# PE4E1N2-AI
4 Channel Pentabrid

· H.265+/H.265 dual-stream video compression
· Supports HDCVI/AHD/TVI/CVBS/IP video inputs
· Perimeter Protection and SMD Plus
· Up to 1 channel video stream (analog channel) human face recognition
· IoT & POS functionalities

System Overview

The PE4E1N2-AI proves that the best things come in small packages. Get all the features of our AI line is a compact, powerful 4-Channel DVR that is perfect for small-scale residential or commercial applications. While most suitable for 1080p applications, the PE4E1N2-AI does have higher resolution support for 5M-N and 4M-N resolutions if necessary. As with all our Pentabrid DVR's, the PE4E1N2-AI supports IP cameras, up to 6 total IP camera inputs at 6MP maximum resolution.

Face Recognition	Perimeter Protection	SMD Plus	AI Coding
H.265	1080p HDMI / VGA	Coax Audio	1200m Long Distance
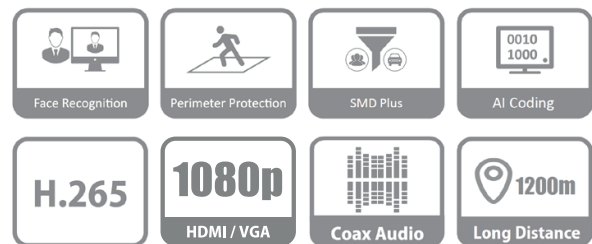
Features

Real Time Face Recognition
Video stream real time face recognition. Facial attributes analysis features including gender, age, expression, glasses, moustache, mouthmask. Identify people and also capture, record faces with metadata.Facial feature filtering while real time display, only show faces with target features.

Perimeter Protection
Automatically filtering out false alarms caused by animals, rustlingleaves, bright lights, etc. Enables system to act secondary recognition forthe targets. Improving alarm accuracy.
*Perimeter Protection takes effect when IVS&SMD is selected in AI Mode.

SMD Plus
SMD Plus, referred to as Smart Motion Detection Plus, which is an upgrading version of SMD that greatly improves the alarm accuracy by loading deep-learning algorithm. It analyzes person and vehicle shapes based on motion detection and send alarms only when person and vehicle intrudes.
*SMD Plus takes effect when SMD or IVS&SMD is selected in AI Mode.

AI Coding
Compared with H.265, AI codec can reduce up to 50% bit rate andstorage requirements while have no loss of decoding compatibility,providing clear human and vehicle details.

Smart H.265+
Smart Codec, H.265+ can reduce up to 90% bit rate and storage requirements compared with H.264 without having to invest in new cameras.

HDCVI/AHD/TVI/CVBS Auto-detect
This DVR can auto recognize the signal of front-camera without any setting. It makes operation more friendly and convenient.

High Definition Camera Input
This DVR supports up to 5MP 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. 700m for 4K/4MP, 800m for 1080P and 1200m for 720P.

AI Search
Using stored information you can quickly identify people and vehicles from massive video data. This makes it easier to trace back to a certian person vehicle or point in time. Now you can search for targets with ease.

Onvif

Technical Specification

System

Main Processor	Embedded Processor
Operating System	Embedded LINUX

Perimeter Protection

Performance	2 channels, 10 IVS for each channel
Object classification	Human/Vehicle secondary recognition for tripwire and intrusion
AI Search	Search by target classification (Human, Vehicle)

Face Recognition

Performance	Max 8 face pictures/sec processing
	1 channel video stream face recognition, only support analog camera
Stranger Mode	Detect strangers' faces (not in device's face database). Similarity threshold can be set manually.
AI Search	Up to 8 target face images search at same time, similarity threshold can be set for each target face image.
Database Management	Up to 10 face databases with 10,000 face images in total. Name, gender, birthday, address, certificate type, cerificate No., countries&regions and state can be added to each face picture.
Database Application	Each database can be applied to video channels independently .
Trigger Events	Buzzer, Voice Prompts, Email, Snapshot, Recording, Alarm Out, PTZ Activation, etc.

SMD Plus

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

Video and Audio

Analog Camera Input	4 channels, BNC
HDCVI Camera Input	5MP, 4MP, 1080P@25/30fps, 720P@50/60fps, 720P@25/30fps
AHD Camera Input	5MP, 4MP, 3MP, 1080P@25/30, 720P@25/30fps
TVI Camera Input	5MP, 4MP, 3MP, 1080P@25/30, 720P@25/30fps
CVBS Camera Input	PAL/NTSC
IP Camera Input	4+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	5M-N, 4M-N, 1080P, 1080N, 720P, 960H, D1, CIF
Record Rate	Main stream: All channel 5M-N (1fps–10fps); 4M-N/1080P (1fps–15fps); 1080N/720P/960H/D1/CIF (1fps–25/30fps) Sub stream: D1/CIF (1fps–15fps)
Bit Rate	32 Kbps–6144 Kbps 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 s–30 s, Post-record: 10 s–300 s

Audio

Audio Compression	AAC (only for the 1st channel), 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 When IP extension mode enabled: 1/4/6
OSD	Camera title, Time, Video loss, Camera lock, Motion detection, Recording

Network

Interface	1 RJ-45 Port (100 MB)
Network Function	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
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 6TB capacity
eSATA	N/A

Auxiliary Interface

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

Electrical

Power Supply	DC 12V/1.5A
Power Consumption (Without HDD)	<4W

Construction

Dimensions	Mini 1U, 325 mm × 257 mm × 55 mm (12.80'' × 10.10'' × 2.17'')

Technical Specification

Net Weight (without HDD)	1.1 kg (2.5 lb)
Gross Weight	1.8 kg (4.0 lb)
Installation	Desktop installation

Environmental

Operating Conditions	-10°C to +55°C (+14°F to +131°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

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

Rear Panel
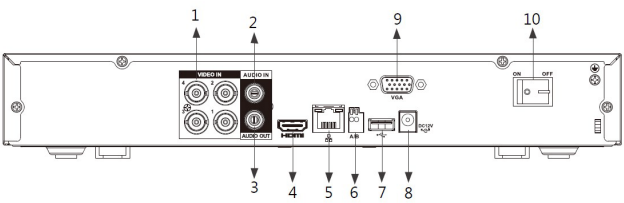
1	VIDEO IN	6	RS485 Interface
2	AUDIO IN, RCA Connector	7	USB Interface
3	AUDIO OUT, RCA Connector	8	DC 12V Power Input
4	HDMI Interface	9	VGA Interface
5	Network Interface	10	Power Switch

Dimensions