**Features**

- Supports both HD and SD H.264/MPEG-4 AVC encoding up to 1080p
- Low latency – one half second
- Inputs: HDMI or CVBS (one input channel at a time)
- HDMI input supports HDCP
- Outputs: Multiple simultaneous IP streams through GigE port (RJ45)
- IP output protocols: UDP, RTP, HTTP, RTMP, or RTSP
- Encoding bit rates: 0.8 to 12 Mbps at high profile
- Ships with IP to Wi-Fi adapter
- Multi rate, multi protocol support: Transport stream outputs can use different network protocols for transmission
- Able to upconvert incoming SD streams to HD
- Supports H.264 High Profile @ Level 4.0 (HP@L4)
- Supports 1080i, 1080p, 720p, 480i
- Audio Output: AAC, MP3
- Mono audio output and stereo stream switching
- Supports GOP frame rate settings
- Video pre-processing: De-interlacing, Noise reduction, Sharpening
- Supports VBR or CBR
- Tested to work with industry standard decoders
- Web-based GUI
- Low power consumption – 5 watts
- Companion decoder available – Spark-D™ IP/HDMI

**Overview**

The Spark-E™ HDMI/IP is a compact, cost effective, rugged, single channel H.264 encoder and live streamer designed for encoding analog or HDMI input from cameras, HDMI input from computers, or video content from analog sources. It encodes this content to multiple H.264 standard streams and outputs them to an IP network. Resulting streams can be viewed with standard transport stream compatible set-top boxes or software clients such as VideoLAN VLC or JW Player.

The Spark-E HDMI/IP provides for choices for resolutions, protocols, wrappers, and containers. A built-in scaler upconverts incoming SD streams to HD.

This compact unit weighs just over half a pound, making it ideal for field production and streaming. A companion decoder, the Spark-D IP/HDMI, is available.

**Applications**

- Digital Signage from computer with HDMI out
- Streaming video to CDNs and web sites like Ustream®, Akamai®, Octoshape™, Verizon®, etc.
- Live streaming at Religious Services, Festivals, Fairs, Lectures, Weddings, Funerals, via Wowza®, etc.
- Occasional Live streaming by Broadcasters
- Backhaul/Monitoring for Broadcasters
- Digital News Gathering
- Law Enforcement (surveillance, etc.)
- Centralcast
- Telemedicine
- On Line learning
- Hotel TV systems
- Point to point video with latency of one half second

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www.dveo.com
**Inputs/Outputs**

- **IP Out**
- **Analog Audio In**
- **HDMI In**
- **LED**
- **Reset**
- **CVBS In**

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**Sample of GUIs**

**HDMI Input Setup**

**CVBS Input Setup**

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**Ordering Information**

Spark-E HDMI/IP

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**Specifications**

**Inputs**

- **Video**: One HDMI input (supports HDCP protocol)
- **One Analog Composite (CVBS) input (PAL or NTSC)**
- **Audio**: Embedded, Analog

**Video Encoding**

- **Video Compression**: H.264/AVC High Profile Level 4.0
- **Resolutions**: 1920x1080 60p, 1920x1080 60i, 640x480i, 1920x1080 50i, 1280x720 60p, 1280x720 50p
- **Encoding Bit Rates**: 0.8 ~ 12 Mbps, CBR/VBR
- **Video Pre-processing**: De-interlacing, Noise reduction, Sharpening

**Audio Encoding**

- **Audio compression**: AAC, MP3
- **Sampling rate**: Adaptive, output sample rate optional
- **Sampling accuracy**: 24-bit
- **Bit Rates**: 32K, 44.1K, 48K, 64K, 96K, 128K, 160K, 192K
- **Encoding Bit Rates**: 64 ~ 384 Kbps

**IP Output**

- **Connector**: RJ45, 1000M Ethernet interface
- **Output**: One 1080i/p stream, one 720p60 HD stream, or one 720p 50 stream
- **Output “wrappers”**: TS over IP output, UDP, RTP, HTTP, RTMP, RTSP

**Administration**

- **Access**: Web interface
- **Software upgrades**: Via IP network
- **System protocols**: HTTP, UDP, RTSP, RTMP, ONVIF

**Physical & Power**

- **Size (W x D x H)**: 5.25 x 4 x 1.625 inches (133 x 102 x 41 mm)
- **Weight**: 9.6 ounces (0.272 kg)
- **Voltage**: 12V DC
- **Power Consumption**: 5 watts
- **Operating Temp.**: 0 to 50°C
- **Conformities**: UL, FCC, CE, RoHs

**Block Diagram**

Cloud

- **Spark-D Decoder**
- **IP Set-top Box**
- **Laptop**

**ANALOG IN**

**HDMI IN**

**ANALOGVideo & Audio Source**

**Analogue Camera** or **Mac Pro with FCP and HDMI Out**

**Spark-E Encoder**

**Spark-E HDMI/IP**

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