LG SmArt Network Solution

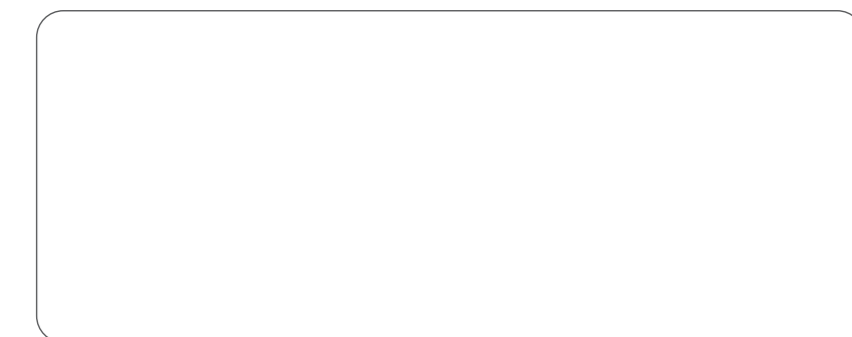| CH1	CH2	CH3	CH4
CH5	CH6	CH7	CH8
CH9	CH10		CH12
CH13	CH14	CH15	CH16

LG IP CAMERA

LG Electronics

Business Solutions Company

Security Business Team
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· Exact products and specifications shown may vary by geographic region and are subject
  to change. Actual products may differ from the images appearing in the catalog.
· 2009 July version.

LG

When security and network meet the world becomes bigger

Advanced Technology

A comprehensive network solution that brings analog and digital together. Through highly-evolved transmission technology, connectivity is worldwide and networking can be achieved with a variety of devices. With remote management capabilities, no matter where you are in the world, it's just like being on the scene.

- Simple and easy installation
- Economical installation cost
- Reduced upkeep costs

Perfect Image

Life-like quality that's good enough to nab even the perfect criminal. You will be able to view the highest possible image quality using the smallest amount of data space and enjoy a clean and clear image thanks to the XDI DSP Chip Solution that prevents blur and adjusts for video quality.

- The highest picture quality with the lowest data usage
- Fluid network response
- Outstanding flexibility, powerful compatibility

Active Management

Timely and rapid response to problems from occurrence through resolution. With the saving and storage of key scenes and a count of people in and out, the artificial intelligence system allows early diagnosis and recognition of problem situations actively, offering the perfect total care solution.

- A real-time remote care system
- Active monitoring system
- Diagnosis and procurement of evidence

LSW900P/N

What makes the LG IP Solution different?

LG started out with the foundation of quality and performance of an analog camera, then digitize information, employ the H.264 codec and apply LG XDI technology, to offer up a truly advanced camera. But that's not all. Harmonizing innovative technology including dual streaming and full duplex audio along with VCA (Video Contents Analysis) in the IP camera, and LG's unique design, LG is heading up a new trend in security solution.

CODEC H.264 — High video quality and resolution in D1 video recording feature that employs the latest H.264 Codec.

MJPEG Dual Streaming H.264 — Dual-streaming capabilities for customized bandwidth management with two codecs, H.264 and MJPEG

0.00003Lux — Superior performance in backlight or low light conditions with the XDI chip

Full Duplex — Full Duplex Audio[G.711(a-law, u-law), G.726]

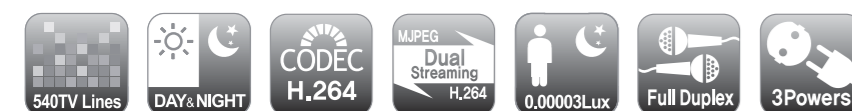**64ch** — Provides a Smart Station that manages up to 64 cameras.

3Powers — 3 Powers support (AC24V, DC12V, PoE)
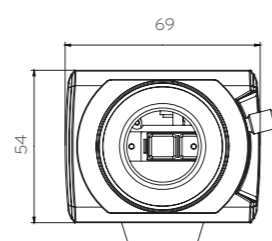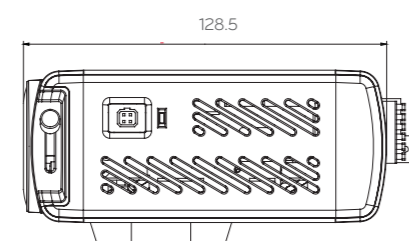
IP Fixed Network Camera

LSW900P/N

Features

- 540 TV Lines
- 1/3" Vertical Double Interline CCD
- Min. Illumination : 0.1 Lux (Color mode, Sens up off) 0.00003lux (B/W Mode, Sens up on)
- Compression : H.264, MJPEG(Dual Stream Support)
- Resolution (Max) : 704x480(NTSC), 704x576(PAL)
- Frame Rate (Max) : 30 fps/25fps(NTSC/PAL) @ D1
- ICR True D&N
- Wide Dynamic Range
- 1port Video Output
- Two-way Audio
- Alarm In/Out
- Protocol : TCP/IP, HTTP, HTTPS, RTP, RTSP, UDP, DHCP, FTP, SMTP, NTP, ARP, ICMP, DDNS(LG)
- Client/Server Management S/W (Max 64ch Live/ NAS Recoding support)
- VCA(Video Contents Analysis) support
- 8 Privacy Masking
- AC24V, DC12V, PoE
- RS-485 Support

• Extra Lens

540TV Lines | DAY&NIGHT | CODEC H.264 | Dual Streaming H.264 | 0.00003Lux | Full Duplex | 3Powers

Specifications

Model	LSW900P/N
Type	IP Indoor Box Camera
Image sensor	1/3" Vertical Double interline CCD
Lens	C/CS Mount
Day & Night	ICR Day & Night
Min illumination	Color : 0.1Lux(sens-up off) B/W : 0.00003Lux(sens-up on)
Compression	Dual Stream Support(H.264, MJPEG)
Resolution(Max)	704 X 480(NTSC), 704 X 576(PAL)
Backlight Compensation	BLC / WDR / HSBLC / OFF
Frame per second	30 fps/25fps(NTSC/PAL) @ D1
Audio	Full Duplex(G.726, G.711)
Alarm In/Out	1 Digital input / 1 Relay output
Video In/Out	1port video output(BNC)
Intelligent video	Advanced Motion Detection(VCA*)
Event Notification	Relay, SMTP, FTP
Ethernet Networks	1port 10/100Base-Tx
Network Protocol	TCP/IP, HTTP,HTTPS, RTP, RTSP,UDP,DHCP, FTP, SMTP, NTP, ARP, ICMP, DDNS(LG)
Management	Web GUI, Management Software(Max 64ch)
Security	Multi level user ID/password HTTPS encryption
Power	AC24V, DC12V, PoE
Serial Connectors	RS-485
Operating Temp.	-10°C ~ 50°C
Dimensions	69(W) X 54(H) X 128.5(D)

* Clossing line, Intruder Detecton, Object Counting, Tampering, Object Removal (Model with VCA : LSW901P/N)

Dimensions (unit : mm)

• W : 69mm   • H : 54mm   • D : 128.5mm

128.5
69
54

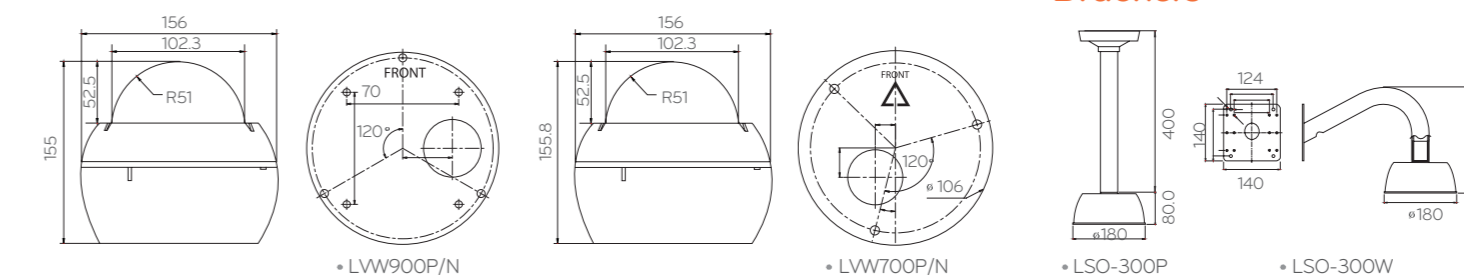# IP Dome Network Camera
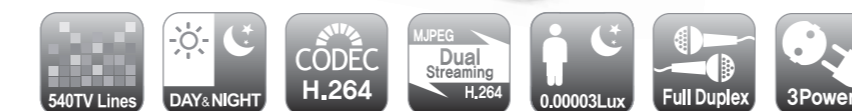
LVW900P/N
LVW700P/N

Features

- 540 TV Lines
- 1/3" Vertical Double Interline CCD
- Varifocal Lens (2.8~11mm)
- Min. Illumination : 0.1 Lux (Color mode, Sens up off) 0.00003lux (B/W Mode, Sens up on)
- Compression : H.264, MJPEG(Dual Stream Support)
- Resolution (Max) : 704 X480(NTSC), 704x576(PAL)
- Frame Rate (Max) : 30 fps/25fps(NTSC/PAL) @ D1
- ICR True D&N
- Wide Dynamic Range
- 1port Video Output
- Two-way Audio
- Alarm In/Out
- Protocol : TCP/IP, HTTP, HTTPS, RTP, RTSP, UDP, DHCP, FTP, SMTP, NTP, ARP, ICMP, DDNS(LG)
- Client/Server Management S/W (Max 64ch Live/NAS Recoding support)
- VCA (Video Contents Analysis) support
- 8 Privacy Masking
- AC24V, DC12V, PoE
- Vandal Proof, IP66, 3-Axis (LVW900P/N)
- 3-Axis (LVW700P/N)

540TV Lines | DAY&NIGHT | CODEC H.264 | Dual Streaming H.264 | 0.00003Lux | Full Duplex | 3Powers

Specifications

Model	LVW900P/N / LVW700P/N
Type	IP Outdoor Dome Camera / IP Indoor Dome Camera
Image sensor	1/3" Vertical Double interline CCD
Lens	Verifocal Lens (2.8~11mm)
Day & Night	ICR Day & Night
Min illumination	Color : 0.1Lux (sens-up off) B/W : 0.00003Lux (sens-up on)
Compression	Dual Stream Support (H.264 , MJPEG)
Resolution(Max)	704 X 480(NTSC), 704 X 576(PAL)
Backlight Compensation	BLC / WDR / HSBLC / OFF
Frame per second	30 fps/25fps(NTSC/PAL) @ D1
Audio	Full Duplex(G.726, G.711)
Alarm In/Out	1 Digital input / 1 Relay output
Video In/Out	1port video output(RCA)
Intelligent video	Advanced Motion Detection(VCA*)
Event Notification	Relay, SMTP, FTP
Ethernet Networks	1port 10/100Base-Tx
Network Protocol	TCP/IP, HTTP, HTTPS, RTP, RTSP,UDP,DHCP, FTP, SMTP, NTP, ARP, ICMP, DDNS(LG)
Management	Web GUI, Management Software(Max 64ch)
Security	Multi level user ID/password HTTPS encryption
Power	AC24V, DC12V, PoE
Operating Temp.	-30°C ~ 50°C(Heated) / -10°C ~ 50°C
Dimensions	156(Diameter) X 155(H) / 156(Diameter) X 155.8(H)
Others	Vandal Proof, IP66, 3-Axis / 3-Axis

* Clossing line, Intruder Detecton, Object Counting, Tampering, Object Removal (Model with VCA : LVW901P/N, LVW701P/N)

Dimensions (unit : mm)

LVW900P/N   • Diameter :156mm   • H :155mm
LVW700P/N   • Diameter :156mm   • H :155.8mm

• LVW900P/N   • LVW700P/N

Brackets

• LSO-300P   • LSO-300W

LVW900P/N   LVW700P/N

Network Video Encoder

LVS301

Features

- Video Server
- 1Ch Video Input (CVBS)
- Compression : H.264, MJPEG(Dual Stream Support)
- Resolution(Max) : 704 x 480(NTSC), 704 x 576(PAL)
- Frame Rate(Max) : 30 fps/25fps(NTSC/PAL) @ D1
- 1port Video output
- Two-way Audio
- Alarm In/Out
- Protocol : TCP/IP, HTTP, HTTPS, RTP, RTSP, UDP, DHCP, FTP, SMTP, NTP, ARP, ICMP, DDNS(LG)
- Client/Server Management S/W (Max 64ch Live/NAS Recoding support)
- VCA (Video Contents Analysis) support
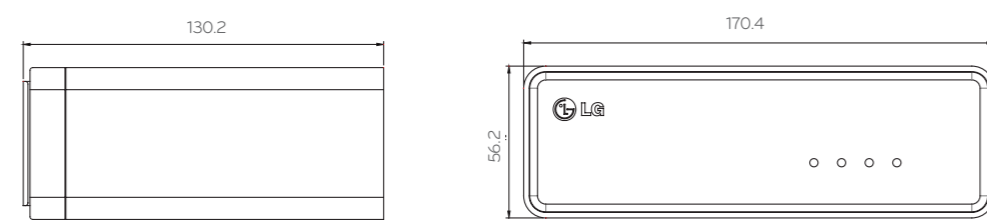- 8 Privacy Masking
- AC24V, DC12V, PoE
- RS-422& RS-485 Support

Dimensions (unit : mm)

- W : 170.4mm   - H : 56.2mm   - D : 130.2mm

130.2

170.4

56.2

CODEC H.264   Dual Streams H.264   Full Duplex   3Powers

Specifications

Model	LVS301
Type	IP Video Server
Compression	Dual Stream Support(H.264 , MJPEG)
Resolution(Max)	704 x 480(NTSC), 704 x 576(PAL)
Frame per second	30 fps/25fps(NTSC/PAL) @ D1
Audio	Full Duplex(G.726, G.711)
Alarm In/Out	1 Digital input / 1 Relay output
Video In/Out	1port video input/output(BNC)
Intelligent video	Advanced Motion Detection(VCA*)
Event Notification	Relay, SMTP, FTP
Ethernet Networks	1port 10/100Base-Tx
Network Protocol	TCP/IP, HTTP, HTTPS, RTP, RTSP,UDP,DHCP, FTP, SMTP, NTP, ARP, ICMP, DDNS(LG)
Management	Web GUI, Management Software(Max 64ch)
Security	Multi level user ID/password HTTPS encryption
Power	AC24V, DC12V, PoE
Serial Connectors	RS-422 & RS-485
Operating Temp.	-10°C ~ 50°C
Dimensions	170.4(W) X 56.2(H) X 130.2(D)

* Clossing line, Intruder Detecton, Object Counting, Tampering, Object Removal (Model with VCA : LVS311)

Q&A

Isn't there something we can do about illegal parking that clogs up the streets?

Traffic jams caused by illegally parked vehicles. It's just not possible to have someone watching a monitor all-day long. But with VCA(Video Contents Analysis), you don't have to worry. If the designated time has passed and a parked vehicle hasn't been moved from a particular area, a warning announcement can be sounded through the speaker.
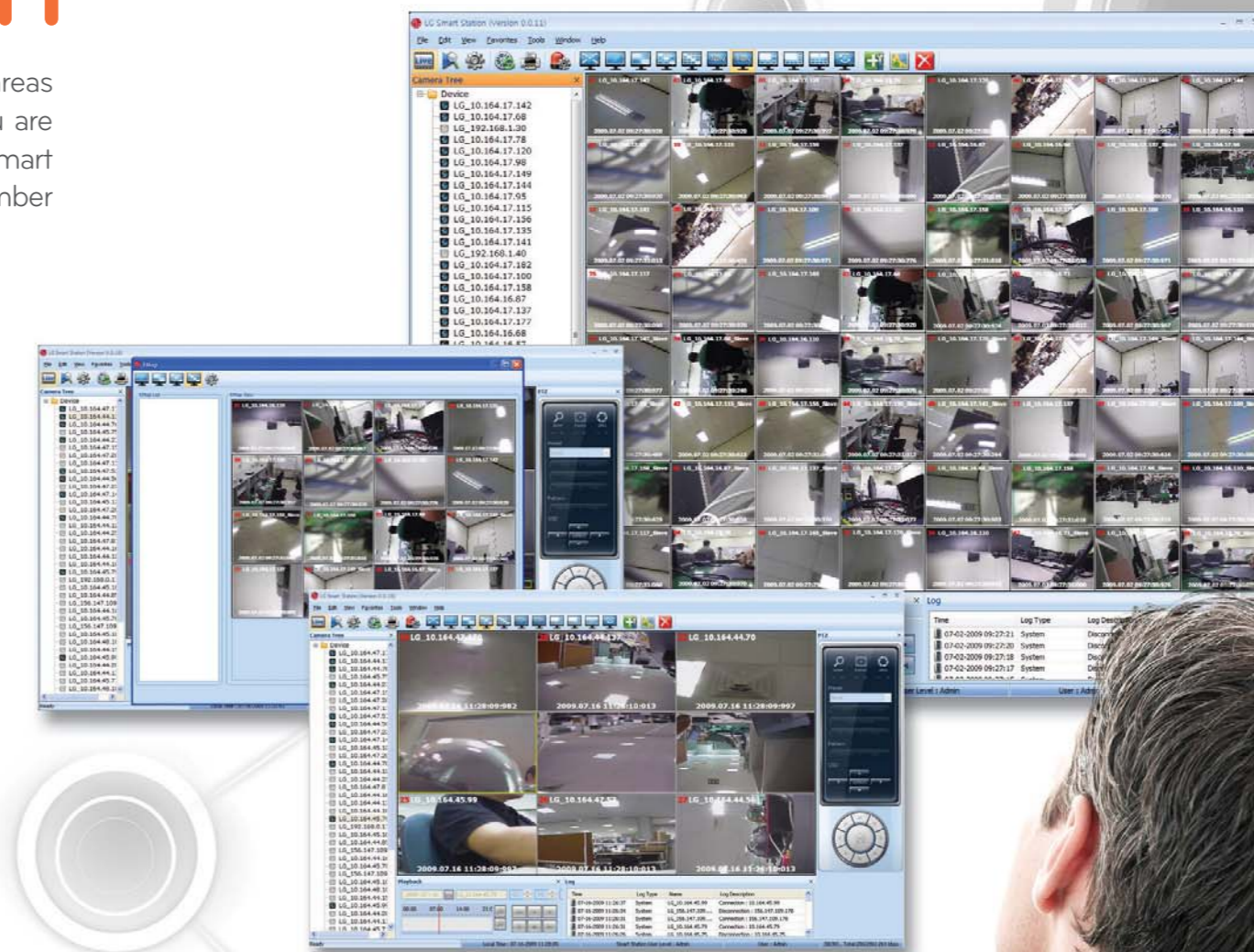

A security management system
that extends farther, and gives you more freedom

LG Smart Station

The ability to cover a lot of screens at the same time to assess problem areas and tackle them rapidly depends precisely on what kind of software you are using. Now it's time for you to experience the difference of the LG Smart Station, which allows for the efficient management of the maximum number of channels and simple overall control.

Specifications

| Category	Function	Description
Live View (Display)	Max Channel	64ch Live Display
	Channel Division	1, 2 x 2, 3 x 3, 4 x 4, 6x 6, 8 X 8, 6, 8, 10
	Full Screen	Full Screen in the Smart Client s/w
	Page	(16ch x 4), Quad Monitor support
	OSD	Text (Recording, network, camera name, frame rate, video time display)
	PTZ Control	PTZ control using mouse & GUI
	Video Network	Codec(H.264/MJPEG) RTP over RTSP(TCP)/UDP
Search (Playback)	Audio	Two-way Audio(G.711, G.726)
	Multiple camera search	Multiple camera search (Different time) at the same time
	Search	Date, Time, Event(Sensor, VCA), Log
	Play	Forward, Backword) frame only), Next frame, Previous Frame, Stop
Management	Total Management	Group add / delete / edit, Group management
	Camera	Add/Edit/Delete Use Master account, Use Specific account, Camera Name
	Schedule	Recording schedule support
	Camera Notification	Spot(PopUp Window) on Event
	Configuration	Configuration(Remote Server Setup)
	Still image	JPEG
	Video	AVI
	VCA	Crossing line, Intrusion, Detection, Object Counting, Tampering, Object Removal (Option)
	E-Map	JPEG, BMP support

LG Smart Station

VCA

A self-assessing management solution **Video Contents Analysis**

VCA is a systematic approach monitoring, that selects the appropriate security environment and provides a wide array of features that make management simple, including automatic counters and alarms. (VCA Optional)

Crossing Line
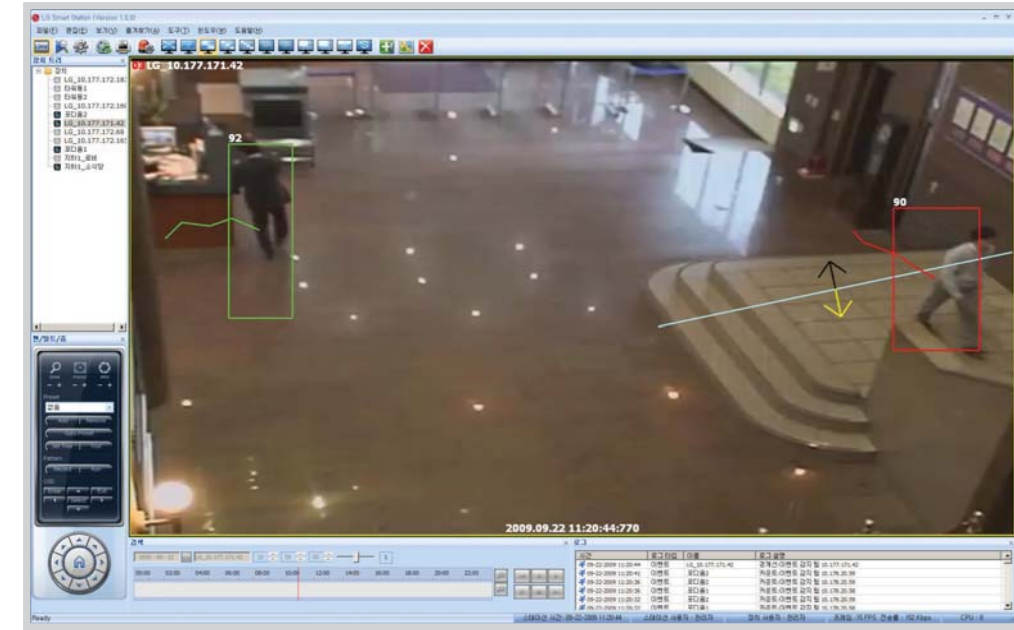
If a line is drawn on a screen and the direction is set, anything crossing that line or traveling in the opposite direction can be confirmed.

Applications
◦ Notification of any vehicles traveling against traffic on one-way roads.
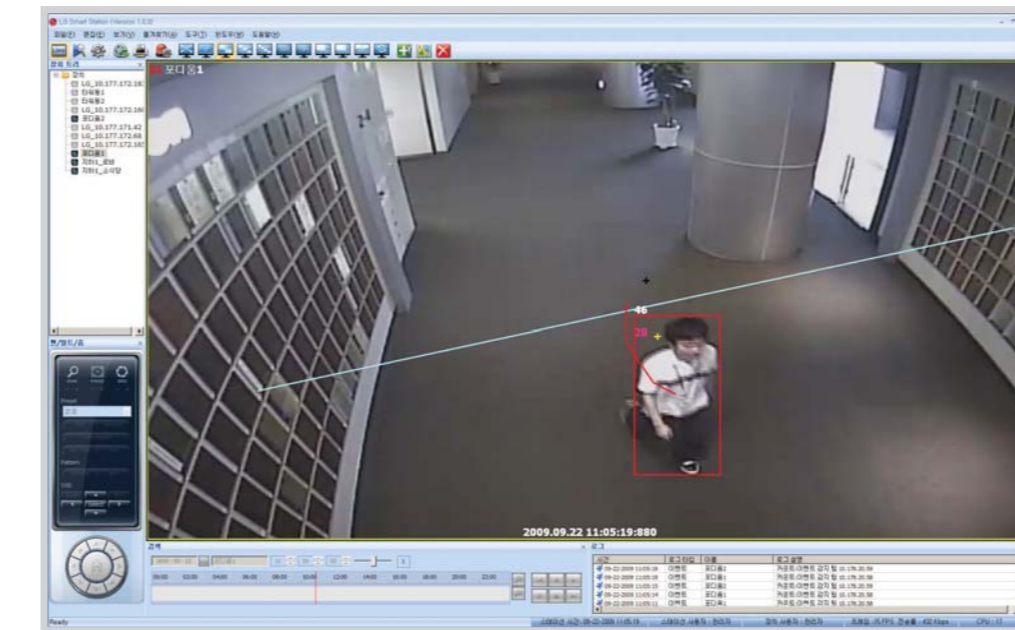◦ Notification when museum-goers approach an artwork too closely.

Intruder Detection

AREA

Designate a particular region, and this feature will send a notification if the area has been breached.

Applications
◦ Sends a notification when any person, animal, or thing breaches a particular area of a building.
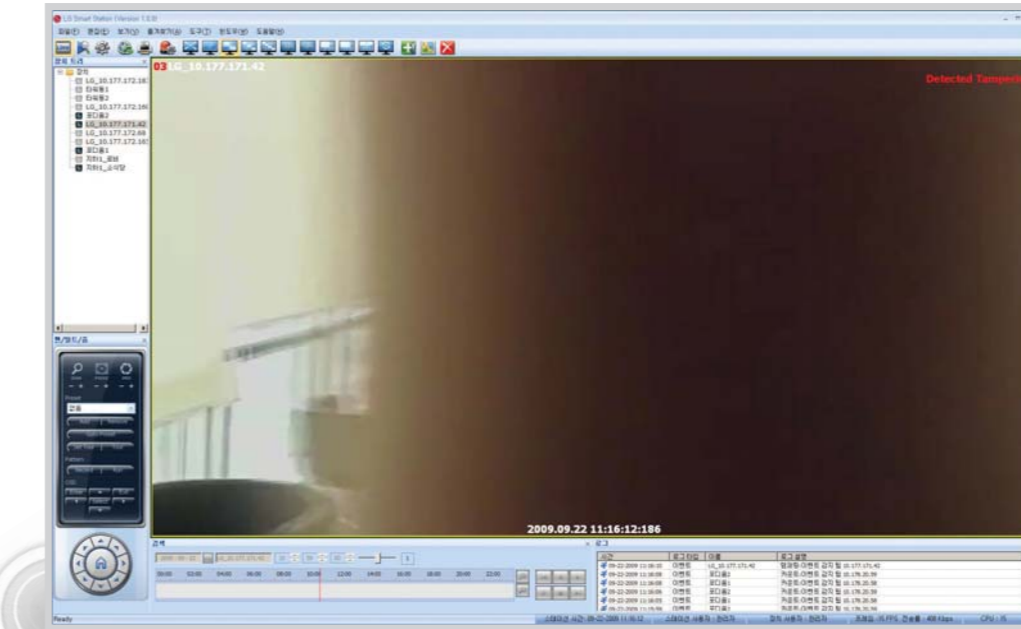
Object Counting

After drawing a line and setting the direction, this feature will count the number of subjects that crossed the line.
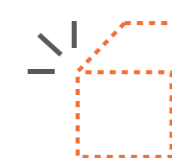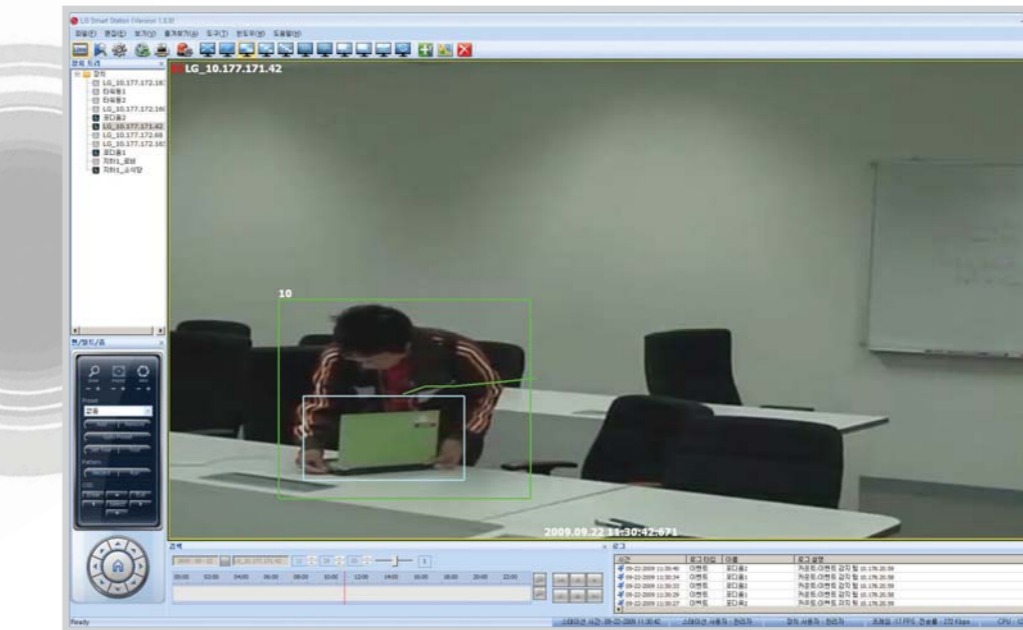
Applications
◦ Determining the number of available spaces in a parking lot by counting the number of cars in and out.
◦ Counting the number of people in and out of shopping malls.

Tampering

When someone has tampered with the camera or the camera has been damaged for other reasons, it will inform you immediately.

Object Removal

Notification when a certain object has been removed from a specified area.

Applications
◦ Notification when objects are lost from storerooms.
◦ Records when a vehicle leaves a parking lot.
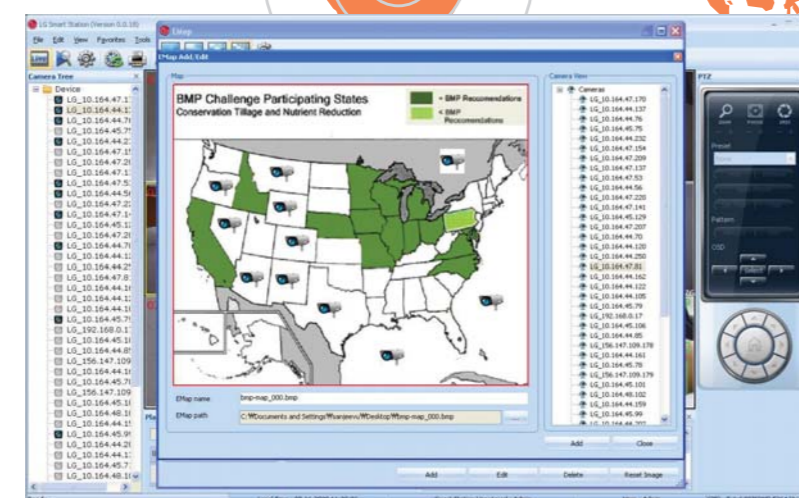
LG Smart Station

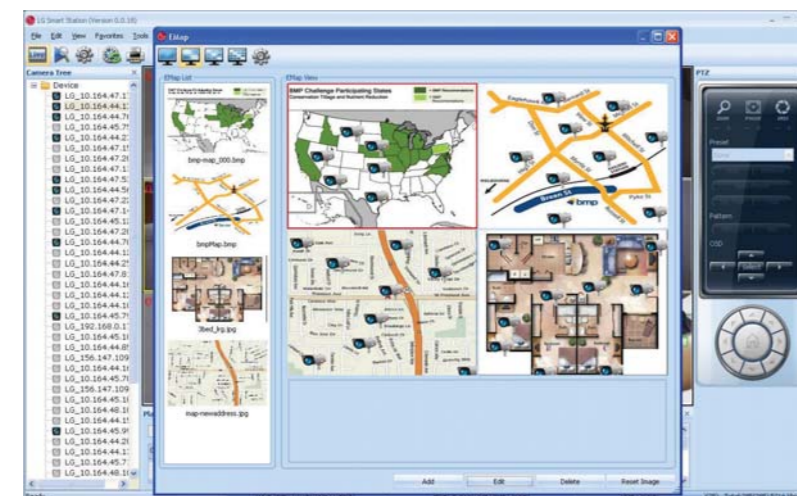# Emap

A auto-locating security solution Emap

It displays the location of cameras and the event occurrence point and sends a pop-up to the screen when a problem arises, making concentrated management possible.
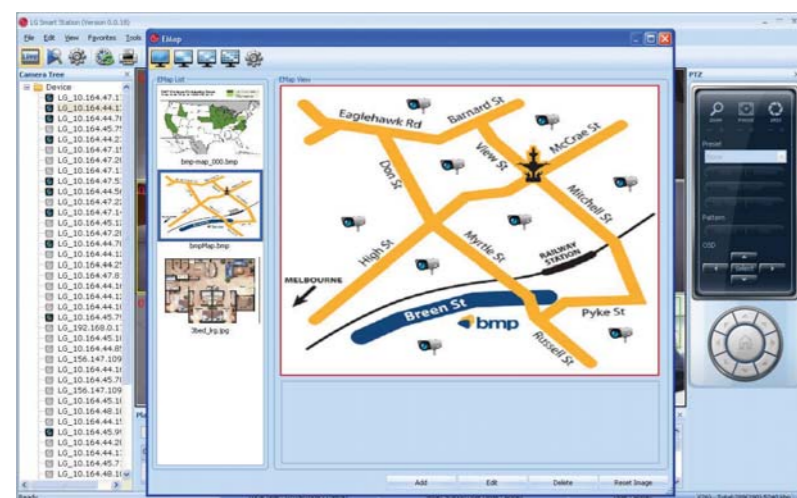
Smart Station can be used with city, zone, building etc. maps.

Displays the location of IP cameras and denotes cameras in vicinity of an event.

Pop-up feature of detailed image.

Search is available by inscription on image snapshots.

Network Attached Storage

NAS

Are you still relying on your old centralized video recording system? Why not consider equipping yourself with an IP for free and easy monitoring anywhere in the world?
Whether you're on a business trip, off-site duty, or traveling leisurely, you're always connected. Search 16 channels seamlessly free of any data capacity limitations with artificial intelligence using the revolutionary de-centralized IP system, NAS.
It will change the way you think about mobility forever.

NAS gives your security cameras wings.

Unlimited data storage power that transcends the OS environment
When you connect through the Internet or network, storage and sharing or materials is possible across a variety of platforms (Windows, Linux, and Mac) and media can be recorded onto a maximum 50GB Blu-ray disk.

Easy and convenient to use
Even if you're not an IT professional, with just a connection to the Internet, anyone can easily install or maintain the system. Additionally, just connect from anywhere at any time, and you will have the freedom to edit and share information, and update data.

What is NAS? NAS is an innovative system that uses a decentralized data recording method for image information, that minimizes data capacity usage and maximizes storage power.

Intensive NVR system

LG IP Camera

Internet

PC based NVR
PC platform + NVR S/W

Extensive NVR system

LG IP Camera

Internet

NAS
4 HDD Bay(MAX 8TB)

LG Smart Station
Max 64 Ch Management / 4 Monitor support
NVR Function (S/W Only) / E-map
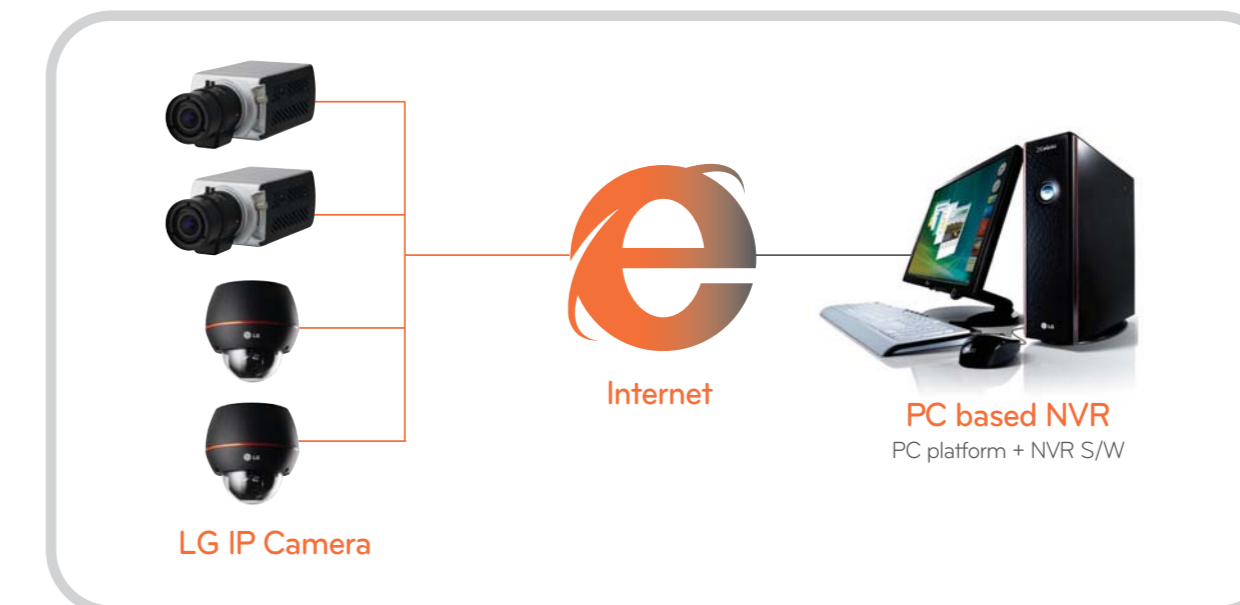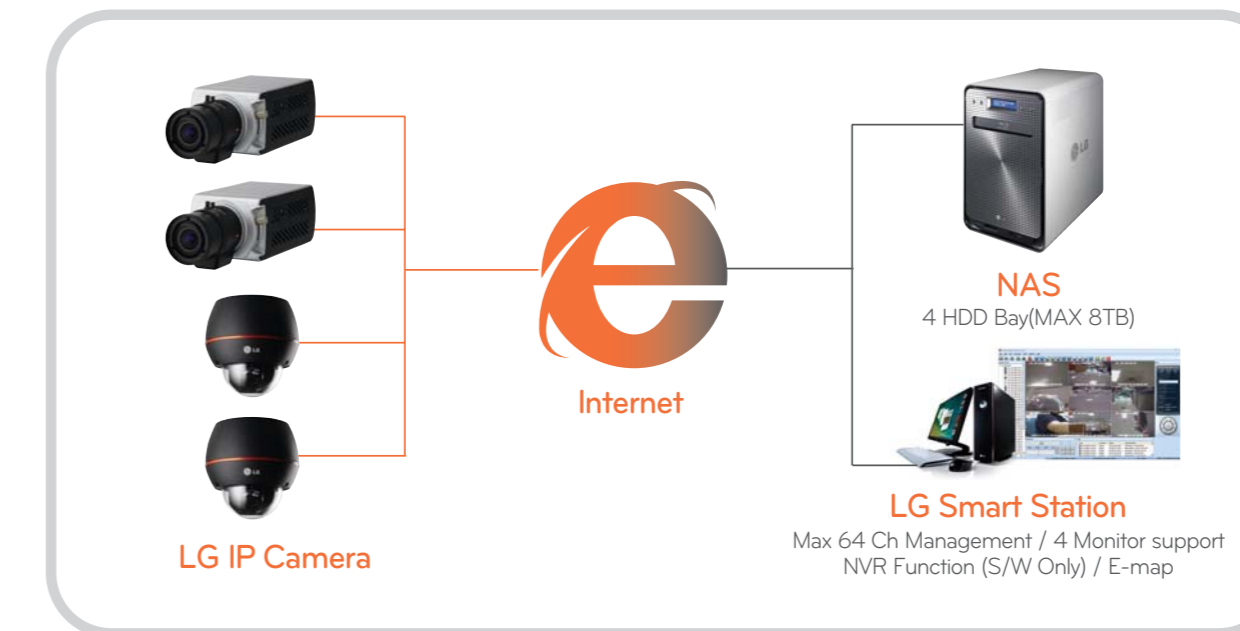
LG IP Camera

System Map

- Unlike the existing analogue products connected to the IP system via video servers, LG IP Camera is able to be connected to a limitless number of cameras with the below structure.

- Video data of every camera is sent to NAS, and networking with Smart Station and IP Camera is optimized to ensure successful monitoring in any network environment.

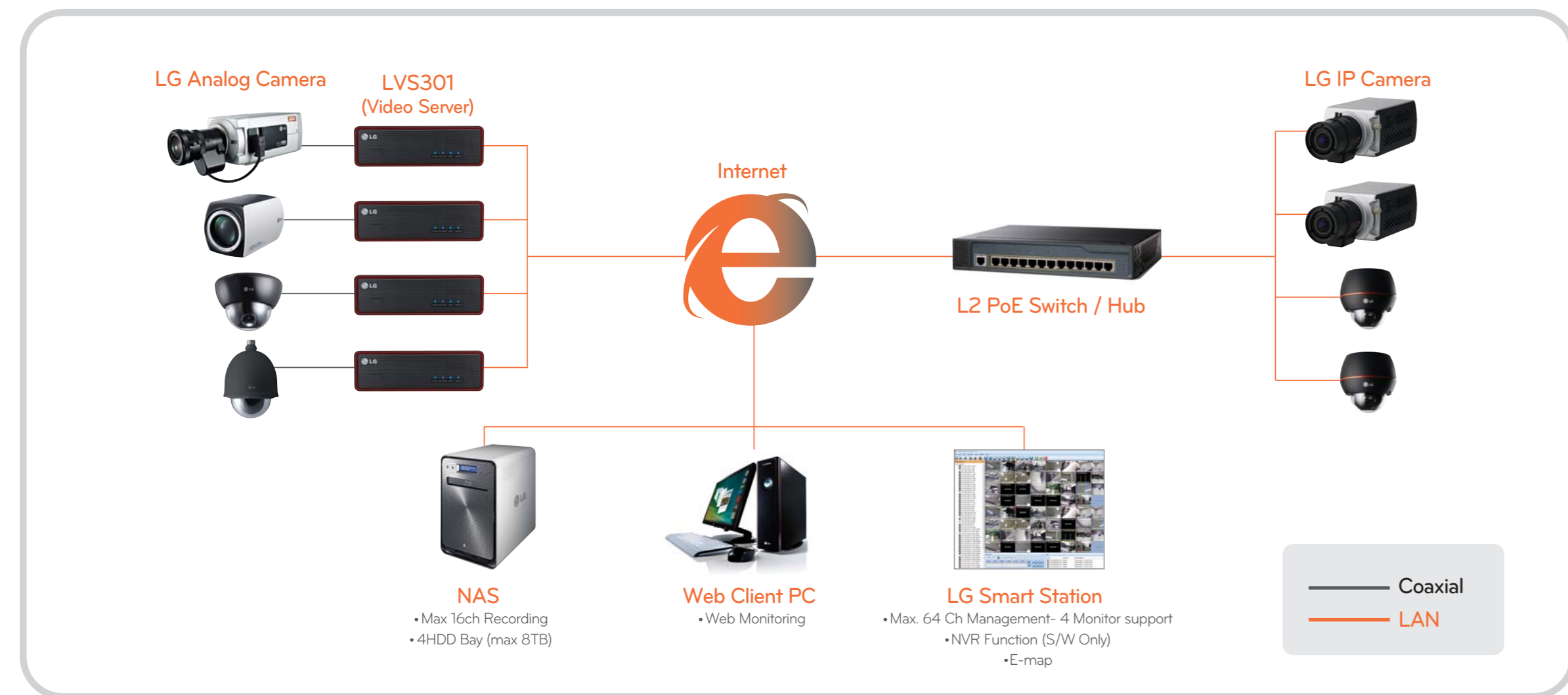- One unit of NAS supports playback and recording of up to 16 channels.

- Smart Station is capable of managing up to 64 channels, and provides the optimal monitoring environment by controlling every function of LG IP Camera including VCA and E-Map.

- In the small-scale environment with 16 or less units, LG provides 16-channel recording & 64-channel live Smart Station for free. For recording function NAS device is necessarily required. In the large-scale setting, users may enjoy limitless scaling up with the below system.

LG Analog Camera   LVS301
                    (Video Server)

LG IP Camera

Internet

L2 PoE Switch / Hub

NAS
- Max 16ch Recording
- 4HDD Bay (max 8TB)

Web Client PC
- Web Monitoring

LG Smart Station
- Max. 64 Ch Management- 4 Monitor support
- NVR Function (S/W Only)
- E-map

—— Coaxial
—— LAN

LG IP Camera

Security Ground

At anywhere, any time, let networking set you free! In any situation, it's clean and clear!
Integrated security control system faster and speedier than any other!
You will feel comfortable if you are with LG Smart Network products.

Education

Kindergartens / Institutions / Schools

What children are up to in the classes and other learning activities are transmitted to their parents in real time, so parents can check their children only through connecting to the Internet.

Government

Government Offices

In the locations that require tight admittance control, such as the National Assembly, government offices, and public agencies, it helps to prevent information leaks and ensures safe public facilities control.

Transport

Airports / Stations / Terminals

When installed in areas with high concentration of floating population, it is possible to grasp the situation in real-time and control the situation safely in case of unexpected occurrences.

Shopping Mall

Large-scale shopping malls, parking lots

The current condition of products in and out in parking lots or logistic storages on the premise is transmitted to the person in charge. The remote control of parking areas is possible, preventing extra work for the overseer.

Specifications

Model	LSW900	LVW900 / LVW700
Image Sensor	1/3" Vertical Double Interline CCD	1/3" Vertical Double Interline CCD
Type	C/CS Mount	Varifocal Lens(2.8-11mm)
Video Out	1.0Vp-p Composite Signal (75ohm)	1.0Vp-p Composite Signal (75ohm)
Auto Gain Control	OFF/ LOW/ MIDDLE/ HIGH	OFF/ LOW/ MIDDLE/ HIGH
Exposure	ALC/ELC	ALC/ELC
Electric Shutter	1/50 ~ 1/90,000(PAL), 1/60~1/90,000(NTSC)	1/50 ~ 1/90,000(PAL), 1/60~1/90,000(NTSC)
Day/Night	ICR Day and Night (Auto/ Day / Night)	ICR Day/Night (Vari focal Lens)(Auto / Day / Night)
Sens-Up	Auto / OFF	Auto / OFF
Min. Illumination	0.1 Lux (Color mode, Sens up off) 0.00003lux (B/W Mode, Senseup on)	0.1 Lux (Color mode, Sens up off) 0.00003lux (B/W Mode, Senseup on)
Resolution	540 TV Lines	540 TV Lines
White Balance	ATW / AWC / Manual	ATW / AWC / Manual
Backlight Compensation	BLC / WDR / HSBLC / OFF	BLC / WDR / HSBLC / OFF
3D-DNR	OFF / Low / Middle / High	OFF / Low / Middle / High
Privacy Masking	8 Zone	8 Zone
Digital Zoom	X8	X8
DIS(Stabilizer)	ON / OFF	ON / OFF
Digital Effect	OFF / V-Flip / Mirror / Rotate	OFF / V-Flip / Mirror / Rotate
Sharpness	Adjustable	Adjustable
Resolution(Max)	704 x 480(NTSC), 704 x 576(PAL)	704 x 480(NTSC), 704 x 576(PAL)
Output	RJ-45(Network), CVBS(Monitor)	RJ-45(Network), CVBS(Monitor)
Frame Rate(Max)	30 fps/25fps(NTSC/PAL) @ D1	30 fps/25fps(NTSC/PAL) @ D1
Video Compression	H.264(Basic Profile) MJPEG Dual Stream Support	H.264(Basic Profile) MJPEG Dual Stream Support
Streaming	Dual compressed stream Independent selection of Audio/Video Codec RTP/RTSP (Independent resolution, compression frame rate and bit rate (CBR/VBR) setting support)	Dual compressed stream Independent selection of Audio/Video Codec RTP/RTSP (Independent resolution, compression frame rate and bit rate (CBR/VBR) setting support)
Direction	Full Duplex(Line level input/output) - Audio Input 1Ch, Audio Output 1Ch	Full Duplex(Line level input/output) - Audio Input 1Ch, Audio Output 1Ch
Audio Compression	G.726, G.711(A-law, u-law)	G.726, G.711(A-law, u-law)
Alarm In/Out	1 digital inputs, 1 relay outputs	1 digital inputs, 1 relay outputs
Pre/Post Alarm Buffer	Pre Alarm Buffer Post Alarm Buffer	Pre Alarm Buffer Post Alarm Buffer
Intelligent Video	Advanced Motion Detection(VCA)	Advanced Motion Detection(VCA)
Event Detection	Alarm In, VCA	Alarm In, VCA
Event Notification	Relay, SMTP, FTP	Relay, SMTP, FTP
ID/Password	Multi level user ID/password(Admin, Power,Normal, Customer)	Multi level user ID/password(Admin, Power,Normal, Customer)
Encryption	HTTPS(SSL,TLS)	HTTPS(SSL,TLS)
Physical Layer	10/100base TX Ethernet	10/100base TX Ethernet

Model	LSW900	LVW900 / LVW700
Protocol	TCP/IP, HTTP, HTTPS, RTP,RTSP,UDP,DHCP,FTP,SMTP,NTP,ARP,ICMP, DDNS(LG)	TCP/IP, HTTP, HTTPS, RTP,RTSP,UDP,DHCP,FTP,SMTP,NTP,ARP,ICMP, DDNS(LG)
IP support	Dynamic, Static, Private IP	Dynamic, Static, Private IP
Simultaneous Connection	Unicast 10 Streams / 50 user registration	Unicast 10 Streams / 50 user registration
Operating Condition	-10°C ~ 50°C	-30°C ~ 50°C(Heater)(LVW900) -10°C ~ 50°C(LVW700)
Power	AC24V, DC12V, PoE	AC24V, DC12V, PoE
Dimensions	69(W) x 54(H) x 128.5(D)	156(Diameter) x 155(H)(LVW900) 156(Diameter) x 155.8(H)(LVW700)
Other	RS-485 Support	Vandal Proof, IP66, 3-Axis(LVW900) 3-Axis(LVW700)

Model	LVS301		
Resolution(Max)	704 X 480(NTSC), 704 x 576(PAL)	Intelligent Video	Advanced Motion Detection(VCA)
Input	1Ch Video Input(CVBS)	Event Detection	Alarm In, VCA
Output	RJ-45(Network), CVBS(Monitor)	Event Notification	Relay, SMTP, FTP
Frame Rate(Max)	30 fps/25fps(NTSC/PAL) @ D1	ID/Password	Multi level user ID/password(Admin, Power,Normal, Customer)
Video Compression	Dual Stream Support(H.264 MJPEG)	Encryption	HTTPS(SSL,TLS)
Streaming	Dual compressed stream Independent selection of Audio/Video Codec RTP/RTSP (Independent resolution, compression frame rate and bit rate (CBR/VBR) setting support)	Physical Layer	10/100base TX Ethernet
		Protocol	TCP/IP(IPv4), HTTP, HTTPS, RTP,RTSP,UDP,DHCP,FTP,SMTP,NTP,ARP,ICMPDDNS(LG)
		IP support	Dynamic, Static, Private IP
Direction	Full Duplex(Line level input/output) - Audio Input 1Ch, Audio Output 1Ch	Simultaneous Connection	Unicast 10 Streams / 50 user registration
		Operating Condition	-10°C ~ 50°C
Audio Compression	G.726, G.711(A-law, u-law)	Power	AC24V, DC12V, PoE
Alarm In/Out	1 digital input, 1 relay output	Dimensions	170.4(W) x 56.2(H) x 130.2(D)
Pre/Post Alarm Buffer	Pre Alarm Buffer Post Alarm Buffer	Other	RS-422& RS-485 Support