alhua
TECHNOLOGY

16-bay HDD Enterprise Video Storage
RAID Support

- High-performance Intel Processor
- 320 IP Camera Channel Input
- Maximum 800 Mbps Incoming/Recording Bandwidth
- 16 HDD, SATA, Hot-Swap
- Supports RAID 0/1/5/6/10/50/60
- Supports Standard iSCSI Protocol for Expanded Storage Space
- Modular Design
- Redundant Power
- Five-year Warranty*

System Overview

The DHI-EVS5016S-R-V2 Enterprise Video Storage device is designed and developed to meet the needs of medium-range to high-end IP video surveillance applications. It supports 320 IP camera channels with 800 Mbps incoming/recording/forwarding bandwidth.

Combined with hot-swap power supplies, fans, and hard disk drives, the EVS offers Enterprise Class availability. This EVS is ideal for a wide range of applications including public safety, transportation, hotels, shopping malls, city centers, and financial institutions that demand flexibility, reliability, and centralized storage management.

This EVS is compatible with numerous third-party devices making it the perfect solution for surveillance systems with or without a video management system (VMS).

Functions

Modular Design
The Enterprise Video Storage is rack mountable and designed to manage up to 320 channels of digital video for scalability. Powered by Intel® technology, the unit features dual redundant power supplies and a hot-swappable configuration to ensure stability.

RAID Support
The Enterprise Video Storage device provides the processor and RAID enclosure in one chassis, resulting in both space and cost savings. RAID 0/1/3/4/5/6/10/50/60 support is available through a hardware-based RAID controller that removes the loading on the processor that software RAID can bring. A convenient web browser interface is used to manage the RAID controller.

N+M Hot Standby
The highly reliable redundancy N+M Hot Standby design provides a secure failover technique ensuring immediate backup. In the event of a system failure, the slave instantly takes over the master ensuring no data is lost.

Automatic Network Replenishment (ANR) Technology
Video storage devices with the ANR function automatically store video data on an IP camera SD card when the network is disconnected. After recovery of the network, the NVR automatically retrieves the video data stored on the camera.

Technical Specification

System

Main Processor	64-bit High-performance Multi-core Processor
Controller	Single Controller
Memory	8 GB (Extendable Up to 32 GB)
Operating System	Embedded Linux OS
User Interface	Web (PCAPP)

Analytics+ Recording[1]

Functions	• Face Detection+ • IVS (Abandoned Object, Missing Object, Loitering, Crowd Gathering, Parking, Fence Crossing, Fast Moving, Tripwire And Intrusion) • Video Metadata (Human, Vehicle, Non-motor Vehicle) • Vehicle Recognition • People Counting (Fisheye or People Counting Camera Required) • Crowd Distribution • Smart Thermal (Call Detection, Visible Channel-Smoking Detection, Thermal Channel-Smoking Detection) • License Plate Recognition (LPR)

Camera Compatability

Works with camera for:	
Thermal	Heat Alarm; Temperature Alarm; Temperature Difference Alarm; Hot Spot; Cold Spot; Smoking; Calling
People-counting	People Counting; Regional People Counting; Queue People Counting
Bullet-PTZ Smart Track	Manual Tracking; Auto Tracking; Click Positioning; Select Positioning
Fisheye	Dewarping for Fisheye Cameras

Compression Standard

Video Compression	Smart H.265+; H.265; Smart H.264+; H.264; MJPEG
Audio Compression	G.711A; G.711U; PCM; G726

Storage Management

Disk Group	Yes
iSCSI	Supports Client and Server
Network Disk	Supports Client
RAID	RAID 0/1/5/6/10/50/60; (With Enterprise-grade HDD)
Record Management	Supports record control (continuous; event-based; scheduled; scheduled & event-based).
Cluster Service	N+M
Storage Pool	Yes

Video Direct Storage

Private Protocol	Incoming	320-channel (bandwidth: 800 Mbps)
	Recording	320-channel (bandwidth: 800 Mbps)
	Outgoing	320-channel (bandwidth: 800 Mbps)
	Playback	32-channel (bandwidth: 64 Mbps)
ONVIF	Incoming	320-channel (bandwidth: 800 Mbps)
	Recording	320-channel (bandwidth: 800 Mbps)
	Outgoing	320-channel (bandwidth: 800 Mbps)
	Playback	32-channel (bandwidth: 64 Mbps)
Auto Register	Incoming	320-channel (bandwidth: 800 Mbps)
	Recording	320-channel (bandwidth: 800 Mbps)
	Outgoing	320-channel (bandwidth: 800 Mbps)
	Playback	32-channel (bandwidth: 64 Mbps)

International Protocol	Incoming	320-channel (bandwidth: 800 Mbps)
	Recording	320-channel (bandwidth: 800 Mbps)
	Outgoing	320-channel (bandwidth: 800 Mbps)
	Playback	32-channel (bandwidth: 64 Mbps)
Picture Direct	Incoming	120-channel (550 KB/picture)
	Recording	120-channel (550 KB/picture)
	Outgoing	120-channel (550 KB/picture)
	Playback	32-channel (550 KB/picture)
IP SAN Mode	64 KB VMS I/O Size	Stream Writing: 280-channel × 2 Mbps Video Playback: 24-channel × 2 Mbps
	512 KB VMS I/O Size	Stream Writing: 400-channel × 2 Mbps Video Playback: 24-channel × 2 Mbps

Playback and Backup

Multi-channel Playback	Maximum 16-channel Playback
Record Mode	Auto record; manual record; search video detection; IO alarm; thermal imaging; intelligent event; all record file
Playback Function	1. Play; pause; stop; fast forward; fast backward; reverse play; frame by frame 2. Full-screen; backup (clip; file); snapshot; digital zoom; audio on; off
Storage Method	Internal HDD and Network Disk
Backup Mode	HDD; peripheral USB storage device

Third-party Support

Third-party Support	RTSP; Sony; Panasonic; Axis; Arecont; Pelco; Canon; Samsung; Hikvision

Alarm

General Alarm	Motion Detect; Tampering; IPC External Alarm
Anomaly Alarm	IPC Offline Alarm; Storage Error; HDD Full; Video Frame Loss; SSD Exception; IP Conflict; Mac Conflict; Login Lock; Fan Malfunction; No HDD; Network Security Exception; Power Exception; Disk Health Exception; Raid Exception; Storage Pool Exception; Temperature Alarm; Share Service
Alarm Linkage	Record; Snapshot (Full Image); Alarm Uploading; Remote Device Alarm Output; Camera Audio; Buzzer; Log; Preset; Email, Smart Tracking And Warning Light; Disarming Alarm Linkage Action By Period or One-Click Sync Disarm Configuration with Channels

Auxiliary Interface

HDD Interface	16 Slots SATA Max.18 T/HDD Hot Swapping CMR Supports Enterprise-grade HDD
eSATA	One (1) Port
USB	Two (2) Ports Two (2) USB 3.0 Ports (Rear Panel)
VGA	One (1) Port for Debug
HDMI	One (1) Port for Debug
RS232	One (1) Port for Debug or COM Data Transmission
Power	1+1 Redundant Power
Network Port Extension	Four (4) 1-GbE LAN Ports (Optional) Two (2) 10-GbE Optical Fiber Ports (Optional)

1. The recorder's Analytics+ functions are available only when connected to a Dahua network camera with Analytics+ functionality.

Network

Interface	Two (2) RJ-45 10/100/1000 Mbps Self-Adaptive Ethernet Ports (Gigabit Electrica Port)
Network Mode	NIC Binding Mode (i.e., Multiple-address Mode, Load Balance, Fault Tolerance, etc.)
Network Function	HTTP; HTTPS; TCP/IP; IPv4; RTSP; UDP; SMTP; NTP; DHCP; DNS; DDNS; P2P; GAT1400; iSCSI; FTP; SMB; NFS
Browser	Chrome; PCAPP; IE9 or higher; Firefox
Mobile Phone Access	DMSS
Interoperability	CGI; SDK

Electrical

Power Supply	100–240 VAC 50–60 Hz, 6.3-3.5A
Power Consumption	< 60 W (Without HDD, idling) < 220 W (All HDDs Connected)

Environmental

Working Conditions	0°C to 45°C (32°F to 113°F) 10% to 80% (RH), Non-condensing
Working Altitude	5000.0 m (16404.20 ft)

Certifications

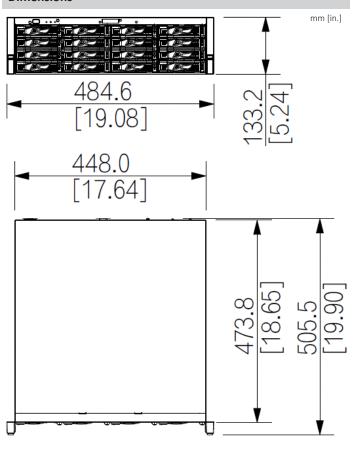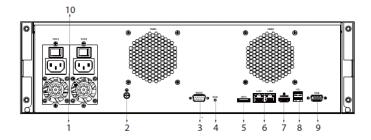|	
CE	EN 60950-1/IEC 60950-1
Electromagnetic Compatibility	FCC Part 15 Subpart B EN 61000-3-2 EN 61000-3-3 EN 55032 EN 50130 EN 55024

Construction

Chassis Dimensions (W x L x H)		484.6 mm × 133.2 mm × 473.6 mm (19.08 in. × 5.24 in. × 18.65 in.)
Packaging Dimensions (W x L x H)	With Packaging	589 mm × 619 mm × 290 mm (23.19 in. × 24.37 in. × 11.42 in.)
	Protection Box	605 mm × 635 mm × 312 mm (23.82 in. × 25.00 in. × 12.28 in.)
Net Weight		15.5 kg (34.17 lb)
Gross Weight		17.2 kg (37.92 lb)
Installation		Standard 19-in. Rack

Ordering Information

Type	Part Number	Description
16-bay EVS	DHI-EVS5016S-R-V2	16-bay Embedded Video Storage

Dimensions

mm [in.]

484.6 [19.08]

133.2 [5.24]

448.0 [17.64]

473.8 [18.65]

505.5 [19.90]

Rear Panels

1	Power Input	2	Ground
3	RS-232 Port	4	Operation Indicator Light
5	eSATA Port	6	Network Ports
7	HDMI Port	8	USB Ports
9	VGA Port	10	Power Switches