LG
Life's Good

OWNER'S MANUAL
Color Video Camera

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

MODEL

LCZ2850-DN/LCZ2850-DP
LCZ2850 Series

MFL69458112

CAUTION

**RISK OF ELECTRIC SHOCK
DO NOT OPEN**

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

This lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

FCC WARNING: This equipment may generate or use radio frequency energy. Changes or 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 case the user will be required to correct the interference at his own expense.

• 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.

Caution: This installation should be made by a qualified service person and should conform to all local codes.

Caution: To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

Caution: The apparatus shall not be exposed to water (dripping or splashing) and no objects filled with liquids, such as vases, shall be placed on the apparatus.

Caution: It is permitted to use ancillary equipment (e.g. A UPS) to prevent the damage from mains supply voltage reductions.

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Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. 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 provided plug does not fit into your outlet, consult an electrician for replacement of 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.

Power Supply

This camera must always be operated a DC 12 V Certified/Listed, class 2 power supply only.

Handling of the unit

Be careful not to spill water or other liquids on the unit. Be cautions 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 dry soft cloth 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.

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 locations.

• Extremely hot or cold places (operating temperature -10 ℃ to 50 ℃, however, we recommend that the unit be used within a temperature range of 0 ℃ to 45 ℃)
• 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.

Specification

Item	LCZ2850-DN	LCZ2850-DP
Signal System	NTSC	PAL
Total Pixels number	520 000 Pixels	610 000 Pixels
Effective Pixels number	480 000 Pixels	570 000 Pixels
Image Device	4.5 mm (1/4 Type) Super HAD CCD II	
ISP	XDI-II	
Lens	x28 Zoom, F 1.5 (Wide End), F 3.7 (Tele End)	
Digital Zoom	X12	
IRIS Control	AUTO / MANUAL	
Sync. System	Internal	
Scanning Frequency (H/V)	15.734 kHz / 59.94 Hz	15.625 kHz / 50 Hz
Horizontal Resolution	600 TV Lines	
S/N Ratio	52 dB	
Minimum Illumination — B / W	0.01 lx (Sens-up OFF), 0.000 01 lx (Sens-up ON)	
Minimum Illumination — Color	0.2 lx (Sens-up OFF), 0.003 lx (Sens-up ON),	
Video Output Signal	1 Vp-p Composite (75 Ω)	
Day & Night	AUTO / DAY / NIGHT / EXT	
Backlight	WDR / BLC / HSBLC / OFF	
DNR	3D-DNR (Off/Low/Middle/High)	

Item	LCZ2850-DN	LCZ2850-DP
Electronic Shutter Speed	1/60 to 1/120 000	1/50 to 1/120 000
White Balance	AUTO / ATW / ONE PUSH / MANUAL	
Control Method	RS-485	
Power Source	DC 12V	
Power Consumption	3.6 W	
Operation Temperature	-10 ℃ to 50 ℃	
Storage Temperature	-20 ℃ to 60 ℃	
Operation Humidity	0 % RH to 80 % RH	
Storage Humidity	0 % RH to 85 % RH	
Weight	420 g	
Dimension (H x V x D)	57 mm x 69 mm x 109 mm	

Installation

1. Install the camera and mounting bracket securely.

<ITALIANO>	Montare la videocamera alla staffa in maniera sicura.
<ESPAÑOL>	Monte la cámara y el soporte.
<PORTUGUÊS>	Instale a câmera e o suporte de montagem firmemente.
<PYCCKNЙ>	Надежно установить камеру и монтажный кронштейн.
<TÜRKÇE>	Kamera ve kamera bağlantı parçasını sağlam bir şekilde monte edin.

2. Install the camera and mounting arm.

<ITALIANO>	Montare la videocamera al braccio.
<ESPAÑOL>	Monte la cámara y el brazo de soporte.
<PORTUGUÊS>	Instale a câmera e o braço de montagem.
<PYCCKNЙ>	Установить камеру и монтажный кронштейн.
<TÜRKÇE>	Kamera ve kamera bağlantı parçası kolunu monte edin.

3. The video signal connection between the camera and the monitor or DVR.

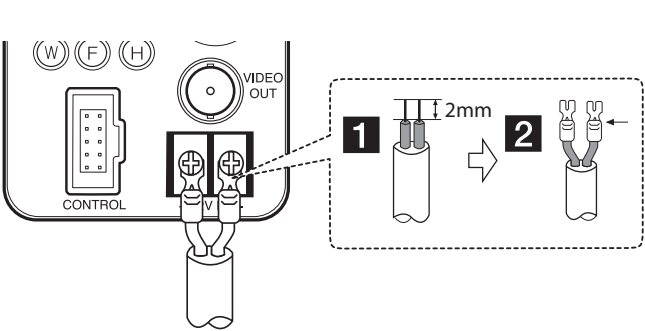
<ITALIANO>	Il collegamento del segnale video tra la videocamera e il monitor o il DVR.
<ESPAÑOL>	La conexión de señal de video entre la cámara y el monitor o un DVR.
<PORTUGUÊS>	A ligação do sinal de vídeo entre a câmara e o monitor ou DVR.
<PYCCKNЙ>	Передача видеосигнала с камеры на монитор или цифровой видеомагнитофон.
<TÜRKÇE>	Kamera ve monitör veya DVR arasındaki video sinyal bağlantısı.

4. Connect to the 12 V DC UL Listed, Class 2 Power Supply only on the camera.

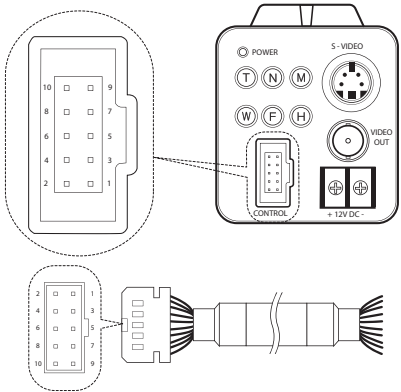|	
<ITALIANO>	Collegare ad alimentazione di energia a CC 12 V UL indicata, Classe 2 solo sull'unità.
<ESPAÑOL>	Conecte a la alimentación eléctrica de 12 VCD en lista UL, de Clase 2 sólo en la unidad.
<PORTUGUÊS>	Ligue ao DC 12 V UL listado, fornecimento de energia Classe 2 apenas na unidade.
<PYCCKNЙ>	Подключите камеру к сертифицированному источнику питания постоянного тока класса напряжением 12 В.
<TÜRKÇE>	Kameranın bağlantısını sadece 12V AA DA UL Sınıf 2 güç kaynağı ile gerçekleştirin.

Connections

You can control the PTZ and RS-485 by a pin terminal on the back side of the camera.

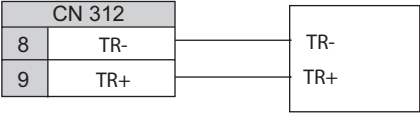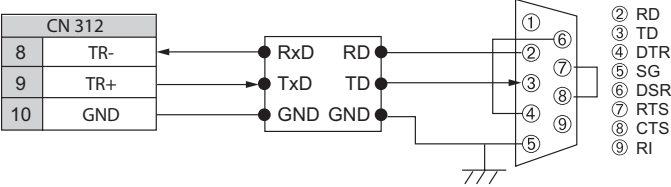|	
<ITALIANO>	È possibile controllare il PTZ e RS-485 da un terminale perno sul lato posteriore della telecamera.
<ESPAÑOL>	Se puede controlar el PTZ y RS 485-por un terminal de clavija en el lado posterior de la cámara.
<PORTUGUÊS>	É possível controlar a PTZ e RS-485 por um terminal de pino do lado de trás da câmara.
<PYCCKNЙ>	Вы можете управлять PTZ и RS-485 контактный разъем на задней стороне камеры.
<TÜRKÇE>	Kameranın arka tarafında bir pin terminal ile PTZ ve RS-485 kontrol edebilirsiniz.

CN312

CN312		
1	ZOOM	
2	COM	ZOOM & FOCUS DC Control
3	FOCUS	
4	MENU/HOT	
5	AD2	A/D Key 2 Input
6	AD1	A/D Key 2 Input
7	NC	
8	TR-	
9	TR+	For RS-485 Control
10	GND	Common GND

* is the color of the cable. (If it is offered)

Wire Color

Wire Color	
1	GREEN
2	YELLOW
3	WHITE
4	RED
5	BLUE
6	BROWN
7	ORANGE
8	VIOLET
9	GRAY
10	BLACK

RS-485 Connect

CN 312	
8	TR-
9	TR+

TR-
TR+

RS-232C TTL Connect (Option)

CN 312			
8	TR-	RxD	RD
9	TR+	TxD	TD
10	GND	GND	GND

② RD
③ TD
④ DTR
⑤ SG
⑥ DSR
⑦ RTS
⑧ CTS
⑨ RI

Zoom & Focus DC Control connect

CN 312		
1	ZOOM	ZOOM (+ : Tele, - : Wide)
2	COM	COMMON
3	FOCUS	FOCUS (+ : Near, - : Far)
4	MENU/HOT	MENU (+ : D&N, - : Menu)

+	Vcom + (6V~12V)
−	Vcom - (6V~12V)

Receiver Unit / Controller

Additional Information

RS-485 Protocol(Optional)

Data Communication Format
- Data Length: 1 Byte (8 Bit)
- Start/Stop Bit: 1 Bit
- Parity Bit: None
- Baud rate: 9 600 bps

Format

BYTE1	BYTE2	BYTE3	BYTE4
0xE5	0x87	Camera ID	0x60

BYTE5	BYTE6	BYTE7
Key IN or Key Out	Key Code	*C.S.

*C.S. = Check Sum

- The data of total 6 bytes is transmitted from the external RS-485 device to the camera.
- BYTE 7 : The value of Check Sum from 'BYTE 1 ' to 'BYTE 6 '.