

PENDVR-EL16M4K-AI

16 CH 4K AI DVR W/ SMD+



System Overview

This is a 16 channel 4K AI pentabrid DVR, that can utilize HDCVI, AHD, TVI, CVBS and even IP cameras. This recorder uses Smart H.265+, H.265, H.264+ and H.264 video compressions, allowing you to reduce storage and bitrate requirements. With 2 hard drive bays, you can have two 10TB installed for a total of 20TB in storage. Perimeter Protection allows the unit to distinguish the differences between humans, vehicles and foliage. This lowers the amount of false alarms being triggered. You can also set up things such as area intrusion and tripwire intrusion. SMD+ is an upgraded version of Smart Motion Detection, improving alarm accuracy by analyzing human and vehicle movement versus lighting and foliage.

Features

Smart H.265+

Smart H.265+ technology is a collection of intelligent encoding algorithms based on H.265. To meet the characteristics of video surveillance, Smart H.265+ adopts some key video encoding techniques can be flexibly added/ deleted or combined according to different applications and products. Smart H.265+ codec can effectively enhance video encoding efficiency according to the characteristics of different surveillance environments; furthermore, it can greatly reduce transmission bit rate, storage capacity to improve the overall system.

Perimeter Protection

Automatically filters out false alarms caused by animals, rustling leaves, bright lights, etc. Enables the system to act secondary recognition for the targets. Improves alarm accuracy.

SMD+ (Smart Motion Detection Plus)

SMD Plus, referred to as Smart Motion Detection Plus, is an upgraded version of Smart Motion Detection that greatly improves the alarm accuracy by loading a deep-learning algorithm. It analyzes person and vehicle shapes based on motion detection and send alarms only when person and vehicle intrudes.

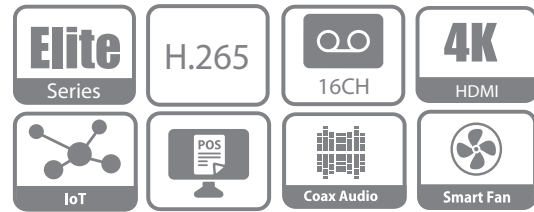
HDCVI/AHD/TVI/CVBS Auto-detect

This unit can auto recognize the signal of the camera without having to change settings.

Coaxial Audio/Upgrade/Alarm

This integrated design can reduce wiring troubles and makes it easier to run audio, upgrade your camera, or trigger alarms all via the coax cable.
*CVI ONLY

- H.265+/H.265 dual-stream video compression
- Supports HDCVI/AHD/TVI/CVBS/IP video inputs
- Supports 16/32 channels of IPC access, each channel up to 8MP input; Max 64/128Mbps Incoming Bandwidth
- IoT & POS functionalities
- Perimeter Protection and SMD Plus



Long Distance Transmission

The HDCVI system supports long distance transmission over coaxial cable and UTP, max. 700m for 4K/4MP, 800m for 1080P and 1200m for 720P.

IoT Functionality

HDCVI IoT can achieve multi-dimensional surveillance by integrating sensors with monitoring video, which not only can generate a report for analysis but also prevent risk in advance.

POS Functionality

This function includes POS ticket information overlay and search which can be widely used in retail programs.

Smart Fan Design

The smart fan can automatically turn on or turn off according to the CPU temperature. This function can effectively reduce the fan noise to provide a better user experience.

Spot Output

The spot monitor outputs are separate and in addition to the VGA and HDMI video outputs that these DVRs support. The VGA and HDMI monitor outputs display the menu system and controls of the DVR. Spot outputs always display the live security camera views that you configure.

Smart Search

The smart search feature on a security recorder will allow you to skip over video that has motionless areas to get to the footage that you want to review. This is a great feature especially if you record in real time and have multiple cameras.

Technical Specification

System

Main Processor	Embedded Processor
Operating System	Embedded LINUX

Perimeter Protection

Perimeter protection	1.AI by DVR: Detection alarm for human and vehicle. Filter misinformation such as leaves and light. 2.Function configuration: Set at most 10 rules such as area intrusion and tripwire intrusion. 3.Performance: 2 channels
Live View	1. Rule box inspection: Configure the rule box and object inspection box. 2.Smart panel: Display object classification (human, vehicle), event types, triggering time, image matting and object types. Attribute is not supported. 3. Counting: Count people in People total. Count motor vehicles in Vehicle. Support exporting of associated event playback before and after 10 seconds.
Playback	1. Search conditions: According to channels, time, event types and target types. 2.Functions: Support search of associated event playback or snapshot before and after 10 seconds. 3. Snapshot capacity: 500,000

SMD Plus

SMD Plus	1. AI by DVR: Motion detection alarm for human and vehicle. Filter misinformation such as leaves and light. 2. Performance: 8/16 channels, AI by DVR
Preview	Preview: Configure and inspect detection box
Playback	1.Playback: Search videos through channels, time and target types. 2.Functions: Support search of associated event playback before and after 10 seconds.

Video and Audio

Analog Camera Input	16 Channel, BNC
HDCVI Camera	4K, 6MP, 4MP, 1080P@25/30fps, 720P@50/60fps, 720P@25/30fps
AHD Camera	5MP, 4MP, 3MP, 1080P@25/30, 720P@25/30fps
TVI Camera	5MP, 4MP, 3MP, 1080P@25/30, 720P@25/30fps
CVBS Camera	PAL/NTSC
IP Camera Input	16+16 Channel, each channel up to 8MP
Audio In/Out	4/1, RCA
Two-way Talk	Reuse audio in/out, RCA

Recording

Compression	H.265+/H.265/H.264+/H.264
Resolution	4K, 6MP, 5MP, 4MP, 3MP, 4M-N, 1080P, 720P, 960H, D1, CIF, QCIF
Record Rate	Main stream: 4K(1~7fps); 6MP(1~10fps); 5MP(1~12fps); 4MP/3MP(1~15fps); 4M-N/1080P/720P/960H/D1/CIF/QCIF (1~25/30fps) Sub stream: 960H(1~15fps); D1/CIF/QCIF(1~25/30fps)
Bit Rate	32Kbps ~ 6144Kbps Per Channel
Record Mode	Manual, Schedule (General, Continuous), MD (Video detection: Motion Detection, Video Loss, Tampering), Alarm, Stop
Record Interval	1 ~ 60 min (default: 60 min), Pre-record: 1 ~ 30 sec, Post-record: 10 ~ 300 sec
Audio Compression	AAC(only for the 1st channel), G.711A, G.711U, PCM
Audio Sample Rate	8KHz, 16 bit Per Channel
Audio Bit Rate	64Kbps Per Channel

Display

Interface	1 HDMI, 1 VGA
Resolution	HDMI:3840×2160, 2560×1440, 1920×1080, 1280×1024, 1280×720 VGA: 1920×1080, 1280×1024, 1280×720
Multi-screen Display	When IP extension mode not enabled: 1/4/8/9/16 When IP extension mode enabled: 1/4/8/9/16/25
OSD	Camera title, Time, Video loss, Camera lock, Motion detection, Recording

Network

Interface	1 RJ-45 Port (1000M)
Network Function	HTTP, HTTPS, TCP/IP, IPv4/IPv6, UPnP, RTSP, UDP, SMTP, NTP, DHCP, DNS, IP Filter, PPPoE, DDNS, FTP, Alarm Server, P2P, IP Search (Support 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	16
Relay Output	3

Playback and Backup

Playback	1/4/9/16
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	2 SATA Ports, up to 12TB capacity for each disk
eSATA	N/A

Auxiliary Interface

USB	2 USB Ports (1 USB 2.0, 1 USB 3.0)
RS232	N/A
RS485	1 Port, for PTZ Control

Electrical

Power Supply	DC12V/5A
Power Consumption	<15W (Without HDD)

Construction

Dimensions	1U, 375mm×287mm×53mm (14.8" x 11.3" x 2.1")
Net Weight	1.8kg (3.70 lb) (without HDD)
Gross Weight	3.2kg (7.05lb)
Installation	Desktop installation

Environmental

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

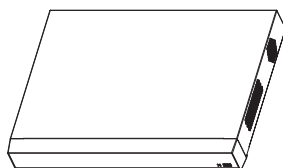
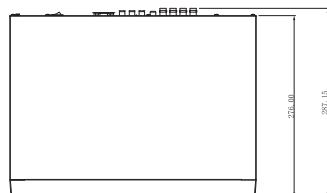
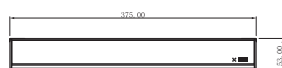
Third-party Support

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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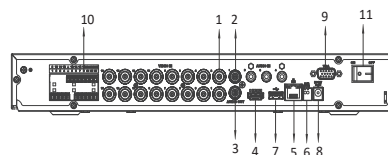
Certifications

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

Dimensions (mm)



Rear Panel



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|---|--------------------------|----|--------------------|
| 1 | VIDEO IN | 7 | USB port |
| 2 | AUDIO IN, RCA Connector | 8 | DC 12V Power Input |
| 3 | AUDIO OUT, RCA Connector | 9 | VGA port |
| 4 | HDMI port | 10 | ALARM IN/OUT |
| 5 | Network port | 11 | Power Switch |
| 6 | RS485 port | | |