



 **EverFocus**[®]

2 Megapixel Full HDcctv Outdoor Dome Camera

Operation Instructions

Model No. **EHH5200**

Please read this manual first for correct installation and operation. This manual should be retained for future reference. The information in this manual was current when published. The manufacturer reserves the right to revise and improve its products. All specifications are therefore subject to change without notice.

PRECAUTIONS

- 1. Do not install the camera near electric or magnetic fields.**
Install the camera away from TV/radio transmitters, magnets, electric motors, transformers and audio speakers since the electromagnetic fields generated from these devices may distort the video image.
- 2. Never disassemble the camera beyond the recommendations in this manual nor introduce materials other than those recommended herein.**
Improper disassembly or introduction of corrosive materials may result in equipment failure or other damage.
- 3. Try and avoid facing the camera toward the sun.**
In some circumstances, direct sunlight may cause permanent damage to the sensor and/or internal circuits.
- 4. Keep the power cord away from water and other liquids and never touch the power cord with wet hands.**
Touching a wet power cord with hands or touching the power cord with wet hands may result in electric shock.
- 5. Never install the camera in areas exposed to water, oil or gas.**
Water, oil or gas may result in equipment failure, electric shock or, in extreme cases, fire.
- 6. Cleaning**
Do not touch the surface of the sensor directly with the hands. Use a damp soft cloth to remove any dirt from the camera body. Use lens tissue or a cotton tipped applicator and ethanol to clean the sensor and the camera lens. Please do not use complex solvents, corrosive or abrasive agents for cleaning.
- 7. Do not operate the camera beyond the specified temperature, humidity or power source ratings.**
Use the camera at temperatures within -10°C~50°C (14°F~122°F) and humidity between 20~80%. The input power source is 12VDC/24VAC.

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1. PRODUCT OVERVIEW

The EHH5200 is an HDcctv outdoor dome camera with true Day/Night capability in an IP66 vandal resistant housing. Based on a 2 megapixel progressive scan sensor for your choice of 1080 or 720 resolution HD 100% digital images, it delivers vastly superior video quality compared to traditional CCTV images. This superior resolution not only captures more critical evidentiary information, but the inherent ability for megapixel video to zoom with clarity to 4X or more improves and extends the area of coverage, expedites completion of investigations, resolves complaints and reduces both capital and operational costs.

No major upgrade to the IT network is required to deploy this powerful technology; HDcctv cameras communicate at digital speeds up to 1.5Gb/s over existing or new coaxial cable (RG59 or other types for longer distances), using industry standard BNC connectors. With vari-focal 3.3~12mm megapixel auto iris lens the EHH5200 delivers flexible, robust coverage in a wide range of demanding surveillance environments while delivering stunning HD image quality .

1.1 Main Features

- HDcctv 2 Megapixel real time 1920x1080 (or 1280x720) HD video over coax
- 2 megapixel progressive scan CMOS sensor
- Supports video outputs of 1080i, 1080p and 720p (field select)
- True day/night operation with automatic ICR module
- 3.3~12mm AI VF megapixel lens captures the desired field of view
- Field select choice of wall or ceiling mounting
- Easy to use OSD setup menu
- SD TV Out (BNC) for aim and focus using a standard hand held test monitor
- Dual Power Source 12VDC/24VAC dual voltage auto polarity detect
- Vandal resistant
- Weatherproof IP66 rated

1.2 Package Contents



Please be careful when you unpack the box and the electronic devices inside. Check and make sure that you have all the items listed below inside the original box:

Camera Unit x 1

This Operation Manual x 1

Mounting kit includes:

- Long Screws x 3 (for mounting the base)
- Expanding Anchors x 3
- Washers x 3

Installation Template Sticker x 1

Video Test Cable x 1



Power Supply Pigtail x 1



Desiccant Pack x 1



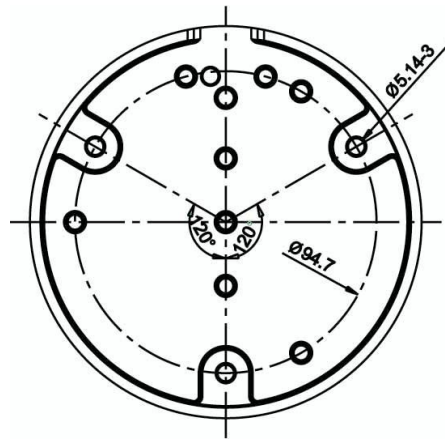
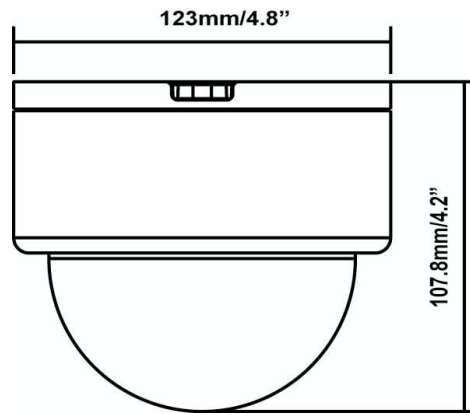
Please Note: If an item appears to have been damaged in shipment, replace it properly in its carton and notify the shipper. If any items are missing, notify your EverFocus Electronics Corp. Sales Representative or Customer Service. The shipping carton is the safest container in which the unit may be transported. Save it for possible future use.

1.3 Specifications

Pickup Device	1/2.7" 2 megapixel CMOS sensor Image area for FOV 1080 mode: 6.61 mm diagonal; 5.76 mm H x 3.24 mm V Image area for FOV 720 mode: 4.41 mm diagonal; 3.84 mm H x 2.16 mm V
Sensitivity	0.5lux/F=1.4
S/N Ratio	45dB
Video Format Main Output	HDcctv
Resolution Main Output	1920x1080 or 1280x720 field select
Video Mode Main Output	Field select 1080i60, 1080p30 or 720p60 for 60Hz systems 1080i50, 1080p25 or 720p50 for 50Hz systems
Main Output Connector	BNC-F
Video Format Test Output	NTSC/PAL selectable 1V p-p
Test Output Connector	Pin header; adapter cable to BNC-F supplied
Electronic Shutter	Auto, 1/60(1/50)~1/8000
Lens Type	Megapixel Varifocal lens, Auto Iris, f=3.3~12mm, F=1.4
True Day/Night Control	Yes (Auto IR cut filter removal)
Back Light Compensation	On/Off selectable
Auto Gain Control	High/Middle/Low/Off selectable
Auto White Balance	AWB/One Push WB/Manual WB/Indoor/Outdoor selectable
Gamma Correction	PC/TV selectable
OSD Menu	Yes (controlled from 5-axis joystick control)
Mirror	H_MIR/V_MIR/Rotate
Power Source	12VDC/24VAC
Power Consumption	24VAC: 5.5W max. (230mA nominal) 12VDC: 3.3W max. (275mA nominal)
Dimensions (φ x H)	123 mm (O.D.) x 107.8 mm (H)/ 4.8" (O.D.) x 4.2 "(H)
Weight	740kg /1.6 lbs
Operating Temperature	-10°C~50°C ; 14°F~122°F
Weatherproof	IP66 rated
Vandal Resistant	Yes
Certifications	FCC/CE

1.4 Dimensions

123mm x 107.8mm ; 4.8" x 4.2"



$\varnothing 5.143\text{mm}/0.2''$
 $\varnothing 94.7\text{mm}/3.78''$

2. NAMES AND FUNCTIONS OF PARTS

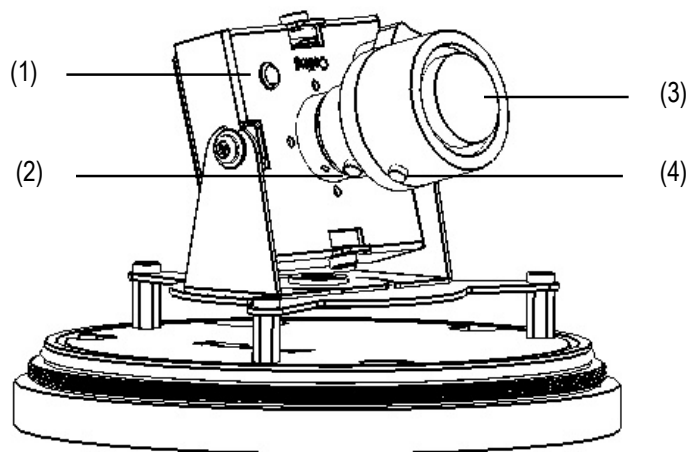
2.1 Camera Component Description

Exterior view

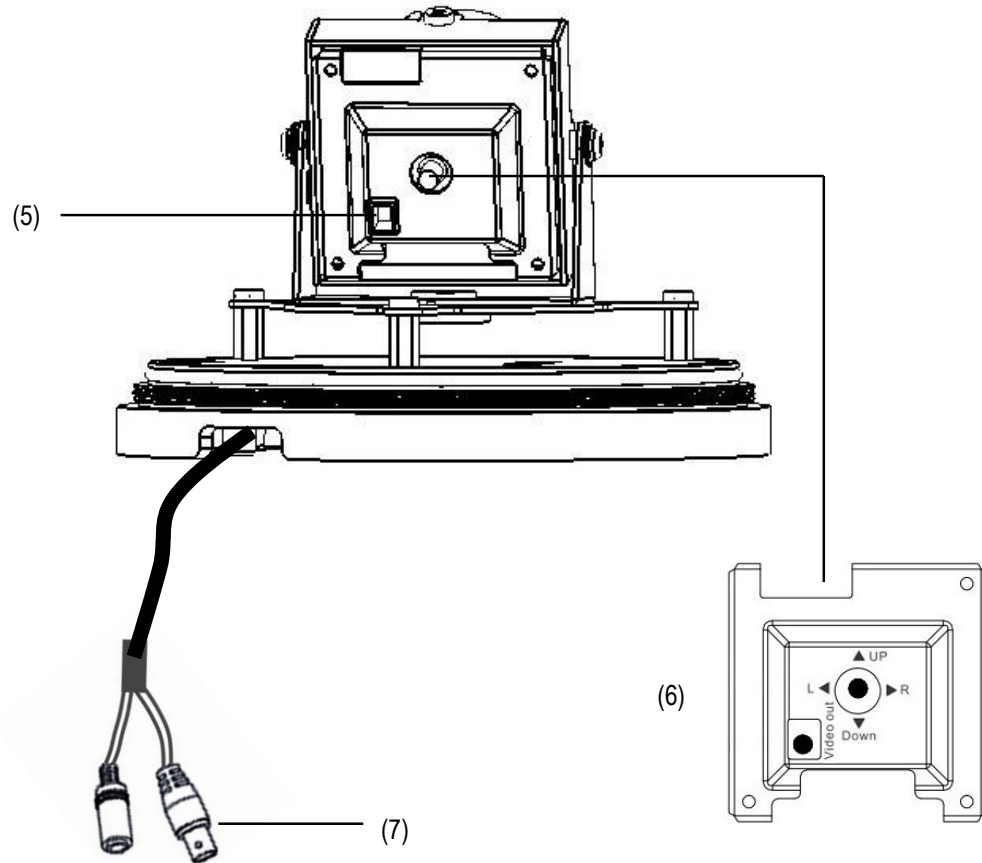


2.2 Front And Back Panel Layout

Front Panel Layout:



Back Panel Layout:



(1) External Light Sensor

External Light sensor is used to detect the lighting level the environment. (The light sensor is “down” when the internal camera module is properly positioned).

(2) Zoom Ring

To adjust the viewing angle, loosen the zoom ring knob. Turn the ring toward <W> to Zoom out or <T> to Zoom in as necessary, and re-tighten when the adjustment is complete.

(3) Lens

The included vari-focal, DC iris lens allows manual adjustment of the field of view (zoom & focus).

(4) Focus Ring


To set the focus, and loosen the focus ring knob, and turn the ring toward <F> or <N> as necessary, and re-tighten when the adjustment is complete.

(5) Test Video Output Connector

When installing the camera, you can use this video connector to connect a portable monitor. This will allow you to easily adjust camera's field of view and focus.

(6) OSD Menu joystick: Use the joystick to move the cursor Upwards/Downwards. This is used to select the item to be set.

Tilt the stick to the right or left. This is used to select or adjust the parameters of the selected item.

Press in on the stick to enter the setup menu. If the item has its own setting menu (sign ), press the stick again to display the sub- menu.

(7) Power & HDcctv Video pigtail cable

Connect power and HDcctv video to pigtail cable

2.3 Related Products

In addition, you may order the following EverFocus products which are recommended for use with the camera to achieve the best performance:

L Type Bracket: BA-EDMS



EN220 5.6 inch LCD Test Monitor



3. INSTALLATION

This chapter will describe, in general terms, how to install the EHH5200 camera.

STEPS:

3.1. Mounting Camera:

1. Drill the Holes. See 3.1.1
2. Mounting: See 3.1.2

3.2. Adjusting Camera:

1. Adjust the camera position. See 3.2.1
2. Adjusting Zoom and Focus See 3.2.2
3. Camera Setting. See 3.2.3
4. How to close camera cover after installation. See 3.2.4

Warning

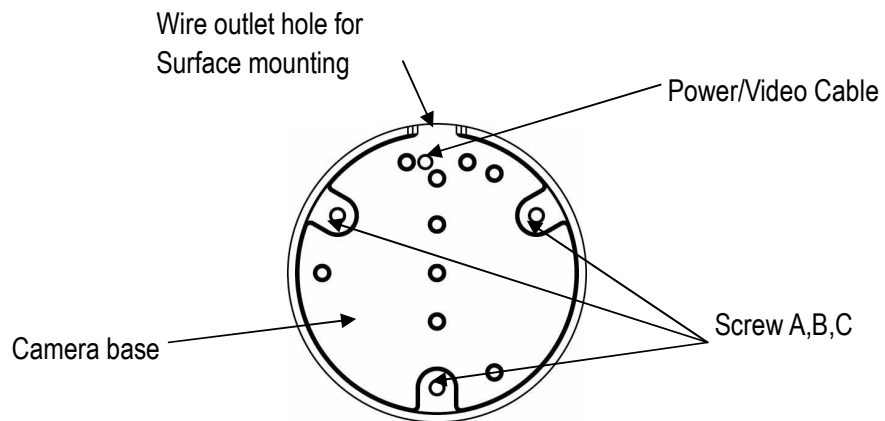
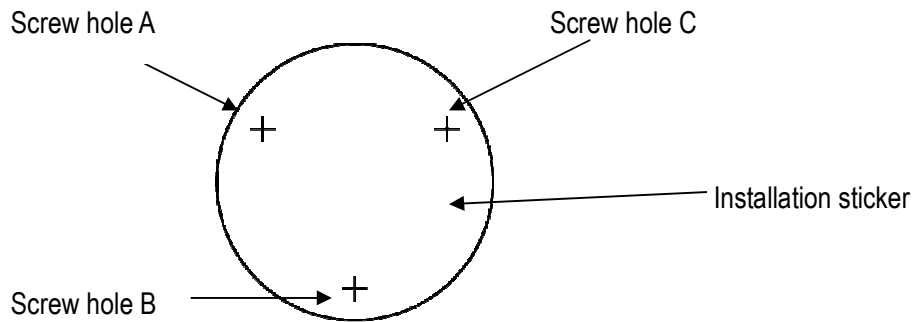
- To prevent electrical shock, turn off the electrical power before making electrical connections.

- Do not expose the camera to water or moisture while open during installation, nor try to operate it while open in wet areas. Once properly installed and sealed, the dome is IP66 rated against water infiltration.

3.1 Mounting Camera

3.1 .1 Drill the Holes

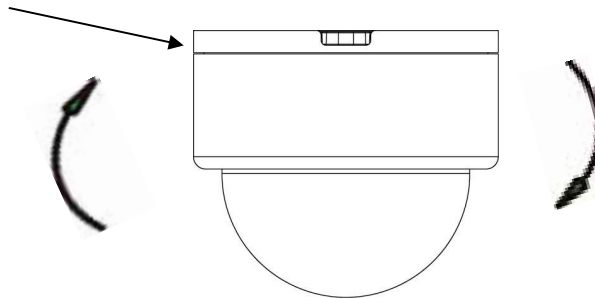
1. Paste the drilling template on the ceiling or wall
2. Drill 4 holes, 1 for the power/video cable, 3 for screws A, B and C.



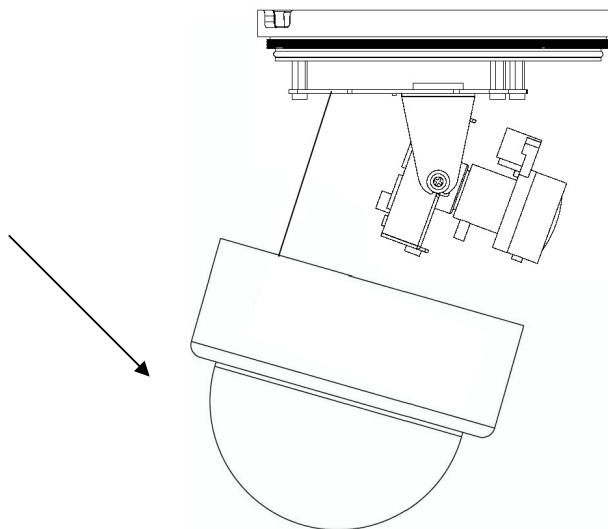
3.1.2 Mounting

1. Take off camera's cover by rotating the cover counter clockwise.

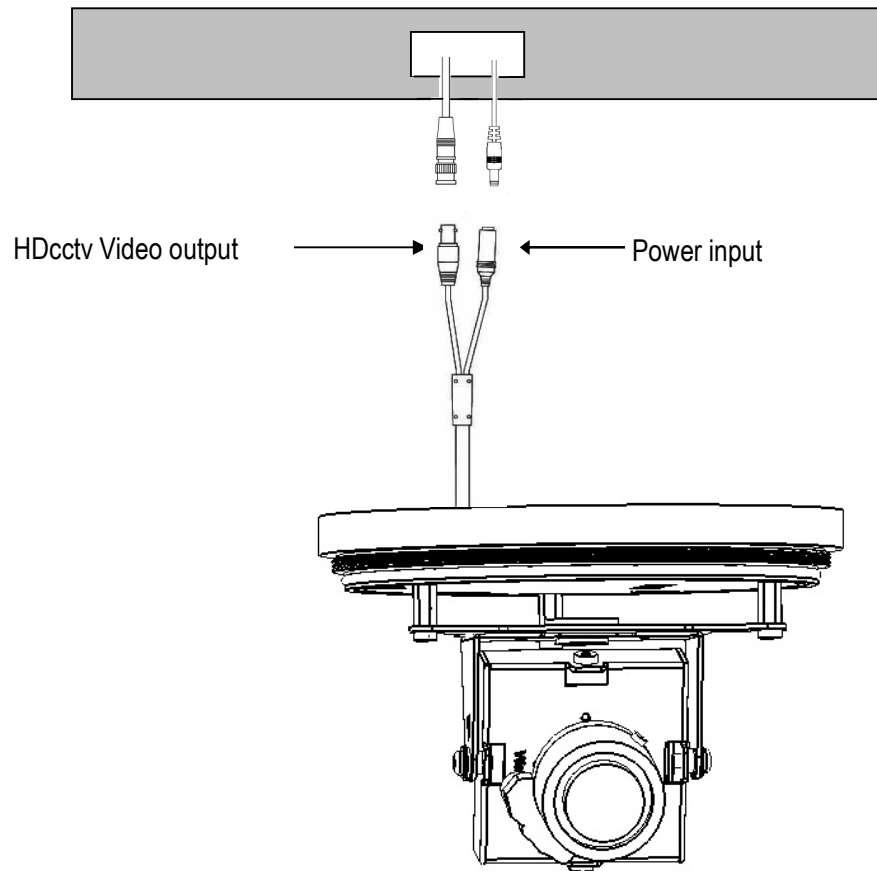
Loose outer cover ring first



Take off camera's cover

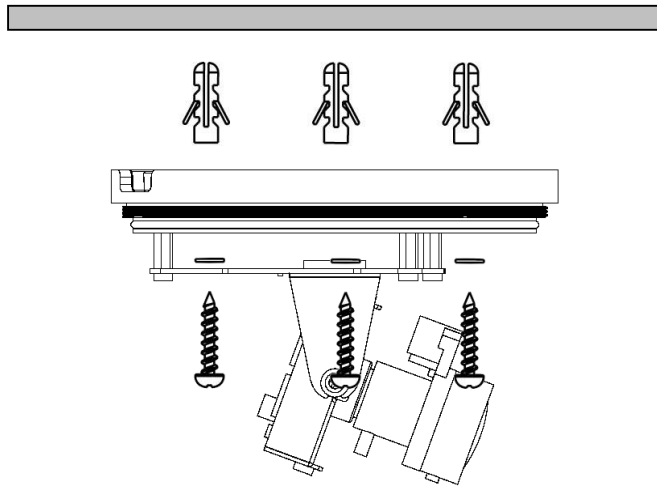


2. Pull the cables to be connected to the power and video cables from the ceiling or wall.

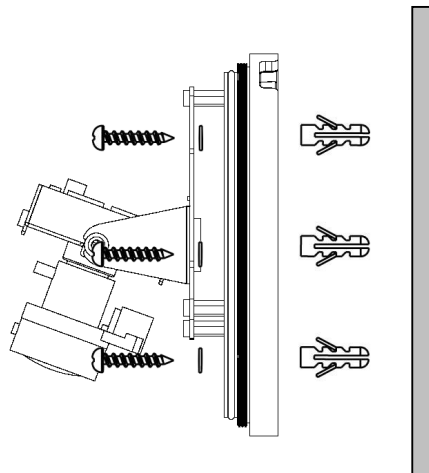


3. Fix the camera base to ceiling or wall by using 3 screws and washers. The washers are used to create the IP66 seal and must be used.

Ceiling Mount:



Wall Mount:

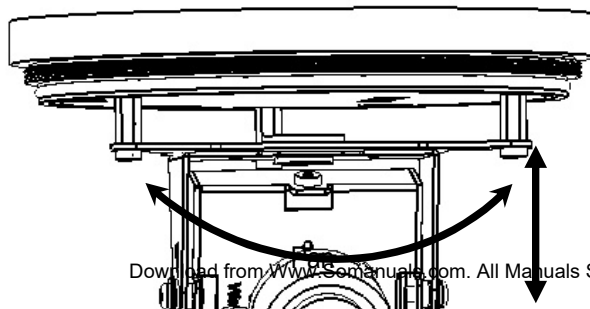


3.2 Adjusting Camera

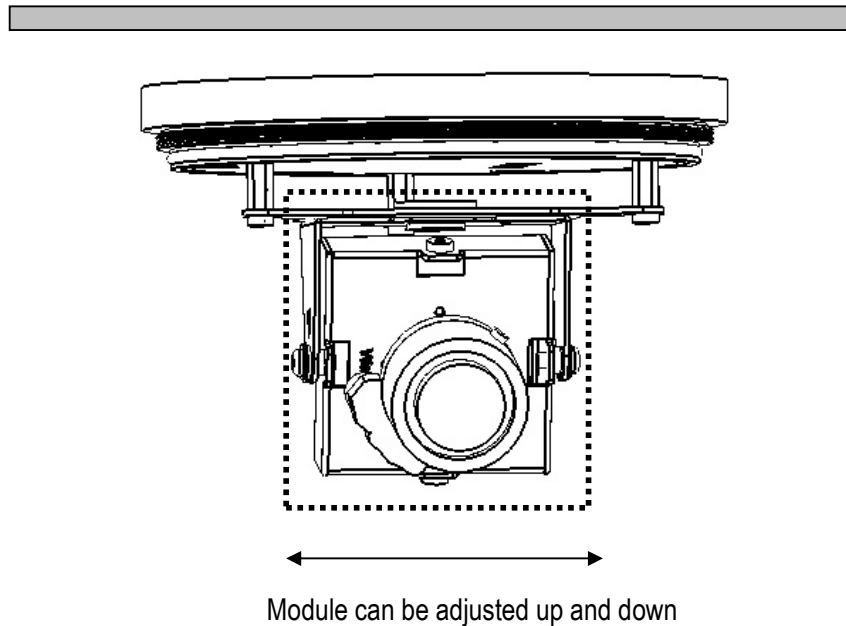
3.2.1 Adjusting Camera Position

Adjust the camera to any angle that you wish. Pan and tilt to aim the camera at what you need to watch until the best angle of image is obtained.

Adjust the camera to best angle for viewing.



When you install on the ceiling, Change angle of view by turning this joint

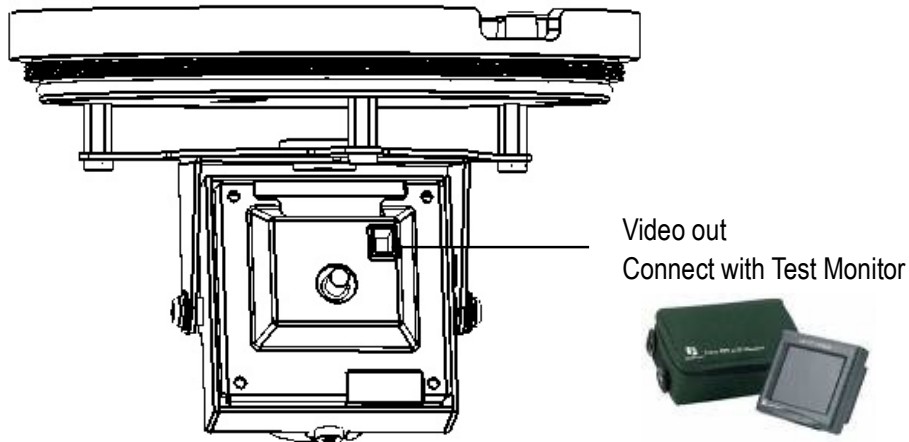


NOTE:

1. If necessary, you can put desiccant pack in bracket side. Use cable to fix it before placing the cover back to camera.
2. To close camera cover, please push the inner cover until it completely covers the whole red gasket and line up with camera base parallel (The inner cover need to be aligned with camera base otherwise it cannot be closed). Then close the outer cover ring tightly to the camera base.

3.2.2 Adjusting Zoom and Focus

It is highly recommended to use an EverFocus Test Monitor to set up the camera. Find the Video test connection on the back of the camera module. Connect using the video cable included in the package.



1. Loosen the zoom ring knob, and then turn the ring towards <W> or <T> as necessary to obtain the desired view angle.
 W side (Zoom out)
 The viewing range will be wider and the subject is smaller.
 T side (Zoom in)
 The viewing range will be smaller and the subject is larger.
2. Loosen the focus ring knob, then turn the ring towards <∞> or <N> as necessary to obtain a clear video image.
3. Repeat steps 1 and 2 until the best image is obtained. Once the lens setting is complete, tighten the zoom and focus ring knobs.

3.2.3 Camera Setting

3.2.3.1 OSD User Setup Menu

This camera utilizes an On Screen Display (OSD) user setup menu.

Please refer to Chapter 3 OSD Menu & Configuration, to get more details about OSD menu usage.

3.2.4 Close the Camera Cover (after installation is complete)

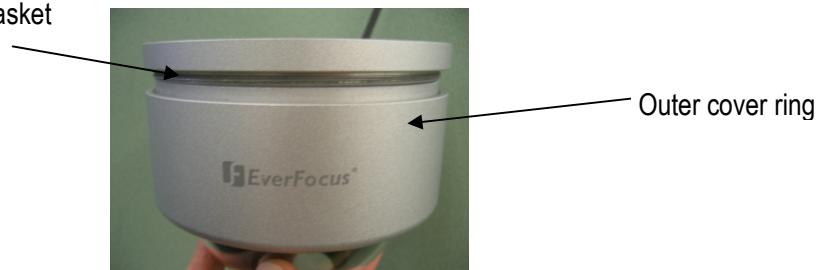
The EHH5200 is specially designed with one inner cover and one outer cover ring for water-proofing and ease of installation. Please follow these instructions for closing the camera cover.

1. Align the window in the cover with the lens



2. Push the interior cover toward the base, until it completely covers the whole red gasket and is lined up parallel with camera base. (The cover must be aligned with the camera base or it cannot be closed. Then turn the outer cover ring clockwise to secure it tightly to the camera base.

Push the inner cover and cover the whole red gasket



Correct



Wrong (not aligned)



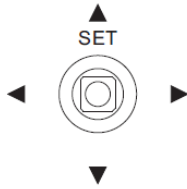
3. If the lens is not aligned with the window, loosen the outer cover, adjust the inner cover so that the lens aimed exactly at the window.



4. Tighten the outer cover ring until it is firmly secured.



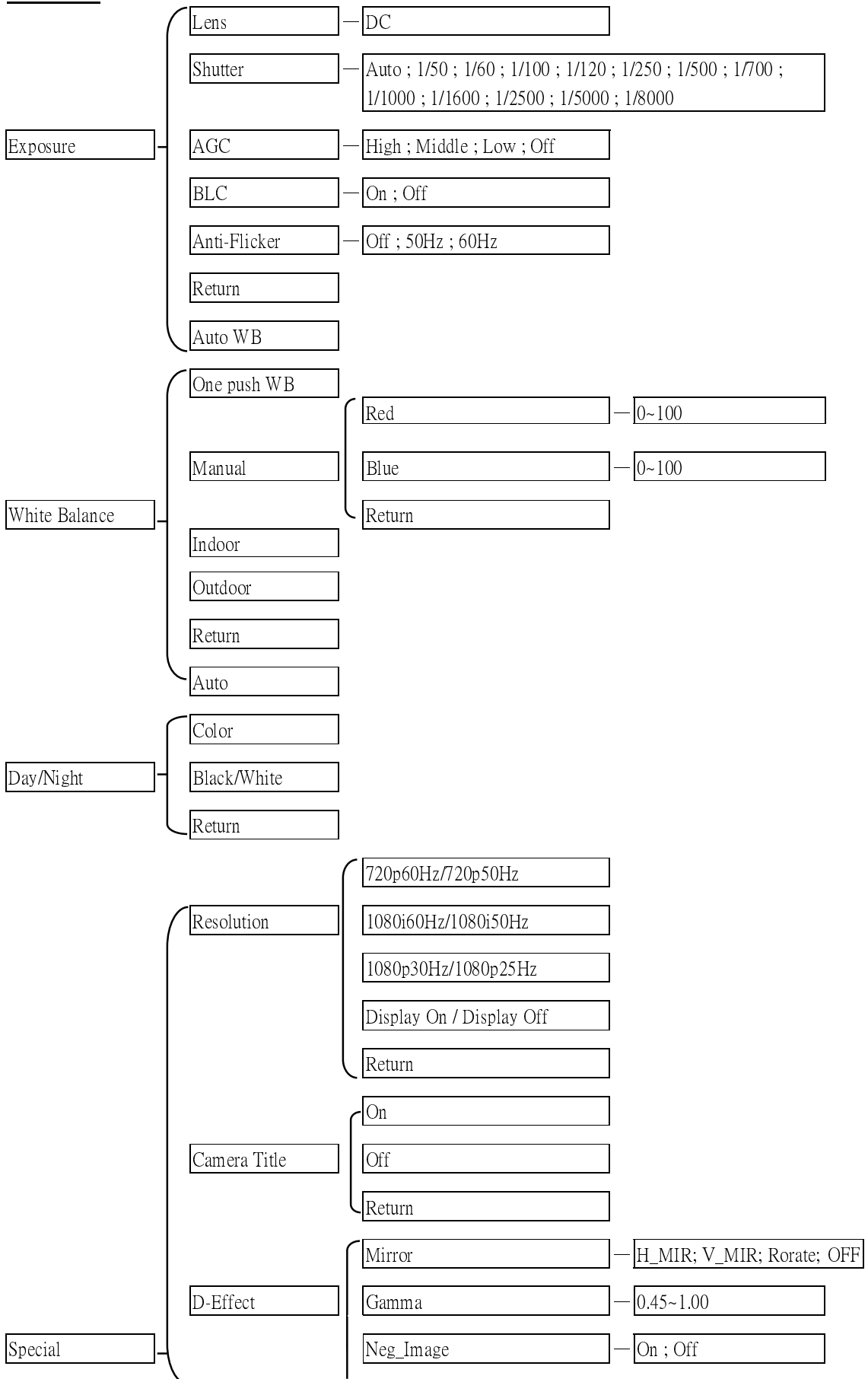
4. OSD Menu & Configuration

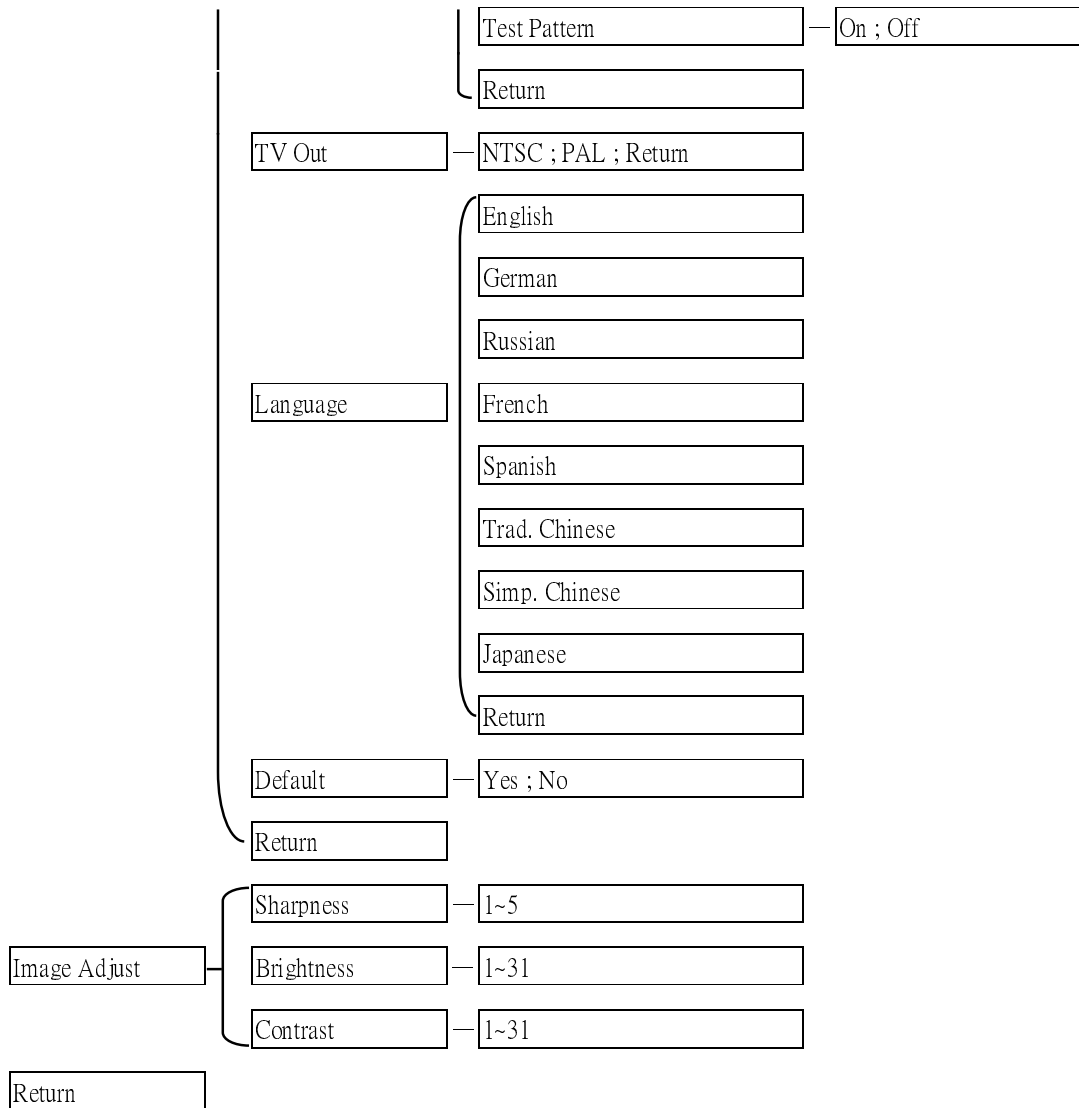


Access the user setup menu screen:

- I. **Press inward on the end of the joystick**
The menu screen will appear on the monitor.
- II. **Navigating with the joystick**
Angle the joystick ▲ or ▼ to move the cursor up or down. Angle the joystick ◀ or ▶ to adjust the mode or value of a setting.
- III. **Switching to sub-menu screens**
When an item with sub-menu is selected, press inward on the end of the joystick to switch to the sub-menu for further settings.
- IV. **Return to previous page**
Press the **SET** button to return to previous page if the choice displayed is Return.

Menu Tree





Press Set button to enter SETUP Menu. In SETUP menu, use the joystick to make settings. User can do camera settings including Exposure, White balance, Day/Night, Special and Image adjust. Please select the item by moving the joystick UP or DOWN then press SET to enter the settings. Move the joystick to the last option which is “Return” to return to live view.

4.1 Exposure

In this section, user can do camera settings including Lens, Shutter, Iris, AGC, BLC and Anti-flicker. Please select the item by moving the joystick UP or DOWN. Select “Return” to return to the previous menu.

4.1.1 Lens

DC mode is fixed in Lens level for EHH5200 camera.

4.1.2 Shutter

Select the shutter mode by moving the joystick LEFT or RIGHT.

Select from Auto, 1/50, 1/60, 1/100, 1/120, 1/250, 1/500, 1/700, 1/1000, 1/1600, 1/2500, 1/5000 and 1/8000.

4.1.3 AGC (Auto Gain Control – basic low light signal amplification)

Select the level you would like to choose by moving the joystick LEFT or RIGHT. The more the level of gain increases, the brighter the screen, but the level of noise increases as well. Please select from High, Middle, Low and Off.

4.1.4 BLC

Select “On” or “Off” by moving the joystick LEFT or RIGHT. Video gain can be adjusted automatically to correct the exposure of subjects that are in front of a bright light source.

4.1.5 Anti-Flicker

Selections are Off, 50Hz and 60Hz. Camera will adjust the shutter to reduce the flicker caused by fluorescent light when manual lens is used.

4.2 White Balance Control

The screen color can be adjusted by using the White Balance function.

Please select one of the 5 modes below by moving the joystick UP or DOWN then press “Set” button to save the setting:

AWB

This mode can be used within the color temperature range from 2,500°K to 10,000°K.

One Push WB

Enable one push trigger for white balance mode. This holds the white balance at a specific color temperature until the next command trigger is given.

Manual

The manual adjustment mode enables a more precise adjustment. Set the suitable color temperature, and increase or decrease the red and blue color values at the same time while checking the color changes of the objects in view.

Return: Select “Return” to saves all settings in this menu and returns to the previous menu.

Indoor

Select this option when the color temperature is 4,000°K.

Outdoor

Select this option when the color temperature is 5,000~6,500°K.

Select "Return" to return to the previous menu.

4.3 Day/Night

These settings control the operation of the camera when the illumination level changes. Choices are Color at all times; B/W at all times; or color when illumination is bright, switching to B/W in low light.

Please select one of the 3 modes below by moving the joystick UP or DOWN then press "Set" button to save the setting:

- AUTO: The picture switches to color in a normal (bright) environment and switches to B/W when the ambient illumination is low. The switching point is determined by the AGC level.
- COLOR: The picture is always displayed in color, even at low light levels.
- B/W: The picture is always displayed in B/W.

Select "Return" to return to the previous menu.

NOTE:

AGC selection must be set as middle or high in order to employ the auto switching function.

4.4 Special

In this section, user can do special settings including Resolution, Camera Title, D-Effect, TV-Out, Language and Default. Please select the item by moving the joystick UP or DOWN then press SET to enter the settings. Select "Return" to return to the previous menu.

4.4.1 Resolution

1. Select camera resolution from 720p60Hz; 1080i60Hz or 1080p30Hz when TV output format is NTSC, 720p50Hz; 1080i50Hz or 1080p25Hz when TV output format is PAL by moving the joystick UP or DOWN then press "Set" button to save the setting
2. Display On: Press "Set" to switch between On/Off, whether to show current resolution.

Select "Return" to return to the previous menu.

4.4.2 Camera Title

Select "On" by moving the joystick UP or DOWN then press "Set" to enter the setting. Input a camera title by moving the joystick UP and Down, cursor will navigate among characters and numbers. The available letters are A-Z and 0-9. Press "Set" key to confirm. Move the joystick Left and Right to move the cursor among the same level.

Select "Off" by moving the joystick UP or DOWN then press "Set" to disable the camera title display.

Select "Return" to return to the previous menu.

4.4.3 D-Effect

In this section, user can do camera settings including Mirror, Gamma and Neg_Image. Please select the item by moving the joystick UP or DOWN. Select "Return" to return to the previous menu.

4.4.3.1 Mirror

Select one of the 4 modes below by moving the joystick LEFT or RIGHT.

- Off: Disable the effects.
- H-MIR: Sets a horizontal image inversion.
- V-MIR: Set a vertical image inversion.
- Rotate: Rotate the image 180°.

4.4.3.2 Gamma

Select the Gamma level by moving the joystick LEFT or RIGHT. Adjustable based on TV or PC specification.

4.4.3.3 NEG_IMAGE

Select Neg_Image On or Off by moving the joystick LEFT or RIGHT. Allows user to create a negative of the original image. A negative image is a tonal inversion of a positive image, in which light areas appear dark and vice versa. A negative color image is additionally color reversed, with red areas appearing cyan, greens appearing magenta and blues appearing yellow.

4.4.3.3 Test Pattern

Select Test Pattern On or Off by moving the joystick LEFT or RIGHT. Allows user to test the image and make any adjustment if necessary. (Test video output connector has to be connected properly to a portable monitor).

4.4.4 TV standard

Select video format of TV standard by moving the joystick UP or DOWN then press "Set" button to save the setting. Selectable from NTSC and PAL format.

Select "Return" to return to the previous menu.

4.4.5 Language

Select OSD language. EDH5240 camera supports multiple languages including English, German, Russian, French, Spanish, Traditional Chinese, Simplified Chinese and Japanese. Move the joystick UP or DOWN to select a language then press "Set" button to save the setting.

Select "Return" to return to the previous menu.

4.4.6 Default

Select "Yes" to load system settings to default factory values. Or select "No" to disregard this option.

4.5 Image Adjust

In this section, user can adjust Sharpness, Brightness and Contrast of the image. Please select the item by moving the joystick UP or DOWN. Select "Return" to return to the previous menu.

4.5.1 Sharpness

Select the sharpness level by moving the joystick LEFT or RIGHT. The contour of the video image becomes cleaner and more easily distinguished as the level of Sharpness increases. If the level is set too high, it may affect the video image and cause noise. The available range of level is 1~5.

4.5.2 Brightness

Select the brightness level by moving the joystick LEFT or RIGHT. To increase or decrease object brightness of images. It is adjustable from 1~31.

4.5.3 Contrast

Select the contrast level by moving the joystick LEFT or RIGHT. To increase or decrease object contrast of images. It is adjustable from 1~31.

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