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.

MODELS

L6104-DN / L6104-DP

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 Notices For U.S.A

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.

- Caution: Danger of explosion if battery is incorrectly re placed. Replaced only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

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

Disposal of your old appliance

1. When this crossed-out wheeled bin symbol is attached to a product it means the product is covered by the European Directive 2002/96/EC.

2. All electrical and electronic products should be disposed of separately from the municipal waste stream via designated collection facilities appointed by the government or the local authorities.

3. The correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health.

4. For more detailed information about disposal of your old appliance, please contact your city office, waste disposal service or the shop where you purchased the product.

CE

LG Electronics hereby declares that this/these product(s) is/are in compliance with the essential
requirements and other relevant provisions of Directive 2004/108/EC, 2006/95/EC, and 2009/125/EC.

European representative :

LG Electronics Service Europe B.V.
Veluwezoom 15, 1327 AE Almere,
The Netherlands (Tel : +31-(0)36-547-8888)

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 accord ance 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.

Cautions for Safe Operation

Power Supply

This camera must always be operated at DC 12V 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 nish and/or impair the oper ation of the camera.

Operating and storage location

Avoid viewing a very bright object (such as light ttings) dur - ing an extended period. Avoid operating or storing the unit in the following locations.

- 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 radia tion such as radio or TV transmitters.

Contents

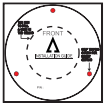
Features 8
Part Names and Functions 9
Connections 10
Installation 11
Installing the camera on a ceiling or wall 11
Adjustment 13
Lens Focus Adjustment 14
Menu Operation 15
OSD Menu Overview 16
General Operation 18
Exposure Settings 19
BLC/LSC setting 19
BRIGHTNESS setting 20
AGC (Automatic Gain Control) setting 21
SHUTTER (Shutter Speed) setting 21
White Balance settings 22
Day/Night Setting 24
Privacy Setting 25
Special Menu Settings 26
Setting the SHARPNESS 26
Setting the MONITOR 26
Setting the GAMMA effect 26
Setting MIRROR effect 26
Setting USER TITLE 27
DPC Setting 28
LANGUAGE Setting 28
Reset Setting 31
Specification 32

Features

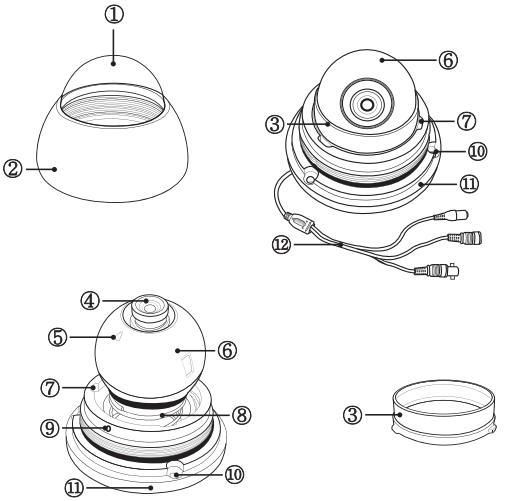
This Color Video Camera is designed for installation in an indoor video surveillance system.
This manual contains instructions on how to install and manage the Color Video Camera in your video surveillance system. Should you require any technical assistance, please contact authorized service center.

- 1/3" SUPER HAD COLOR CCD II
- Resolution: 540TV Lines(Color), 570TV Lines(Black/White)
- DAY/NIGHT Automatically change
- 3.6mm Fixed Focus lens (F2.0)
- Min. illumination 0.01 Lux
- Low power consumption
- Weather proof / Dust Proof(IP-66)
- Use of DC 12V
- 3 Axis Adjustable
- OSD Adjustment
- Easy, Simple & Convenient installation

Accessories

DOME CAMERA	
SCREW & "L" Wrench	
INSTALLATION MANUAL	
TEMPLATE	
OPTION: WIRED REMOTE CONTROLLER	

Part Names and Functions

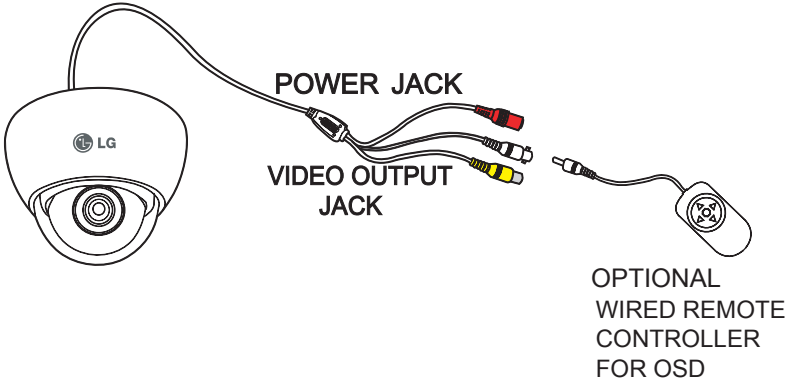


1. Dome Cover
2. Upper Body Case
3. Mount Holder
4. Fixed Focus Lens
5. Front Marks
6. Ball Mount
   - 360˚ Rotation
7. Pinhole for Ball Mount Ring
8. Spring & its Ring
9. Fixing Screw for Ball Mount Ring
10. Hole for Body attached
11. Bottom Body Case
12. Cable with Jacks
    - Yellow ▶ Video
    - Red ▶ Power
    - White ▶ Wired Remote Controller

Connections

OSD Adjustment

OSD controller is optional item.
Please use OSD wired remote controller if you need camera configuration.

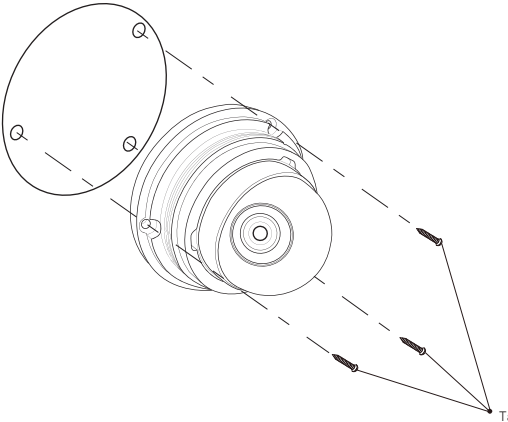


Installation

Installing the camera on a ceiling

①. Affix the mounting template(supplied) to the mounting surface and .
Along to the inside circle line please drill a hole

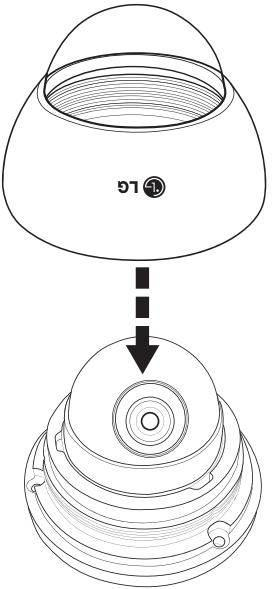
②. Secure the camera mounting bracket to the position where the camera should be mounted with the supplied screws.
The bottom case is in the ceiling.
(Please leave a good position of cable not to interrupt the surveillance area with it when installing.)



Installation

③ . Adjust the camera lens to face the area to be monitored and fix the main body and the dome cover by rotating to clockwise.

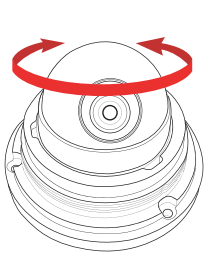
* LG (LG logo) at upper body case: It's subject to change depending on the direction of your installation.



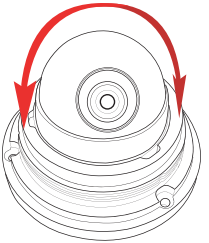
Installation

You can adjust the angle of ball mount to put it down a little.

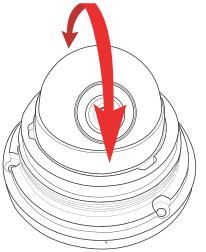
- Rotate angle : 360˚
- Panning angle : 360˚
- Tilting angle : +/-60˚
  (Viewable operation tilt angle +/- 60˚ at the middle)



PAN 360˚



ROTATE 360˚

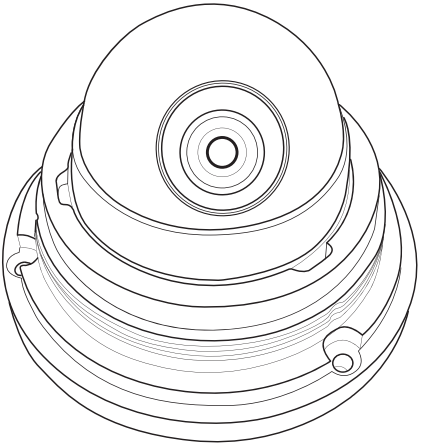


TILT +/-60˚
(Viewable operation
tilt angle +/- 60˚ at the middle)

Installation

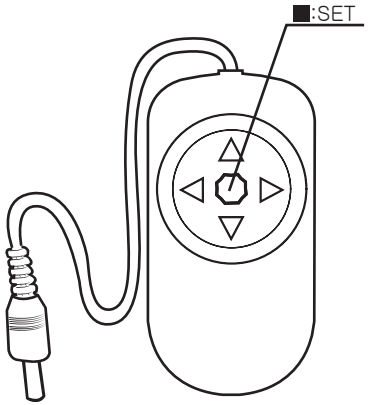
Lens Focus Adjustment

The lens is focused far from 1M when ex-factory.
Therefore please keep the lens focus as is.



Menu Operation

This camera utilizes an on-screen user MENU.
To set items on the menu, use the following switch.



- UP
  Used to move upper direction on the menu screen. Use this button to select an item or adjust the parameters.

- DOWN
  Used to move lower direction on the menu screen. Use this button to select an item or adjust the parameters.

- RIGHT
  Moves the cursor to the right. Used to increment the value selected in the menu. The parameter changes each time this button is pressed.

- LEFT
  Moves the cursor to the left. Used to decrement the value selected in the menu. The parameter changes each time this button is pressed.

- SET
  Executes selections and displays a submenu for an item with the ↵ .mark.

Menu Operation

OSD Menu Overview

The following table shows the list of menu items and options.
You can adapt the camera to your requirements by setting up the respective items in these menus.

Main Menu	Sub Menu	Contents	
EXPOSURE	ELC	BLC / LSC	HSBLC
			LSC
			BLC
			WIDE BLC
		BRIGHTNESS	0~99
		AGC	OFF
			LOW
			MIDDLE
			HIGH
		SHUTTER	AUTO
			1/120FLK
			1/250

Main Menu	Sub Menu	Contents	
EXPOSURE	ELC	SHUTTER	1/500
			1/1000
			1/2000
			1/4000
			1/10000
			1/100000
WHITE BAL	ATW		
	AWB	R-Y GAIN	0~255
		B-Y GAIN	0~255
	MANUAL	MANUAL R	0~255
		MANUAL B	0~255
	PUSH		
DAY&NIGHT	AUTO	BURST	ON/OFF
		DAY > NIGHT	0~255
		NIGHT > DAY	0~255
		DELAYTIME	3~12

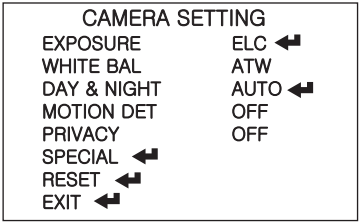
Menu Operation

Main Menu	Sub Menu	Contents	
DAY&NIGHT	COLOR		
	B&W		
MOTION DET	OFF		
	ON	ALARM	ON/OFF
		SET WINDOW	
		ALL SET	
		ALL CLEAR	
		SENSITIVITY	0~200
		TRACE	OFF ICON TRACE
		HOLD TIME	1~15
PRIVACY	OFF		
	ON	MASK NUMBER	1~4
		DISPLAY	ON/OFF
		COLOR	GRAY
			BLACK
			WHITE
		HEIGHT	1~99
		WIDTH	1~99
		MOVE Y	1~99
		MOVE X	1~99

Main Menu	Sub Menu	Contents	
SPECIAL	OFF		
	ON	SHARPNESS	1~49
		MONITOR	CRT
			LCD
		GAMMA	USER
			0.45
			0.6
			1
		MIRROR	ON
			OFF
		USER TITLE	ON
			OFF
		DPC SET	WHITE THR
			LUMA LIMIT
		LANGUAGE	ENG
			한국어
RESET	FACTORY		

Menu Operation

OSD MENU



OSD(SCREEN CONTROL)-SETTING

1.Press OSD key down at wired remote controller
The setup menu screen appears on the monitor.

2.Press OSD key to upside or downside to select an option then
Press OSD key down. Submenu appears on the monitor.

3.Press OSD key to upside or downside to select a Submenu option.

4.Use OSD key to left or right to select a value.

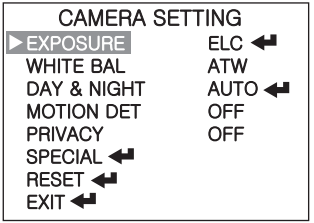
5.Select [EXIT] and click the OSD key. Then OSD is setup.

RET: Return to the previous menu .
TOP: Return to the CAMERA SETTING menu screen.
END: Exit the setup menu.

Menu Operation

OSD MENU-Exposure Settings

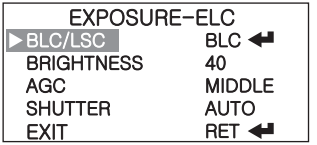
You can set the exposure options using the EXPOSURE menu.



Select[EXPOSURE]option on the[CAMERA SETTING]menu.
Press OSD key down and the EXPOSURE menu appears.
To see [ELC]] and press down to click it.
this function is for clear image even if backlight condition.
Select [BLC], [WIDE BLC], [LSC]or[HSBLC]

OSD MENU-Exposure Settings(BLC / LSC)

Use WIDE BLC option to view the object clearly in strong backlight conditions.

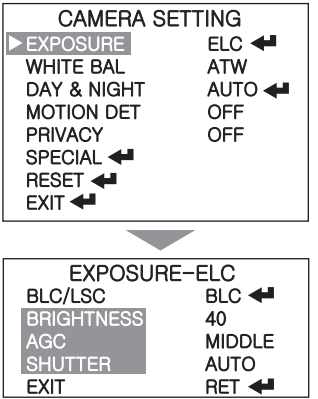


1.Select [WIDE BLC]] option.
2.Use OSD key to left or right to select a mode then press[SET].
•[BLC]-After click [BLC], you can move OSD key left/right [BLC]-[ON]or[OFF], its level.
Then press down [RET] for BLC setting.
-WIDE BLC : Use for adjusting brightness of the subject and background image to view the both of object clearly at the same time in backlight condition.
-INDOOR: WIDE BLC ON
-OFF

Menu Operation

- BLC : Use for adjusting brightness of the subject to view the object clearly in backlight condition. Set to select [on] or [off]
- HSBLC : Use for masking brightness of the specific area to view the subject more clearly.
  The HSBLC mode is automatically activated only in low illumination scene.
  Push OSD key to left or right to select a ON or OFF.
  Press[SET] to exit the Area setting menu.
  -ON: It has powerful back light compensation performance. The function suppress highlight then it will make the objects very clean and obvious.
  -OFF: Not used.
- LSC: It can compensate the shading correction curve on each corners of the views.

OSD MENU-Exposure Settings



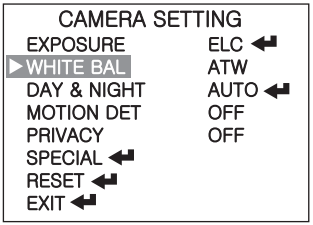
1.Select [BRIGHTNESS] / [AGC] / [SHUTTER] option.
2.Use OSD key to left or right to select a mode then press[SET].

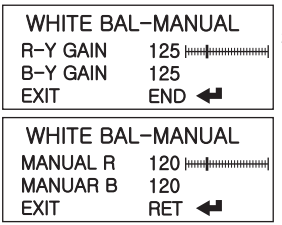
- BRIGHTNESS : You can set the brightness level. (0-100)
- AGC : If the images are too dark, change the maximum [AGC] value to make the images lighter.
- SHUTTER : (AUTO→1/120FLK→1/250 ~ 1/100000)

Menu Operation

OSD MENU-White Balance settings

You can select one of three modes for white balance adjustment.



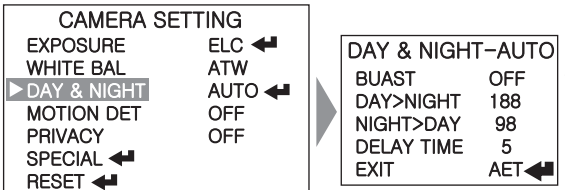


1.Select [WHITE BAL] option.
2.Use OSD key to left or right to select a mode thenpress [SET].[ATW]↔[AWB]↔[MANUAL]↔[PUSH]

- ATW(Auto-Tracing White Balance) : The color temperature range for the proper white balance is approximately 2500 - 9500°K.
  Proper white balance may not be obtained under the following conditions : The color temperature is out of the 2500 - 9500°K range.
  When the scene contains mostly high color temperature objects, such as a blue sky or sunset.
- AWB(Auto White Balance)-AWB detects while color balance on the screen and based on sensor white balance functions automatically between the range of 0~255.
- MANUAL: You can set the white balance options manually.
  -MANUAL R: Obtains the optimum amount of red gain.(0~255)
  -MANUAL B: Obtains the optimum amount of blue gain.(0~255)
- PUSH: Temporary automatic tracing white Balance.

Menu Operation

OSD MENU-Day/Night Setting



1.Select [DAY/NIGHT]option.
2.Use OSD key to left or right to select mode for day/night function.
-AUTO : You will be able to change the Day/Night mode automatically.

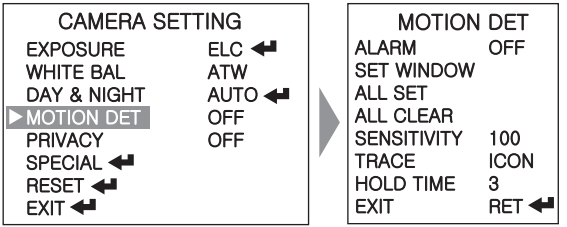
- Select [Burst on] or [Burst off] as you want
- DAY>NIGHT : Set the start brightness control from the location -0(High Light) ~ 255(Low Light)
- NIGHT>DAY : Set the end brightness control from the location -0(High Light) ~ 255(Low Light)
- DELAY TIME : This function allows you to set delay time of when to change camera to Day & night mode (3~12 sec)
-COLOR : Color mode enabled.
-B/W : Black-and-white mode enabled.

Menu Operation

OSD MENU-MOTION DETECTION Setting

[MOTION DET] detects the moving objects in the scene by monitoring changes in brightness level.

Select the level of sensitivity for motion detection to 4 zone.



1. Select[MOTION DET]option.
2. Use OSD key to left or right to select a [ON] and press [SET].

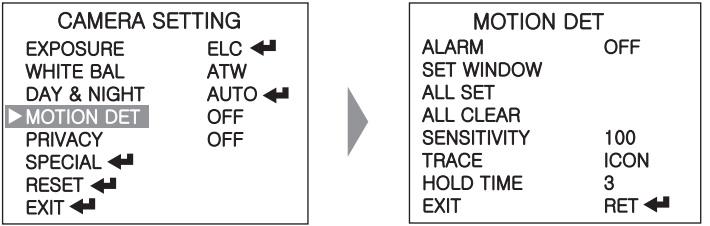
The [MOTION DET] menu appears and select [ALARM ON]. Otherwise you can not control [Motion Detection] mode.

• SET WINDOW : Use OSD key to left or right to select some windows and click them as you want. One more click, it set-off.

Note : In order to get back to previous menu, move to the edge of left or right and push the KEY down one second or more.

Menu Operation

OSD MENU-MOTION DETECTION Setting



[MOTION DET] detects the moving objects in the scene by monitoring changes in brightness level.

Select the level of sensitivity for motion detection to 4 zone.

- ALL SET : it's to select all windows.
- ALL CLEAR : it's to clear all windows.

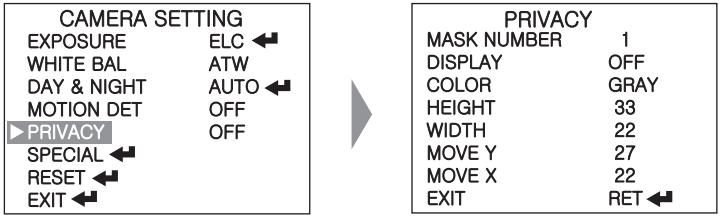
left or right and push the KEY down one second or more.

- [SENSITIVITY] : Obtain the optimum detection level.(0~200)
- TRACE : [ICON]↔[TRACE]↔[OFF]
  - -ICON : it appears a icon when set some areas and set [ICON].
  - -TRACE : no icon but set trace on
  - -OFF : off Trade mode
- HOLD TIME : select 1~15 sec for the trace

Menu Operation

OSD MENU-Privacy Setting

This function is aiming at the protection of personal privacy,
selecting a screen part black not to be displayed in the screen.
Up to 4 zones can be registered.

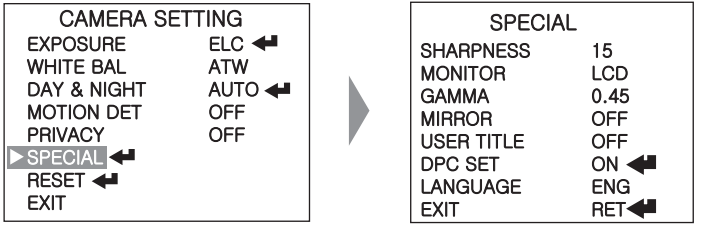


1. Select PRIVACY [ON] and the menu appears.
2. Select [MASK NUMBER] one of 1, 2, 3, 4 This number starts from the left top area with clockwise.
3. If you'd like the mask appears on the monitor, select [DISPLAY] [on] to move OSD key to left or right.
4. Select one of [GRAY]↔[WHITE]↔[BLACK] for the mask color in [COLOR]
5. You can make the area dimension to move OSD key for the level of [DEPTH] & [WIDTH].
6. Also you can move the position of privacy area to X axis or Y axis as you want.
   After setting all information, please exit this menu.

Menu Operation

OSD MENU-Special Menu Settings

This menu lets you adjust and set up SHARPNESS, GAMMA, MIRROR, USER TITLE, DPC SET, LANGUAGE function by yourself in the SPECIAL menu.



1. Select [SPECIAL] option.
2. Press OSD key down and the SPECIAL menu appears.

Setting SHARPNESS

You can select SHARPNESS level.

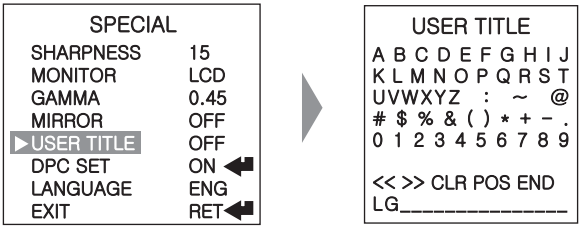
-Select [SHARPNESS] option on the [SPECIAL] menu.

-Use OSD key to left or right to adjust the sharpness level.

- MONITOR : Select [LCD] or [CRT] which you use. Then you can get a clearer image.
- GAMMA : Brightness control could be functioning from [0.45] -> [0.6] -> [1.0] -> [USER]
- MIRROR : The MIRROR function is selected [ON] or [OFF] with OSD key to left or right. The image can be Left-right reversal.

Menu Operation

OSD MENU-Special Menu Settings (Setting the USER TITLE)

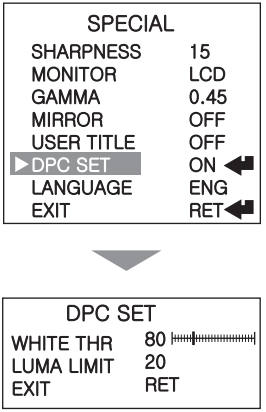


You can use the camera identification to assign a number and character to the camera (0 – 9, A-Z & special character).
The USER TITLE is displayed on the upper side of the screen.
To disappear the user title, select [OFF].
To use OSD key to left/right or up/down, click .the desired letter.

- << >> : Space
- CLR: Clear the letters.
- POS: Position User Title where you want
- END: Return to Previous Menu

Menu Operation

OSD MENU-Special Menu Settings DPC SET (DEFECT PIXEL CANCELLATION)

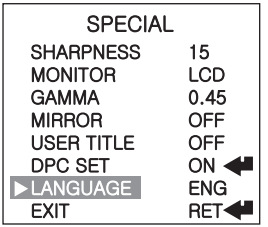


This menu lets you adjust to set the Defect Pixel Cancellation.
While using CCD, defect pixel(white pixel & black pixel) occurs.

This menu compensate these defect pixels.
1. Select [DPC SET] option on SPECIAL menu and press [ON].
2 Adjust the value on WHITE THR(white defect threshold)
3. Adjust the value of LUMA LIMIT (Luminance value limitation)

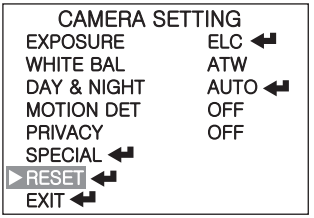
OSD MENU-LANGUAGE

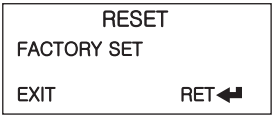
• This menu lets you select English or Korean.
1.Select [LANGUAGE], move OSD key to left or right.
2.Then you can select ENG(English) Now.



Menu Operation

OSD MENU-RESET SETTING





1. Select [RESET] option.
2. Press OSD key down and the reset menu appears
3. Push OSD key down for FACTORY SET.
4. And move to [EXIT] and click.

NOTE: After [EXIT] setting, [RESET] is setting.

Specification

Model	L6104-DP	L6104-DN
Signal System	PAL	NTSC
Total Pixels No . / Effective Pixels No .	470K/440K	410K/380K
Image De vic e	1/3" CCD(ICS638/639BK)	
Lens	3.6mm Fixed Lens	
Sync. System	Internal	
Scanning Frequency (H/V)	15.625 KHz/50Hz	15.734 KHz/60 Hz
Horizontal Resolution	540 TVL	
S/N Ratio	48 dB ~	
Minimum Illumination	0.1 Lux (F1.2)	
Control Method	OSD key button	
Video Output Signal	1Vp-p Composite (75Ω)	
Day & Night	Auto/Color/B&W	

Specification

WDR(BLC)	WIDE BLC/BLC/HSBLC/LSC
Auto Gain Control	OFF/LOW/MIDDLE/HIGH
Electronic Shutter Speed	AUTO, 1/120FLK, 1/250 ~ 1/100000
White Balance	ATW/AWB/MANUAL/PUSH
Motion Detection	Set Window / All Set
Privacy Zone Masking	4 Masks
Monitor	CRT/LCD
Mirror	ON/OFF
DPC Set	ON/OFF
Power Consumption	DC 12V/1.5W
Operation Temp./Humidity	-10 ^{O}C ~ 50 ^{O}C (0%RH ~ 80%RH)
Storage Temp./Humidity	-20 ^{O}C ~ 60 ^{O}C (0%RH ~ 85%RH)
Weight	430g
Dimension(øx H)	ø(60+92) X 65mm
Accessory	Template,

P/N :