

Setting new standards in integrated monitoring! Wisenet SSM V.2.0

Wisenet SSM (Smart Security Manager) is an enterprise Video Management System from Hanwha Techwin. The VMS integrates all of the Hanwha Techwin NVR's, DVR's as well as recording server software, thus providing centralized management of all devices. With simplified and intuitive user interface, the software provides an engaging experience to the operator. The enterprise VMS has resiliency built on to the design and forms the basic foundation of the software. The management server is clustered across multiple servers while the recording server software provides active-active failover capability. With clustered database, in a system with multiple servers, it is guaranteed availability of the database until the last alive server on the network. A cluster of multiple servers is called a domain. Within the domain, a cluster is created and database is synchronized across multiple servers. A single domain can have a collection of 28 servers or 2048 channels. Multiple domains can exist on the same network thus expanding the capacity to 1000s of cameras.

High reliability

Features like ARB (Automatic recovery backup) provides additional layer of security in case network connection is lost. With cameras equipped with edge storage, ARB shall automatically write data on the SD memory which then shall be retrieved by SSM when network connection is restored.

Flexibility

Optional modules like Transaction server allows integration with third party systems like Access Control, Intrusion alarm and call for assistance thus making SSM a truly centralized Security Management System (SMS).

Cost effectiveness

Wisenet SSM has no perpetual license fees, maintenance fees, database fees or upgrade costs. This makes it an ideal choice for large scale enterprise projects where recurring license fees can add up to the operational costs.

User convenience

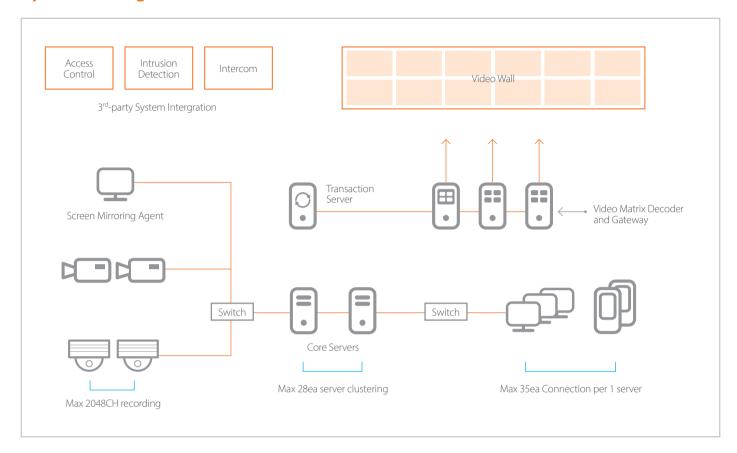
The dashboard function allows easy health status monitoring of the entire system thus simplifying maintenance tasks. Dedicated event monitoring tab allows the operator to focus on key events instantaneously. SSM also features virtual matrix functionality thus allowing creation of monitor walls and various layouts.

SSM Appliance

Wisenet SSM is available either as pre-loaded on one of the Hanwha Servers (PRP/XRP) or it can be even installed on COTS hardware. Availability of ONVIF driver enables connection of any third party ONVIF compliant camera to SSM.



System Configuration



Wisenet SSM Feature highlights:

- Active-Active failover for recording server.
- Clustered database with no single point of failure.
- Automatic recovery backup with SD memory.
- Federated architecture for large sites.
- Multi-stream monitoring and recording.
 Utilizes all three camera streams.
- Smart Search based on meta data.
- Integration with Hanwha Al cameras for Al based search.
- Dedicated event window.
- Event bookmark.
- NVIDIA CUDA and Intel Quick Sync hardware acceleration for decoding.
- System Dashboard for health status monitoring.
- Integrated SNMP Get gateway and SNMP Trap for external system integration like BMS, UPS, Fire Alarms etc.
- Dynamic floor maps with animated icons.
- Integration with LDAP.
- Integration with Google Maps.
- Simple and intuitive user interface.

- Simple and intuitive user interface.
- Easy live and playback mode.
- Virtual matrix with decoder merging functionality and monitor wall control.
- Scheduled backup.
- Easy export.
- Dynamic privacy masks.
- Multi-level user access authority.
- SSL secured connection between all the devices.
- Enhanced cybersecurity by encrypting recorded videos.
- No perpetual license fees. Easy licensing with free upgrades and no maintenance cost.
- High performance 520Mbps dedicated recording throughput, 520Mbps streaming throughput and 100Mbps of playback bandwidth.
- SSM-TS10L integration module for integrating with third party systems like Access Control, Call for assistance etc.
- SSM-SC10L screen capture module.
- ANPR based parking lot management* (Available in select countries)

wisenet SSM

1. Integration into a single core server!

Multiple servers are merged to a single "Core Server."

The Core Servers can be clustered together for data sharing, providing a higher degree of performance and reliability.



2. User friendly, intuitive UI design

Tap-based window enables flexible extension, with intuitive screen offering easy transition of monitoring/search for customers.





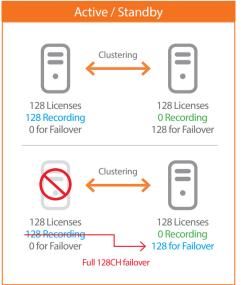


Easy monitoring/search

3. Active-Active Failover

The dual servers running year-round enable uninterrupted recording during network disruptions.





Option Module Configuration

Customers who want more varied features can purchase additional modules to suit their needs.



Video Matrix Decoder (SSW-VD10L)

Three video decoder licenses are required to use 12 wall monitors, while installation of video decoder gateway software is required for each video decoder. (Free)





Screen Capture (SSW-SC10L)

SSM Screen Capture can capture the user's PC screen and send it to SSM. Also called as screen mirroring, the feature enables SSM to monitor and record screens of other PCs running systems such as building control SW, energy control system and PoS system.

SSW-TS10L



Transaction Server (SSW-TS10L)

It provides an interface for SSM's easy integration with third party systems including intrusion detection and access control. The feature enables SSM to build an integrated system.











SSM-MOBILE



Wisenet SSM Mobile (SSM-MOBILE)

Users can monitor live or recorded video data from smart phones or tablet PCs. Layout can be easily configured from the SSM main page.

* Supports Android and iOS (iphone, ipad) and can be downloaded from the app store.



Parking management (Additional license will be available for sale.)

Wisenet SSM's parking management solution utilizes ANPR(Automatic number plate recognition) cameras offering real-time parking entrance/exit monitoring. Users can register and manage vehicles without additional parking management software, while simple search features quickly search and retrieve vehicle footage.

^{*} SSM provides single/split installations that matche the system size.

Configure Wisenet devices without web browser

Users can access configuration of all cameras supporting SUNAPI 2.0 without web browser. Firmware upgrade for device maintenance and repair is supported, while the upgrade of the same models can be performed simultaneously. Camera setup can be backed up and restored for device changes or initialization. Regular password changes for security purposes can be performed at once.







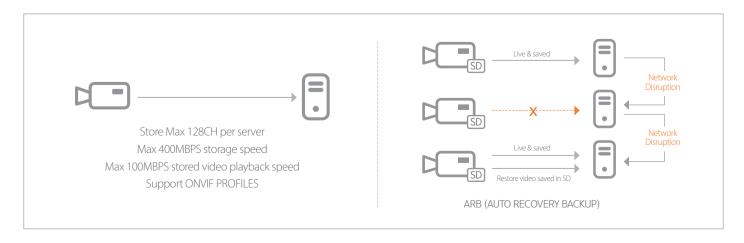
Dashboard for real-time system monitoring

Wisenet SSM Dashboard provides the current information of all servers and devices within the system via web browser (it is provided as a plug-in free web client). The overall information of system is shown including server and device status, network bandwidth and HDD usage. It also gives system event statistics for efficient management. All information retrieved in SSM Dashboard could be exported as a documented report.



Save video data in the core server supporting ARB

Default recording module in the core server supports video taken by all **Hanwha Techwin** cameras and ONVIF cameras. Remote storage is enabled through configuring the storage period of video and iSCSI. In emergency situations, ARB (Auto recovery back) is supported to recover footage saved in the camera. The footage saved in the SD card is protected during network disruptions.



Dynamic Profile Switching

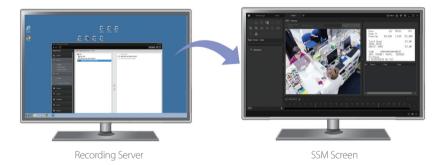
To achieve efficient and reliable video surveillance, SSM offers image qualities automatically modified to match the tile sizes. High resolution images are displayed on a grid of large tiles, while low resolution images are on small tiles. Wisenet SSM enables effective operation of network system in small display where high quality video is not required.



Powerful event management for efficient monitoring

Event-related features such as event priority, event coloring, rule-based event action setup and real-time event thumbnail display offer efficient video surveillance and improved monitoring environment at a lower budget.

- Operators can add notes and save event handling results.
- Audio broadcasting is available to issue warnings in emergency situations.



Various video search

Three major types of search modes are provided for efficient video search.

- Smart Search with motion options by designating virtual lines and areas
- Motion (Thumbnail) Search for quick video search
- Playback all video channels in real-time with a click



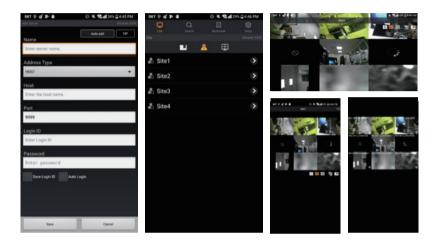


arch Motion Search

Mobile Monitoring and Search

Security guard can access to Wisenet SSM system via a Wisenet SSM mobile with very intuitive user interface. With Wisenet SSM mobile, the guard can monitor live video and playback recorded video also.

- Remote Monitoring: Real-time video and playback
- Camera Control: PTZ control Fish-eye digital zoom
- Multi Platform: iOS, Android support



Wisenet SSM license & System guide

SSM offers two types of licenses for different video storage methods. Free viewer license is required to save in DVR/NVR. For video storage in the SSM server with more features, channel license is required. (45 day free trial license is given.)

	License Type	Model Code	Camera	DVR/NVR	Description
	Viewer license (Free)	SSW-CH00L	16		16ch Recording Free * When Clustering, No Recording
RecordingServer	Channel license (Paid)	SSW-CH01L, SSW-CH04L SSW-CH08L, SSW-CH16L SSW-CH32L, SSW-CH64L SSW-CH128L	+ 1, + 4 + 8, + 16 + 32, + 64 + 112	Unlimited (up-to 3000 cameras)	+ 1CH recording license, + 4CH recording license + 8CH recording license, + 16CH recording license + 32CH recording license, + 64CH recording license + 112CH recording license
Console Client (Free)		No License	-	-	No license
Virtual Matrix Decoder & Gateway (Paid)		SSW-VD10L	-	-	Video wall display and manage
Transaction Server (Paid)		SSW-TS10L	-	-	Transaction Server
Screen Capture Agency (Paid)		SSM-SC10L	-	-	Screen Mirroring Agent
Parking Lot Management (Paid)		SSM-PL10L	-	-	ANPR based Parking Lot mgmt.

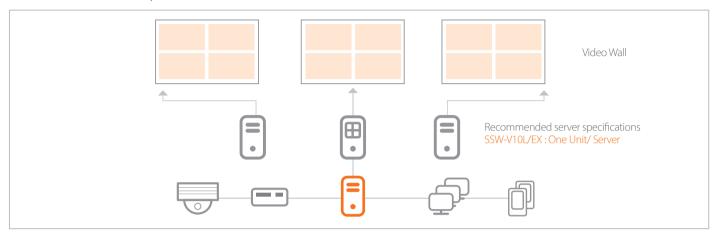
Core Server & Option Module License

* No additional cost if only monitoring is used.

License Type		License Code
Core Server Viewer License		SSW-CH00L(Support NVR/DVR, 16CH free storage)
Console Client		-
Video Wall Control S/W		SSW-VD10L(Video Wall Output)
Transaction Server		SSW-TS10L
Screen Capture		SSW-SC10L
ANPR Management Module (To be released)		-

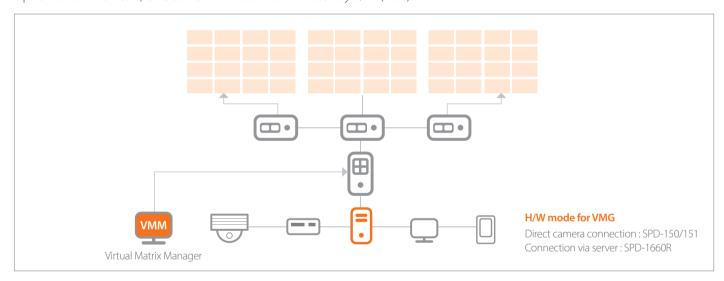
Virtual Matrix

S/W type (SSW-VD10L): Three video decoder licenses are required to use 12 wall monitors, while video decoder software installation is required for each video decoder.



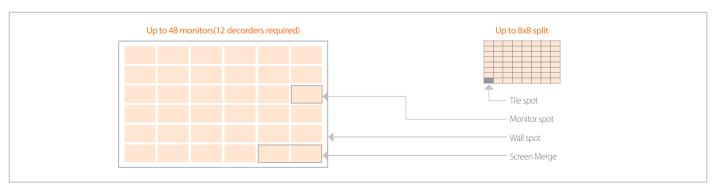
Hardware Decoder

Up to 48 wall monitors, One server for Virtual Matrix Gateway S/W (Free).



Live Sequence Monitoring / Event Spot Monitoring

Wisenet SSM Virtual Matrix Decoder is designed to control wall-monitors and ensures that operators maintain a complete control of all monitors, allowing immediate video view control and switching event video to resolve incidents fast.



Al video search

Connect Wisenet AI cameras to SSM for various search features adopting AI algorithms.

■ Best Shot search using unique attributes

System operators can utilize SSM's 'Al video search' feature to easily search specific events in the video by designating distinctive attributes of objects such as persons, faces, and vehicles. If a user searches specific attributes such as red motorcycle or a man wearing short pants, the feature finds the best still cuts (Best Shot) of the classified objects in the video. Best Shots can be used as forensic data for accident investigations, playing back video that includes Best Shots.





Wisenet SSM search
Support quick search using attributes





Best Shot
Object detection & classification
(Person, face, vehicle, license plate)

Parking management solution

Connect ANPR cameras to Wisenet SSM for various parking management features.

■ Vehicle management & event search

Wisenet SSM's parking management solution utilizes ANPR (Automatic number plate recognition) cameras offering real-time parking entrance/exit monitoring. Users can register and manage vehicles without additional parking management software, while simple search feature quickly searches and retrieves vehicle footage.



Stable monitoring

Wisenet SSM provides safe and stable monitoring environment through Failover.

Configuring failover priority

Failover priority (High, medium, never) can be configured for each channel. If a camera is failed, high priority cameras will be failed over at first. Users can record and save important footages without loss of data.



w'isenet SSM

Security

Wisenet SSM implements the latest security measures on a constant basis. In addition to conventional security features, it offers up-to-date security measures such as configuring default password of a camera and compatibility of Wisenet cameras. It also supports live masking feature to protect personal privacy.

■ Live masking

With a live masking feature, users can conceal a certain person or surrounding objects excluding a specific person in the video. The feature enables monitoring that can also protect personal privacy. It will be upgraded to comply with the Personal Information Protection Act when sending the video to the investigation authorities or other third parties.



Configuring camera's default password

Users can configure a default password of their cameras for thorough management of passwords. This can block an unauthorized access preventing the leakage of video data.



■ Enhancing cybersecurity by encrypting recorded videos

By enabling "recorded video encryption" with device certificate in Config Manager, SSM core server will encrypt recorded videos. Playback of any physically stolen videos will not be available providing confidentiality of recorded videos. Furthermore, as playback can only be done in a device with particular device certificate, integrity of data is also provided. AES256 is used for encrypting videos giving industry standard level of encryption.



LDAP Integration

Companies usually uses their own user authority policy so additional user setup for SSM could be time consuming job. SSM support LDAP so that it can utilize company's pre-defined user authority system such as MS Active Directory.



Intuitive recording and playback

Wisenet SSM enable users to easily and quickly playback recorded footage.

■ Dual stream recording / playback

A footage is recorded in both high/ low resolution to provide optimal image quality on a split screen. Full-screen mode offers detailed video in high resolution, while multi-split screen display adjusts the image quality on the layout, reducing CPU load. The feature enables simple and quick configurations and playback of split screen view in many layouts.







Image quality adjusted for multi-split screen view

■ Fast Seek

Enabled by high performance decoding, users can click a desired time period in the timeline to quickly retrieve the video recording. Drag the pin to immediately playback the video at the desired location in the timeline.



■ Bookmark thumbnail

Bookmarks are used to identify and easily navigate to important recordings. Unless bookrmarks are removed, bookrmarked recordings are not erased even if the disc is full, enabling long-term storage of recordings. Bookmarked video is listed as thumbnail images, making it easier for users to identify the content of each bookmarked clip.





Layout modification

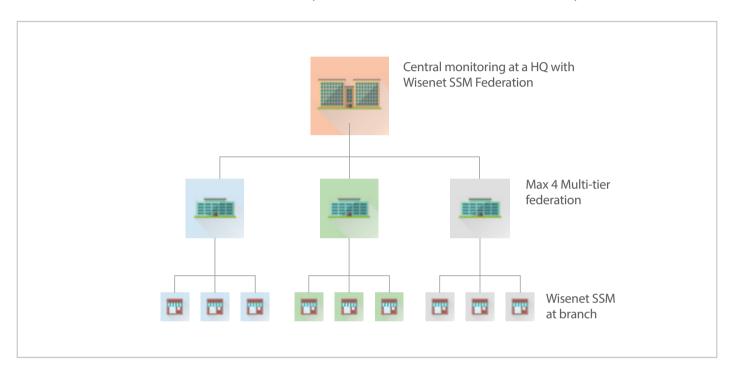
User defined tile pattern creation feature easily modifies the monitor layout as the users desires.





Multi-tier domain federation, Max 100 domains

Wisenet SSM's Federation feature makes it possible to connect geographically distributed, independent Wisenet SSM systems to mimic a larger system. All systems are managed independently, easing the problem of managing a single, centralized system, yet providing the benefits of centralized systems. Connecting two Wisenet SSM systems takes less than a minute and users will be able to access the remote system's live and recorded video as if it is a local system.



User convenience

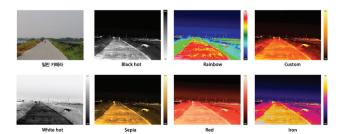
On screen PTZ control

The feature displays a virtual PTZ controller on a screen while monitoring. Without the need to move to the PTZ control tap, users can just click on a screen to adjust the movement of a camera or perform zoom functions.



■ Configuring color palettes of thermal cameras

When connected with thermal cameras, users can designate types of color palettes for their monitoring. They can also click a spot in the video to check temperature information.



Wisenet SSM Specifications

Overall System		
Maximum Number of	Up to 2,048 channels / Domain Up to 328 channels / Server	When using NVR/DVR
Monitoring Channel	Up to 1,024 channels / Domain Up to 128 channels / Server	When using server storage
Maximum Number of Recording Channel	Up to 1,024 channels / Domain Up to 128 channels / Server	When using server storage
Software Architecture Server / Client		Multi server clustering, Max 8 servers
Clients Console Client, Mobile Viewer		Support simultaneous access of 5 per server Support simultaneous access of 20 per domain
Supported Device	Network camera / Encoder / Decoder, DVR / NVR, Controller	Support Wisenet products + ONVIF Profile S

Basic Component		
	Centralized License Management	45 days free trial
	Server Clustering	Server data sharing, Failure management
	System Dashboard	Real-time system status monitoring
	User Management	Device access authority, Feature level authority
Core Server	Federation	Multi-tier domain federation, Max 100 domains
	Centralized Device Configuration	Auto / Manual registration of Device and add-on server
	Event Configuration	Four-level priority setup, Manage event colors
	Event Action	Event user setup and triggering action
	Layout & Patterns	User defined layout and tile patterns
	Tab Based Window	Monitoring, Advanced Search, Event, Configuration
	Output Channel	Max 100 channels, Max 64 channels per tab
	Decoding	Hardware accelerator supported (NVIDIA CUDA)
Console Client	Playback	Multi channel playback, Bookmark
Console Client	Real-time Event	Event filtering by status, type and priority
	Event Search	Event acknowledgement history search
	Smart Search	Search by virtual line and virtual area
	POS Text Search	Receipt list, Keyword search

Wisenet SSM Option Module Specifications

Recommended Specifications

Clients

CPU: Intel i7-4770@3.40GHz RAM: 16GB minimum Ethernet: 1Gbps * 2EA

OS: Windows 7/8/8.1/10 (64bit)

HDD

Core Server - S/W installation(SDD, 60GB available hard drive space)

Server Storage: Extra storage needed
 * SATA2 7200rpm (64MB Cache) * 4EA
 * RAID, iSCSI: RAID5, 8Bay,

* KAID, ISCSI: KAIDS, 8Bay, HW RAID Controller(AF support) CPU: Intel i7-4770@3.40GHz

VGA: - Geforce GTX 760 (RAM 2GB)

- For CUDA: Geforce GTX 960 (RAM 2GB)

RAM: 8GB minimum

OS: Windows 7 / 8 / 8.1 / 10 (64bit) HDD: 10GB available hard drive space

SSM-VD(Video Matrix Wall)

Basic features		
Normal	Wall Monitor	Max 48 monitors
	Monitor Layout	Max 8X8 split
	Monitoring Mode	Wall Sequence, Monitor Sequence
Live	Map Monitoring	Image Map
Monitoring	Screen Merge	Yes
3	Automatic vide profile change	Yes
	Playback recorded video on a video wall	Yes
	Wall Spot	Yes
Event monitoring	Monitor Spot	Yes
	Tile Spot	Yes

System Requirements		
Recommendations	CPU Intel i7-4770 @ 3.40Ghz Minimum RAM 4GB, video memory 1GB, DirectX 8.1, Display resolution: 1,280x1,024 minimum, OpenGL compatible, 20GB HDD	
Operating Systems	- VM Manager: Windows 7 32/64bit, Windows 8/8.1 32/64bit, Windows 10 - VM Decoder: Windows 7 64bit, Windows 8/8.1 64bit, Windows 10 64bit - VM Gateway: Windows 7 32/64bit, Windows 8/8.1 32/64bit, Windows Server, 2008 R2, Windows Server 2012, Windows 10	

SSM Mobile(Mobile)

Item		SSM mobile 2.0
Supported Device		Wisenet SSM
Video	Supported Format	H.264, MUPEG
video	Supported Resolution	Max 1,080p resolution
Audio	Supported Format	G.711 u-law (PCM), G.726 (ADPCM)
Audio	Feature	Listening (Live 1ch)
	List	Layout list according to SSM's authority, device list, bookmark list
	Split screen	2016. 5. 192016. 5. 192016. 5. 19
Video Input	Screen mode	Horizontal view/Vertical view
	PTZ Control	Pan, Tilt, Zoom, Focus(Encoder/DVR only), Preset
	Features	Flip, video capture, digital zoom (16x), network traffic status display, change to the desired resolution (Multi-profile)
	Search methods	Date/Time
Video Input	Playback mode	1ch, Max 8x
	Functions	Bookmark, change to the desired resolution (Transcoding)
Video Input		App password function

SSM Recording Server



PRP-5000H16 128CH SSM Recording Server



PRP-4000H8 72CH SSM Recording Server

OS	Windows 10 IoT Enterprise	Windows 10 IoT Enterprise
Compression	H.265, H.264, MJPEG	H.265, H.264, MJPEG
Recording Bandwidth	520Mbps	400Mbps
Inputs	128	72
HDD Slot	Up to 16 SATA (Max. 160TB)	Up to 8 SATA (Max. 80TB)
External Storage	iSCSI	iSCSI
RAID	RAID 0/1/5/6	RAID 0/1/5/6
Hot Swap	Yes	Yes
Viewer Software	SSM Client, SSM Mobile	SSM Client, SSM Mobile
Local Display	HDMI, VGA, DVI	HDMI, VGA, DP
Camera Support	Wisenet, ONVIF	Wisenet, ONVIF
Additional Features	 Al search (Bestshot, Attributes) LRP search (English, Korean, Numbers) Dual track recording Active-Active failover supported WiseStream supported Server clustering supported (Max. 2048 CH) 	 Al search (Bestshot, Attributes) LRP search (English, Korean, Numbers) Dual track recording Active-Active failover supported WiseStream supported Server clustering supported (Max. 2048 CH)



SPD-1660R 16 Monitor Decoder

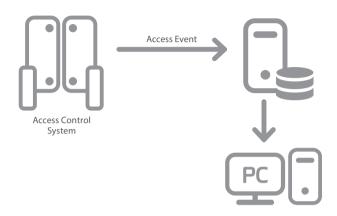


SPD-151 48CH Decoder

Video Out	HDMI (16ea), VGA (16ea)	HDMI, VGA, BNC
Resolution	HDMI up to 4K, VGA up to 1080p	HDMI up to 4K, VGA up to 1080p
Display	1/4/6/8/9/13/16/2V/3V (Up to 20 layouts and sequence)	(HDMI) 1 / 2x2 / 3x3 / 4x4 / 5x5 / 6x6 (32Ch Only) (VGA) 1 / 2x2 / 3x3 / 4x4 (BNC) 1 Tile merge support
Power	100 ~ 240V AC	12V DC, PoE
Additional Features	Monitor merge -1 x 2, 2 x 1, 2 x 2, 2 x 3, 3 x 2, 2 x 4, 2 x 5, 4 x 2, 3 x 3, 3 x 4, 4 x 3, 4 x 4, 3 x 5, 5 x 3, 5 x 2 SSM, WebViewer supported	Up to 49CH, H.265 / H.264 / MJPEG codec, Layout Sequence Support Management using Web-Viewer

SSW-TS10L

SSM Transaction Server (3rd party System Integration Solution)



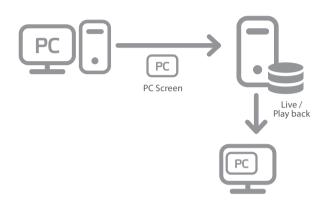
- Call for assistance
- 3rd party system such as Access Control System, Intrusion Detection System and Video Analytics can be integrated with SSM by Transaction Server
- Provides event popup with personal information of a person who passed a gate on map
- Translated events can be used as event action setup that can meet on various end-user requirements
- Compatible with 3rd party system: WACS, Winpak Pro3200, JCI P2000, Siemens Sipass, Gallagher Cardax, Keri Systems, NEDAP, Maxxess, Lenel, Commend, Stentofon

Access Control Events		
	INPUT_SIGNAL_OCCURRED	
Controller	INPUT_SIGNAL_RELEASED	
Event	SYSTEM_SETUP_MODE	
	INPUT_DISCONNECTED	
	ACCESS_GRANTED	
	ACCESS_DENIED	
	INVALID_TIME_SCHEDULE	
	ANTIPASS_BACK_ENTRY	
	ANTIPASS_BACK_EXIT	
	INVALID_PASSWORD	
	ACCESS_DOOR_ERROR	
	BIOMETRIC_ERROR	
Door Event	DURESS_ALARM	
	ARM	
	DISARM	
	OVERTIME_DOOR_OPENED	
	OVERTIME_DOOR_CLOSED	
	FORCED_DOOR_OPENED	
	2MEN_TIME	
	ACCESS_TRIAL_WHITE_ARMED	
	IO_STAUS_CHANGE	
Intrusion	Detecti on Events	
Event	Burglar y alarm	

^{*} Supported events may vary depending on the third party systems. Refer the manual or contact your local representative for more details.

SSM-SC10L

SSM Screen Capture (PC Screen Capture and Streaming Solution)



		SSM-SC10L
FEATUR	ES	,
Video Source	Max. Resolution	2560 x 1600
	Source	PC monitor screen
	Protocol	IPCAM2
	Video Codec	H.264, Mjpeg
Video	Audio Codec	G.711
Stream	Max. output stream	5
	HW Acceleration (H.264)	NVidia: GTX-650 series, 340.33 driver Intel: HD 2000 AMD VGA: Radeon HD 7700, R7 250, R9 270 (Single monitor is needed for AMD)
MISC.		1
Language		English, Korean
System Require- ments	Recommended	CPU Intel Core i7-4770@3.40GHz, RAM 8GB, 10GB HDD, NVIDIA GTX760, Video memroy 2GB, DirectX 9.0
	Operating System	Windows 7, Windows 8/8.1, Windows 10 Windows Server 2008 R2, Windows Server 2012 R2

^{*} The lastest product information / sepecification can be found at hanwha-security.com

Key Features

- Captures PC screen and make video stream
- The video stream acts same as a camera so it can be displayed on SSM console or recorded in Recording Server
- Supports max. 2560 x 1600 resolution
- Supports H.264 and MJPEG
- Supports max.5 output streams

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