

# HD4-E & HD4-D

High-Definition H.264 Video, Audio, USB Encoder/Decoders



PRELIMINARY DATASHEET

VIDEO



## Features

- Baseline, Main or High Profile H.264 encoding
- AAC-LC and MPEG 1 Layer II audio encoding
- Gigabit SFP fiber or Copper RJ45 TS interface
- Resolutions up to 1920x1200 or 1080P
- TS/IP unicast and multicast output
- HDMI 1.4a or VGA inputs on encoder
- HDMI 1.4a output on decoder
- HDMI embedded audio or analog stereo audio inputs
- Latency settings of 250ms, 130ms and optional 80ms
- Supports SD or HD TS stream output with corresponding definition of input signal
- IP output compliant with UDP/RDP protocol
- Configuration and monitoring through easy to use Web UI

## Applications

- KVM over IP
- IPTV Broadcast Systems
- Medical OR
- Command and Control
- Digital Signage & Kiosk Displays

## High-Definition MPEG 4 (H.264) Video / Audio / USB over IP

EMCORE's HD4-E & HD4-D are an advanced, high-performance, compact and cost-effective MPEG-4 H.264 HD encoder and decoder. They are capable of encoding HD Video with audio and USB for KVM over IP networks.

The HD4-E supports HDMI 1.4a and VGA inputs along with analog stereo audio and USB-HID. Broadcast quality encoding delivers vibrant and crisp video along with audio and USB at extremely low bit rates. The HD4-D accepts an IP input and decodes H.264 to HDMI, audio and USB making the HD4 encoder/decoder the perfect choice for high-quality KVM over standard Ethernet networks.

The HD4 encoder and decoder can use Baseline, Main or High Profile encoding, as well as provide unicast or multicast IP streams. Additionally, the HD4 encoder also acts as a simultaneous decoder allowing video, audio and USB to be streamed in both directions over the LAN. The same encoder can be connected to itself for monitoring purposes, or any encoder in the network can be connected to any other encoder for bi-directional video/audio/USB over IP.

The HD4 is a feature rich, cost-effective and versatile encoding solution that can be used in a variety of applications ranging from IPTV to mission critical command/control applications.

## System Design

Enclosed in a ruggedized aluminum housing, the HD4-E & HD4-D are perfectly suited towards applications that are space constrained or for mobile applications. The HD4-ENC & HD4-DEC has an easy to use web UI that allows remote monitoring as well as remote configuration and adjustment of all system parameters. Additionally, the HD4 web UI has the ability to detect any HD4 encoder or decoder in the LAN and provides the ability to connect any encoder to any decoder or a single encoder to multiple decoders in the LAN.

# HD4-E & HD4-D

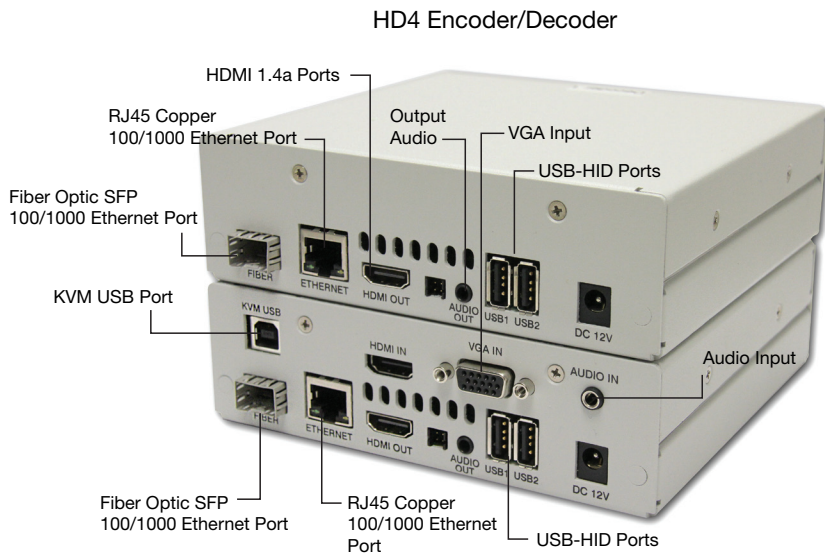
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## Models

Model	Description
HD4-E	H.264 HDMI 1.4a, VGA, analog audio and USB encoder, RJ45 or Fiber Optic SFP 100/1000 Mbps network interface, Stand-alone with power supply
HD4-D	H.264 HDMI 1.4a, analog audio and USB decoder, RJ45 or Fiber Optic SFP 100/1000 Mbps network interface, Stand-alone with power supply

## Connection Ports



## Inputs

Specifications	Values
Video	HDMI (up to 1920x1200 or 1080P HDCP), VGA (up to 1600x1200)
Audio	Embedded in HDMI, analog stereo

## Outputs

Specifications	Values
Network Protocol	TCP/IP Unicast & UDP/IP Multicast DHCP or Static IP
Ethernet Connectors	TS/IP 100/1000 SFP fiber or copper RJ45
Transport Stream	MPEG 2

## Video Encoding

Specifications	Values
Compression	H.264 Baseline, Main and High Profile
Resolutions	HDMI: 480p29.97, 480p59.94, 576p25, 576p50, 720p50, 720p59.94, 1080i50, 1080i60, 1080p29.97, 1080p30, 1920x1200@60 HDMI & VGA: 640x480@60, 800x600@60, 1024x768@60, 1280x720@60, 1280x1024@60, 1368x768@60, 1600x1200@60
Bit Rate Adjustment	256 Kbps to 30 Mbps
Video Bit Rate Type	CBR, VBR, Capped VBR

## Audio Encoding

Specifications	Values
Compression	MPEG 1 Layer II, AAC-LC
Sampling	MPEG 1 Layer II: 128, 192, 256, 384 Kbps AAC-LC: 128, 192, 256, 384, 512 Kbps
Channels	Analog stereo

## General

Specifications	Values
Input Power	12 VDC
Power Consumption	15 Watts typical
Weight	5 lbs
Dimensions	1.75" H x 6" W x 6" D (44mm x 152mm x 152mm)
Operating Temperature	32 to 158° F (0 to 70° C)
Operating Humidity	10% - 80% Relative Humidity
Storage Temperature	-40 to 185° F (-40 to +85° C)
Storage Humidity	0% - 90% (non-condensing)

## Monitoring & Control

Specifications	Values
Front Panel	Status LED's
Remote	Network management software for full control & system diagnostics

## Compliance

