

BOLIN

EDGE Series
FAST HEVC Decoder



FAST HEVC

Standard HEVC Only Faster



FAST HEVC

STANDARD HEVC ONLY FASTER

FPGA hardware codec, utilizing AMD Zynq™ UltraScale+™ EV MPSoC

Only **45Mbps** bandwidth that streams **4K60 at 4:2:2 12bit** quality in less than **2 frames/30ms** latency

- Extremely Low Latency
- High-Quality Image
- Low Bandwidth



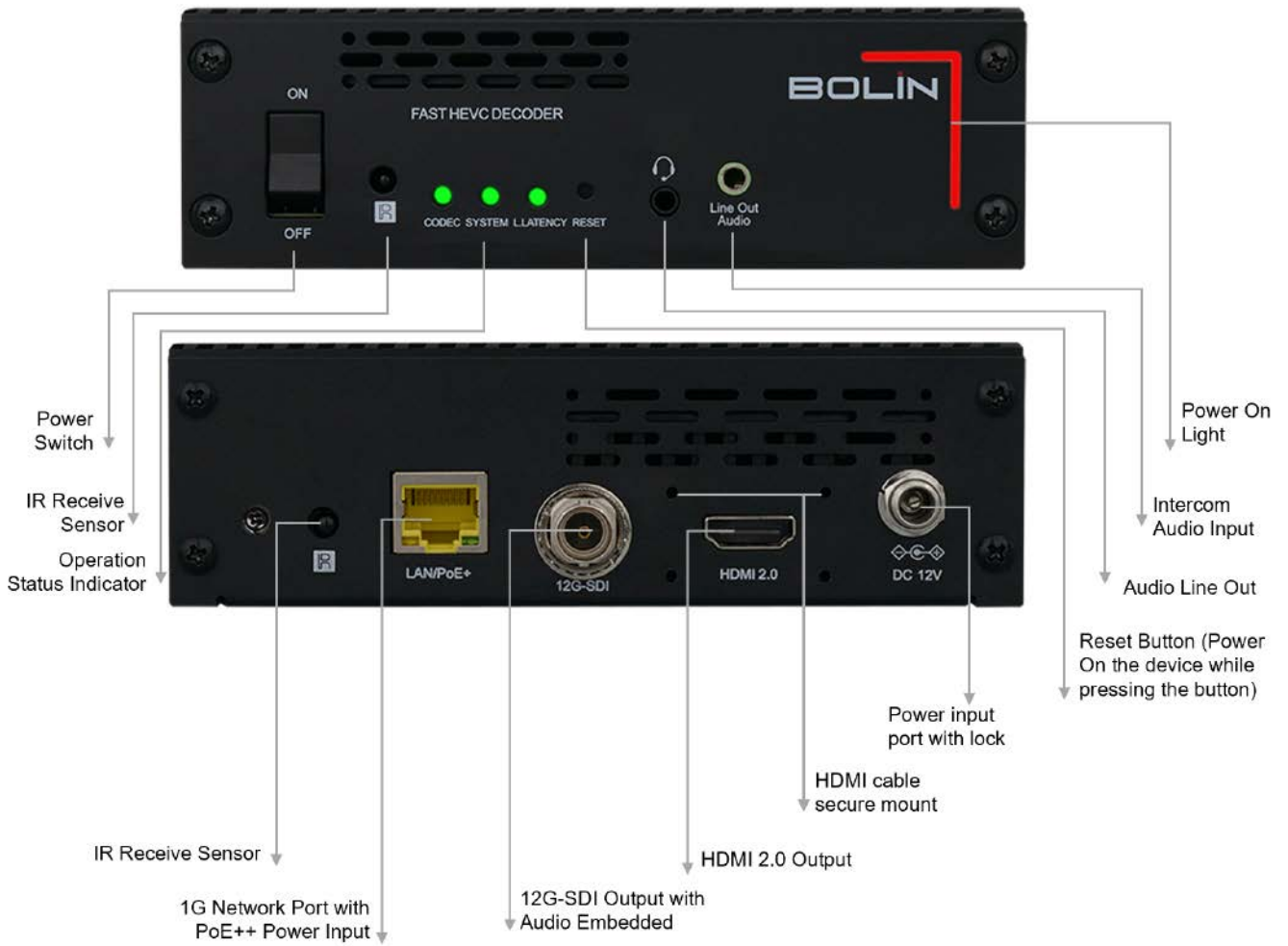
FAST HEVC IP Streaming could easily **replace** traditional **HDMI** signals for your AV System. Simplify your setup while saving time and money with minimal compromise to the final video quality.

*Comparison-The Facts of FAST HEVC Performance

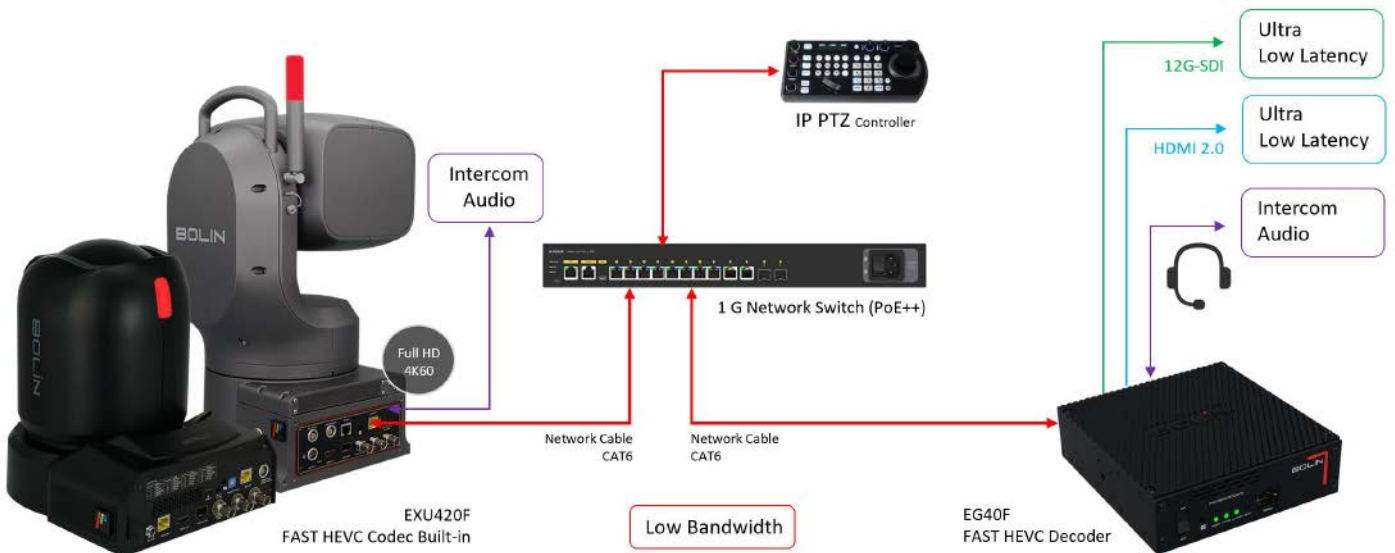
Fundation	Platform	Codec	1080p60			4K60		
			Quality (Up To)	Latency (Point-to Point)	Bandwidth	Quality (Up To)	Latency (Point-to Point)	Bandwidth
H.264/265 AVC/HEVC	Software SOC	Stand HEVC	420SP(NV12)	4 frame/70ms	8Mbps	420SP(NV12)	25 frame/430ms	16Mbps
	Hardware FPGA	FAST HEVC	4:2:2/12bit(NV16)	2 frame/20ms	20Mbps	4:2:2/12bit(NV16)	2 frame/30ms	45Mbps
NDI	Hardware FPGA	Full NDI	4:2:2/10bit	3 frame/50ms	150Mbps	4:2:2/10bit	4 frame/70ms	300Mbps
Dante AV-Ultra	Hardware FPGA	JPEG 2K	4:2:2/12bit	1 frame/6ms	250Mbps	4:2:2/12bit	1 frame/8ms	550Mbps

*Results may vary depending on network configuration and management settings.

OUTPUT



Bolin FAST HEVC Decoder Workflow



Video Format and Standard

Full Format

3840 x 2160P 60/59.94/50/30/29.97/25/24/23.98
1920 x 1080P 60/59.94/50/30/29.97/25/24/23.98
1920 x 1080i 60/59.94/50
1280 x 720P 60/59.94/50

Upscalable

Max From 720P Up to 4KP60

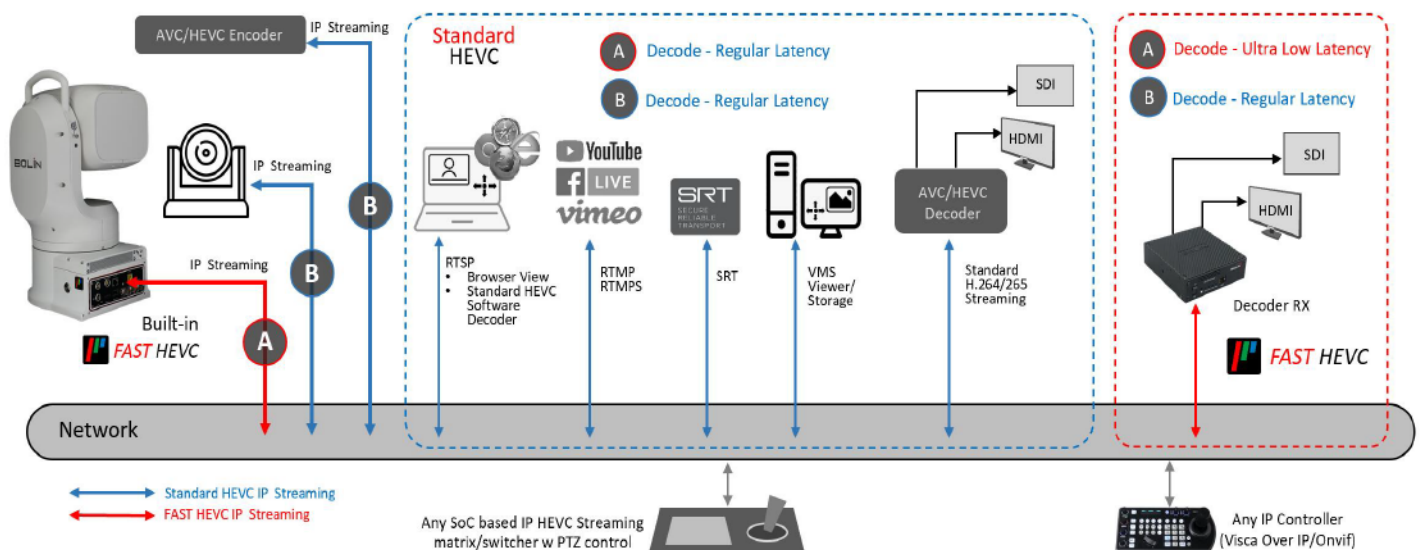
SDI Standard

SMPTE 292(1.5Gb/s)
SMPTE 424
SMPTE 425-A(3Gb/s)
SMPTE 2081(6Gb/s)
SMPTE 2082-0/1(12Gb/s) with SMPTE 352 SDI Meta-

FEATURES

- Support up to 4K60
- FAST HEVC FPGA codec back compatible with standard HEVC codec without having Ultra-Low-Latency
- HDMI 2.0 + 12G-SDI video output
- True Dual-Output
- All video with audio embedded
- Audio intercom with frontend device
- On-screen character generator
- All firmware upgrade via IP
- POE+ and 12VDC power input

Open Platform



Bolin FAST HEVC codec camera can be decoded by standard HEVC decoder but not having Ultra Low Latency HEVC codec camera/device can be decoded by Bolin FAST HEVC decoder but not having Ultra Low Latency

SPECIFICATIONS

Model No.		EG40F
Decoder (Video Output)		HDMI & SDI
Codec		
Encoder/Decoder	Decoder only	
Video Codec	AVC-H.264 / HEVC-H.265 selectable	
Codec Platform	Hardware FPGA FAST HEVC codec	
Video Resolutions	3840 x 2160P @60/59.94/50/30/29.97/25/24/23.98 1920 x 1080P @60/59.94/50/30/29.97/25/24/23.98 1920 x 1080i @60/59.94/50 1280 x 720P @60/59.94/50/30/29.97/25	
Color Space(HDMI)	4K60: RGB 8bit, YUV444 8bit, YUV422 12bit, YUV420 8bit/10bit 4K30 & below: RGB 8bit/10bit, YUV444 8bit/10bit, YUV422 12bit	
Audio Formats	3.5mm Jack, analog audio, stereo (unbalanced); Line in/out - audio intercom, Line out - HDMI audio output	
Video Streaming	1 stream	
Latency (Results may vary depending on network configuration and management settings)	<2 frame (e.g. 2160p60 latency is < 30 ms between encoder and decoder) <1.5 frame (e.g. 1080p60 latency is < 15 ms between encoder and decoder)	
Bandwidth (Results may vary depending on network configuration and management settings)	4kp60 4:2:2/12bit; 20-50Mbps 1080p60 4:2:2/12bit; 10-25Mbps	
Ecosystem Friendly	AVC-H.264/HEVC-H.265 Open Platform, compatible with standard AVC/HEVC software/hardware decoder Video codec is compatible with decoding standard AVC/HEVC, H.264/265 to output video without having low latency; Pair up with Fast HEVC encoder to decode output extremely low latency video.	
Video		
Video	Highest Resolution	Up to 4K (3840x2160)
	Highest Frame Rate	Up to 60
IP IN	Video Codec	AVC-H.264 / HEVC-H.265
	Video Format	3840 x 2160P @60/59.94/50/30/29.97/25/24/23.98 1920 x 1080P @120/60/59.94/50/30/29.97/25/24/23.98 1280 x 720P @60/59.94/50/30/29.97/25
	Frame Rates (Hz)	23.98, 24, 25, 30, 29.97, 50, 59.94, 60
	Application Protocols	RTP, RTSP, MP2TS over UDP, TS over RTP, TS over SRT, HTTP, IGMP v1/v2, DHCP, SSH, 802.1X Authentication
	Multi-stream	1 stream
HDMI OUT	Format	HDMI 2.0
	Supported Resolutions	3840 x 2160P @60/59.94/50/30/29.97/25/24/23.98 1920 x 1080P @60/59.94/50/30/29.97/25/24/23.98 1920 x 1080i @60/59.94/50 1280 x 720P @60/59.94/50/30/29.97/25
	Upscaling	Yes, upscale from 720P up to FHD, and from FHD to 4K60 resolution
	Frame Rates (Hz)	23.98, 24, 25, 29.97, 30, 50, 59.94, 60
	Color Space	4K60: RGB 8bit, YUV444 8bit, YUV422 12bit, YUV420 8bit/10bit 4K30 & below: RGB 8bit/10bit, YUV444 8bit/10bit, YUV422 12bit
	Standard	SMPTE 292(1.5Gb/s), SMPTE 424, SMPTE 425-A(3Gb/s), SMPTE 2081, SMPTE 2082-0/1 With SMPTE352 SDI Metadata Supported
SDI OUT	Format	12G-SDI
	Supported Resolutions	3840 x 2160P @60/59.94/50/30/29.97/25/24/23.98 1920 x 1080P @60/59.94/50/30/29.97/25/24/23.98 1920 x 1080i @60/59.94/50 1280 x 720P @60/59.94/50/30/29.97/25
	Upscaling	Yes, upscale from 720P up to FHD, and from FHD to 4K60 resolution
	Frame Rates (Hz)	23.98, 24, 25, 29.97, 30, 50, 59.97, 60
	Color Space	YUV422 10bit
	Standard	SMPTE 292(1.5Gb/s), SMPTE 424, SMPTE 425-A(3Gb/s), SMPTE 2081, SMPTE 2082-0/1 With SMPTE352 SDI Metadata Supported
	Standard	SMPTE 292(1.5Gb/s), SMPTE 424, SMPTE 425-A(3Gb/s), SMPTE 2081, SMPTE 2082-0/1 With SMPTE352 SDI Metadata Supported
Audio		
Audio Transport Formats	Audio Compression	AAC-LC, MPEG-2
	Audio S/N Ratio	≥85dB
	Audio THD+N	≤0.05%
	Audio Noise (RMS)	≤-90dB
	Bit Depths	AAC-LC, MPEG-2 (sampling rate: 48KHz/44.1KHz, 24bit, 64-256Kbps selectable)
Intercom	MIC / Headset	Reserved
Output Signal Types	Embedded Audio over HDMI	Stereo 2-channel, Dante AV-H (Audio Flow x 4 Flows / 2 Channels per Flow)
	Embedded Audio over SDI	Stereo 2-channel
	Format	PCM
	Line-out	3.5mm Jack, analog Line-out

SPECIFICATIONS

Communication/Connector		
Ethernet	Ethernet General	Standard 1Gbps Ethernet Auto-switching, auto-negotiating, auto discovery, full/half duplex
	ETHERNET with POE	IEEE 802.3at compliant 1000BASE-T Ethernet port IEEE 802.3at Type 3 compliant, PoE+ Class 4
HDMI OUTPUT (Decoder only)		HDMI 2.0 Type A connector, female; HDMI digital video/audio output
SDI OUTPUT	BNC	75Ω
PTZ Camera IR Receiver		Front and Back, bidirectional
LED Indicator	Power	Yes, board powered and active (Bolin Logo corner)
	Codec	Yes, video codec active
	Low latency	Yes, light up for low latency mode
	System	Yes, system status
Control	Interface	-
	Protocol	Bolin Restful API
System Firmware Upgrade		Upgrade via IP web interface
Reset		Yes, long press for 5 seconds to reset
Power	Power Input	12V DC, 2A
	Power butoon	Yes
	Connector Type	5.5mm×2.1mm Male DC Power Plug Connector & Screw Lock Female Panel Socket Mount Adapter
Interface	HDMI*1, SDI*1, 12V DC power port*1, Power switch*1, Reset button*1, RJ45*1 (LAN/PoE+), Infrared receiver*2 (front & back), 3.5mm Line in*1 / Line out*2, LED indicator*3	
General		
Power	Power Consumption	18W
	PoE	PoE+, IEEE 802.3at Type 3 class 4 compliant
	Power Adaptor	12V DC, 2A 12V DC IN has priority over Ethernet POE. Ethernet POE will become active a fraction of a second after 12V DC IN is disconnected.
Storage Temperature		-40° to 60° C
Operating Temperature		0° to 50° C
Humidity		10% to 90% (non-condensing)
Heat Dissipation		Cooling fan, 3 Level - Automatically adjust the fan speed according to the temperature
Acoustic Noise		NC35 or less, variable with cooling fan speed adjustment
Dimension		142*150*44mm (LxDxH), 142*150*50.5mm(with feet mats)
Net Weight		1.05kg (2.31lb)
Enclosure		
Chassis		Metal, black finish, heat dissipation surface, fan cooled; vented front and rear
Mounting	Included	HDMI cable secure mount, Base mount
	Optional	19" Single-rack mount, 19" Tri-rack mount, Din rail mount, Surface mount
Size of Screw Hole for Tripod		1/4"
What's Included		Decoder*1, IR Remote Controller, Power Adapter *1 & Power Cord *3 (US, EU, UK), Thank You Card *1

INSTALLATION MOUNT



- Rack Mount
- Base Mount
- Surface Mount
- Pole Mount
- Din Rail Mount
- Tripod Mount

ACCESSORY

Items marked * are optional to purchase



* VCC-RC-2
IR Remote Controller



VCC-P12-2
12VDC 2A Power Adapter



B-BM10
Base Mount Kit



* B-RM23
Tri Rack Mount Kit



* B-RM22
Dual Rack Mount Kit



* B-RM20
Single Rack Mount Kit



* B-DR10
Din Rail Mount Kit



B-SM10
Surface Mount Kit



* BL-PP97
97W POE POWER INJECTOR

ORDER INFORMATION

• EG40F (HDMI 2.0+12G-SDI) Decoder

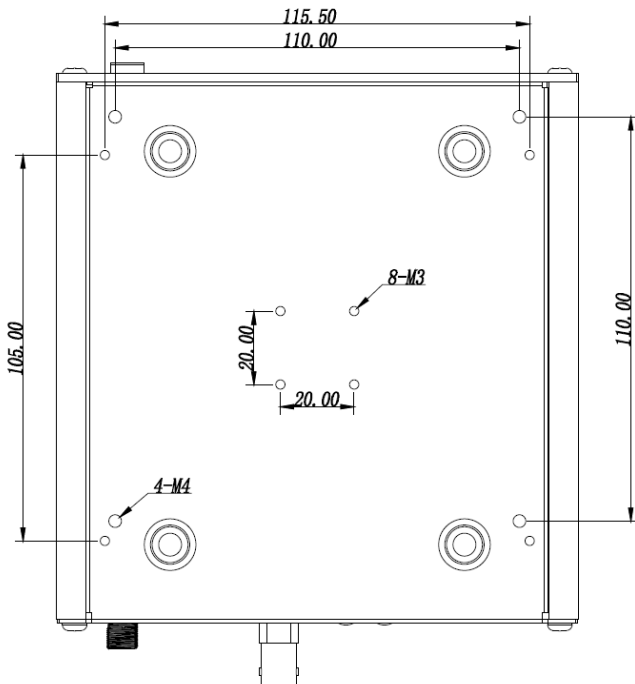
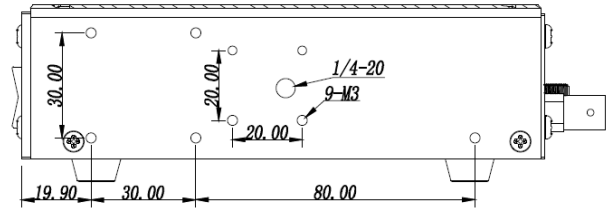
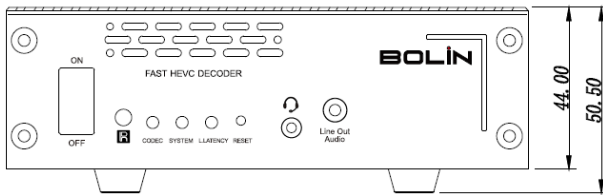
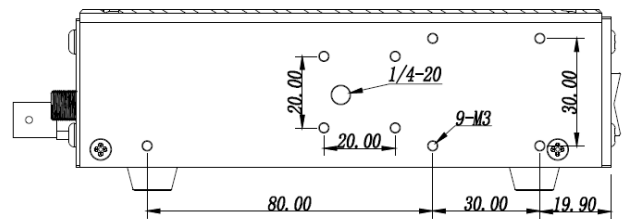
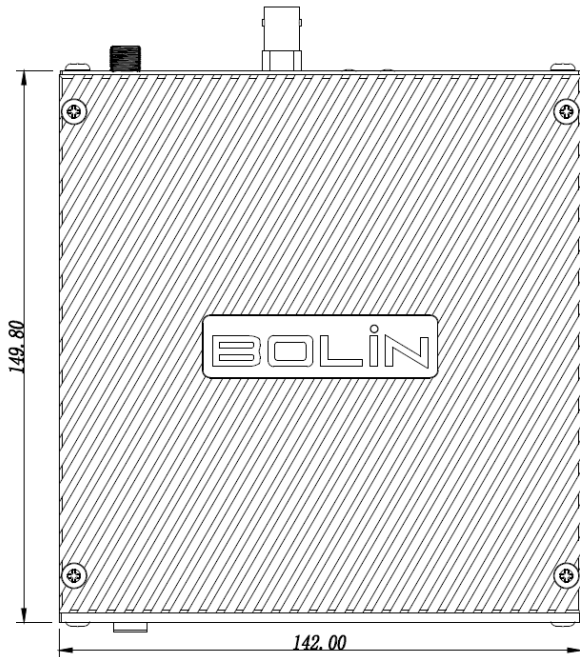
Included: • B-BM10 (Base Mount)
• B-SM10 (Surface Mount)

Optional

- B-RM20 (Single-Rack Mount)
- B-RM22 (Dual-Rack Mount)
- B-RM23 (Tri-Rack Mount)
- B-DR10 (Din Rail Mount)

DIMENSIONS

Unit: mm



All models and specifications are subject to change without notice.
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