



## **Honeywell Universal Surveillance (HUS) 5.1**

The Smart Choice of IP Security Management

# Honeywell Universal Surveillance

## The Smart Choice of IP Security Solution

Powerful. Flexible. Efficient. Honeywell Universal Surveillance (HUS) is Honeywell's latest IP-based security solution that is user-friendly and easy-to-operate. HUS extends beyond video surveillance, and integrates with access control systems, such as Pro-Watch® and WINPAK®, as well as VISTA intrusion alarm panels. HUS offers a one-stop IP and hybrid surveillance solution to protect your valuable assets all-year-round.



### HUS – A Powerful Integrated Surveillance System



#### A complete end-to-end solution

Be it front-end devices such as 720P, 1080P, 2MP, 3MP, 5MP and 4K IP cameras or back-end equipment such as central management servers, NVRs, DVRs, IP SAN storage, encoders and decoders, Honeywell has the right solution that best fits your requirements.



#### Comprehensive Backup Mechanism for Excellent Reliability

With features such as hot redundancy and standby, N+1 redundancy, network failure recovery (NFR) to minimize video loss, HUS helps address high level security requirements and ensure compliance with strict industry regulations.



#### Customizable Programming for Full Control

Users are able to customize the system with self-defined rule engine according to safety and business requirements.



#### Seamless Integration Improves Operational Efficiency

Users can integrate Video Surveillance, Access Control and Intrusion using a Software Development Kit (SDK) with ONVIF compatibility to centralize surveillance control, manage and enhance operational efficiency.



#### A Universal Platform For Every Industry

The ideal solution for a broad range of applications, be it large projects (banks, commercial buildings, railways, airports, stadiums, government facilities, city surveillance) or mid-scale projects (retail chains, shopping centers, schools, offices)



The following 6 components are the key drivers for a powerful, competent and dynamic HUS IP Surveillance Solution:

**(1) Full range of front-end and back-end IP devices**

- Megapixel IP cameras
- High definition IP cameras
- Network video recorders
- Decoders
- Intelligent video analytics
- IP SAN storage
- Analog cameras / DVRs
- Encoders
- Monitors



**(2) Optimized network design and technical services**

Through rigorous testing and validation, HUS sets an industry standard on IP Surveillance. The systems delivers the most stable, reliable and efficient performance for commercial and industrial applications.



**(3) Flexible storage options**

Storage is a critical factor in IP surveillance. Honeywell provides a series of flexible storage options suited for various requirements, from front-end video server local storage to centralized storage. Features such as RAID technology, N+1 redundancy, network failure recovery (NFR) ensures continuous and reliable video storage.



**(4) Advanced Intelligent Video Analytics**

Want more proactive surveillance for better protection? Integrated Honeywell Video Analytics in HUS enables the system to remain actively alert with enhanced event prediction, analytics and triggering features.



**(5) Easy-to-use monitoring display**

HUS delivers high definition/ standard definition images to the video wall via a HD digital decoder (HUS-D4-E-PRO). The network keyboard is designed with user-friendly features for better efficiencies.



**(6) Unified and integrated security platform**

HUS seamlessly integrates video surveillance with other Honeywell solutions such as Pro-Watch® and WIN-PAK® access control, and VISTA intrusion alarm among others for a more comprehensive emergency response solution.

# 10 Reasons to Choose HUS 5.1

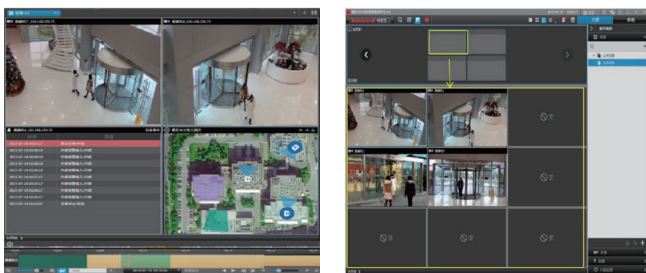
HUS 5.1 was designed with intelligence, high-definition and IP surveillance. It features excellent system reliability, a flexible and modular architecture, with low installation, maintenance and management costs to optimize Total Cost of Ownership (TCO).



## HUE based User-Friendly Design

The architecture and user interface was designed with the Honeywell User Experience (HUE) in mind. The platform provides a series of powerful functions that are easy to operate, enabling better user experience and operational efficiency.

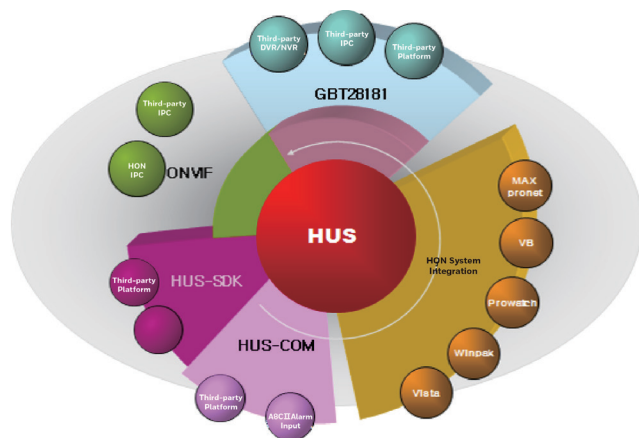
- SmartView
- Adaptive Resolution View
- Timeline Based Instant Video Playback
- Live/Instant Preview on E-Map
- Fuzzy search



## Superb Integration Capability

HUS offers different packages for 3<sup>rd</sup> party system integration and is compatible with ONVIF interfaces, offering a highly flexible platform to optimize your total cost of operation.

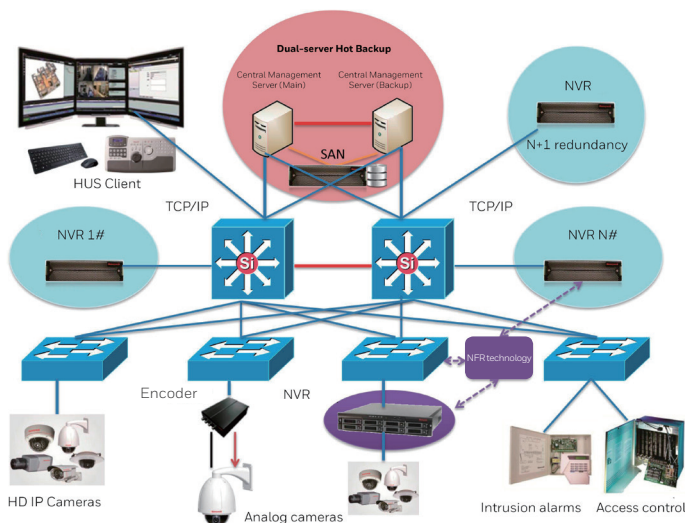
- ONVIF Profile S compliant
- HUS-SDK for 3<sup>rd</sup> Party System Integration\*\*
- HUS-COM to communicate with 3<sup>rd</sup> party subsystems
- Integration with Pro-Watch®, WIN-PAK® access management system
- Integration with VISTA intrusion panel



## Reliable and Efficient System Architecture

Designed with various protection measures and a redundancy architecture, HUS is able to minimize system downtime for enhanced reliability and security.

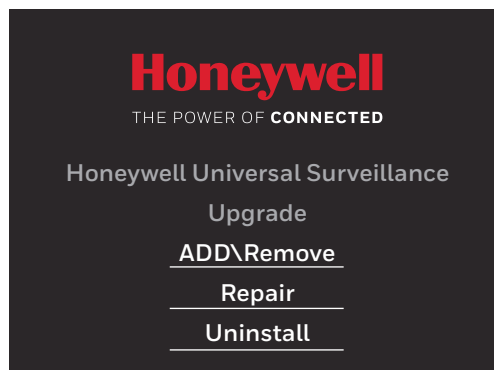
- Dual-server Hot Standby
- Remote site standalone operation and management
- N+1 Redundancy
- Network Failure Recovery (NFR) technology. In the event of network failure, IP cameras with edge storage capability will record until the network is recovered. Recorded videos can be automatically transferred from the camera to the NVR without manual configuration.
- Key database cluster backup solution



## Easy to Install, Easy to Manage, Easy to Maintain

HUS provides various new features and functions to enhance operational efficiency while reducing installation and maintenance costs.

- Auto Device Discovery
- Database Backup
- Device configuration export/import





### Comprehensive Security Empowerment

HUS follows Honeywell global Cyber Security standards, offering advanced security technology and features.

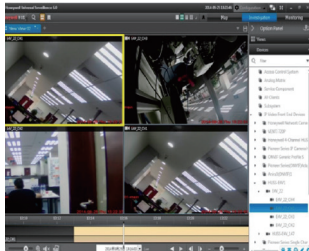
- Advanced HTTPS encryption for data transmission
- Comprehensive user authentication and authorization
- Digital Signature for exported video
- High level requirements on user name composition



### Easy-to-view and Easy-to-access Live Video

It is easy to view live videos and run instant playbacks on HUS. Operators can obtain real-time information and take immediate actions for emergency situations.

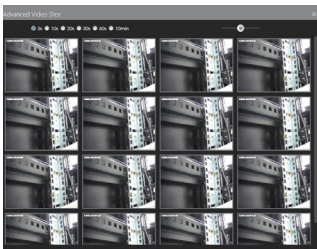
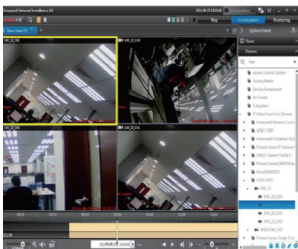
- SmartView: Live video, E-map and alarm information in the same screen
- Live/Instant Preview on E-Map: live video viewing of cameras with locations marked on E-map
- Instant playback based on alarm information
- Supports up to 18 high definition IP video decoding



### Precise and Quick Search

HUS allows operators to accurately search their desired video clips from mass data.

- Playback via timeline: Drag timeline for random viewing and playback of recorded video without further searching
- Up to 4-channels of synchronized video playback
- Advanced keyword fuzzy search: search video, log, bookmark, event using single keywords



### Easy to Expand with Better Cost Control

Subsystem is relatively independent under the modular design of HUS, making the system easy and flexible to expand according to different requirements.

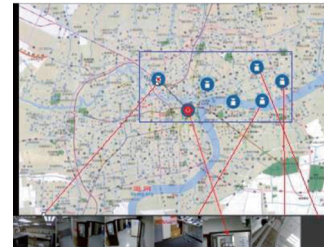
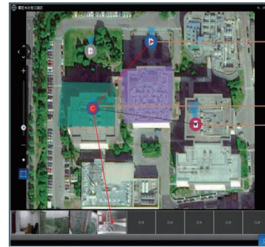
- Flexible and easy-to-expand architecture design
- Smooth expansion among top-down site layers
- Disk space quota for different IP cameras
- Flexible expansion of storage system



### Multi-Functional E-map

HUS E-map is intuitive and powerful allowing users to quickly obtain information for immediate response.

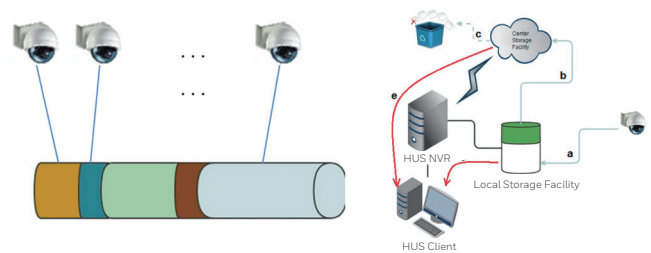
- Live/Instant Preview on E-Map
- Line indicator between camera and video to avoid confusion
- Zone alarm: Alarmed zone will flicker for clear indication of incident area
- Device association
- Device batch selection



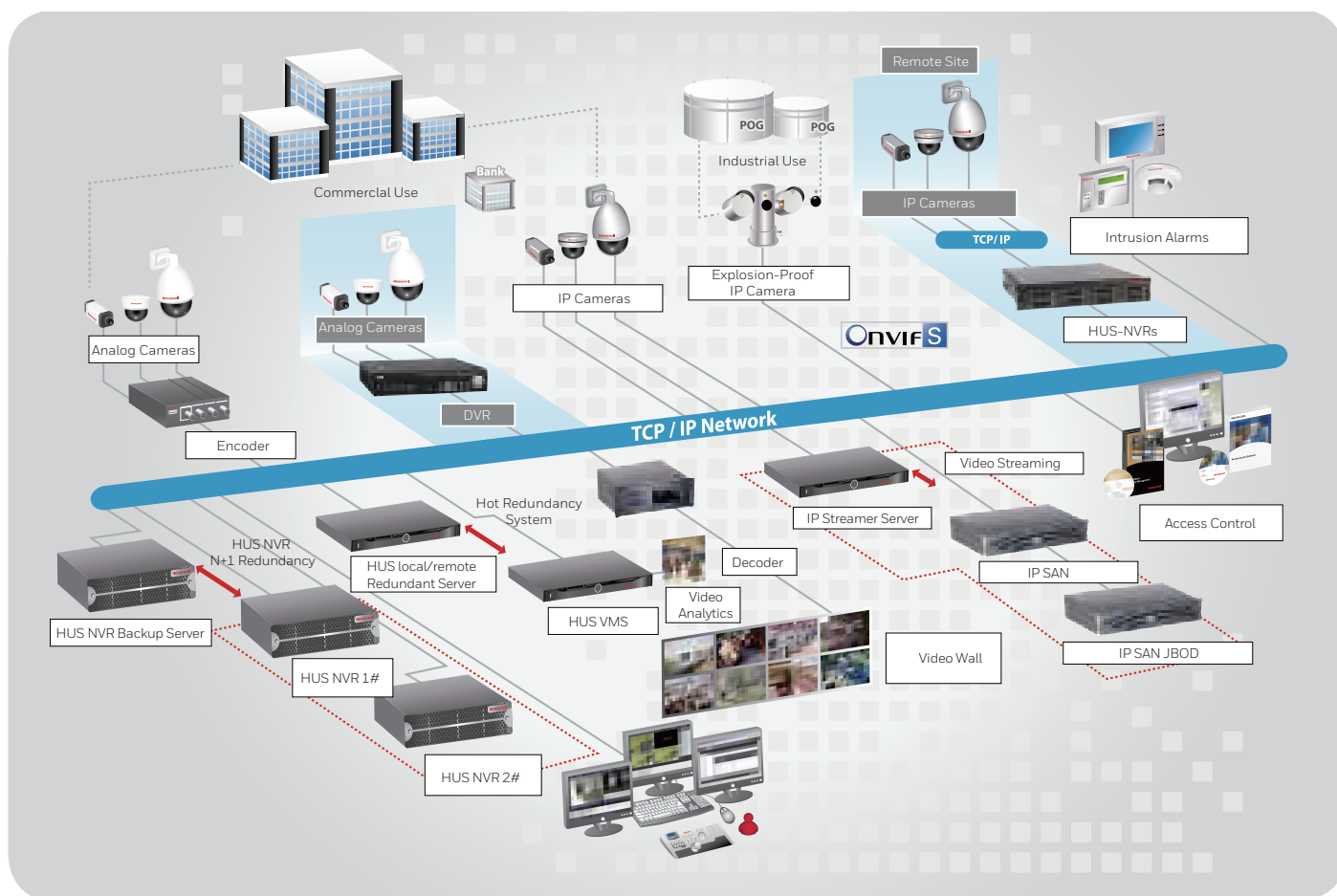
### Flexible & Expandable Storage System

Optimized storage system design to reduce installation cost and improve management efficiency.

- Personalized setting of IP camera storage space based on IPC importance and priority levels
- Remote video archive storage: When storage limit is exceeded on the local server, the archive will be transferred to a remote server to extend data usage and save storage cost
- NVR performance upgrade
- Centralized management



# Honeywell IP Solution System Diagram



# HUS IP Security Solution Product Family

## Central Management

**Central Management Server**  
System management server  
Expansion management server



**Access Control**  
Pro-Watch®  
WIN-PAK®



**Intrusion**  
VISTA burglary alarm panel  
Doppio alarm receiver



## Network Video Recording

**HUS-NVR-7200A/5100A Series**  
256-ch real-time recording  
N+1 backup  
24x7 operation



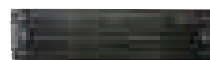
**HUS-NVR-7000H Series**  
128-ch real-time recording  
N+1 backup  
24x7 operation



**HUS-NVR-1032/6032 Series**  
32-ch real-time recording  
Standalone or integrated  
installation  
Easy to maintain and manage



**HUS-IPS-5100S/D Series**  
320-ch real-time recording  
N+1 backup  
24x7 operation



## Decoders / Encoders

**HUS-D4-E-Pro Decoder**  
8-ch 1080P  
HDMI x 4



**HUS-D1X/D4X Decoder**  
4-ch 4K  
HDMI/VGA/BNC



**HUSS-E4X Encoder**  
4-ch 720P  
H.264 dual stream



## IP Cameras

**4K/1080P/720P**  
H.265 / H.264 Box, Dome, Vandal-proof, IR, PTZ



**6MP/8MP**  
Box, Dome, Vandal-proof



# Honeywell IP Security Solution

## Central Management Server HUS-XPRO-MAS/SLA/RDB/RPK

An all-inclusive enterprise IP solution management server for HUS XPRO. Key functions include: Dual-server hot backup, N+1 redundancy, Windows Server operation system, central data management, system operation monitoring, alarm / event monitoring and management, customized programming, video streaming management, video recording management, system clock synchronization, device connector stability monitoring, and supporting up to 500 channels video stream. HUS client functions include: real-time video display, video recording and playback, PTZ, switching between IP and analog matrix, alarm management, E-map, customized programming, and devices maintenance.



## Network Video Recorder HUS-NVR-5100A-E/7200A/EC16

A powerful storage system for HUS XPRO, the NVRs. support 340Mbps/700Mbps data throughput and 24x7 continuous operation, and 256 channels recording + 128 channels playback and forwarding (D1/full real-time/2Mbps). Apart from video recording, the NVRs are also compatible for the intelligent video analytics software (Active Alert), and support 6 channels at D1/ 4 channels at 720P/4 channels at 1080P video intelligent analytics.



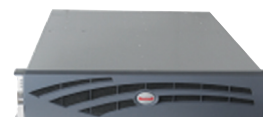
## Network Video Recorders HUS-NVR-7000H Series

A powerful NVR series for 4K resolution IP cameras, it is an ideal choice for a full IP security solution. The user-friendly design enables easy installation, operation and maintenance. The data security and real-time device monitoring ensures stable and reliable operation.



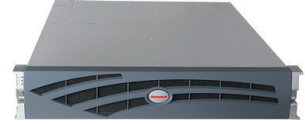
## IP SAN Video Storage System HUS-IPS-6100-E/EC24S/6100D/EC24D

HUS-IPS-6100 series IP SAN video storage system is a controller based IP SAN unified storage appliance with no usage of video streaming server, consisting of controller 6100S/D and expansion unit EC24S/D. The dual-controller supports 180 channels high definition video recording at 1080P, 6Mbps, and the single-controller supports 24 SATA and 3 expansion chassis.



## IP SAN Video Storage System HUS-IPS-5100S/EC16S/5100D/EC16D

The IP SAN video storage system consists of video streaming server HUS-IPS-STM, controlled-based IP SAN HUS-IPS-5100S/D, and expansion array HUS-EC16S/D. HUS-IPS-STM supports 128 channels video forwarding (D1/full real-time/2Mbps) and 24x7 operation. It is also compatible with intelligent video analytics software (Active Alert), and supports 6 channels at D1/ 4 channels at 720P/4 channels with 1080P video intelligent analytics.



## Network Video Decoder HUS-D4-E-PRO

The decoder bridges DVRs, digital video streamers and IP cameras to a video wall. It decodes different video formats, e.g. H.265, H.264, MPEG4, into HDMI format to a video wall display. HUS-D4-E-Pro provides 4-channel HDMI outputs and supports a total of 8 channels 1080P or 36 channels D1 display.



## HJC-5000 Network Joystick Keyboard

An easy-to-operate network keyboard for HUS XPRO, providing a real-time intuitive method of control for operators with a touch screen and joystick for DVR/NVR and PTZ control. HJC-5000 with HUS-D4-E-Pro can be deployed to control movement of the camera PTZ directly from the video wall.



## IP Encoder / Decoder HUSS series

For hybrid applications, it bridges analog cameras to the TCP/IP network. 4 channels video encoding and 1/4 channels video decoding. H.264 high profile compression and dual stream video output.



## High definition / standard IP Cameras

From 4K, 5M, 3M, to 1080P, 720P high definition resolution, Honeywell offers you a comprehensive selection of IP fixed dome, box, IR and speed dome cameras to deliver high quality images for your digital surveillance monitoring. By applying CMOS sensor, the latest H.265 compression technology, and dual-stream video output, Honeywell IP cameras capture sharp and clear images to protect your valuable assets 24/7 all year round.



# Honeywell IP Security Solution

Product Number	Description
<b>HUS XPRO Central Management</b>	
HUS-XPRO-MAS-E	HUS Central Management Master Server: Include PC server, OS, DB, HUS software. License covers 300 video channels and 20 clients
HUS-XPRO-SLA-E	HUS Central Management Slave Server: Include PC server, OS, HUS software. License covers 300 video channels
HUS-XPRO-RPK-E	HUS Central Management Local Site Redundancy Package Kit: Include 2 PC servers, 2 Windows Server 2008 Enterprise 64bit, 2 SQL Server 2008 Standard 64bit, HUS software, 1 Storage Disk Array. License covers 300 video channels and 20 clients
HUS-XPRO-RDB-E	HUS Central Management Remote Sites Redundancy Database Package Kit: Include 2 PC servers, 2 Windows Server 2008 Standard 64bit, 2 SQL Server 2008 Standard 64bit, HUS software. License covers 300 video channels and 20 clients
<b>HUS XPRO Storage System</b>	
HUS-NVR-5100A-E	HUS Network Video Recording Storage System: Supports 128 channels D1 resolution video recording at real time, 40 channels D1 resolution video playback/relay at real time
HUS-NVR-7200A-E	HUS Network Video Recording Storage System: Supports 256 channels D1 resolution video recording at real time, 40 channels D1 resolution video playback/relay at real time
HUS-NVR-EC16-E	HUS Network Video Recorder Storage System Expansion Array
HUS-NVR-7064H	64 channels @ 1080P / 128 channels @ 720P HUS NVR, 24 HDDs max 144TB, RAID, Hot Swap, 1 SAS, 2 1000M Ports, ONVIF, N+1 Redundancy, NFR with Camera
HUS-NVR-7128H	128 channels @ 1080P / 256 channels @ 720P HUS NVR, 24 HDDs max 144TB, RAID, Hot Swap, 1 SAS, 2 1000M Ports, ONVIF, N+1 Redundancy, NFR with Camera
HUS-NVR-EC24	Video storage expansion array, 24 HDDs max 144TB, SAS 4 x 6Gb, RAID, Hot Swap, Single Power
HUS-NVR-EC24-D	Video storage expansion array, 24 HDDs max 144TB, SAS 4 x 6Gb, RAID, Hot Swap, Dual Power
HUS-NVR-7064H-D	64 channels @ 1080P / 128CH @ 720P HUS NVR, 24 HDDs max 144TB, RAID, Hot Swap, 1 SAS, 2 1000M Ports, ONVIF, N+1 Redundancy, NFR with Camera, Dual Power
HUS-NVR-7128H-D	128 channels @ 1080P / 256CH @ 720P HUS NVR, 24 HDDs max 144TB, RAID, Hot Swap, 1 SAS, 2 1000M Ports, ONVIF, N+1 Redundancy, NFR with Camera, Dual Power
HUS-IPS-6100-E	HUS 6100 series single controller IPSAN storage system, support up to 90 channels video storage (1080p), support 24 pieces 3.5" HDD (SAS, NL-SAS), support up to 3 expansion chassis, power and fan redundancy
HUS-IPS-6100D-E	HUS 6100 series dual controller IPSAN storage system, support up to 180 channels Video storage (1080p), support 24 pieces 3.5" HDD (SAS, NL-SAS), support up to 3 expansion chassis, power and fan redundancy
HUS-IPS-EC24S-E	HUS 6100 series single controller IPSAN storage extend chassis, support 24 pieces 3.5" HDD (SAS, NL-SAS), power and fan redundancy
HUS-IPS-EC24D-E	HUS 6100 series dual controller IPSAN storage extend chassis, support 24 pieces 3.5" HDD (SAS, NL-SAS), power and fan redundancy
HUS-IPS-STM-E	HUS IP Storage Streaming Server: Include PC server, OS, HUS video streaming software.
HUS-IPS-5100S-E	HUS IP SAN Storage System with Single Controller: Supports 320 channels D1 resolution video recording at real time, 64 channels D1 resolution video playback/relay at real time. Standard configuration support 16 bays hard disk installation without expansion chassis.
HUS-IPS-EC16S-E	HUS IP SAN Storage Expansion Chassis for Controller Structure
HUS-IPS-5100D-E	HUS IP SAN Storage System with Dual Controllers: Supports 320 channels D1 resolution video recording at real time, 64 channels D1 resolution video playback/relay at real time. Standard configuration support 16 bays hard disk installation without expansion chassis.
HUS-IPS-EC16D-E	HUS IP SAN Storage Expansion Chassis for Controller Structure
HUS-HDD-4TB	HUS Storage System Hard Disk: 4TB
<b>HUS XPRO Digital Decoder</b>	
HUS-D4-E-Pro	4 Channels Intelligent Network Video Decoder: 4 HDMI port outputs, each port supports 4 channels video display on screen at D1 resolution real time
HUS-E4X	4 Channel D1/D1 network encoder, H.264, Local display and playback
HUS-D1X	1 channel high definition network decoder, 16-channel@D1, 8-channel@720P, 4-channel@1080P, 1/4/9/16 split support.
HUS-D4X	4 channel high definition network decoder, 16-channel@D1, 8-channel@720P, 4-channel@1080P, 1/4 split support.
<b>HUS XPRO Software License Module</b>	
HUS-SLM-VID	HUS Video Extension Package: IP video channel extension package, each package supports additional 100 channels IP video
HUS-SLM-INT	HUS Intrusion Extension Package: Intrusion zone extension package, each package supports 128 alarm zones
HUS-SLM-ACS	HUS Access Extension Package: Access control reader extension package, each package supports additional 64 readers
HUS-SLM-CLT	HUS Client Extension Package: Client extension package, each package supports 5 additional client license
HUS-SLM-IVA	HUS Intelligent Video Analysis Package: each package supports additional 4 channels video analytics standard base license, software only
HUS-SLM-RDN	HUS IP Storage N+1 Redundancy Model: HUS-NVR N+1 redundancy license, software only
<b>HUS XPRO Integration Interface</b>	
HUS-SDK	HUS SDK Integration Interface: HUS Software Development Kit, support sending alarm/event information, receiving command and control IP devices, playing live video, searching history video recording
HUS-ONVIF	HUS ONVIF Integration Interface: HUS ONVIF Protocol, support ONVIF global standard
HUS-COM	HUS COM Integration Interface: HUS Communication Protocol, provide ASCII code for information input/output
<b>HUS XPRO System Support Agreement</b>	
SSAHUS300	SSA to HUS Management Server: One year software support service extension to management server. Includes support to 300 channel IP video
SSAHUS300R	SSA to HUS Management Redundancy Server: One year software support service extension to redundancy management server. Includes support to 300 channels IP video
SSAHUSVEX	SSA to HUS Video Extension Package: One year software support service extension to 100 channels IP video license
SSAHUSINT	SSA to HUS Intrusion Extension Package: One year software support service extension to 128 alarm zones license
SSAHUSACS	SSA to HUS Access Extension Package: One year software support service extension to 64 readers license

# Central Management Server (HUS XPRO)



An all-inclusive enterprise IP solution management server for HUS XPRO. Key functions include: Dual-server hot backup, N+1 redundancy, Windows Server operation system, central data management, system operation monitoring, alarm / event monitoring and management, customized programming, video streaming management, video recording management, system clock synchronization, device connectors stability monitoring, and up to 500 channels video stream. HUS client functions include: real-time video display, video recording and playback, PTZ, switching between IP and analog matrix, alarm management, E-map, customized programming, and devices maintenance.

## Benefits

### Superb Integration Capability

- ONVIF compliant
- HUS-SDK to communicate with 3rd party systems to send /receive video and alarm signals
- HUS-COM to communicate with 3rd party sub-systems to send /receive alarm signals
- Integration with Pro-Watch, WIN-PAK access management system, providing superior access control with alarm / event monitoring
- Integration with VISTA series intrusion system, providing proactive alarm management

### Reliable and Flexible

- High reliability by dual-server hot backup and N+1 redundancy
- Various storage options available - NVR, IP SAN, DVR and client storage
- Minimize video loss with network failure recovery function

- High-level encryption HTTPS for data transport network
- Digital encryption and e-certificate for exported video

### Well-Designed Features

- Multi-layer platform with high interoperability for easy communications and operations
- User-friendly and easy-to-use solution designed based on Honeywell User Excellence (HUE)
- Easy configuration and management: supports one-click upgrade/ configuration/ automotive devices discovering and setting, database backup, and OSD language kit customization
- With customizable programming, users are able to set self-defined emergency rules according to their requirements
- Multi-functional E-map: multi-layer design, supports real-time video,

thorough surveillance in critical areas monitored by multiple devices

- Precise and quick search: search video, log, event via single keyword
- Easy replay: Drag timeline, random view, recorded video replay at once; Supports 8x /16x / 32x / 64x and 30 seconds instant playback
- Advanced data and log management: provides alarm message, event type, device condition, and logs
- Latest H.265 compression technology to save bandwidth and video storage and help save investment cost
- Seamless integration of video surveillance, access control and intrusion alarm in one single system

## Features

### Video Management

**Intelligent Viewer:** Display video, E-map, alarms...etc. simultaneously  
**Instant Playback:** Drag timeline for instant playback without further video searching  
**Synchronous Display of Live View and PTZ Information:** synchronous display of live video and current PTZ control site information  
**Synchronous Playback:** Supports up to 4 channels video replay  
**Video Editing:** Supports video editing at planned regular intervals  
**Automatic Resolution Switch:** Based on the size of current viewer  
**Single Keyword Search:** Thorough searching of video, event, alarm through a single key word  
**Overall Search:** Synchronous searching on local site storage, NVR and DVR video  
**Real-time Setting:** Supports camera setting on real-time video  
**View Sharing:** Current view share to multiple users  
**Video Switching:** Synchronous switching of multi decoding video  
**Camera Storage Allocation:** Different storage space for different cameras  
**Remote Video Storage:** Transfers local site video storage to remote servers  
**Digital Encryption:** E-certificate and watermark for exported videos  
**Intelligent Analytics:** Synchronous display of intelligent analytics on live video  
**High Performance Decoding:** Supports up to 18 channels @1080P decoding  
**Multiple Screens:** Supports synchronous display of multiple screens and automatic screen allocation

### E-Map

- Real-time video display at the bottom of the E-map
- Indicated line between camera and video to avoid confusion
- Thorough surveillance in critical areas monitored by multiple devices
- Zone alarm: Alarmed zone will flicker for clear indicate of incident area
- Device Batching: Select multiple devices by batching; synchronous real-time video display at the bottom of E-map
- Multi-layer E-map: Centralized setting and management
- Automatically synchronized current setting to servers
- Supports multiple formats: AutoCAD, BMP, JPEG, etc.

### Distributed Control System

- Access Authorization: Supports up to 255 levels access authorization setting, strict access authorization setting to critical areas, access to recorded videos
- Multi-Level and Multi-Site System Structure: Supports remote management, independent operation of central server and local site devices, different access

### System Management

- User Management: Supports five types of user setting
- Database backup
- Provides SDK and communication interface for 3rd party integration

### Intrusion and Access Control Integration

- Unified interface: Access control system condition, alarm signal, remote door opening and alarm on/off control can all be done in one screen
- Intelligent interaction: A series of pre-set video, intrusion and door access actions will be carried out when alarm is triggered

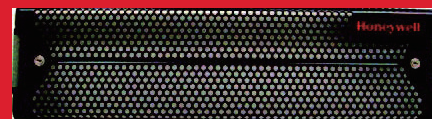
### Customized Programming

- By customized programming, users are able to set self-defined emergency rules according to their needs to ensure reliable operation

## Specifications

Model	HUS-XPRO-MAS-E	HUS-XPRO-SLA-E	HUS-XPRO-RPK-E	HUS-XPDB-RPK-E
System Capacity				
Server Qty.	1	1	2	2
Processor	Intel CPU, 3.6GHz, 4C/8T			
Memory	8GB UDIMM, 2133MT/s			
Network	2 Gigabit Ethernet RJ-45 Ports			Two disaster site established between private network and bandwidth more than 10Mbps
Hard Disk	500GB 7.2K RPM SATA		N/A	N/A
Drive Bays	Up to 4 x 3.5" hot-swappable bays		N/A	N/A
Operation				
Dimension	482.38 (W) x 42.8 (H) x 610 (D) mm			
Weight	15 kg		64 kg	30 kg
Power Input	100-240VAC, 50/60HZ			
Power Consumption	350W		1200W	700W
Operating Temperature	5°C-40 °C			
Storage Temperature	-40°C to 65°C			
Relative Humidity	5%-95%, non-condensing			
Regulatory				
Certificate	CE, FCC, UL (Server's certificate)			

# HUS-NVR



As a powerful storage system for HUS-XPRO, HUS-NVR provides comprehensive video management, convenient video searching, unified video index, and supports multi video encoder management to ensure safe, reliable, long-term storage for large-scale applications.

## Features

- Supports 700/340Mbps data throughput, 256/128 channels real-time video + 128/40 channels playback and forwarding (D1/full real-time, 2Mbps/channel)
- Multiple compression format available: H.265, H.264, MPEG4, MPEG2, MJPEG
- High reliability by N+1 redundancy
- High scalability – supports 64 / 48 enterprise hard disks
- Supports various types of video rules: time, event, alarm, manual trigger, continuous recording
- Quick and precise video search: time, date, alarm/event, device type, channel no.
- Support 6 channels at D1 / 4 channels at 720P / 4 channels at 1080P resolution intelligent video analytics package (Active Alert)

## HUS-NVR-7200A/5100A Series

Product Name	IP video storage system		Video storage expansion array
Model	HUS-NVR-7200A-E	HUS-NVR-5100A-E	HUS-NVR-EC16-E
System Capacity			
System Throughput Capacity	Support 700 Mbps bandwidth throughput capacity. Max. 256 channels real-time recording. Total 128 channels for history video playback and streaming video forwarding (D1 resolution / full real time / 2Mbps)	Support 340 Mbps bandwidth throughput capacity. Max. 128 channels real-time recording. Total 40 channels for history video playback and streaming video forwarding (D1 resolution / full real time / 2 Mbps)	
Processor	Intel quad-core processor 3.2 GHz	Intel dual-core processor 3.1 GHz	
Memory	8GB	4GB	
Hard Disk	Enterprise class hard disk 1TB, 3.5" 7200 RPM, SATA		
Network	2 x 1Gbps Ethernet RJ-45 Ports		
RAID controller	LSI MegaRAID SAS 9260 (6Gb/s per port)		
Operating System	Windows Server Standard		
IOPS	140,000 (Input/Outputs Per Second)		
Condition Monitoring	Fault/error/overload and alarm (including disk / RAID / power / fan / temperature / IO performance)		
Hardware Redundancy	Power supply and fan module redundancy (2 x PFC)		
Video Storage			
Video Input	IP mode access		
Video Compression	H.264, H.265, MPEG4, MPEG2, MJPEG		
Video Resolution	1080P / 720P / Mega-pixel / D1 / 4CIF / VGA / CIF		
Frame Rate	At most 25 fps (PAL) / 30 fps (NTSC). Support set variable code flow storage		
Recording Mode	Recording Mode Time and events, alarm, manual trigger, continuous video		
Recording Inquires	Recording Inquires Date, equipment name and channel numbers,		
Audio Codec	G.711		
Storage Performance			
Hard Disk	HUS-HDD-6TB, HUS-HDD-4TB, HUS-HDD-3TB, HUS-HDD-2TB		
Slot number	Support 16 x 3.5" enterprise hard disk (SAS/SATA)		
Storage Extension	One system can install maximum 64 x 3.5" enterprise hard disks (SAS/SATA), and support 3 units of video storage expansion array	One system can install maximum 48 x 3.5" enterprise hard disks (SAS/SATA), and support 2 units of video storage expansion array	N/A
Hard Disk Hot Plug	Supported		
Expansion Interface	Mini SAS (12Gb/s)		
RAID Level	RAID 0, 1, 5, 6, 10, 50, 60		
RAID Management	Based on the Web browser mode, GUI configuration and management		
RAID Performance	RAID banding change Settings and RAID flash SAS/SATA hard disk mixed management mode Roll online flash and disk hot backup mechanism Disk medium detection and hard disk bad area isolation Data Snapshot copy function: Snapshot Different alarm information means: SNMP/Email		
General			
Dimensions	483 (W) × 134 (H) × 700 (D) mm, rack mounting (3U)		483(W) × 134 (H) × 450 (D) mm, rack mounting (3U)
Weight	22 kg (hard disk excluded)		17kg (hard disk excluded)
Power Input	100~240VAC, 50/60Hz		
Power Consumption	2 × 350W		2 × 300W
Operating Temperature	10°C ~ 35°C		
Storage Temperature	-40°C ~ 65°C		
Relative Humidity	10% ~ 85% , non-condensing		
Certification	CCC, CE, FCC		CE, FCC

## HUS-NVR-7128H Series

Model	HUS-NVR-7128H	HUS-NVR-7128H-D	HUS-NVR-7128H-E
Operating System	LINUX		
Processor	Intel Haswell		
Memory	8GB DDR3		
ONVIF Compliance	ONVIF Profile S		
Video Input	128 channels 1080P @4Mbps / 256 channels 720P@2Mbps		
Video Forwarding	128 channels 1080P @4Mbps / 256 channels 720P@2Mbps		
Recording Resolution	4K, 5MP, 3MP, 1080P, 720P, 960H, D1		
Video Compression	H.265, H.264		
Video Recording	128 channels 1080P @4Mbps or 256 channels 720P @ 2Mbps		
Audio Input	Audio input with video streams (By IP cameras)		
Motion Detection	Supported		
Alarm Event	Recording, PTZ preset, Alarm, Buzzer and Screen tips, email		
HDD	Hot swap, 24 SATA, supports up to 144TB storage, 1 SAS interface, supports up to 144TB storage expansion		
RAID	RAID 0, 1, 5, 6, 10, Supports overall hot backup, RAID5 expansion		
HDD Management	HDD quote, virtual disk, HDD faulty alarm		
Recording Mode	Manual, Schedule, Motion detection trigger and Alarm trigger		
Search Mode	Date/Time, Event (Alarm, Motion detection), Accurate search (to second), Log link		
E-signature	Supports third-party ONVIF verification		
Protocol Support	HTTP/HTTPS, TCP/IP, RTSP, UDP, NTP, DHCP, IPC Search		
Remote Control	Monitor, PTZ control, Playback, Configuration, File		
Function	download, Log information, firmware upgrade		
User	32 users simultaneously		
32 users simultaneously	2 RJ-45 ports (10/100M/1000M)		
USB Interface	3 USB 2.0 ports		
Serial Interface	1 RS-232		
SAS Interface	1 mini SAS		
OSD	English, Simplified Chinese, Traditional Chinese, Korean		
Power Input	100~240 V AC, 50/60 Hz		
Dual Power	N/A	Dual Power	Dual Power with BBU
Power Consumption	200W (without HDD)		
Operating Temperature	10°C ~ 35°C		
Relative Humidity	20% - 80%, non-condensing		
Dimension	Standard 4U height		
Weight	30kg (without HDD)		
Mounting	Rack		
Certification	CE, FCC, CCC, UL		

## HUS-NVR-7064H Series

Model	HUS-NVR-7064H	HUS-NVR-7064H-D	HUS-NVR-7064H-B
Operating System	Linux		
Processor	Intel Haswell		
Memory	8GB DDR3		
ONVIF Compliance	ONVIF Profile S		
Video Input	64 channels 1080P @4Mbps / 128 channels 720P@2Mbps		
Video Forwarding	64 channels 1080P @4Mbps / 128 channels 720P@2Mbps		
Recording Resolution	4K, 5MP, 3MP, 1080P, 720P, 960H, D1		
Video Compression	H.265, H.264		
Video Recording	64 channels 1080P @4Mbps or 128 channels 720P @ 2Mbps		
Audio Input	Audio input with video streams		
Motion Detection	Supported		
Alarm Event	Recording, PTZ preset, Alarm, Buzzer and Screen tips, email		
HDD	Hot swap, 24 SATA, supports up to 144TB storage, 1 SAS interface, supports up to 144TB storage expansion		
RAID	RAID 0, 1, 5, 6, 10, Supports overall hot backup, RAID5 expansion		
HDD Management	HDD, quote, virtual disk, HDD faulty alarm		
Recording Mode	Manual, Schedule, Motion detection trigger and Alarm trigger		
Search Mode	Date/Time, Event (Alarm, Motion detection), Accurate search (to second), Log link		
E-signature	Supports third-party ONVIF verification		
Protocol Support	HTTP/HTTPS, TCP/IP, RTSP, UDP, NTP, DHCP, IPC Search		
Remote Control	Monitor, PTZ control, Playback, Configuration, File		
Function	download, Log information, firmware upgrade		
User	32 users simultaneously		
Network	2 RJ-45 ports (10/100M/1000M)		
USB Interface	3 USB 2.0 ports		
Serial Interface	1 RS-232		
SAS Interface	1 mini SAS		
OSD	English, Simplified Chinese, Traditional Chinese, Korean		
Power Input	100~240 V AC, 50/60 Hz		
Dual Power	N/A	Dual Power	Dual Power with BBU
Power Consumption	200W (without HDD)		
Operating Temperature	10°C ~ 35°C		
Relative Humidity	20% - 80%		
Dimension	Standard 4U height		
Weight	30kg (HDD excluded)		
Mounting	Rack		
Certification	CE, FCC, CCC, UL		

## HUS-NVR-EC24(-D)

Model	HUS-NVR-EC24	HUS-NVR-EC24-D
Interface	1 Mini SAS 4X	
HDD	Hot swap, 24 SATA, supports up to 144TB storage,	
Dual Power	N/A	Dual power
Power Consumption	200W (HDD excluded)	
Power Input	100-240V AC. 50/60Hz	
Operating Temperature	10°C ~ 35°C	
Relative Humidity	20% - 80%, non-condensing	
Dimension	Standard 4U height	

# IP SAN Video Storage System

## HUS-IPS-6100-E

## EC24S/6100D/EC24D



HUS-IPS-6100 series IP SAN video storage system is a controller-based IP SAN unified storage appliance with no usage of video streaming server, consisting of controller 6100S/D and expansion unit EC24S/D. The dual-controller supports 180 channels high definition video recording at 1080P, 6Mbps; and the single-controller supports 24 NL-SAS and 3 expansion chassis.

### Specifications

Product Name	IP SAN	
Model	HUS-IPS-6100-E	HUS-IPS-6100D-E
DIMENSION	4U/24 NL-SAS Rack Mount	
Controller	Single controller	Dual controller
Memory	8GB	16GB
Capability	Up to 90 channels recording+16 channels playback+50 channels forwarding (1080P@6Mbps)	Up to 180 channels recording+32 channels playback+100 channels forwarding (1080P@6Mbps)
RAID Level	0, 1, 10, 5, 6, 10	
Expansion Array	HUS-IPS-EC24S-E	HUS-IPS-EC24D-E
Network Management	Device management software, SNMP supported, alarm event by email	
Storage Management	Multiple RAID levels Partial hot backup and overall hot backup Online disk transfer and array roaming	
System Power Consumption	1+1, 550W power supply module redundancy	
Power Supply	100-240VAC (+/-10%), 47-63Hz, Auto-Ranging, PFC	
Operating Temperature	10°C ~ 35°C	
Storage Temperature	-40°C ~ 70°C	
Relative Humidity	20% - 80%	
Dimension	4U, 177mm (H) x545mm (D) x482.6mm (W)	
Weight	22.9kg (HDD and panel excluded)	24kg (HDD and panel excluded)
Certification	CCC, CE, FCC	

Product Name	IP SAN Expansion Array	
Model	HUS-IPS-EC24S-E	HUS-IPS-EC24D-E
Form Factor	4U 24 NL-SAS Rack Mount	
Max. No. of Drives per System	24	
System Power Consumption	1+1, 550W power supply module redundancy	
Power Supply	100-240VAC (+/-10%), 47-63Hz, Auto-Ranging, PFC	
Operating Temperature	10°C ~ 35°C	
Storage Temperature	-40°C ~ 70°C	
Relative Humidity	20% - 80%, non-condensing	
Dimension	4U, 177mm (H) x 545mm (D) x 482.6mm (W)	
Weight	20.5kg (HDD and panel excluded)	20.8kg (HDD and panel excluded)

# IP SAN Video Storage System

## HUS-IPS-5100S

### EC16S/5100D/EC16



## Specifications

Product Name	Dual Controller	Single Controller	Expansion Array
Model	HUS-IPS-5100D-E	HUS-IPS-5100S-E	HUS-IPS-EC16D-E/ HUS-IPS-EC16S-E
Capability			
Controller	Dual controller (Active-Active)	Single controller	Supports dual controller/single controller expansion
No. of Controller	2	1	N/A
System	Supports 320 channels video recording + 64 channels history video		
Throughput Capacity	playback (D1/full real-time/2Mbps)		
Memory	8GB	4GB	N/A
Host Channel	8×1Gbps iSCSI	4×1Gbps iSCSI	SAS
Network Port	10/100/1000Mb Ethernet (RJ45) or RS-232		N/A
Operating System	Windows, Linux, Solaris, HP-UX, VMWare, MAC OS		
Max No. of Host	512		
Max No. of LUN	1024, Supports LUN zone division and isolation		
IOPS	200,000 (Input/Outputs Per Second)		
Condition Monitoring	Fault / error / overload and alarm (including disk / RAID / power / fan / temperature / IO performance)		
Hardware Redundancy	Power supply and fan module redundancy (2 x PFC)		
Video / Audio			
Video Input	IP input		
Compression	H.265, H.264, MPEG4, MPEG2, MJPEG		
Resolution	1080p/720p/1 Mega-pixel/2 Mega-pixel /3 Mega-pixel /D1/4CIF/VGA/CIF		
Frame Rate	Max. 25fps (PAL) / 30fps (NTSC) , Adjustable streaming storage		
Recording Mode	Time, event, alarm, manual trigger, continuous recording		
Recording Inquires	Time/Date, Device name/channel No., Alarm/event type, video triggering rule		
Audio Codec	G.711		
Storage Performance			
Hard Disk	HUS-HDD-2TB/HUS-HDD-3TB/HUS-HDD-4TB enterprise hard disk ( 2TB/3TB/4TB )		
Slot Number	Supports up to 16 3.5"enterprise hard disk ( SAS/SATA )		
Storage Expansion Number	One system can install maximum 64 x 3.5"enterprise hard disks (SAS/SATA), and support 3 units of video storage expansion array		
Hard Disk Hot Plug	Support		
Expansion Interface	SAS ( 6Gb/s )		
RAID Level	RAID 0, 1, 5, 6, 10		
RAID Management	Based on the Web browser mode, GUI configuration and management		
RAID Performance	RAID banding change Settings and RAID flash SAS/SATA hard disk mixed management mode Roll online flash and disk hot backup mechanism Disk medium detection and hard disk bad area isolation Data Snapshot copy function: Snapshot Different alarm information means: SNMP/Email Fast performance optimization techniques; Active Data Stream Stabilization Advanced MAID technology to save 20%-30% power Partial Hot Backup and Global Hot Backup Online disk transfer and array roaming		
General			
Dimension	430(W)×133 (H)×509(D) mm, Rack mounting (3U)		
Weight	24 kg (HDD excluded)	20 kg (HDD excluded)	14 kg (HDD excluded)
Power Supply	100~240VAC, 50/60Hz		
Power Consumption	2 x 500W		2 x 300W
Operating Temperature	10°C ~ 35°C		
Storage Temperature	-10°C ~ 60°C		
Relative Humidity	20% ~ 80% , non-condensing		
Certification	CE, FCC, CCC		CE, FCC

## Features

- iSCSI based IP SAN utilized for large-scale, high-efficiency video storage application, regardless of the physical location of each system
- High Reliability controller-based IP SAN, single-controller based (HUS-IPS-5100S-E) and dual-controller based (HUS-IPS-5100D-E) appliances available
- One IP SAN system supports up to 320 channels real-time video recording + 64 channels recorded video playback or forwarding (D1/full real-time/2Mbps)
- One video streaming server (HUS-IPS-STM) supports 128 channels real-time video streams forwarding (D1/full real-time/2Mbps)
- High reliability: N+1 redundancy by HUS-IPS-STM
- Supports HD, Megapixel, D1, VGA, CIF
- H.264, H.265, MPEG4, MPEG2, MJPEG compression formats
- Flexible expansion: One IP SAN system supports up to 64 enterprise hard disks
- Supports multiple recording rules: time, event, alarm, manual trigger, continuous recording
- Supports quick and precise video searching: time, date, alarm/event, device type, channel no.

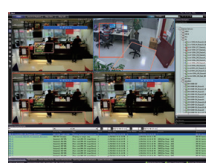
# Intelligent Video Analytics (Active Alert)

## Advanced Detection for Advanced Security Surveillance

Honeywell's suite of video analytics products (Active Alert) enables enhanced security and surveillance solutions by automatically monitoring video for specific people, vehicles, objects and their associated behavior within a camera view.

HUS Video Analytics software supports up to 36 intelligent analytics functions, including behavior analytics, data counting and video diagnosis. No matter in indoor or outdoor environment, Active Alert provides quick and precise video detection, and supports up to 20 types of behavior analysis for one target.

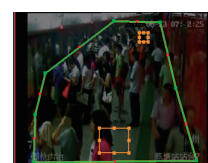
Active Alert provides real time alarms based on user-defined rules to detect abnormal or suspicious behavior accurately without the need for human supervision. Whether it is a manned or unmanned operation, with 24/7 detection, HUS Video Analytics enhances monitoring accuracy, increases operation efficiency and optimizes the use of current personnel resources.



Honeywell Video Analytics



Illegal U-turn



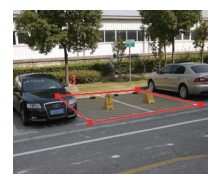
Crowd Analytics



Fence Climbing



Trespass



Illegal Vehicle Parking

## Features

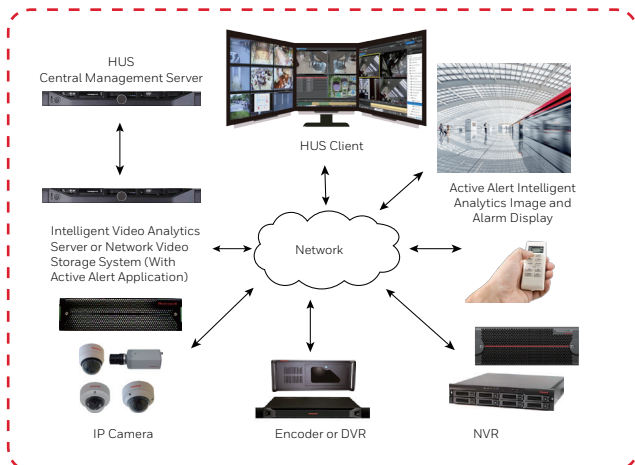
- Supports HUS applicable IP cameras and encoders
- i-LIDS (Imagery Library for Intelligent Detection Systems) certified
- Patented technology for precise and reliable indoor or outdoor environment detection to prevent false alarm
- Real-time video analytics and alarm triggering by customized programming,

- supports multiple behaviors detection
- Powerful searching tools for quick event searching, flexible system configuration
- Supports multiple alarm methods: buzzer and screen tips, email, cellphone, relay output
- Apart from video recording function, one HUS-IPS-STEM or HUS-NVR-5100A-E also supports 6 channels D1 or 4 channels

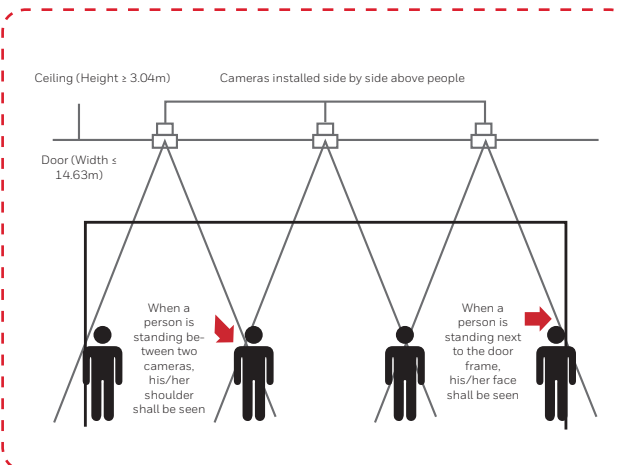
720P or 4 channels 1080P Active Alert application, and can be utilized as a standalone video analytics server

- One HUS-IPS-STEM server supports 12 channels D1 or 8 channels 720P or 6 channels 1080P independent Active Alert intelligent video analytics (original video streaming function excluded)

## System Diagram



## People Counting Installation Diagram



# HUS Video Analytics Functions

Event	Base (HAAB)	Standard (HAAS)	Premium (HAAP)	People Counting (HAAC)	Smart Impressions (HASI)
<b>People Events</b>					
Person entered restricted zone	√	√	√		
Person exited restricted zone	√	√	√		
Person loitering in restricted zone		√	√		
Person started moving in wrong direction	√	√	√		
Person stopped moving in wrong direction	√	√	√		
Person trespassing – tripwire	√	√	√		
Person on fence line		√	√		
Person converged		√	√		
Person passed by		√	√		
Person in sterile zone		√	√		
Person started running			√		
Person stopped running			√		
Person running in wrong direction			√		
<b>Car traffic events</b>					
Car started moving in wrong direction	√	√	√		
Car stopped moving in wrong direction	√	√	√		
Car entered restricted zone	√	√	√		
Car parked in restricted zone		√	√		
Car exited restricted zone	√	√	√		
Car trespassing – tripwire	√	√	√		
Car in sterile zone	√	√	√		
Car speeding			√		
Car made illegal u-turn		√	√		
Car parked in handicapped zone		√	√		
Car pulled off channels		√	√		
Car needs assistance		√	√		
<b>Video / Camera Events</b>					
Video signal lost	√	√	√	√	√
Video signal restored	√	√	√	√	√
<b>Counting Events</b>					
Person counted as entering		√	√	√	√
Person counted as exiting		√	√	√	√
Car entered lot		√	√		√
Car exited lot		√	√		√
Car counted in lane			√		√
<b>Premium Events</b>					
Object left unattended			√		
Object removed			√		
Possible theft			√		
<b>Smart Impressions</b>					
Entering target zone					√
Staying in target zone					√

## Product Type

Model	Product Description
<b>Intelligent Video Analytic (Active Alert)</b>	
HAAB	Active Alert Base package, single channel intelligent video analytic license
HAAS	Active Alert Standard package, single channel intelligent video analytic license
HAAP	Active Alert Premium package, single channel intelligent video analytic license
HAAC	Active Alert People Counter package, single channel intelligent video analytic license
HASI	Active Alert Smart Impressions package, single channel intelligent video analytic license
HICA	Person converged Intelligent Analytics, single channel intelligent video analytic license
HUS-IPS-STM	Video streaming server, Dell PowerEdge Server x 1, Windows Server Standard operation system, HUS software, 128 channels real-time forwarding (D1 resolution / 2Mbps), and supports 6 channels at D1 / 4 channels at 720P / 4 channels at 1080P resolution intelligent video Analytics package (Active Alert)

Note:

1. Base, standard and Premium package is a mutually exclusive relationship, can only choose one of them.
2. If only people counting feature is required, you may select the "People Counting" package only.
3. If only vehicle access counting and traffic statistics are required, you may select the "Smart Impressions" package only.
4. People Counting package is free-of-charge with purchase of Base Package or Standard Package or Premium package.
5. Smart Impressions package is free-of-charge with purchase of Base Package or Standard Package or Premium package.

# Intelligent Network Video Decoder HUS-D4-E-PRO



Enabling various IP front-end devices to be managed in the same system and displayed on the same video wall. Supports 36 channels D1 or 16 channels 720P or 8 channels 1080P resolution full frame rate videos synchronously.

HUS-D4-E-PRO provides 4 HDMI output ports and supports 2 channels 1080P or 4 channels 720P or 9 channels D1/full realtime video. Operators can view any channels through PC or network joystick keyboard. HUS-D4-E-PRO supports different IP surveillance devices, including IP cameras, DVR, encoders, video servers, video client, etc, providing highly flexible system configurations.

## Features

- Decode high definition (1080P / 720P), Megapixel and standard resolution video streams
- Drive 4 high definition monitors from one unit simultaneously
- Simultaneously decode up to 2 streams at 1080P, 4 streams at 720P or 9 streams at D1 resolution
- H.264, MPEG4, MPEG2 and MJPEG compression
- IP network video transmission, supports 1080P video output
- Supports flexible and IP surveillance video wall setting
- Supports digital array solution to build cost-effective IP surveillance center

## Specifications

Product Name	Intelligent Network Video Decoder
Model	HUS-D4-E-PRO
Performance	
Processor	Intel XEON, 3.3GHz, Quad-core
Memory	4 GB
Network	1 Gigabit Ethernet RJ-45 Port
Video Input	
Input Device	High-definition / Megapixel / Standard resolution IP camera, NVR, Encoder, DVR
Video Compression	H.264, H.265, MPEG4, MPEG2, MJPEG
Video Output	
Video Splitter	Full Screen, 2x2, 3x3, 4x4, 6, 8, 9, 13, 16 split screen
Display Resolution	1080P / 720P / Megapixel / D1 / 4CIF / VGA / CIF
Video Output	4 x HDMI ports to digital display screen
Dimension & Weight	
Dimension	427(W) x 177(H) x 450(D) mm, Rack mount (4U)
Weight	14 kg
Power	
Power Supply	100~240VAC, 50/60Hz
Power Consumption	450W
Operating Environment	
Operating Temperature	10°C ~ 35°C
Storage Temperature	-40°C ~ 65°C
Relative Humidity	10% ~ 85% , non-condensing
Certification	
Certification	CCC, CE, FCC,

# Integration with Access Control and Intrusion Alarms

HUS XPRO is not just for video surveillance – it can also integrate with Pro-Watch® / WIN-PAK access control system as well as VISTA burglary alarm panels. You can control everything in ONE single system – saving time and operational costs.

- Integrate video, alarm and access control information for quick response and event handling
- Supports remote control and management
- Supports customized programming
- Supports linkage among video, access control and intrusion alarm systems, including burglary alarm to trigger real-time video, burglary alarm to trigger access control devices, and access control to trigger video viewing

