

4K Penta-brid HDCVI DVR

32-Channel 2U Digital Video Recorder with WizSense



WizSense

WizSense Series devices combine Dahua's powerful Analytics+ with an intuitive and easy to use interface. WizSense devices offer Smart Motion Detection and Perimeter Protection functions that focus on human and vehicular images and ignore irrelevant images to capture important video while reducing false alarms. WizSense Series devices provide powerful general security for small to medium size businesses at a sensible price.

System Overview

The X88B Series HDCVI DVR offers 4K recording on each HDCVI channel and a host of advanced features and functions. The X88B takes advantage of HDCVI technology for easy integration into existing video security systems while leveraging existing networks, cabling, and cameras. Penta-brid access technology seamlessly records video from HDCVI, AHD, TVI, CVBS, and IP sources simultaneously, plus the DVR delivers 4K resolution on each HDCVI or IP channel.

Functions

Perimeter Protection

Dahua Analytics+ includes Tripwire and Intrusion functions that offer custom tripwires based on object type for automation in limited access areas. Perimeter Protection requires less pixels to detect an object to deliver improved accuracy and decreased false alarms due to lights, weather, trees, or animals.

Smart Motion Detection

The Smart Motion Detection, a component of Dahua's Analytics+ technology, improves alarm accuracy and decreases the number of false alarms. The advanced SMD algorithm analyzes a scene for human or vehicle motion, while filtering out other motion due to trees, leaves, animals, weather, and triggers an alarm when detected.

- 4K at 7 fps Recording Resolution on All HDCVI Channels
- Dual-stream Video Recording
- Smart H.265+ and Smart H.264+ Dual Codecs
- Auto-detection and Auto-configuration of Video Inputs
- 32 IP Camera Channels, each channel up to 12MP
- Maximum 128 Mbps Incoming Bandwidth
- Analytics+ Functions: Perimeter Protection and Smart Motion Detection
- Spot Output (HDMI 2 Output)
- Five-year Warranty*



AI Coding

The AI Coding function puts recording emphasis on human or vehicular objects in the video scene. This technology, based on constant bit rate (CBR), dynamically allocates increased bit rate to the target object while reducing the bit rate allocated to background objects. AI Coding reduces bit rate and storage requirements by up to 50% when compared to the H.265 video compression standard.

Smart H.265+

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. Smart H.265+ technology reduces bit rate and storage requirements by up to 90% when compared to the H.264 video compression standard.

4K Resolution

The HDCVI DVR records 4K resolution on each HDCVI and IP channel. 4K is a revolutionary breakthrough in image processing technology. 4K delivers four times the resolution of standard HDTV 1080p cameras and offers superior picture quality and image details. 4K resolution improves the clarity of a magnified scene to view or record crisp forensic video from large areas.

HDCVI/AHD/TVI/CVBS Auto-detect

The HDCVI DVR automatically recognizes the incoming signals of each attached camera without any setup, making installation easy and operation convenient.

Long Distance Transmission

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

Technical Specification

System	
Main Processor	Embedded Processor
Operating System	Embedded LINUX

Analytics+ Perimeter Protection¹

Performance	<ul style="list-style-type: none">Human and Vehicle object classificationDecreased false alarms from leaves, lights, animalsConfigure function on 6 channels10 Tripwire/Intrusion rules per channel
Object Classification	<ul style="list-style-type: none">Human or VehicleSecondary Recognition for Tripwire and Intrusion
Search	<ul style="list-style-type: none">Search by object classification (human or vehicle)

Analytics+ Smart Motion Detection¹

Performance	<ul style="list-style-type: none">Detect motion based on object classification (human or vehicle)Decreased false alarms from leaves, lights, animalsConfigure functions on 32 channels
Search	<ul style="list-style-type: none">Search by target classification

Interface

Analog Camera Input	32 Channels, BNC
HDCVI	8MP, 6MP, 5MP, 4MP, 1080p 720p
AHD	8MP, 5MP, 4MP, 3MP, 1080p, 720p
TVI	8MP, 5MP, 4MP, 3MP, 1080p, 720p
CVBS	NTSC
IP Camera Input	32 Channels, each channel up to 12MP (The recording rate is dependent on the maximum resolution and frame rate of the connected IP camera.)
Audio	Input: 16 Channels, BNC Output: One (1) Channel, BNC
Two-way Talk	Input: One (1) Microphone, BNC Output: One (1) Channel, BNC

Recording

Compression	AI Coding, Smart H.265+, H.265, Smart H.264+, H.264
Recording Resolution	8 MP, 6 MP, 5 MP, 4 K-N, 4 MP, 4 M-N, 1080p, 720p, 960H, D1, CIF
Record Rate	Main Stream 8MP at 7 fps 6MP or 5MP at 25 fps 4 K-N, 4 MP, 1080p, 720p, 960H, D1, or CIF at 30 fps
	Sub Stream 960H at 15 fps; D1 or CIF at 30 fps
Maximum Incoming Bandwidth	128 Mbps
Bit Rate	32 Kbps to 6144 Kbps per Channel
Record Mode	Manual, Schedule (Regular, Continuous), MD (Video Detection: Motion Detection, Video Loss, Tampering), Alarm, Stop
Record Interval	1 to 60 minutes (default: 60 minutes), Pre-record: 1 s to 30 s, Post-record: 10 s to 300 s

Audio

Audio Compression	G.711a, G.711Mu, PCM
Audio Sample Rate	8 KHz, 16 bits per Channel
Audio Bit Rate	64 Kbps per Channel

Display

Interface	Two (2) HDMI (3840 x 2160) ports One (1) VGA (1920 x 1080) port One (1) TV port, BNC	
Spot Output	HDMI 2	
Native Output Resolution	HDMI	3840 x 2160, 2560 x 1440, 1920 x 1080, 1280 x 1024, 1280 x 720
	VGA	1920 x 1080, 1280 x 1024, 1280 x 720
Maximum Playback Decoding	16 Channels of 4K-N at 1 fps 16 Channels of 4 MP/3MP at 7 fps 16 Channels of 4M-N/1080p at 15 fps 16 Channels of 720p/960H at 30 fps 13 Channels of 4K at 3 fps 13 Channels of 6MP at 5 fps 13 Channels of 5MP at 6 fps Eight (8) Channels of 4K at 7 fps Eight (8) Channels of 6MP at 10 fps Eight (8) Channels of 5MP at 12 fps Eight (8) Channels of 4MP/ 3 MP at 15 fps Eight (8) Channels of 4M-N/1080p/720p/960H at 30 fps One (1) Channel of 4K at 30 fps	
Multi-screen Display	1/4/8/9/16/25/36	
On-screen Display	Camera Title, Time, Video Loss, Camera Lock, Motion Detection, Recording	

Network

Interface	Two (2) RJ-45 (1000 Mbps) Ports
Network Function	HTTP, TCP/IP, IPv4/IPv6, UPnP, RTSP, UDP, SMTP, NTP, DHCP, DNS, IP Filter, PPPoE, DDNS, FTP, Alarm Server, P2P, IP Search (Supports Dahua IP cameras, DVRs, NVS)
Maximum User Access	128 Users
Mobile Operating System	IOS, 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 x 18), Video Loss, Tampering, and Diagnosis
Alarm Input	16 Channels
Relay Output	Six (6) Channels

1. The HDCVI DVR allows the following maximum simultaneous analytic functions: 32 channels with SMD or six (6) Perimeter Protection.

Playback and Backup

Playback	1/4/9/16
Search Mode	Time/Date, Alarm, MD and Exact Search (accurate to 1 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, and Digital Zoom
Backup Mode	USB Device/Network

Storage

Internal HDD	Eight (8) SATA Ports, up to 10 TB capacity for each disk
eSATA	One (1) Port

Auxiliary Interface

USB	Two (2) USB 2.0 Ports and Two (2) USB 3.0 Ports
RS485	One (1) Port for PTZ Control
RS232	One (1) Port for PC Communication and Keyboard

Electrical

Power Supply	100 VAC to 240 VAC, 50/60 Hz
Power Consumption	< 30 W, without HDD

Construction

Dimensions	2U, 439.90 mm x 463.0 mm x 94.90 mm (17.32 in. x 18.23 in. x 3.73 in.)
Net Weight	7.0 kg (15.50 lb), without HDD
Gross Weight	9.60 kg (21.10 lb)
Installation	Desktop or rack-mount

Video Transmission Distance

RG-59/U Coax	720p:	800 m (2624.67 ft)
	1080p:	500 m (1640.42 ft)
	4K/4MP:	500 m (1640.42 ft)
RG-6/U Coax	720p:	1200 m (3937.01 ft)
	1080p:	800 m (2624.67 ft)
	4K/4MP:	700 m (2296.59 ft)
CAT 6 UTP (balun required)	720p:	450 m (1476.38 ft)
	1080p:	300 m (984.25 ft)
	4K/4MP:	300 m (984.25 ft)

Environmental

Operating Conditions	-10° C to +55° C (+14° F to +131° F), 0% to 90% RH
Storage Conditions	-20° C to +70° C (-4° F to +158° F), 0% to 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 others
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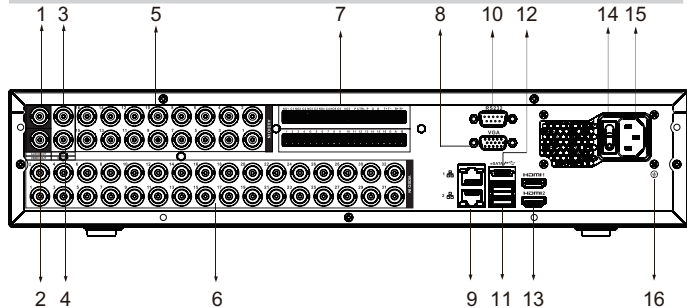
Certifications

Safety	EN 60950-1 IEC 60950-1
Electromagnetic Compatibility (EMC)	FCC CFR 47 Part 15 Subpart B EN 61000-3-2 EN 61000-3-3 EN 55032 EN 50130 EN 55024

Ordering Information

	X88B5S	No pre-installed HDD
4K HDCVI DVR with Analytics+	X88B5S4	32-channel Penta-brid 4K 2U, 4 TB Digital Video Recorder with Analytics+
	X88B5S6	32-channel Penta-brid 4K 2U, 6 TB Digital Video Recorder with Analytics+
	X88B5S8	32-channel Penta-brid 4K 2U, 8 TB Digital Video Recorder with Analytics+
	X88B5S10	32-channel Penta-brid 4K 2U, 10 TB Digital Video Recorder with Analytics+

Rear Panel



1	Audio Output, BNC	9	Ethernet Port, RJ-45 (x2)
2	Video Output, BNC	10	RS232 Port
3	Microphone Input, BNC	11	USB Port (x2)
4	Two-way Talk Output, BNC	12	eSATA Port
5	Audio Input, BNC (x16)	13	HDMI 1 Output HDMI 2 Output
6	Video Input, BNC (x32)	14	Power Switch
7	Alarm I/O, RS485, RS422	15	Power Input
8	VGA Output	16	Ground

Dimensions

