

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

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| Main Processor | Embedded Processor |
| Operating System | Embedded LINUX |

Video

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| 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

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

Display

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| 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 |
| 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 |
| 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

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| 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

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| 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

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| 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

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| 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

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

Auxiliary Interface

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

General

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

Certifications

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| Certifications | FCC: Part 15 Subpart B UL: UL 60950-1 |
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AI Features

Perimeter Protection

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| 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 only) |
| 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 |

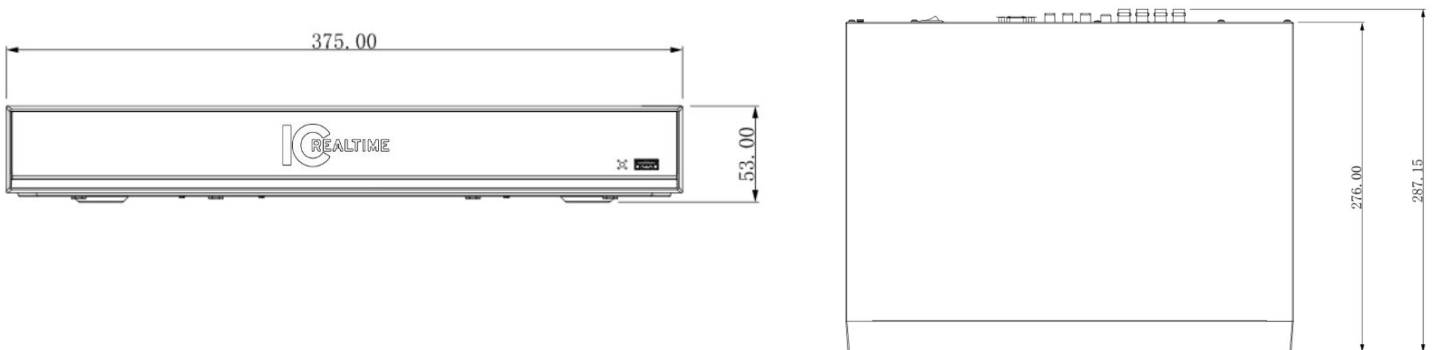
Intelligent Motion Detect (iMD)

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|--------------|---|
| 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 only) |
| 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 |

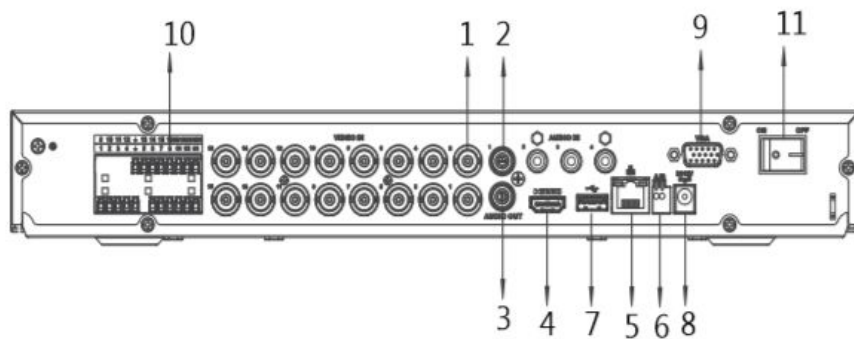
Face Recognition

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| 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 only) 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 | | |