SPARK~~E™ II: Live + Record

Versatile, Compact (5.9 Inches), High Profile, Cost Effective, Linux® Based, Portable, Single Channel H.264/AVC Encoder and Live Streaming Appliance with On Board Storage to USB Port Memory Device. Encodes Incoming 3G SDI HD-SDI, HDMI, VGA, or SD Analog (YPbPr or CVBS) Video and Audio into One H.264 Compressed IP Transport Stream with Various Resolutions and "Wrappers". Audio Output is AAC-LC. Converts Computer Output to H.264 Stream. Ideal for Streaming Live Productions and Events such as Concerts, Electronic News Gathering (ENG), Educational Webcasts, etc. to Wowza®, Adobe®, or other Streaming Appliances. Supports HLS and RTMP.

Features

- Winner of the 2016 Worship Facilities Award for Best Streaming Product
- Supports both HD and SD H.264/MPEG-4 AVC encoding
- Inputs: 3G SDI HD-SDI, HDMI, VGA, CVBS, or YPbPr (one input channel at a time)
- Input resolutions up to 1080p60
- Stores input on USB dongle
- Outputs: Single IP stream through GigE port (RJ45)
- IP output protocols: UDP, HLS, RTSP, RTMP (local and publish)
- Low latency – 495 milliseconds
- Configurable bit rate up to 10 Mbps
- Multi rate, multi protocol support: Transport stream outputs can use different network protocols for transmission
- Able to scale down incoming HD streams to SD
- Supports H.264 High Profile @ Level 4.0 (HP@L4)
- Supports 1080i, 1080p, 720p, 480i
- Audio Output: AAC-LC
- Mono or Stereo output
- Video pre-processing:
  - HDMI, DVI, DVI-A/VGA, CVBS, S-Video, YPbPr: Brightness, Contrast, Hue Saturation
  - CVBS and S-Video only: Sharpness
- Tested to work with industry standard decoders
- Web-based GUI
- Companion decoder available – Spark-D™ II

Applications

- Digital Signage from computer with HDMI or VGA 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

Overview

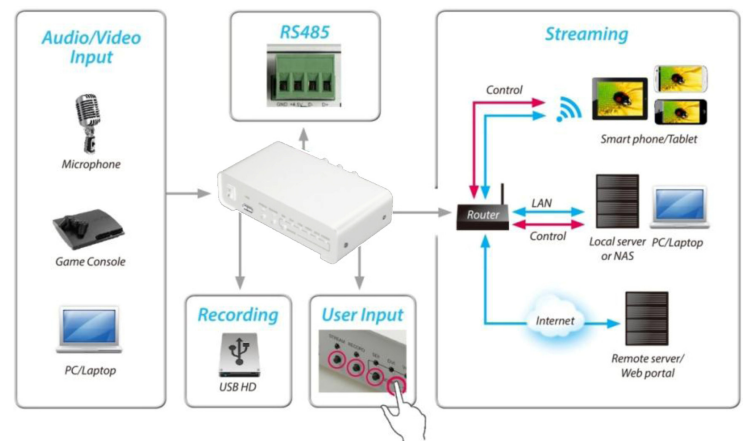The **Spark-E™ II** is a Linux® based, compact, cost effective, single channel, H.264, video streaming and recording appliance designed for streaming and storing video from live events. It is designed to stream content to a CDN or a live media server, which are the two principal ways such content is disseminated to the outside world. Thanks to compact storage, this device can store the incoming stream onto any USB device such as a "USB dongle".

We provide one of the largest numbers of input options – including 3G HD-SDI, HDMI, component, and analog. Computer outputs are accommodated via our HDMI input port. The Spark-E II supports most popular streaming protocols including HLS, RTMP, and pure TS.

Onboard storage is very useful. The recorded content is stored as H.264 transport streams. These streams can be edited later or can be transferred via file transfer to anyone, anywhere.
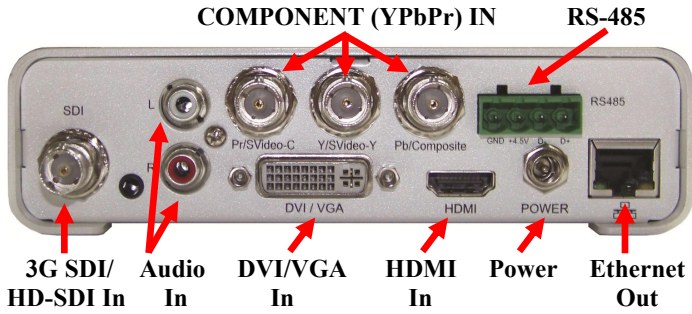
This compact unit weighs just one pound, making it ideal for field production, storing, and streaming of college lectures and religious services.
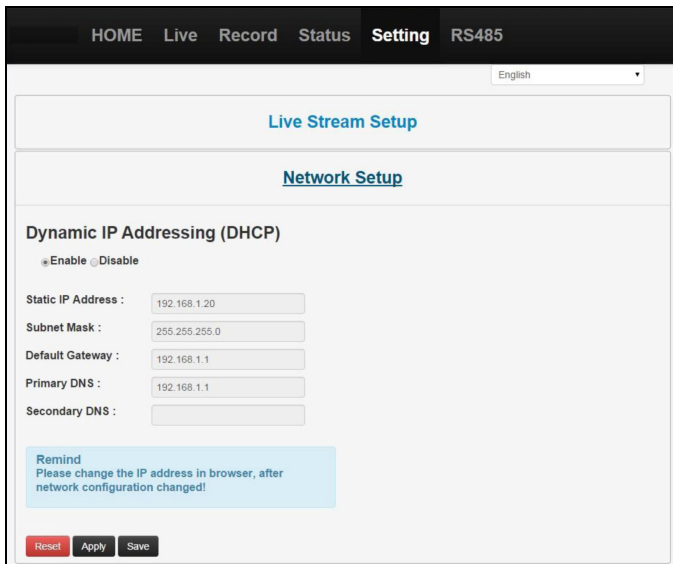
Application Example

Inputs/Outputs

COMPONENT (YPbPr) IN   RS-485

SDI   L   Pr/SVideo-C   Y/SVideo-Y   Pb/Composite   GND +4.5V D- D+   RS485

DVI / VGA   HDMI   POWER

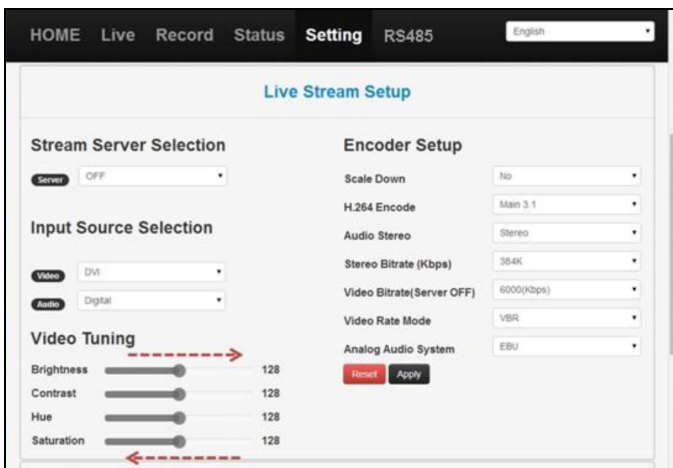**3G SDI/ HD-SDI In**   **Audio In**   **DVI/VGA In**   **HDMI In**   **Power**   **Ethernet Out**

Sample of GUIs

Network Setup

Encoder Setup

Ordering Information

Spark-E II: Live + Record
Spark-D II – Matching Decoder, DVEO Set-top box

Specifications

Inputs

Video:	One BNC 3G/HD/SD-SDI input One HDMI input One DVI-I input for DVI-D/HDMI and DVI-A/VGA One each BNC Analog input for YPbPr, Composite (CVBS), or S-Video (PAL or NTSC)

Audio"	1x Stereo audio through
	    One RCA for Analog L/R audio
	    SDI/HDMI/DVI-D embedded audio
	    One 3.5 mm phone jack

Video Encoding

Video Compression:	H.264/AVC: Main 3.0, Main 3.1, High Profile Level 4.0
Input Resolutions:	1920x1080* (p60/p50/p30/p25/i60/i50), 1440x1050 (p60),1440x900 (p60), 1360x768 (p60), 1280x1024 (p60), 1280x960 (p60), 1280x800 (p60), 1280x720 (p60), 720x576 (p50),720x480 (p60)
Output Resolutions: (Live and Storage)	1920x1080 (p30/p25/i60/i50), 1440x1050 (p30),1440x1080 (p30)1440x900 (p30), 1360x768 (p30), 1280x1024 (p30), 1280x960 (p630), 1280x800 (p30), 1280x720 (p30), 960x540 (p30),720x576 (p50),720x480 (p30),320x240 (p30) *Output includes down scaling
Streaming and Recording Bit Rates:	Configurable bit rate up to 10 Mbps Record Only: Up to 16000 Kbps Stream Only: Up to 12000 Kbps Stream On + Recording: Up to 6000 Kbps
Video Modes:	VBR, CBR
Video Pre-processing: *Not available for 3G/HD/SD-SDI	HDMI, DVI, DVI-A/VGA, CVBS, S-Video, YPbPr: Brightness, Contrast, Hue Saturation CVBS and S-Video only: Sharpness
Recording Formats:	MP4, TS
Latency:	495 milliseconds

Audio Encoding

Audio Compression:	AAC-LC
Stereo Bitrate:	Up to 384 kbps
Mono Bitrate:	Up to 192 kbps
Sampling rates:	48 KHz, 16 bit
Bit Rates:	Configurable bit rate range from 32 Kbps to 384 Kbps

IP Output

Connector:	RJ45 for 10/100 Mbps Ethernet interface
IP Address Modes:	Dynamic (DHCP) and Static (fixed)
Output:	Single HD or SD stream
Output "wrappers":	TS over TCP/UDP (unicast & multicast), HLS, RTSP over HTTP/TCP/UDP (RTSP Elementary Stream), RTMP (Local & Publish)

Administration

Access:	Web interface, RS-485
Software upgrades:	Via IP network
Storage:	One USB 2.0 port for USB storage
Signal Detection:	Automatic
LED Indicators:	Booting, Signal Locked, No Signal Input, Video Recording, Video Streaming

Physical & Power

Size (W x D x H):	5.9 x 4 x 2.625 inches (150 x 102 x 67 mm)
Weight:	1 lb. (0.454 kg)
Operating Temperature:	32 to 140° F (0~60°C)
Power:	DC 12V (With DV Adapter)
Conformities:	UL, FCC, CE, RoHS