LG
Life's Good

OWNER'S MANUAL

High Definition Network Camera

Please read this manual carefully before operating your set and retain it for future reference.

MODEL

LW6324/LW6354 series
LW6424/LW6454 series
LW332/LW335 series
LW342/LW345 series
LW352/LW355 series

MFL67373516

IPsolute

1111 (V1.0)

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Introduction

The LG Network Camera is designed to use on an Ethernet network and must be assigned an IP address to make it accessible.

This manual contains instructions on how to install and manage the LG Network Camera in your networking environment. Some knowledge of networking environments would be beneficial to the reader.

Should you require any technical assistance, please contact authorized service center.

Features Chart

This table shows the differences between the models.

Item		LW6324	LW6354	LW6424	LW6454	LW332	LW335	LW342	LW345	LW352	LW355
VA		No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
SD Card		Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes
OSD	SCENE Mode	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes
	ALC2	No	No	No	No	No	No	No	No	Yes	Yes

Operation and settings

Before using the system

- Before using the LG IP device make sure the connections are correct and verify whether proper power supply is used.
- Check the connections of the LG IP device for the correct conditions.
- Check that the LG IP device is(are) connected to the network and that power is supplied.
- Once the connections are made you need to install the LG client program to the PC from which you want to access the device. The LG Smart Web Viewer program is automatically installed when you connect the LG IP device.
  The LG Ipsolute VMS and the LG Smart Web Viewer program are the network program of the LG Video Server and the LG IP cameras.
- To view streaming video in Internet Explorer, set your browser to allow ActiveX controls. If you find this message "This website wants to install the following add-on: 'IPCam_Streamer.cab' from 'LG ELECTRONICS INC'", Click the yellow bar and install LG Smart Web Viewer Program on your computer.
- The Layouts and the Live view pages may differ with different OS (Operating Systems) and Web Browsers.
- Care needs to be taken not to run any other applications when the Client Program is running as it may cause memory shortage.

Recommended PC Requirements

The LG IP device can be used with most standard operating systems and browsers.

Items	Requirements
Operating System	Windows XP Professional, Windows VISTA, Windows 7
CPU	Intel Core2 Quard Q6700 (2.66 GHz) or above
Web Browser	Microsoft Internet Explorer above the version 6.0 and below the version 8.0.
DirectX	DirectX 9.0 or above
Memory	2 GB or above RAM
Graphics Card	256 MB or above Video RAM
Resolution	2040 x 1536 (with 32 bit color) or higher

Accessing the LG IP device

You can access the LG IP device by following the below steps.

1. Install LG Ipsolute VMS Program

2. Discover the LG IP device using the IP Utility

The IP Utility can automatically discover and display LG IP devices on your network.

The IP Utility shows the MAC address, IP address, Model name and so on.

Note:

The computer running the IP Utility must be on the same network segment (physical subnet) as the LG IP device.

2.1 Run the IP Utility program.

2.2 Click the [Search] button or select the [Search] option in the Device search menu.
After a few seconds the found LG IP devices gets displayed in the IP Utility window.

3. Logging in to the LG Smart Web Viewer

The LG Smart Web Viewer can be used with most web browsers. The recommended browser is Internet Explorer with Windows.

3.1 Run the IP Utility and find the LG IP devices.

3.2 When the LG IP devices appear in the IP Utility window, double-click IP address or right click on the same IP address and select "Connect to Web Page" to start the LG Smart Web Viewer. When accessing the LG Smart Web Viewer, the authentication dialog appears on the screen.

3.3 Enter the user name and password. (Note that the default administrator user name and password are "admin".)

3.4 Click the [OK] button and then the LG Smart Web Viewer is displayed in your browser.

Notes:

- You can also access the LG Smart Web Viewer as shown below.

  3.1 Start your Web browser.

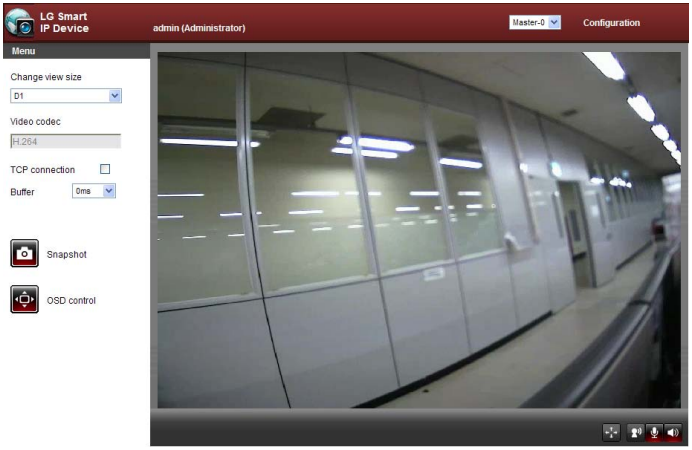
  3.2 Enter the IP address of the LG IP device in the address bar of the browse.

  3.3 Enter the user name and password set by the administrator.

  3.4 Click the [OK] button and then the LG Smart Web Viewer is displayed in your browser.

- The LG Smart Web Viewer needs more time to display it according to the network conditions.
- If the login window is not displayed, check the pop-up blocker. If you set the pop-up blocker, the login window is not displayed. You must allow the pop-ups.
- If you connect the LG Smart Web Viewer for the first time, the Security Warning window is displayed to install the LG Smart Web Viewer program. You must install the LG Smart Web Viewer program for using the LG IP device.
- If your computer or network is protected by a proxy or firewall, the proxy or firewall settings can prevent the LG Smart Web Viewer program. Change the proxy or firewall settings to activate the LG Smart Web Viewer program.

LG Smart Web Viewer Overview



Item	Description
Change view size D1	Select the video image size from the drop-down list. The initial view size is set to D1.
Video codec H.264	Displays the current video codec of the selected video stream (Master or Slave).
TCP connection	Check this option as the network connection type (TCP or UDP). If you check it, the client connects to the server using TCP connection.
Buffer 0ms	Select buffering time of live stream.

Snapshot	Click to save the current image in JPEG format on your computer. 1. Click the [Snapshot] button and then the Snapshot window is displayed. 2. Click the [Save] button in the Snapshot window. 3. Enter the file name (JPEG format) and select the folder to save it. 4. Click the [Save] button to confirm it. 5. Click the [Close] button in the Snapshot window to close it.
OSD control	Displays the Camera OSD control window. Use these buttons to setup the Camera. This button does not appear on the screen if the login is other than the administrator.
Master-0	Select the video stream. From the Live view drop-down list, select the desired video image source between [Master-0] and [Slave-0]. **Note:** Master and Slave are output video streams. You can set the stream configurations independently for either Master or Slave stream. This would facilitate the user to set the live view at his comfort.

Configuration	Provides all the necessary tools for setting up the device to your requirements. The user will need administrator level to do this. **Note:** If you want to exit the Configuration menu, select one of the video stream in the Live view drop-down list.
	Displays the current surveillance live screen. You can monitor the camera image on the live view window of the LG Smart Web Viewer.
	Click this button and drag the area to use PTZ function. Right-clicking the screen will bring up the previous magnification. (Color icon: On, Gray scale icon: Off.)
	Click this button to connect or disconnect the audio communication between the LG IP device and the connected PC. (Color icon: On, Gray scale icon: Off.)
	Click this button to switch the microphone off and on for the computer. (Color icon: On, Gray scale icon: Off.)
	Click this button to switch the sound off and on, for the speaker of the computer. (Color icon: On, Gray scale icon: Off.)

Configuration menu overview

The following table shows the list of menu items.

The configuration images are different from each model.

Main Menu	Sub Menu	Note
System	Version	
	Date & Time	
	Maintenance	
	Log & Report	
	Language	
Audio & Video	Camera	
	Stream	
	Audio	
	Motion detect	
Network	Basic	
	RTP stream	
	TCP/IP	
	DDNS	
	IP filtering	
	SNMP	
User	Basic	
SD Card	Basic	Option
Event	Event schedule	
	Event server	
	Sensor & Relay	

Configuring the LG Network Camera Device

The features and options of the LG IP camera are configured through the Configuration menu.

Only administrator-level users have permission to access the Configuration menu.

Accessing the Configuration menu

Click the [Configuration] button to display the LG Smart Web Viewer configuration window.

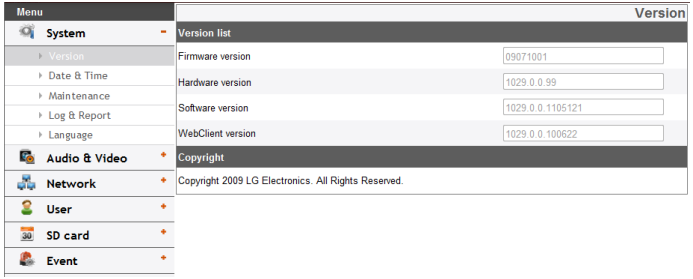
Warning

The Configuration setup should be made by qualified service personnel or system installers.

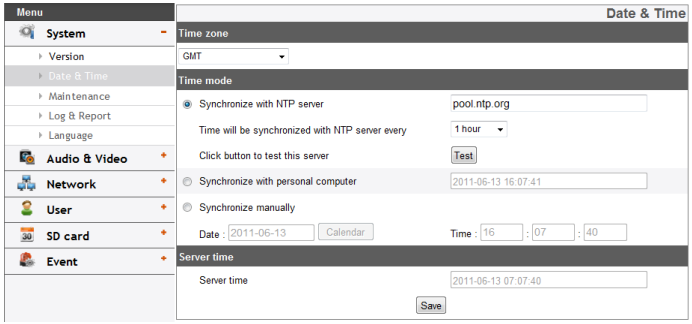
System settings

Version

Displays the current version of Firmware, Hardware, Software and Web Client.



Date & Time



Time zone

Set the time difference from GMT in the area where the IP device is installed. Select the time zone in the area where the IP device is installed from the drop down list.

Time mode

> Synchronize with NTP Server: Select if you want to synchronize the IP device's date and time with those of the time server called NTP (Network Time Protocol). Specify the NTP server's name. Click the [Test] button for connection test to the server.

> Synchronize with personal computer: Select if you want to synchronize the IP device's date and time with your computer.

> Synchronize manually: Select if you want to set the IP device's date and time manually. Select the year, month and date by clicking the calendar button. Set hour, minutes and seconds in the edit boxes.

Notes:

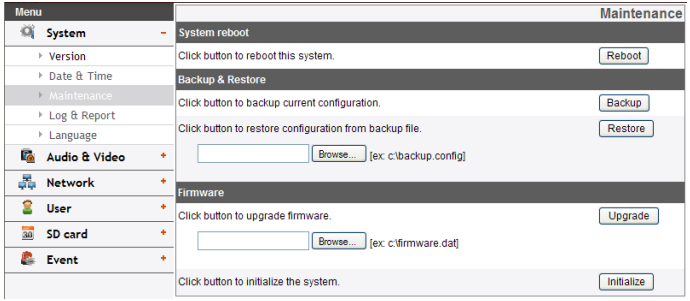
- When system reboot after time setting, time of system could be delayed. If you set the time correctly, set the [Synchronize with NTP server] option.
- Refer to NTP configuration as operation system of the Recording Server when the Recording Server use recording function and NTP server.

Server time

> Server time: Displays the current date and time of the IP device.

- Save: Click this button to confirm the settings.

Maintenance



System reboot

Click the [Reboot] button to restart the IP device. It takes some minutes for the IP device to start again.

Restore and backup

> Backup: To take a backup all of the settings. If necessary, it make possible to return to a backuped configuration.

1. Click the [Backup] button.
2. Click the [Save] button.
3. Follow the instructions on the browser to specify the folder.
4. Click the [Save] button to save the settings.

> Restore:

1. Click the [Browse] button.
2. Find and open the file in which the configuration setting data is stored.
3. Click the [Restore] button and the system settings will be restored and reboot the system.

Notes:

- Backup and Restore can happen on IP device having the same version of firmware. This feature is not intended for multi-configurations or for firmware upgrades.
- [Backup] function is allowed in HTTP protocol but not in HTTPS protocol.

Firmware

> Upgrade

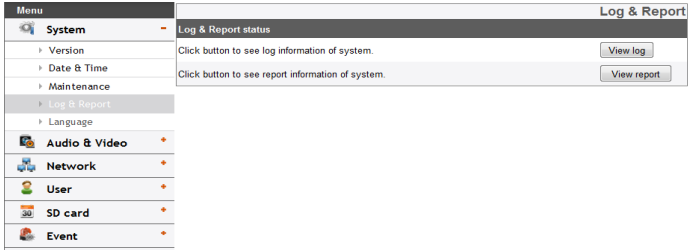
1. Click the [Browse] button.
2. Find and open the firmware file.
3. Click the [Upgrade] button to update the firmware.

Note:

When you upgrade the system, it may take some minutes to be done. Do not close the browser while the upgrade is in progress. If you close the browser, it may cause a malfunction. You should wait until the confirmation window is displayed. When the upgrade is finished, the confirmation window will be displayed.

> Initialize: The [Initialize] button should be used with caution. Clicking it will return all of the IP device's settings to the factory default values. (Except for the Network settings, PTZ Protocol and Preset settings. The option depends on the model.)

Log & Report



Log & Report status

The System log provides a summary of the status of the IP device. The unit records the data of the software activity in a file.

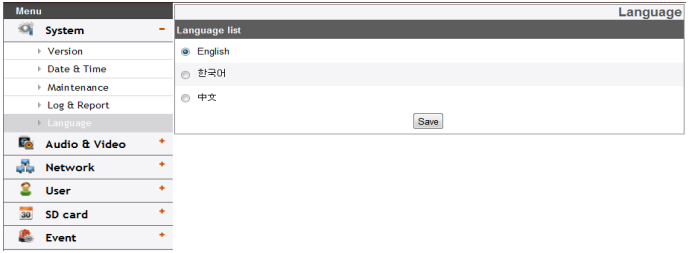
> View Log: Click this button to display the system log information.
  - Download: Click this button to see the log information of system.

> View report: Click this button to display the report of the system.
  - Download: Click this button to see the report information of system.

Note :

The downloaded file is a UNIX type. If you open the file in Microsoft Notepad, it will display the text as if the file contained no line breaks at all.

Language



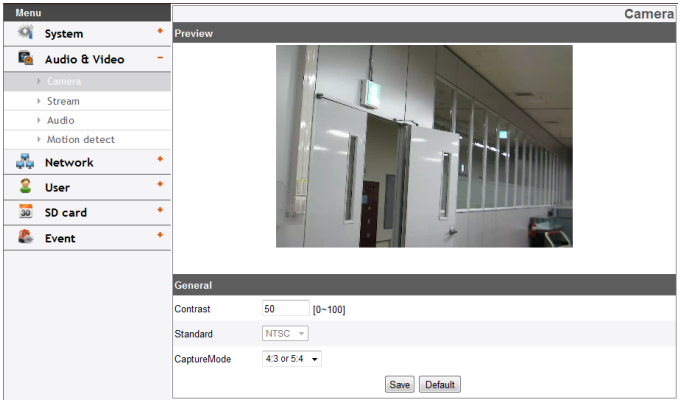
Language list

Select a language for the LG Smart Web Viewer configuration menu and information display.

- Save: Click this button to confirm the settings.

Audio & Video settings

Camera



Preview

You can preview the camera image on the preview window.

General

> Contrast: Edit the contrast value from 0 to 100. Selecting 100 provides the image with the highest contrast.

> Standard: Displays the video standard of the camera.

> CaptureMode (Option): Select the capture mode.

Note:

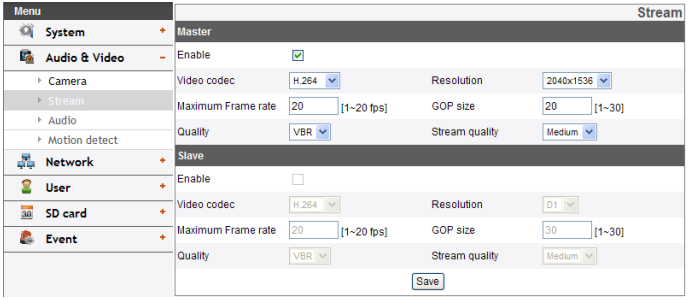
If you change the CaptureMode option, the Privacy, WDR/ BLC and HSBLC settings on the OSD menu are initialized.

- Save: Click this button to confirm the settings.
- Default: Click this button to restore the IP device back to original factory settings.

Note:

The Capture mode is not initialized.

Stream



Master/Slave

> Enable: Click to activate the stream function.

> Video codec: Select the video mode (Codec) from the drop-down list. The viewer can choose between MJPEG and H.264.

> Resolution: Select the output image size of the camera.

> Maximum frame rate: Set the frame rate of the image.

> GOP size: It means "Group of Pictures". The higher the GOP, the better is the video quality of the camera. Edit the value of GOP from 1 to 30. This setting is valid for H.264 video format only.

> Quality: Select the Quality.

- VBR: The bit rate may vary depending on the complexity of the video to meet the selected quality.
- CBR: The video quality may vary in order to preserve a constant bit rate.

> Stream quality: If the [Quality] option set to VBR, this option is displayed. Select the stream quality from the drop down box, the camera supports five types. (Highest, High, Medium, Low and Lowest)

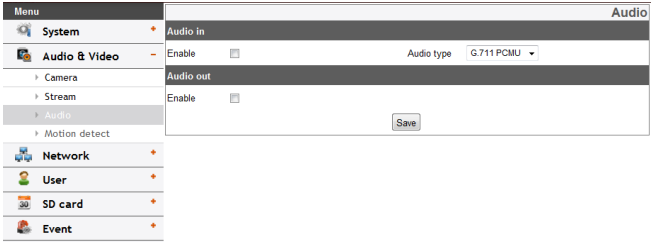
> Bit rate: If the [Quality] option set to CBR, this option is displayed. Edit the bit rate value from 256 kbps to 10 240 kbps.

Note:

If the 'Bit rate' is configured too low with high resolution, the actual frame rate will decrease because of narrow bandwidth. So you need to set or change the 'Bit rate' to high value.

- Save: Click this button to confirm the settings.

Audio



Audio In

> Enable: Click the check box if you want to send the audio from the microphone input connector.

Note:

The Clients connected to the IP device remain unaffected with additional changes made in the setting.

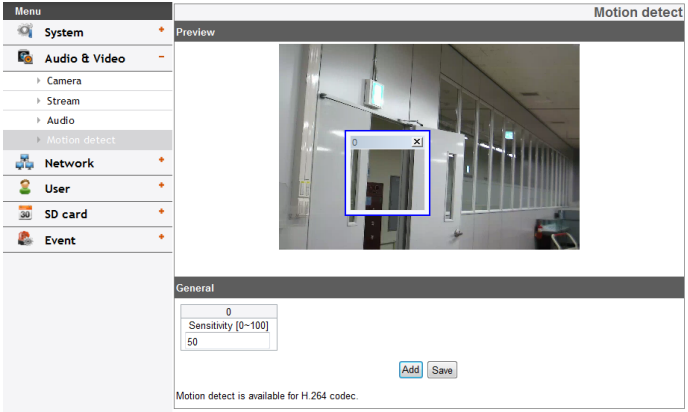
> Audio type: Select the codec when you send the audio from the microphone input connector.

Audio Out

> Enable: Click the check box to output the audio from the speaker.

- Save: Click this button to confirm the settings.

Motion detect



Preview

You can preview the motion detection window on the preview window.

General

> Sensitivity: Enter the sensitivity to detect an object in motion.

> Save: Click this button to confirm the settings.

How to set the motion detect window

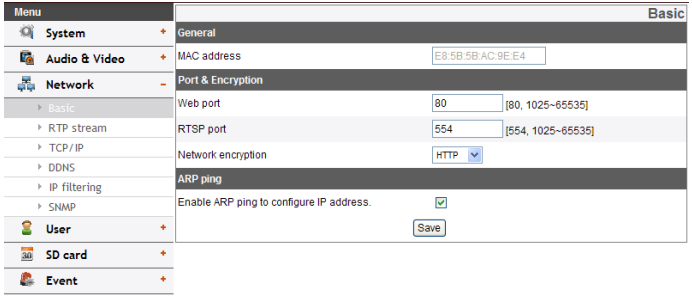
1. Click the [Add] button. The motion detect window is displayed. You can add the five windows maximum for motion detection area.
2. Set the [Sensitivity] option.
3. Click the edge or corner of the window box to adjust the window size for motion detection.
4. Click the [Save] button to save the settings.

Note:

- You can reset the window size. Click one of the window edge or corner and drag & drop to reset the motion detection area.
- Motion Detection can be activated when at least one of channels(Master/Slave) is enabled, Video codec is set to H.264 and GOP size is more than 2.

Network settings

Basic



General

> MAC address: Displays the MAC address.

Port & Encryption

> Web port: The default HTTP port number (80) can be changed to any port within the range 1 025 to 65 535.

> RTSP port: Check RTSP port. The default port is 554. Other ports can be selected within the range 1 025 to 65 535.

> Network encryption: Select the HTTP or HTTPS option for security.

Note:

The RTSP port number should not be same with the web port number.

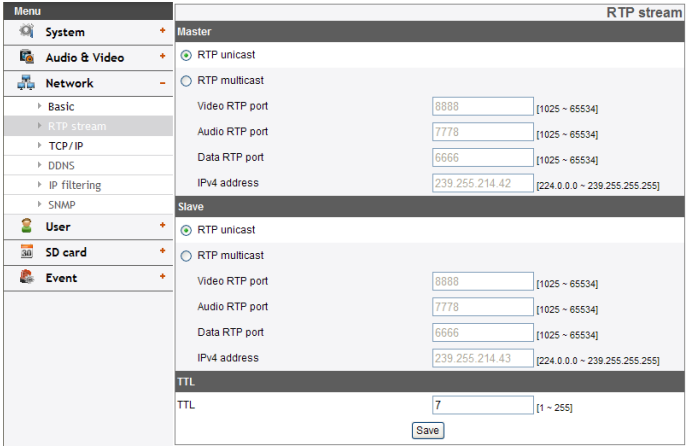
ARP Ping

> Enable ARP Ping to configure IP address: Check to enable ARP ping.

- Save: Click this button to confirm the settings.

RTP stream

RTP (Real-time Transport Protocol) is an internet protocol that allows programs to manage the real-time transmission of multimedia data, via unicast or multicast.



Master / Slave

> RTP unicast: When enabled the transmission of the data to the specified equipment happens on a network specifying a single address.

> RTP multicast: When enabled it reduces the transmission load on the camera by making the computer of the same segment network receive the same transmission data. When multicast option is checked then select Video Port number, Audio Port number and Data port number.

- Video RTP port: Specify the video transmission port number used for the multicast streaming. It is initially set to 8 888 and you can edit this between 1 025 and 65 534.
- Audio RTP port: Specify the audio port number used for the multicast streaming. It is initially set to 7 778 and you can edit this between 1 025 and 65 534.
- Data RTP port: Specify the VA data port number used for the multicast streaming. It is initially set to 6 666 and you can edit this between 1 025 and 65 534.
- IPv4 address: Set the IP address for RTP multicast.

Note:

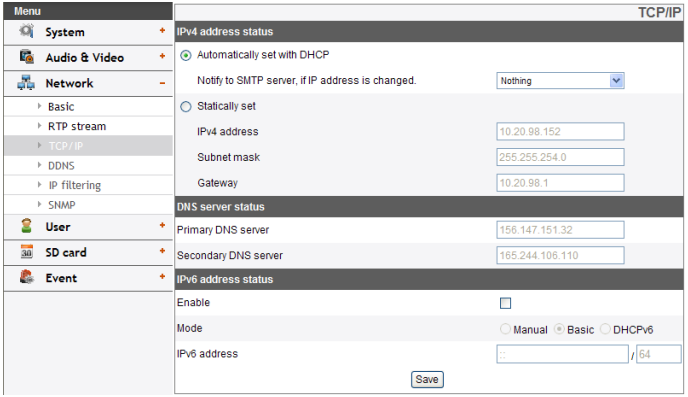
Each stream using multicast needs its own pair of multicast IP address and port numbers to avoid address conflict.

TTL

> TTL: This option indicates the Time-To-Live of multicast packets. The default setting is 7, and the allowed TTL range is from 1 to 255.

- Save: Click this button to confirm the settings.

TCP/IP



IPv4 address status

> Automatically set with DHCP: Select this option when a DHCP server is installed on the network to allow IP address assignment. With this setting, the IP address is assigned automatically.
  - Notify to SMTP server, if IP address is changed: If you select this option, the user get a notification mail telling about changing of IP of the IP device.

  Note:

  You should register the SMTP server on the Event server setting to set this function.

> Statically set: Select this option when you set a fixed IP address, with this setting, specify the IP address, Subnet mask and default gateway manually.
  - IPv4 address: Enter an IP address.
  - Subnet mask: Enter a subnet mask address.
  - Gateway: Enter the gateway address.

DNS server status

> Primary DNS server: Enter the Primary domain name server that translates the hostnames into IP address.

> Secondary DNS server: Enter the Secondary DNS server address that backups the Primary DNS.

- Save: Click this button to confirm the settings.

IPv6 address status

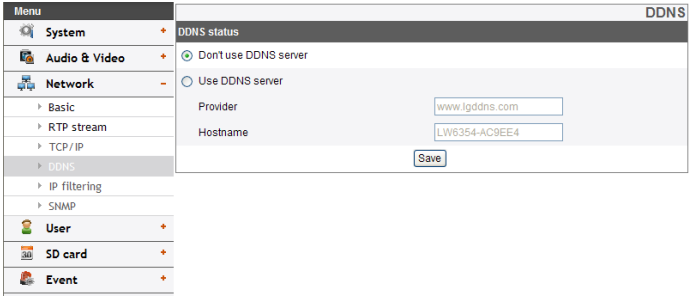
> Enable: Click the check box if you want to use the IPv6 address.

> Mode
  - Manual: Select this option when you set a fixed IP address manually.
  - Basic: Select this option to allow IPv6 address assignment based on the Mac address. With this setting, the IP address is assigned automatically.
  - DHCPv6: Select this option when exist a DHCPv6 server in network. If DHCPv6 server is not existed or temporary disability, it requests assignment every 3 minutes.

> IPv6 address: You can enter the IP address when you select the Manual mode. It alarms when you enter the invalid IP address.

DDNS

This free service is very useful when combined with the LG DDNS Server. It allows the user to connect the IP device using the URL, rather than an IP Address. This also solves the problem of having a dynamic IP address.



DDNS status

> Don't use DDNS server: Disable the DDNS function.

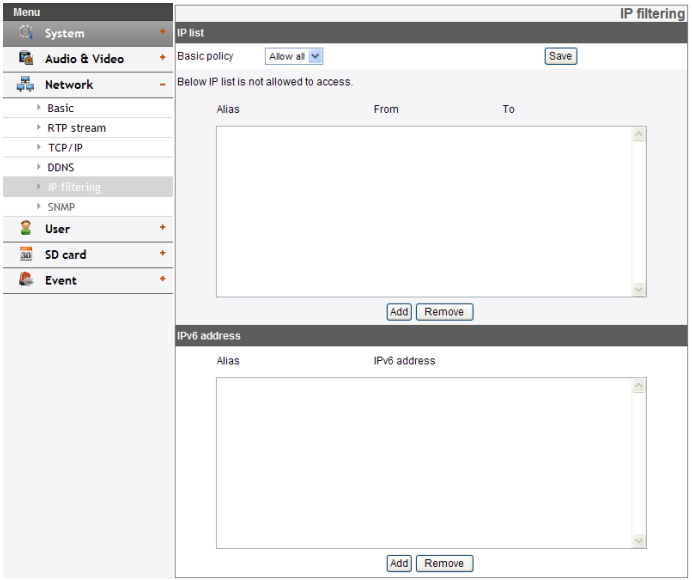
> Use DDNS server: Enable the DDNS function.

- Provider: Displays the DDNS provider.
- Hostname: Enter the hostname you want to use.

• Save: Click this button to confirm the settings.

IP filtering

The access of the IP addresses in the list are allowed or denied according to the choice made in the drop-down list of the Basic policy option. The administrator can add up to 10 IP address entries to the list (a single entry can contain multiple IP addresses). The users from these IP addresses need to be specified in the user list with the appropriate access rights. The IP list is to control the access permission of clients by checking the client IP address.



IP list

> Basic policy: Select the basic policy type.

- Allow all: Allow all the IP address basically, but the IP addresses in the list are denied.

- Deny all: Deny all the IP address basically, but the IP addresses in the list are allowed. It needs at least one IP address to activate this function.

- Save: Click this button to confirm the settings.
- Add: Click this button to add the IP address.
  1. Click the [Add] button.
  2. Set the IP options.
     - Alias: Enter the alias.
     - From: Enter the start IP address for the IP filtering.
     - To: Enter the end IP address for the IP filtering.

     Note:

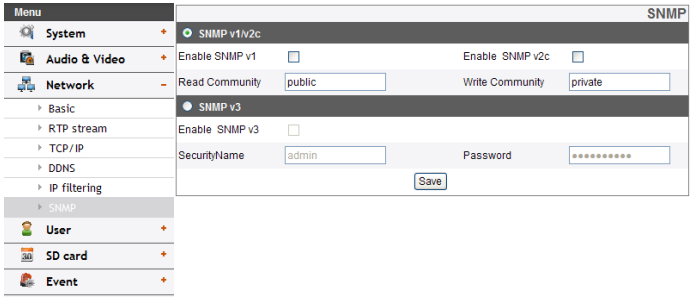
     If you want to deny or to allow a range of IP addresses, enter the start IP address to "From" and the end IP address to "To". You can also add an IP address by entering the same IP address to "From" and "To".
  3. Click the [Save] button.
  4. Repeat the steps 1 to 3 to add additional IP address.
- Remove: Click this button to delete the IP address.
  1. Select the alias from the list.
  2. Click the [Remove] button. The IP address will be deleted.

IPv6 address

- Add: Click this button to add the IP address.
  1. Click the [Add] button.
  2. Set the IP address option.
     - Alias: Enter the alias.
     - IPv6 address: Enter the IP address for IP filtering.
  3. Click the [Save] button.
  4. Repeat the steps 1 to 3 to add additional IPv6 address.
- Remove: Click this button to delete the IPv6 address.
  1. Select the alias from the list.
  2. Click the [Remove] button. The IPv6 address will be deleted.

SNMP

The Simple Network Management Protocol (SNMP) is an application protocol to exchange the management information of network devices.



SNMP v1/v2c

> Enable SNMP v1/v2c: Selects when SNMP is allowed access to this device.

> Read Community: Specifies the SNMP management community in which you want to read this system.

> Write Community: Specifies the SNMP management community in which you want to write this system.

SNMP v3

> Enable SNMP v3: Selects when SNMP v3 is allowed access to this device. It supports authentication and encryption.

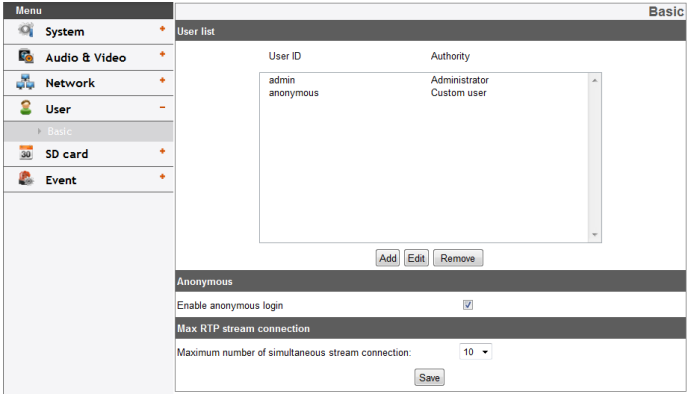
> SecurityName: Type the security name for the SNMP.

> Password: Type the password for the SNMP.

User settings

Basic

The IP device is shipped with the login rights of administrator only. If others need to access the IP device excluding the configuration a login with viewer rights need to be created. A maximum of 50 users can be created.



User list

> Add the User

You can register a new user with various access rights.

1. Click the [Add] button. User setting dialog is displayed.
2. Enter the new User ID and Password. (Should have a minimum of 4 characters and preferably a combination of alphanumeric.)
3. To confirm the password, retype the password that you typed in the Password box.
4. Select the authority from the drop down list to provide the access rights to each user and then click the [Save] to confirm your selection.
   - Administrator: Allows you to operate setup menus and to view live images.
   - Power user: Use of the limited functions of the system. (The Configuration menu is not allowed.) A power user can use the Live View, OSD control and audio functions.
   - Normal user: Provides the lowest level of access, Allows to view live images only.
   - Custom user: The user can login and view the live stream image only when the "Enable anonymous login" option is checked to enable it.

     Note:

     Remember the password.

> Edit the registered user

You can change the password or authority.

1. Choose the user ID and then click the [Edit] button.
2. Change the Password or Authority, then click the [Save] button to confirm your selection.

> Delete the registered user

1. Choose the user ID you want to delete.
2. Click the [Remove] button.

Note:

The default administrator user ID 'admin' and 'anonymous' are permanent and cannot be deleted.

Anonymous

> Enable anonymous login

Check the box to enable anonymous user login - allows the user access for only viewing the live stream image.

Maximum RTP stream connection

> Maximum number of simultaneous stream connection:

Set this number to limit the number of simultaneous stream connections.

The connections depend on the stream configuration as shown in the following Maximum RTP stream connection by stream configuration.

- LW332/LW335/LW6354/LW6324 Series

Video Codec	Resolution	Frame Rate	Quality	Maximum RTP stream
H.264	720p	30	HIGHEST	Up to 10
MJPEG	720p	20	HIGHEST	Up to 7

- LW342/LW345/LW6454/LW6424 Series

Video Codec	Resolution	Frame Rate	Quality	Maximum RTP stream
H.264	1080p	30	HIGHEST	Up to 5
H.264	1080p	30	MEDIUM	Up to 10
H.264	720p	30	HIGHEST	Up to 10
MJPEG	1080p	10	HIGHEST	Up to 3
MJPEG	720p	20	HIGHEST	Up to 7

- LW352/LW355 Series

Video Codec	Resolution	Frame Rate	Quality	Maximum RTP stream
H.264	2040x1536	20	HIGHEST	Up to 10
MJPEG	2040x1536	5	HIGHEST	Up to 7

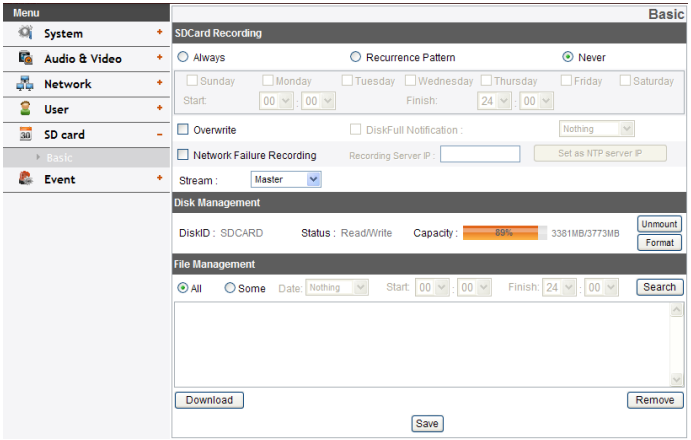
Note:

Preview window of the IP device setting and preset setting are affected by this setting.

- Save: Click this button to confirm the settings.

SD Card settings (Option)

Basic



SD Card Recording

> Always: Start the recording at once.

> Recurrence Pattern: The recording is started according to the setting time of the selected day.

Note:

You can not set the time for a day. It will start the recording for the selected day of the time.

> Never: [Always] and [Recurrence Pattern] recording functions are not activated.

> Overwrite: If the micro SD card has insufficient space and this option will be activated. It will overwrite the oldest data.

> DiskFull Notification: Sends an warning e-mail to the SMTP server when the micro SD card has fully recorded. Select the SMTP server from the drop-down list. You should register the SMTP server on the Event server setting to set this function.

> Network Failure Recording: Select the checkbox to activate the micro SD card recording function. If the system does not work with recording server, the system will record the data to the micro SD Card. When the system connect to the recording server again, the recorded data of the micro SD card will transfer to the recording server automatically.

> Recording Server IP: Enter the recording server IP.

> Set as NTP server IP: Click this button to use the entered Recording Server IP as the NTP server IP.

> Stream: Select the stream type for the recording.

Notes:

The recorded file name is made automatically as the "[Created date of the file]_[GMT Recording Time]+(-)[Value of the Local Time minus GMT Time (Second)]_[Use or not of the Daylight saving time(N/D)][Stream index][DeleteFlag].DAT" type.

Disk Management

> Using the micro SD card

1. Insert the micro SD card carefully to the micro SD card slot of the camera.
2. Click the [Mount] button. If the micro SD card is mounted to the system correctly, the [Mount] button will be changed to the [Unmount] button.
3. Displays the information of the[Disk ID], [Status], [Capacity] options.

Notes:

- When the micro SD card is mounted, you should format the micro SD card. After the micro SD card format is finished, you should click the [Mount] button to use it.
- When you use the micro SD card format function, it may not progress immediately. In this case, you should try it again after waiting a few minutes.

> Remove the micro SD card

1. Click the [Unmount] button. If the micro SD card is unmounted from the system correctly, the [Unmount] button will be changed to the [Mount] button.
2. Remove the micro SD card from the micro SD card slot of the camera.

Note:

When you use the Unmount function, it may not progress immediately. Operations such as recording of the system and reading of data are required stop time before the Unmount function is activated. You should try it again after waiting a few minutes.

File Management

Displays the recorded file of the micro SD card on the list. Click the [Search] button to display the recorded file. The list will be updated when you click the [Search] button.

> To view the recorded file of the micro SD card

1. Select the search option.
   - All: Search the all recorded files in the micro SD card.
   - Some: You can set the search condition by using the date and time options.
2. Click the [Search] button and then the search result is displayed on the list.

> Download: You can download the recorded data of the list to your PC. Select a recorded file on the list and click the [Download] button. The two confirmation window is displayed. You should download the all files that the recorded file(*.DAT) and information file(*.INFO).

Notes:

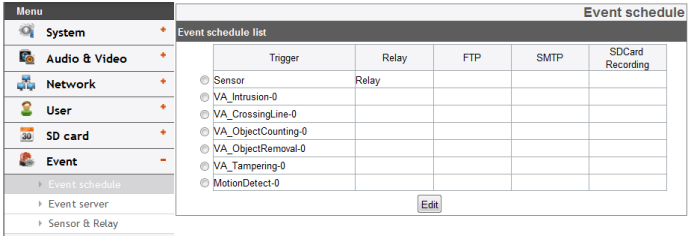
- It is recommended to deactivate the [Overwrite] function before you download the file. When [Overwrite] function is activated, the downloading file might be overwritten, if the micro SD card has insufficient space.
- The downloaded file can be played by using the LG File player.

> Remove: Delete file from the SD card.

Event settings

Event schedule

When an event (VA/ Motion detect/ Sensor Event) occurs, this unit records the live images and routes as configured.



Event schedule list

> To edit the Event Schedule

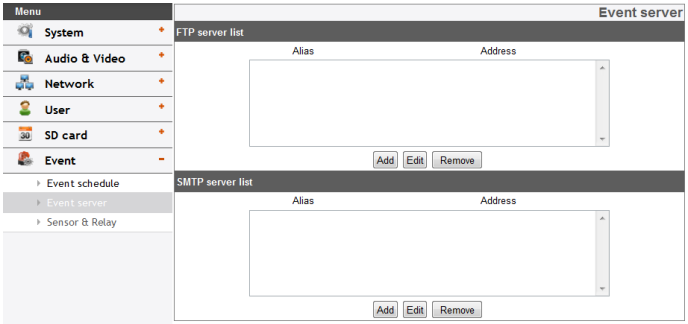
1. Select the Trigger event and click the [Edit] button. Event schedule window is displayed.
2. Set the options.
   - Trigger: Displays the selected trigger event.
   - Time: Sets the weekday, Start, Finish, Pre alarm, Post alarm and Ignore interval time options.
   - Action: Selects the options. This occurs when the event runs.
     - FTP server/SMTP server: Uploading of images to an FTP server, or e-mail notification.
     - Control relay: The relay is activated or deactivated.
     - SDCard recording(Option): Record on the SD card when the event runs.
   - Stream: Selects the stream of the connected camera.
   - Programmable Alarm: When the sensor event is activated, the camera will start the recording with the setting value of these options. Using this function, you can get high quality recorded image.
     1. Click the check box if you want to activate this function.
     2. Sets the options.
3. Click the [Save] button to confirm the settings.

Note:

- You should register the SMTP and FTP server on the Event server setting to set this function.
- Recording of event(VA/Motion detect/Sensor event) runs every 5 minutes split file.
- If the capacity of the SD card remains less than 200 MB, stop recording or overwrite new file after delete old one as [Overwrite] setting. The overwritten file can not play or may malfunction when you download.
- Recorded file on the SD card, is recording 1 frame per second when set video codec to MJPEG.

Event Server

Event Servers are used to receive the recorded video clip and/or notification messages.



FTP server list

Image files can be transferred to the FTP server within the scheduled time. Image file that has been recorded linked to an external event is sent to the FTP server periodically.

> To add the FTP server

1. Click the [Add] button. FTP server setting window is displayed.
2. Set the FTP server options.
   - Alias: Type the FTP Server name to upload the image files.
   - Address: Enter the FTP server's IP address.
   - Port: Enter the port number. The default FTP port is 21.
   - User ID: Type the user name for the Folder shared in the FTP server.
   - Password: Type the password for the folder shared in the FTP Server.
   - Folder: Type the path with the folder that is shared in the FTP server.
   - Test: Select [Test] to test the FTP server.
3. Click the [Save] button to confirm the settings.

> To edit the FTP server

1. Choose the FTP server in the FTP server list.
2. Click the [Edit] button.
   You can check or edit the FTP server options.

> To delete the FTP server

1. Choose the FTP server in the FTP server list.
2. Click the [Remove] button. This would remove the FTP server from the list.

SMTP server list

By selecting the e-mail option, a still image of the event is captured and an e-mail with the attached image file is sent to the specified mail address.

> To add the SMTP server

1. Click the [Add] button. SMTP server setting window is displayed.
2. Set the SMTP server options.
   - Alias: Enter the SMTP server name.
   - User ID: Enter the user ID of the SMTP server. This would be the one who owns the mail account.
   - Password: Enter the password of the SMTP server.
   - Address: Enter the SMTP server address.
   - Port: Enter the port number. The default port is 25.

- Enable SSL: Check when use the SSL (Secure Socket Layer) protocol. SSL protocol is cryptographic protocols that provide secure communication on a network.
- Receiving address: Type the recipients e-mail address. You can specify only one recipient e-mail address.
- Administrator address: Type the e-mail address of the administrator.
- Subject: Enter the subject/title of the e-mail.
- Message: This message can describe the information of the acquired IP address, etc.
- Test: Select [Test] to test the SMTP server.

3. Click the [Save] button to confirm the settings.

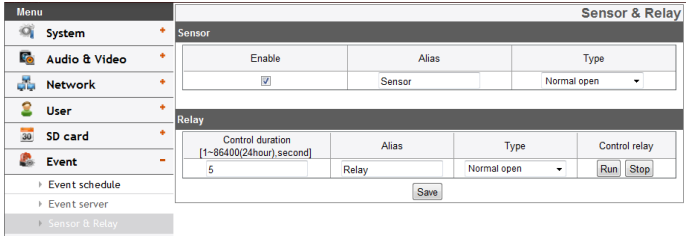
> To edit the SMTP server

1. Choose the SMTP server in the SMTP server list.
2. Click the [Edit] button.
   You can check or edit the SMTP server options.

> To delete the SMTP server

1. Choose the SMTP server in the SMTP server list.
2. Click the [Remove] button.

Sensor & Relay



Sensor

> Enable: Marks up when you want to activate the sensor.
> Alias: Displays the sensor name.
> Type: Select the sensor type.

Relay

> Control duration: Enter the relay time.
> Alias: Displays the relay name.
> Type: Select the relay type.
> Control relay
  - Run: Click to activate the relay.
  - Stop: Click to stop the relay.

- Save: Click this button to confirm the settings.

OSD Menu Setup

The following table shows the list of menu items and options.
These options are depending on models.
The OSD images are different from each model.

Main Menu	Sub Menu	Contents	
EXPOSURE	ELC/ALC, ALC2 (LW355/ LW352 only)	WDR/BLC	OFF/WDR/BLC/HSBLC
		BRIGHTNESS	0 to 100
		AGC	OFF/LOW/MIDDLE/HIGH
		SHUTTER	The option depends on the model.
		SENS-UP	OFF
			AUTO
		EXIT	RET/TOP/END
WHITE BAL	ATW	-	
	AUTO	-	
	AWC➡PUSH	-	
	MANUAL	COLOR TEMP	INDOOR, OUTDOOR
		RED	-100 to 100
		BLUE	-100 to 100
		EXIT	RET/TOP/END

DAY/NIGHT	AUTO	LEVEL	LOW/ MIDDLE/ HIGH	
		DWELL TIME	The option depends on the model.	
		EXIT	RET/TOP/END	
	DAY	-		
	NIGHT	-		
3D-DNR	OFF	-		
	LOW	-		
	MIDDLE	-		
	HIGH	-		
PRIVACY	OFF	-		
	ON	COLOR	RED	0 to 255
			GREEN	0 to 255
			BLUE	0 to 255
			EXIT	RET/TOP/ END
		TRANSPARENCY	0 to 16	

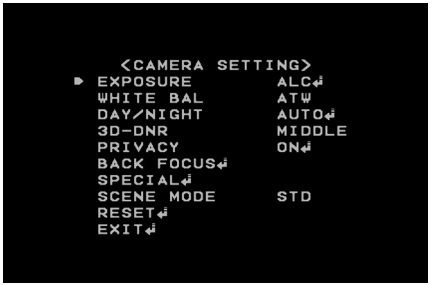
		RECTANGLE	MASK NUMBER	AREA1 to AREA8
			RECT. DISPLAY	ON/OFF
			HEIGHT	4 to 100
			WIDTH	4 to 100
			MOVE Y	2 to 98
			MOVE X	2 to 98
			EXIT	RET/TOP/ END
PRIVACY	ON	CIRCLE	MASK NUMBER	AREA1 to AREA2
			CIR. DISPLAY	ON/OFF
			HEIGHT	1 to 15
			WIDTH	1 to 15
			MOVE Y	0 to 100
			MOVE X	0 to 100
			RADIUS SIZE	0 to 100
			EXIT	RET/TOP/ END
		POLYGON	MASK NUMBER	AREA1 to AREA2
			POLY. DISPLAY	ON/OFF
			POLYGON DRAW	-
			POLYGON MOVE	-

			EXIT	RET/TOP/ END
		EXIT	RET/TOP/END	
BACK FOCUS	MANUAL ADJUST	-		
	ABF PUSH	-		
	FOCUS RESET	-		
	D/N ABF	OFF/ON		
	EXIT	RET/TOP/END		
SPECIAL	D-ZOOM	OFF		
		ON	ZOOM	
			PAN	
			TILT	
			EXIT	
	D-EFFECT	OFF/ V-FLIP/ MIRROR/ ROTATE		
	SHARPNESS	0 to 68		
	COLOR	OFF/ ON		
	PIP	OFF		
		ON	WINDOW MOVE	
			IMAGE MOVE	
			IMG SIZE	
			EXIT	
	STABILIZER	OFF/ ON		
	USER TITLE	OFF/ ON		

	LANGUAGE	The option depends on the model.
	EXIT	RET/TOP/END
SCENE MODE	STD	-
	BKLT	-
	LOWLIT	-
	OUTDOOR	-
	INDOOR	-
	TRAFFIC	-
	USER	-
RESET	CAMERA REBOOT	-
	FACTORY RESET	-
	EXIT	RET/TOP/END
EXIT	-	-

General Operation

1. Click the [OSD control] button on the LG Smart Web Viewer.
2. Click ↵ button on the OSD control window.
   The camera setting menu appears on the live view window.

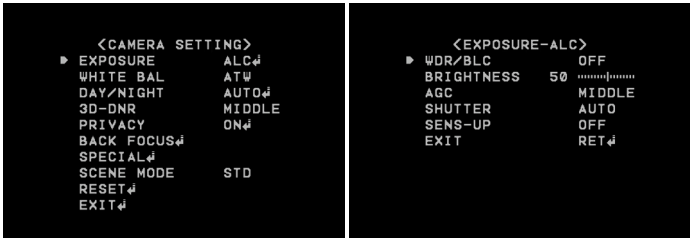


3. Use ↑ or ↓ button to select an option then click ↵ button. Submenu appears.
4. Use ↑ or ↓ button to select a submenu option.
5. Use ← or → button to select a value.
6. Select [EXIT] option then click ↵ button to exit the setup menu. In the submenu, use ↑ or ↓ button to select the [EXIT] then use ← or → button to select a mode and click ↵ button to exit the setup menu.
   - RET: Return to the previous.
   - TOP: Return to the CAMERA SETTING menu screen.
   - END: Exit the setup menu.

Notes:

- button: Used to move upper direction on the menu screen.
- button: Used to move lower direction on the menu screen.
- button: Used to increase the value selected in the menu.
- button: Executes selections and displays a submenu for an item with the mark.

Exposure settings



You can set the exposure options using the EXPOSURE menu.

1. Select [EXPOSURE] option on the [CAMERA SETTING] menu.
2. Use or button to select a mode.
3. Press button and the EXPOSURE menu appears.

Notes:

- ELC Mode is right for outdoor scenes.
- ALC Mode is right for indoor scenes.

WDR/BLC

Use WDR/BLC option to view the object clearly in backlight conditions.

1. Select [WDR/BLC] option on the [EXPOSURE] menu.
2. Use or button to select a mode then click button.
   - WDR: WDR (Wide dynamic range) feature can be very helpful to cope with very challenging lighting conditions. It is capable of capturing both of the dark part and bright part and combining the differences into a scene to generate a highly realistic image as original scene. Set the WDR limit.
     > ACE (Adaptive Contrast Enhancement) : This function is used when you want to display dark areas of WDR brightly.
   - BLC: Camera's backlight compensation feature helps alleviate issues of visibility in high contrast areas. Set the BLC limit.
   - HSBLC: Use for masking brightness of the specific area to view the subject more clearly. The HSBLC mode is automatically activated only in low luminance scene.
     > AREA SETTING: Use or button to select area then use or button to select [ON] or [OFF]. Click button to exit the area setting menu.
     > GRAY SCALE: Use or button to select a gray scale.
     > USER SCALE: Use or button to select a bright level.
     > MASK: Use or button to select [ON] or [OFF].
     If you set the MASK to ON, the mask function is activated only when the HSBLC is activated by auto mode.
     - OFF: Not in use.

BRIGHTNESS

You can increase the brightness of the darkened video. If you set the brightness to lower value, the image gets darkened. If you set the brightness to higher value, the image gets bright.

1. Select [BRIGHTNESS] option on the [EXPOSURE] menu.
2. Use ← or → button to set the bright level.

AGC (Automatic Gain Control)

If the images are too dark, change the maximum [AGC] value to make the images brighter.

1. Select the [AGC] option on the [EXPOSURE] menu.
2. Use ← or → button to select a mode.

SHUTTER (Shutter Speed)

Select the desired shutter speed for camera exposure. You can change the shutter speed to higher speed to capture fast-moving subjects, though the image becomes darker.

1. Select [SHUTTER] option on the [EXPOSURE] menu.
2. Use ← or → button to set shutter speed.

Note:

If you set the shutter speed value in ALC2 mode, it is maximum value. When the camera is activated with ALC2 mode, the shutter speed is arrived maximum value and then the camera is change to iris control mode automatically for the camera exposure.

The anti-flicker shutter is activated with ALC mode only.

SENS-UP

If pictures are not clear due to darkness, this SENS-UP operation would increase the sensitivity of picture.

1. Select [SENS-UP] option on the [EXPOSURE] menu.
2. Use ← or → button to select a mode.
   - AUTO: Adjust the sensitivity of the picture automatically.
     > SENS-UP LIMIT: Use ← or → button to set the SENS-UP limit.
     > EXIT: Select a mode and click ↵ button to exit the menu.

Note:

If you set to one of the SHUTTER options except AUTO on the [SHUTTER] menu or [AGC] to [OFF], the [SENS-UP] setting is not available and [---] mark is displayed.

White Balance settings

Select the method by which the camera shifts its output colors to compensate for the color of a light source.

1. Select the [WHITE BALANCE] option.
2. Use ← or → button to select a mode then click ↵ button.
   - ATW (Auto-Tracing White Balance): In this mode, white balance has better coverage than auto. Proper white balance may not be obtained under the following conditions:
     > When the scene contains mostly high color temperature objects, such as a blue sky or sunset.
     > When the scene is dim.
   - AUTO: You can set the white balance options automatically.
   - AWC ➡ PUSH: If you select the AWC ➡ PUSH mode, you will be able to set up the White Balance automatically using ↵ button.
   - MANUAL: You can set the white balance options manually.
     > COLOR TEMP: Use ← or → button to select a function.
       - INDOOR: The color temperature range for the proper white balance is approximately 3 200 K.
       - OUTDOOR: The color temperature range for the proper white balance is approximately 5 100 K.
     > RED: Set the desired red value.
     > BLUE: Set the desired blue value.

Day/Night settings

1. Select [DAY/NIGHT] option.
2. Use ← or → button to select a mode for DAY/NIGHT function.
   - AUTO: DAY/NIGHT mode changes automatically.

     Note:

     If you set the AGC to [OFF] on the [EXPOSURE] menu, the AUTO mode of the DAY/NIGHT function is not available and [---] mark is displayed.
     > LEVEL: Use ← or → button to select a level.
     > DWELL TIME: Use ← or → button to select a dwell time.
   - DAY: Color mode enabled.
   - NIGHT: Black-and-white mode enabled.

3D-DNR setting

1. Select [3D-DNR] option.

   If pictures are not clear due to noise, this option would reduce the noise of picture.

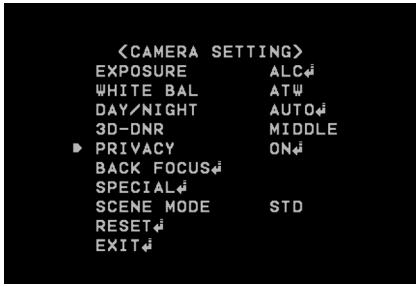
2. Use ← or → button to select an option.

Notes:

- If you set the AGC to [OFF] on the [EXPOSURE] menu, the [3D-DNR] function is not available and [---] mark is displayed.
- When you use this function, the afterimage may occur.

Privacy setting

This function is aiming at the protection of personal privacy. The selected part is not displayed on the screen.



1. Select the [PRIVACY] option.
2. Use ← or → button to select [ON] and press ↵. The PRIVACY SETUP menu appears.
   - COLOR : You can make any color by adjusting R.G.B LEVEL.
   - TRANSPARENCY : You can adjust the transparency of MASK.
   - RECTANGLE :
     > Use ← or → button to select a mask on the [MASK NUMBER].
     > Use ← or → button to set up the [ON] or [OFF] on the RECT. DISPLAY option.
     > Use ↑ or ↓ to select an option then use ← or → button to adjust the option.
       - HEIGHT: Increase or decrease the vertical size of the mask.
       - WIDTH: Increase or decrease the horizontal size of the mask.

- MOVE Y: Moves vertical position of the mask.
- MOVE X: Moves horizontal position of the mask.

• CIRCLE :

> Use ← or → button to select a mask on the [MASK NUMBER].

> Use ← or → button to set up the [ON] or [OFF] on the CIR. DISPLAY option.

> Use ↑ or ↓ to select an option then use ← or → button to adjust the option.

- HEIGHT: Increase or decrease the vertical size of the mask.
- WIDTH: Increase or decrease the horizontal size of the mask.
- MOVE Y: Moves vertical position of the mask.
- MOVE X: Moves horizontal position of the mask.
- RADIUS SIZE : You can adjust the RADIUS SIZE.

• POLYGON :

> Use ← or → button to select a mask on the [MASK NUMBER].

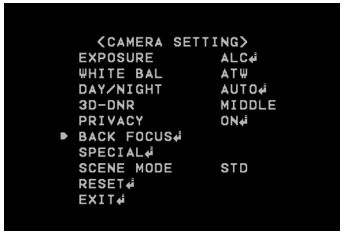
> Use ← or → button to set up the [ON] or [OFF] on the POLY. DISPLAY option.

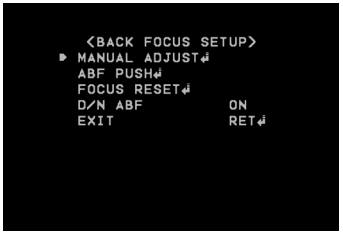
> Use the ←, →, ↑, ↓ and ↵ buttons to draw the polygon by moving each vertex on the [POLYGON DRAW]. Each movable vertex will be displayed as a black square spot each time you click the ↵ button.

> Use the ←, →, ↑, ↓ and ↵ buttons to move the polygon on the [POLYGON MOVE].

Back Focus Setting

The back focus function is activated automatically according to your setting. And also, when the Day&Night function is activated, the Back Focus function is activated automatically.





MANUAL ADJUST

You can adjust the back focus manually.

1. Select the [MANUAL ADJUST] option on the [BACK FOCUS] menu and then click ↵ button.
2. Use ← or → button to adjust the focus point then click ↵ button to exit the menu.

ABF ADJUST

You can adjust the back focus automatically.

1. Select the [ABF ADJUST] option on the [BACK FOCUS] menu and then click ↵ button. This function will be activated automatically to adjust the back focus.
2. When the focus setting is finished, click ↵ button to return to the previous menu.

FOCUS RESET

Reset the focus point to factory default position.

Select the [FOCUS RESET] option on the [BACK FOCUS] menu and then click ↵ button. The screen will be dim.
Use the [Manual Adjust] or [ABF push] option to adjust the focus.

Note:

You can reset the focus using the ABF button. When you keep pressing ABF button about 4 seconds, the camera will reset the focus.

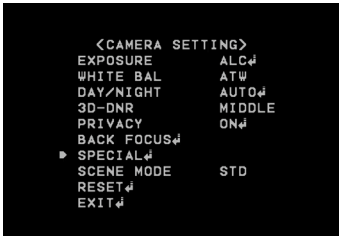
D/N ABF

You can set the Day&Night function with ABF function.

Use ← or → button to select a option.

- ON: If you set to On, the ABF function will be activated automatically when the D/N function is activated.
- OFF: Not used.

Special menu settings



Note:

If the video image size is 4:3 mode, the D-ZOOM, D-EFFECT, PIP and STABILIZER function is not activated for LW352 and LW355 models.

D-ZOOM

You can select the digital zoom level.

1. Select [D-ZOOM] option on the [SPECIAL] menu.
2. Use ← or → button to select [ON] then click ↵ button. When you set to ON, the displayed image can be shaking.
3. Use ↑ or ↓ button to select an option then use ← or → button to select a level.
   - ZOOM: Use ← or → button to enlarge the screen.
   - PAN: Use ← or → button to move the screen. (left or right)
   - TILT: Use ← or → button to move the screen. (up or down)

D-EFFECT (Digital effect)

You can select the digital effect.

1. Select the [D-EFFECT] option on the [SPECIAL] menu.
2. Use ◄ or ► button to select a digital effect.
   - V-FLIP: Flip the picture vertically.
   - MIRROR: Turn on the mirror effect.
   - ROTATE: Rotate the picture. (180°)
   - OFF: Turn off the digital effect.

SHARPNESS

The degree to which the boundary of the two portions is clearly distinguished.

1. Select the [SHARPNESS] option on the [SPECIAL] menu.
2. Use ◄ or ► button to adjust the option. If you set the sharpness value to higher, the image outline becomes sharp. If you set to lower value, the image outline becomes dim.

COLOR

You can switch the displayed picture to gray scale or color.

1. Select the [COLOR] option on the [SPECIAL] menu.
2. Use ◄ or ► button to change a color effect.
   - ON: To display the picture with color.
   - OFF: To display the picture with grayscale.

PIP (Option)

You can view an image in PIP(picture in picture) mode.

1. Select the [PIP] option on the [SPECIAL] menu.
2. Use ◄ or ► button to select [ON] then click ↵ button. The PIP window is displayed on the live window.
   - WINDOW MOVE : The PIP window can be moved through the live image window using ◄, ►, ▲ and ▼ buttons.
   - IMAGE MOVE : You can view the special area image on the PIP window. Use ◄, ►, ▲ or ▼ button to view the live image of the special area.
   - IMG SIZE: Use ◄ or ► button to enlarge or reduce the size of image on the PIP window. This function is activated with digital zoom function.

STABILIZER

The image stabilizer function minimizes the appearance of shaky images caused by low-frequency vibration. This function is useful for outdoor surveillance.

Select the [STABILIZER] option and set to ON or OFF.

Note:

If you set the [STABILIZER] to ON, the Digital zoom is set to [x1.1] automatically.

USER TITLE

You can use the camera identification to assign a number and character to the camera.
To disappear the user title, select [OFF].

1. Select the [USER TITLE] option on the [SPECIAL] screen.
2. Use ← or → button to select [ON] then click ↵ button. The USER TITLE menu appears.

3. Use ↑, ↓, ← or → button to select a character or number then click ↵ button.
   - CLR: Clear all entered characters and numbers.
   - POS: Move the USER TITLE position on the screen using the arrow buttons.
   - END: Confirm your selection or exit the setting.
   - 1 (Blank): Insert a space at the cursor position.
   - ← / →: Moves cursor to left or right.

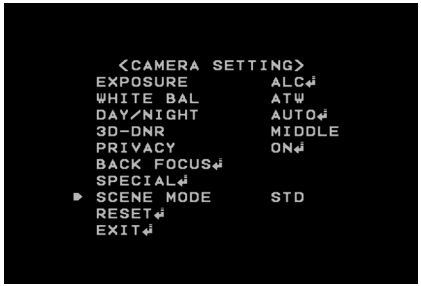
LANGUAGE

Select the viewer language for the camera setup menu and OSD information display.

1. Select the [LANGUAGE] option on the [SPECIAL] screen.
2. Use ← or → button to select the language.

SCENE mode setting (Option)

You can set value installed camera environment properly using this function. Several configuration value is set automatically to select option.



- STD: Settings general environment .
- BKLT: WDR set automatically to see the subject clearly under the backlight condition.
- LOWLIT: Increase the Gain and set SENS-UP function to see the subject cleary under the low light condition.
- OUTDOOR: Change to the ELC mode not to decrease definition under too light condition. And decrease Brightness valuse slightly prevent to video of supersaturation.
- INDOOR: Condition of light set automatically to match indoor environment.
- TRAFFIC: Set shutter speed fast to apprehend traffic information and status.
- USER: If user change each value of function, save the changes.

Notes:

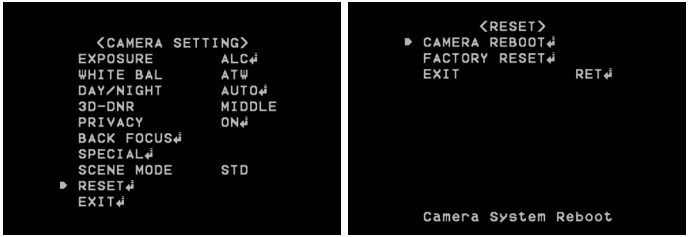
- Set each value of option as selected option on the [SCENE MODE] like as below table.

OPTION	STD	BKLT	LOWLIT	OUTDOOR
Shutter speed	AUTO	AUTO	AUTO	AUTO
AGC	MIDDLE	MIDDLE	HIGH	MIDDLE
White Balance	ATW	ATW	ATW	ATW
WDR/BLC	OFF	WDR	OFF	OFF
3D-DNR	MIDDLE	MIDDLE	MIDDLE	MIDDLE
DAY/NIGHT	AUTO	AUTO	AUTO	AUTO
ACE	-	OFF	-	-
SHARPNESS	34	34	34	34
BRIGHTNESS	50	50	50	45
SENS-UP	OFF	OFF	AUTO x10	OFF
EXPOSURE	ALC or ALC2 (LW352/ LW355 series only)	ALC	ALC	ELC or ALC2 (LW352/ LW355 series only)

OPTION	INDOOR	TRAFFIC	USER
Shutter speed	AUTO	Manual(1/120)	-
AGC	MIDDLE	HIGH	-
White Balance	Manual (Indoor)	ATW	-
WDR/BLC	OFF	OFF	-
3D-DNR	MIDDLE	MIDDLE	-
DAY/NIGHT	AUTO	AUTO	-
ACE	-	-	-
SHARPNESS	34	34	-
BRIGHTNESS	50	50	-
SENS-UP	OFF	OFF	-
EXPOSURE	ALC	ALC	-

- Value of [SCENE MODE] is not initialized even the reboot system. If you set to [STD], the defaut value of [SCENE MODE], run factory reset.
- If you use not DC Iris lens but Manual Iris lens, must set ELC mode on the [EXPOSURE] option. In this case, value of [SCENE MODE] set to [USER] automatically.

Reset setting



1. Select the [RESET] option.
2. Click ↵ button and the RESET menu appears.
3. Use ↑ or ↓ button to select option.
   - CAMERA REBOOT: Reboot the camera system.
   - FACTORY RESET: Clear certain settings and information and return to factory default settings.
4. Click ↵ button to confirm your selection.

Reference

Troubleshooting

This section provides useful information to help you to resolve any difficulty you might have with your LG IP device. Fault symptoms, possible causes and remedial actions are provided here.

IP Setting problems

- ARP/Ping: Disconnect and reconnect the power to the network camera. The device should get the IP within 2 minutes.
- Ping your camera: Open the command prompt on your computer, type ping with the IP address of the network device. The reply obtained by this command provides explanation for the cause of the problem.
    1. bytes = 32 time = 2 ms indicates that the IP address is already used and cannot reuse the same. A new IP address needs to be obtained.
    2. Destination host unreachable: indicates that the network device and your computer do not fall in the same subnet hence needs to get a new IP address. Contact the system administrator for the required help.
    3. Request timed out: Indicates that the IP is free as it is not used by anyone and the network device can obtain this.
- IP Conflicts: If the LG network device is set with a static IP address and if the DHCP option is set then there may be IP's same as the network device and other network partner. Hence set the static IP address to 0.0.0.0 to resolve this conflict.

Cannot access the camera from browser:

- Reconnect the network camera with power and check the ping operation to know if the IP is used by others.
- Disable the proxy setting in the Browser if you are using a proxy server.
- Check for proper cabling and network connections, try to ping after verifying the connectivity.
- Sometimes when HTTPS is enabled, we would be checking the URL with http, in this case manually change the URL to the http/https accordingly.
- Verify the DNS and Gateway settings if the IP address is assigned statically to the network device.

Accessing camera external to the local network

- Firewall Protection: Check for the internet firewall with the system administrator, either he has to do port forwarding or modify the DMZ function on the router.
- Default router needed: Check if you need configure the router settings.

Sporadic network performance

- Network Switches or hubs used may be of the lower configuration and the load on this may not meet the required conditions of our network camera.
- Check for the RJ-45 cables that are used for the network connectivity.
- If POE is used check if the power is got by the network camera when connected to it.

Login Password lost

- Reset the camera by pressing the Reset button for more than 3 seconds to restore default settings.
- After the factory settings login using the default user name and password.

Video Streaming problems

- If the video streaming does not start on the Web browser, install the LG Web Client ActiveX program on your computer following the instructions on the Web browser.
- When Windows IE browsers are used always take care to allow pop ups, check this option before we run the web client.
- Check the quality of image by referring the video settings as described in the manual.
- Sometimes there would be intermittent or very slow video streaming, this may be because of the higher resolution and frame rate that are set for the video.
- The video streaming may appear poor at times, this may be because of the network traffic ,too many devices connected to the switch or hub, enabling motion detection to each of the video streams and because of other programs running on your computer.
- If the images appear to be blurred adjust the focus of the network camera to get a clear image.
- Video images if appear white and black adjust the settings in the OSD to get back the colorful image.
- Select the Night mode if the network camera is connected at a place where surrounding light is less or dark.

- If we obtain lower frame rate than set we need to check from the system administrator for sufficient bandwidth available or reduce the number of applications running on the client computer.
- If the client PC's are unable to access the multicast stream, check with the system administrator for the use of a valid multicast address or check if the router is supporting multicasting.
- If the images appear to have white of gray stripes on it, upgrade the Video graphics driver on the client PC to the latest version.
- Video images may be noisy if you are using the camera in a very low light environment or the bit rate/quality is set to very low values. Provide higher values for quality and support the surrounding environment with enough light.

Audio condition

The client computer that is interacting with the camera needs to have a sound card that is functional to support speaker and microphone.

The sound card needs to be checked for its support for full duplex communication.

Ensure that the mute button of the client computer is not set and all the audio settings are correct.

Speaker button on the web viewer should be enabled to listen the audio from the network camera.

Ensure that the bidirectional audio button is enabled on the Web viewer and the microphone is set.

Change the input and the output gain for microphone and the speaker respectively to set correct audio level.

For all further support please contact the supplier or forums or websites.

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Specifications

LW332/LW335/LW6324/LW6354 Series

Item		LW332	LW335	LW6324	LW6354
Image Device		6 mm (1/3 type) Progressive Scan CMOS (1.3 Mega Pixels)			
Lens Type		DC-Iris, CS Mountable (Optimization of 6 mm (1/3 type) Lens of 1.3 Mega Pixels or above)		F1.2 Varifocal Lens (2.8 mm to 10 mm)	
Day/Night		ICR			
Minimum Illumination	Color	0.3 lx (F1.2, Gain : High)			
	B/W	0.005 lx (F1.2, Gain : High)			
WDR		Support			
Image Enhancement		Backlight Compensation, 3D-DNR, Exposure Control, Sens Up Control, AGC, White Balance, Privacy Masking, EIS, Sharpness, Digital Zoom			
Resolution (Maximum)		Up to 1 280 x 1 024			
Output		RJ-45 (Network), RCA (Installation)		1 RCA Output	
Frame Rate (Maximum)		30 fps @ 1 280 x 1 024 (4:3 mode), 1 280 x 720 (16:9 mode)			
Compression		H.264, MJPEG			
Multi-Streaming		Dual Streaming			
Audio In/Out		1/1 (Line level input / output)			
Audio Compression		G.711, G.726			
2-way Audio		Support			
Motion detection		Support			
Event Notification		Relay Out, Email, FTP			

VA	Intruder detection	Not support	Support	Not support	Support
	Crossing Line	Not support	Support	Not support	Support
	Object Removal	Not support	Support	Not support	Support
	Object Counting	Not support	Support	Not support	Support
	Tampering	Not support	Support	Not support	Support
Integrated Client		LG Ipsolute VMS			
System Update		LG Ipsolute VMS or Web Client			
Connections		Up to 10			
Security		Password Protection, HTTPS(SSL, TLS)			
Ethernet		10/100 Ethernet			
Protocol	IPv4 and IPv6	TCP/IP, UDP, HTTP, HTTPS, RTP, RTSP, DHCP, ICMP			
	IPv4	FTP, SMTP, NTP, ARP, SNMP v1/v2c/v3, DDNS(LG)			
Operation Temp/Humidity		-10 ºC to 50 ºC / 0 % RH to 80 % RH			
Power Source		PoE (IEEE 802.3af), DC 12 V (±20 %)			
Power Consumption		6.5 W	7.6 W	6.5 W	7.6 W
Input current	DC 12V	Maximum 480 mA	Maximum 550 mA	Maximum 480 mA	Maximum 550 mA
	PoE	Maximum 170 mA	Maximum 200 mA	Maximum 170 mA	Maximum 200 mA
Dimension		57.2 mm x 68 mm x 149 mm		200 mm x 141 mm	
Weight		508 g		1.4 kg	

Item		LW342	LW345	LW6424	LW6454
Image Device		6.49 mm (1/2.8 type) Progressive Scan CMOS (2 Mega Pixels)			
Lens Type		DC-Iris, CS Mountable (Optimization of 6.49 mm (1/2.8 type) Lens of 2 Mega Pixels or above)		F1.4 Varifocal Lens (3 mm to 9 mm)	
Day/Night		ICR			
Minimum Illumination	Color	2 lx (F1.4, Gain : High)			
	B/W	0.1 lx (F1.4, Gain : High)			
WDR		Support			
Image Enhancement		Backlight Compensation, 3D-DNR, Exposure Control, Sens Up Control, AGC, White Balance, Privacy Masking, EIS, Sharpness, Digital Zoom			
Resolution (Maximum)		Up to 1 920 x 1 072			
Output		RJ-45 (Network), RCA (Installation)		1 RCA Output	
Frame Rate (Maximum)		30 fps @ 1 080p (1 920 x 1 072)			
Compression		H.264, MJPEG			
Multi-Streaming		Dual Streaming			
Audio In/Out		1/1 (Line level input / output)			
Audio Compression		G.711, G.726			
2-way Audio		Support			
Motion detection		Support			
Event Notification		Relay Out, Email, FTP			

VA	Intruder detection	Not support	Support	Not support	Support
	Crossing Line	Not support	Support	Not support	Support
	Object Removal	Not support	Support	Not support	Support
	Object Counting	Not support	Support	Not support	Support
	Tampering	Not support	Support	Not support	Support
Integrated Client		LG Ipsolute VMS			
System Update		LG Ipsolute VMS or Web Client			
Connections		Up to 10			
Security		Password Protection, HTTPS(SSL, TLS)			
Ethernet		10/100 Ethernet			
Protocol	IPv4 and IPv6	TCP/IP, UDP, HTTP, HTTPS, RTP, RTSP, DHCP, ICMP			
	IPv4	FTP, SMTP, NTP, ARP, SNMP v1/v2c/v3, DDNS(LG)			
Operation Temperature/Humidity		-10 ºC to 50 ºC / 0 % RH to 80 % RH			
Power Source		PoE (IEEE 802.3af), DC 12 V (±20 %)			
Power Consumption		6.9 W	8 W	6.9 W	8 W
Input current	DC 12 V	Maximum 500 mA	Maximum 580 mA	Maximum 500 mA	Maximum 580 mA
	PoE	Maximum 180 mA	Maximum 210 mA	Maximum 180 mA	Maximum 210 mA
Dimension		57.2 mm x 68 mm x 149 mm		200 mm x 141 mm	
Weight		508 g		1.4 kg	

ITEM			LW352	LW355
Camera	Image Device		6.49 mm (1/2.8 type) Progressive Scan CMOS (3.0 Mega Pixels)	
	Lens		DC-Iris, CS Mountable (Optimization of 6.49 mm (1/2.8 type) Lens of 3 Mega Pixels or above)	
	Illumination	Color	0.4 lx (F1.2, Gain : High)	
		B/W	0.005 lx (F1.2, Gain : High)	
	Resolution		Up to 2 040 x 1 536	
	Day/Night		ICR	
	WDR		Support	
	Image Enhancement		Backlight Compensation, 3D-DNR, Exposure Control, Sens Up Control, AGC, White Balance, Privacy Masking, EIS, Sharpness, Digital Zoom	
Video	Video Out		RJ-45 (Network), RCA (Installation)	
	Compression		H.264, MJPEG	
	Frame Rate (Maximum)		20 fps @ 2 040 x 1 536, 1 280 x 1 024 30 fps @ 1 920 x 1 080, 1 280 x 720	
	Multi-Streaming		Dual Streaming	
Audio	Audio In/Out		1/1 (Line level input / output)	
	Compression		G.711, G.726	
	2-way Audio		Support	
Event	Alarm In/Out		1/1	
	Motion Detection		Support	
	Event Notification		Relay Out, Email, FTP	
	Pre Event Buffering		Support	

VA	Intruder Detection		Not support	Support
	Crossing Line		Not support	Support
	Object Removal		Not support	Support
	Object Counting		Not support	Support
	Tampering		Not support	Support
Network	Ethernet		10/100 Ethernet	
	Security		Password Protection, HTTPS(SSL, TLS)	
	Protocol	IPv4 and IPv6	TCP/IP, UDP, HTTP, HTTPS, RTP, RTSP, DHCP, ICMP	
		IPv4	FTP, SMTP, NTP, ARP, SNMP v1/v2c/v3, DDNS(LG)	
Management	Integrated Client		LG Ipsolute VMS	
	Simple Web Client		Live monitoring and system management for a device	
	System Update		LG Ipsolute VMS or Web Client	
	Connections		Up to 10	
Misc.	Power Source		PoE (IEEE 802.3af), DC 12 V (±20 %)	
	Power consumption		7.6 W (2 A or above)	9 W (2 A or above)
	Input current	DC 12 V	Maximum 580 mA	Maximum 680 mA
		PoE	Maximum 200 mA	Maximum 240 mA
	Operating Temperature		-10 °C to 50 °C	
	Operating Humidity		0 % RH to 80 % RH	
	Weight		508 g	
	Dimension (W x H x D)		57.2 mm x 68 mm x 149 mm	

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