MPEG-2 Codecs

DVD Quality Video, Audio, and Data Networking

The VBrick™ 4000, 5000, 6000 series of video/audio products are broadcast quality MPEG-2 networked appliances that deliver one-way or two-way television over digital networks. These VBrick appliances are compact and rugged encoders and decoders that accept standard NTSC/PAL video and audio, compress the video in real time, transmit the digital signal over an IP or ATM network, and decode and display the video.

Applications

- Interactive videoconferencing over IP or ATM networks
- Distance learning and training
- High resolution surveillance & process monitoring
- Telemedicine — provide up-to-date medical information to doctors and patient rooms
- Broadcast DVD quality video/audio over digital networks

Product Features

- Full motion, high resolution DVD quality video and audio
- NTSC, PAL, composite & S-video inputs
- IP unicast or multicast for streaming applications
- SDI input and output for digital transport end to end (optional)
- Web server configuration and management
- Web browser data collaboration
- Low delay for interactive conferencing
- Utilizes Layer III QoS — Diff Serv for prioritizing video over IP networks
- 1 to 15 Mbps configurable video encoding rates
- IR port for program guide and video conference operation
- Modular design — mix and match between MPEG-2 and MPEG-4 devices
- End-to-end camera control for pan, tilt & zoom
- High reliability — not based on PC architecture
- LCD panel for status and information
- Picture-in-Picture (PIP) for self-view
- Closed captioning with text insertion capability
- Recorded content FTP to multiple servers
- Out of order packet handling
- Optional hard drive (VBSTAR)

Models

- Single channel MPEG-2 encoder (9110-4200)
- Single channel MPEG-2 decoder (9110-5200)
- Dual channel MPEG-2 encoder (9110-4300)
- Dual channel MPEG-2 decoder (9110-5300)
- Dual channel MPEG-2/4 encoder (9130-4300)
- Dual channel MPEG-2 decoder/MPEG-4 encoder for transcoding (9130-6200)
- MPEG-2 encoder/decoder (9110-6200)
- Dual channel MPEG-2 to MPEG-4 decoder (9130-5300)

Network Interfaces

- 10/100 Ethernet (standard)
- ATM155M OC-3 (optional)
- ATM Dual 155M OC-3 (optional)
- SDI Input (Optional)
- SDI Output (Optional)

Interoperability

- EtherneTV MCS — unified portal providing PC and set top box access to live and on-demand content
- EtherneTV-NXG — Video-on-Demand server captures MPEG-2 streams for future playback
- EtherneTV-STB — decode MPEG-2 streams from low cost set top boxes
- VBScheduler — schedule streaming & interactive sessions
- VBSUS — control DVD & VCRs through centralized management
- StreamPlayer & StreamPlayer Plus — software decoder for desktop PCs
- VBXcast — MPEG-4 encoder support
## System Requirements

### Video Encoder

MPEG-2 ISO/13818-1, -2, -3  
Main Level, Main Profile 4:2:0, SP@ML and MP@ML  
Adjustable Intrapicture and reference distance (GOP)  
NTSC 29.97 fps, 525 lines  
PAL 25 fps, 625 lines, PAL-M 30 fps, 525 lines  
Video encoding 1 Mbps to 15 Mbps  
Inputs: Composite, S-Video, SDI (optional, must be ordered separately)  
Closed Caption, Line 21 Passthrough  
Adjustable PID selection

### Audio Encoder

MPEG-1 Layer II ISO/13818-3  
Stereo 48K Sample Rate, 256K, 384K Data Rate  
Balanced or Unbalanced Inputs via mini-jacks

### Video Decoder

MPEG-2 ISO/13818-3  
Main Level, Main Profile/Simple Profile, 4:2:0 and 4:2:2  
Up to 20 Mbps, auto-detecting  
Outputs: Composite, S-Video, SDI (optional, must be ordered separately)  
Adjustable PID selection

### Audio Decoder

MPEG-1 Layer II ISO/13818-3  
MPEG-2 Layer I, Layer II  
Balanced or Unbalanced Outputs via mini-jacks

### Ethernet Network

10/100 Mbps Ethernet via RJ-45, Static or DHCP  
Auto sense full/half duplex, UDP, Unicast/Multicast, Diff Serv (QoS)  
Integral Routing - Static, RIP1, RIP2

### ATM Network (optional)

RFC 1483  
H 222.1 - MPEG/ATM  
Interface - Fiber: 155M via LC connectors for multimode/single mode fiber (OC3c)  
Dual OC3 with VPI/VCI passthrough (switching)  
ATM UNI: UNI 3.0/3.1, PVC, SVC, AAL5, IPOA, Traffic shaping, UBR & CBR traffic contracts  
PVC/SVC: User Configurable VPI = 0, VCI = 0 to 31, reserved, 32 to 511 user defined  
Tx and Rx VC may be set independently

### Maintenance Port

Serial port for local maintenance or data transport

### Control Port

Serial port for data transport

### Hard Drive (Optional)

60 Gbyte storage for recording and streaming (VBSTAR option)

### IR Remote Control

IR Remote Control for local control and configuration

### Size

5.8 cm (2.3 inches) High  
22.2 cm (8.75 inches) Wide  
31.7 cm (12.5 inches) Deep

### Weight

Approx. 3.2 Kg (7 lbs)

### Temperature Range

0 degrees to +70 degrees Celsius (with VBSTAR: 0 degrees to +45 degrees Celsius) operating humidity up to 90% non-condensing*

### Power Supply

Input: 100 to 240 VAC, 50/60 Hz, approx. 55 Watts  
Output: +24V up to 3.0A

### Regulatory

FCC Part 15, UL, CE

### Relay

Dry contact, /@mOhms, 2A @ 30VDC, .3A @ 110VDC, .5A @ 125VDC

### LCD

32 Character display (16x2), backlit

*High temperature operation has some dependencies, please contact VBrick.