KILOVIEW®

KILOVIEW® E1

HD/3G-SDI Video Encoder
Portable, cost-effective live streaming encoder

Product overview

KILOVIEW® E1 is a professional HD/3G-SDI H.264 video encoder. Small size and ultra-low consumption design! E1 comes in 1.485G HD-SDI, 3G-SDI input, and SDI looping out. Input SDI signal through preceding image processor for image enhancement, then encoding by SOC processor for creating H.264 video encode featured with high performance and low bit rate.

E1 supports unbind audio from SDI signal, also input audio from Analog Line-in for AAC (MPEG4-Audio) stereo audio encoding or G.711 audio encoding.

E1 allows you to manage and preview video through WEB management. Easy operation and multi-languages supported for worldwide users.

Features

High integration, portable, low consumption, high performance

E1, small size of 125mm*89mm*28mm, integrates FPGA, video co-processor and video encoding chip. It supports 10/100M self-adaptive Ethernet interface. E1 can support 1080p60 Full HD video encoding, meanwhile open up to 960x540@60Hz sub-stream encoding. Under typical case, overall power consumption is <=4W.

Low bit rate assuring nice image and quality audio

E1 adopts VLB (Very Low Bit Rate) H.264 video encoding technology, bonding with preceding video processor to do video dynamic noise reduction, image enhancement, etc.. Generally, 1Mbps@720p, 1.5Mbps@1080p can achieve good video encoding quality, which meet needs of low bit rate and quality image under internet applications.

Powerful streaming media protocols supported and full service function

E1 is built in SUNSHINE streaming media engine, fully support RTP/RTSP/RTMP/HLS/TS. Through protocols like RTMP/TS and other, it could push live video to many global live video platform/CDN. E1 itself is light-weight streaming media server, which can allow 20-50 concurrent users to access simultaneously.

E1 supports Onvif 1.1/2.0 that can be easily connected to secure safety system/NVR system.

Easy operation and professional quality.

E1 allows you to use Web interface to manage device. Using and setting is very easy. It is widely used in broadcast and TV, interactive media, medical, network education, secure safety and other fields, professional and stable.

Other features

- Supported global live video platform (tested): YouTube, UStream, Twitch and so on.;
- Supported streaming media server platform/CDN system (tested): Wowza, FMS, RED5, SRS, etc.;
- Local storage and recording based on Micro SD/TF card and/or USB Storage;
- Support image rotation, cutting, gray scale and other special image processing;
- Support character /image overlay;
- Support quick function customization based on customers' needs (Please contact salesman and factory technical support);
- Two-way voice intercom function (based on factory provided solutions or for customization according to applications requirements).

Main parameters

Interface	Video input	1*BNC SDI
	Video looping out	1*BNC SDI
	Analog audio input	1*3.5mm
	Analog audio output	1*3.5mm
	Wired network	1*RJ-45, 10/100M self-adaptive Ethernet
	USB	1*USB 2.0 Type-A 1*USB 2.0 Mini-USB
Network support	Ethernet	Support
Signal and formats	SDI signal standard	0.8Vp-p
	SDI impedance	75 Ohm
	SDI coupling way	AC
	SDI signal formats	HD-SDI(1.485Gbps) 3G-SDI(2.97Gbps)
	Supported video formats	1080p23.98/24/25/29.97/30 1080p50/59.94/60 1080i50/59.94/60 720p23.98/24/25/29.97/30 720p50/59.94/60,576i, 480i 525i(480i) / 625i(575i)
	Audio	SDI unbind audio (stereo) Analog Line-in/Line-out (stereo)
Encoding	Video encoding	H.264/AVCHigh profile (up to level 5.1), compatible with Main profile and Baseline
	Audio encoding	AAC/MPEG4-Audio, G.711(u-Law/a-Law) [other algorithm can be extended]
	Encoding delay	≤67ms
	Video encoding bitrates	256Kbps ~ 25Mbps adjustable
	Audio encoding bitrates	32Kbps ~ 512Kbps : AAC64Kbps : G.711
Transmission protocols and Management protocols	Transmission protocols	RTP / RTSP (compatible RTP over RTSP, RTSP HTTP Tunnel and RTSP Multicast) RTMP pushing, RTMP service, TS over UDP, HLS
	Private protocol	KMP (KILOVIEW Media Protocol)
	Control/management protocol	Onvif 1.1/2.0 KCP (KILOVIEW Control Protocol) WindTalk compatible with (private) protocols
	Management protocol	HTTP

Management ways	Management interface	Web
	Remote management	Support
	Online firmware updating	Support
Working environment	Power	DC 12V 1A
	Operating temperature	-4 to 140° F / -20 to 60° C
	Relative humidity	20 ~90%RH(un condensation)
	Power consumption	4W Max
Size and accessories	Size	4.9 x 3.5 x 1.125"/ 125 x 89 x 28 mm
	Weight	13.4oz / 380g
	Power adapter	External DC 12V 1A adapter

Product appearance

KILOVIEW®

KV-DC230

SDI HDMI/VGA/DVI Decoder

Professional video streaming decoder,
IP SDI/HDMI converting device

Overview

KILOVIEW® KV-DC230 is a network (IP) HD video decoder with high performance. KV-DC230 could get IP-Camera from network, stream media server or stream media from Kiloview series encoders (based on RTSP, RTP unicast or multicast), then outputs video and audio to SDI and HDMI/VGA/DVI through self-adaptive decoding. KV-DC230 supports SDI signals including SD-SDI(270M), HD-SDI (1.485G) standard and 3G-SDI (2.97G), supporting 720p, 1080i and 1080p (maximum 60Hz); HDMI output supporting up to 1080p60Hz HD video signal; VGA supporting maximum UXGA output.

KV-DC230 support decoding simultaneously 2 channels HD video up to 1080p60, with functions of self-adaptive decoding and smart control on network delay. Under typical network environment, it can control decoding delay lower or equal to 200ms. Even though low code rate decoding and about 10% network packet loss, KV-DC230 could use image enhancement and fault-tolerant technology to clearly restore encoding video and audio, no obvious distortion, smear, frame loss and mosaic phenomenon of pictures with features of actual color reproduction, clear sound and high fidelity. KV-DC230 supports H.264 encoding video with bit rate high up to 12Mbps and decoding output of AAC-LC/G.711 encoding video.

KV- DC230 has image scaling capacity, could let after-decoding video larger/smaller converting to adapt to different output video format. Audio could be embedded in SDI signal, then synchronously transmitting with video.

KV-DC230 supports ONVIF device detecting discovery. KV-DC230 provides open source SDK, supporting Windows/Linux/Unix cross-platform and programming second development to realize manage and control for equipments.

Features

- Support multi-screen or split screen output;
- SDI and HDMI/VGA/DVI output simultaneously or separately output different decoding contents;
- Gigabit Ethernet connecting, USB interface can be extended for external storage device or wireless network module;
- Enhanced SDI Cable Driver can promise SD-SDI transmitting distance longer or equal to 350 meters, while HD-SDI transmitting distance is longer or equal to 180 meters, 3G-SDI transmitting distance longer than 100 meters;
- Support SDI/HDMI various output formats like 1080p30/25, 1080i60/50,720p60/50; HDMI/VGA supporting various common VESA standard display resolution;
- Video scaling, frame rate conversion and image enhancement;
- Support RTMP, RTSP, RTP unicast/multicast medial transmission protocol;
- Input and output of analog audio could realize two-way voice intercom, analog audio with SDI and HDMI embedded audio could be transmitted synchronously;
- Decoding delay is controlled by intelligent network, lower than 200ms in typical network environment;
- Image enhancement and fault-tolerant technology, strong resisting error code capability, excellent picture quality, clear acoustic;
- Provide communication protocol for software development SDK and device management control which can integrate seamlessly with the third-party application platform;
- Simple and practical WEB management.

Panel Dimension

Parameter

Interface	
Video output	1*SD/HD/3G SDI，1*DVI-I (compatible with HDMI/DVI and VGA)
Analog audio input	1*3.5mm
Analog audio output	1*3.5mm
Network	1*RJ-45, Gigabit Ethernet Connected
USB	1*USB 2.0 Type-A
Power supply	DC 12V, 1A (Air screw connector)

Signal	
SDI Signal amplitude	0.8Vp-p
SDI impedance	75 ohm
SDI coupling type	AC
Output signal types	SD-SDI(270M),HD-SDI(1.485G),3G-SDI(2.97G)
SDI timing jitter	SD SDI: ≤ 0.15UI HD SDI: ≤ 0.8UI 3G SDI: ≤ 1.7 UI
SDI alignment jitter	SD SDI: ≤ 0.15UI (1KHz) HD SDI: ≤ 0.2UI (10KHz) 3G SDI: ≤ 0.25UI (10KHz)
SDI transmitting distance	Belden 1694A cable standard: SD SDI ≥ 350m; HD SDI ≥ 180m; 3D SDI ≥ 100m
HD-SDI Supported output formats	1080P60/59.94/50,1080P30/29.97/25/24/23.98,1080i60 /59.94/50,720P60/59.94/50,570i50 480i60
HDMI/DVI	
Compatible standard	HDMI 1.4 / DVI 1.0
HDCP encryption contents transmitting	Not support yet
HDMI/DVI Supported output formats	1080p60/50, 1080p/25/30, 1080i60/50, 720p60/50, 480p/576p
VGA	
Interface	DVI-I (through DVI-I to VGA adaptor)
Supported output formats	1080p,720p,UXGA(1600x1200),SXGA(1280x1024), XGA(1024x768)、SVGA(800x600),VGA(640x480)and compatible with other VESA formats.
Decoding	
Video decoding	H.264
Audio decoding	AAC-LC / G.711 (aLaw / uLaw)
Video bitrate range	128Kbps ~ 40Mbps
Audio birate range	AAC: 8Kbps ~ 320Kbps G.711: 64Kbps
Decoding delay	≤200ms
Transmission	
Media transmission protocols	RTP/RTSP (compatible RTP over TCP transmission mode), RTP unicast/multicast, RTMP, UDP
Controlling transmission protocols	TCP
Network management protocols	HTTP
Management	
Management interface	Web
Remote management	Support
Firmware upgrading	Support
Operation environment	
Operation Temperature	32 to 140° F / 0 to 60° C
Relative Humidity	20 ~90%RH (non-condensation)
Power dissipation	≤5W