

1/2.8" 3.4 Mega Pixel CMOS SENSITIVE DAY/NIGHT HD CCTV



CHDC-34BSDC HD CCTV CAMERA

THANK YOU FOR CHOOSING ORION

Thank you for choosing ORION Images high quality HD CCTV Camera.

Please read this instruction manual carefully to keep your ORION Images product at peak performance for longer service duration. All ORION Images products are designed and manufactured with utmost care and craftsmanship to provide long life and high quality performance, if it is properly used and maintained as outlined in this manual. This high performance HD CCTV camera is equipped with a 1/2.8" FHD CMOS sensor, which has extremely wide range of uses in many different applications and conditions.

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CAUTION



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 appliance.

NOTE:

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 in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to correct the interference by one or more of the following measures.

CAUTION:

ANY CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PART RESPONSIBLE FOR COMPLIANCE COULD VOID THE USERS AUTHORITY TO OPERATE THE EQUIPMENT.

Instructions for Disposal of Electrical and Electronic Equipment in Private Households



Disposal of used Electric and Electronic Equipment (Applicable in the European Union and other European countries with waste recycling, disposal and collection regulations)

This symbol on the product, or in the related documents in the package, indicates that this product shall not be treated as normal household waste. Instead, it should be taken to a proper applicable collection point or depot for the recycling of electrical and electronic equipment.

By ensuring this product is disposed of correctly, you will help prevent possible negative consequences for the environment and human health which could otherwise be caused by inappropriate handling of this product. The correct recycling of materials will help to conserve natural resources.

For more detailed information about recycling of this product, please contact your local city authority, your household waste disposal service or the place where you purchased the product.

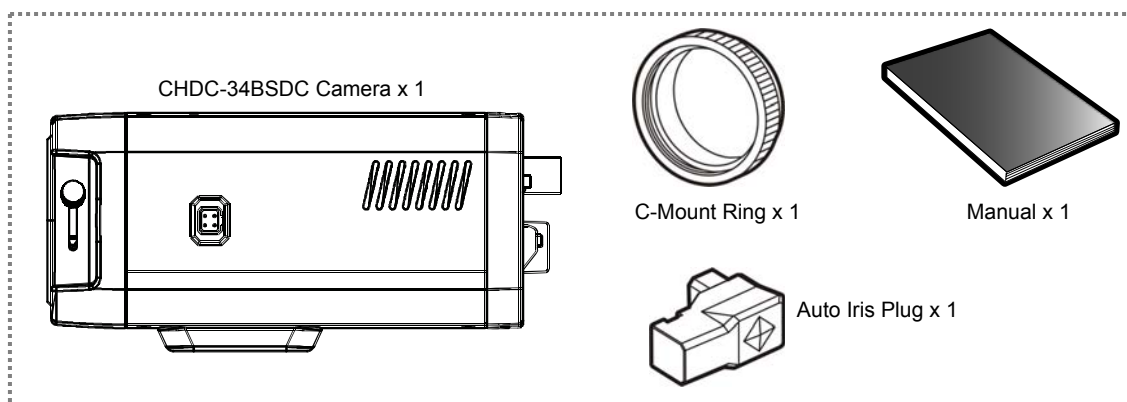
1. HANDLING PRECAUTIONS

- Do not install the camera in a water-splashed or highly humid environment.
- Do not use the camera where the ambient temperature drops below -10°C or rises above $+50^{\circ}\text{C}$. The images and component parts may be adversely affected or the camera may not function correctly.
- Never open the camera case because there are precision electrical and electronic components inside and an accident may result.
- Do not put anything metallic or any other foreign substances through the vent, as a fire or electric shock may result.
- Be sure to turn off the power before installing or making connections.
- Do not install the camera in places exposed to heat, vibrations and shock.
- Be careful not to drop or give a strong shock to the camera while transporting it.
- Do not touch the image sensor.
- Do not orientate the camera directly towards the sun.
- Some types of lenses may hunt in adverse light conditions. In such cases please re-adjust the lens in line with the instructions in the manual.
- Because of the characteristics of the digital image device, images may look unnatural at high temperatures, this does not mean the camera is faulty.

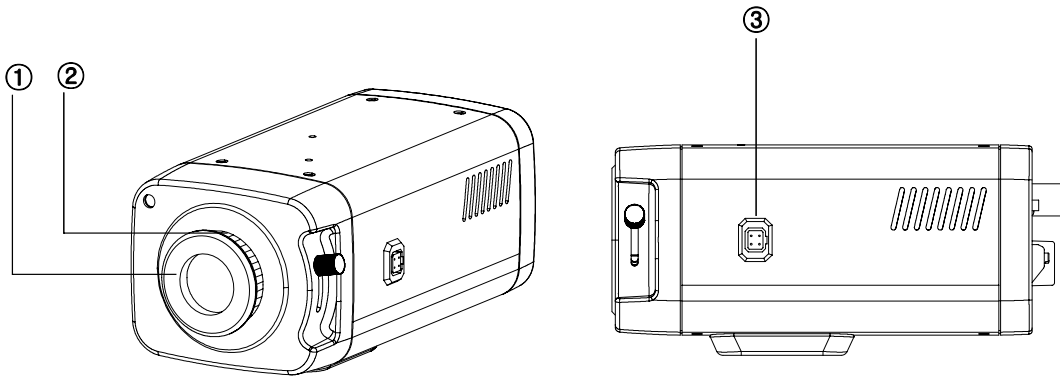
2. GENERAL

This HD CCTV Camera is provided with a High performance 1/2.8 inch 3.4M CMOS sensor. The camera features a highly sensitive with high resolution, and is equipped with digital DAY/NIGHT function, intelligent back-light compensation by which you can achieve proper Back Light Compensation, Automatic iris control, Crystal controlled internal sync lock system, Various modes of convenient Automatic while balancing, mirror image, private mask function, motion detection, camera setup and control is also possible locally on the camera real panel, or remote via RS-485 and this setup data is stored in the built-in non-volatile memory. The camera is best suited for HD CCTV surveillance purposes, from single camera operation to large scale integrated systems for visual information management.

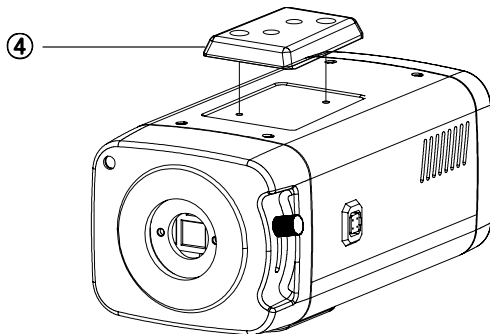
3. PACKAGE OF CONTENT



4. NAME & FUNCTIONS OF EACH PART

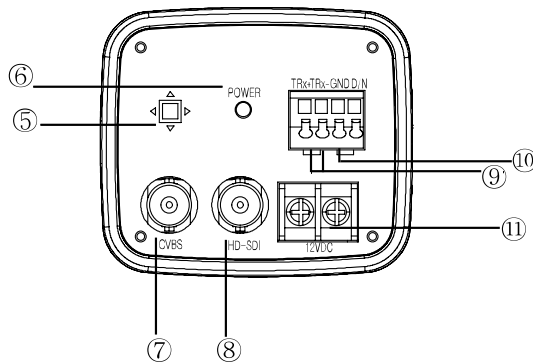


- ① Protective cover
- ② C-Mount lens adaptor
- ③ DC Iris Jack for DC Auto Iris Lens



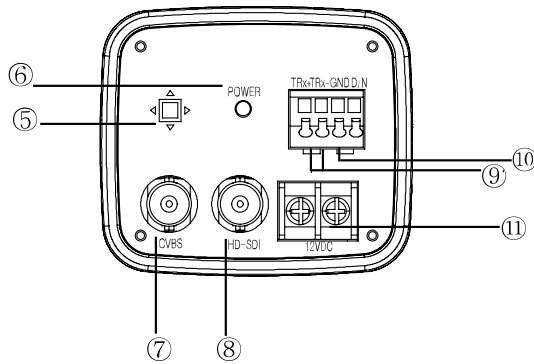
④ Mounting Bracket Holder

Mounting bracket holder can be separated and attached on the bottom side as well. Please use the supplied clamp screws only to change the position than 5mm depth can cause a serious damage to the inside of this camera.



- ⑤ OSD Control button
- ⑥ Power indicator LED
Lamp is on when the power is being supplied.
- ⑦ CVBS output (BNC Female)
Connect coaxial cable for composite video signal out.
- ⑧ HD-SDI output (BNC Female)
Connect coaxial cable for HD-SDI signal video signal out.

NOTE : HD-SDI and CVBS output can be used simultaneously



⑨ **RS-485 Control port**
You can control SETUP menu through this port by using external controllers like a remote controller that RS-485 Communication is supported.

⑩ **Day & Night Out port**
This unit can be synchronized by an External IR LED kit through this port.

Low : CDS sensor off (LED off)
High : CDS sensor On (LED on)

⑪ **Power input terminal**
Connect to the power source.
Polarity of the power is self- configured.
(Non-polarity).

5. INSTALLATION

5-1. Lens

Lens is not supplied with the unit. C-Mount or CS-Mount type of lens is available.
Please select a lens that has a good F-Stop number in order to get the best picture quality. Use of DC auto iris lens is recommended to achieve the best results for operating this product effectively.

Caution

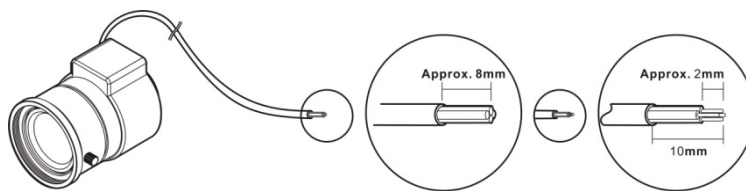
Please make sure the surface of the lens is always clear. Clean dirt or water drops with soft cloth in order to avoid the picture blooming or reflection.

NOTE

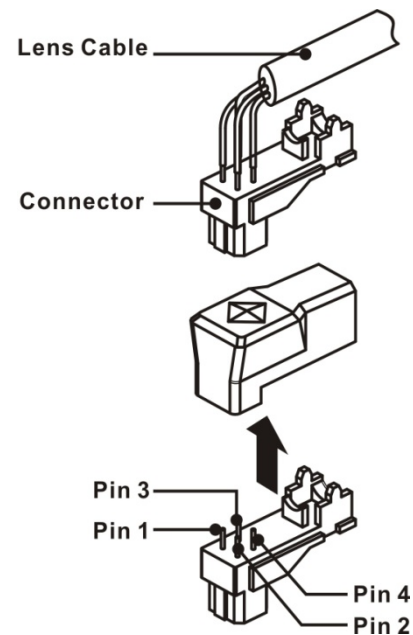
To get the best image quality, please use recommended lenses from the manufacturer or camera supplier.

5-2. When using an Auto IRIS Lens (DC Drive)

1. Please take off the sleeve outer cable of the lens by 10mm.
2. Please take off the sleeve inner cable of the lens by 2mm.



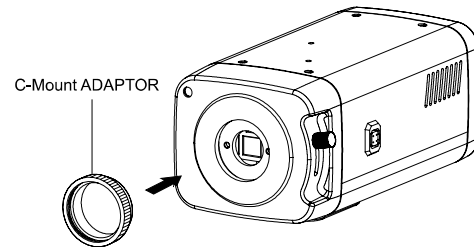
Pin No.	Lens
	DC
No.1 Pin	Damping -
No.2 Pin	Damping +
No.3 Pin	Drive +
No.4 Pin	Drive -



3. Solder the wires on the pin-connector (iris-jack) supplied with the lens according to the pin configuration as shown in the drawing.
4. Assemble the lens.
5. Connect the Auto Iris jack.

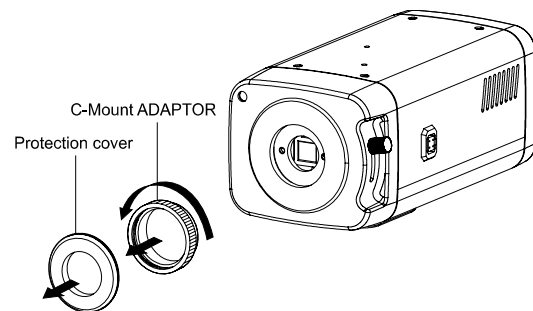
5-3. When using a C-mount Lens

- Please assemble C-Mount adaptor.
- C-Mount adaptor is included in the package.
- Fix the lens by turning it clockwise.



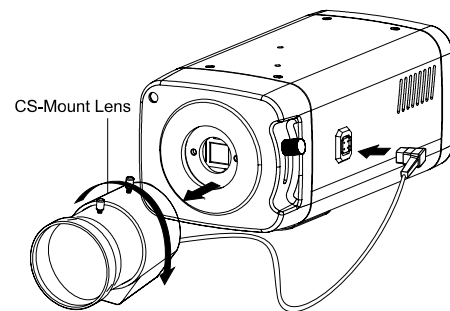
5-4. When using a CS-mount Lens

- Take off the Protection cover.
- Take off the C-MOUNT adaptor.
- Assemble the CS-MOUNT lens by turning it clockwise.



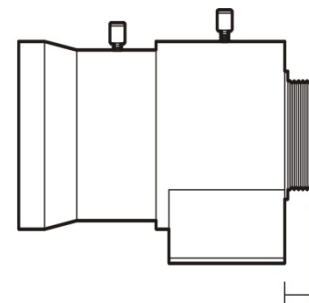
- When used with an Auto Iris lens, please insert the iris jack into the Iris socket which is located on the right side of the camera.

- Please set the lens mode by using OSD Switch on the back of the camera depending on the type of selected lens.



Caution

- Use the lens as shown in the picture here.
- When the lens is out of the spec, it could damage the camera inside or may not be correctly fit with the camera.
- Use the lens less than 450g. Heavier lens can damage the camera.

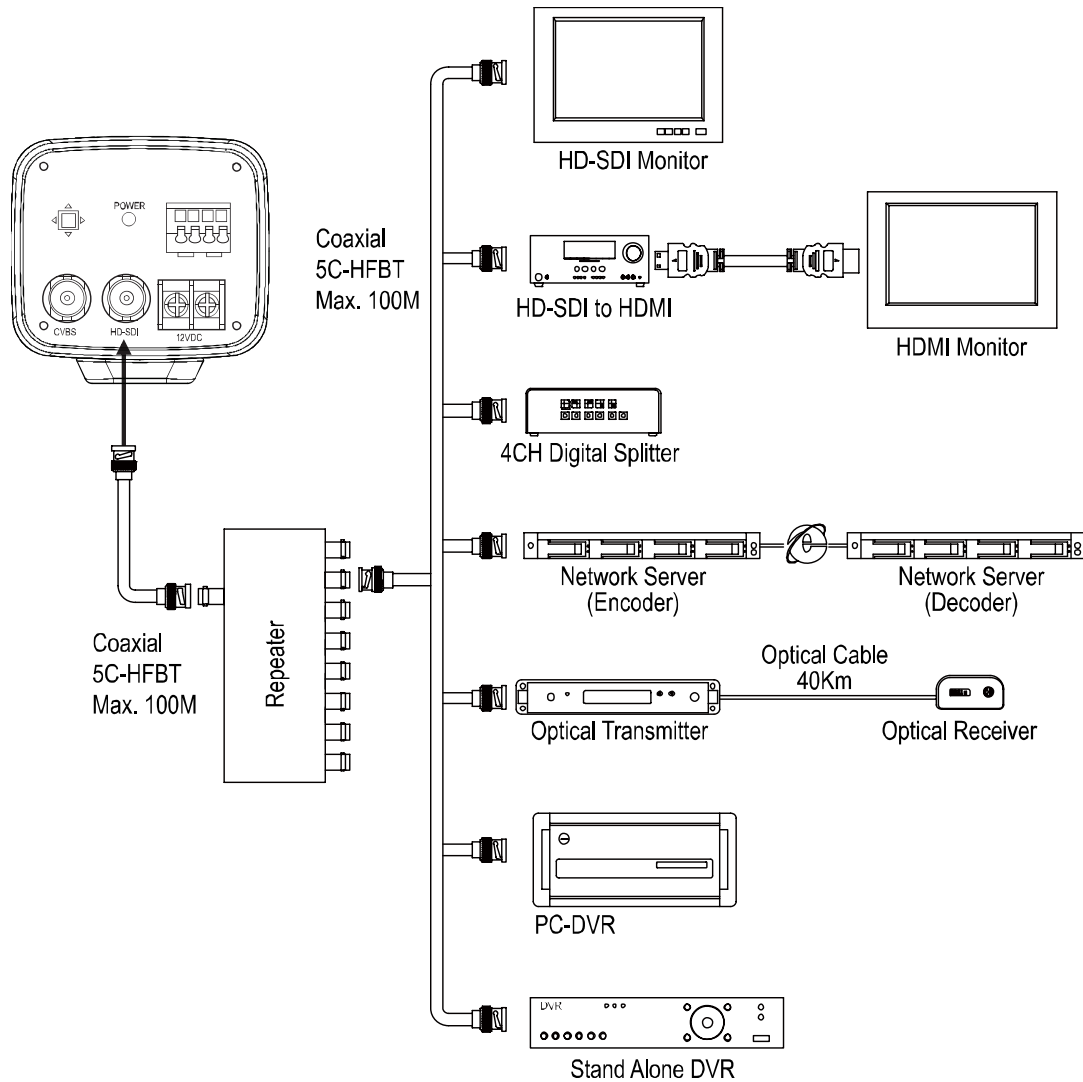


C-MOUNT Lens : Less than 11mm
CS-MOUNT Lens : Less than 6mm

5-5. Application of HD-SDI output

Impedance alliance in the system connection.

Make sure to connect the cable with the power off. Please locate the impedance switches of each equipment as instructed. Locate the switch to Hi-z position for the interim equipments. Locate the switch to 75Ω for the last equipment.



5-6. Power

Please make sure to use a UL/CE approved and 12VDC/450mA regulated power supply.

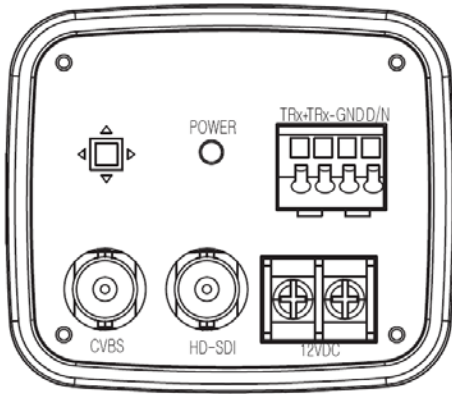
6. FUNCTION AND OPERATION

6-1. On Screen Menu

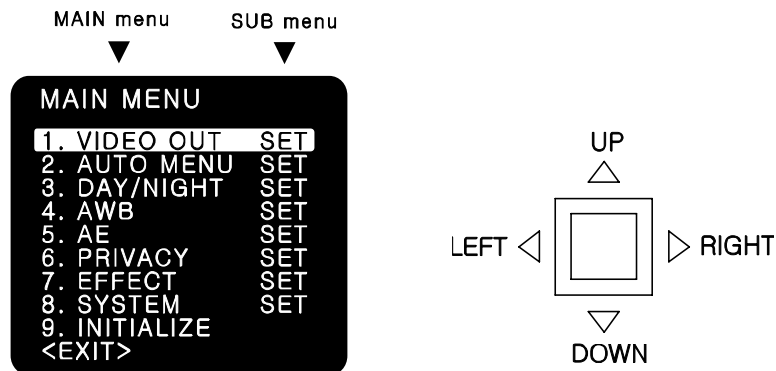
MAIN MENU					
VIDEO OUT	VIDEO OUTSIZE	FRAME RATE	CVBS OUT MODE		SAVE/ RETURN
AUTO MENU	NORMAL	50HZ INDOOR	60HZ INDOOR	OUTDOOR	RETURN
DAY/NIGHT	AUTO/COLOR/IR	D TO N LEVEL N TO D LEVEL	D TO N TIME N TO D TIME	D/N RESET	RETURN
AWB	(ATW)/PUSH/HOLD TRACK/USER/8000K/ 6000K/4200K/3200K	RED	BLUE	AWB RESET	RETURN
AE	IRIS ATR-EX(WDR) DSS	DC IRIS BLC/FLC	BRIGHTNESS LSC	FLICKERLESS AGC AE RESET	RETURN
PRIVACY	AREA NUMBER MASK POSITION	MASK DEFINE PRIVACY RESET	MASK PATTERN	MASK SIZE	RETURN
EFFECT	COLOR ADJUST 2DNR	SHARPNESS 3DNR	CONTRAST EFFECT RESET	REVERSAL	RETURN
SYSTEM	CAMERA ID FIRMWARE	ID DISPLAY 485 TERM	CAMERA NAME BAUD RATE	NAME DISPLAY SYSTEM RESET	RETURN
INITIALIZE	FACTORY INIT				RETURN
EXIT	SAVE/EXIT	EXIT	RETURN		

6-2. Setting Up the Menu

Settings can be made using the OSD Switch located on the back of the camera.



1. Press the button to access the SETUP mode.
The SETUP menu is displayed on the monitor.
2. Please select any function you wish to activate by using the UP/DOWN selections.
The cursor can be moved up or down by using the UP/DOWN selections.
Position the cursor to point to the function you wish to operate.



* MAIN-menu : Use UP/ DOWN selections. / SUB-menu : Use LEFT/ RIGHT selection

3. Change the status of the selected feature using the LEFT/RIGHT selections.
When the LEFT or RIGHT selection is done, available values and modes are displayed in order.
Please keep the selection until you get to the mode you wish to operate.
4. When completed, move the cursor indicator to 'EXIT' position and press the Button to finish the setting.

NOTE

If appears at the mode you wish to operate, it means that there is a sub-menu which can be selected by OSD Switch

6-3. VIDEO OUT

(1) VIDEO OUTSIZE

- VIDEO OUTSIZE can be set to 1080P, 1080i, 720P According to Local Regulation.

```
VIDEO OUT SETUP
1. VIDEO OUTSIZE : 1080P
2. FRAME RATE   : 30
3. CVBS OUT MODE : NTSC
SAVE/RETURN
```

(2) FRAME RATE

- Six modes of 60/59.94/50/30/29.97/25 can be selected

```
VIDEO OUT SETUP
1. VIDEO OUTSIZE : 1080P
2. FRAME RATE   : 30
3. CVBS OUT MODE : NTSC
SAVE/RETURN
```

(3) CVBS OUT MODE

- CVBS output can be set to NTSC or PAL according to local TV standard

```
VIDEO OUT SETUP
1. VIDEO OUTSIZE : 1080P
2. FRAME RATE   : 30
3. CVBS OUT MODE : NTSC
SAVE/RETURN
```

NOTE

In case of 1080i mode, only 3 types of Frame rate are available and they are 60/50/59.94 respectively.
When you use 1080P 60 mode, please check your DVR or related HD devices first whether they support this mode or not.
(In this mode, cable connection distance is less than half of 1080P 30 mode.)

6-4. AUTO MENU

(1) NORMAL

- Sets as initial factory default value.

(2) 50HZ INDOOR

- For indoor use in 50HZ (PAL) environment.
(In this mode, i.e. 50HZ INDOOR MODE, FLICKERLESS changes automatically into 50HZ mode from initial OFF mode)

(3) 60HZ INDOOR

- For indoor use in 50HZ (PAL) environment.
(In this mode, i.e. 60HZ INDOOR MODE, FLICKERLESS changes automatically into 60HZ mode from initial OFF mode.)

(4) OUTDOOR

- For outdoor use.
(In this mode, i.e. OUTDOOR MODE, AWB changes automatically into PUSH mode from initial ATW mode.)

MAIN MENU

```
1. VIDEO OUT SET
2. AUTO MENU SET
3. DAY/NIGHT SET
4. AWB SET
5. AE SET
6. PRIVACY SET
7. EFFECT SET
8. SYSTEM SET
9. INITIALIZE
<EXIT>
```

AUTOSET SETUP

```
1. AUTOSET : 50Hz INDOOR
2. AUTOSET RESET : OFF
RETURN
```

AUTOSET SETUP

```
1. AUTOSET : 60Hz INDOOR
2. AUTOSET RESET : OFF
RETURN
```

AUTOSET SETUP

```
1. AUTOSET : OUTDOOR
2. AUTOSET RESET : OFF
RETURN
```

(5) AUTOSET RESET

- When set as ON and press SET KEY, it turns into AUTOSET NORMAL MODE automatically, which means initial factory reset.

6-5. DAY / NIGHT

You can display pictures in Color/IR MODE/AUTO.

(1) DAY/NIGHT MODE

- Please position the cursor on 'DAY/NIGHT' on the SETUP menu by using the UP and DOWN selections.
- Please select the mode you wish to operate by using the LEFT and RIGHT selections.

- COLOR** : The picture is always displayed in color.
- IR** : The mode is switched to 'DAY' in a normal environment, but switches into 'NIGHT' mode when ambient illumination is low.

NOTE

True Day & Night cameras with CDS & ICR are to be set in this mode.

- AUTO**: Automatically turns between Day and Night Mode according to AGC operation.

NOTE

Day & Night cameras without CDS & ICR are to be set in this mode.

MAIN MENU

```

1. VIDEO OUT  SET
2. AUTO MENU  SET
3. DAY/NIGHT  SET
4. AWB        SET
5. AE         SET
6. PRIVACY    SET
7. EFFECT     SET
8. SYSTEM     SET
9. INITIALIZE
<EXIT>

```

DAY/NIGHT SETUP

```

1. DAY/NIGHT MODE : IR
2. D TO N LEVEL   : --
3. N TO D LEVEL   : --
4. D TO N TIME    : --SEC
5. N TO D TIME    : --SEC
6. D/N RESET     : OFF
RETURN

```

(2) D TO N LEVEL

- Sets the level of illumination in which COLOR mode is turned into B/W mode.
(This menu is not activated in case of IR MODE)

(3) N TO D LEVEL

- Sets the level of illumination in which B/W mode is turned into COLOR mode.
(This menu is not activated in case of IR MODE)

(4) D TO N TIME

- Sets the switching time from COLOR mode into B/W mode when the level of illumination has come to D TO N LEVEL.
(Not activated in case of IR MODE)

(5) N TO D TIME

- Sets the switching time from B/W mode into COLOR mode when the level of illumination has come to N TO D LEVEL.
(Not activated in case of IR MODE)

DAY/NIGHT SETUP

```

1. DAY/NIGHT MODE : AUTO
2. D TO N LEVEL   : 4Lux
3. N TO D LEVEL   : 8Lux
4. D TO N TIME    : 3SEC
5. N TO D TIME    : 3SEC
6. D/N RESET     : OFF
RETURN

```

(6) D/N RESET

- Resets all setting of DAY/NIGHT menu into initial factory default value.

(7) RETURN

- Returns to the MAIN MENU

6-6. AWB (Auto White Balance)

This is useful when the cameras are installed in different artificial lighting conditions where a standard 'White Balance' condition is not suitable for all.

(1) AWB MODE

- Please position the cursor on 'AWB' on the SETUP menu by using the UP and DOWN selections.
- Please select the mode you wish to operate by using the LEFT or RIGHT selection.
- Please select one of the 8 modes below.

(2) ATW (Auto Tracking White Balance)

- IN** : This mode can be used within the color temperature range of 2,500°K~7000°K
- OUT** : This mode can be used within the color temperature range of 1,800°K~10,500°K

 **NOTE** : In case of indoor use, ATW(IN) mode is highly recommended.

(3) PUSH MODE

This mode can be used within the color temperature range of 1,800°K~10,500°K

 **NOTE** : In case of outdoor use, PUSH mode is recommended

(4) HOLD MODE

This mode is used to fix AWB in a specific environment.

 **NOTE** : When there are drastic movements of some specific colored features such as red, blue, green or yellow cars on the express road and when environment is volatile so much, HOLD MODE is strongly recommended.

(5) TRACK MODE

Sets some specific range of color temperature. (23 types of color temperature can be set within 1,500°K~15,000°K range).

(6) USER MODE

USER MODE is suitable for enhanced users who want to set red and/or blue value manually according to user's environment.

Please change to manual adjustment mode and press OSD Switch.

Set the appropriate color temperature, and then increase or decrease the red and blue color values while monitoring the color changes on the screen.

- RED** : Adjust the level between 00 ~ 50(Default 17)
- BLUE** : Adjust the level between 00 ~ 50(Default 40)

MAIN MENU

```

1. VIDEO OUT  SET
2. AUTO MENU  SET
3. DAY/NIGHT  SET
4. AWB        SET
5. AE         SET
6. PRIVACY    SET
7. EFFECT     SET
8. SYSTEM     SET
9. INITIALIZE
<EXIT>

```

AWB SETUP

```

1. AWB MODE : [ATW]
2. RED      : --
3. BLUE     : --
4. AWB RESET : OFF
RETURN

```

AWB SETUP

```

1. AWB MODE : [USER]
2. RED      : 17
3. BLUE     : 40
4. AWB RESET : OFF
RETURN

```

(7) 8,000°K/6,000°K/4,200°K/3,200°K MODE

- 8,000°K : Shade
- 6,000°K : Cloudy weather
- 4,200°K : Fluorescent light
- 3,200°K : Electric light blub

(8) AWB RESET

- Resets all setting of AWB menu into initial factory reset value.

(9) RETURN

- Returns to the MAIN MENU.

6-7. AE (Auto Exposure)**(1) IRIS MODE**

- **DC** : Selects DC drive auto iris lens.
- **ESC** : Selects manual iris lens
- **AE HOLD** : Fixes the change of the brightness.
(This mode is useful when lots of motions are detected on the monitor)

(2) DC IRIS LEVEL

Adjusts the mechanical Iris lens in 00 ~ 50(Default22)

(3) BRIGHTNESS

Adjusts the brightness in 00 ~ 30(Default 07)

(4) FLICKERLESS

This is used only when there is a difference in frequency between the power system (50Hz) and TV system (60Hz). In this case, flicker is occurred on the monitor. In most countries other than Japan, FLICKERLESS mode is not necessary.

☞ **NOTE** : When the power system (50Hz) and the TV system(60Hz) are different,

- 'Flickerless on' mode is recommended for indoor use.
- 'Flickerless off' mode is recommended for outdoor use.

(6) ATR-EX (WDR)

This mode functions like WDR.

3 modes of Off/Low/Mid/High can be selected.

Wide Dynamic Range Performance

In general, it is very hard to see objects inside the buildings, etc in case that there comes strong light from the outside.

By using ATR-EX(WDR) mode, the difference in brightness between the bright area and the dark area can be minimized and consequently those objects inside and outside of the buildings or windows can be seen all together even though there is strong light or backlight from the outside.

☞ **NOTE** : This mode is recommended for those environment with backlight or shade.

When ATR-EX(WDR) is ON, DC IRIS LEVEL, BRIGHTNESS, BLC menu's are all inactivated.

MAIN MENU

```

1. VIDEO OUT  SET
2. AUTO MENU  SET
3. DAY/NIGHT  SET
4. AWB        SET
5. AE         SET
6. PRIVACY    SET
7. EFFECT     SET
8. SYSTEM     SET
9. INITIALIZE
<EXIT>

```

AE SETUP

```

1. IRIS           : DC
2. DC IRIS LEVEL : 22
3. BRIGHTNESS    : 07
4. FLICKERLESS   : OFF
5. ATR-EX(WDR)   : OFF
6. BLC           : OFF
7. LSC           : 00
8. AGC           : MID
9. DSS           : OFF
10. AE RESET     : OFF
RETURN

```

AE SETUP

```

1. IRIS           : DC
2. DC IRIS LEVEL : --
3. BRIGHTNESS    : --
4. FLICKERLESS   : OFF
5. ATR-EX(WDR)   : LOW
6. BLC           : --
7. LSC           : 00
8. AGC           : MID
9. DSS           : OFF
10. AE RESET     : OFF
RETURN

```

(6) BLC (Back Light Compensation)

Enables a user to directly select a desired area from a picture, and to view the area more clearly even under backlight environment.

- **BLC** : Used for backlight environment.
(Indoor objects can be seen)
- **FLC** : Compensates the saturation of image when camera faces toward the same direction as sunlight.

(7) LSC (Lens Shading Correction)

Adjust the LEVEL 00 ~ 50(Default 00) Compensates for the shading of the lens.

 **NOTE** : This function will be provided soon in next version.

(8) AGC (Auto Gain Control)

The higher the gain level is, the brighter the screen becomes. But the higher gain level causes more noise.

- **LOW** : Allows automatic gain control from 0 to 20dB.
- **MIDDLE** : Allows automatic gain control from 0 to 30dB.
- **HIGH** : Allows automatic gain control from 0 to 42dB.

(9) DSS (Digital Slow Shutter)

This is an electronically activated function to improve the sensitivity for viewing low light condition in addition to the original sensitivity from the sensor itself.

Shutter level is adjustable x2 times.

At night, DSS is set to x2 automatically.

 **NOTE** : This function will be provided soon in next version

(10) AE RESET

Resets all settings of AE menu into the initial factory default value.

(11) RETURN

Returns to the MAIN MENU.

AE SETUP

```
1. IRIS          : DC
2. DC IRIS LEVEL : 22
3. BRIGHTNESS   : 07
4. FLICKERLESS   : OFF
5. ATR-EX(WDR)   : --
6. BLC           : BLC
7. LSC           : 00
8. AGC           : MID
9. DSS           : OFF
10. AE RESET     : OFF
RETURN
```

AE SETUP

```
1. IRIS          : DC
2. DC IRIS LEVEL : 22
3. BRIGHTNESS   : 07
4. FLICKERLESS   : OFF
5. ATR-EX(WDR)   : OFF
6. BLC           : OFF
7. LSC           : 00
8. AGC           : MID
9. DSS           : OFF
10. AE RESET     : OFF
RETURN
```

AE SETUP

```
1. IRIS          : DC
2. DC IRIS LEVEL : 22
3. BRIGHTNESS   : 07
4. FLICKERLESS   : OFF
5. ATR-EX(WDR)   : OFF
6. BLC           : OFF
7. LSC           : 00
8. AGC           : MID
9. DSS           : X2
10. AE RESET     : OFF
RETURN
```

MAIN MENU

```
1. VIDEO OUT     SET
2. AUTO MENU     SET
3. DAY/NIGHT     SET
4. AWB           SET
5. AE            SET
6. PRIVACY       SET
7. EFFECT        SET
8. SYSTEM        SET
9. INITIALIZE
<EXIT>
```

6-8. PRIVACY

Masks the areas you want to hide on the screen.

- (1) **AREA NUMBER**
You can select up to 4 PRIVACY areas.
- (2) **MASK DEFINE**
Determines whether to use the MASK or not.
- (3) **MASK PATTERN**
Defines the Mask Color or type.
 - 6 types of BLACK/RED/GREEN/BLUE/YELLOW/MOSAIC are selectable.
- (4) **MASK SIZE**
By moving the cursor LEFT/RIGHT, TOP/BOTTOM, the size of masking area can be determined..
- (5) **MASK POSITION**
Adjust vertical and horizontal position of masking area.
- (6) **PRIVACY RESET**
Resets all setting of PRIVACY menu.
- (7) **RETURN**
Returns to the MAIN MENU.

PRIVACY ZONE SETUP

```

1. AREA NUMBER   : 01
2. MASK DEFINE   : OFF
3. MASK PATTERN  : BLACK
4. MASK SIZE     : (SET)
5. MASK POSITION  : (SET)
6. PRIVACY RESET : OFF
RETURN
    
```

6-9. EFFECT

Masks the areas you want to hide on the screen.

- (1) **COLOR ADJUST**
 - **COLOR GAIN** : Adjusts the COLOR GAIN level in 00 ~ 50(Default 25)
 - **COLOR HUE** : Adjusts the COLOR HUE level in 00 ~ 50(Default 25)

 **NOTE** : This function enables user to adjust the variation of Color Gain on the monitor when installing camera.

- (2) **SHARPNESS**
Adjusts the SHARPNESS level in 00 ~ 50(Default 25)
- (3) **CONTRAST**
Adjusts the CONTRAST level in 00 ~ 50(Default 25)
- (4) **REVERSAL**
Enables either normal image (NORMAL), mirrored Image (MIR), vertically reversed image (VER), vertically reversed and mirrored image(FLIP).

MAIN MENU

```

1. VIDEO OUT   SET
2. AUTO MENU   SET
3. DAY/NIGHT   SET
4. AWB         SET
5. AE          SET
6. PRIVACY     SET
7. EFFECT      SET
8. SYSTEM      SET
9. INITIALIZE
<EXIT>
    
```

EFFECT SETUP

```

1. COLOR ADJUST : (SET)
2. SHARPNESS    : 25
3. CONTRAST     : 25
4. REVERSAL     : NORMAL
5. 2DNR         : MID
6. 3DNR         : MID
7. EFFECT RESET : OFF
RETURN
    
```

(5) 2DNR

Cuts off the noise in low light condition.

- 4 modes of OFF/LOW/MID/HIGH are available.

☞ NOTE : Higher 2DNR level reduces more low light noise but deteriorates resolution as well.

(6) 3DNR

Cuts off the noise in low light condition

- 4 modes of OFF/LOW/MID/HIGH are available.

☞ NOTE : Higher 3DNR level reduces more low light noise but it can cause ghost effect as well.
This function will be provided soon in the next firmware version.

(7) EFFECT RESET

Resets all setting of EFFECT menu into initial factory default.

(8) RETURN

Returns to the MAIN MENU

MAIN MENU

```

1. VIDEO OUT    SET
2. AUTO MENU   SET
3. DAY/NIGHT    SET
4. AWB          SET
5. AE           SET
6. PRIVACY      SET
7. EFFECT       SET
8. SYSTEM       SET
9. INITIALIZE   SET
<EXIT>

```

6-10. SYSTEM**(1) CAMERA ID**

Determines the camera ID number in 001 ~ 255
(Default 001)

(2) ID DISPLAY

Defines the location where camera ID is displayed on the screen. 4 location of top, bottom, left and right can be selected.

(3) CAMERA NAME

Defines camera name. When 'Name Display' is on, this text will Be shown on the screen.

(4) NAME DISPLAY

If you enter a title for this, that will appear on the monitor.

- Please position the cursor on 'NAME DISPLAY' by moving UP or DOWN direction
- Then, select 'ON' by using the LEFT and RIGHT selection. When you press the button to complete 'ON', then 'CAMERA NAME' will be displayed.

☞ NOTE : If 'OFF' is selected, the NAME DISPLAY does not appear on the monitor even if it has been input.

- Up to 10 letters are available for the NAME DISPLAY.

- Please move the cursor to the letter to choose by using the UP and DOWN selections.
- Set an ID from 0,1,~8,9, A,B, ~Y,Z by using the UP, DOWN, LEFT and RIGHT selections.

SYSTEM SETUP

```

1. CAMERA ID      : 001
2. ID DISPLAY     : OFF
3. CAMERA NAME    : MAINCAMERRA
4. NAME DISPLAY   : OFF
5. FIRMWARE       : V1008A
6. 485 TERM       : ON
7. BAUDRATE       : 9600
8. SYSTEM RESET   : OFF
RETURN

```

**CAMERA NAME : MAINCAMERA**

0123456789ABCDEFGHIJ
KLMNOPQRSTUVWXYZ

```

DELETE      : PUSH IRISOPEN
POSITION     : PUSH IRISOPEN
RETURN

```

- ③ Lock in the letters by using the button.
When the letter is locked in, the cursor moves to the next space.

- ④ Please repeat the above to input NAME DISPLAY.

D. When a name has been chosen, please select a position for the name to display.

- ① Please move the cursor onto 'POSITION' and then press the button.
- ② The name will appear at the top right corner.
- ③ Please find the position you wish to display the name by using the 4 directional selections, and then press the button to finish.

E. Camera Name Input process is finished if user selects 'RETURN' and presses OSD switch.

(5) **FIRMWARE**

Shows firmware version of this camera unit.

(6) **485 TERM**

RS485 Function ON/OFF

(7) **BAUD RATE**

Selects baud rate for RS485 communication among 2400/ 4800/ 9600. (Default: 9600)

(8) **SYSTEM RESET**

Resets all setting of SYSTEM menu.
CAMERA ID, 485 TERM settings are not initialized.

(9) **RETURN**

Returns to the MAIN MENU.

6-11. INITIALIZE

Resets the camera setting to the factory defaults.
CAMERA ID, 485 TERM settings are not initialized.

6-12. EXIT

- **SAVE/EXIT**

Saves the current settings and exits the menu.

- **EXIT**

Not saves the current settings and exits the menu.

- **RETURN**

Returns to the MAIN MENU.

MAIN MENU

```
1. VIDEO OUT  SET
2. AUTO MENU  SET
3. DAY/NIGHT  SET
4. AWB        SET
5. AE         SET
6. PRIVACY    SET
7. EFFECT     SET
8. SYSTEM     SET
9. INITIALIZE
<EXIT>
```

FACTORY SETUP

```
1. FACTORY INIT : OFF
RETURN
```

```
1. SAVE/EXIT
2. EXIT
3. RETURN
```

7. TROUBLE SHOOTING

If there are problems in operating, please refer to the checklist below. If the problem persists, please contact the agent where this product is purchased.

PROBLEMS	Troubleshooting Tip				
Nothing appears on the screen	1. Please check that the power cord and line connection between the camera and the monitor are fixed properly.				
	2. Please check that you have properly connected VIDEO cable to the VIDEO output jack of the camera				
The image on the screen is dim	1. Is lens stained with dirt? Clean your lens with soft, clean cloth				
	2. Set the monitor to proper condition.				
	3. If the camera is exposed to too strong light, change the camera position.				
The image on the screen is dark	1. Adjust the contrast feature of the monitor.				
	2. If you have an interim device, set the 75Ω / Hi-z properly.				
The camera is not working properly, and the surface of the camera is hot.	Please check that you have properly connected the camera to an appropriate power source.				
Color is not correct	Please check the setting of AWB menu				
The screen flickers continually	Please check that direction of camera turns toward the Sun.				
RS-485 communication fails.	Please check the polarity between RS-485 Control Port and RS-485 cable.				
	485 Control Board Connection Port		RS-485 Control Port		
	(+)CONNECTION TERMINAL(TRX+)		485+		
	(-)CONNECTION TERMINAL(TRX-)		485-		
	Please check the RS-485 Communication establishment initial value *RS-485 Communication establishment initial value				
	Item	Camera ID	BAUD RATE	UART MODE	RET PKT
	Initial value	001	9600	8-NONE-1	ENABLE
	We recommend that you make ground connect between camera and controller in order to maintain safety communication control.				

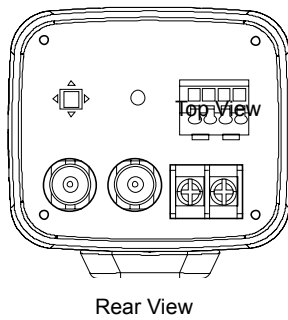
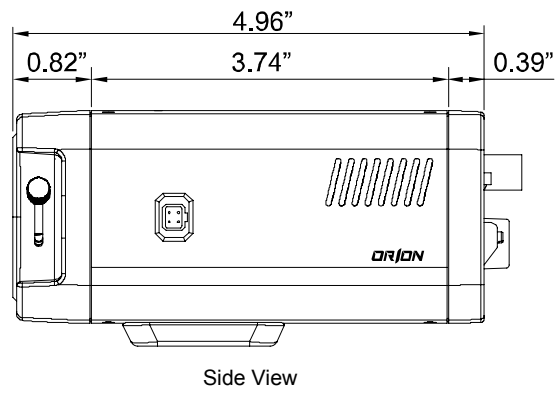
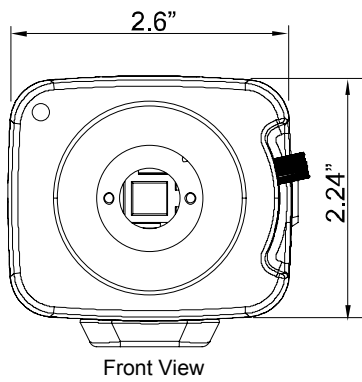
8. SPECIFICATIONS

CHDC-34BSDC	
Image Sensor	Sony 1/2.8 inch progressive scan CMOS, 3MegaPixel
Total Pixels	2144(H) x 1588(V) 3.4 Megapixel
Effective Pixels	2096(H) x 1561(V) 3.27 Megapixel
Scanning System	Progressive Scan
Horizontal	More than 1100 TVL
S/N Ratio	More than 52dB
Min. Illumination	1.0 Lux with DSSX2 (F1.2, 30IRE, AGC On)
Shutter Speed	1/30s Default, (Long Exposure Mode, ~1Sec)
Video Output	1920 x 1080P 60/50/30/25/59.94/29.97, 1920x 1080i 60/50/59.94/
	1280x 720P 60/50/30/25//59.94/29.97 (Mode Select)
Video Output Format	2.97G/s, 3G-SDI Output (SMPTE 424M)
AV Output	1V p-p Composite. 75 Ohms
Digital Output	SDI Output
Day & Night	D/N Output Port, ICR
Serial Port	RS485
Lens	C/CS Mount Lens
Lens Control	DC IRIS Lens
Power Source	DC 12V (9~19V)
Power Consumption	440mA / DC12V (5.3W)
Operating Temperature	-10°C ~ 50°C
Storage Temperature	-20°C ~ 70°C
Operating Humidity	Under 90% Non-condensing
Measurement (inch)	2.6(W) x 2.24(V) x 4.96(L)
Weight (Approx.)	700g
OSD	Video Mode / D&N / AWB / AE /Privacy Mask / Flickerless / Brightness / Sharpness / Mirror & Flip / DSS/DNR, etc.

* Design and specifications are subject to change without notice

9. OUTLINE DIMENSION

Unit: Inch



10. WARRANTY & AFTER-SALE SERVICE

Warranty accompanies this product. Read and fill out the warranty card that you have received at your dealer. Keep this card in a safe place.

- Please consult ORION Images Corporation or your dealer for full warranty information. Your dealer will repair or replace free of charge within the warranty period according to the warranty coverage.
- For repairs after the expiration of the warranty period, consult your dealer or sales representative. It will first be judged whether the fault is repairable or not. Charged servicing will then be made upon request of the user.
- Before you ask for servicing, please ensure you read the instruction Manual. If the unit still fails, take note of the model number, date of purchase, problem, etc. In detail, and inform your dealer or sales representative.
- If you have questions about the after-sale service, contact your dealer or sales representative.

* We suggest you ask for preventive inspection as soon as possible.

Contact ORION Images :

In the event of missing and/or damage equipment, or technical questions, the following information can help in the completion of the installation.

Address: 7300 Bolsa Avenue, Westminster, CA 92683

Tel: 714-766-6300 / **Fax:** 714-766-6310

Email: rma@orionimages.com

Website: <http://www.orionimages.com>