VITEC

VNP-400

H.264 Contribution Encoder / Decoder

- H.264, MPEG-2 and JPEG2000 Broadcast Quality Encoder/Decoder
- Support up to for 4:2:2 10-bit encoder
- Superior Flexibility: Encoder/Decoder, Dual Encoder or Dual Decoder
- Native support for UDP, RTP and ST2022 Protocols
- Ready for contribution over The Internet (SRT protocol)
- Ultra Low latency mode
- Compact Form Factor, Dual Redundant Power Supply

Broadcast Quality Video & Audio Processing

The VNP-400 is a standalone, H.264 Contribution Encoder/Decoder that facilitates uni-directional and bi-directional transmission of real-time video and audio signals over IP Networks including the Internet. The system enables multiple user-selectable compression algorithms, depending on Software and License configuration options. The system also enables transmission of DVB/ASI signals over 1/10Gbps IP networks.

Multiple Video/Audio User Interfaces

As an Encoder, the VNP-400 compresses a video source with accompanying audio signals for transmission over IP Networks. The Encoder can accept SD/HD/3G-SDI or HDMI video signals with embedded audio streams, or NTSC / PAL composite video formats with analog audio, as well as AES/EBU digital audio signals. As a Decoder, the VNP-400 reconstructs the source encoded video signal with accompanying audio from an IP packet stream.

The recovered video and audio signals are available as SD/HD/3G-SDI or HDMI video signals with up to 8 embedded audio pairs, or as baseband NTSC/PAL composite video signals with baseband audio signals, as well as AES/EBU digital audio signals.

Flexible System Configurations

The VNP-400 can support multiple encoders, multiple decoders, or an encoder / decoder (codec) configuration to enable unidirectional or bidirectional operation. This flexibility enables high channel density in a small "foot-print" (up to 4 HD and 2 SD V/A channels per 1 RU). The VNP-400 is upgradable by software and supports Transcoding and Gateway functionality between SMPTE 2022-6, H.264 (MP, HP, 8/10-bit 420/422P), MPEG-2 (MP, HP, 422P) and JPEG2000 streams.

Features & Benefits

- Multiple video interface types, including SD/HD-SDI/3G-SDI, HDMI and Composite (NTSC & PAL)
- Digital (8 Stereo channels of SDI Embedded, AES-EBU) and Analog audio interfaces
- Multiple Compressed (H.264, AVC-I 50/100, MPEG-2, JPEG 2000) and Uncompressed (SMPTE 2022-6) video processing options
- Multiple Audio Compression (MPEG-1 L2, AAC-LC, HE-AAC), and Linear (SMPTE 302M) options
- Integral analog and digital video format conversion
- Integral video scaler (H.264, MPEG-2, AVC compression)
- Configuration as Encoder, Decoder or Codec
- Serial data transmission of RS232 and RS422 streams
- Wide range of Encapsulation and protocol options to support native transport of compressed video, DVB-ASI, and linear streams
- Unicast, and IGMP Multicast support
- Dual output IP stream per video
- Protocol support for UDP TS, RTP TS , SRT, RTP/w FEC (ProMPEG-SMPTE 2022-1/2), RTP with ARQ (RFC3366)
- Electrical & Optical Ethernet network/user interfaces
- Remote Management, Monitoring and Diagnostics
- Small "foot-print", Redundant power
- Protocol and application stream gateway functionality

Technical Specification

System Interfaces

Serial Digital Interface (SDI)

- Density: 2 x BNC: 2 In / 2 Out / 1 In+1 Out, user configured
- Video Formats: SDI, HD-SDI, 3G-SDI, DVB/ASI
- Embedded Audio: 8 Stereo Channels per SDI

Composite Video Interface

- Composite In: BNC, 75 ohm, unbalanced
- Composite Out: BNC, 75 ohm, unbalanced
- Format: 1Vp-p Video (PAL B/D/G/H/I/M/N & NTSC M)

HDMI Video Interface

- HDMI In: HDMI Type A Receptacle
- HDMI Out: HDMI Type A Receptacle
- Format: 720x480i30 to 1920x1080p60
- Embedded Audio: 4 Stereo Channels

Digital AES/EBU Audio Interface

- Density: 2 ports: 2 In / 2 Out / 1 In+1 Out, user configured
- Format: AES/EBU, balanced 110 ohm
- Connector: 2 x DB-9 (2 Ports)

Analog Audio Interface

- Density: 1 stereo input, 1 stereo output
- Format: balanced
- Impedance: > 10K ohm (input), 25 ohm (output)
- Max input level: +21 dBu
  Connector: Input (DB-9) and Output (DB-9)

Ethernet Network Interface

- One pluggable SFP+ module: 1/10Gb/s Base-X
- Two RJ45: 10/100/1000Base-T
- Internal L2 Switch provides Bridge capability

Serial Data Interface

- Density: 1 port, Bi-directional (RS232/422)
- Connector: DB-9

End-to-End Latency (Encode/Decode)

- H.264/AVC-I 50/100 / MPEG-2 (SDI, HD-SDI): 250ms
- H.264/AVC-I 50/100 / MPEG-2 (3G-SDI): 750ms
- JPEG 2000 Compression (ISO/IEC 15444, TR-01): < 2 frames
- Uncompressed (SMPTE2022-6): < 2 lines

VBI Ancillary Data Services

- Closed Caption EIA 608, EIA 708
- VITC (SMPTE 12M)
- Active Format Description (AFD)
- DPI (Digital Program Insertion): SCTE35/SCTE104

Remote Management

- Built-in Web-based GUI
- SNMPv2 and v3 with Trap generation
- RADIUS Authentication

Physical Dimensions

- 1RU, ½-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)

Dual Power Supply

- 100 – 264V VAC (47 – 63Hz) < 70W

Certifications

- IPv6: Logo Ready - Core Protocols, USGv6 certification, Host
- FCC CFR47 Part15B Class A
- UL/IEC 60950-1, CE Certified

Ordering Information

17882 - VNP-400 Encoder

17883 - VNP-400 Decoder

17884 - VNP-400 Dual Encoder

17885 - VNP-400 Dual Decoder

17886 - VNP-400 Encoder / Decoder