

4K HDCVI Security System

Eight (8) 5 MP and Four (4) 4K HDCVI Eyeball Cameras with One (1) 16-channel 4K HDCVI DVR



System Overview

The Dahua HDCVI Security System provides all the components to quickly install, configure, and employ a complete video surveillance solution. The HDCVI cameras offer the clarity of 4K video, and the HDCVI DVR offers built-in motion detection algorithms, alarm triggers, and customized recording modes. The cameras and the HDCVI DVR supports multiple video outputs making the kit compatible with many existing systems. The kit features Dahua's HDCVI technology that leverages an existing coaxial infrastructure, saving time and costs from running networking and power cables.

Functions

Long Distance Transmission

HDCVI technology guarantees real-time transmission over long distances without loss of video quality. HDCVI cameras provide the same resolution as most IP network camera systems using existing RG-59, RG-6, or CAT 6 UTP cabling.

Simplicity

HDCVI technology seamlessly integrates traditional analog surveillance systems with upgraded, high-quality HD video, making it the best choice to protect security investments. The plug and play approach enables full HD video surveillance without the hassles of configuring a network.

Smart IR

With IR illumination, detailed images can be captured in low light or total darkness. The camera's Smart IR technology adjusts the intensity of camera's infrared LEDs to compensate the distance of an object. Smart IR technology prevents IR LEDs from whitening out images as they come closer to the camera. The camera's integrated infrared illumination provides high performance in extreme low-light environments.

5 MP HDCVI Cameras

- 5 MP¹ at 20 fps Maximum Resolution
- 2.8 mm Fixed Lens
- Maximum IR Length: 30 m (98 ft) with Smart IR
- IP67 Ingress Protection

4K HDCVI Cameras

- 8 MP at 15 fps Maximum Resolution
- 2.8 mm Fixed Lens
- Maximum IR Length: 50 m (164 ft) with Smart IR
- IP67 Ingress Protection

4K HDCVI DVR

- 16 Channel Penta-brid Recorder, Support for 8 + 8 IP Channels
- Smart H.265+ and Smart H.264+ Dual Codec
- 4K at 7 fps Recording Resolution on all HDCVI Channels
- Automatically Detects HDCVI, AHD, TVI, and CVBS Inputs

Intelligent Video System (IVS)

The HDCVI DVR offers IVS, a built-in video analytic algorithm that delivers standard intelligent functions to monitor a scene for Tripwire violations, intrusion detection, and abandoned or missing objects. IVS quickly and accurately responds to monitoring events in a specific area. In addition, the HDCVI DVR feature face detection technology that identifies human faces in digital images.

Smart H.265+

The HDCVI DVR uses Smart H.265+ video compression to reduce bit rate and storage requirements by up to 70% when compared to standard H.265 video compression. Smart H.265+ is the optimized implementation of the H.265 codec that uses a scene-adaptive encoding strategy, dynamic GOP, dynamic ROI, flexible multi-frame reference structure and intelligent noise reduction to deliver high-quality video without straining the network.

Multi-format Support

The camera and HDCVI DVR supports multiple video formats including, HDCVI, CVBS, AHD, and TVI. The camera can switch between these four formats via the OSD menu or the switch located on the video output cable making the camera compatible with not only HDCVI DVRs but also most existing HD/SD DVRs. The HDCVI DVR automatically recognizes the incoming signals of each attached camera without any setup, making installation easy and operation convenient.

Environmental

With a built-in heater and a temperature range of -40° C to +60° C (-40° F to +140° F), the cameras are designed for extreme temperature environments. The cameras, subjected to rigorous dust and water immersion tests, are certified to the IP67 rating making them suitable for demanding outdoor applications.

The HDCVI DVR features an operating temperature of -10° C to +55° C (+14° F to +131° F).

Technical Specification

A511K02 HDCVI Camera

Camera	
Image Sensor	1/2.7-in. CMOS
Effective Pixels	2592 (H) x 1944 (V), 5 MP
Scanning System	Progressive
Electronic Shutter Speed	1/30 s to 1/100000 s
Minimum Illumination	Color: 0.02 Lux at F1.85 (30 IRE) 0 Lux with IR on
S/N Ratio	More than 65 dB
IR Distance	Up to 30 m (98.04 ft)
IR On/Off Control	Auto, Manual
IR LEDs	12

Lens	
Lens Type	Fixed Lens / Fixed Iris
Mount Type	Board-in
Focal Length	2.8 mm
Max Aperture	F1.85
Horizontal Angle of View	103°
Close Focus Distance	900 mm (35.43 in.)

DORI ² Distance			
Detect (8 ppf)	Observe (19 ppf)	Recognize (38 ppf)	Identify (76 ppf)
63 m (207 ft)	25 m (82 ft)	13 m (43 ft)	6 m (20 ft)

Installation Angle	
Range	Pan: 0° to 360° Tilt: 0° to 90° Rotation: 0° to 360°

Resolution ¹	5 MP (2592 x 1944)	
Frame Rate	5 MP at 20 fps, 4 MP at 30 fps, 1080p at 30 fps	
Video Output	One (1) BNC HDCVI High-definition Channel or One (1) BNC CVBS, AHD or TVI Channel, switchable	
Video Transmission ³	RG-59/U Coax	720p: 800 m (2624.67 ft) 1080p: 500 m (1640.42 ft) 4 MP: 500 m (1640.42 ft)
	RG-6/U Coax	720p: 1200 m (3937.01 ft) 1080p: 800 m (2624.67 ft) 4 MP: 700 m (2296.59 ft)
	CAT 6 UTP (balun required)	720p: 450 m (1476.38 ft) 1080p: 300 m (984.25 ft) 4 MP: 300 m (984.25 ft)
Day/Night	Auto (ICR), Manual	
OSD Menu	Multi-language	
BLC Mode	BLC, HLC, DWDR	
WDR	Digital WDR	
Gain Control	AGC	
Noise Reduction	2D	
White Balance	Auto, Manual	
Smart IR	Auto, Manual	

Certifications	
Safety	EN55032, EN55024, EN50130-4 UL60950-1+CAN/CSA C22.2 No.60950-1
Electromagnetic Compatibility (EMC)	FCC CFR 47 FCC Part 15 Subpart B ANSI C63.4-2014

Electrical	
Power Supply	12 VDC ±30%
Power Consumption	Maximum 3.6 W (12 VDC with IR on)

Environmental	
Operating Conditions	−40° C to +60° C (−40° F to +140° F), Less than 95% RH Initiate startup above −40° C (−40° F)
Storage Conditions	−40° C to +60° C (−40° F to +140° F), Less than 95% RH
Ingress Protection	IP67

Construction	
Casing	Aluminium
Dimensions	ø93.40 mm × 79.40 mm (ø3.68 in. x 3.13 in.)
Net Weight	0.28 kg (0.62 lb)
Gross Weight	0.38 kg (0.84 lb)

1. Default camera resolution is set to 4 MP. The camera is capable of transmitting 5 MP video. Use the OSD menu to change the camera's resolution to 5 MP.

Technical Specification	
A82AG52 4K HDCVI Camera	
Camera	
Image Sensor	1/2-in. CMOS
Effective Pixels	3840 (H) x 2160 (V), 8 MP
Scanning System	Progressive
Electronic Shutter Speed	1/30 s to 1/100000 s
Minimum Illumination	Color: 0.005 Lux at F1.6 (30 IRE) 0 Lux with IR on
S/N Ratio	More than 65 dB
IR Distance	Up to 50 m (164.04 ft)
IR On/Off Control	Auto, Manual
IR LEDs	Two (2)

Lens	
Lens Type	Fixed Lens / Fixed Iris
Mount Type	Board-in
Focal Length	2.8 mm
Max Aperture	F1.6
Horizontal Angle of View	87°
Focus Control	Auto, Manual
Close Focus Distance	1800 mm (70.87 in.)

DORI ² Distance			
Detect (8 ppf)	Observe (19 ppf)	Recognize (38 ppf)	Identify (76 ppf)
84 m (276 ft)	34 m (112 ft)	17 m (56 ft)	8 m (27 ft)

Installation Angle	
Range	Pan: 0° to 360° Tilt: 0° to 70° Rotation: 0° to 360°

Video		
Resolution		8 MP (3840 x 2160)
Frame Rate	HDCVI	8 MP at 15 fps, 6 MP at 20 fps, or 4 MP at 30 fps
	TVI	5 MP at 20 fps 4 MP at 30 fps
	AHD	5 MP at 20 fps 4 MP at 30 fps
	CVBS	960H
Video Output		One (1) BNC HDCVI 4K Ultra High-definition Channel or One (1) BNC CVBS, AHD or TVI Channel, switchable

2. The DORI distance is a measure of the general proximity for a specific classification to help pinpoint the right camera for your needs. The DORI distance is calculated based on sensor specifications and lab test results according to EN 62676-4 , the standard that defines the criteria for the Detect, Observe, Recognize and Identify classifications.

3. Transmission distance results verified by real-scene testing in Dahua's test laboratory. Actual transmission distances may vary due to external influences, cable quality, and wiring structures.

Video Transmission ³	RG-59/U Coax	720p: 800 m (2624.67 ft) 1080p: 500 m (1640.42 ft) 4K: 500 m (1640.42 ft)
	RG-6/U Coax	720p: 1200 m (3937.01 ft) 1080p: 800 m (2624.67 ft) 4K: 700 m (2296.59 ft)
	CAT 6 UTP (balun required)	720p: 450 m (1476.38 ft) 1080p: 300 m (984.25 ft) 4K: 300 m (984.25 ft)
Day/Night	Auto (ICR), Manual	
OSD Menu	Multi-language	
BLC Mode	BLC, HLC, WDR	
WDR	True WDR (120 dB)	
Gain Control	AGC	
Noise Reduction	2D, 3D	
White Balance	Auto, Manual	
Smart IR	Auto, Manual	

Certifications	
Safety	EN55032, EN55024, EN50130-4 UL60950-1+CAN/CSA C22.2 No.60950-1
Electromagnetic Compatibility (EMC)	FCC CFR 47 FCC Part 15 Subpart B ANSI C63.4-2014

Interface	
Audio	Input: One (1) Channel, RCA Jack, and One(1) Built-in Microphone

Electrical	
Power Supply	12 VDC ±30%
Power Consumption	Maximum 8 W (12 VDC with IR on)

Environmental	
Operating Conditions	−30° C to +60° C (−22° F to +140° F), Less than 90% RH Initiate startup above −30° C (−22° F)
Storage Conditions	−30° C to +60° C (−22° F to +140° F), Less than 90% RH
Ingress Protection	IP67

Construction	
Casing	Aluminium
Dimensions	ø106.0 mm × 99.20 mm (ø4.17 in. x 3.90 in.)
Net Weight	0.50 kg (1.10 lb)
Gross Weight	0.62 kg (1.37 lb)