

IVSS7016-8M

3U Intelligent Video Surveillance Server



Overview

IVSS goes beyond the ordinary NVR products. It is an Intelligent Video Surveillance Server that combines video management features with traditional video storage functions in one device. Besides the basic functions as a network video recorder, IVSS is integrated with features such as face detection and face recognition for different business and industrial applications. With the build-in deep learning module, IVSS series products adopt video image metadata technology based on deep learning algorithms, offering high-precision human face recognition and perimeter protection. By applying deep learning artificial intelligence, IVSS allows users to focus on what matters most, to improve event response time and help make video actionable.

Function

Face Recognition

Supports recording faces by metadata and real-time crosscheck with incredible accuracy to figure out the face with target features. With the Regular and Stranger face mode, IVSS triggers various kinds of alarm actions for different applications.

AI IVS

With deep learning algorithm, AI IVS technology can recognize human and vehicle accurately. In restricted area (such as pedestrian area and vehicle area), the false alarms of intelligent detection based on target type (such as tripwire, intrusion, parking detection, loitering detection and crowd gathering estimation) are largely reduced.

Video Metadata

Metadata is feature attribute information extracted from a target object which can be used for data retrieval. Currently, there are four main kinds of metadata in the security industry: Human face, human body, and motor vehicle and non-motor vehicle metadata.

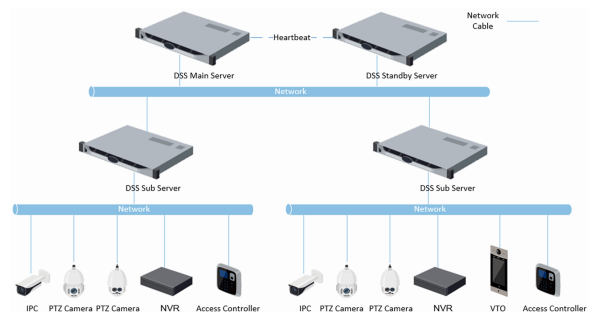
AI Search

Supports search by metadata of human and vehicles. Supports uploading face pictures to IVSS and compare them with recorded faces in IVSS by similarity. IVSS enables operators to quickly and easily search through multiple channels and long duration, to efficiently find out when and where a person of interest appeared.

Features

- Industry embedded micro-controller
- Embedded Linux Operating System
- Max 512 Mbps incoming bandwidth
- 256-channel IP video access
- Up to 96-channel AI IVS
- Up to 96-channel face recognition with normal IPC
- Up to 256-channel face recognition with face detection IPC
- Up to 96-channel video metadata
- Up to 50 face databases with 500,000 face pictures in total
- Supports RAID 0/1/5/6/10/50/60
- 3 HDMI & 1 VGA video output

Hot Standby Diagram



ANPR

Automatic Number Plate Recognition available for convenient entrance/ exit management. This feature provides number plate recognition (working with ITC camera), number plate comparison with blocklist/allowlist, vehicle database management, and vehicle record search.

N+M Hot Standby

The highly reliable redundancy N+M Hot Standby design provides a secure failover technique to ensure immediate backup. In the event of a system failure, the sub device instantly takes over the main device to ensure no data loss.

Smart Tracking

The automatic tracking PTZ feature automatically tracks a moving target throughout the camera's field of view. This function is ideal for following an object as it moves through airports, parking lots, city centers, or other scenes.

Fisheye Dewarp

Supports multiple fisheye dewarp modes to make viewing video easy whether its live or during playback.

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Technical Specification	
System	
Main Processor	Industry embedded micro-controller
Operating System	Embedded Linux OS
Operation Interface	WEB (PCAPP), local GUI
AI Applications	
AI by Camera	Face detection, face recognition, video metadata, IVS (tripwire, intrusion, abandoned object, missing object, fast moving, parking detection, crowd gathering, loitering, and fence-crossing), people counting, smoking detection, call detection
AI by Device	Face detection, face recognition, video metadata, IVS (tripwire, intrusion, crowd gathering, loitering detection, parking detection), plate comparison
IVS	
IVS Performance (AI by Device) (Channel Number)	96-channel 2 MP or 64-channel 4 MP with normal IP camera
IVS Performance (AI by Camera) (Channel Number)	256-channel
Human Face Detection	
Human Face Properties	Supports 6 properties: Gender, age range (6 levels), glasses, expression (8 types), mouth mask, and beard
Face Detection Performance (AI by Device) (Channel Number)	96-channel 2 MP or 64-channel 4 MP with normal IP camera
Face Detection Performance (AI by camera) (Channel Number)	256-channel
Human Face Recognition	
Face Database Capacity	50 face databases with 500,000 face pictures in total
Human Face Recognition Performance (AI by Device)(Channel Number)	96-channel 2 MP or 64-channel 4 MP with normal IP camera 256-channel with face detection IP camera (Totally 320 face pictures analyzed per second)
Human Face Recognition Performance (AI by camera) (Channel Number)	256-channel
ANPR	
Plate Database Capacity	50 plate databases with 500,000 plate numbers in total Supports allowlist and blocklist
Plate Detection Performance by ITC Camera (Channel Number)	64-channel
Video Metadata	
Human Body Properties	Gender, age, sleeves length, top color, bottom type, bottom color, bag, rain coat, umbrella, hat, hairstyle, direction, hold a baby, mouth mask
Vehicle Properties	Vehicle type, vehicle color, plate color, logo, calling, seatbelt, ornament, region

Non-motorized Vehicle Properties	Non-motor Vehicle type, non-motor vehicle color, number of passengers, umbrella, rain coat, bag, sleeve length, top color, hat, hair style, mouth mask
Metadata Performance (AI by Device) (Channel Number)	96-channel 2 MP or 64-channel 4 MP with normal IP camera
Metadata Performance (AI by camera) (Channel Number)	64-channel
Video Parameters	
Remote Connection	256-channel
Network Bandwidth	Incoming bandwidth: 512 Mbps recording bandwidth: 384 Mbps outgoing bandwidth: 128 Mbps
Resolution	24MP/16MP/12MP/8MP/6MP/5MP/4MP/3MP/1080p/960p/720p/D1/CIF/QCIF
Decoding Capability	2-channel 24MP/3-channel 16MP/6-channel 12MP (20 fps)/7-channel 12MP (15 fps)/6-channel 8MP (30 fps)/12-channel 8MP (15 fps)/7-channel 6MP (30 fps)/9-channel 5MP (30 fps)/11-channel 5MP (25 fps)/12-channel 4MP (30 fps)/18-channel 4MP (20 fps)/19-channel 3MP (25 fps)/12-channel 1080p (60 fps)/24-channel 1080p (30 fps)/36-channel 720p (30 fps)
Video Output	1-channel VGA output, 3-channel HDMI output, VGA 1/HDMI 1 outputs the same video source Supports 4K output
Multi-screen Display	1st Screen: Max.64-channel 2nd Screen: Max.16-channel 3rd Screen: Max.1-channel
Third-party Support	Onvif; RTSP; Sony; Panasonic; Axis; Arecont; Pelco; Canon; Samsung
Operating System	Embedded Linux OS
Operation Interface	WEB (PCAPP), local GUI
Compression	
Video Compression	Smart H.265+; Smart H.264+; H.265; H.264
Audio Compression	G.711a; G.711u; PCM; G.726
Network	
Protocol	HTTP; HTTPS; TCP/IP; IPv4; RTSP; UDP; SMTP; NTP; DHCP; DNS; DDNS; P2P; iSCSI; UPnP; SNMP; IPv6
Mobile Phone	iOS, Android
Interoperability	ONVIF (Profile S, T and G); CGI; SDK
Browser	Chrome; PCAPP; IE9 or higher; Firefox
Network Mode	NIC binding mode such as multiple-address mode, load balance, fault-tolerance, etc
Record Playback	
Multiple-channel Playback	Max. 16-channel playback
Record Search	Search video detection/manual record/IO alarm/intelligent event/all record file
Storage Medium	Internal HDD, SAS disk array enclosure
Backup Method	HDD, peripheral USB storage device
Playback Function	Play, pause, stop, fast forward, fast backward, reverse play, frame by frame play Full-screen, backup (clip/file), snapshot, digital zoom, audio on/off

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Storage

HDD Group	16
RAID	RAID 0/1/5/6/10/50/60
Storage Pool	N/A

Alarm

General Alarm	Motion detect, tampering, local alarm
Anomaly Alarm	IPC offline alarm, storage error, HDD full, IP conflict, MAC conflict, login lock, AI module temperature alarm, AI module offline, fan malfunction
Intelligent Alarm	Human face detection, human face recognition, entries frequency, video metadata (person/vehicle/non-motor vehicle), IVS, plate recognition, people counting, smoking, call
Alarm Linkage	Record, snapshot (full image), local external alarm output, IPC external alarm output, access & control, audio prompt, buzzer, log, preset, email

Peripheral Interface

Audio Input	1-channel (reserved)
Audio Output	1-channel, speaker output, audio linkage output
Alarm Input	16-channel
Alarm Output	8-channel
Internal HDD	16 slots, SATA3.0/SAS. Max. 16T/HDD
eSATA	1 port
SAS	2 SAS3.0 ports
RS-232	1 port, for debug or transparent COM data
RS-485	1 port, control peripheral PTZ and so on Supports various protocols
USB	4 ports 2 USB2.0 ports at the front panel and 2 USB3.0 ports at the rear panel
HDMI	3 ports; support 4K output
VGA	1 port
Network	4 RJ-45 10/100/1000 Mbps self-adaptive Ethernet ports
Power	1 port
PoE	N/A

General Parameters

Power Supply	1+1 Redundant, AC100-127V/AC200-240V 50/60Hz
Power Consumption	140W (without HDD, idling) 332W (all HDDs connected)
Net Weight	16 kg (35.27 lb)
Gross Weight	17 kg (37.48 lb)
Dimensions (W × L × H)	Chassis: 444.8 mm × 522.4 mm × 133.2 mm (17.51 " × 20.57 " × 5.24 ") Max. size: 485.0 mm (with hanger) × 522.4 mm × 133.2 mm (with feet mat) (19.09 " × 20.57 " × 5.24 ")
Packaging Dimensions (W × L × H)	689 mm × 779 mm × 464 mm (27.13 " × 30.67 " × 18.27 ")
Operating Conditions	0 °C to +45 °C (+32 °F to +113 °F)/10%RH~90% RH
Storage Conditions	-20 °C to +70 °C (-4 °F to +158 °F)
Operating Altitude	5000 m (16404.20 ft)
Installation Mode	Desktop/rack
Certifications	CE: CE-LVD: EN 60950-1/IEC 60950-1 CE-EMC: EN55024, EN55035, EN50130-4, EN60950-1 FCC: Part 15 Subpart A UL: 60950-1 and CAN/CSA C22.2 No. 60950-1-07