

# DH-HAC-B1A21

## 2MP HDCVI IR Bullet Camera



- Max. 30 fps@1080p
- CVI/CVBS/AHD/TVI switchable
- 3.6 mm fixed lens (2.8 mm, 6 mm optional)
- Max. IR length 20 m, Smart IR
- IP67, 12 VDC



### System Overview

The Cooper Series offers simple and highly cost-effective HDCVI solutions. It provides 24/7 reliable monitoring with high-quality image performance, saving cost on both material and labor force. It is also designed and built to the specific standards of Dahua.

### Functions

#### Smart IR Illumination

With its IR illumination, the camera provides optimal performance in low light conditions, ensuring uniformity in the brightness of B/W images. Through its smart IR technology, the camera also compensates for the distance of targets by adjusting the intensity of its IR LEDs, preventing overexposure of images as targets move closer to the camera.

#### 4 Signals over 1 Coaxial Cable

HDCVI technology supports 4 signals (video, audio\*, data and power) which are simultaneously transmitted over a coaxial cable. Dual-way data transmission allows the HDCVI camera to interact with the XVR to perform various actions such as sending control signals and triggering alarms. HDCVI technology also supports PoC, which makes the camera easy and quick to install.

\* Audio input is available for select HDCVI camera models.

#### Long Distance Transmission

HDCVI technology provides long distance transmission in real-time without transmission loss. It supports transmission distances up to 700 m for 2-MP/5-MP/8-MP HD videos through coaxial cables, and up to 300 m through UTP cables. The results were obtained and verified through rigorous testing in Dahua's test laboratory.

### Protection

**IP67:** The camera passed a series of rigorous dust and immersion tests. Its enclosure is both dust-proof and waterproof, and can function normally while being immersed in 1 m deep water for up to 30 minutes.  
**Wide voltage:** The camera has  $\pm 30\%$  input voltage tolerance (for some power supplies) and a wide voltage range, making it suitable for a variety of outdoor scenarios.

### Multi-language OSD

The OSD offers multiple functions to meet the many requirements of a monitoring scene, such as backlight mode, day/night mode, white balance, privacy mask, and motion detection. 11 languages are available for OSD: Chinese, English, French, German, Spanish, Portuguese, Italian, Japanese, Korean, Russian and Polish.

### Simplicity

HDCVI technology inherits the simplicity of traditional analog surveillance systems, making it a great mechanism for protecting your valuables. HDCVI can be upgraded from the traditional analog system without replacing the existing coaxial cabling. Its plug and play design enables it to produce high-definition videos during surveillance without the hassle of configuring a network.

### Technical Specification

#### Camera

Pixel	2 MP
Image Sensor	2MP CMOS
Max. Resolution	1920 (H) × 1080 (V)
Scanning System	Progressive
Electronic Shutter Speed	PAL: 1/25 s–1/100,000 s NTSC: 1/30 s–1/100,000 s
Min. Illumination	0.04 lux@F2.0 (Color, 30 IRE) 0.004 lux@F2.0 (B/W, 30 IRE) 0 lux (Illuminator on)
S/N Ratio	>65 dB
Illumination Distance	20 m (65.62 ft)
Illuminator On/Off Control	Auto/Manual
Illuminator Number	2 (IR light)
Pan/Tilt/Rotation Range	Pan: 0°–360° Tilt: 0°–90° Rotation: 0°–360°

#### Lens

Lens Type	Fixed-focal				
Lens Mount	M12				
Focal Length	2.8 mm; 3.6 mm; 6 mm				
Max. Aperture	F2.0				
Field of View	2.8 mm: H: 100°; V: 53°; D: 120° 3.6 mm: H: 82°; V: 42°; D: 98° 6 mm: H: 53°; V: 30°; D: 60°				
Iris Control	Fixed				
Close Focus Distance	2.8 mm: 0.6 m (1.97 ft) 3.6 mm: 1.0 m (3.28 ft) 6 mm: 2.0 m (6.56 ft)				
DORI Distance	Lens	Detect	Observe	Recognize	Identify
	2.8 mm	46.9 m (153.87 ft)	18.8 m (61.68 ft)	9.4 m (30.84 ft)	4.7 m (15.42 ft)
	3.6 mm	60.9 m (199.80 ft)	24.3 m (79.72 ft)	12.2 m (40.03 ft)	6.1 m (20.01 ft)
	6 mm	82.8 m (271.65 ft)	33.1 m (108.60 ft)	16.6 m (54.46 ft)	8.3 m (27.23 ft)

#### Video

Video Frame Rate	CVI: PAL: 1080p@25 fps; 720p@25 fps NTSC: 1080p@30 fps; 720p@30 fps TVI: PAL: 1080p@25 fps; 720p@25 fps NTSC: 1080p@30 fps; 720p@30 fps AHD: PAL: 1080p@25 fps; 720p@25 fps NTSC: 1080p@30 fps; 720p@30 fps CVBS: PAL: 960H NTSC: 960H
Resolution	1080p (1920 × 1080); 720p (1280 × 720); 960H (960 × 576/960 × 480)
Day/Night	Auto (ICR)/Color/B/W
BLC	BLC; HLC; DWDR

WDR	DWDR
White Balance	Auto; Area white balance
Gain Control	Auto/Manual
Noise Reduction	2D NR
Smart Illumination	Yes
Mirror	Yes
Privacy Masking	Off/On (8 areas, rectangle)

#### Certification

Certifications	CE (EN55032:2015, EN61000-3-2:2014, EN61000-3-3:2013, EN55024:2010+A1:2015, EN55035:2017, EN50130-4:2011+A1:2014, EN62368-1:2014+A11:2017) FCC (CFR 47 FCC Part 15 subpartB, ANSI C63.4-2014)
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#### Port

Video Output	Video output choices of CVI/TVI/AHD/CVBS by one BNC port
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#### Power

Power Supply	12 VDC ± 30%
Power Consumption	Max. 2.7 W (12 VDC, IR on)

#### Environment

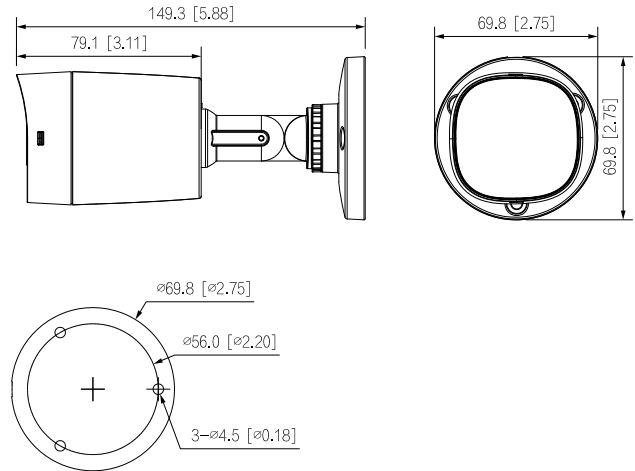
Operating Temperature	–40 °C to +60 °C (–40 °F to 140 °F)
Operating Humidity	<95% (RH), non-condensing
Storage Temperature	–40 °C to +60 °C (–40 °F to +140 °F)
Protection	IP67

#### Structure

Casing	Plastic
Product Dimensions	149.3 mm × 69.8 mm × 69.8 mm (5.88" × 2.75" × 2.75")
Packaging Dimensions	164 mm × 79 mm × 90 mm (6.46" × 3.11" × 3.54")
Net Weight	0.14 kg (0.31 lb)
Gross Weight	0.17 kg (0.37 lb)
Installation	Wall mount; ceiling mount; horizontal pole mount

Ordering Information		
Type	Part Number	Description
2MP Camera	DH-HAC-B1A21P	2MP HDCVI IR Bullet Camera, PAL
	DH-HAC-B1A21N	2MP HDCVI IR Bullet Camera, NTSC
Accessories (Optional)	PFA134	Junction Box
	PFA134+PFA152-E	Pole Mount Bracket
	PFM800-E	Passive HDCVI Balun
	PFM321D	12V 1A Power Adapter
	PFM904	Integrated Mount Tester

**Dimensions (mm[inch])**



**Accessories**

Optional:



PFA134  
Junction  
Box



PFA134+PFA152-E  
Pole Mount  
Bracket



PFM800-E  
Passive HDCVI  
Balun



PFM321D  
12V 1A Power  
Adapter



PFM904  
Integrated Mount  
Tester

Ceiling Mount	Junction Mount	Pole Mount (Vertical)

# DH-XVR1B08-I

8 Channel Penta-brid 1080N/720p Cooper 1U 1HDD WizSense Digital Video Recorder



WizSense

Launched by Dahua Technology, WizSense is a series of AI products and solutions that adopt independent AI chip and deep learning algorithm. It focuses on human and vehicle with high accuracy, enabling users to fast act on defined targets. Based on Dahua's advanced technologies, WizSense provides intelligent, simple and inclusive products and solutions.

## Series Overview

Dahua Technology, a world-leading video-centric smart IoT solution and service provider, debuted its new XVR series, Cooper Series featuring SMD Plus to benefit customers from AI upgrade. The series are designated to reduce false-alarm rates and human surveillance costs, thus bringing great value to customers in search of products with accurate human/vehicle alarm to raise the security level of various indoor and outdoor facilities.

## Functions

### SMD Plus

With intelligent algorithm, Dahua Smart Motion Detection technology can categorize the targets that trigger motion detection and filter the motion detection alarm triggered by non-concerned targets to realize effective and accurate alarm.

### AI Coding

Compared with H.265/H.264, AI coding can reduce more than 50% bit rate and storage requirements while have no loss of decoding compatibility, providing clear human and vehicle details.

- H.265+/H.265 dual-stream video compression
- Supports Full channel AI-Coding
- Supports HDCVI/AHD/TVI/CVBS/IP video inputs
- Max 10 channels IP camera inputs, each channel up to 6MP; Max 40 Mbps incoming bandwidth
- Up to 4 channels video stream ( analog channel ) SMD Plus



### Smart Codec

With advanced scene-adaptive rate control algorithm, Dahua smart codec technology realizes the higher encoding efficiency than H.265 and H.264, provides high-quality video, and reduces the cost of storage and transmission.

### HDCVI/AHD/TVI/CVBS Auto-detect

The XVR can auto recognize the signal of front-camera without any setting. It makes operation more friendly and convenient.

### High Definition Camera Input

The XVR supports up to 2MP HDCVI camera and 6MP IP camera input.

### Coaxial Audio/Upgrade/Alarm

The integrated design can reduce wiring troubles which makes it much more cost-effective and convenient for installation.

### Long Distance Transmission

The HDCVI system supports long distance transmission over coaxial cable and UTP, max. 800 m for 1080p and 1200 m for 720p.

## Technical Specification

### System

Main Processor	Embedded processor
Operating System	Embedded linux

### SMD Plus

Performance	4 channels
AI Search	Search by target classification (Human, Vehicle)

### Video and Audio

Analog Camera Input	8 channels, BNC
HDCVI Camera Input	1080p@ 25/30 fps, 720p@25/30 fps
AHD Camera Input	1080p@ 25/30 fps, 720p@ 25/30 fps
TVI Camera Input	1080p@25/30 fps, 720p@25/30 fps
CVBS Camera Input	PAL/NTSC
IP Camera Input	8+2 channels, each channel up to 6MP
Audio In/Out	1/1, RCA
Two-way Talk	Reuse audio in/out, RCA

### Recording

Compression	AI Coding/H.265+/H.265/H.264+/H.264
Resolution	1080N; 720p; 960H; D1; CIF
Record Rate	Main Stream: 8-channel: the 1st channel 1080N/720p(1 fps–25/30 fps), others 1080N/720p(1 fps–15 fps); 960H/D1/CIF/(1 fps–25/30 fps) Sub stream: 8-channel: CIF (1 fps–7 fps)
Bit Rate	32 kbps–4096 kbps per channel
Record Mode	Manual; Schedule (General, Continuous); MD (Video detection: Motion Detection, Video Loss, Tampering); Alarm; Stop
Record Interval	1 min– 60 min (default: 60 min), Pre-record: 1 s–30 s, Post-record: 10 s–300 s
Audio Compression	G.711A; G.711U; PCM
Audio Sample Rate	8 KHz, 16 bit per channel
Audio Bit Rate	64 kbps per channel

### Display

Interface	1 HDMI; 1 VGA
Resolution	1920 × 1080, 1280 × 1024, 1280 × 720
Multi-screen Display	When IP extension mode not enabled: 1/4/8/9 When IP extension mode enabled: 1/4/8/9/16
OSD	Camera title; Time; Video loss; Camera lock; Motion detection; Recording

### Network

Interface	1 RJ-45 Port (100 Mbps)
Network Protocol	HTTP; HTTPS; TCP/IP; IPv4/IPv6; Wi-Fi; 3G/4G; SNMP; UPnP; RTSP; UDP; SMTP; NTP; DHCP; DNS; IP Filter; PPPoE; DDNS; FTP; Alarm Server; P2P; IP Search (Supports Dahua IP camera, DVR, NVS, etc.)
Max. User Access	128 users

Smart Phone	iPhone; iPad; Android
Interoperability	ONVIF 16.12, CGI Conformant

### Video Detection and Alarm

Trigger Events	Recording, PTZ, Tour, Video Push, Email, FTP, Snapshot, Buzzer and Screen Tips
Video Detection	Motion Detection, MD Zones: 396 (22 × 18), Video Loss, Tampering and Diagnosis
Alarm input	N/A
Relay Output	N/A

### Playback and Backup

Playback	1/4/9
Search Mode	Time/Date; Alarm; MD and Exact Search (accurate to second)
Playback Function	Play; Pause; Stop; Rewind; Fast play; Slow Play; Next File; Previous File; Next Camera; Previous Camera; Full Screen; Repeat; Shuffle; Backup Selection; Digital Zoom
Backup Mode	USB Device/Network

### Storage

Internal HDD	1 SATA port, up to 6 TB capacity
eSATA	N/A

### Auxiliary Interface

USB	2 USB ports (USB 2.0)
RS485	N/A
RS232	N/A

### Electrical

Power Supply	DC 12 V/1.5 A
Power Consumption (Without HDD)	< 7 W

### Construction

Dimensions	Cooper 1U, 198 mm × 202.9 mm × 41.5 mm (7.81" × 7.99" × 1.63")
Net Weight (without HDD)	0.62 kg (1.37 lb)
Gross Weight	1.13 kg (2.49 lb)
Installation	Desktop installation

### Environmental

Operating Conditions	–10 °C to +45 °C (+14 °F to +113 °F), 0%–90% (RH)
Storage Conditions	–20 °C to +70 °C (–4 °F to +158 °F), 0%–90% (RH)

### Third-party Support

Third-party Support	Dahua, Arecont Vision, AXIS, Bosch, Brickcom, Canon, CP Plus, Dynacolor, Honeywell, Panasonic, Pelco, Samsung, Sanyo, Sony, Videotec, Vivotek, and more
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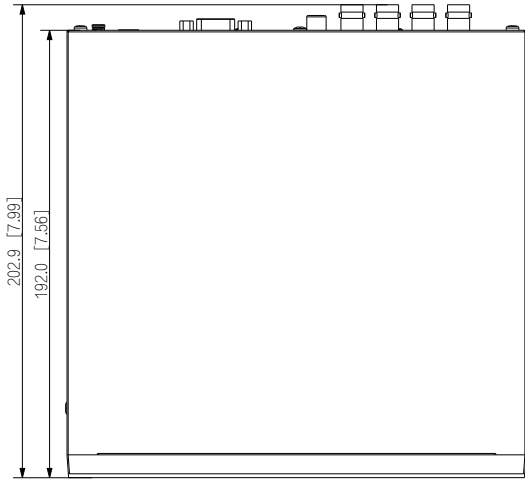
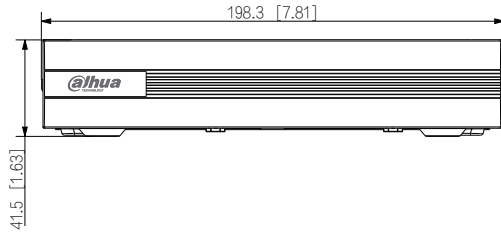
### Certifications

Certifications	FCC: Part 15 Subpart B CE: CE-LVD: EN 60950-1/IEC 60950-1 CE-EMC: EN 61000-3-2; EN 61000-3-3; EN 55032; EN 50130; EN 55024
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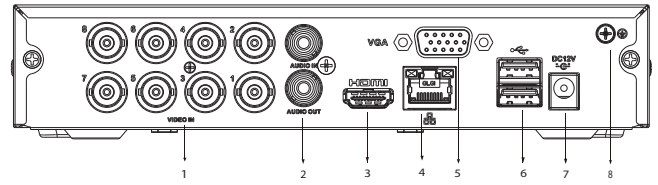
**Ordering Information**

Type	Model	Description
8 Channel WizSense XVR	DH-XVR1B08-I	Cooper 1U WizSense Digital Video Recorder

**Dimensions (mm[inch])**



**Panels**



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|---------------|-------------------------------|
| 1 VIDEO IN    | 2 AUDIO IN/OUT, RCA Connector |
| 3 HDMI Port   | 4 Network Port                |
| 5 VGA Port    | 6 USB Ports                   |
| 7 Power Input | 8 Ground                      |