

HDVR-MX1616-1U4K-AI1

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



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

System Overview

IC Realtime's newest generation digital video recorder adopts HD-AVS technology, our in-house technology is an over-coaxial-cable analog HD video transmission standard, allowing long-distance HD transmission at a lower cost to meet the requirements for a complex and large installation. It supports up to 16 channels of HD-AVS/AHD/TVI or CVBS inputs, up to 16 channel local live-view channels (25 with IP cams added), and 16 playback channels.

This recorder also has the capability of supporting up to 8 (8MP or less) or 32 total IP cameras by disabling all of the AVS inputs.

The recorder also supports a suite of AI features including: IVS Perimeter Protection, Intelligent Motion Detect (iMD) and Real-Time Face Recognition with database. Its open architecture supports multi-user access & is compatible with ONVIF 2.42 making it compatible with numerous third-party devices.

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.

4K Resolution

4K resolution 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 detail. 4K resolution improves the clarity of a magnified scene to view or record crisp forensic video from large areas.

High Definition Camera Input

The AVR supports up to 8MP HD AVS cameras and 8MP IP cameras input.

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 12MP
Analog Video Input	16
Loop Output	N/A
AVS Resolution	4K, 6MP, 4MP, 1080P@25/30fps, 720P@50/60fps, 720P@25/30fps
AHD Resolution	5MP, 4MP, 3MP, 1080P@25/30, 720P@25/30fps
TVI Resolution	5MP, 4MP, 3MP, 1080P@25/30, 720P@25/30fps
CVBS Standard	PAL/NTSC

Audio

Input	4 channel, RCA
Output	1 channel, RCA
Two-way Talk	Reuse audio in/out, RCA

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
Display Split	1/4/8/9/16, 1/4/8/9/16/25 with IP cameras
Privacy Masking	4 rectangular zones (each camera)
OSD	Camera title, Time, Video loss, Camera lock, Motion detection, Recording
Picture in Picture support	Supports 2 channels of Video PIP. Note: PIP only enabled when: Recorder display is set to 1080P or lower with Extra Screen and Zero Channel disabled

Recording

Video/Audio Compression	H.265+/H.265/H.264+/H.264
Image Resolution	4K, 6MP, 5MP, 4K-N, 4MP, 3MP, 4M-N, 1080P, 720P, 960H, D1, CIF, QCIF
Record Rate	Main Stream: 4K(1fps~7fps); 6MP(1fps~10fps); 5MP(1fps~12fps); 4MP/3MP(1fps~15fps); 4M-N/1080P/720P/960H/D1/CIF/QCIF (1fps~25/30fps) Sub Stream: 960H(1fps~15fps); D1/CIF/QCIF(1fps~25/30fps)
Bit Rate	32Kbps~6144Kbps Per Channel
Record Mode	Manual, Schedule (Regular (Continuous), MD), 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	16 channel
Relay Output	3 channel

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 (10/100M/1000M)
Network Functions	HTTP, HTTPS, IPv4/IPv6, TCP/IP, UPnP, RTSP, UDP, SMTP, NTP, DHCP, DNS, PPPoE, DDNS, FTP, IP Filter, SNMP, P2P
Max. User Access	128 users
Smart Phone	Android, iOS, iPhone

Storage

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

Auxiliary Interface

USB	2 ports (1 USB2.0, 1 USB3.0)
RS232	N/A
RS485	1 Port, for PTZ Control

General

Power Supply	DC 12V/5A
Power Consumption	<15W (Without HDD)
Working Environment	-10°C ~ +55°C (+14°F ~ +131°F), 10~ 90% RH
Dimensions (W×D×H)	1U, 375mm×287mm×53mm (14.8" x 11.3" x 2.1")
Weight	1.8kg (3.70 lb) (without HDD)

Certifications

Certifications	CE: CE-LVD: EN 60950-1/IEC 60950-1CE-EMC: EN 61000-3-2, EN 61000-3-3, EN 55032, EN 50130, EN 55024
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AI Features

Perimeter Protection

Capabilities	AI IVS by HDVR: 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 2 channels (analog channel)
Live View	Rule box inspection: Configure the rule box and object inspection box. Smart panel: Display object classification (human, vehicle), event types, triggering time, image matting and object types. Attribute is not supported. Counting: Counts humans in People total. Counts motor vehicles in Vehicle. Supports exporting of associated event playback before and after 10 seconds.
Playback	Search conditions: According to channels, time, event types and target types. Functions: Supports search of associated event playback or snapshot before and after 10 seconds. Snapshot capacity: 500,000

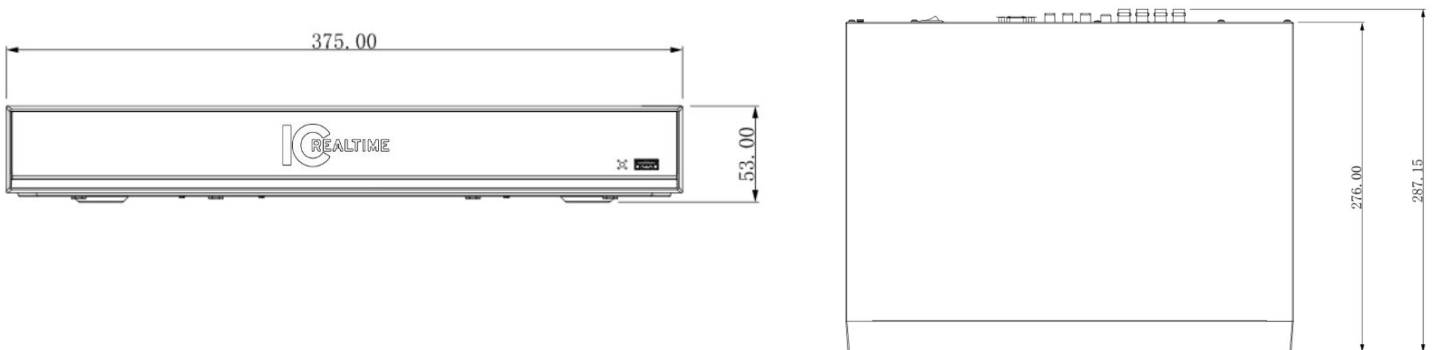
Intelligent Motion Detect (iMD)

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

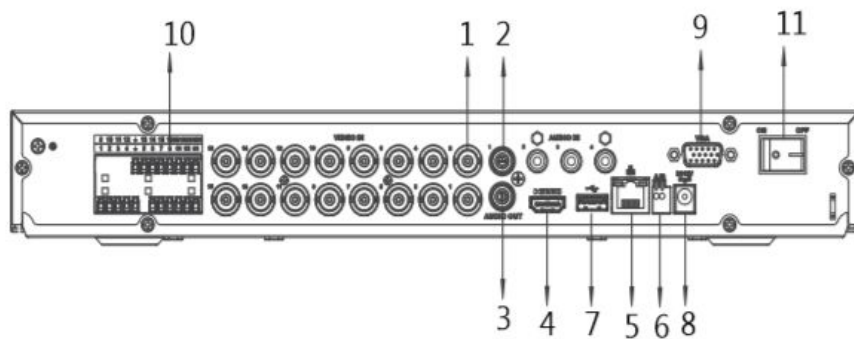
Face Recognition

Capabilities	Up to 12 face pictures/sec processing (modeling and comparing). Up to 10 face databases with 10,000 face images in total. Up to 300,000 face detection events in total. Up to 300,000 face Recognition events in total.
Performance	Up to 2 channels video stream (analog channel) human face recognition.
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, nationality, address, ID information 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 | 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 | | |