

# BOLIN

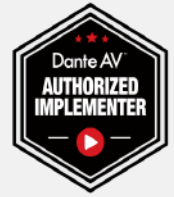
## Dante AV-H™ PTZ Camera



**Once Again  
Dante AV-H™ PTZ Camera  
Joins Bolin's Dante AV™ Solution Family**

# Dante AV™ -H PTZ Camera

Bolin was in a unique position to be among the very first to create Dante AV-H™ PTZ cameras. Dante AV-H™ is a software-based solution, it offers lower cost and network bandwidth requirements, with many of the core features of Dante AV™. These include compatibility with Dante Controller, up to eight channels of Dante audio, and Interoperability with AV-over-IP products from multiple vendors.



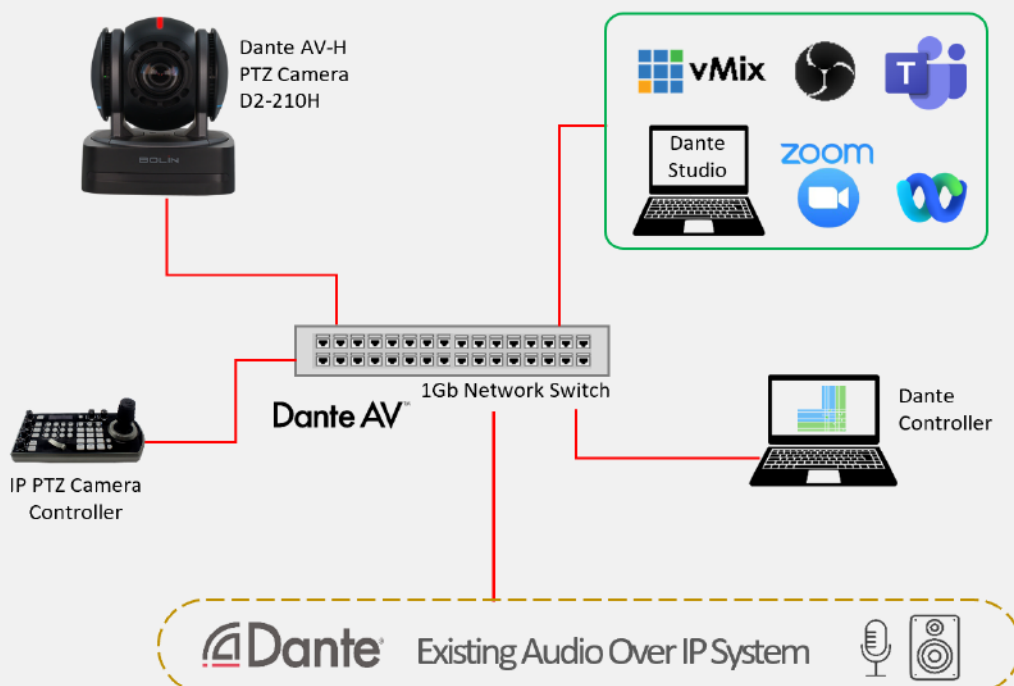
**Just like Bolin's Dante AV Ultra™ line of products**, these cameras are designed to seamlessly integrate into an existing Dante audio ecosystem. The D2-210H/ D2-220H PTZ camera is managed using Dante Controller Software, providing flexible, independent audio and Dante AV™ video routing across your network. Dante AV-H™ video can be sent to Dante Studio™ (Dante Video RX/TX and Viewer) for applications like live studio, video production, video conferencing and educational cases.

Dante AV-Ultra™ vs Dante AV-H™

- **Ultra**
  - **High Quality**
  - **Extremely Low Latency**
  - **Perfectly Timed Audio and Video**
- VS
- **A Light-Weight Codec**
  - **Lower Bandwidth**
  - **Low cost**
  - **H**

## Dante Ecosystem Friendly

- Instant compatibility with over 3000 existing Dante-enabled products.
- Unified control of camera audio and video using familiar tools - Dante Controller and Dante Domain Manager (DDM)
- No need to replace network infrastructure. Dante AV™ works with already installed, cost-effective 1Gbps network gear.
- Use for Dante ecosystem applications: House of Worship, Video Conferencing, Video Production, Education.



## D2-210H

FHD PTZ Camera 10X

## D2-220H

FHD PTZ Camera 20X



### OVERVIEW

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#### Meet Dante AV Software Environment

Bolin's Dante AV-H™ IP PTZ camera enhances your PC's capabilities and extends the functionality of software applications with Dante Studio. Dante Video RX™, Dante Video TX™, and Dante Video Viewer™ provide system designers, integrators and end users with a completely networkable AV workflow.

#### Seamlessly integrate with Dante Ecosystem

Audinate's latest software-based Dante AV-H™ codec integrates seamlessly into the Dante audio and video over IP ecosystem, using a standard 1 Gbps network. Video integration into the Dante ecosystem just got more economical, and easier with software applications.

#### Multicast Mode

Point to Multipoint and Point to Point Distribution – supports both unicast and multicast video distribution.

#### High Quality Imaging - Full HD

Bolin's Dante AV-H™ PTZ cameras are equipped with Sony sensor to provide brilliant, high-quality images in 1080p60 resolutions with 10x and 20x optical zoom.

#### Video Resolution

Two models are available: D2-210H with 10X optical zoom range with a wide horizontal angle of view, and D2-220H with 20X optical long-range zoom capability. Both cameras support up to Full HD 1920x1080p, 60/59.94 image resolutions.

#### Video Output

Deliver Dante AV-H™ version IP streaming video to the Dante network, and local HDMI video and USB streaming output to conventional workflows in FHD. D2-220H also provides 3G-SDI, lossless baseband video for live production use.

#### AI Featured Smart Focus and Exposure

Built with Bolin's latest AI-powered face analytical engine which enables precise smart focus and smart exposure to bring customer a greater level of user experience and effective image quality improvement in a complex user environment.

## KEY FEATURES

### D2-210H



### D2-220H



### Video Settings

Image parameter adjustments include exposure, focus, iris, shutter speed, white balance, gamma, wide dynamic range, E-flip/mirror and more with configurable video settings.

### PTZ Movement

Extremely quiet and smooth operation for Pan/Tilt movements combined with enhanced adaptive, variable, and super slow speed control provides accurate and effective operation experiences. Picture Profile Preset: Image parameter settings restored with presets and quick access operation.

### Remote Control and Setup PTZ Camera

Bolin's Dante AV-H™ PTZ cameras support serial RS422, Dante AV™ Serial over IP control if a Dante AV Ultra™ encoder is used, and Visca over IP control via Dante AV™ network. Remotely control pan, tilt, zoom movements with full access to camera's image parameter settings via keyboard controller or IR controller.

### Audio

HDMI/SDI/USB embedded high-quality audio and Dante AV™ video streaming embedded audio with support for Mic-in and Line-in audio input. The audio that is input to the camera can be routed within a Dante audio over IP system.

### Ease of Installation and Use

Simply connect one network cable from camera to any stand ethernet network/POE device to access to existing Dante Audio-Over-IP system.

### Always Up to Date

Free firmware updates, upgrade via IP interface to keep DanteAV camera features and performance up to date and even for customized function upgrades.

# SPECIFICATIONS

Model No.	D2-210H	D2-220H
<b>Product Name</b>	<b>Dante AV-H PTZ Camera</b>	<b>Dante AV-H PTZ Camera</b>
<b>Camera</b>	<b>10X, FHD-1080P60</b>	<b>20X, FHD-1080P60</b>
Image Sensor	Sony Progressive scan CMOS image sensor 1/2.8 type	
Number of effective pixels	1920X1080, 2.13 Megapixels	
Zoom	Optical Zoom 10X, Digital Zoom 16X	Optical Zoom 20X, Digital Zoom 16X
Focal Length	f= 4.34 mm (Wide) to 35.17 mm (Tele)	f= 5.2 mm (Wide) to 104 mm (Tele)
Aperture	F1.85 (Wide) to F2.63 (Tele)	F1.6 (Wide) to F3.0 (Tele)
Horizontal Angle of View	68.8 °(W)~8.8° (T)	55.8° (W)~3.2° (T)
Vertical Angle of View	39.5° (W)~5.1° (T)	-
Min. object distance	10mm (Wide)	
Min. Illumination	0.5lux (color) , 0.1lux (black)	
Shutter Speed	1/1 sec to 1/10000 sec (22 steps)	
Focus	Auto, Manual, One Push	
White Balance	Auto, Indoor, Outdoor,OPW,ATW, Manual	
Exposure	Auto, Manual, Shutter /Iris /Brightness priority	
Image Adjustment	Brightness, Color(Saturation), Contrast, Sharpness, HUE	
Back Light Compensation	On/Off	
E-Flip	On/Off	
WDR	On/Off	
Mirror	Horizontal	
Day/Night	On/Off	
Contrast	Yes	
Color Gain	Yes	
Color Hue	Yes	
Color Matrix	Yes	
Gamma	Yes, 0-4	
High Sensitivity	Yes	
Sence	Default, Clear, Bright, Soft	
Focus Zone	Face Priority, All Area, Uper Area, Central Area, Lower Area	
AI Face Detection Focus	Yes	
AI Face Auto Exposure	Yes	
Noise Reduction	2D/3D, 1-255	
S/N Ratio	≥50db	
OSD	Editable	
<b>HDMI Signal System</b>		
Video Format - HDMI 1.4	1920x1080p:60/59.94/50/30/29.97/25; 1280x720p:60/59.94/50/30/25	
Color Format	8bit(HDMI), YCbCr	
Color Space	YUV, RGB	
OSD Menu Display	YES (English, Chinese, Spanish, German, French, Russian)	
On-Screen Title	-	
<b>SDI Signal System</b>		
SDI Video Format	-	1080p:60/59.94/50/30/29.97/25; 720p:60/59.94/50/30/25
Color Precision	-	8bit(SDI), YCbCr, 4:2:2
Color Space	-	YUV
Standard	-	3G-SDI, SMPTE424/SMPTE292,TE 425-A(3Gb/s) standard / 75 Ω (BNC x 1), With SMPTE352 SDI Metadata Supported
True Dule Output	-	IP and SDI signal can be output with different format
OSD Menu Display	-	YES
On-Screen Title	-	-
<b>USB Signal System</b>		
Encoder	H.264/MJPEG/YUV2	
USB Video Format	1920×1080p60/50/30/25fps ,1280X720p60/50/30/25fps	
Video Conference Compatibility	Most video conference platform in the market	
<b>Network-DanteAV</b>		
Dante AV	Powered By Dante AV-H Licensed Software Module	
Network Interface	Standard 1Gbps Ethernet	
Video Codec	Optimized AVC/H.264 codec by SoC	
Video Transport Format	Dante Video over IP	
Dante AV IP Video Format	1920x1080,1280x720; Frame Rate: P60/50/30/25	
Video Streaming	Unicast or Multicast	
True Dual Output	IP and HDMI signal can be output with different format	
Latency - Codec	<280ms at 1080p60	
Bandwidth	4-8Mbps at 1080p60	
	Results may vary depending on network configuration and management settings.	
Control Protocol	Visca serial control over IP(Visca RS422), Visca-Over-IP	
HDCP	-	
Dante Eco-Friendly	Instant Dante Ecosystem compatibility with Dante Studio, Dante AV RX software tools. Unified control of audio and video using Dante tools - Dante Controller and DDM (Dante Domain Manager)	
<b>Network-Secondary IP</b>		
Video Codec	MJPEG, AVC/HEVC-H.264/265 by SoC	
Network Interface	Shared with Dante AV RJ45 port-Standard 1Gbps Ethernet	
IP Video - 1st Stream	1920x1080,1280x720; Frame Rate: P60/50/30/25	
IP Video - 2nd Stream	704x576, 640x480, 640x360, 576x480, 352x228, 320x240, 320x180; P60/50/30/25; Frame Rate P60/50/30/25	
True Dual Output	IP and HDMI signal can be output with different format	
IP Protocols	TCP/IP, ICMP, ARP, RTP, SIP, UDP, HTTP, HTTPS, DNS, DHCP, FTP, NTP	
Application Protocols	RTP, RTSP, RTMP,RTMPS, SRT	
Multi-stream	2 Streams (Up to 20 viewers at the same time)	
Audio Compression	AAC-LC,G.711,G.726 Broadband Audio Encoding	
Compatible Integration	ONVIF2.4 (Profile S, Profile G, Profile T), VISCA Over IP	
OSD	Customized OSD	
Browser Support	Cross Browser Compatibility - HTML5 support for Microsoft Edge, Google Chrome, Firefox, and Safari	
Latency - Codec	<250ms at 1080p60	
Bandwidth	2-4Mbps at 1080p60	
	Results may vary depending on network configuration and management settings.	

# SPECIFICATIONS

Model No.	D2-210H	D2-220H
<b>Camera</b>	<b>10X, FHD-1080P60</b>	<b>20X, FHD-1080P60</b>
<b>Interface</b>		
HDMI Video Output	HDMI 1.4X1 Type A	
IP Video Stream	Up to 1080p60	
SDI Video Output	-	3G-SDI, SMPTE424/SMPTE292, TE 425-A(3Gb/s) standard / 75 Ω (BNC x 1), With SMPTE352 SDI Metadata Supported
Camera Control Interface	RJ45X1-RS422, RJ45X1-IP Control, IR Remote Control	
Control Protocol	VISCA, VISCA Over IP, Pelco P/D	
LAN Port	RJ45X1 (1000BASE-T Ethernet port)	
USB Port	USB2.0, Type C	
USB Protocol	UVC, UAC	
Synchronization	Internal synchronization	
Tally Light	Tally lamp in front, Red and Green Color	
Dip Switch	Camera bottom panel: 8 PIN x 2	
Firmware Upgrade	Dante AV system upgrade via IP (Dante Firmware Update Manager) HEVC IP stream system upgrade via IP Upgrade via IP for camera system MCU and Encoder	
IR ID	ID selector for IR controller, total 3	
Power Connector Type	DC12V (IEC60130-10 (JEITA standard RC-5320A) TYPE4 ) INPUT: RJ45, PoE+ (IEEE802.3at)	
Audio Input	MIC/LINE input, 3.5mm audio jack ACC (Bit Rate(bps)32K/40K/48K/64K/96K/128K; Sampling Rate(bps)16K/32K/44.1K/48K) G.711a (Bit Rate(bps)64K; Sampling Rate(bps)8K) G.711u (Bit Rate(bps)32K/40K/48K/64K/96K/128K; Sampling Rate(bps)16K/32K/44.1K/48K)	USB port to 3.5mm audio jack
Audio Output	-	USB port to 3.5mm audio jack-
Audio Output	Embedded with HDMI/USB/SDI/Dante AV IP streaming, 24bit Stereo, sample rate: 44k1 to 192k, PCM24	
Audio S/N Ratio	≥85dB	
Audio THD+N	≤0.05%	
Audio Noise (RMS)	≤-90dB	
<b>Mechanical</b>		
Pan Movement	Horizontal:±170 degrees continuous pan (Zoom Adaptive Speed Range: 0.05°~100°/S )	
Tilt Movement	Vertical:+90 degrees to -30 degrees (Zoom Adaptive Speed Range: 0.05°~50°/S)	
Speed Proportional	Pan/Tilt Speed proportional to zoom range	
Preset Position	255 positions, Speed 150°/s, Accuracy: 0.05° 6 presets on remote controller	
Preset Speed	0~5 Level Adjustable	
Preset Memory	YES, ( Picture Profile Preset-Preset Memory for image parameters, like: Backlight Compensation, White Balance, R-Gain/B-Gain, Auto Exposure, Bright, Iris, Shutter, Gain, Aperture, Effect, Noise Reduction, Mirror, Gamma, Ex-COMP, Color Hue, Contrast etc.)	
Motionless Preset	On/Off	
PTZ Trace Memory	Yes, 4 (Supported via IP interface)	
Cruise	Yes,4	
Adaptive PT	Zoom range adaptive Pan/Tilt speed	
Pan/Tilt Direction	Normal, Invert	
Quietness	NC35 or less	
Home Position	Support	
Environmental	Indoor	
<b>General</b>		
Body	Partial Magnesium alloy	
Mount	Ceiling mount, Wall mount, Trypot	
Size of Tripod Screw Hole	1/4"-20UNC with safety joint	
Operating Temperature	-10 to +50 (°C), 32 to 130 (°F)	
Operating Humidity	≤80% Suitable for Use	
Power Input	DC±12V, PoE+(Compatible with IEEE802.3at)	
Power Consumption	Min: 10W(Static state with no movement); Max: 13W (Fully loaded operation)	
Heat Dissipation		
Dimension	143x143x161mm (LxWxH)	
Weight	1.5kg (Net weight)	
Gross Weight (Approximate)	-	
Packing Dimension (Approximate)	-	
Body Color	Black/White	
<b>Accessory</b>		
Power Supply	12VDC 4A X1, Universal various power core.	
Remote Controller	Full Function IR Controller X1	
Serial Control Adaptor	RS232/RS422 adapter cable x1 For serial RS232/422 control	

## ORDER INFORMATION

• D2-210H (FHD, 10X Zoom)

• D2-220H (FHD, 20X Zoom)

## ACCESSORIES



VCC-RC-2  
IR Remote Controller



VCC-P12-2  
12VDC 2A Power Adapter



VCC-CC45RS  
RJ45 To RS232/RS422/485 Adapter



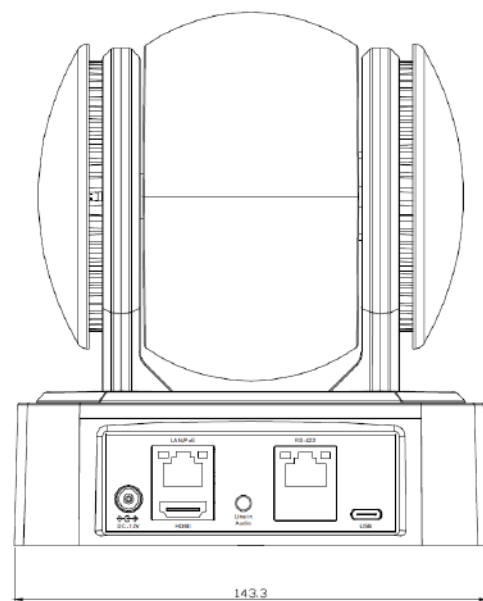
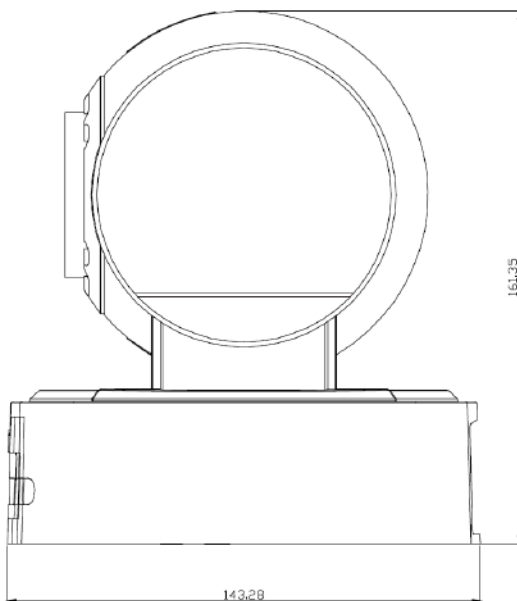
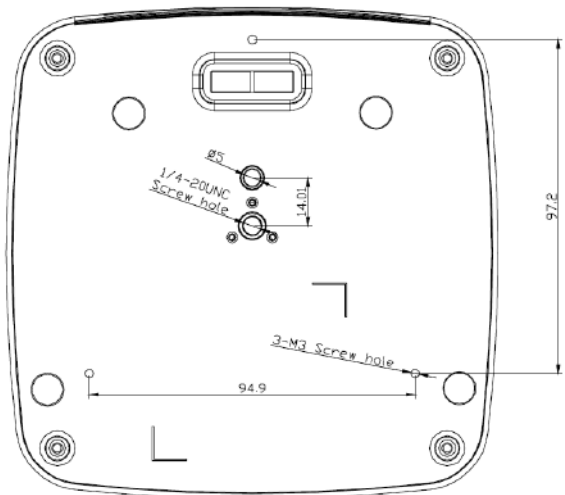
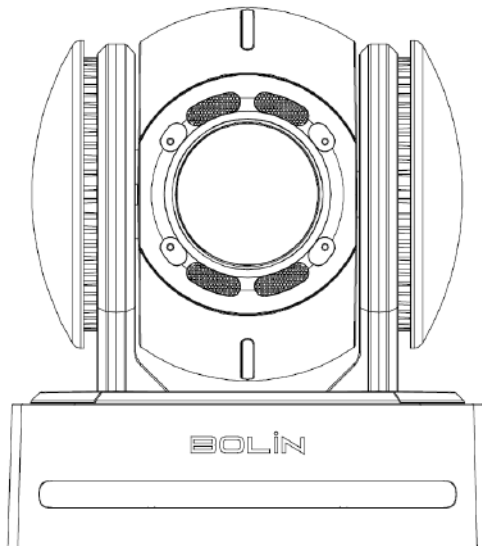
VCC-WM  
Wall Mount Bracket-Optional



VCC-CM  
Ceiling Mount Bracket-Optional

## DIMENSIONS

Unit: mm



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