAC, AC-3

#### Remote Management

Built-in Web-based GUI and SNMPv2 and v3

#### Ethernet Network Interface

One pluggable SFP+ module. 1/10Gb/s Base-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) < 60W