

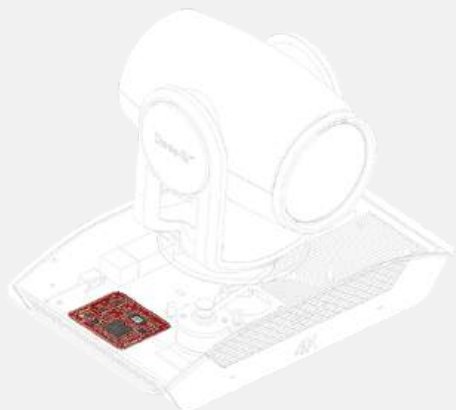
BOLIN

DanteAV™ PTZ Camera



**At Last
DanteAV PTZ Camera
Joins the Dante Audio Family**

DanteAV™ PTZ Camera



Powered by DanteAV module

Bolin D Series PTZ camera is the world's first DanteAV hardware enabled pan, tilt, zoom camera interfacing video and audio in a standard 1 Gbps network, and providing uncompromised video quality with lowest latency and synchronization.

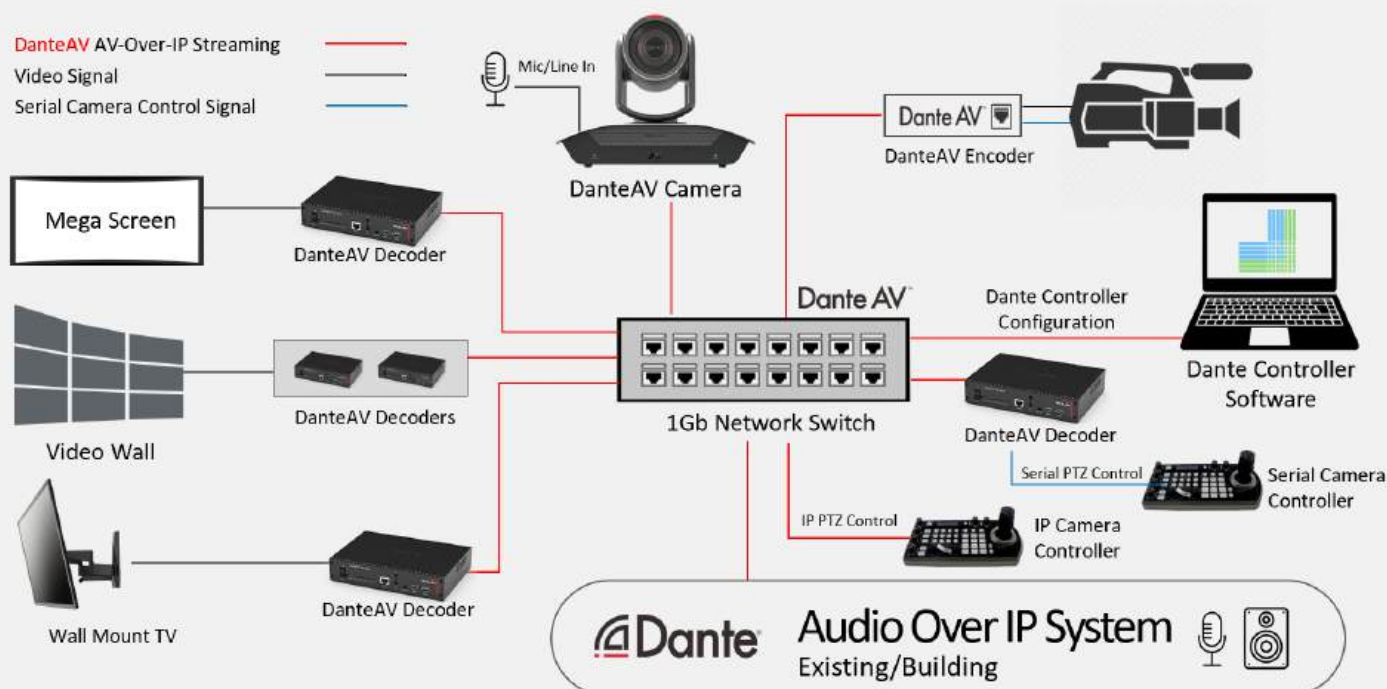
Designed to seamlessly integrate into an existing Dante audio ecosystem, the D412/D220 PTZ is managed using the Dante Controller Software with flexibility to independently route audio and video with sub-microsecond accuracy to minimize time alignment issues.



- **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 2000 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.
- Use for Dante ecosystem applications: House of Worship, Video Conferencing, Live Production, Broadcast, Live Performance, Hospitality, Stadium, Sports Bar, Corporate, Education.



D412

4K60 PTZ Camera 12X

D220

FHD PTZ Camera 20X



OVERVIEW

High Quality Imaging - 4K60 and Full HD

Bolin's D Series PTZ cameras are equipped with Sony sensor to provide brilliant, high-quality images in 4K60 or 1080p60 resolutions with 12x and 20x optical zoom.

Seamlessly integrate with Dante Ecosystem

Dante AV cameras integrate seamlessly into the Dante audio over IP ecosystem using a standard 1 Gbps network. Video integration into Dante ecosystem just got simpler.

Multi-screen video display routing

Individually route video using familiar Dante Controller software, with no need for break-outs or matrix switches to display the camera video on any number of Dante AV-enabled screens.

Lossless image with extremely low codec latency

Bolin's D Series PTZ camera incorporates a ProAV optimized implementation of the popular JPEG2000 codec in FPGA, which delivers visually perfect lossless image at 4K60 with < 10ms codec latency.

100% Synchronized video and audio

Bolin's D412 and D220 PTZ cameras support sub-microsecond video and audio synchronization by designating a single network clock that always keeps the camera video in sync with audio regardless of the number of endpoints in the ecosystem, fixing lip-sync problems.

Video Resolution

Two models are available:
D412 PTZ supports up to 4K60 3860x2160p, 60/59.94 image resolutions.
D220 PTZ supports up to Full HD 1920x1080p, 60/59.94 image resolutions.



KEY FEATURES



Lens

D412, 12X optical zoom with wide angle view 72 ° and D220, 20X long range optical zoom.

Video Output

Deliver IP streaming video to Dante network and local HDMI 2.0 video output to conventional workflow in 4K60 or FHD.

Multicast Mode

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

Video Settings

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

Audio

HDMI embedded high-quality audio and DanteAV video streaming embedded audio with support for Mic-in and Line-in audio input. The audio that is input from the camera can be routed within Dante audio over IP system.

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 setting restore with presets and quick access operation.

Remote Control and Setup PTZ Camera

D412 and D220 PTZ cameras support serial RS232/422, Dante AV Serial over IP control, and Visca over IP control via Dante AV decoder. Remotely control pan, tilt, zoom movements with full access to camera's image parameter settings via keyboard controller or IR controller.

Additional Daul IP Streaming and Viewing Capability

In addition to Dante AV streaming, both D220 camera provides extra IP RTSP video streaming for remote viewing and controlling via browsers. It supports RTMP for live streaming as well.

Ease of Installation and Use

Simply connect one network cable from camera to any 1GB Ethernet network/POE++ device to access to existing Dante Audio-Over-IP system.

Always Up to Date

Free firmware updates, upgrade via USB and IP interface to keep DanteAV camera

SPECIFICATIONS

Model No.	D412	D220
Product Name	Dante AV PTZ Camera	Dante AV PTZ Camera
Camera	4K60	FHD
Image Sensor	Sony IMX415, 1/2.8 Inch Exmor R CMOS	Sony IMX307, 1/2.8" CMOS
Number of effective pixels	3840 x 2160, 8.29 Megapixels	1920X1080, 2.08 Megapixels
Zoom	Optical Zoom 12X, Digital Zoom 12X	Optical Zoom 20X, Digital Zoom 16X
Focal Length	3.86~42.95mm	5.2~98mm, F1.5 ~ F3.0
Aperture	F1.8(W)~F3.68(T)	F1.5(W)~F3.0(T)
Horizontal Angle of View	72.06°(W)~6.86°(T)	55.8°(W)~3.2°(T)
Vertical Angle of View	44.51°(W)~3.86°(T)	-
Min. Object distance	80mm (Wide), 1000mm (Tele)	1000mm(Wide), 1500mm(Tele)
Min. Illumination	Color: 0.005 lux at Auto Exposure Mode	0.5Lux (Day), 0.1Lux (Night)
Shutter Speed	1/1s~1/10000s	1/1s~1/10000s
Focus	Auto, Manual, One Push	Auto, Manual, One Push
White Balance	AUTO, OPW, Indoor, Outdoor, ATW, USER, Manual(Color Temp), Sodium Vapor Lamp	AUTO, ATW, Indoor, Outdoor, USER, OPW
Exposure	Full Auto, Manual, Indoor(50/60HZ), Gain Priority, Shutter Priority, Iris Priority, Bright, Low Motion Blur	Full Auto, Manual, Shutter Priority, Iris Priority, Bright
Image Adjustment	Brightness, Color(Saturation), Contrast, Sharpness, Hue	Brightness, Color(Saturation), Contrast, Sharpness, Hue
Back Light Compensation	On/Off	On/Off
Flip	On/Off	On/Off
WDR	On/Off/Auto, Level 1-9, 120dB	On/Off, Level 1-6
Mirror	Horizontal	Horizontal
Image Stabilizer	EIS/Off	-
Effect	OFF, B&W	OFF, B&W
Gamma	Yes, 0,1	Yes, 5 Steps(0-4)
Noise Reduction	2D/3D, 0-15	2D/3D
S/N Ratio	≥50dB	≥50dB
OSD	Editable	Editable
Video Signal System		
Video Format - HDMI 2.0	3840X2160p:60/59.94/50/30/29.97/25/23.98 1920X1080p:60/59.94/50/30/29.97/25/23.98 1280X720p:60/59.94/50	1920x1080p:60/59.94/50/30/29.97/25 ; 1280x720p:60/59.94/50/30/25
Color Format	HDMI, RGB 8bit 4:4:4 / YUV 8bit 4:4:4 / YUV 12bit 4:2:2 / YUV 8bit 4:2:0	HDMI, RGB 8bit 4:4:4 / YUV 12bit 4:2:2
Color Space	YUV(YCbCr), RGB	YUV(YCbCr), RGB
Network-DanteAV		
Dante AV	Powered By DanteAV Module	
Network Interface	Standard 1Gbps Ethernet	
Video Codec	ProAV optimized implementation of JPEG2000 codec in FPGA, Licensed By IntoPIX	
Video Transport Format	Dante Video over IP	
DanteAV IP Video Format	2160p:60/59.94/50/30/29.97/25/23.98 1080p:60/59.94/50/30/29.97/25/23.98 720p:60/59.94/50/30	1920x1080p:60/59.94/50/30/29.97/25 ; 1280x720p:60/59.94/50/30/25
Video Streaming	Unicast or Multicast	
Latency - Codec	Encoder to Decoder < 8ms with Low Latency Mode	
Bandwidth	4Kp60 10 bit 4:2:2 500-600Mbps Results may vary depending on network configuration and management settings.	1080p60 10 bit 4:2:2 150-250Mbps
Control Protocol	Visca serial control over IP(Visca RS422), Visca-Over-IP	
HDCP	-	
Dante Ecosystem Friendly	Instant Dante Ecosystem compatibility with existing Dante-enabled products Unified control of audio and video using Dante tools - Dante Controller	
Network - IP Streaming		
Video Codec	-	MJPEG,H.264
IP Video Format	-	1080p:60/50/30/25; 720p:60/50/30/25
Protocols	-	IPv4,TCP,UDP,DHCP,RTP,RTSP,DNS,DDNS,NTP,FTP,UPnP,HTTP,SNMP,RTMP,SMTP,HTTPS
Multi-stream	-	3 data stream function will satisfy various bandwidth, frame rates and storage requirements in real time
Audio Compression	-	AAC-LC Broadband Audio Encoding(Duplex Communicate Supported,Audio/Video synchronization)
Compatible Integration	-	VISCA Over IP
Browser Support	-	Web browser support with VLC plug-in. HTML 5 support using MS Edge, Chrome, Firefox, Safari

SPECIFICATIONS

Model No.	D412	D220
Product Name	Dante AV PTZ Camera	Dante AV PTZ Camera
Camera	4K60	FHD
Interface		
Video Output	HDMI 2.0X1, IP(Dante AV)	
IP Video Stream	Up to 4K/60 and 1080p60	
Camera Control Interface	RJ45X2-RS232/RS422, RJ45X1-IP Control, IR Remote Control	
Control Protocol	VISCA. Serial Over IP (Dante AV), VISCA Over IP, PELCO_D, PELCO_P	
LAN Port	RJ45X1(1000BASE-T Ethernet port)	
Synchronization	Internal synchronization	
Tally Light	Tally lamp in front, Red Color	
Dip Switch	Back Panel: 8 PIN x 1 for system setting; Video Resolution Dip X1 for video format setting	
Firmware Upgrade	Dante AV system upgrade via FUM Back panel USB2.0 Type-A: Camera MCU firmware upgrade via USB	
IR ID	ID selector for IR controller, total 3	
Power Connector Type	IEC60130-10 (JEITA standard RC-5320A) TYPE4 RJ45: PoE++ (IEEE802.3bt)	
Audio Input	MIC/LINE input ø 3.5 mm stereo mini jack, Input impedance: High impedance During MIC input, Supported mic: Stereo mic (plug-in power) Supply voltage: 2.5 V ± 0.5 V During LINE Input input level: Approx. -34.5dB to ±33dB	
Audio Output	Embedded with HDMI, 24bit Stereo, Embedded with DanteAV IP signal. Sample rate: 48K, PCM24	
Mechanical		
Pan Movement	Horizontal:±175 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)	
Preset Position	128 (Speed adjustable: Up to 150°/S, 9 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.)	
PTZ Trace Memory	4 (Supported via IP interface)	
Pan Limit	Scan, Pan limit adjustable	
Adaptive PT	Zoom range adaptive Pan/Tilt speed	
Pan/Tilt Direction	Normal, Invert	
Quietness	NC35 or less	
Home Position	Support	
Environmental	Indoor	
General		
Body	Magnesium alloy	
Mount	Ceiling mount, Wall mount, Trypot	
Size of Tripod Screw Hole	1/4-20UNC x1	
Operating Temperature	-10 to +40 (°C), 32 to 104 (°F)	
Operating Humidity	≤80% Suitable for Use	
Heat Dissipation	Cooling fan speed adjustable, 3 Level	
Acoustic Noise	NC35 or less, variable with cooling fan speed adjustment	
Power Input	12VDC, POE++, IEEE802.3bt Type 4 Class 6	
Power Consumption	Min: 33W(Static state with no movement); Max: 37W(Fully loaded operation)	
Dimension	272x156.6x206.1mm (LxWxH)	
Weight	3.0kg(Net weight)	2.8kg(Net weight)
Body Color	Metallic Gray	
Accessory		
Power Supply	12VDC 4A x 1 , USA / EU / UK Power Plugs	
Remote Controller	Full Function IR Remote Controller X1	
Serial Control Adaptor	RS232 X1, RS422 X1 For serial RS232/422 control	

ORDER INFORMATION

- D412 (4K60, 12X Zoom)
- D10H (DanteAV Decoder HDMI Output)
- BL-WM-01 (Wall Mount)
- D220 (FHD, 20X Zoom)
- D20S (DanteAV Decoder HDMI+SDI Output)
- BL-CM-01 (Ceiling Mount)

ACCESSORIES



VCC-RC-2
IR Remote Controller



VCC-P12-4
12VDC 4A Power Adapter



VCC-CC45RS
RJ45 To RS232/RS422/485 Adapter



VCC-CC45232
RJ45 To RS232 Adapter



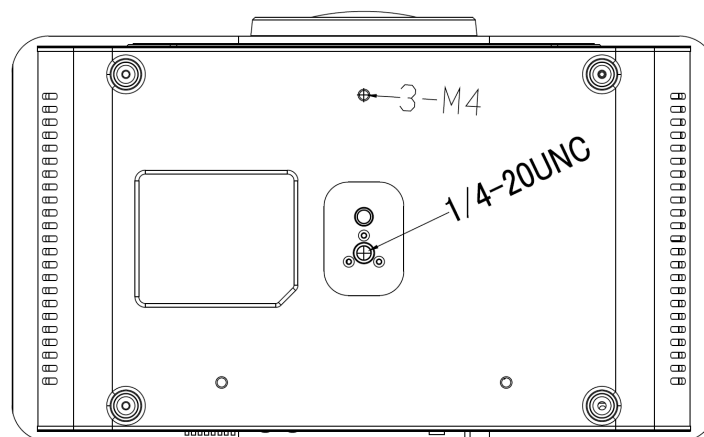
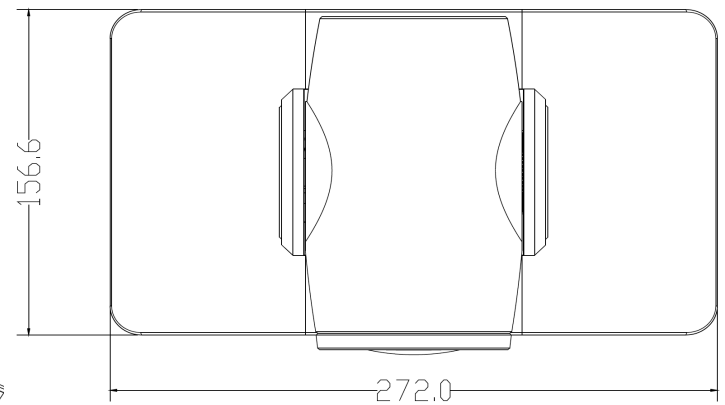
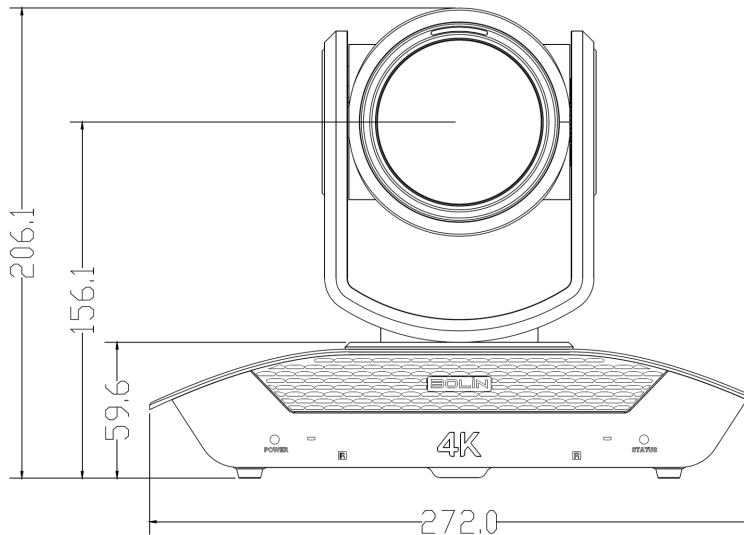
BL-WM-01
Wall Mount Bracket-Optional



BL-CM-01
Ceiling Mount Bracket-Optional

DIMENSIONS

Unit: mm



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