

HDVR-MX1616-1U4K-AI2

16 Ch 4K AVS, Analog, & IP 1U Standalone DVR



- H.265+/H.265 dual-stream video compression
- Supports up to 16 HD-AVS/AHD/TVI/CVBS video inputs
- Supports up to 32 channels of IPC access, each channel up to 8MP input; Max 128Mbps Incoming Bandwidth
- IVS Perimeter Protection (6ch coax)
- Intelligent Motion Detect (16ch coax)
- Real-Time Face Recognition (6ch coax)

System Overview

The HDVR-MX1616-1U4K-AI2 adopts IC Realtime's HD-AVS technology, an over-coaxial-cable analog HD video transmission standard, allowing long-distance 4K HD transmission with the simplicity of reusing existing coaxial infrastructure. This pentabrid recorder supports up to 16 channels of HD-AVS/AHD/TVI/ CVBS plus 16 IP camera inputs (32 total if all coax channels are disabled) up to 8MP resolution.

This HDVR also features a suite of AI features including: IVS Perimeter Protection, Intelligent Motion Detect (iMD) as well as Real-Time Face Recognition with database. It supports up to 20TB of HDD storage and is ONVIF 2.42 compliant, making it compatible with numerous third-party devices.

Perimeter Protection

IC Realtime's Perimeter Protection features significantly improve detection accuracy. The benefits of Perimeter Protection include up to a 90% reduction in false alarms. Other advantages include a decrease in pixel count requirement for object detection, which translates into more efficiency with less strain on the system. Perimeter Protection options let you customize tripwires based on the object type and allow intelligent automation within a limited area of access such as pedestrian or vehicle-only zones. The combination of advanced AI analytics and real-time alerts maximizes efficiency & balance of the total systems capacity and resources resulting in greater surveillance system efficiency.

High Definition Camera Input

This HDVR supports up to 8MP HD AVS cameras and 8MP IP cameras input.

iMD (Intelligent Motion Detect)

This is an upgraded version of motion detection currently known as Intelligent Motion Detection (iMD). The upgraded Plus version greatly improves alarm accuracy by pre-loading a deep learning algorithm that recognizes people and vehicles. Motion detection alerts containing a human and/or vehicle intrusion event are now possible with up to 95% accuracy. Eliminate false alarms, save time and keep stress levels low knowing you're protected.

Real-Time Face Recognition

This feature works with live video, historic footage, and snapshots. It allows users to identify facial attributes include gender, age, and expression of emotion. Additional characteristics can be applied such as glasses, mustache, face or mouth mask, and beard. Metadata can also be used to identify these characteristics. Enhanced features allow the user to import new facial images and catalog recorded or live view faces into a database for future alerts. Users are further able to create numerous lists and catalog facial images corresponding to those named lists. This allows for precise notification via email, text and push notifications via SmartICRSS PRO app. (Real-Time Facial Detection gives users the flexibility to analyze target feature while streaming live video or viewing history or snapshots. Importing facial images gives users full functionality and notification by retaining and cataloging faces.)

Technical Specification

System

Main Processor	Embedded Processor
Operating System	Embedded LINUX

Video

IP Video Input	16+16 Channel, each channel up to 8MP
Analog Video Input	16
Loop Output	N/A
AVS Resolution	4K, 6MP, 5MP, 4MP, 1080P@25/30fps, 720P@50/60fps, 720P@25/30fps
AHD Resolution	4K, 5MP, 4MP, 3MP, 1080P@25/30, 720P@25/30fps
TVI Resolution	4K, 5MP, 4MP, 3MP, 1080P@25/30, 720P@25/30fps
CVBS Standard	PAL/NTSC

Audio

Input	1 channel, BNC
Output	1 channel, RCA
Two-way Talk	Reuse audio in/out, RCA
Audio Compression	G.711A, G.711U, PCM

Display

Interface	1 HDMI, 1 VGA
Resolution	HDMI: 3840 × 2160, 1920 × 1080, 1280 × 1024, 1280 × 720 VGA: 1920 × 1080, 1280 × 1024, 1280 × 720
Display Split	When IP extension mode not enabled: 1/4 When IP extension mode enabled: 1/4/8/9
Multi Screen	Main + Extra screen (only coax channels are supported on extra screen)
Privacy Masking	4 rectangular zones (each camera)
OSD	Camera title, Time, Video loss, Camera lock, Motion detection, Recording

Recording

Video Compression	AI Coding/H.265+/H.265/H.264+/H.264
Image Resolution	4K, 6MP, 5MP, 4K-N, 4MP, 3MP, 1080P, 720P, 960H, D1, CIF
Record Rate	Main stream: 4K (1fps-15fps); 6MP(1fps-20fps); 5MP(1fps-25fps);4K-N/4MP /3MP/ 1080P/ 720P/960H/D1/CIF (1fps-25/30fps) Sub stream:960H(1fps-15fps); D1/CIF(1fps-25/30fps)
Bit Rate	32 Kbps-8192 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 ~ 30 sec, Post-record: 10 ~ 300 sec

Video Detection & 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 & Backup

Sync Playback	1/4/9/16
Search Mode	Time /Date, Alarm, MD and Exact Search (accurate to second)
Playback Functions	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

Network

Ethernet	1 RJ-45 Port (1000 MB)
Network Functions	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
Interoperability	ONVIF 16.12, CGI Conformant
Max. User Access	128 users
Smart Phone	Android, iOS, iPhone

Storage

Internal HDD	2 SATA Ports, up to 10TB capacity for each disk
External HDD	N/A

Auxiliary Interface

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

General

Power Supply	DC 12V/5A
Power Consumption	<32W (Without HDD)
Working Environment	+14°F ~ +131°F (-10°C ~ +55°C), 10~ 90% RH
Installation	Desktop/ Rack mountable
Dimensions (W×D×H)	1U, 375 mm × 332 mm × 53 mm (14.76" × 13.00" × 2.09")
Net Weight	5.4 lb (2.4 kg) without HDD
Gross Weight	8.8 lb (4.0 kg)

Certifications

Certifications	FCC: Part 15 Subpart B
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AI Features

Perimeter Protection

Capabilities	AI IVS by HDVR: Virtual Line Detection alarm for human and vehicle. Filters misinformation such as leaves and light. Function configuration: Set up to 10 rules such as area intrusion and tripwire intrusion.
Performance	Up to 6 channels (coax channel only)
Playback	Search by target classification (Human, Vehicle)

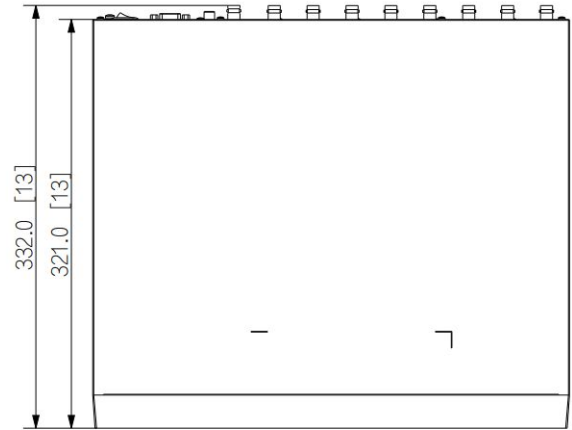
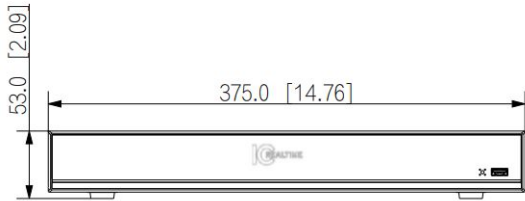
Intelligent Motion Detect (iMD)

Capabilities	AI by DVR: Motion detection alarm for human and vehicle. Filters misinformation such as leaves and light.
Performance	Up to 16 channels (coax channel only)
Playback	Playback: Search videos through channels, time and target types. Functions: Supports search of associated event playback before and after 10 seconds

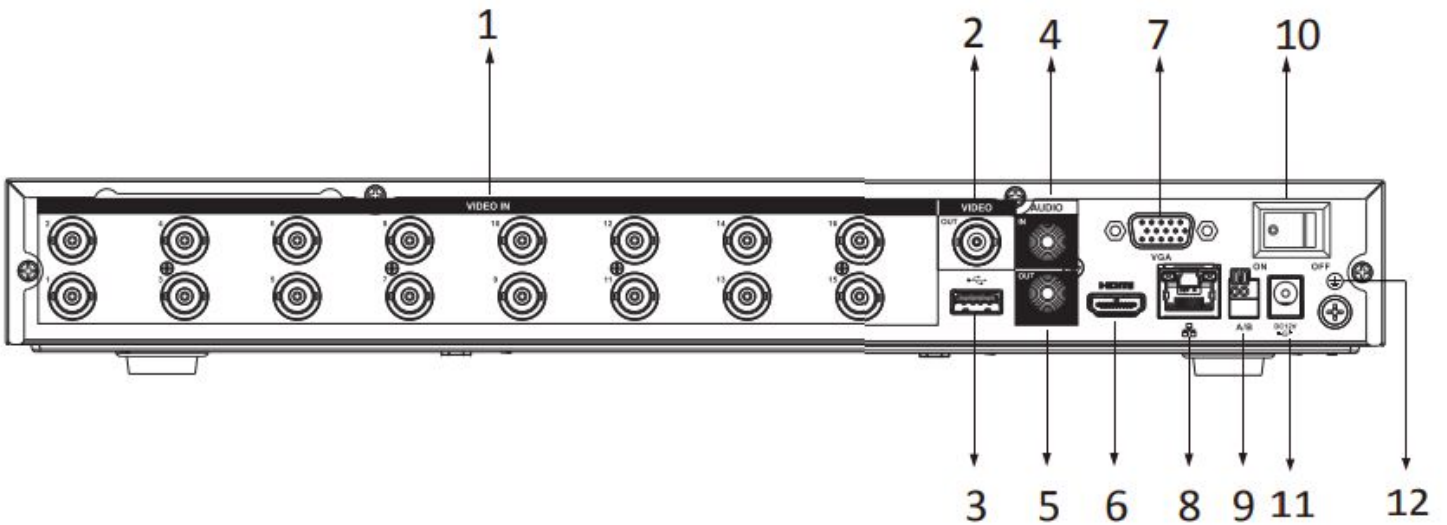
Face Recognition

Capabilities	Up to 12 face pictures/sec processing (modeling and comparing).
Performance	Up to 6 channels support human face recognition. (coax channel only)
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 20,000 face images in total. Name, gender, birthday, address, certificate type, certificate No., countries, regions and state can be added to each face picture
Database Application	Each database can be applied to video channels independently
Triggerable Events	Buzzer, Voice Prompts, Email, Snapshot, Recording, Alarm Out, PTZ Activation, etc.

Dimensions (mm/in)



Panels



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|-----------------------|-----------------|
| 1 Video In | 2 Video Out |
| 3 USB Port | 4 Audio In |
| 5 Audio Out | 6 HDMI Port |
| 7 VGA Port | 8 Network Port |
| 9 RS-485 Port | 10 Power Switch |
| 11 DC 12V Power Input | 12 Ground |