

OWNER'S MANUAL

High Definition Network Camera

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

MODEL LNV7210 series

LNV7210R series









This lightning flash with arrowhead symbol within an equilateral triangle is within the product's enclosure that may be of sufficient magnitude to



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing)

modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

REGULATORY INFORMATION: FCC Part 15

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which

- A suitable conduit entries, knock-outs or glands shall be provided in the cable entries of this product in the end user.
- Holes in metal, through which insulated wires pass, shall have smooth well rounded surfaces or shall be provided with brushings.

Warning: Do not install this equipment in a confined space such as a bookcase or similar unit.

Warning: Wiring methods shall be in accordance with the National Electric Code, ANSI/NFPA 70. **Warning:** This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Warning: To reduce a risk of fire or electric shock, do not expose this product to rain or moisture. **Warning:** Please adopt the power adapter which can meet the safety extra low voltage (SELV) standard. And source with DC 12 V or

AC 24 V (depending on models) according to the IEC60950-1 and Limited Power Source standard.



	Item	LNV7210R series	LNV7210 series	
	Image Device	6.4 mm (1/2.8 Type) CMOS		
	Lens Type	3 mm to 9 mm F1.2 (x3 Zoom)		
	Day / Night	ICR (Auto / Day / Night / External / Schedule)		
	Minimum Illumination	Color: 0.03 lx @ F1.2 (1/30 sec, 50 IRE)		
Camera		B/W: 0 lx @ IR LED on	B/W: 0.003 lx @ F1.2 (1/30 sec, 50 IRE)	
Carriera	WDR	Support		
	IR Distance (LNV7210R only)	20 m		
	Image Enhancement	Backlight Compensation, 2D+3D-DNR, De-fog, Exposure Control, AGC, White Balance, Privacy Masking, Sharpness, EIS, Pivot, SmartIR (LNV7210R only)		
	Compression	H.264, H.264_High, MJPEG		
	Resolution	1920 x 1080 / 1280 x 720 / D1 (704 x 576) / CIF (352 x 240)		
	Maximum Frame Rate	60 fps @ 1920 x 1080		
	Multi-Streaming	Up to 4		
Video /	ROI (Region of Interest)	Smart codec (Up to 8)		
Audio	Video Analytics	Motion detection, Tampering alarm, Face detection, Intrusion detection, Crossing line, Object counting, Object removal, Object desertion		
	Text Overlay	Support		
	Audio Compression	G.711, G.726		
	2-way Audio	Support		
	Audio Detection	Support		
	Event Trigger	Video analytics, Audio detection, Alarm input		
Event	Event Notification	Relay Out, Email, FTP		
Event	Pre Event Buffering	Support		

	Analog Out	BNC out	
Interface	Audio In / Out	1/1	
	Alarm In / Out	1 ln / 1 Out	
	SD Slot	micro SD (Up to 32 GB)	
Network	Ethernet	RJ-45 10 / 100 BASE-T	
	Security	Password protection, HTTPS (SSL, TLS), IP filtering, IEEE 802.1X	
	Open Protocol	ONVIF 2.2 Profile S, PSIA 1.1	
	Protocol	IPv4 and IPv6 : TCP/IP, UDP, HTTP, HTTPS, RTP, RTSP, DHCP, ICMP, QoS, UPnP	
		IPv4: FTP, SMTP, NTP, ARP, SNMP v1/v2c/v3, DDNS(LG)	
	Integrated Software	LG Ipsolute VMS Suite / Mobile application (iPhone, iPad, Android)	
	Connections	Up to 20	
General	Power Source	DC 12 V, PoE	
	Maximum Power Consumption	8.7 W (DC 12 V), 10.4 W (PoE 48 V)	
	Maximum Input Current	730 mA (DC 12 V), 280 mA (PoE)	
	Operation Temperature / Humidity	-10 °C to 50 °C / 0 % RH to 80 % RH	
	Protection	IK10, IP66	
	Dimension (Ø x H)	140 mm x 122 mm	
	Weight	957 g	950 g

Note that design and specification of this unit may change from the manual as quality and improvement without prior notice.

Camera. CD (Software and Owner's Manual), Installation Manual. Test monitor cable, Wrench. Screws (4 EA), Installation sticker, Camera mounting bracket

A	CAUTION	^
	RISK OF ELECTRIC SHOCK DO NOT OPEN	1.

CAUTION: TO REDUCE THE RISK OF FLECTRIC SHOCK DO NOT REMOVE COVER (OR BACK) NO USER-SERVICEABLE PARTS INSIDE REFER SERVICING TO QUALIFIED SERVICE PERSONNEL

intended to alert the user to the presence of uninsulated dangerous voltage constitute a risk of electric shock to persons.



instructions in the literature accompanying the product

FCC WARNING: This equipment may generate or use radio frequency energy. Changes or

Please make sure the product is installed appropriate places where secured from flood, such as under the eaves, to operate properly. This product is certified as IP66 standard. However, if there is any flood concerns, it is highly recommended to use an outdoor case the user will be required to correct the interference at his own expense Housing. When you install the camera inside

- an outdoor Housing, please use one of the following methods: 1. Remove the front glass of Housing before installing the camera.
- To keep the front glass of Housing, remove the front cover, and then put the camera close to the front glass.

Warning: Install the camera on a ceiling or wall

where can withstand the weight of 5 times of

Caution: This installation shall be made by a

qualified service person and shall conform to

Caution: To avoid electrical shock, do not

open the cabinet. Refer servicing to qualified

Caution: The apparatus shall not be exposed

to water (dripping or splashing) and no objects

filled with liquids, such as vases, shall be placed

Caution: Make sure the power supply voltage

Caution: Do not drop the camera or subject it

Caution: The sensor may be burned out by

a laser beam, so when any laser equipment is

being used, make sure that the surface of the

Caution: While shipping, the camera should be

equipment (e.g. A UPS) to prevent the damage

sensor not be exposed to the laser beam.

Caution: It is permitted to use ancillary

from mains supply voltage reductions.

is correct before using the camera

packed in its original packing.

the camera including mounting bracket.

all local codes.

on the apparatus.

to physical shock.

Disposal of your old appliance



- This crossed-out wheeled bin symbol indicates that waste electrical and electronic products (WFFF) should be disposed of separately from the municipal waste stream.
- Old electrical products can contain hazardous substances so correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health. Your old appliance may contain reusable parts that could be used to repair other products, and other valuable materials that can be recycled to conserve limited resources.
- You can take your appliance either to the shop where you purchased the product, or contact your local government waste office for details of your nearest authorised WEEE collection point. For the most up to date information for your country please see www.lg.com/global/recycling

Herald Way Pegasus Business Park Castle Donington, DE74 2TZ United Kingdom

Important Safety Instructions

- Read these instructions.
- Keep these instructions
- Heed all warnings. Follow all instructions
- Do not use this apparatus near water.
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions. Do not install near any heat sources such
- apparatus (including amplifiers) that produce heat. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third

prong are provided for your safety. If the

consult an electrician for replacement of

provided plug does not fit into your outlet,

as radiators, heat registers, stoves, or other

- the obsolete outlet. 10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11. Only use attachments/accessories specified by the manufacturer.
- 12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus When a cart is used use caution when moving the cart/apparatus combination to avoid injury from tip-over.



13. Unplug this apparatus during lightning storms or when unused for long periods of time.

- 14. Refer all servicing to qualified service personnel. Servicing is required when
- the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped

Handling of the unit

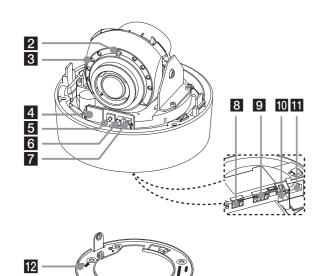
Be careful not to spill water or other liquids on the unit. Be cautious not to get combustible or metallic material inside the body. If used with foreign matter inside, the camera is liable to fail or to get cause of fire or electric shock.

- Remove dust or dirt on the surface of the lens with a blower.
- Use a soft and lint-free, dry cloth(such as glass cleaner) to clean the body. If it is very dirty, use a cloth dampened with a small quantity of neutral detergent then wipe dry.
- Avoid the use of volatile solvents such as thinners, alcohol, benzene and insecticides.
- They may damage the surface finish and/ or impair the operation of the camera.
- This camera is designed for mounting on the ceiling or wall. If you install this camera upside down, it may cause malfunction.

Operating and storage location Avoid viewing a very bright object (such as

light fittings) during an extended period. Avoid operating or storing the unit in the following

- Extremely hot or cold places (operating temperature -10 °C to 50 °C, however, we recommend that the unit be used within a temperature range of 0 °C to 45 °C)
- Damp or dust place
 - Places exposed to rain
- Places subject to strong vibration
- Close to generators of powerful electromagnetic radiation such as radio or TV transmitters.
- Do not use the camera in such place where rapid temperature fluctuation by switching an air conditioner on and off.



- 1 Dome Cover
- 2 IR Sensor (LNV7210R only)
- 3 IR LED (LNV7210R only)

Do not stare at operating IR LED within hazard distances (1 m)

4 micro SD card slot

Insert the micro SD card. 5 Jog button

Use this button for control the Zoom / Focus of the camera

6 Video Out Connector

Use this jack for checking the picture with portable monitor when install the camera.

7 RESET button

Push the button more than 3 seconds, this would restore the factory default network related

8 AUDIO IN / OUT (Line Level Input/ Output)

9 ALARM IN & OUT / ALARM IN & OUT RETURN

Provides physical interface for sensor and Alarm/Relay.

10 Power input terminal

Connects to a DC 12 V power supply using proper cables. This camera must always be operated a DC 12 V. Certified/Listed Adaptor which comply with LPS.

11 ETHERNET / PoE Port

Connects to a PC or a network via a hub with a 10 BASE-T / 100 BASE-TX cable attached RJ-45 connector

NOTE:

Power over Ethernet (PoE) is a technology that integrates power into a standard LAN infrastructure. It enables power to be provided to the network device, such as a network camera, using the same cable as that used for network connection. It eliminates the need for power outlets at the device locations and enables easier application of uninterruptible power . supplies (LPS).

12 Camera mounting bracket

You can lock the camera mounting bracket by tighten the screws.

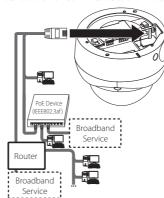
Connection

Precautions

- Be sure to switch off the unit before installation and connection.
- The installation should be made by qualified service personnel or system
- Do not expose the power and connection cables to moisture, which may cause damage to the unit.

Connecting Network

You can control and monitor the system via network. With the remote control (monitoring), you can change the system configuration or monitor the image via network. After the installation, check the network settings for the remote control and monitoring work. Connect the IP camera to your network using a standard RJ-45 network cable as shown below.

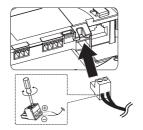


Connecting Power Source

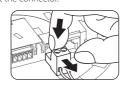
Connect power, using one of the methods listed below:

To use the power adapter

Connect a DC 12 V power source to the power input terminal as shown below. (recommended power adapter is DC 12 V / 1.5 A or above)

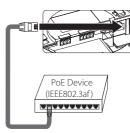


- When the connecting Alarm and Audio, tighten the screws as shown above.
- Put your finger between the power connector and the camera body to pull out the connector



To use the PoE (Power over Ethernet)

Connect the PoE cable to the LAN port on the unit. You must use the "IEEE802.3af" standard



NOTE:

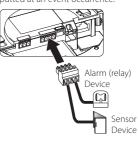
If the camera doesn't work properly after connecting PoE device, please check if the PoE device supplies enough power.

Connecting Alarm Device

Alarm terminals are used to connect the alarm (relay) devices such as sensors, door switches,

ALARM IN & OUT / ALARM IN & OUT RETURN (Sensor Input / Relay Output)

Connect the sensor device and alarm (relay) device to the alarm terminal. Alarm signal is outputted at an event occurrence.

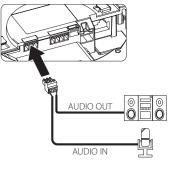


- The Photo MOS Relay is rated for 100 mA at DC 20 V or 100 mA at AC 28 V.
- Grasp both ends of the 3 or 4 pin connector plug and then sway both side to pull it out.



Connecting Microphone and Speaker Device

Optionally connect an active speaker and/or external microphone with a built-in amplifier.



NOTE:

Keep the microphone away from the speaker to avoid howling.

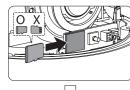


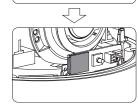
Using the micro SD card

You can record your surveillance environment with the micro SD card even if the network is disconnected condition.

To insert the micro SD card

- Remove the Dome Cover
- 2. Insert the micro SD card carefully as shown in the following illustrations. Make sure the micro SD card terminal position before insert the micro SD card. Push the back end of the micro SD card to fix it at the last ster





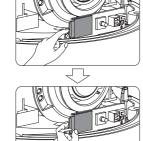
NOTE:

- Do not use the power too much when you insert the micro SD card. The micro SD card may be damaged
- If you insert the micro SD card in the wrong position, the micro SD card may be damaged or it may cause the malfunction of the micro SD Card Slot
- Keep the terminal part of the micro SD card in clean. Be careful the terminal part of the micro SD card not to dusty.
- As the micro SD card is consumable, the micro SD card end its days and may be not able to save data if you use it more than over certain times. In this case, replace micro SD card



Remove the micro SD card

Press the back end of the micro SD card to release the lock



2. Take the micro SD card out carefully from the camera. It may cause a malfunction of the micro SD card or the micro SD card slot if you use the power too much at lock status.

- If you install the micro SD card on the camera and remove with the micro SD card condition indicator lights on, you must unmount the micro SD card by using the [System > Storage > Device Management > Unmount] menu. The micro SD card data is compromised or the camera may not operate normally, if you remove the card without use [Unmount] function.
- LG Electronics is not responsible for deleted data caused by user mishandling when you insert or remove the micro

Recommended the micro SD card specification

Maker	Capacity	Block Size (FAT 32)	
LG			
Sandisk	Less than 32 GB	32 kbyte	
Transcend	J2 GD		

Speed of reading and writing more than 10 MB/Sec. (Class 6)

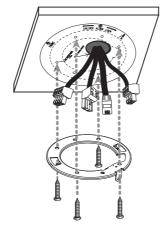
Mounting the camera

Follow the instructions below to surface mount the camera with supplied camera mounting bracket.

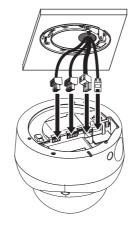
Use the installation guide template to check the mounting location. Face the front of the label toward the area of interest. Using the template as a guide, make a hole through the ceiling



2. Install the camera mounting bracket to the ceiling.

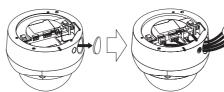


3. Connect the cables to the cable jacks of the camera body.

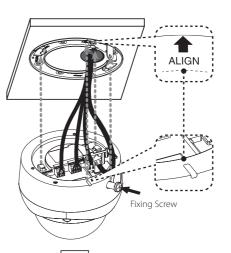


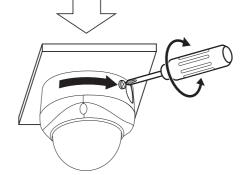
NOTE:

Push the cap from inside to arrange the cables through the conduit. (Optional)



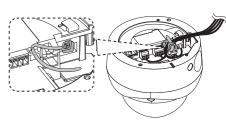
4. Assemble the camera and the housing. Make sure when you assemble the camera in the right direction. Lock the camera mounting bracket by tighten the fixing screw.





NOTE:

- Adjust the position of [ALIGN] arrow, to the hole at the bottom of camera. Then push and turn in the direction of the [LOCK] arrow.
- · Arrange the cables by cable tie after installation.



Camera Adjustment

Adjust the rotation position of the camera



- When you assemble the dome cover, make sure the SD card PCB position is aligned with the LG logo
- The camera could be damaged by adjusting Pan, Tilt by
- PAN: 350° / TILT: 75° / ROTATION: 355°
- When you adjust PAN/TILT/ROTATION manually, be careful your hand is not to hurt by protrusions of other

