![Delta Digital Video logo]

MODEL VPX720
2-CH H.265 VIDEO ENCODER MODULE

TECHNICAL SPECIFICATIONS

FEATURES

- Real-time video compression of HD/SD full motion imagery

- H.265 HEVC / H.264 AVC

- 3G/HD/SD-SDI or Composite Video Input Interface

- 1080p/1080i/720p/480i/576i

- Primary/Secondary Video Encoding

- Data Rates from 128Kbps to 25Mbps

- MPEG-2 TS/UDP and RTSP/RTP Protocols

- <50ms Encode Latency

- Metadata Support
  - Synchronous VANC
  - Ethernet

- MISB/STANAG Compliant

- VANC/1PPS Time Support

- IPMI Control

- Rugged OpenVPX 3U Module
  - ANSI/VITA 65.0 Aperture Pattern H Backplane
  - Ethernet Control Plane (UTP)
  - Ethernet Data Plane (FP)
  - 2x PCIe Expansion Plane (FP)
  - 3x 50/75 ohm SMPM contacts (V67.3 Block)
  - Built-in-Test (OBIT/IBIT)

- Low Power (<20W)
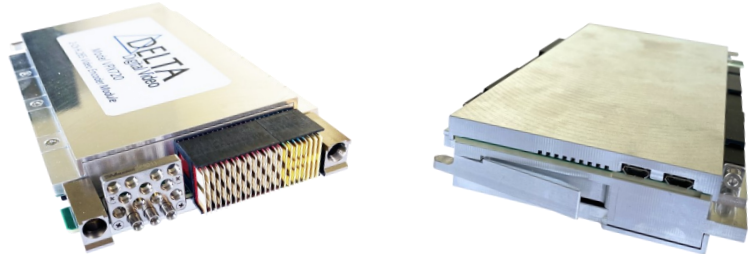
The Model VPX720 2-Channel H.265 Video Encoder Module provides real-time video compression for HD/SD video formats in a standard OpenVPX form factor.   The VPX720 is a low power, 3U module supporting SMPTE and composite video, complying with the ANSI/VITA 65 standard. Capable of processing two video channels with resolutions to 1080p, the module utilizes the H.265 (HEVC) video compression algorithm providing high quality video transmission at various resolutions and a wide range of bandwidths.

The H.265 compression algorithm utilizes highly bit-efficient coding to provide encoded streams at nearly half the bandwidth of its H.264 (AVC) predecessor. The unit is built on an advanced, low-power multimedia architecture that provides the horsepower for the computationally intensive H.265 algorithm, providing bandwidth efficiency for multi-channel applications. This increased efficiency allows for more channels to be transmitted over a given bandwidth, better quality video for constrained bandwidth applications, or lower bandwidth operation to extend the limits of ISR operation and reduce storage size requirements. A "Primary/Secondary" encoding feature enables a second, lower resolution, lower bit rate copy of each video input to be independently configured and streamed simultaneously for a maximum of four streams. The VPX720 also provides an H.264 mode to support legacy infrastructures while providing a future growth path to H.265.

Designed for integration in rugged systems and aligned with SOSA, HOST, and CMOSS standards, the VPX720 is designed to meet the rigors of MIL-STD-810 and compliant with the full motion video standards developed by the US Government's Motion Imagery Standards Board (MISB). This includes compliance with the video compression, KLV metadata, and transport stream profiles required to ensure interoperability in downstream processing, dissemination, and exploitation (PED) systems, ensuring the VPX720 meets project requirements.

VIDEO INPUT
Ports	Two
Format	SD/HD/3G-SDI (SMPTE) or Composite, 75 Ohms
Auto-detect	Format/resolution/frame rate
Contacts	50/75 ohm SMPM

VIDEO COMPRESSION
Algorithm	H.265 HEVC / H.264 AVC
Profile	MP, M10P / MP, HP
Resolutions	1080p/1080i/720p/480i/576i
Frame Rate	1-60
GOP Structure	Inter/Intra; Variable Size
Data Rate	128Kbps - 25Mbps

VIDEO OUTPUT
Ports	One
Format	SD/HD/3G-SDI (SMPTE)
Contacts	50/75 ohm SMPM

DATA PLANE
Ports	Two
Format	UTP 1000Base-KX/10GBase-KR FP 40GBase-KR

CONTROL PLANE
Ports	One
Format	UTP 1000Base-KX/10GBase-KR

EXPANSION PLANE
Ports	Two
Format	PCIe Gen 3 x8 (0:3)/(4:7)

TRANSPORT STREAM
Port	Three
Format	UTP/FP/PCIe
Ethernet Protocol	MPEG-2 TS or RTSP/RTP
Routing	Unicast or Multicast

METADATA INTERFACE
Ports	Four
Format	SDI-VANC (2)/UDP/Data Plane/Exp Plane KLV or unformatted data

TIME INTERFACE
Ports	Three
Format	SDI-VANC (2)/1PPS

CONTROL
Ports	Two
Format	Control Plane IPMI

LATENCY
Encoder	<50ms (per channel)

ENVIRONMENTAL
Operating Temp	- 40ºC to +71
Operating Vibration	10G peak, 5-2000Hz
Operating Shock	20g, 11ms, Term-peak saw-tooth

POWER
Volts	+12V/+3.3AUX
Watts	<20W

MECHANICAL
Module	Rugged, 3U, conduction-cooled, OpenVPX (ANSI/VITA 65.0)
Slot Profile	SLT3-PAY-1F1U1S1S1U1U2F1H-14.6.11
Module Profile	V67.3 coax block

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