

Enterprise IP Video Platform

VBrick extends the capabilities its H.264 technology by providing an 11 slot rack mount shelf. The rack mount shelf is a redundant system. Any power supply or fan failure does not affect system operation. Modules can be swapped while the system is running to maintain non-stop performance. A variety of blade options provide flexibility for different I/O and video resolutions. With a compact design and all I/O accessible from the front, cable management is simplified and enclosures can be mounted back-to-back for very high density.



Capabilities

High Definition Video – For the first time, the new appliances support 720p and 1080p (with future firmware upgrade) high definition video resolutions for incredible quality video at bandwidths of 1 Mb/sec and up (requires HD version)

Standard Definition Video – For lower bandwidth applications, video can still be delivered in standard definition with resolutions up to D1

Encoding – Digitizes and compresses a video signal for delivery over an IP network in the H.264 video format

Multicasting – Multicast a live video directly from the appliance

Serving – Serve live unicast streams via RTSP

Field Replaceable Power Supplies, Fan Trays, Filter Media, and Encoder Blades – Redundant components provide fault tolerance for continuous operation even after individual module hardware failures

All Field Replaceable Modules are Hot Swappable – No system downtime when any individual module needs to be replaced

Fully Redundant Load Sharing Power Supplies – System is fully operational when running off a single power supply and shares the load when redundant supplies are present and functioning

Redundant Cooling – Cooling capacity exceeds required heat dissipation after any individual fan failure

Alarming – Front panel alarm indications after the failure of any power supply or fan

Cable Management – Efficient routing of power, network, serial, and audio/video cables

Benefits

- Vastly improved quality for any given bit rate
- End-to-end solution when combined with VBrick's VEMS solution
- Easy to configure and use - streaming in a matter of minutes
- Clean mounting in server room environments
- Clean power provisioning with one or two (for redundancy) power feeds per shelf
- Cost-effective implementation in installations with high channel count
- Scalability: Purchase blades you need now, economically add more as your system grows

Models

BPS 8113 H – Standard Definition Blade

BPS 8113 HS – Standard Definition Blade with Solid State Storage

BPS 8123 H – Standard Definition Blade with Enhanced I/O

BPS 8123 HS – Standard Definition Blade with Enhanced I/O and Solid State Storage

XPS 8103 H – MBR-Ready Standard Definition Blade

XPS 8103 HS – MBR-Ready Standard Definition Blade with Solid State Storage

HPS 8103 H-HD – High Definition Blade

HPS 8103 HS-HD – High Definition Blade with Solid State Storage

Compatibility

- Windows Media® Player (via VBrick player plug-in)
- QuickTime Player (Windows and Mac)
- IGMP v3
- SNMP v3

Interoperability

- VEMS Standard Edition
- VEMS Professional Edition
- VEMS Enterprise Edition
- VEMS Scheduler
- VEMS Channel Guide
- VEMS NVR 10 and NVR 40
- HD Set Top Box
- VBrick VOD-W MPEG and H.264 Video On Demand Server
- H.264 Decoders

Features and Specifications

RACK MOUNT SHELF

- Height: 14" 8 rack units
- Depth: 11"/Allows for two rack mount shelves mounted back-to-back
- Weight: 46.7 pounds fully loaded
- Maximum Channel Density: 22 encode channels in 8U of rack space with back to back shelf mounting
- Operating Temperature Range: 0 to 40C
- Storage Temperature Range: -20 to 70C
- Regulatory Compliance UL: FCC Part 15 Class A, CE, RoHS (5 of 6)
- Cooling Capacity: 50W per blade with one failed fan
- Hot Swap:
 - Power Supplies
 - FanTray
 - Encoder Blades
 - Air Filter Media
- AC Power: 485 watts per power supply, max draw 8 Amps at 115VAC
- Grounding:
 - ESD wrist strap included with ground connection to chassis for user blade insertion/removal
 - Chassis ground connection lug
- LEDs:
 - Power Supply Failure LED (for each supply and for enclosure)
 - Fan Status LED
 - FanTray Hot Swap LED
- Audible Alarm on Power Supply Failure

BPS and XPS Class Blades

- 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: 32 Kbps - 10 Mbps
- Inputs: Composite, S-Video, SDI, component video, and HDMI available on Enhanced I/O models.
- Rate control
- Deblocking filter
- Main profile
- Baseline profile
- XPS class blade upgradable to support multiple bit rates (MBR)

HPS Class Blade

- H.264 Encoding (to 720p for HD, 480p/576p for HD-Ready)
- High Definition Input Formats: 480i, 480p, 576i, 576p, 720p, 1080i, 1080p
- 16:9 Aspect Ratio Resolutions: All standard definition resolutions listed above, plus 480i/p (720x480), 576i/p (720x576), 720p (1280 x 720)
- 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)
- Constant Bit Rate / Constant Frame Rate
- User-Defined Key Frame Interval
- Rates: 32 Kbps - 10 Mbps
- Inputs: 3G-SDI, HD-SDI, HDMI™ and Component
- Rate Control
- Deblocking Filter
- Baseline Profile
- HD-Ready Blade Upgradable to HD

All H.264 Blades

- 1x8 character LCD display with Alarm Indication
- 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 and SDI inputs (HDMI and SDI inputs available on High Definition models)
- 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 and multiplexed into transport stream
- Push
 - Multiple concurrent unicast and multicast destinations
 - Automatic Unicast/RTSP Announce
- 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 / IP / RTSP / RTCP / RTP / HTTP / RTSP Interleave / IGMP / MPEG2 Transport Stream / Automatic Unicast (RTSP ANNOUNCE) / HTTPS management / SSH
- Maintenance/Control Port
 - Serial port for local maintenance or data transport
- Storage (functional with upgrade to firmware release 3.0)
 - 1 USB port for external storage
 - 16G internal solid state storage on HS blades