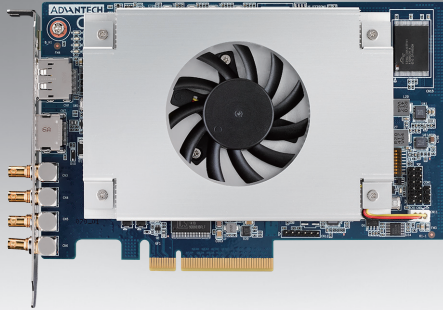


# HVC-8701

## 4Kp60 HEVC Broadcast Video Encoder Card

Preliminary



### Features

- 1-ch 4K (2160p) or 4-ch FHD (1080p) @ 60 fps real-time encoding in Main 8, Main 10 or Main 10 4:2:2 modes
- Less than 35W (HVC-8701) power consumption
- 4K video capture over built-in HDMI 2.0, Display Port 1.2 or 4-ch SDI-3G video inputs (HVC-8701)
- Simple-to-use API and example code for FFmpeg and GStreamer multimedia frameworks

### Introduction

HVC-8701 enables real-time 4K UltraHD (2160p60) HEVC encoding at up to 20x less power consumption than a software-only solution. The HEVC/H.265 codec is gaining momentum because it reduces bit rates by approximately 50% when compared to an equivalent quality video stream encoded using H.264, enabling more channels or higher resolution video delivery over the same infrastructure. It is particularly relevant for 4K UltraHD transmission which requires a much higher stream capacity. These improvements are achieved at the penalty of much higher computation complexity, with up to four general purpose server class processors required to perform a 4K 60fps software-based broadcast quality HEVC encoding in real time.

HVC-8701 is tailored for professional media processing and are capable of performing professional grade 4Kp60 Main10 profile HEVC encoding at less than 35W power consumption. The HVC-8701 adapter additionally features 4K video capture over built-in HDMI 2.0, Display Port or 4-ch SDI-3G video inputs for acquisition-based encoding in contribution workflows. This card feature a simple-to-use API and example code for FFmpeg and GStreamer multimedia frameworks to streamline product development and their integration into existing applications.

### Specification

Video Input	Channels	1 (up to 4Kp60, 8bit/10bit, YUV) / 4 (up to 1080p60, 8bit/10bit, YUV)
	Video Formats	4K, HD, SD
	Frame Rate	PCI Express Interface 4K / 4096x2160: 60p / 59.94p / 50p / 30p / 29.97p / 25p / 24p 4K / 3840x2160: 60p / 59.94p / 50p / 30p / 29.97p / 25p / 24p 1920x1080: 60p / 59.94p / 50p / 30p / 29.97p / 25p / 24p 720x480: 60p / 59.94p / 50p / 30p / 29.97p / 25p / 24p BNC (3G-SDI) Interface 4K / 3840x2160: 60p / 59.94p / 50p / 30p / 29.97p / 25p / 24p 1920x1080: 60p / 59.94p / 50p / 30p / 29.97p / 25p / 24p 720x480: 60p / 59.94p / 50p / 30p / 29.97p / 25p / 24p
	Chroma Sampling Format	HDMI 2.0 / Display Port 1.2 Interface* 4K / 3840x2160: 60p / 59.94p / 50p / 30p / 29.97p / 25p / 24p 1080p: 60p / 59.94p / 50p / 30p / 29.97p / 25p / 24p 480p: 60p / 59.94p / 50p / 30p / 29.97p / 25p / 24p
Video Compression	Interfaces	4:2:2 / 4:2:0 PCI express Gen2 x8 / HDMI 2.0 / SDI-3G / Display Port 1.2
	Compression	H.265
	HEVC Profile	Main / Main 10
	HEVC Tier	Main / High
	HEVC Level	1.0 / 2.0 / 2.1 / 3.0 / 3.1 / 4.0 / 4.1 / 5.0 / 5.1
	Bitrate 4K format	3Mbps ~ 128 Mbps
	Bit Depth	8 / 10
	Bit Rate Control	CBR / VBR
Audio	Elementary Stream	Yes
	Channels	4
	Format	PCM
	Operation Mode	Stereo
	Sampling Frequency	48Khz
	Sampling Bit Depth	16-bit
Feature	Connectors	HDMI 2.0 / SDI-3G / Display Port 1.2
	Frame rate and resolution control	Yes
	Encoding control and manipulation	Yes
	Full-feature API available	Yes
	Dual encoding (4 file from a unique video source)	Yes
	GOP definition	I, IP, IPB, IBBB
	Ancillary data and VBI	Yes
	Operating System	Windows 8 & 8.1(32-bit, 64-bit), Windows 7(32-bit, 64-bit) Windows Server 2012 & 2012 R2 (64-bit), Windows Server 2008 R2 (64-bit) Linux Kernel 3.13.0 (32-bit, 64-bit)
Physical Characteristic	Development Kits	FFmpeg, Microsoft DirectShow
	Power Consumption	< 35W
	Dimensions	PCI Express Half Length Full Height 167.65 x 111.15 mm

\*Output: Auto scale to 4K/3840x2160p60