

QVPRO - Professional Video Codec

3G/SD/HD-SDI, HDMI, ASI, IP inputs/outputs

H.264 & MPEG-2 Video Codec - Encoder/Decoder/Transcoder



AdvancedDigital Inc.

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 QVPRO'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 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.

QVPRO'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 **1080/60p**, along with support for up to 8 audio channels, AC3 pass-through, 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 8 audio channels and AC3 Pass-through
 - Video formats up to **1080/60p**, PAL & NTSC
 - IP or ASI encoded audio/video input and output
 - Full support for Closed Captioning & Tele-text
 - Up & Down Scaling and frame rate conversion
- Dual encoding up to 1080i from same input.
 - Can stream to two locations
- Bi-directional simultaneous encode and decode (optional)
- 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-2 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

AdvancedDigital reserves the right to modify these specifications without prior notice.

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Specification

Video/Audio Interfaces

Input: 1x 3GSDI / HDSDDI / SDI / ASI (SMPTE 425M (A&B), 424M, 292M, 259M, DVB-ASI),
1x HDMI (1080i/p & 720p)
Output: 1x 3GSDI / HDSDDI / SDI / ASI (SMPTE 425M (A&B), 424M, 292M, 259M, DVB-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
MPEG-2 ↔ H.264
H.264 ↔ H.264, adjustable bit rate
Constant bit rate or Variable bit rate
Closed Captioning: EIA 608 and EIA 708*, HD & SD

Audio Encoding / Decoding / Transcoding

Audio Encoding: MPEG-1 Layer2, MPEG-2 & MPEG-4 AAC
AC3 Pass-through on SDI*
Sample rate: 32, 44.1, & 48 KHz
Bit rate: 16 Kbps (mono) to 384 Kbps (stereo)
Audio Channels: 1 mono, 1 stereo pair, 2 stereo pair,
4 stereo decode
Transcoding: MPEG1Layer2↔MPEG4AAC
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, 15 Mbps with 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, 720p60/50
(optional)

External Storage

Devices: USB Hard drives via 2 USB connectors

Network Interfaces

Type: 10/100/1000 Base-TX Gigabit Ethernet
Protocols: IEEE802.3 Ethernet
RTP, IPv4, TCP/UDP, IGMP v3
Connectors: 2 RJ45

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

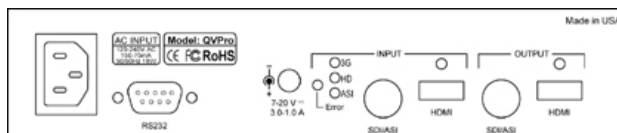
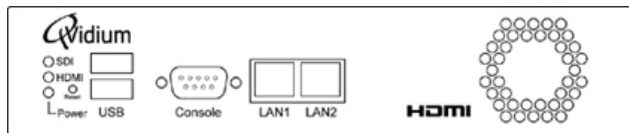
Operating Temperature: 0°C - +55°C
Storage Temperature: -20°C - +70°C
Relative Humidity: 5% to 95%(non condensing)

Compliance

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

* Currently not available

Front & Rear Connection Diagrams



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Ordering Information

Model #: QVPRO - SD H.264 and MPEG-2 Encoder/Decoder/Transcoder

Options: Opt-1080i - HD H.264 and MPEG-2 Encoding/Decoding/Transcoding - 720p, 1080i
Opt-1080p - HD H.264 and MPEG-2 Encoding/Decoding/Transcoding - 720p, 1080i, 1080p
Opt-BiDir - Bi-directional simultaneous encode and decode

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