



## H.264 ENCODING APPLIANCE

Organizations can now stream video in a wide range of quality - from mobile to HD - over any network infrastructure and to any endpoint type. VBrick's H.264 appliances continue the heritage of delivering superior customer experiences at any given bandwidth while also enabling ubiquitous video play-out to desktops, fixed screens, and mobile devices.

Capable of supporting both standard definition and high definition video delivery, the H.264 product family extends streaming video concurrently to endpoints connected by low bandwidth with modest screen resolution, and those capable of rendering 1080p high definition video.

**Models****BPS Class Appliances**

**BPS 7111 H** Standard Definition Industrial Encoding Appliance

**BPS 7121 H** Standard Definition Industrial Encoding Appliance with Enhanced I/O

**BPS 7112 H** Standard Definition Enterprise Encoding Appliance

**BPS 7122 H** Standard Definition Enterprise Encoding Appliance with Enhanced I/O

**XPS Class Appliances**

**XPS 7101 H** Standard Definition Industrial Encoding Appliance with MBR

**XPS 7102 H** Standard Definition Enterprise Encoding Appliance with MBR

**HPS Class Appliances**

**HPS 7101 H-HD** High Definition Industrial Encoding Appliance

**HPS 7102 H-HD** High Definition Enterprise Encoding Appliance

**Options**

**71x1 HS Industrial Models:** 160G Solid State Storage

**71x2 HS Enterprise Models:** 500G Hard Drive

**Player Support**

- Adobe Flash Player
- Windows Media® Player (via VBrick player plug-in)
- QuickTime® Player (Windows and Mac)

**Related VBrick Products**

- VEMS Standard, Professional and Enterprise Editions
- VEMS Modules: Presenter, Scheduler and Channel Guide
- VEMS NVR 10 and NVR 40
- HD Set Top Box
- VOD-W MPEG and H.264 Video On Demand Server
- 7000 Series H.264 Decoding Appliances
- H.264 Distributed Media Engine

**Applications**

**Meeting and Event Broadcasts** – Deliver high impact rich media event broadcasts. Reach a large audience of employees and others over the corporate network and Internet to project a uniform message.

**Training and Education** – Broadcast your classes and training within a campus or to distant learners while recording classes for on-demand playback.

**Television Distribution** – Deliver selected television channels, including news and financial programming, to unlimited numbers of desktops and displays across your existing LAN, WAN or IP network. No need for extra cabling or a dedicated network.

**Digital Signage** – Deploy signage economically by encoding the content once and distributing over your network to cost effective set top boxes.

**Leverage Video Conferencing Technology** – Expand the audience of a video conference by streaming to hundreds or thousands of endpoints and record for time shifted viewing.

**Features and Benefits**

**Capture High Definition Video** - Appliances encode 720p and 1080p high definition resolutions for incredible quality video at bandwidths of 1 Mb/sec and up (requires HD version). For lower bandwidth applications, video can still be delivered in standard definition.

**Transport Video Over a Wide Variety of Network Transport Protocols** - Video streams from the H.264 encoding appliance are compatible with Adobe Flash Player, Microsoft Windows Media Player, Apple QuickTime and other players. Network friendly operation allows VBrick H.264 streams to tunnel through firewalls and traverse any network, including the Internet, WAN links, corporate LANs with or without multicast support.

**Encode at Multiple Bitrates and Resolutions Simultaneously** - With Multiple Bit Rate (MBR) encoding stream simultaneously over the Internet, WAN links, and the LAN with quality optimized for each network.

**Archive Video** - By connecting external storage to the appliance's USB port or using optional internal storage, video is archived as well as streamed. Capture high quality video directly at the appliance without being subject to network drops or outages. Record high quality video locally at the appliance while streaming at a lower rate over low bandwidth connections. With integrated solid state storage (available on industrial models), record video under challenging environmental conditions.

**Features and Benefits**

**Multicast, Unicast, and Serve from the Same Device** - Reach an unlimited number of users on your LAN with multicast. Push video over point-to-point unicast connections to reach remote locations and CDNs. Serve hundreds of players that request video directly from the appliance. Support all these streaming methods simultaneously from a single appliance.

**Manage the Appliance Easily and Securely** - With a rich set of management protocols and options to lock down the device, the H.264 encoding appliance integrates into any IT infrastructure. Use the integrated management web pages, front panel, or command line interface over telnet, ssh, or serial port to configure the appliance. Manage programmatically and integrate into other systems such as room control and touch panel devices over SOAP/XML web services, http, https, telnet, ssh, serial connections, or SNMP.

**Integrate into a Complete Enterprise IP Video Platform** - VBrick's H.264 appliance works seamlessly with the VBrick Enterprise Media System (VEMS) for capture and delivery of presentations, reporting on video viewing usage, broadcast television, managed delivery across distributed networks, access control, network recording, and more.

**Specifications****Video Encoder (Standard Definition)**

- H.264 Encoding
- Input format: NTSC, PAL
- 4:3 Aspect Ratio Resolutions: D1 (720x480, 720x576), SIF (NTSC), QSIF (NTSC), CIF (PAL), QCIF (PAL), 400x304, 384x288 (PAL), 640x480, 320x240, 128x96, 192x144
- 16:9 Aspect Ratio Resolutions: 656x368, 512x288 (PAL), 256x144
- Video Frame Rates: 0.5, 1, 2, 3, 5, 6, 7.5, 10, 15, 30 fps (NTSC) 0.5, 1, 2.5, 5, 12.5, 25 (PAL)
- Closed Captioning
- Constant Bit Rate / Constant Frame Rate
- User-defined key frame interval
- Rates: 32Kbps – 20Mbps
- Inputs: Composite, S-Video, SDI, component video, and HDMI available on Enhanced I/O models.
- Rate control
- Deblocking filter
- Baseline profile

**Video Encoder (High Definition)**

- H.264 Encoding
- High Definition input formats: 480i, 480p, 576i, 576p, 720p, 1080i, 1080p
- 16:9 Aspect Ratio Resolutions: All standard definition resolutions listed above, plus 960 x 544, 720p (1280 x 720p), 1080p (1920 x 1080)
- Video Frame Rates: 0.5, 1, 2, 3, 5, 6, 7.5, 10, 15, 30 fps (NTSC), 60 fps (720p and below), 0.5, 1, 2.5, 5, 12.5, 25 (PAL), 50 fps (720p and below)
- Constant Bit Rate / Constant Frame Rate
- Closed Captioning (HD-SDI only)
- User-defined key frame interval
- Rates: 32Kbps – 20Mbps
- Inputs: 3G-SDI, HD-SDI, HDMI™, and Component
- Rate control
- Deblocking filter
- Baseline profile

**Audio Encoder**

- AAC-LC and AAC-HE Encoding
- Sample Frequency 8 Khz to 48 Khz
- Rates: 8 Kbps to 256 Kbps
- Audio Modes: Stereo, Mono
- Inputs: Unbalanced, balanced, and microphone via Minijack. Audio inputs can also come through the HDMI, HD-SDI, or SDI inputs (HDMI and SDI inputs available on High Definition models)

**Push**

- RTMP to Flash Media Server
- Multiple concurrent unicast and multicast destinations
- Automatic Unicast/RTSP Announce

**Storage**

- 160G Internal Solid State storage on Industrial HS models
- 500G Internal Hard Drive on Enterprise HS models
- External Storage over USB
- Archiver: record encoded stream to internal or external storage

**MBR Encoding (XPS and HPS class only)**

- Up to 3 simultaneous rates

**KLV Metadata**

- ESD in line 21 passed through as CC
- ESD in line 21 converted to LDS and multiplexed into transport stream
- LDS received over the serial port, IP, or SDI and multiplexed into transport stream
- CoT over serial port or IP converted to LDS and multiplexed into transport stream

**Server**

- Live multicast server
- Live streaming server - up to 200 concurrent live streams

**Ethernet Network**

- 10/100/1000 Mbps Ethernet via RJ-45, Static, or DHCP
- Auto sense Full / Half duplex

**Traffic Shaping**

- RTP Metering
- CBR Transport Stream
- VBR Transport Stream with configurable latency

**Protocols**

- Unicast / Multicast, DiffServ (QoS), UDP / IPv4 and IPv6 / RTSP / RTCP / RTP / HTTP / RTSP Interleave / IGMP / MPEG2 Transport Stream / Automatic Unicast (RTSP ANNOUNCE) / HTTPS Management / SSH / RTMP

**Maintenance/Control Port**

- Serial port for local maintenance or data transport

**Dimensions**

- 71x1 Models:  
W 7.8" x H 1.75" x D 9.2" (W 19.8cm x H 4.5cm x D 23.4cm)
- 71x2 Models:  
W 8.1" x H 3.0" x D 9.5" (W 20.6cm x H 7.6cm x D 24.1cm)

**Weight**

- Approximately 1.5 – 3 lbs depending on model

**Temperature Range**

- Operating: 0° to +70° Celsius

**Power**

- Input: 100 to 240 VAC, 50 / 60 Hz, 45 Watts, 12V DC, 4A

**Regulatory**

- FCC Part 15, UL, CE

**LCD**

- 80 Character display (20x4), backlight

**LED Status**

- Power In (12VDC)

