BOLIN

EDGE Series
EG40DH
Dante AV-H Decoder

Dante AV-H™

EDGE Series Dante AV-H™ Network Video Decoder

"**Dante AV-H** is a software solution for SoC-based video products that brings the power and interoperability of Dante to H.26x video endpoints. Dante AV-H is less complicated and more flexible to install than point-to-point solutions and with low bandwidth it's the ideal AV solution for today's networks." (Audinate.com)

Bolin **EG40DH** is a powerful FPGA engineered IP decoder capable of receiving a single Dante AV-H video flow over a standard 1GB network and outputting up to 4K60 with embedded Dante audio through HDMI 2.0 and 12G-SDI. It is compatible with all Dante AV-H cameras and Dante audio devices. In addition, the EG40DH can decode RTSP IP streams via HEVC, and FAST HEVC, making it compatible with Bolin's FAST HEVC cameras and decoders.

Dante AV-H uses the industry standard H.264/H.265 codecs, offering excellent image quality and low bandwidth across the network. Dante AV-H video and audio routing and configuration are managed with the familiar, reliable, easy-to-use Dante Controller software. The EG40DH can also take advantage of Dante Domain Manager's robust management and user access control. Dante AV-H flows can co-exist with Dante AV Ultra flows on the same network, providing excellent video quality with lower bandwidth.

The **EG40DH** is a powerful, reliable option for decoding video flows from Dante AV-H PTZ cameras or PCs running Dante Studio software for output to monitors or Vision Mixers to swap between multiple sources.

Bolin Dante AV-H Decoder Workflow
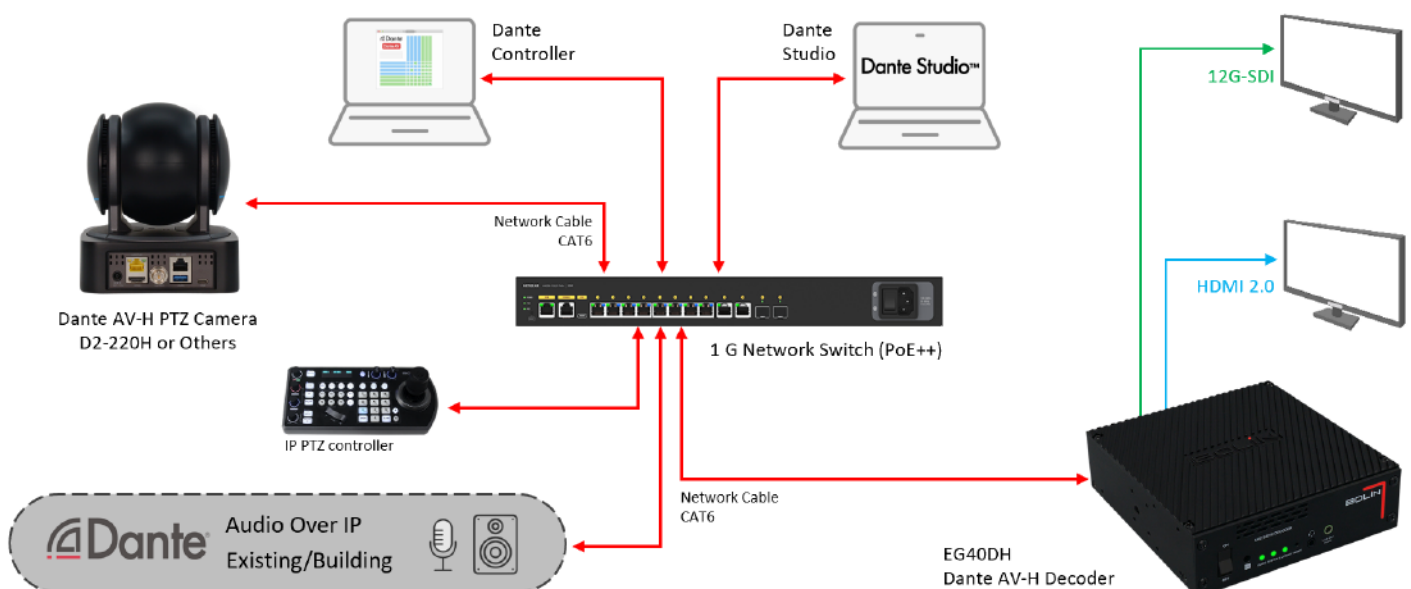
Dante Ecosystem Friendly

• Full compatibility with all existing and future Dante-enabled products.

• Discovery, routing, and management with the familiar and reliable Dante Controller software and Dante Studio and Dante Viewer.

• Compatible with Dante Domain Manager

• Operates on a standard 1GB network infrastructure.

• Can Co-exist with Dante AV Ultra flows on the same network (Dante AV-H devices can only be subscribed to other Dante AV-H devices.)

• Perfect for Houses of Worship, Video Conferencing, Education, Live Performance, Hospitality, Green Rooms, and any situation where excellent quality, low bandwidth, and Dante compatibility are required.

OUTPUT
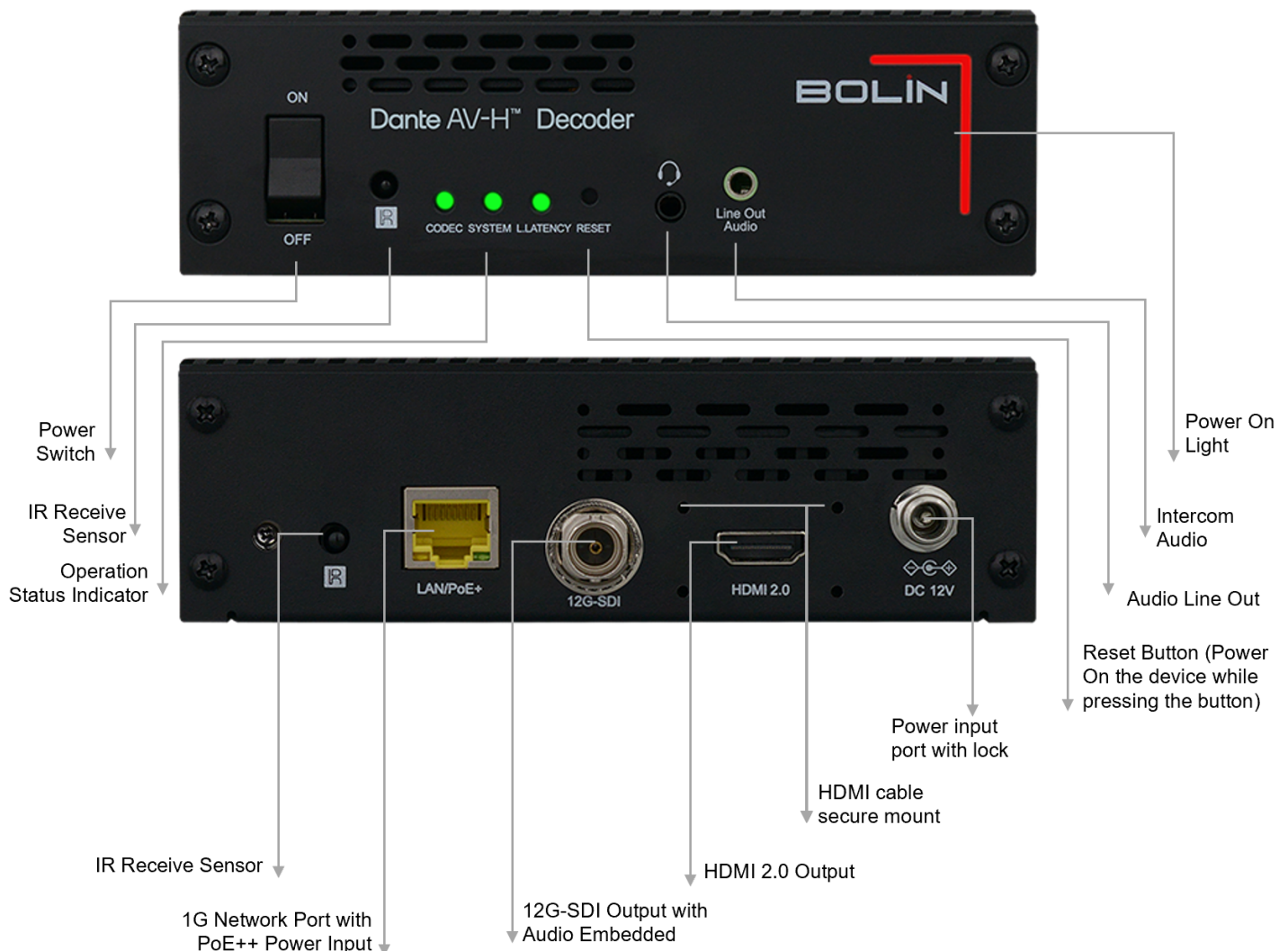
OVERVIEW

- ▪ Up to 4K60 video over standard Gigabit Ethernet
- • 2 channels of Dante audio embedded with video
- • Low latency, low bandwidth video performance
- • HDMI 2.0 and 12G-SDI output
- • Video upscalable max from 720P up to 4K60 (UHD)
- • Discoverability, routing, and management with Dante Controller software
- • Supports unicast and multicast for video and audio flows with separately routable audio and video streams.
- • Seamless integration with existing Dante audio or Dante AV networks

KEY FEATURES

High Quality, Low Bandwidth Video Output
The EG40DH outputs up to 4K60 video with low latency and very low bandwidth (±50 Mb) across the Dante AV network, giving customers additional flexibility and network management options.

Dante AV-H™ and Dante Audio Compatible
Full compatibility with all Dante AV-H cameras and encoders and all Dante-enabled Mixers, audio devices, and encoders, with support for up to eight channels of audio essences embedded in the video output.

HDMI and SDI Output
Support for simultaneous HDMI 2.0 and 12G-SDI outputs to monitors or Vision Mixers.

IP Decode Support
FPGA decoding support for RTSP, SRT, MPEGTS IP streams, HEVC, and FAST HEVC, making it compatible with Boliln's FAST HEVC cameras, decoders, and all standard HEVC streams.

Production Audio Support
TRRS Audio intercom on the front provides support for live production intercom.

Full Dante Controller Support
Device discovery, management, routing, monitoring, and firmware upgrades are enabled through the familiar and reliable Dante Controller software, providing a simple, plug-and-play experience.

Video Upscalable
Upscales lower resolution HDMI and SDI video to maximum from 720P up to 4K60 (UHD) output. Downscaling is available.

Flexible Power Options
Support for POE+ power over the network and 12VDC power input (supplied).

Convenient Mounting Options
The small, 1/3RU form factor offers a variety of horizontal and vertical mounting options, including rack mount, DIN rail, panel and wall mounts, VESA mounts, and tripod support.

Video Format and Standard

Full 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
1920 x 1080i   60/59.94/50
1280 x 720P   60/59.94/50/30/29.97/25

SDI Standard
SMPTE 292M, SMPTE 296M (1.5Gb/s), SMPTE 424M, SMPTE 274M, SMPTE 425-A (3Gb/s), SMPTE 2081(6Gb/s), SMPTE2082-1(12Gb/s) with SMPTE352 SDI Metadata Supported

Scaling
Downscaling and Upscalling, Scaling up to 4K60

Dante AV-H™ / ▣ *FAST HEVC* / *HEVC*

EG40DH Dante AV-H decoder Decodes

- **Dante AV-H** - when used within Dante AV-H environment
- **HEVC** - when used with any SoC HEVC IP cameras
- **FAST HEVC** - when used with Bolin's FAST HEVC cameras to gain ultra low latency

FPGA Based FAST HEVC Platform

Instead of an SoC, the EG40DH utilizes Bolin's FPGA-based FAST HEVC platform to provide a higher level of performance:

- **Dual output** 12G-SDI and HDMI 2.0 video with independent resolution setup
- **Upscaling** from low resolution up to UHD (4K60) video output, in addition to decoding 4K60 IP streaming
- **Ultra Low latency** when used with Bolin's FAST HEVC camera

SPECIFICATIONS

Model	EG40DH
Ecosystem Details	
AV over IP Ecosystem	Dante AV
Featured	Dante AV-H
Connectivity	
Encoder/Decoder	Decoder
Input	IP Only
Output	Simultaneous HDMI 2.0, 12G-SDI
Video Resolutions	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 1920 x 1080i @60/59.94/50 1280 x 720P @60/59.94/50/30/29.97/25

IP Input	Codec	H.264 (AVC); H.265 (HEVC), Hardware FPGA Based
	Supported IP 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 1280 x 720P @60/59.94/50/30/29.97/25
	Frame Rates	23.98, 24, 25, 30, 29.97, 50, 59.94, 60
	Streaming Protocols	Dante AV-H; RTP (Unicast or Multicast); RTMP, RTMPS; MPEG-2 TS over UDP; MPEG-2 TS over RTP; SRT (Caller, Listener)
	Gradual Decoding Refresh (GDR)	Yes; Will auto-activate when GDR frames are detected in input stream
	Number of Streams	Single Stream Decode; Preset up to 200 sources
	Latency (Results may vary depending on network configuration and management settings)	As low as 3 frames/ 50ms - Dependent on Encode Settings
	Bandwidth (Results may vary depending on network configuration and management settings)	4kp60 4:2:2/12bit; 250Mbps
		1080p60 4:2:2/12bit; 80-110Mbps
HDMI Output	Format	HDMI 2.0
	Supported Resolutions	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 1920 x 1080i @60/59.94/50 1280 x 720P @60/59.94/50/30/29.97/25
	Frame Rates (Hz)	23.98, 24, 25, 29.97, 30, 50, 59.94, 60,120
	Scaling	Yes; Downscaling and Upscalling, Scaling up to 4K60
	Color Space	4K60: RGB 8bit, YUV444 8bit, YUV422 10bit 4K30 & below: RGB 8bit, YUV444 8bit, YUV422 10bit
SDI Output	Format	12G-SDI
	Standard	SMPTE 292M, SMPTE 296M (1.5Gb/s), SMPTE 424M, SMPTE 274M, SMPTE 425-A (3Gb/s), SMPTE 2081(6Gb/s), SMPTE2082 1(12Gb/s) with SMPTE352 SDI Metadata Supported
	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
	Frame Rates (Hz)	23.98, 24, 25, 29.97, 30, 50, 59.97, 60
	Scaling	Yes; Downscaling and Upscalling, Scaling up to 4K60
	Color Space	YUV422 10bit
	Connector	Standard/75 Ω
Audio	Codec	AAC-LC, MPEG-2
	S/N Ratio	≥85dB
	THD+N	≤0.05%
	Audio Noise (RMS)	≤-90dB
	Bit Depth	Sample Rate: 48KHz/44.1KHz, 24bit, 64-256Kbps selectable
Audio Output	HDMI Embedded Audio	Stereo - 2 Channel
	SDI Embedded Audio	Stereo - 2 Channel
	Line Out Connection	3.5mm Analog Line Out
	Format	PCM
Intercom	Mic/Headset	Inactive
Network		
Connection	Network	RJ45, 100/1000BASE-T Ethernet
	POE	IEEE 802.3at Type 3 Class 4 Compliant 1000BASE-T Ethernet
	IR Passthrough	Yes; Transmit PTZ Controls via IR Receiver
IP Protocols		HTTP; IGMP v1/v2; DHCP, SSH; 802.1X Authentication

SPECIFICATIONS

Model	EG40DH
Control and Management	
Access	WebUI; Bolin API
Firmware Upgrade	Via WebUI
System Reset	Web UI; Physical Button on Decoder
Power and Physical	

Power	Power Consumption	13W
	PoE	PoE+, IEEE 802.3at Type 3 class 4 compliant
	Power Adaptor	12V DC, 4A
		5.5mm×2.1mm Male DC Power Plug Connector & Screw Lock Female Panel Socket Mount Adapter
Interface		HDMI 2.0 ; 12G-SDI
		12VDC Power Input, Power Switch
		Reset Button
		RJ45 (LAN/PoE+)
		IR Receiver (Front & Back)
		3.5mm Comms; 3.5mm Line out
		LED Indicator Lights (Power, Codec, System, Low Latency)
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)
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; IR Remote Controller; Power Adapter (US, EU, UK)

NDAA COMPLIANT

NDAA Section 889 Statement of Compliance: Bolin certifies it does not and will not provide "covered telecommunications equipment or services" or products containing "covered telecommunications equipment or services" complying with Section 889(a)(1)(B) of the National Defense Authorization Act (NDAA) for the Fiscal Year 2019 as a part of its offered products or services to customers.

• B-DR10 (Din Rail Mount)

ODER INFORMATION

• EG40DH (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)

All models and specifications are subject to change without notice.
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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-P12-4
12VDC 4A 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

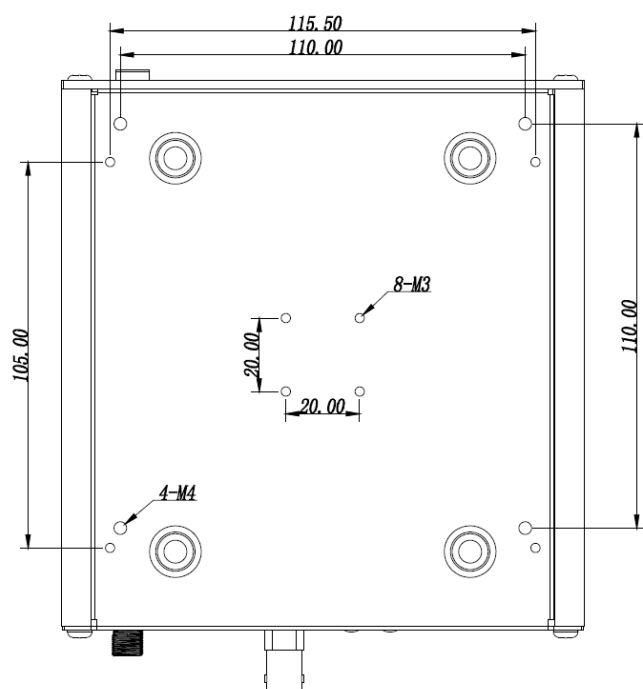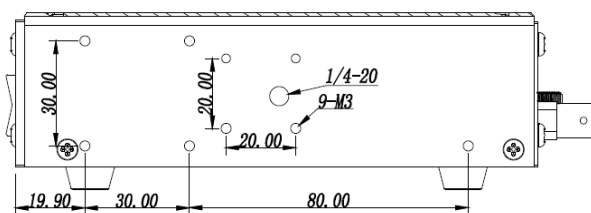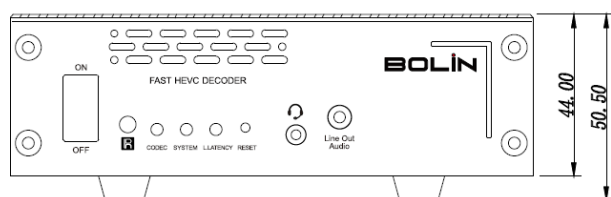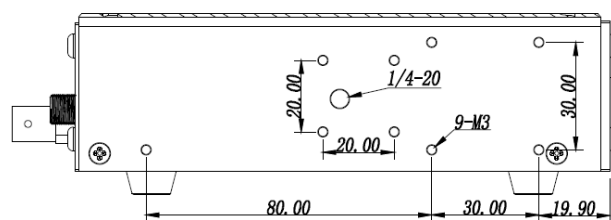*   **B-DR10**
Din Rail Mount Kit

B-SM10
Surface Mount Kit

* **BL-PP97**
97W POE POWER INJECTOR

DIMENSIONS

Unit: mm