

# QVidium® Professional Video Codec

## QVPRO H.264 IP Video Codec

QVidium® QVPRO Codecs provide reliable, high-performance solutions to coding and transport of SD and HD video and audio signals for broadcast applications.

Advanced H.264 High Profile compression, coupled with QVidium's patented Video Transport and Error correction, maintains broadcast quality video distribution over nearly any IP network, including wireless networks and the Internet.



The QVPRO is part of the QVidium® professional line of advanced video codecs; a line of compact, powerful and cost-effective products designed for real-time encoding, decoding and transcoding for Content Gathering, Monitoring, and Distribution of broadcast quality video over IP networks.

QVidium's advanced video transport couples broadcast and networking standards with patented error correction to take advantage of the inherent flexibility of IP and the Internet, providing broadcasters an efficient, affordable and scalable solution for professional quality video distribution quality over nearly any IP network.

The QVPRO provides H.264 High Profile video compression, up to **1080p50/60**, along with support for up to 4 audio channels, multicasting and multi-unicasting, and closed captioning to allow cost-effective audio/video broadcast and IPTV solutions.



### Applications

- Professional broadcast video distribution
- Live Event / Electronic News Gathering
- Confidence monitoring
- Video conferencing
- IPTV systems

### Key Features

- **Real-time HD Video Encoding & Decoding**
  - MPEG-4 AVC / H.264 High, Main and Baseline
    - ▶ Only 1.5 to 6 Mbps required for HD Encoding
    - ▶ Supports CBR & VBR bitrates up to 30 Mbps
    - ▶ Up to level 4.1
  - MPEG-2 Main Profile
  - Up to 4 audio channels (2 stereo pairs)
  - Video formats up to **1080p50/60**, PAL & NTSC
  - IP or ASI encoded audio/video input and output
  - Full-Duplex HD or SD Encoding & Decoding
  - Up & Down Scaling and frame rate conversion
  - Dual encoding from same input
- **Real-time High Quality Transcoding**
  - DVB-ASI or Ethernet, input or output
  - Up & Down Scaling and frame rate conversion
- **Robust transmission of Video & Audio**
  - Patented QVidium® ARQ error correction
  - Industry standard ProMPEG FEC
  - MPEG Transport Stream
- **Compact, cost-effective solutions**
  - Complete transmitter / receiver ½ width - 1RU
  - User configurable as transmitter and receiver
- **User-friendly configuration and control**
  - WEB-based remote configuration & control
  - SNMP Trap support for NMS systems

## QVPRO H.264/MPEG2 IP Video Codec

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### Specification

#### Video/Audio Interfaces

Input: 1x 3GSDI / HDSDI / SDI / ASI (SMPTE 425M (A&B), 424M, 292M, 259M, ASI), 1x HDMI (1080i & 720p only)  
Output: 1x 3GSDI / HDSDI / SDI / ASI (SMPTE 425M(A&B), 424M, 292M, 259M, ASI), 1x HDMI (1080i/p, 720p, 480i & 576i)  
Connectors: 2 Female BNC (SDI/DVB-ASI), 2 HDMI

#### Video Encoding & Transcoding (HD & SD)

Video Encoding: MPEG4-AVC (H.264)  
    ▶ High Profile, up to Level 4.1  
    ▶ High, Main, and Baseline Profiles  
MPEG-2 Main Profile  
Constant bit rate or Variable bit rate  
Bit rate: 128 Kbps to 30 Mbps  
Transcoding: H.264 ↔ MPEG-2, H.264 ↔ H.264  
Constant bit rate or Variable bit rate  
Closed Captioning: EIA-608 (SD Encoding-only)  
Full-Duplex: Bidirectional, simultaneous HD or SD  
Operation: encoding and decoding

#### Audio Encoding / Decoding / Transcoding

Audio Encoding: MPEG-1 Layer2, MPEG-2 & MPEG-4 AAC  
Sample rate: 32, 44.1, & 48 KHz  
Bit rate: 16 Kbps (mono) to 384 Kbps (stereo)  
Audio Channels: Up to 4 mono-audio channels (2 stereo pairs)\*, MPEG1Layer2↔MPEG4AAC  
Transcoding: AC3 Pass-through

#### IP Encapsulation

IP Encapsulation: MPEG-2 Transport Stream over RTP/UDP/IP or UDP/IP  
IP Bitrate: 160 Kbps to 30 Mbps, 15Mbps w/ARQ  
Error Correction: QVidium® ARQ (feedback-based)  
US Patents: 7551647 & 7522528  
ProMPEG FEC COP 3.2 (SMPTE 2022)

#### Video Resolutions

SD Video 625 lines, 25 frames/s (576i)  
525 lines, 29.97 frames/s (480i)  
HD Video 1080p60/50/30/25/24, 1080i60/50 and 720p60/50

#### Storage & Network Interfaces

Networking ports: 10/100/1000 Base-TX Gigabit Ethernet  
Protocols: IEEE802.3 Ethernet  
RTP, IPv4, TCP/UDP, IGMP v3  
Connectors: 2 RJ45  
External storage: Flash & Hard drives via 2 USB connectors

#### Control and Management

Type: 10/100/1000 Base-T Gigabit Ethernet  
Features: Element control through HTTP/WEB.  
SNMP traps for integration with Network Management System (NMS)  
Protocol: HTTP, SNMP v2 traps  
Connector: RJ45  
USB Ports: 2  
Maintenance Port: Two RS232 9 pin D-SUB

#### Physical and Power

Input Voltages: 120-240VAC, 50-60Hz or 7-20 VDC  
Input Currents: 150-75 mA for AC or 3.0-1.0 A for DC  
Input Power: 18W  
DC Connector: 2.5mm I.D. x 5.5mm O.D. x 9.5mm Female  
Chassis: 209 x 182 x 44 mm (WxDxH)  
Two units in 19" 1RU rack space  
Installation: 19" 1 RU rack mounting kit

#### Environmental Conditions

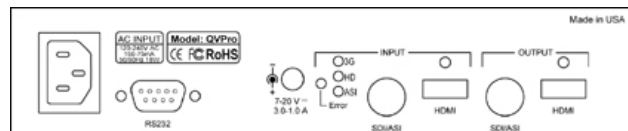
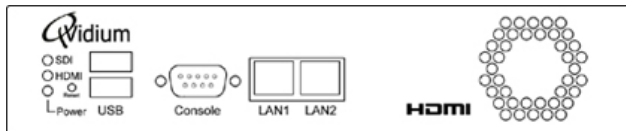
Operating Temperature: 0°C - +55°C  
Storage Temperature: -20°C - +70°C  
Relative Humidity: 5% to 95%(non condensing)

#### Compliance

CE: 73/23/EEC (Low voltage equipment)  
89/336/EEC (Electromagnetic compatibility)  
Safety: IEC60950 and EN60950  
EMC: EN55022, EN55024, EN6100-3-2

**\* Currently, 1 stereo-pair, second audio pair available soon**

### Front & Rear Connection Diagrams



### Ordering Information

**Model #: QVPRO** (options: **QVPRO-1080p** for 1080p, **QVPRO-1080i** for 1080i/720p, **QVPRO-BiDir** for Codec)

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