

BOLIN

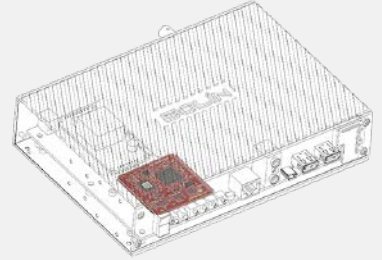
DanteAV™ Network AV Decoder



Pair with DanteAV™ PTZ Camera

4K60 4:4:4 DanteAV™ Network AV Decoder

The Bolin D10H decoder is part of the Bolin DanteAV camera system, a single-channel network AV decoder over a standard Gigabit network that outputs baseband video HDMI 2.0. Not only does it work with the Bolin DanteAV PTZ camera, but also is fully compatible with standard DanteAV video devices within the Dante ecosystem. The decoder supports video formats up to UHD/4K60 with HDCP and embedded audio. PTZ camera control is available from the decoder as well, with IP PTZ camera control and RS422/IR control over IP.



Powered by DanteAV module

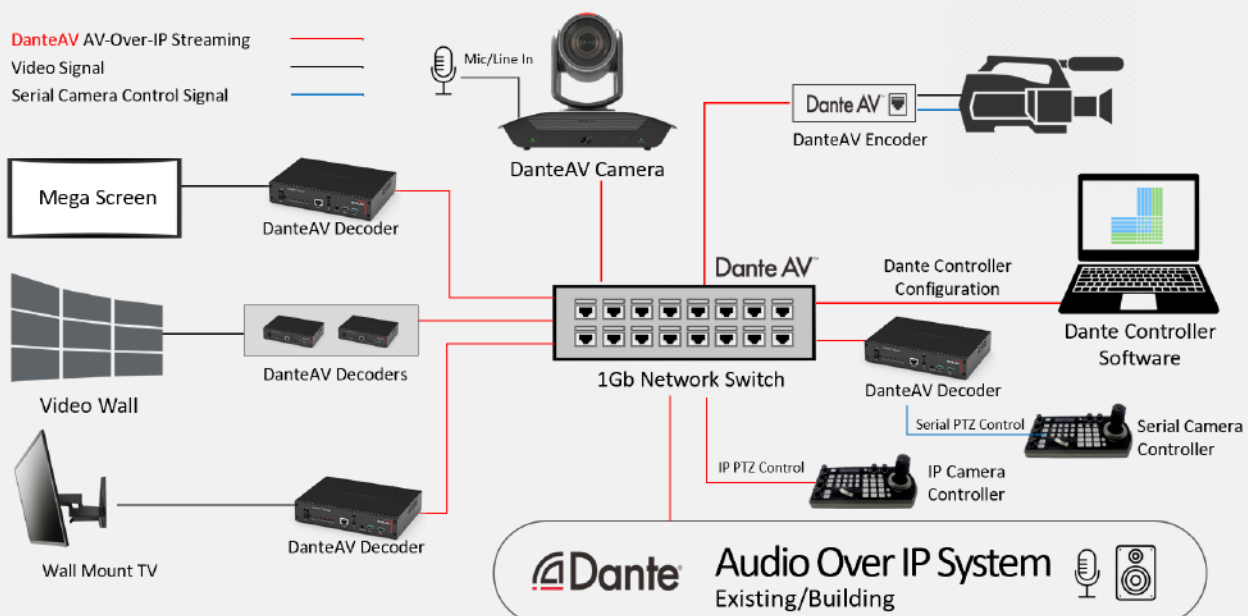
Paired with Bolin D412/D220 DanteAV PTZ camera, the D10H decoder achieves lossless video with extreme low latency and video/audio synchronization.

- **Ultra Low Latency**
- **Up to 4K60 High Quality Image**
- **Lip Sync Issue Free, 100% Synchronized Video and Audio**



Dante Ecosystem Friendly

- Instant compatibility with over 3000 existing Dante-enabled products.
- Unified control of camera audio and video using familiar tools - Dante Controller
- No need to replace network infrastructure. Dante AV works with already installed, cost-effective 1Gbps network gear.
- Fully compatible with existing Dante ecosystem applications: House of Worship, Video Conferencing, Live Production, Broadcast, Live Performance, Hospitality, Stadium, Sports Bar, Corporate, Education.



D10H

Decoder - HDMI Output

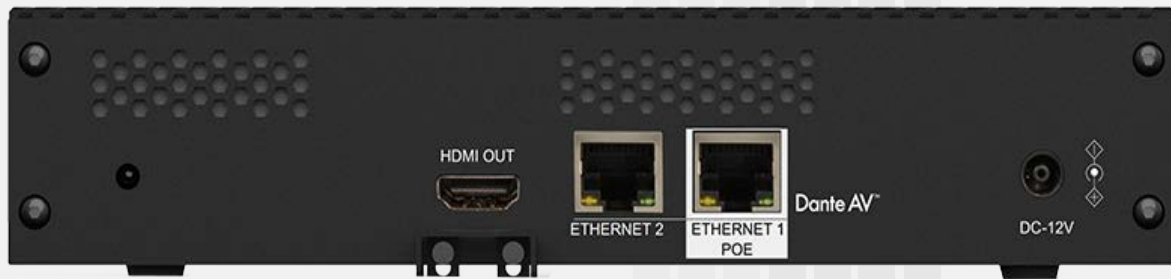


Front Panel

OVERVIEW

- 4K60 4:4:4 video over standard Gigabit Ethernet
- Ultra low latency real-time video performance over the network
- 32-bit wide video interface capable of processing code streams 200-800 Mbps
- HDMI 2.0 output
- Tunable audio delay to facilitate lip-sync control
- Dante Audio over IP audio transport format
- Support unicast and multicast for 8 audio flow and 1 video flow
- Full support of Dante audio and video protocols
- Supported by Dante Controller
- Instant compatibility with over 3000 existing Dante-enabled audio products
- Fully time-aligned and separately routable audio and video streams
- Visually perfect video using network efficient JPEG2000 codec
- Easy control of PTZ camera and remote devices via USB HID, serial, and IR over IP
- Fully validated implementation of HDCP 2.2 encryption
- Complete EDID support
- USB HID and USB On The Go (OTG)
- Firmware updateable over the network
- HDMI 7.1 embedded audio input/output
- Works with installed 1Gbps network, no need to replace network infrastructure.
- Powered via POE or DC power pack
- Compact, surface/rack-mountable design

KEY FEATURES



Back Panel (D10H)

Bolin D10H DanteAV decoder transports UHD 4K60 4:4:4 video over standard gigabit ethernet with ultra low latency and lossless quality. As part of Dante family, using standard network switches and CAT5e UTP wiring, D10H decoder delivers a high-performance virtual video matrix routing solution for Dante 4K video content application (i.e.: demanding conference room and classroom applications). It ensures real-time, full-motion 4K60 video performance for the presentation of multimedia, videoconferencing, and live camera images.

Seamlessly integrate with Dante Ecosystem

D10H Dante AV decoder can pair with Bolin D412 / D220 PTZ cameras or use it as a stand-alone Dante AV decoder endpoint with other Dante or Dante AV-enabled devices. D10H decoder integrates into Dante audio over IP platform using the standard 1 Gbps network. With a rich set of Dante control interfaces, support for Dante Device Protocol, packet bridging, plus video and HDCP encryption, professional onboard scaling, it can seamlessly connect a Dante AV product with network control into the growing ecosystem of Dante AV and Dante audio-enabled products.

Lossless image with extremely low codec latency

Bolin's D10H DanteAV decoder incorporates a ProAV optimized implementation of the popular JPEG2000 codec in FPGA, which delivers visually perfect lossless image up to 4K60/UHD 4:4:4 with < 10ms codec latency.

100% Synchronized video and audio

Bolin's D10H Dante AV decoder support sub-microsecond video and audio synchronization by designating a single network clock that always keeps the video in sync with audio regardless of the number of endpoints in the ecosystem, fixing lip-sync problems.

Multi-screen video display routing

As a decoder, the D10H receives the signal from a DanteAV PTZ camera or an encoder and feeds it to a display device via the HDMI output. Using familiar Dante Controller software, the decoder can quickly and easily switch between multiple DanteAV endpoints including cameras or encoders on the network, with no need for breakouts or matrix switches to display the video on any number of screens, and provide the video for video router system to use.

HDMI Output with 4K60 4:4:4 built-in high-quality scaler

The D10H provides decoded image to output via HDMI 2.0. Integrated high-performance scaling engine provides scalable encoded source for a wide array of UHD, HD resolutions to match the different capabilities and requirements of sources, displays, codecs, and other equipment.

KEY FEATURES

Audio transport formats: Dante Audio over IP

The D10H decoder supports Dante standard compatible networked audio streams from encoders and audio interfaces. The received Dante audio streaming can be combined with the video and then output via the HDMI output.

Implementation of HDCP 2.3 encryption

Adheres to the latest HDCP 2.2 specification for High-bandwidth Digital Content Protection. Allows protected content streams to pass between authenticated devices. HDCP 2.3 over network.

Device Control

The D10H decoder has built-in serial (RS-422), which can be used for serial port PTZ joystick controller via Dante Serial Over IP control running Visca protocol. Also has IR over IP to control connected display, PTZ camera or other devices.

Dante Controller supported

Full setup and control and monitoring of the device is enabled through Dante Controller that delivers standard Dante features such as automatic device discovery and system configuration, making network setup a simple plug and play experience.

Network Connectivity

The D Series decoder includes two RJ-45 1000BASE-T ports can be used to transport video over a Gigabit Ethernet network. Ports 1 for Dante network primary connection and Port 2 can be used to daisy-chain other endpoints. Port 1 is also capable of receiving power from POE++ IEEE 802.3bt compliant.

USB HID and USB OTG

USB control over IP that can be switched and routed alongside the AV signal or separately via a control system allows you to use a USB mouse and/or keyboard to control a remote computer via the Dante network. USB On The Go (OTG) for keyboard and mouse.

Easy Installation

The D10H decoder's compact enclosure with HDMI secure lock easily mounts onto a flat surface or rack rail (single or dual), Din rail and fits easily behind a wall-mounted or ceiling-mounted flat panel TV display, above a projector, beneath a tabletop, or inside a lectern, AV cart, or equipment cabinet.

SPECIFICATIONS

Model No.	D10H	
Product Name	Dante AV Decoder	
Output	HDMI	
Decoding		
Video Codec	Optimized implementation of JPEG2000 codec in FPGA, Licensed By IntoPIX Dante API management interface	
Video Resolutions	Up to 4096x2160@60Hz; RGB 4:4:4 @ 8 bit YCbCr 4:4:4 @ 8 bit YCbCr 4:2:2 @ 8/10/12 bit	
Color Depth	8-bit, 10-bit, 12-bit	
Audio Formats	Dante Audio over IP	
Bit Rates	200 to 800 Mbps	
Copy Protection	HDCP 2.2, HDCP 2.3 for netw ork	
Control Protocol	Visca serial control over IP, Visca-Over-IP	
Latency	0.5 frame (e.g. 2160p @ 60 Hz latency is < 8 ms betw een encoder and decoder), Note: Overall latency may increase depending on netw ork configurations	
Bandw idth	4kp60 10 bit 4:2:2; 500-600Mbps, results may vary depending on netw ork configuration and management 1080p60 10 bit 4:2:2; 150-250Mbps, results may vary depending on netw ork configuration and management	
Dante Ecosystem Friendly	Instant Dante Ecosystem compatibility w ith existing Dante-enabled products; Unified control of audio and video using Dante tools - Dante Controller	
Video		
Video	Built-in HDCP encryption/decryption for video 800Mbps recommended maximum bit rate Video transport formats: Dante Video over IP	
HDMI OUT	Format	HDMI 2.0
	Supported Resolutions	4096x2160p, 3840x2160p, 1920x1080p, 1920x1200, 1600x1200, 1280x720p, 1280x1024, 1024x768, 800x600, 720x576p, 720x480p, 640x480
	Frame Rates (Hz)	23.98, 24, 25, 29.97, 30, 50, 59.94, 60
	Colour Space	RGB, YCbCr
	Component Bit Width	8-bit, 10-bit, 12-bit
	Colour Sub-Sampling	4:4:4, 4:2:2, 4:2:0
Audio		
Audio Transport Formats	Up to eight channels at 48 or 96kHz. HDCP sourced audio channels limited to 48kHz Dante Audio over IP HDMI 7.1 embedded audio	
Bit Depth	24, 16 and 32 bits per audio sample	
Output Signal Types	Embedded audio over HDMI	2 channels from DANTE
	Sample rate	48K and 96K, PCM24(24, 16 and 32 bits)
Communication/Connector		
Ethernet	Ethernet General	Standard 1Gbps Ethernet Auto-sw itching, auto-negotiating, auto discovery, full/half duplex, Dante Controller setup and control
	ETHERNET 1 POE	IEEE 802.3ab compliant 1000BASE-T Ethernet port IEEE 802.3bt Type 3 compliant, PoE++ Class 4 (60W)
	ETHERNET 2	IEEE 802.3ab compliant 1000BASE-T Ethernet port
HDMI Output	HDMI Type A connector, female; HDMI digital video/audio output	
USB 1, USB 2	USB Type-A connector, female USB signal extender port for connection to a mouse, keyboard Available Pow er: 100 mA at 5 VDC	
USB OTG	USB OTG Compliant	Reserved
Serial Control	RS422	RS-422 compatible w ith Visca control PTZ camera
		RJ45
	Control Protocol	VISCA
IR TX, IR RX	Connector	2-pin 3.5 mm
	Carrier Frequency	38 kHz
	Supply Voltage	3.3V
PTZ Camera IR Receiver	Front and Back	
LED Indicator	Pow er	Board Pow ered and Active
	Codec	Video Codec Active
	System	System Status
	Error	Softw are running status
	Sync	Dante Clock Slave, synchronization status
	HDCP	HDCP status
HDMI	HDCP 2.2/2.3, EDID	
Pow er	IEC60130-10 (JEITA standard RC-5320A) TYPE4 DC pow er connector; 12VDC 4A pow er input	

SPECIFICATIONS

Network-DanteAV		
Network	Powered By DanteAV Module	
	Standard 1Gbps Ethernet	
	Audio Channels x8, Flow x15 (unicast or multicast)	
	Video Flow x1 (unicast or multicast)	
Hardware time-stamping, supporting sample-accurate playback		
General		
Power	Power Consumption	Power input @ 4K60: 25W
	PoE	PoE+, IEEE 802.3at Type3 class 6 compliant
	Power Adaptor	Input: 1.5 A maximum @ 100-240 VAC, 50/60 Hz, Output: 4A @ 12 VDC
	12V DC IN has priority over Ethernet 1 POE. Ethernet 1 POE will become active a fraction of a second after 12V DC IN is disconnected.	
Storage Temperature	-40 to 100	
Operating Temperature	32° to 104° F (0° to 40° C)	
Humidity	10% to 90% (non-condensing)	
Heat Dissipation	Cooling fan speed adjustable, 3 Level	
Acoustic Noise	NC35 or less, variable with cooling fan speed adjustment	
Regulatory Compliance	CE, IC, FCC Part 15 Class B digital device	
Dimension	216.5x148.35x44mm (LxWxH)	
Weight	2.5 lb (1.3 kg)	
Enclosure		
Chassis	Metal, black finish, heat dissipation surface, fan cooled; vented rear and sides	
Mounting	Included	HDMI cable secure mount, surface mount for TV display, base mount.
	Optional	19 inch single rack mount, 19 inch dual rack mount, Din rail mount

ACCESSORIES



BL-PP97
97W High Power POE Injector



VCC-P12-4
12VDC 4A Power Adapter



VCC-CC45RS
RJ45 To RS232/RS422/485 Adapter



B-RM11
Dual Rack Mount Kit



B-RM10
Single Rack Mount Kit



B-BM10
Base Mount Kit



B-DR10
Din Rail Mount Kit



B-SM10
Surface Mount Kit

ORDER INFORMATION

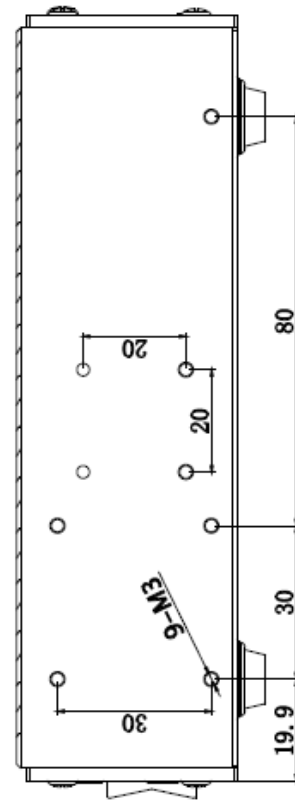
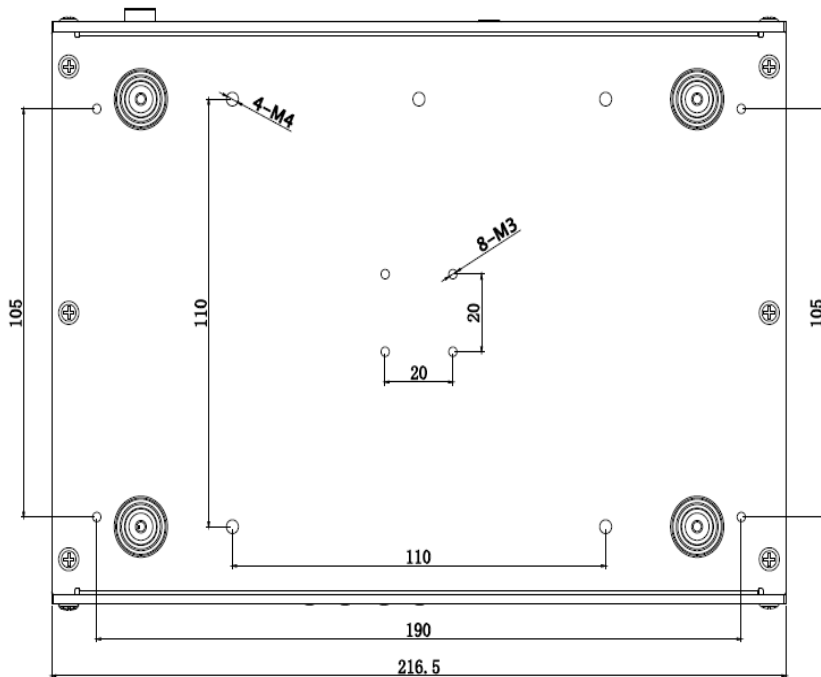
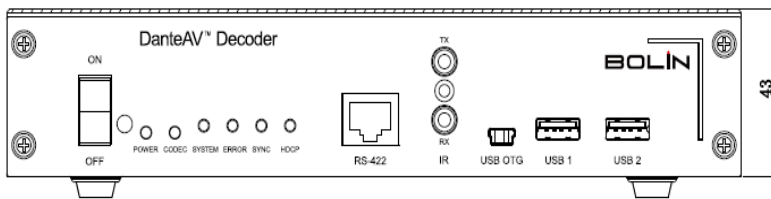
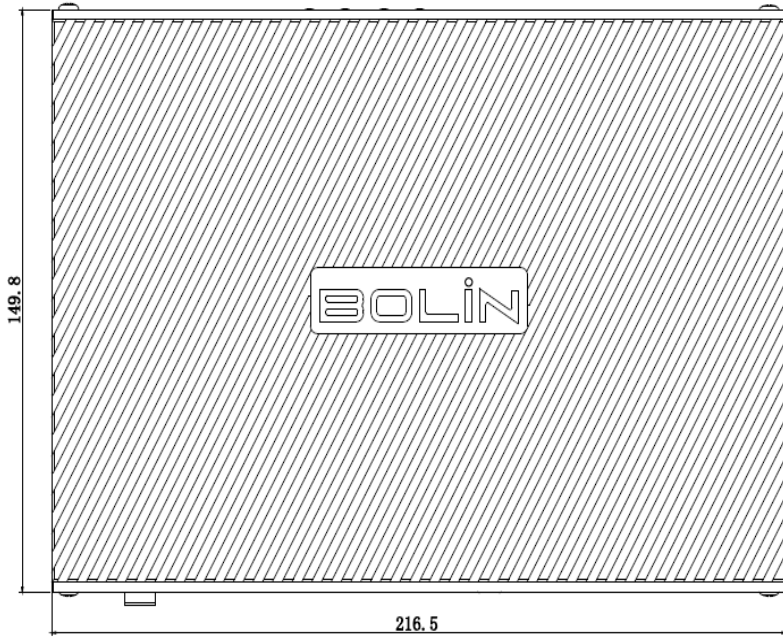
• D10H (HDMI) Decoder Included: • B-BM10 (Base Mount) • B-SM10 (Surface Mount)

Optional

- B-RM11 (Double Rack Mount) • B-RM10 (Single Rack Mount) • B-DR10 (Din Rail Mount)
- BL-PP97 97W High Power POE Injector

DIMENSIONS

Unit: mm



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