

NUVICO®

BULLET CAMERA

HI-RESOLUTION
Bullet Camera

CB-HDE21N-L / CB-HDE21P-L
CB-HDE65N-L / CB-HDE65P-L
CB-HD39N-L / CB-HD39P-L



INSTALLATION MANUAL

Disclaimer

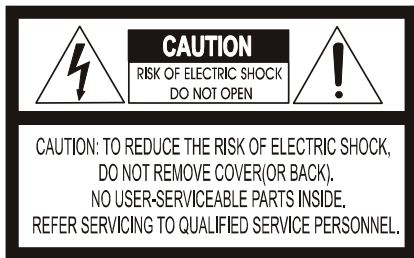
- While every effort has been made to ensure that the information contained in this guide is accurate and complete, no liability can be accepted for any errors or omissions.
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Warning and Caution

WARNING!

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. DO NOT INSERT ANY METALLIC OBJECTS THROUGH THE VENTILATION GRILLS OR OPENINGS ON THE EQUIPMENT.

CAUTION!



The 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) instruction in the literature accompanying the product.

Important Safeguards

- Read these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this equipment 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 as radiators, heat registers, stoves, or other equipment (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 is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the equipment.
- Only use attachments/accessories specified by the manufacturer.
- Unplug this equipment during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the equipment 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 equipment, the equipment has been exposed to rain or moisture, does not operate normally, or has been dropped.
- **CAUTION - THIS MANUAL IS FOR USE BY QUALIFIED SERVICE PERSONNEL ONLY. TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT PERFORM ANY SERVICING OTHER THAN THAT CONTAINED IN THE OPERATING INSTRUCTIONS UNLESS YOU ARE QUALIFIED TO DO SO.**
- Use Certified/Listed Class 2 power supply transformer only.

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Introduction

ABOUT THIS MANUAL

Thank you for purchasing our bullet camera.

Before installing and using this camera, please read this manual fully and carefully, and be sure to keep it handy for later use.

Key Features

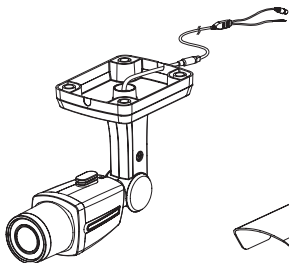
- 1/3" CCD Sensor
- 600 TV Lines (Color), 650 TV Lines (B/W)
- 2.8~11mm, DC Auto Iris Lens, or 6~50mm, DC Auto Iris Lens
- Day/Night Functionality with ICR
- 24 IR LEDs (2.8-11mm), 48 IR LEDs (6-50mm)
- External Adjustments - Zoom and Focus
- IR LED On/Off Switch
- Smart IR - Automatic Intensity Adjustment
- DWDR - Digital Wide Dynamic Range
- OSD Controller and Service Cable (CA-ORC)
- Service Monitor Output
- 12VDC/24VAC Dual Voltage

Content Verification

Before installing the camera, please make sure that all of the following items are included in the box.

IR LED Bullet CAMERA

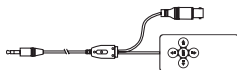
1. Bullet Camera
 2. Bullet Camera Sun Shield
 3. Installation Manual
 4. OSD Controller and Service Cable (CA-ORC)
 5. Mounting Accessories
- **(x4) Philips T1 6x50 Mounting Screws**
These screws are used to firmly attach the bracket to a wall or ceiling.



IR LED Bullet Camera



Sun Shield



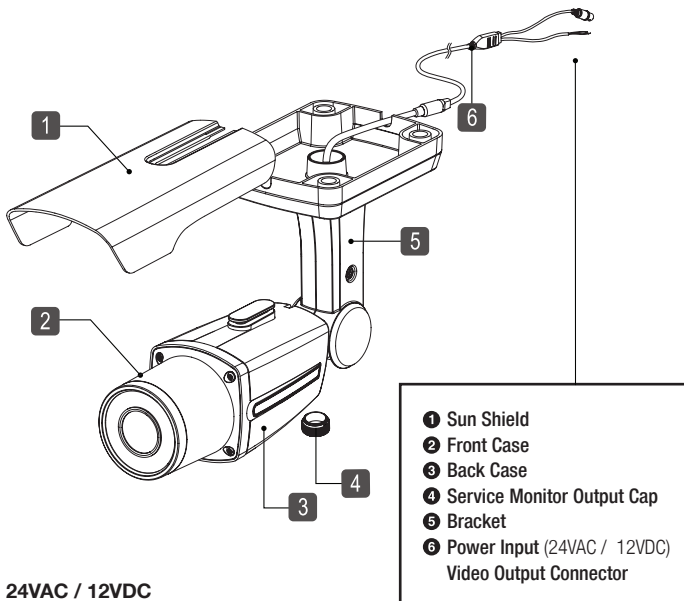
OSD Controller and
Service Cable
(CA-ORC)



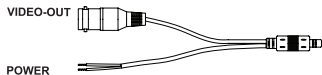
Mounting Accessories

Parts & Descriptions

Please refer below for the part names described in this manual.



24VAC / 12VDC

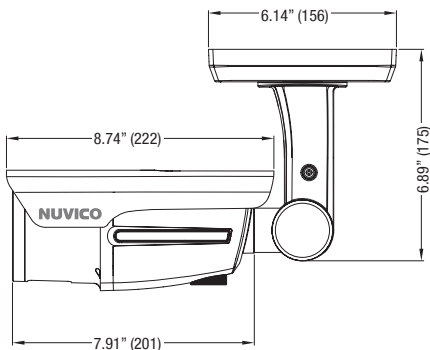
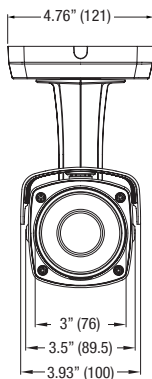


For longer, more consistent performance, avoid installation locations prone to direct sunlight.

Dimensions Unit: Inch (mm)

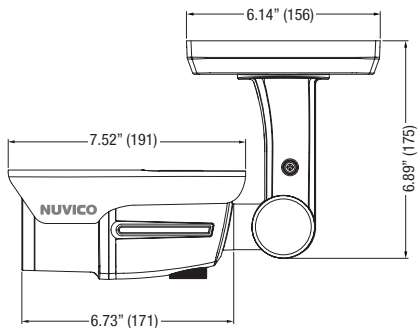
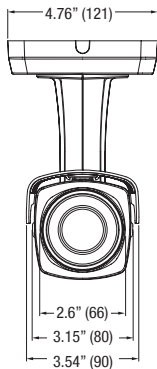
For the specific camera dimensions, please refer to the diagram below.

CB-HDE21N-L / CB-HDE65N-L [IR36 / IR48]



CB-HD39N-L

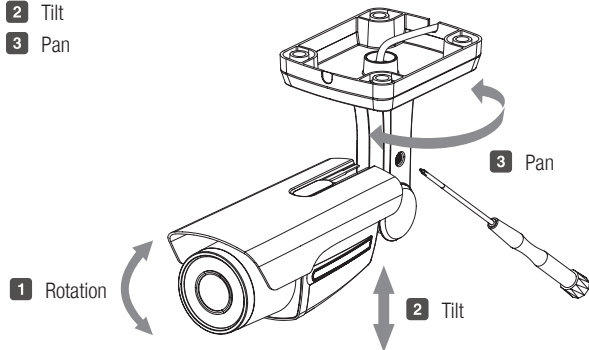
[IR24]



Adjusting the Pan, Tilt and Rotation

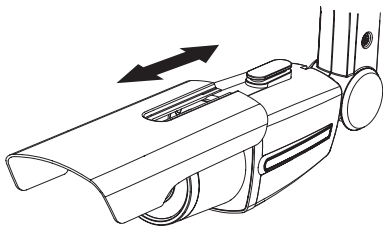
Loosen the screw located at the side of the bracket as illustrated below to adjust all three axes at once.

- 1 Rotation
- 2 Tilt
- 3 Pan



Installing the Sun Shield

The Sun Shield is easy to install by lining up the rear slot and sliding it in to place as shown below.

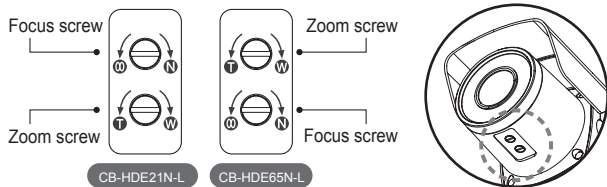


Adjusting the Vari-focal DC Auto Iris Lens

Follow the instructions provided below to make lens and brightness adjustments.

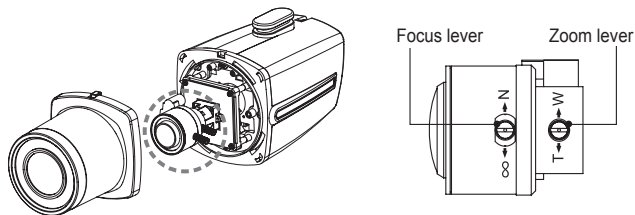
- Using the Zoom and Focus screws make the desired adjustments as shown
 - Field of View: Tele(T) to Wide(W)
 - Focus: Infinity(∞) to Near (N)

CB-HDE21N-L / CB-HDE65N-L



CB-HD39N-L

- Remove the front casing by firmly gripping it and rotating it counter-clockwise. Once you feel it come loose, pull it to separate from the main body.
- Loosen the zoom and focus screws then make the desired adjustments.
- Place the cover back over the lens then line up the notches with the four slots. Slide the front casing into the body then rotate clockwise to lock in place.



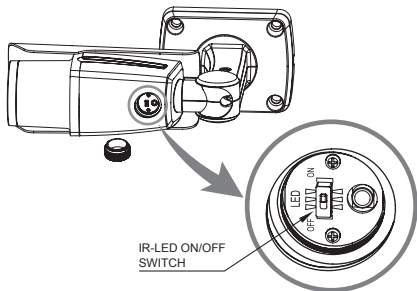
Switching the IR LED On/Off

IR LED Dip Switch

This dip switch is used to switch the IR LEDs on or off.

Excessive IR reflection may cause the most focused area of the screen to be over-exposed causing “Hot Spots” when a subject gets too close. Adjusting this setting may help compensate for such overexposure problems.

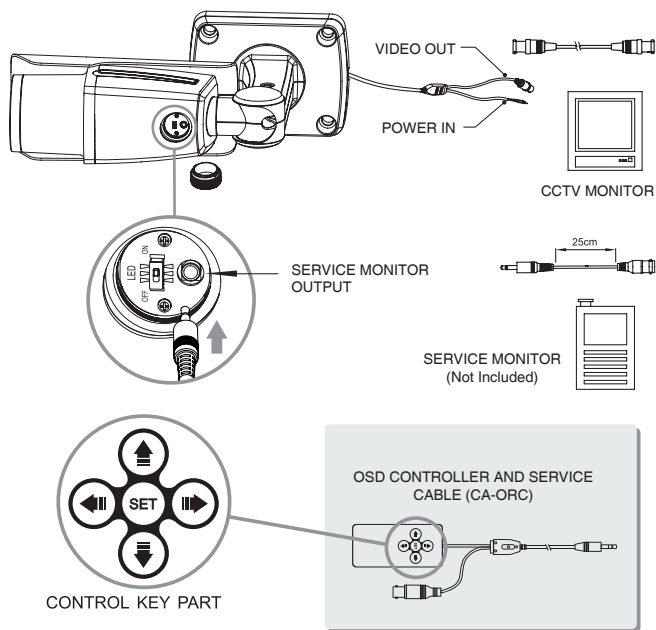
- OFF: Select the OFF setting if the subject in the picture displays extreme IR LED reflection.
- ON: Select the ON setting if the subject in the picture displays not enough IR LED reflection.



IR-LED Control	SWITCH
LED On	ON
LED Off	OFF

Connecting to Monitors

Follow the diagram below to make proper connections to the CRT monitor or the service monitor.

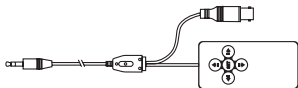


- Power Connection - 12VDC/24VAC Dual Voltage (Auto polarity detection and protection)
- This camera is equipped with a service monitor output.
- To setup the OSD menu, connect the OSD Controller and Service Cable (CA-ORC) to the Service Monitor output port located at the base of the camera housing as shown above.

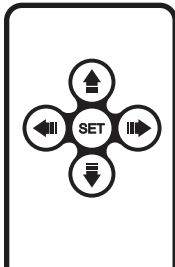
Camera OSD Setup Controls

OSD Controller and Service Cable

Gain access the dome camera OSD setup controls using the controller provided with your new camera shown to the right.



*Does not require battery for operation.



Set Key - Used to access MAIN SETUP menu mode.

Up / Down Key - Used to scroll through the desired sub-menu selection and to move the cursor up or down during the OSD menu.

Left / Right Key - Used to adjust the desired menu selection, and to move the cursor left or right. It is also used to confirm the setting changes.

Entering and Navigating the Main Menu

To enter the main menu, press the SET Key down once.

Entering and Navigating the Sub-Menu

To enter the sub-menu from the Main menu, press the **Left / Right** key at the selected line. While in the OSD menu, scroll up/down the available options by using the corresponding navigational keys.

Go to the Up-Menu from the Sub-Menu

To go to the up-menu from the sub- menu, press the **Left / Right** Key at the RETURN line.

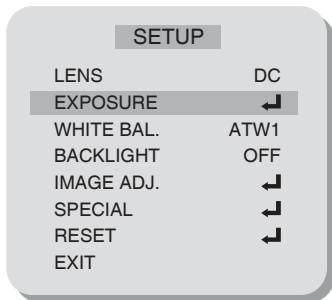
Exiting the OSD Menu

Once all of the desired changes have been made, move the cursor over to the SAVE AND EXIT line to save and exit.

OSD Menu Terms & Settings

SETUP

The Setup is used to control and adjust the many features and options available on your bullet camera. Read thoroughly before making any adjustments. *Note: These options have been pre-configured at the factory for optimal performance. Altering these settings are not recommended.*



1. LENS

This is always set on DC and cannot be changed.

2. EXPOSURE



OSD Menu Terms & Settings

2. EXPOSURE (Continued..)

2.1 SHUTTER (AUTO, FLK, 1/60 ⇐ - ⇨ 1/100,000)

The SHUTTER speed can be selected manually according to user preference. Faster shutter speed would be desirable to track fast moving objects across your screen. The shutter speed of 1/60(NTSC), or 1/50(PAL) seconds are recommended.

- **AUTO:** Select the AUTO mode for automatic adjustment of the shutters. It will slow down or speed up depending on the environment.
- **FLK:** Select the FLK mode if the screen flickers due to differences in light and electric frequencies.

2.2 BRIGHTNESS (0 ~ 255)

The BRIGHTNESS can be adjusted by opening and closing of the Iris aperture. User may fine-tune the screen to their preferred brightness. The brightness ranges from 0~255 - 0 being the darkest, and 255 being the brightest possible.

2.3 AGC - Automatic Gain Control (Off, Low, Middle, High)

This function is used to amplify the video signal when it falls below the set parameter. As the AGC level increases, the overall screen gets brighter, but the level of Noise is increased.

Note: The AGC feature cannot be modified while Day & Night mode is set to AUTO. By factory default, AGC is set to 'HIGH.'

2.4 DWDR - Digital Wide Dynamic Range (On, Off)

Wide Dynamic Range works to correct excessive light within a shot to produce a usable image. It works by calculating the ratio between the highest and lowest possible values of light to determine a balanced medium.

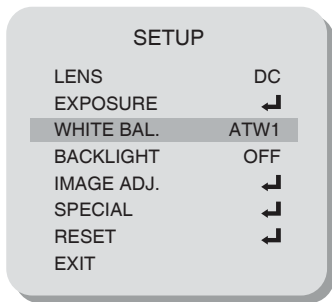
2.5 RETURN (Ret, End)

Select RET to go back to the main menu. Select END to save and exit.

OSD Menu Terms & Settings

3. WHITE BALANCE

This function is used to control the white balance under different lighting conditions. Adjust this setting to calibrate the camera for correct color rendering. *The factory default of 'ATW' is recommended for optimal performance.*



3.1 ATW1- Auto Tracing White Balance

Select the ATW1 mode to automatically adjust the color temperature according to its ambient condition.

3.2 ATW2

Select the ATW mode if the color temperature of the light source is between 1,800°K to 10,500°K (i.e. Fluorescent Light, Sodium Vapor Lamps)

3.3 AWC - Auto White Balance Control

Use the AWC function to correctly calibrate the white balance of the camera. While in this mode, press the SET key while placing a white sheet of paper in front of the camera. Repeat this procedure if there is a change in location or light source.

3.4 MANUAL (Indoor, Outdoor, Manual)

This function is to manually adjust the color temperature. Choose from Indoor, Outdoor, or Manual modes. The Blue and Red values can be adjusted independently only in the Manual mode.

OSD Menu Terms & Settings

4. BACKLIGHT

This function is used to compensate for exposure problem associated with extremely bright backgrounds causing the subjects to bloom or silhouette.

BLC	
AREA SEL.	AREA1
AREA STATE	ON
GAIN	147
HEIGHT	010
WIDTH	009
LEFT/RIGHT	003
TOP/BOTTOM	003
RETURN	RET ↵

HLC	
LEVEL	155
MODE	ALL DAY
RETURN	RET ↵

4.1 BLC - Back Light Compensation

The BLC divides the frame and calculates each zone according to its exposure level to counterbalance excessive background light to distinguish the subject in the foreground. User may selectively adjust the size of the area affected by the BLC by increasing or decreasing the respective values.

- **AREA SEL. (Area1 ~ Area2):** Choose one of two pre-defined boxes to adjust its size or location.
- **AREA STATE (On, Off):** Select a box active or inactive for BLC.
- **HIGHT/WIDTH:** Adjusts the height or width of the area.
- **LEFT/RIGHT/TOP/BOTTOM:** Changes the location of the defined area.
- **RETURN:** Select RET to save and exit.

4.2 HLC - High Light Compensation

The HLC masks out excessively bright areas within the frame and compensates the rest of the frame accordingly.

- **LEVEL (0~255):** Choose the intensity of the HLC.
- **MODE (ALL DAY, ONLY NIGHT):** Choose the preferred mode. ALL DAY keeps the HLC mode on day or night, and ONLY NIGHT only during night-time recordings.

OSD Menu Terms & Settings

5. IMAGE ADJ.

IMAGE ADJ.	
LENS SHAD.	ON ↩
2DNR	ON
MIRROR	OFF
FONT COLOR	↩
CONTRAST	126
SHARPNESS	026
DISPLAY	CRT ↩
NEG. IMAGES	OFF
RETURN	RET ↩

5.1 LENS SHAD. (0~255)

Convex shape of the lens causes the light to enter unevenly and typically makes the center of the screen brighter than the rest. Adjusting this setting will compensate for this undesirable effect and make the screen more even.

5.2 2DNR - Digital Noise Reduction (On, Off)

The DNR improves picture quality by filtering out signal noise associated with night-time recording. It compares pictures from a frame with the one previous and removes noise grains not present before.

5.3 MIRROR (On, Off)

This function is used to inverse (mirror) the pictures coming from the camera.

5.4 FONT COLOR

Change the OSD menu font color to user preference when there isn't enough contrast between the picture and the menu to make out the letters

- **FONT:** Choose from the 15 available colors.
- **ID & TITLE:** Choose from the 15 available colors.

OSD Menu Terms & Settings

5. IMAGE ADJ. (Continued..)

5.5 CONTRAST (0~255)

Use the CONTRAST function to adjust the contrast in the picture.

5.6 SHARPNESS (0~31)

Use the SHARPNESS function to adjust the sharpness of the picture.

5.7 DISPLAY (CRT, LCD, USER)

Select the type of display monitor that will be used with the camera. Because CRT monitor will often display pictures brighter than LCD monitor, properly setting this feature will produce the best color and brightness result.

5.8 NEG. IMAGE (On or Off)

This function reverses the pictures to view in inverse. Light to dark and vice versa.

5.9 RETURN

Select RET to save and exit, and to go back to the MAIN MENU.

OSD Menu Terms & Settings

6. SPECIAL

The Special Setup is used to control the CAMERA TITLE, DAY& NIGHT, MOTION, PRIVACY, DPC, and display the VERSION number of the dome camera.

SPECIAL	
CAM TITLE	OFF
DAY&NIGHT	AUTO ↩
MOTION	OFF
PRIVACY	OFF
DPC	↩
VERSION	00 00 00
RETURN	RET ↩

6.1 CAM TITLE (On, Off)

The CAMERA TITLE is used to assign a number or a custom title to easily identify among the many cameras that may be connected to your DVR or network.

Follow the simple procedure below to program the Camera ID.

1. Press the Left or Right key to turn ON the Camera Title mode.
2. While Camera ID function is ON, Press the Set key to enter the sub-menu.
3. Using the directional navigation keys, choose from alphabetical letters and numbers to create a 15-digit Camera ID.
4. Move the cursor to POS and press the Set key. The Camera ID will appear on the bottom center.
5. Using the directional navigation keys, change the position of the Camera Title to the desired location.
6. Move the cursor to END, then press the Set key to save and exit.

OSD Menu Terms & Settings

6. SPECIAL (Continued..)

6.2 DAY&NIGHT (AUTO, COLOR, B/W, EXT)

This function is used to control the color setting during daytime and night-time operation.

- **AUTO:** The Color mode is operated during daytime and automatically converts to B/W mode in the absence of light during night-time.

D&N AUTO

D→N LEVEL	154
D→N DELAY	3 SEC
N→D LEVEL	112
N→D DELAY	5 SEC
RETURN	RET ↵

D→N Level - This level determines the level of darkness before switching from Day mode to Night mode.

D→N Delay - This function is used to set the delay between switching of the modes. If the delay has been set to '5,' the camera will observe darkness for at least 5 seconds before switching to Night mode.

N→D Level - Opposite of D→N Level.

N→D Delay - See above. D→N Delay.

- **COLOR:** The camera is always in Color mode, even during night-time operation.
- **BW:** The camera is always in BW (black and white) mode.

D&N B/W

BURST	OFF
IR SMART	ON ↵
IR LEVEL	HIGH
RETURN	RET ↵

BURST - This function smooths out the noise in B/W mode, and also makes the transition between switching of the modes smoother (Color to B/W)

IR Smart - This function detects too much IR reflection and automatically compensates for the over exposure. Specific area can be defined by adjusting the location and size of the detection grid.

IR Level - This function is used to increase or lower the IR LED intensity.

- **EXT:** This feature is not supported.

OSD Menu Terms & Settings

6. SPECIAL (Continued..)

6.3 MOTION (On, Off)

This function is used to detect motion in area monitored by the camera. The “Running Man” icon will be displayed on the bottom left corner once motion has been detected. There are 4 pre-defined white boxes representing the areas monitored for motion. Each boxes can be individually adjusted to user preference.

MOTION	
AREA SEL.	AREA1
AREA STATE	ON
HEIGHT	004
WIDTH	004
LEFT/RIGHT	002
TOP/BOTTOM	002
DEGREE	038
VIEW	ON
RETURN	RET ←

- **AREA SEL. (Area1 ~ Area4):** Choose one of four pre-defined boxes to adjust its size or location.
- **AREA STATE (On, Off):** Select a box active or inactive for motion detection.
- **HEIGHT/WIDTH:** Adjust the height or width of the area.
- **LEFT/RIGHT/TOP/BOTTOM:** Changes the location of the defined area.
- **DEGREES (0~255):** Increases or decreases the sensitivity of the selected area. Increasing the number decreases sensitivity.
- **VIEW (On, Off):** Turns the “Running Man” icon On/Off.
- **RETURN:** Select RET to save and exit, and to go back to the MAIN MENU.

OSD Menu Terms & Settings

6. SPECIAL (Continued..)

6.4 PRIVACY (On, Off)

This function is used to mask specific areas within the frame of the camera to be concealed. There are total of 8 different colored boxes representing the masked areas. Each boxes can be individually adjusted to user preference.

PRIVACY	
AREA SEL.	AREA1
AREA STATE	ON
HEIGHT	032
WIDTH	032
LEFT/RIGHT	020
TOP/BOTTOM	016
COLOR	000
RETURN	RET ↵

- **AREA SEL.(Area1~Area8):** Choose one of 8 colored boxes to adjust its size or location.
- **AREA STATE (On, Off):** Select a box active or inactive for privacy masking.
- **HEIGHT/WIDTH:** Adjust the height or width of the area.
- **LEFT/RIGHT/TOP/BOTTOM:** Changes the location of the defined area.
- **COLOR (1~15):** Choose one of 15 colors for the masked area.
- **RETURN:** Select RET to save and exit, and to go back to the MAIN MENU.

6.5 DPC - Dead Pixel Compensation

This function is used to compensate for the dead pixel areas of the screen. When a defective pixel is detected, a neighboring pixel information is used to determine the approximate pixel data. The DPC is capable of compensating up to 64 points of dead pixels.

OSD Menu Terms & Settings

6. SPECIAL (Continued..)

6.6 VERSION

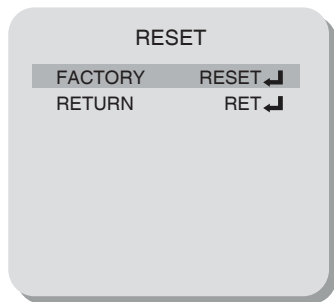
The camera firmware version is displayed here.

6.7 RETURN

Select RET to save and exit, and to go back to the MAIN MENU.

7. RESET

This function is used to reset all camera settings to the factory default setting.



8. EXIT

Choose EXIT to save and exit from the MAIN MENU.

OSD Menu Table

OSD Menu At A Glance

Use this section of the manual to get quick reference of the OSD menu. Please refer to the previous section for the detailed explanation of the features mentioned below.

MAIN MENU	CONFIGURATION			
LENS	DC			
EXPOSURE	SHUTTER	Auto, 1/60, FLK, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000		
	BRIGHTNESS	0~255		
	AGC	Off, Low, Middle, High		
	DWDR	On/Off		
	RETURN	RET/END		
WHITE BAL.	ATW1			
	ATW2			
	AWC->SET	AWC->SET (PUSH)		
	MANUAL	Color Temp.	Manual	
		Blue	0~255	
		Red	0~255	
		Return	RET/END	
	Color Temp	Indoor		
	Blue	—		
	Red	—		
	Return	RET/END		
	Color Temp.			
	Blue			
	Red			
Return				

OSD Menu Table

MAIN MENU	CONFIGURATION		
BACKLIGHT	OFF	Area Sel	Area1/Area2
	BLC	Area State	On/Off
		Gain	
		Height	
		Width	
		Left/Right	
		Top/Bottom	
		Return	
	HLC	Level	0~255
		Mode	All Day
Night Only			
Return	RET/END		
IMAGE ADJ.	LENS SHAD.	On/Off	
	2DNR	On/Off	
	MIRROR	On/Off	
	FONT COLOR	Font	0~15
		ID & Title	0~15
		Return	RET/END
	CONTRAST	0~255	
	SHARPNESS	0~31	
	DISPLAY	CRT	PED Level(0~63)
			Color Gain(0~255)
			Return(RET/END)
		LCD	GAMMA(0.05~1.00)
			PED Level(0~63)
			Color Gain(0~255)
	DISPLAY	USER	GAMMA(0.05~1.00)
PED Level(0~63)			
Color Gain(0~255)			
Return(RET/END)			
NEG. IMAGE			
RETURN			

OSD Menu Table

MAIN MENU	CONFIGURATION			
SPECIAL	CAM TITLE	On/Off		
	DAY&NIGHT*	Auto/Color/BW/Ext		
	MOTION	Area SEL.	Area1~Area4	
		Area State	On/Off	
		Height	0~15	
		Width	0~15	
		Left/Right	0~15	
		Top/Bottom	0~15	
		Degree	0~255	
		View	On/Off	
		Return	RET/END	
		PRIVACY	Area SEL.	Area1~Area8
	Area State		On/Off	
	Height		0~15	
	Width		0~15	
	Left/Right		0~15	
	Top/Bottom		0~15	
	Color		0~15	
	Return		RET/END	
	DPC	Auto Defect (64 point)		
VERSION	00,00,01			
RETURN	RET/END			
RESET	FACTORY	RESET		
	RETURN	RET/END		
EXT				

(*) Asterisk indicates features only available in the LED equipped vari-focal lens model.
 DAY&NIGHT function is not supported in the standard type cameras.

Technical Specifications

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Technical Specifications | NTSC

Technical Specifications	CB-HDE21N-L	CB-HDE65N-L
Video Format	NTSC	
Image Sensor	1/3" CCD	
Horizontal Resolution	600 TV Lines, 650 TV Lines (B/W)	
Day/Night Functionality	Yes w/ ICR	
Lens Type (DC Auto Iris)	Vari-focal 2.8mm-11mm	Vari-focal 6mm-50mm
Angle of View	134°(W) ~ 36°(T)	54°(W) ~ 7.6°(T)
IR LEDs	36	48
IR LEDs Distance	Up to 100ft.	Up to 200ft.
LEDs Illumination Angle	80°	60°
Sync System	Internal	
Effective Pixels (HxV)	768(H) x 494(V)	
Scanning System	525 Lines. 2:1 Interlaced	
Electronic Shutter	1/60 sec.	
Main Video Output	1.0 Vp-p Composite, 75 ohm	
Service Monitor Output	1.0 Vp-p Composite, 75 ohm	
Minimum Illumination	0.2 Lux, 0.00 Lux (IR LEDs On)	0.2Lux , 0.00 Lux (IR LEDs On)
S/N Ratio	More than 48dB (AGC Off)	
Camera Control	External Adjustments - Zoom, Focus	
General Information	CB-HDE21N-L	CB-HDE65N-L
Operating Temperature	23°F ~ 113°F (-5°C ~ +45°C)	
Operating Humidity	Within 90% RH	
Power Consumption	14W (LEDs On), 8W (Camera Only)	
Input Voltage	12VDC/24VAC Dual Voltage	

*Specifications are subject to change without any prior notice.

Technical Specifications | PAL

Technical Specifications	CB-HDE21P-L	CB-HDE65P-L
Video Format	NTSC	
Image Sensor	1/3" CCD	
Horizontal Resolution	600 TV Lines, 650 TV Lines (B/W)	
Day/Night Functionality	Yes w/ ICR	
Lens Type (DC Auto Iris)	Vari-focal 2.8mm-11mm	Vari-focal 6mm-50mm
Angle of View	134°(W) ~ 36°(T)	54°(W) ~ 7.6°(T)
IR LEDs	36	48
IR LEDs Distance	Up to 100ft.	Up to 200ft.
LEDs Illumination Angle	80°	60°
Sync System	Internal	
Effective Pixels (HxV)	752(H) x 582(V)	
Scanning System	625 Lines. 2:1 Interlaced	
Electronic Shutter	1/50 sec.	
Main Video Output	1.0 Vp-p Composite, 75 ohm	
Service Monitor Output	1.0 Vp-p Composite, 75 ohm	
Minimum Illumination	0.2 Lux, 0.00 Lux (IR LEDs On)	0.2 Lux , 0.00 Lux (IR LEDs On)
S/N Ratio	More than 48dB (AGC Off)	
Camera Control	External Adjustments - Zoom, Focus	
General Information	CB-HDE21P-L	CB-HDE65P-L
Operating Temperature	23°F ~ 113°F (-5°C ~ +45°C)	
Operating Humidity	Within 90% RH	
Power Consumption	14W (LEDs On), 8W (Camera Only)	
Input Voltage	12VDC/24VAC Dual Voltage	

*Specifications are subject to change without any prior notice.

Technical Specifications | NTSC

Technical Specifications	CB-HD39N-L
Video Format	NTSC
Image Sensor	1/3" CCD
Horizontal Resolution	600 TV Lines, 650 TV Lines (B/W)
Day/Night Functionality	Yes w/ ICR
Lens Type (DC Auto Iris)	Vari-focal 2.8mm-11mm
Angle of View	134°(W) ~ 36°(T)
IR LEDs	24
IR LEDs Distance	Up to 50ft.
LEDs Illumination Angle	80°
Sync System	Internal
Effective Pixels (HxV)	768(H) x 494(V)
Scanning System	525 Lines. 2:1 Interlaced
Electronic Shutter	1/60 sec.
Main Video Output	1.0 Vp-p Composite, 75 ohm
Service Monitor Output	1.0 Vp-p Composite, 75 ohm
Minimum Illumination	0.2 Lux, 0.00 Lux (IR LEDs On)
S/N Ratio	More than 48dB (AGC Off)
Camera Control	OSD Menu
General Information	CB-HD39N-L
Operating Temperature	23°F ~ 113°F (-5°C ~ +45°C)
Operating Humidity	Within 90% RH
Power Consumption	14W (LEDs On), 8W (Camera Only)
Input Voltage	12VDC/24VAC Dual Voltage

*Specifications are subject to change without any prior notice.

Technical Specifications | PAL

Technical Specifications	CB-HD39P-L
Video Format	NTSC
Image Sensor	1/3" CCD
Horizontal Resolution	600 TV Lines, 650 TV Lines (B/W)
Day/Night Functionality	Yes w/ ICR
Lens Type (DC Auto Iris)	Vari-focal 2.8mm-11mm
Angle of View	134°(W) ~ 36°(T)
IR LEDs	24
IR LEDs Distance	Up to 50ft.
LEDs Illumination Angle	80°
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Service Monitor Output	1.0 Vp-p Composite, 75 ohm
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Power Consumption	14W (LEDs On), 8W (Camera Only)
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