XVTEC

XVC-SDI/HDMI

Ultra-Low-Latency HD H.264 Encoder Featuring Enhanced Video Processing.

Key Features

- **1080p60 (or dual 1080p30) high Quality Video Over IP**
- **Ultra low end to end latency sub 100ms (Encoder side less then 40ms)**
- **3D-NR and De-interlacing support**
- **Strict CBR and error concealment mode for wireless transmission**
- **H.264 , Base line, High and Main profile**
- **Dual 3G-SDI/HDMI**
- **Gigabit Ethernet, uSD, USB 2.0 and eSATA connectivity**
- **RTP/RTSP,, MP2TS* streaming protocols**
- **Operating temperature: Std version 0 to +50C , Industrial version -25 to +75C**

Low Latency. The XVC encodes HD video in less than 40ms making it an excellent choice for critical application such as automated robots, UAV\UGV and video tracking systems.

Advance pre-processing. The XVC supports static (Camera on a pole) and dynamic (Camera on a vehicle) Electronic Image Stabilization to reduce image vibrations and bitrates. For noisy video the XVC support 2D and 3D noise filtering which dramatically improves video quality.

Data link robustness. The XVC encoder has built in features to address errors in unreliable data links. In addition XVC supports strict CBR mode. In this mode the XVC will maintain strict constant bit rate within the limits specified.

Multiple video streams. The XVC produces multiple streams for every video source with different spatial and temporal parameters configurable in real time. A typical use case is a live stream transmitted at a low bit rate and a high quality stream recorded to a storage device.

Compact, Efficient, Rugged. XVC is an industrial grade encoder featuring extremely low power consumption, no moving parts, operating at extreme temperatures, in a compact hardened solid enclosure, designed to meet MIL STD810F .

Applications

- Harsh environment A/V surveillance
- Untended vehicles
- Defense
- HLS and Safe City
- Mission critical video monitoring

Technical Specification

Video parameters

HD Video input (SDI/HDMI dependent on product model)

- **XVC-SDI** : 3G SDI, RG-6 , 75 Ohm ,Operation at 2.97Gb/s,2.97/1.001Gb/s, 1.485Gb/s, 1.485/1.001Gb/s,270Mb/s

- **XVC-HDMI**: HDMI 1.4a Type A, HDTV formats up to 1080p, and all display resolutions up to UXGA (1600 × 1200 @60)

Video Output

- HDMI Type A
- Composite video (RCA or two pin connector)

Video Processing

- De-interlacer support
- Advanced noise filter support
- Electronic Image Stabilization support*

Video Codec

Codec features

- ISO/IEC14496-10 (H.264/AVC) , Base line, High and main profiles.
- All parameters can be modified dynamically
- Configurable GOP size, FPS, BPS
- Supports force IDR
- Supports IDR frequency
- Multi ROI encoding
- Supports multiple slices per picture
- Supports progressive and field based interlaced
- Supports 8x8 and 4x4 transform size
- Bitrates: From 64Kbps to 30Mbps
- Advance error resilient features for wireless transmission

Input Resolution:

- 1920x1080p 60/59.94/50/30/29.97/25 Hz
- 1920x1080i 60/59.94/50 Hz
- 1280x720p 60/59.94/50/30/29.97/25 Hz

Output resolution:

- Arbitrary resolution from 96x80 to 2048x2048

Performance

- Up to a single 1080p60 or up to dual 1080p30
- Frame rate: Configurable from full frame rate down to 1 fps

Audio parameters

Audio Inputs

- 3G-SDI embedded audio stereo (SMPTE 272M-C and SMPTE 299M)
- HDMI embedded audio stereo

Compression:	AAC-LC
Sample rate:	16-48Khz
Bitrates:	16-300Kbps

Communication

Ethernet

- RJ45, 10/100/1000 Base-T, auto-detect

Network protocols:

- RTP/RTSP (unicast/multicast)
- MP2-TS over UDP*
- RTP streaming (uni-cast, multi-cast)
- Other: HTTP,IGMP V1/V2, Telnet client and DHCP client

Serial ports

- RS-232
- RS-485 full duplex

Encoder Control

- TCP based control API
- F/W upgradable

External Storage

- SD/MMC
- USB

Physical/ Environmental

Dimension (LxWxH)	**80x134x30[mm]**
Weight	**320g**
Operational temperature	**[-40 - +70] °C**
Humidity	**Up to 95% non condensing**
DC Voltage	**9-15V**
Operating temperature	**Std version: 0 to 50 °C** **Industrial version: -25 to +75 °C**
Power Consumption Approx.	**Max: 10W**

(*) - Planned for future releases