

INSTRUCTION MANUAL

2 Megapixel IR Bullet Camera

Before installing and using the camera, please read this instructions thoroughly and keep for reference.

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PRECAUTIONS

- **Avoid prolonged use in high temperature and high humidity environment**

Use the product within the operating range specified in the specifications.
Avoid locations where heat is generated, and Install in a well-ventilated place.

- **Do not install the camera in an unstable place**

Confirm that the camera is firmly fixed after installation.
Dropping the product due to poor installation may cause injury.

- **Install the camera away from dusty places**

This may cause product malfunction, poor image quality, fire or electric shock.

- **Do not install the camera under unstable lighting conditions**

It is possible to output an inappropriate image due to severe illumination change or lighting flickering.

- **Do not install the camera near gas or oil leaks**

Use in a place with flammable materials may cause fire.
Also, keep distance from power line cables or use separate metal piping.

- **Do not disassemble the camera or insert foreign objects**

There is no warranty liability for products that user disassembled.

- **Do not drop the camera or shock it**

It may cause malfunction.

- **Never keep the camera directly face to strong light.**

Exposure to strong light such as sunlight may cause light spreading or light blurring. In addition, direct sunlight can damage the image sensor.

- **Prepare for malfunction due to natural disasters**

The grounding work or the installation of the surge protector can minimize damage to the product due to lightning, etc.

- **Be sure to check the specifications of the power supply**

Before connecting the power to the product, make sure that the power supply meets the recommended specifications.

INTRODUCTION & FEATURES

Product Introduction

This is a high resolution network camera which can compress video and audio in real time, transmit the compressed data through the network.

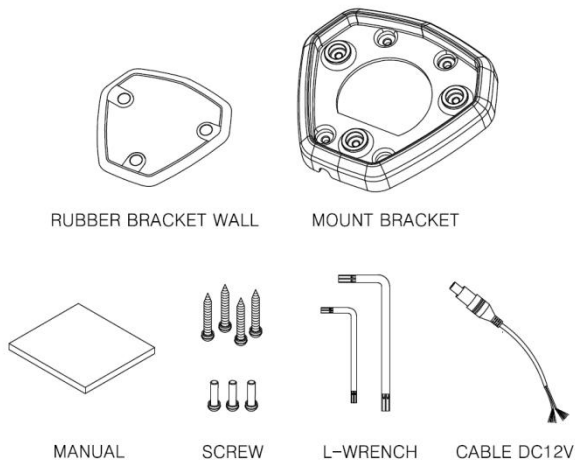
This camera contains 2 megapixel high resolution CMOS image sensor, Image signal processor(ISP), video/audio encoder, web server and network interface block inside. In addition, housing structure for protection against dust and water as well as built-in IR LED can provide clear video image even at night time and outdoor environment.

Features

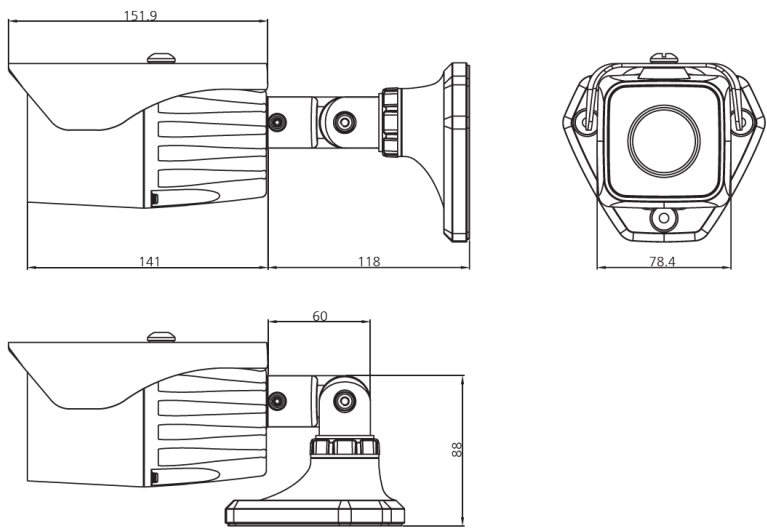
- 1/2", 2 megapixel Sony CMOS sensor
- 3.6~11mm Motorized Zoom Lens
- Remote control of Zoom & Focus
- 2D/3D DNR (Digital Noise Reduction)
- D WDR (Digital Wide Dynamic Range)
- Triple Video Streams
- H.265, H.264, MJPEG Video encoding
- Built-in web server
- ONVIF compatible
- PoE & DC12V
- IP67
- Housing structure for easy installation
- Built-in 4pcs of high Power IR-LED

ACCESSORIES & DIMENSIONS

Accessories

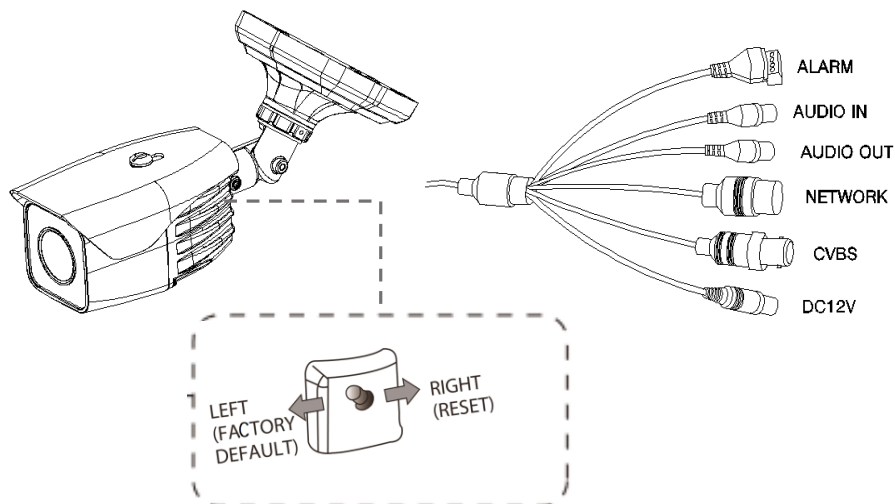


Dimensions (Unit : mm)



CONNECTORS

Connectors



Name	Detailed Description
Power	Connect to a DC12V power supply. In case of using PoE power, do not connect anything.
CVBS	This BNC connector outputs analog video (CVBS).
Audio In	Connect to an Audio source.
Audio Out	Connect to a Speaker.
LAN Cable	Connect to the Network cable.
Alarm	Connect to Alarm input signal and Alarm output signal. (A-Alarm Out, B-GND, C-Alarm In, D-GND)
Joystick	If you want to restore all settings to the factory defaults, push the lever to the left side and hold it for at least 10 seconds.

Note. Please refer to the label on each cable. Each cable has a descriptive label.

INSTALLATION

1. Mounting the Mount Bracket

- Using the supplied 4 screws, mount the mount bracket to wall or ceiling.

2. Mounting the Camera

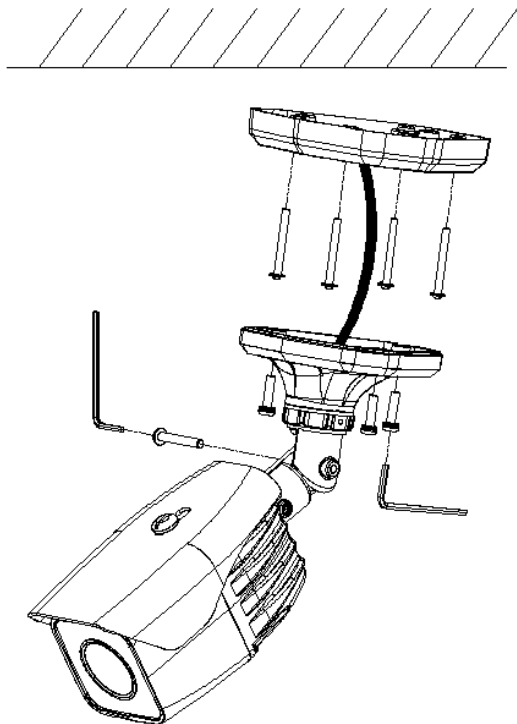
- Using supplied L-wrench, firmly fix the camera to the mount bracket.

3. Supply of power

- Supply DC12V or PoE power to camera.
- To prevent fire or electric shock, use a reliable power supply.

4. Camera Angle Adjustment

- Adjust the camera direction by turning the pan bracket left or right, the tilt bracket up or down, then firmly tighten the screws.
- After network connection, zoom and focus can be adjusted through zoom/focus buttons on the web browser.



WEB BROWSER ACCESS

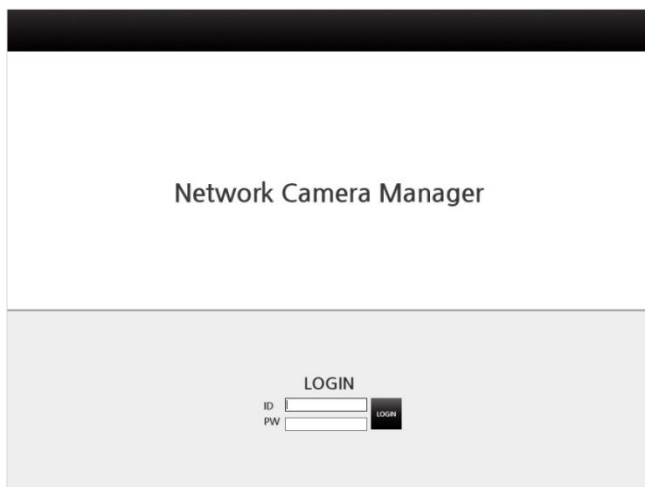
Camera's default IP address is "192.168.1.30", but User name and Password is not configured in advance. Administrator's account should be created on the first access to the camera. Open an Internet Explorer browser and access to 192.168.1.30 then below window will appear.

Creation of administrator's account



A dialog box titled "Create Administrator" with a close button (X) in the top right corner. It contains three text input fields labeled "User Name", "New Password", and "Confirm Password". Below these fields, there are four lines of text defining character groups: "Group1 : [0~9]", "Group2 : [a~z]", "Group3 : [A~Z]", and "Group4 : [-!@%^&*()_~|<>.,'/"]". At the bottom right of the dialog is a "Save" button.

Enter the user name (ID) and password you want to use, and click the "Save" button then initial access page will appear as shown below.



A web page titled "Network Camera Manager". The page has a black header bar at the top. The main content area is white and contains the title "Network Camera Manager" in a large, bold, black font. Below the title, there is a gray footer bar. In the center of the footer bar, the word "LOGIN" is displayed in bold. Below "LOGIN", there are two input fields labeled "ID" and "PW". To the right of the "PW" field is a black button with the word "LOGIN" in white.

WEB BROWSER ACCESS

If you click the login button after entering newly created account information, camera's setting page is displayed as below. Click the "LIVE" button to view the live video.

admin | Logout

Basic Configuration

- Network
- Video
- System

Advanced Configuration

- > Network
- > Camera
- > System

Network

Network Settings

☐ DHCP

MAC Address: 40:04:0C:02:D5:CC

IP Address: 192.168.1.30

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.1.1

DNS Server

First DNS: 168.126.63.1

Second DNS:

Port

HTTP Port: 80 [80, 3000 ~ 60000]

RTSP Port: 554 [554, 3000 ~ 60000]

Save

ActiveX Installation

If this is the first access to LIVE view, you can not get video and you will be prompted to install additional plugin as shown below. Click allow and proceed the installation.

admin | Logout

main stream

960x540 (16:9)

PC Speaker

PC MIC

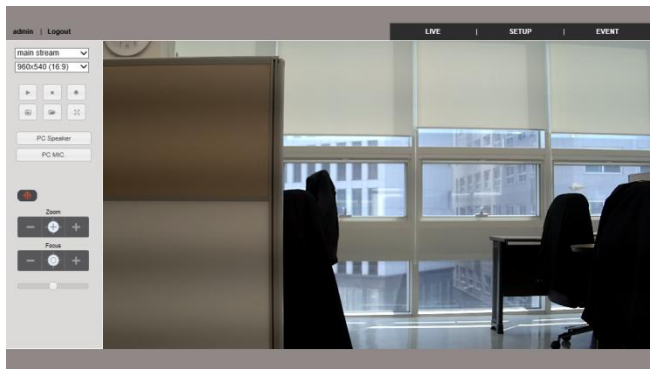
Zoom

Focus

이 웹 페이지에서 'com(승용되지 않은 게시자)'에서 제공한 'NetV_WebLoc' 추가 기능을 실행하려고 합니다. [취소\(Alt+X\)](#) [허용\(Alt+Y\)](#)

Live video

After the installation of ActiveX is completed, video image from IP camera is displayed as below.



Control buttons on Live page

main stream

 : Select a video stream

960x540 (16.9)

 : Select a resolution to display
 : Display real time video
 : Stop real time video display
 : Start/Stop video recording
 : Save current image
 : Path of recorded video clip and saved image
 : Full screen display

PC Speaker

 : Speaker Enable/Disable

PC MIC.

 : Mic Enable/Disable

Zoom

Focus

 : Zoom/Focus Control (Speed control via slider)

BASIC CONFIGURATION

Network

You can change the network settings of IP camera.

admin | Logout

Basic Configuration

Network

Video

System

Advanced Configuration

Network

Camera

System

LIVE | SETUP | EVENT

Network

Network Settings

☐ DHCP

MAC Address

40 D4 0C B2 D5 CC

IP Address

192.168.1.30

Subnet Mask

255.255.255.0

Default Gateway

192.168.1.1

DNS Server

First DNS

168.126.63.1

Second DNS

Port

HTTP Port

80

[80, 3000 ~ 60000]

RTSP Port

554

[554, 3000 ~ 60000]

Save

Video

You can configure the properties for up to 3 video streams.

admin | Logout

Basic Configuration

Network

Video

System

Advanced Configuration

Network

Camera

System

LIVE | SETUP | EVENT

Video

Main stream

Sub stream 1

Sub stream 2

☒ Enable

Resolution

1920x1080

Video Encode

H.264

Video Profile

Main

Frame Rate

30

[1 ~ 30]

Quality

40

[1 ~ 100]

Bitrate

4096

[128 ~ 8192]

Bitrate Type

CBR

Key Frame Interval

30

[1 ~ 60]

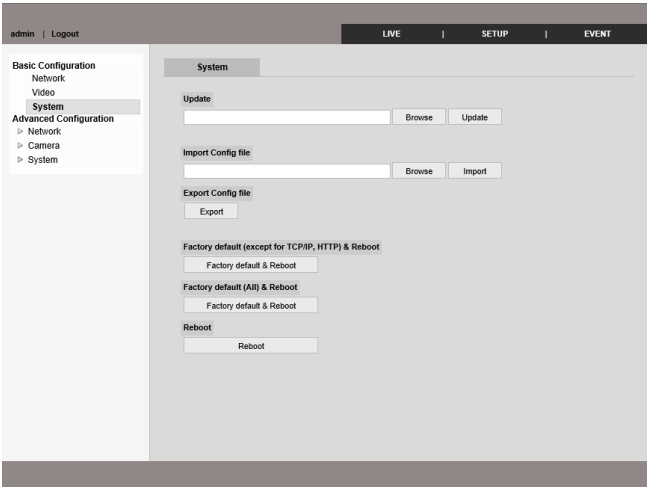
URL

rtsp://192.168.1.30:554/stream1

Save

System

You can do Camera update, Import & Export of setting file, Factory default, Reboot.



ADVANCED CONFIGURATION

TCP/IP

You can change network type, network settings.

admin | Logout

LIVE | SETUP | EVENT

Basic Configuration

Network

Video

System

Advanced Configuration

4 Network

TCP/IP

RTSP

HTTP

ONVIF

▷ Camera

▷ System

TCP/IP

NIC Setting

Type

Auto

Network Settings

☐ DHCP

MAC Address

40 04 0C 02 D5 CC

IP Address

192.168.1.30

Subnet Mask

255.255.255.0

Default Gateway

192.168.1.1

DNS Server

First DNS

168.126.63.1

Second DNS

Save

RTSP

You can configure RTSP and Multicast entries.

admin | Logout

LIVE | SETUP | EVENT

Basic Configuration

Network

Video

System

Advanced Configuration

4 Network

TCP/IP

RTSP

HTTP

ONVIF

▷ Camera

▷ System

RTSP

RTSP

RTSP Port

554

[554, 3000 ~ 60000]

RTSP Timeout

120

RTSP Authentication

OFF

RTP Port

40000

~

40100

[40000 ~ 60000]

☒ Use RTCP

☒ Use Multicast

Multicast Video Address

239.249.119.123

Multicast Audio Address

239.249.119.124

Multicast Event Address

239.249.119.125

Multicast Port

41000

~

41100

[40000 ~ 60000]

Multicast TTL

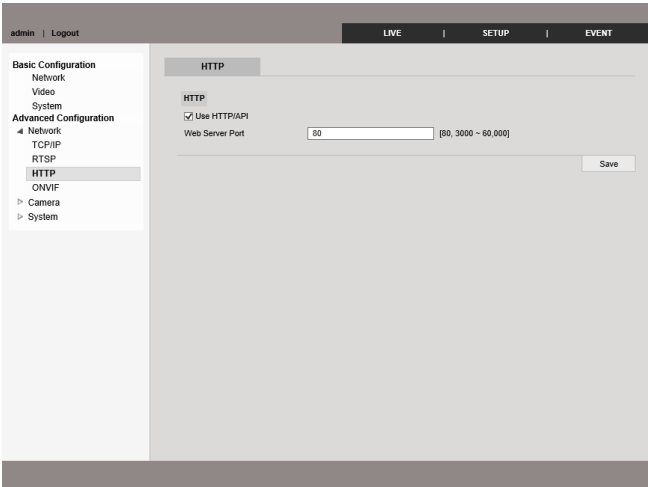
5

Save

ADVANCED CONFIGURATION

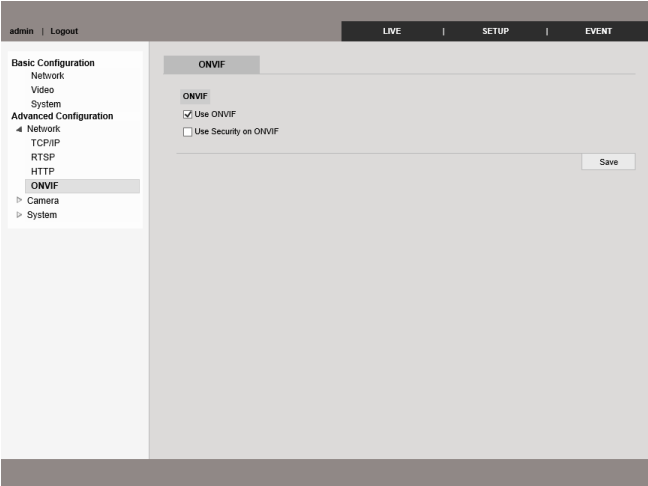
HTTP

You can decide the use of HTTP API and change the connection port of web browser.



ONVIF

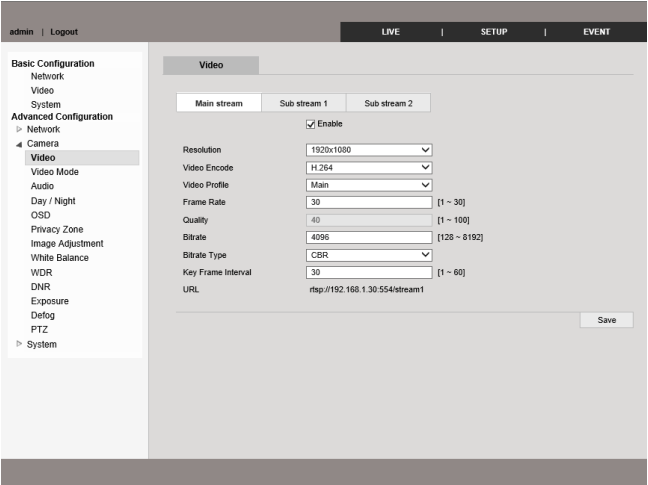
You can decide whether to use ONVIF.



ADVANCED CONFIGURATION

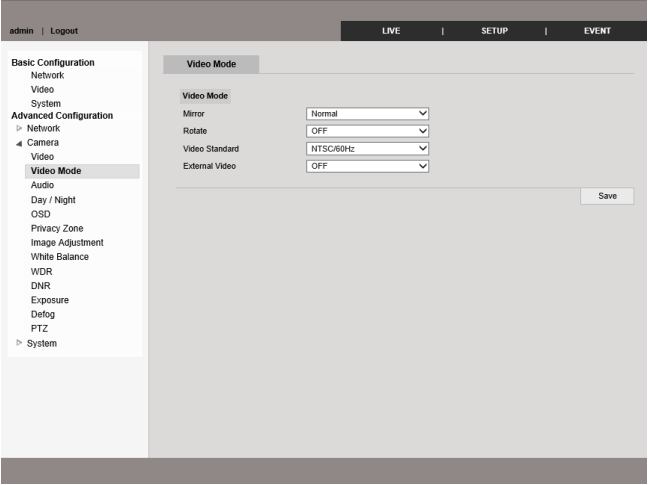
Video

You can configure the properties for up to 3 video streams.



Video Mode

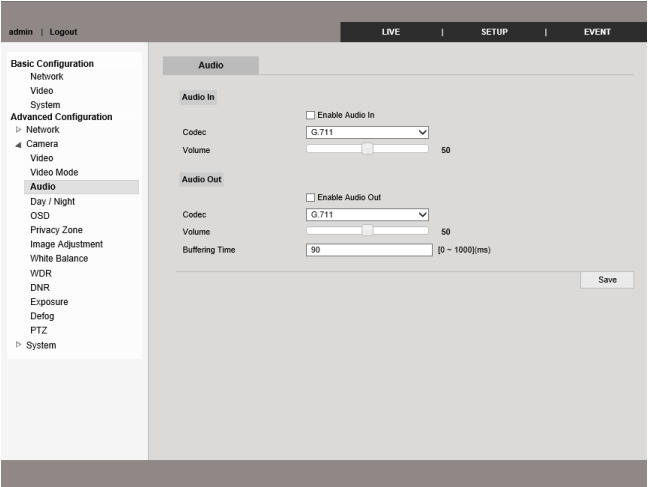
You can configure Mirror, Rotate, Scanning frequency, External video On/Off.



ADVANCED CONFIGURATION

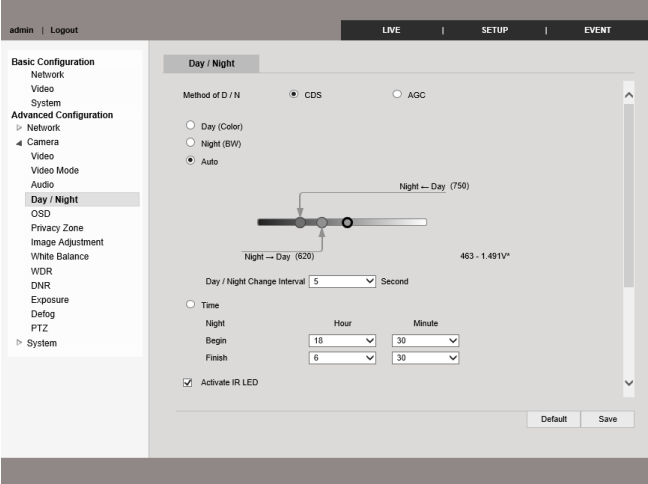
Audio

You can configure Audio related parameters.



Day/Night

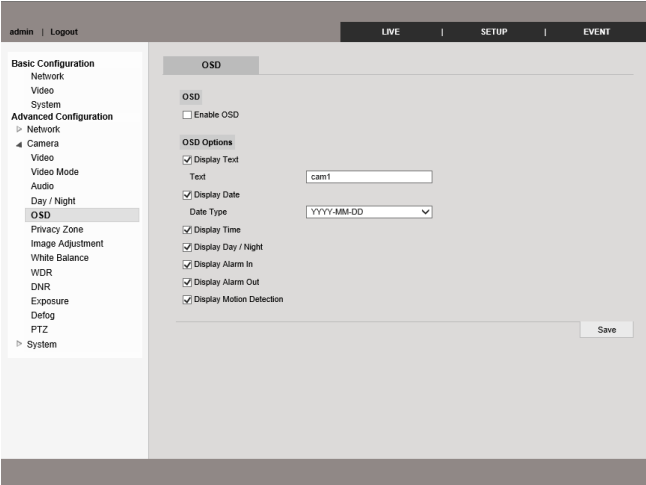
You can configure Day/Night details related to IR-Cut Filter operation.



ADVANCED CONFIGURATION

OSD

You can specify OSD items which are displayed on the screen.



Privacy Zone

You can specify up to 8 privacy masking zones.

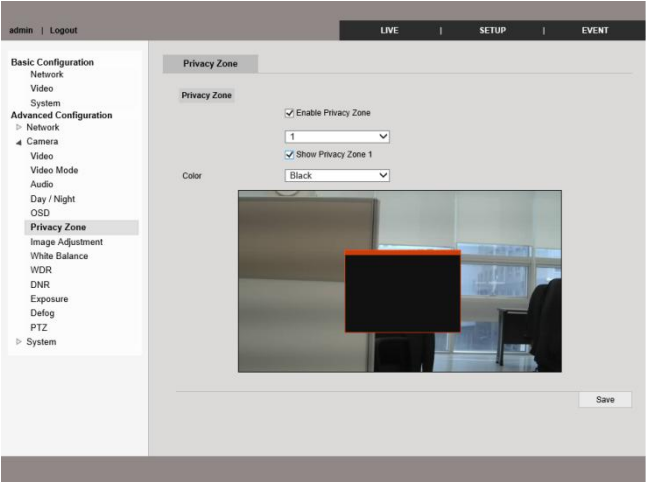
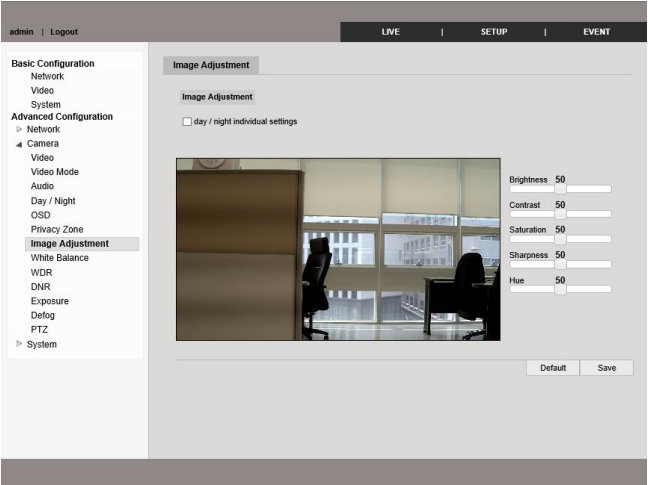


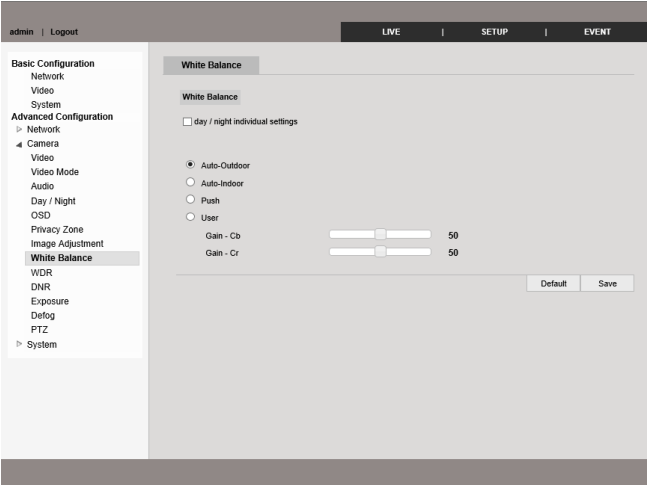
Image Adjustment

Brightness, Contrast, Saturation, Sharpness, Hue can be adjusted.



White Balance

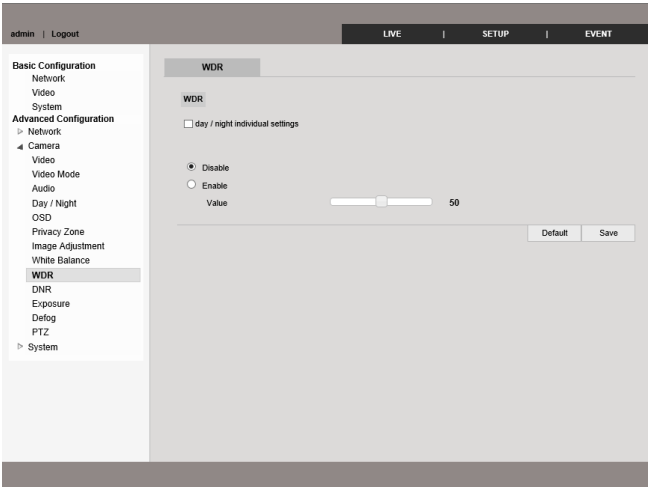
White Balance can be selected among Auto, One-Push, User defined mode.



ADVANCED CONFIGURATION

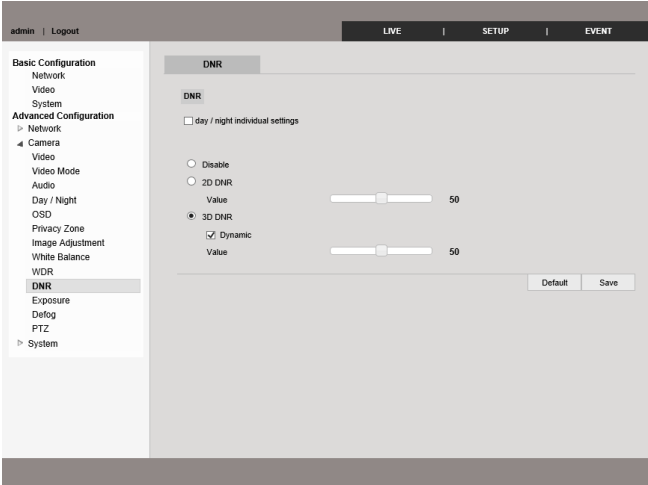
WDR

You can decide whether to use WDR function, and set its level.



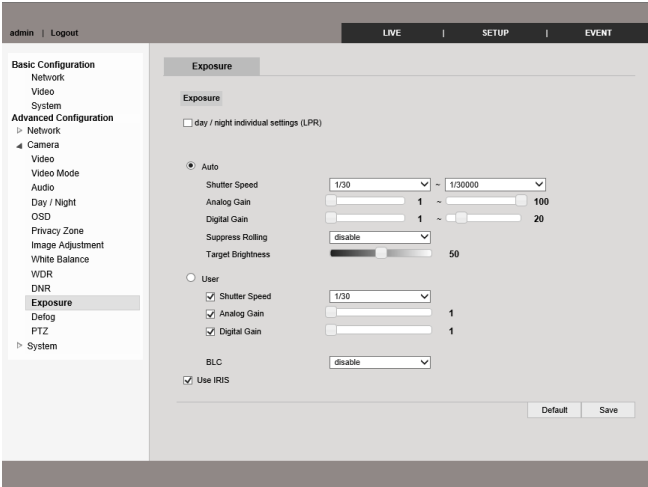
DNR

You can decide whether to use 2D/3D DNR, and set their levels.



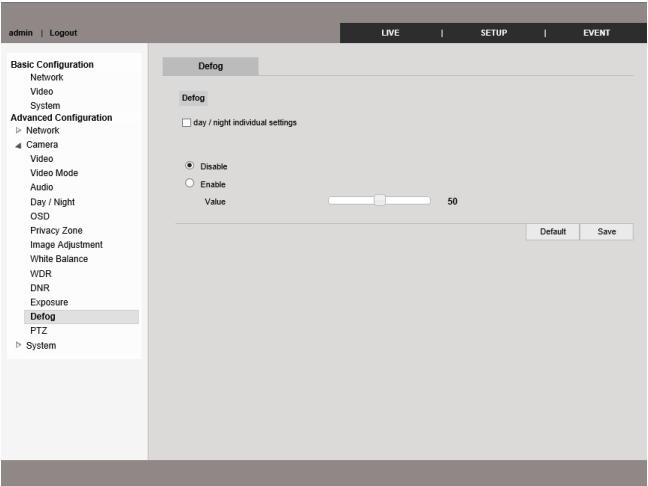
Exposure

You can configure Exposure mode, Range of shutter speed control, AGC level, etc which are related to camera's brightness control.



Defog

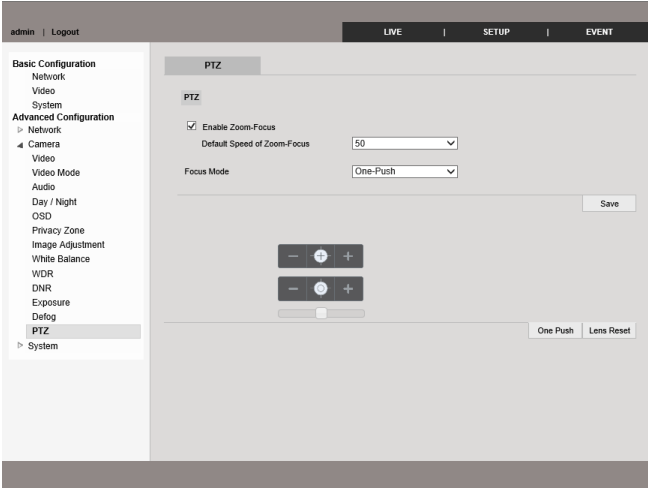
You can decide whether to use Defog function, and set its level.



ADVANCED CONFIGURATION

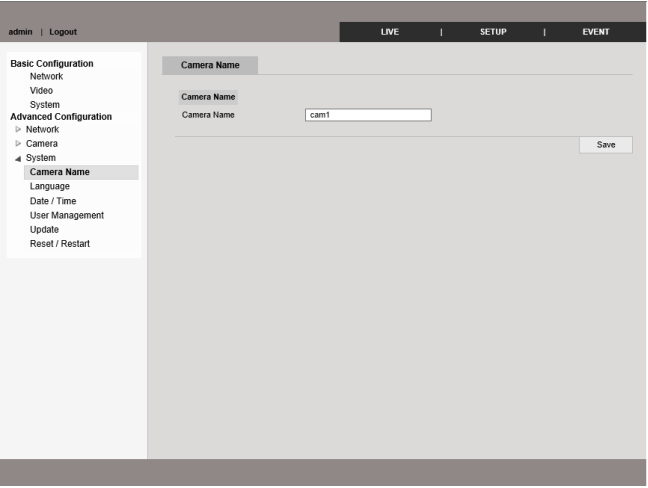
PTZ

You can decide whether to use the zoom/focus operation, and set the default operation speed and focus mode.



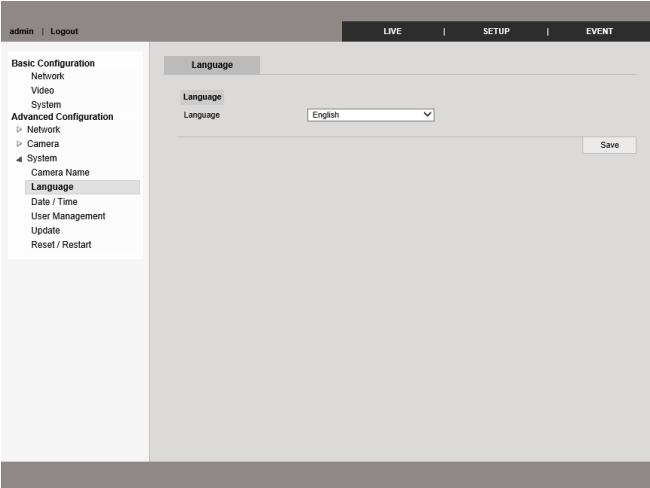
Camera Name

You can specify camera name.



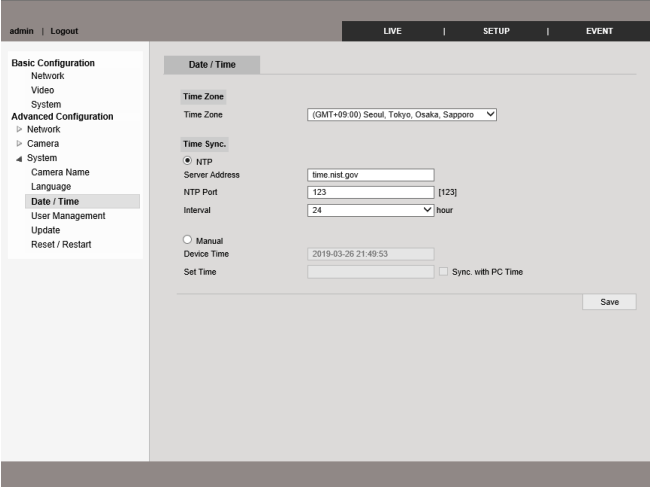
Language

It is applied to setting pages, and you can select among English, Korean and Japanese.



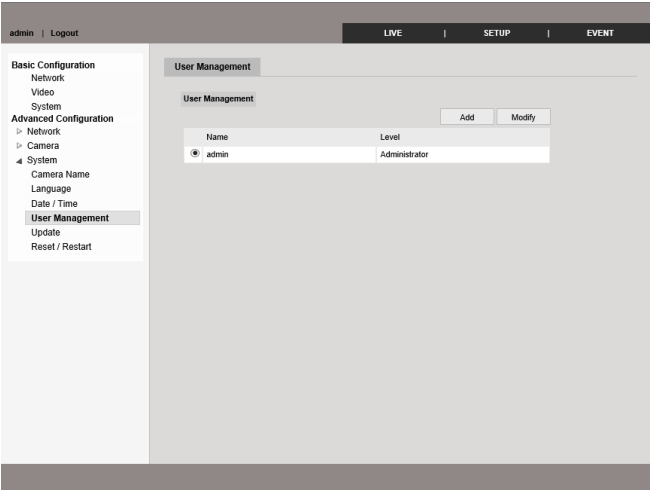
Date/Time

You can configure Time Zone, Synchronization with Time Server, Manual settings.



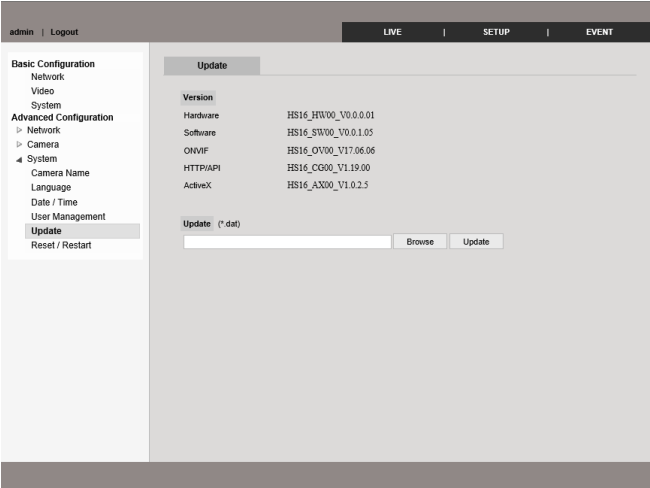
User Management

You can add/delete user account, and set permissions for each user.



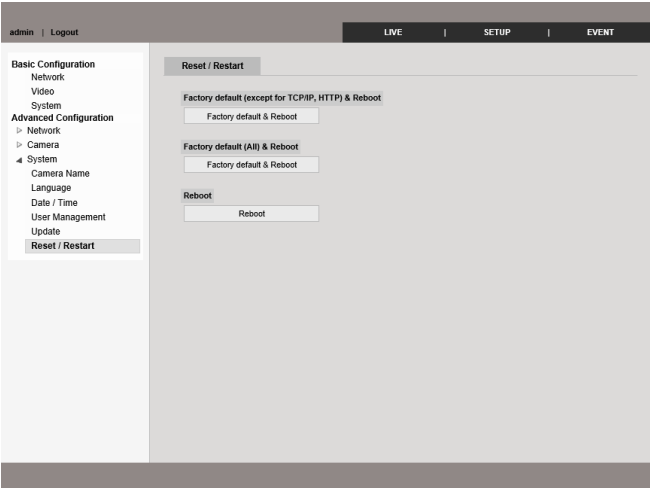
Update

Camera's firmware can be updated through this page.



Reset/Restart

You can restore all settings to factory default, restart camera.



Alarm

Alarm Input and Alarm Output can be configured.

admin | Logout

LIVE | SETUP | EVENT

4 Event

Alarm

Motion Detection

Alarm

Alarm input

☐ Use Alarm Input

Type

☐ NC (Normal Close)

☒ NO (Normal Open)

Duration

100ms

Alarm Output

☐ Use Alarm Output

Event Type

☐ Motion Detection

☒ Alarm Input

Duration

5

Alarm in Test

Alarm out Test

Save

Motion Detection

You can decide whether to use Motion Detection, and set sensitivity, areas, etc.

admin | Logout

LIVE | SETUP | EVENT

4 Event

Alarm

Motion Detection

Motion Detection

☐ Use Motion Detection

Sensitivity

3

Event Duration Time

3

Select All

Clear

Save

SPECIFICATIONS

Camera	
Image Sensor	1/2" Sony CMOS Image Sensor
Total Pixel	1952(H) x 1113(V) = 2.17 megapixel
Active Pixel	1937(H) x 1097(V) = 2.12 megapixel
Scan System	Progressive
Min. Illumination	Color : 0.01 lux, BW : 0.001 lux, Color DSS : 0.001 lux, BW DSS : 0.0001 lux IR On : 0 lux
S/N Ratio	More than 50dB (AGC off)

Lens				
Lens type		Megapixel Motorized Lens		
Focal Length		f = 3.6~11mm		
Aperture		F1.5		
Angle of View (D, H, V)	Wide	118°	100°	55°
	Tele	51°	43°	25°

Camera Functions	
Day & Night	Auto / Day / Night
Privacy Zone	On / Off (Up to 8 Zones)
Motion Detection	On / Off (Up to 48 Zones, Sensitivity 1~5 Step)
D-WDR	On / Off (1~3 Step)
DNR	2DNR, 3DNR
Defog	On / Off
LSC	On / Off
Shutter Control	Auto (1/30~1/30000sec), Suppress Rolling, Manual
Image Adjustment	Bright / Contrast / Saturation / Sharp / Hue
White Balance	Auto Indoor / Auto Outdoor / Push / User
OSD Display	On / Off (Text, Date, Time, Event)
Video Mode	Normal / Mirror(H) / Flip(V) / Both(H/V)

SPECIFICATIONS

Network	
OS	Embedded Linux
Interface	RJ45 10/100 Base-T, PoE
Protocol	TCP/IP, UDP/IP, RTP, RTSP, RTCP, NTP, HTTP, DHCP, FTP, SMTP, DNS
ONVIF	Ver17.06.05
Concurrent Access	Up to 10 users
Compression Format	H.265 / H.264 / MJPEG
Resolution	1920x1080 / 1280x1024 / 1280x960 / 1280x720 / 1024x768 / 640x480 / 320x240
Performance	30fps@all resolution
Video Quality Control	H.265, H.264 : Bitrate Control MJPEG : Quality Level Control
Streaming	Triple Stream
Audio Compression	G.711
Audio Communication	Bi-directional
Sensor Input	1 (NC / NO)
Alarm Output	1 (Digital Output, Open Collector)
Client OS	Windows XP, 7, 8, 10
Web Browser (Manage)	IE 11, Firefox, Safari, Opera
Web Browser (View)	IE 11 Only (Active-X)

General Specifications	
Power	DC12V \pm 10%, PoE IEEE802.3af, Class3
Power Consumption	DC12V, 720mA / 8.64W
Operation range	-10°C~+50°C / 0%~90% RH
Dimensions	78.4(W) x 88(H) x 269.9(D) mm
Weight	1.08Kg

P/N :
PRINTED IN KOREA

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