



EverFocus[®]

2 Megapixel Full HDcctv Indoor IR Dome Camera

Operation Instructions

Model No. **EDH5240**

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 0°C ~ 40°C (32°F~104°F) and humidity between 20~80%. The input power source is 12VDC/24VAC.

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1. PRODUCT OVERVIEW

The EDH5240 is an HDcctv 3-axis indoor dome camera with true Day/Night capability plus IR illumination, in a housing which can be surface or flush mounted. 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 a vari-focal 3.3~10mm megapixel auto iris lens, combined with high output IR LEDs to produce detailed images under low or no light conditions out to a range of 20m/65 feet or more, the EDH5240 easily accommodates a wide range of indoor applications while delivering stunning 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-axis positioning for flexible mounting and aiming
- 3.3~10mm AI VF megapixel lens captures the desired field of view
- Field select choice of wall or ceiling, surface or flush mounting
- Easy to use OSD setup menu
- Dual Video Outputs: Megapixel HDcctv (BNC)
- 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
- IR distance up to 65 feet/20m or more; High output IR LEDs, lifespan of 20,000 hours

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, including dome/cover, camera unit and outer (surface mount) base as an assembly
- This Operation Manual x 1

Accessory pack #1 containing:

- 4 long mounting screws
- 4 washers
- 4 plastic anchors
- Hex key for cover screws

- 4 short screws to attach flush-mounting clips
- Rubber plug for side hole in outer base.
- Mounting template
- Power supply pigtail
- Video test cable

Accessory pack #2 containing two flush mounting clips

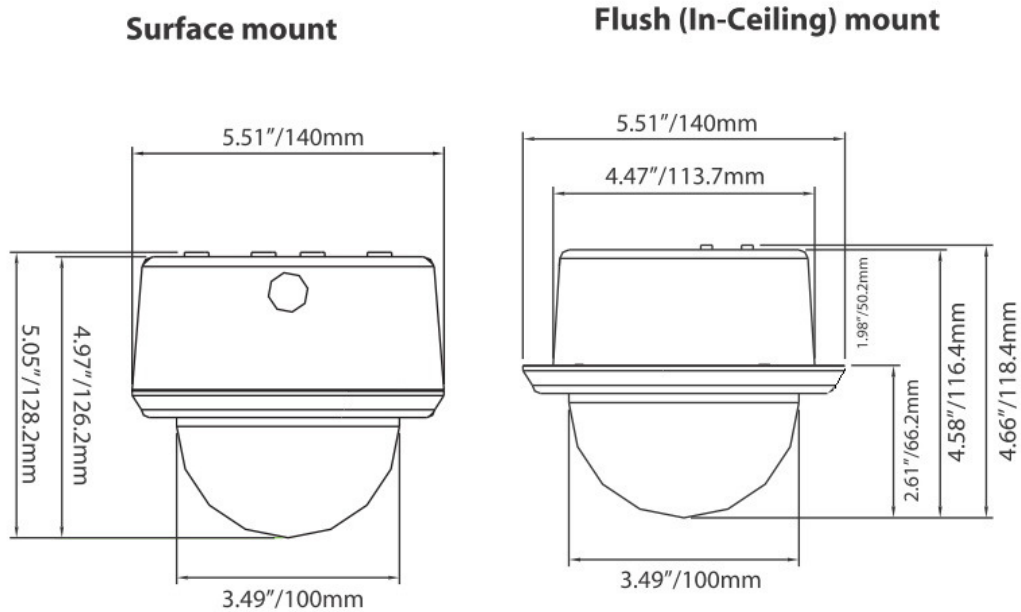
Please Note: If an item appears to have been damaged in shipment, replace it properly in its carton and notify the shipper. If any items are missing, notify your EverFocus Electronics Corp. Sales Representative or Customer Service. The shipping carton is the safest container in which the unit may be 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 ; 0 lux IR ON
S/N Ratio	45dB
Video Format Main Output	HDcctv
Resolution Main Output	1920x1080 or 1280x720
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 Vari-focal 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 (operated from 5-axis joystick control)
Mirror	H_MIR/V_MIR/Rotate
IR Distance	20m/65 feet
IR Wavelength	850nm
IR Emitters	34 high output LEDs
IR LED Lifespan	20,000 hours operating
Power Source	12VDC/24VAC auto polarity detect
Power Consumption	24VAC: 7.2W IR off, 11.3W max (300mA/471mA) 12VDC: 4.7W IR off, 7.4W max (200mA/471mA)
Dimensions (φ x H)	Surface Type: 140mm x 128mm / 5.5" x 5.1" Flush Type : 140mm x 68mm / 5.5" x 2.8"
Weight	660kg /1.45 lbs
Operating Temperature	0°C~40°C ; 32°F~104°F (20%~80% Humidity)

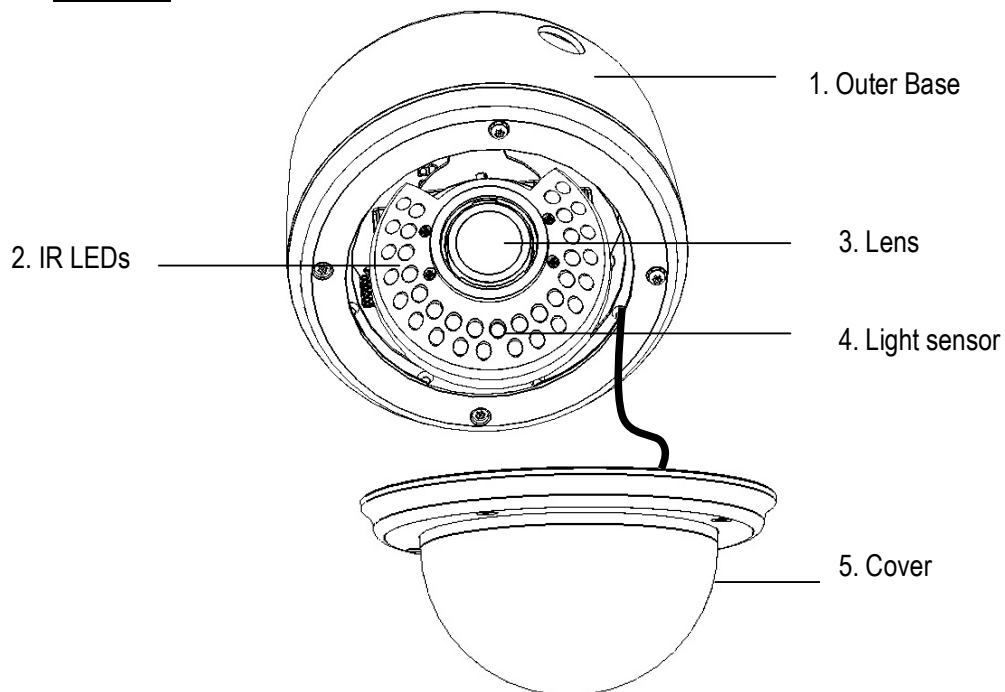
Certifications	FCC/CE
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1.4 Dimensions

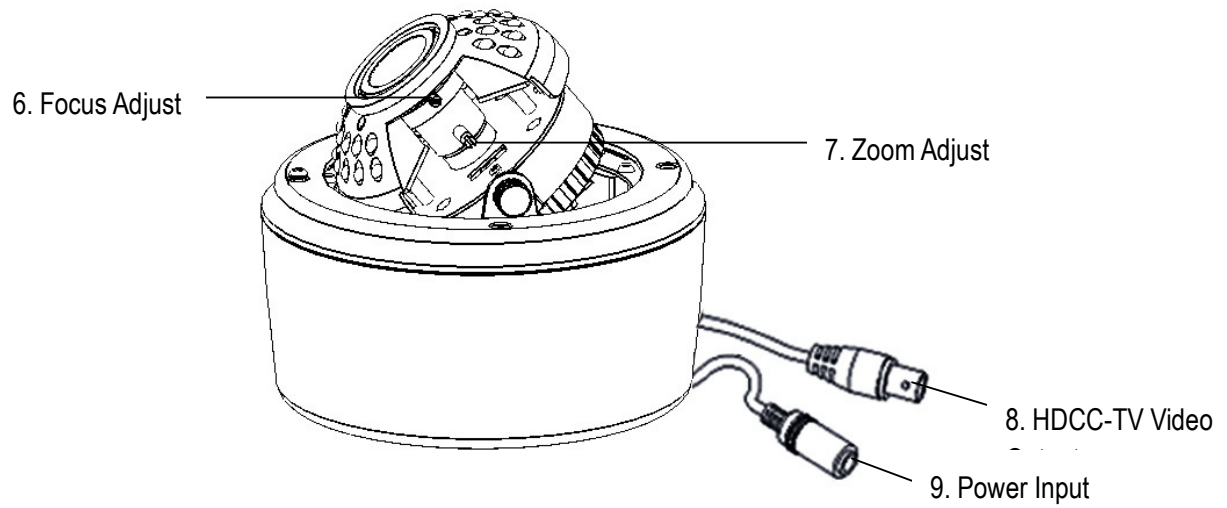


2. MAJOR PARTS: NAMES AND FUNCTIONS

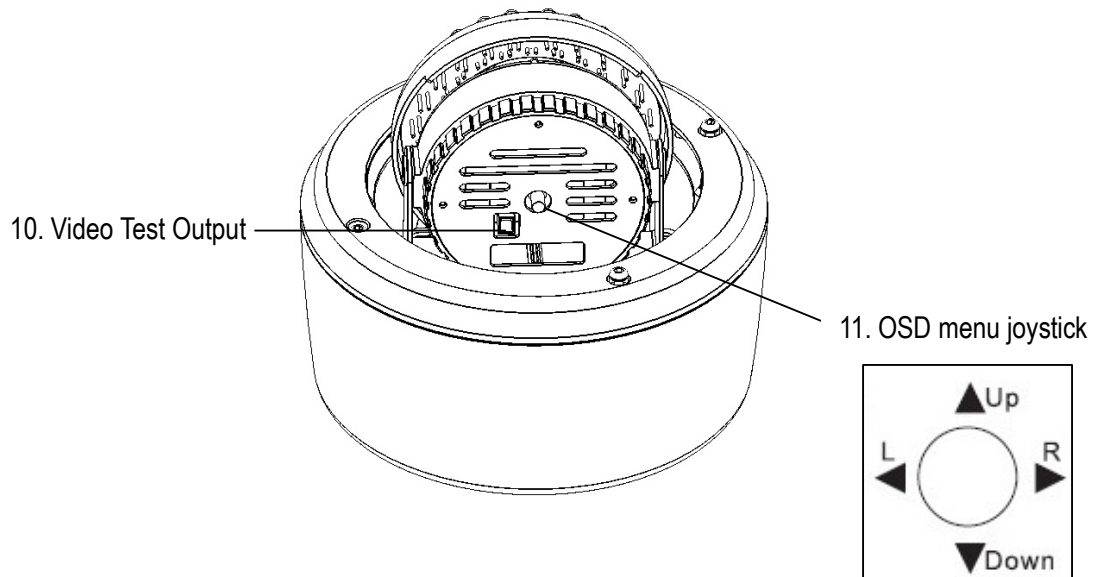
Front View



Side View



Back View



1. Base

The camera unit sets in the dome base, when it is shipped from the factory. This base is used for surface mounting, and is discarded for flush mounting.

2. IR LEDs

3. Lens

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

4. Light Sensor

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

5. Camera Cover

This cover will protect the camera from dust and damage.

6. 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.

7. 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.

8. HDcctv Video Output

Please connect to the BNC connector of the cable from the HD DVR or HDcctv monitor.


9. Power Input

Please connect this connector to a 12VDC or 24VAC power source.

10. Test Video Output Connector

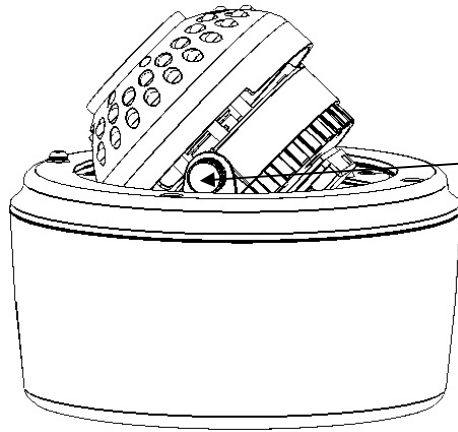
When installing the camera, you can use this video connector to connect a portable monitor. This will allow you to easily adjust camera's field of view and focus.

11. OSD Menu joystick:

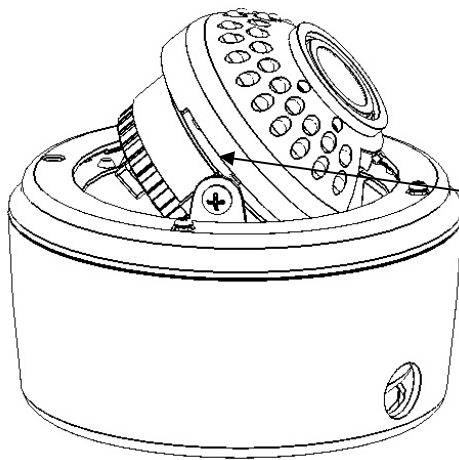
Use the joystick to move the cursor Upwards/Downwards. This is used to select the item to be set. Tilt the stick to the right or left. This is used to select or adjust the parameters of the selected item. Press in on the stick to enter the setup menu. If the item has its own setting menu (sign ), press the stick again to display the sub- menu.

3. 3-AXIS GIMBAL BRACKET

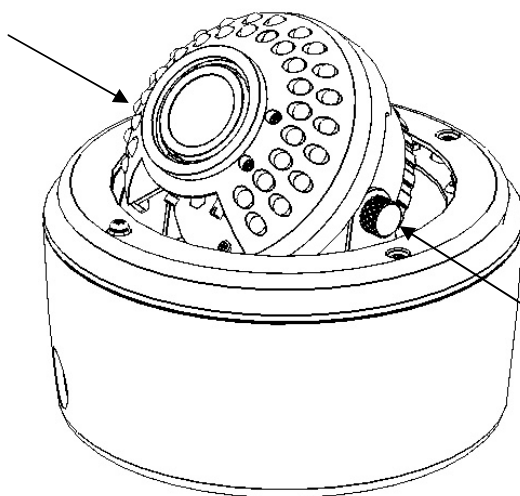
The 3-axis gimbal enables installers to easily mount the camera on a wall or ceiling and then using the built in tilt and dual axis 180° twist, to adjust the viewing angle to the desired direction. With this unique 3-axis positioning system, installers can capture images from virtually any angle, without compromising performance.



Loosen this screw manually to rotate the camera 180°



Use a screw driver to loosen this screw. Tilt the camera 180°



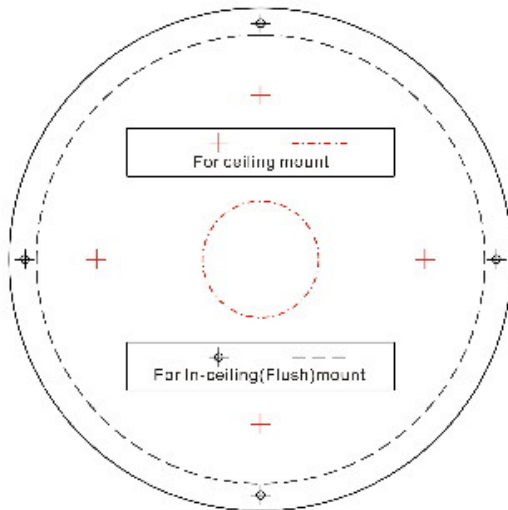
Hold the bracket at both sides of the camera. Rotate the entire camera 180°

4. INSTALLATION

An EDH5240 camera may be mounted in two ways: surface mount and flush mount. Select the one that meets your needs.

Installation - Surface Mount

1. Paste the drilling template on the ceiling or wall. Please refer to the drilling template below.



2. Use the appropriate tool to drill the INNER holes, and a clearance hole for the power and video wires.

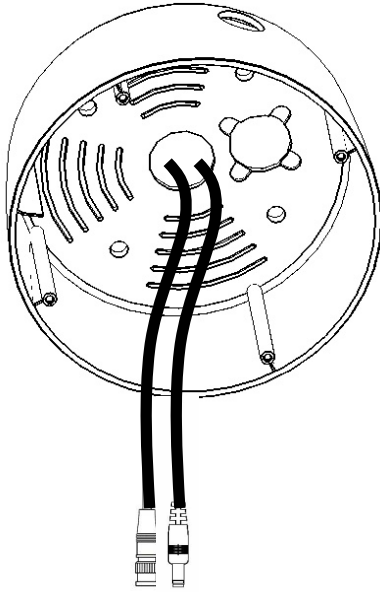
Note: The minimum recommended material thickness is 1 cm.

3. Use the plastic anchors and push them into the 4 small holes, to fix the outer ring into ceiling or wall.

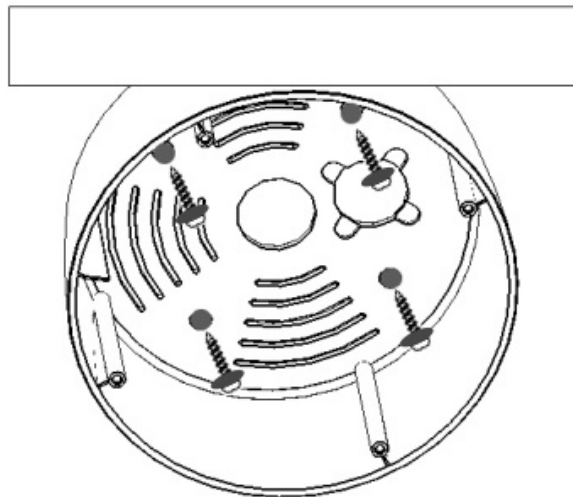


4. Remove dome cover (4 captive hex head screws); remove inner base from outer base (4 Phillips head screws – retain these for later re-assembly).

5. Pull the cables to be connected to power and video cables into the outer base from the ceiling or wall. Attach power supply pigtail adapter to power wire if needed.

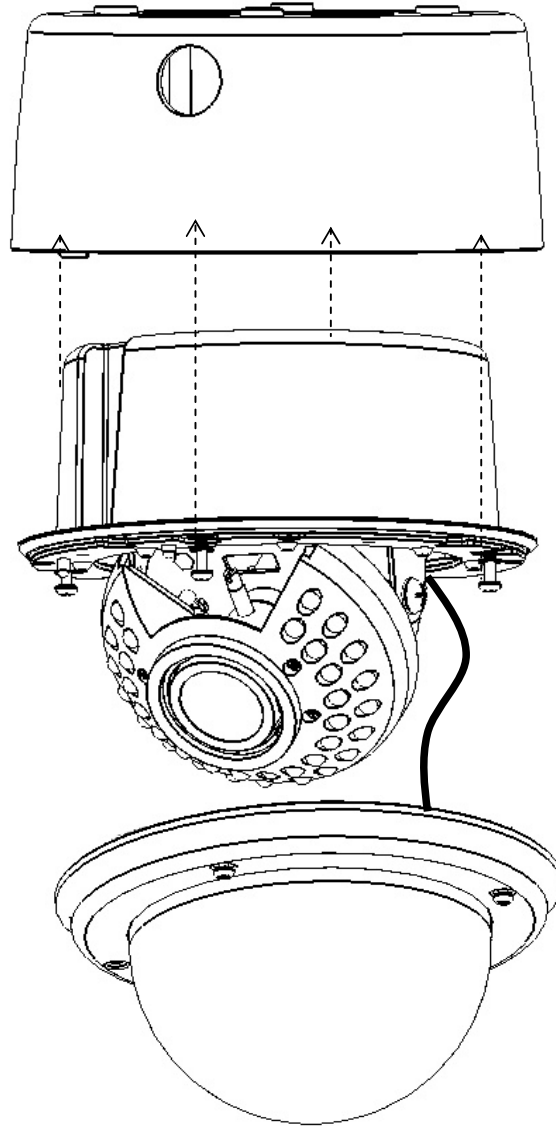


6. Take a long Phillips pan head screw with a washer and tighten it into a plastic anchor. Repeat the same step until all the 4 screws are fixed to the wall.



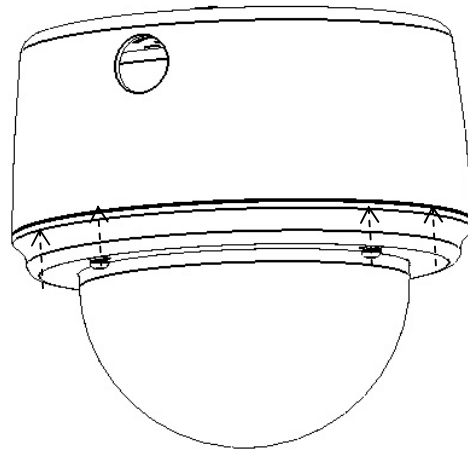
7. Attach power and video cables from source to cables from camera and push excess wire back into hole.

8. Insert inner base into outer base and secure using the 4 Phillips removed in the earlier step. Preposition camera so it is facing approximately in the desired direction.



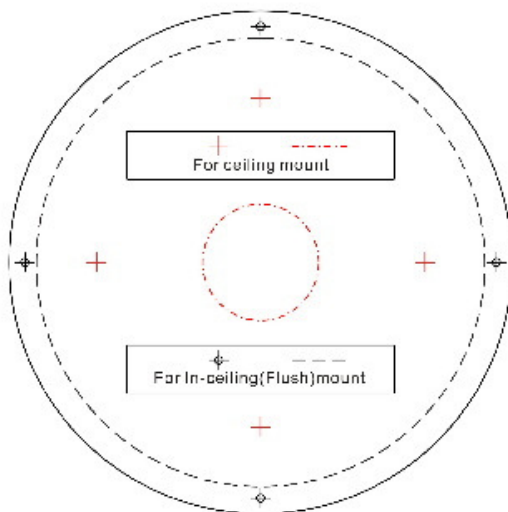
9. Attach video test cable to test point on rear of camera module. Aim and focus the camera. Remove test cable.

10. Once the camera view is as desired, attach the cover to outer base with the captive hex head screws.



Installation - Flush Mount

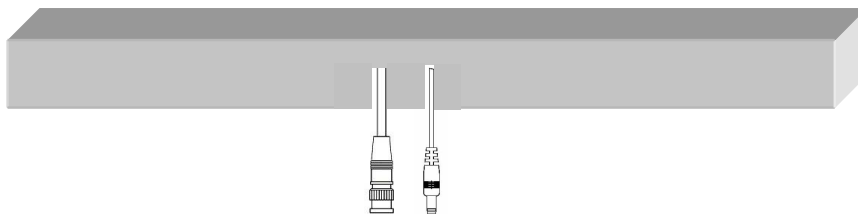
1. Paste the drilling template on the ceiling or wall. Please refer to the drilling template below.



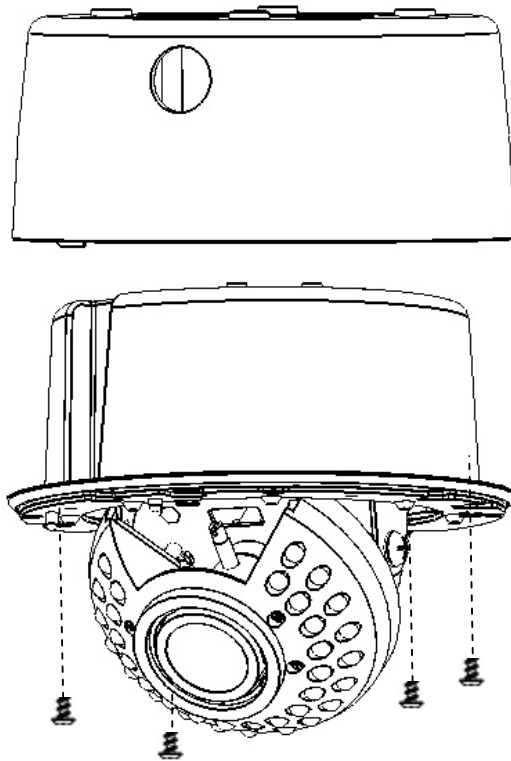
2. Use the appropriate tool to drill the OUTER holes; carefully cut along the dashed circle to create a clearance hole for the inner base unit.

Note: *The minimum recommended material thickness is 1 cm.*

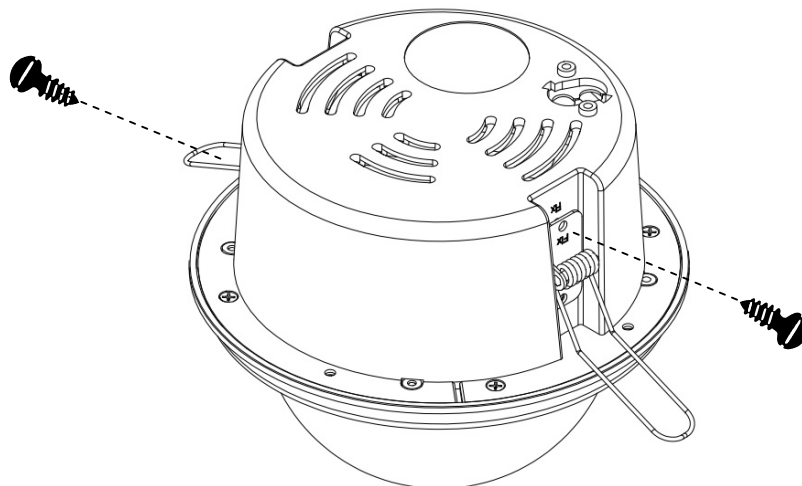
3. Pull the cables to be connected to power and video cables from ceiling. Attach the power pigtail adapter if necessary.



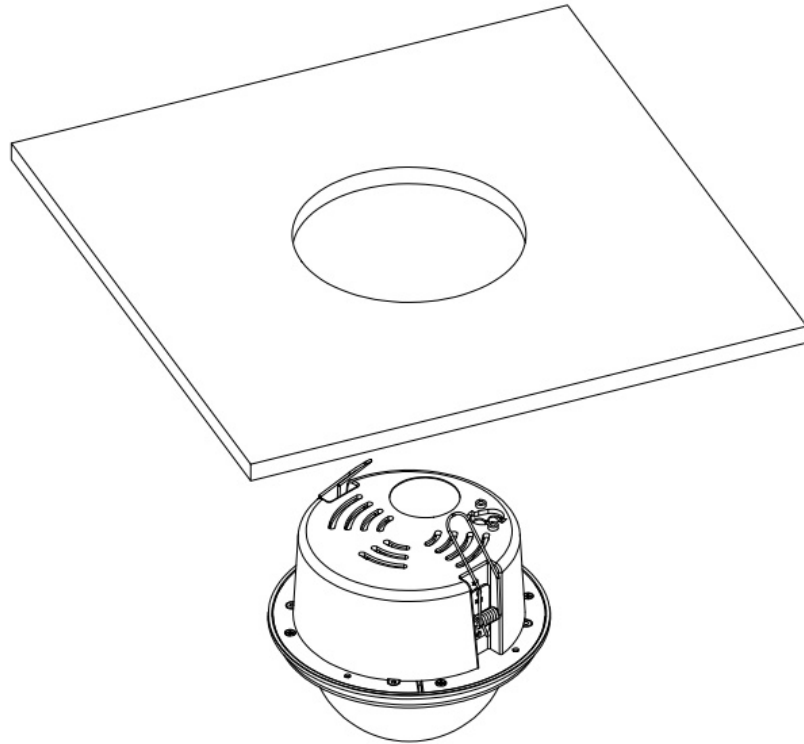
4. Remove dome cover (hex, captive screws)
5. Unscrew the 4 Philips screws (retain for future use) to detach the inner base from the outer base. Set aside the outer base.



6. Screw the 2 spring tabs *in the orientation shown* to the slots at both sides of the inner base using the 4 Philips head screws provided. Attach the screws to the places marked "Fix".

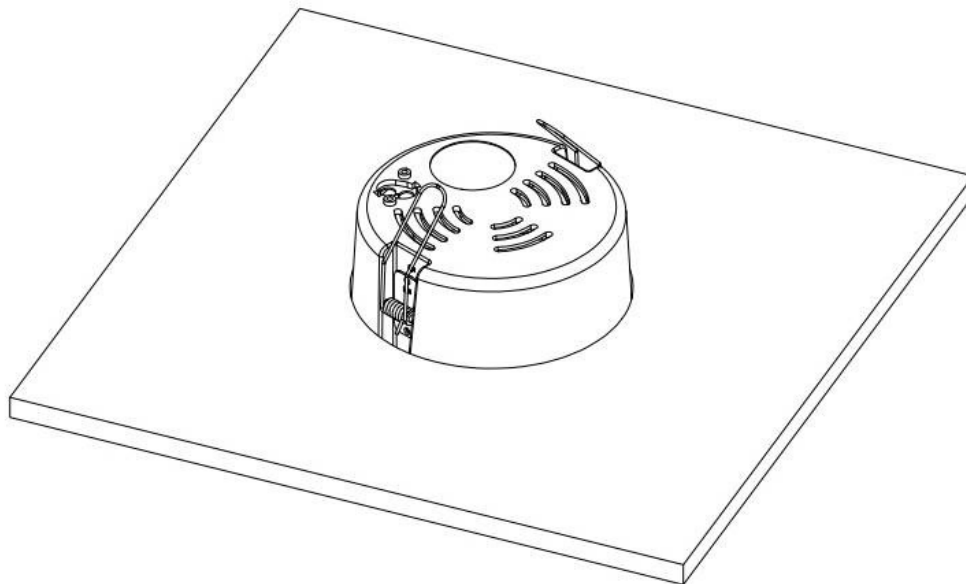


7. Attach power and video cables from source to cables from camera and push excess wire back into hole. Fold the spring tabs up.

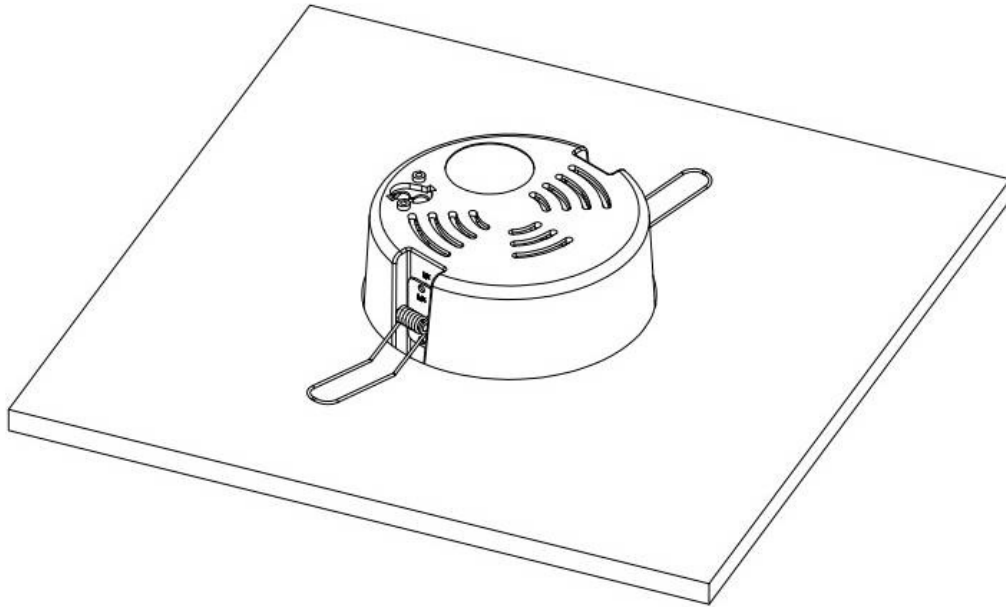


8. Preposition camera so it is facing approximately in the desired direction.

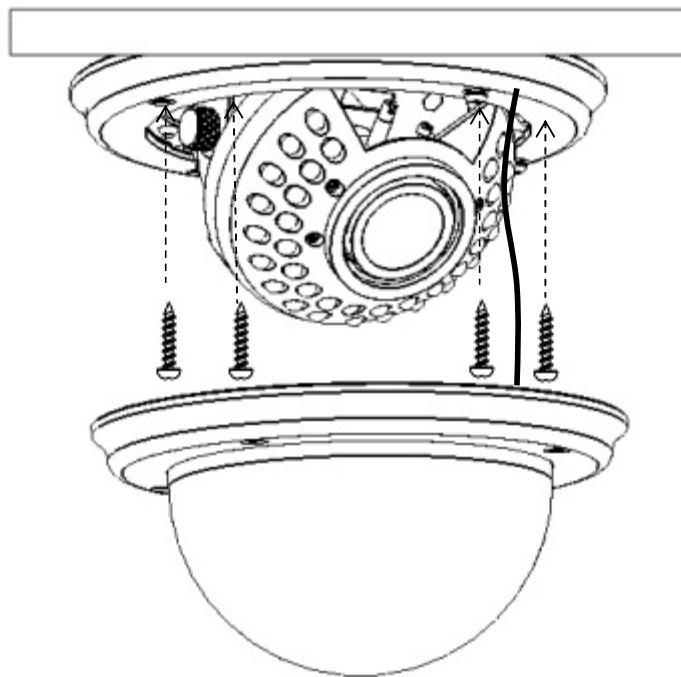
9. Push the entire inner base into ceiling while holding the spring tabs with both hands.



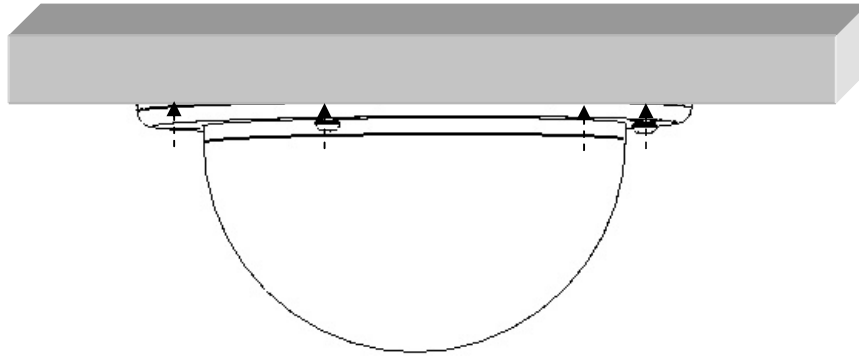
10. The spring tabs will open automatically to support the camera against the ceiling.



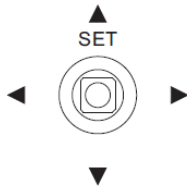
11. Use the long Phillips pan head screws (x4) provided to screw the base to the ceiling. Do NOT use washers.



12. Attach video test cable to test point on rear of camera module. Aim and focus the camera. Remove test cable.
13. Screw the cover back to the base with captive hex head screws.



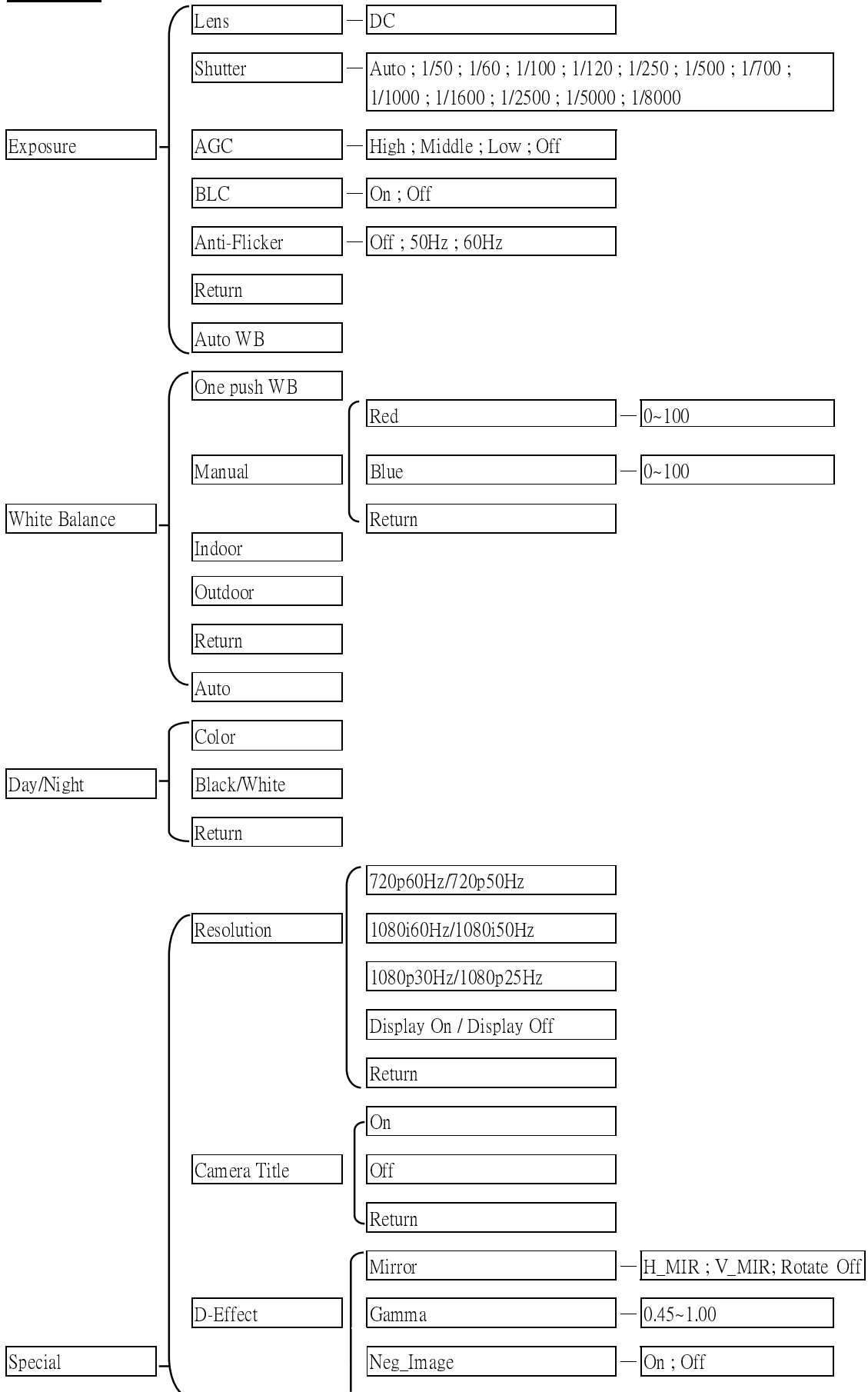
4. OSD Menu & Configuration

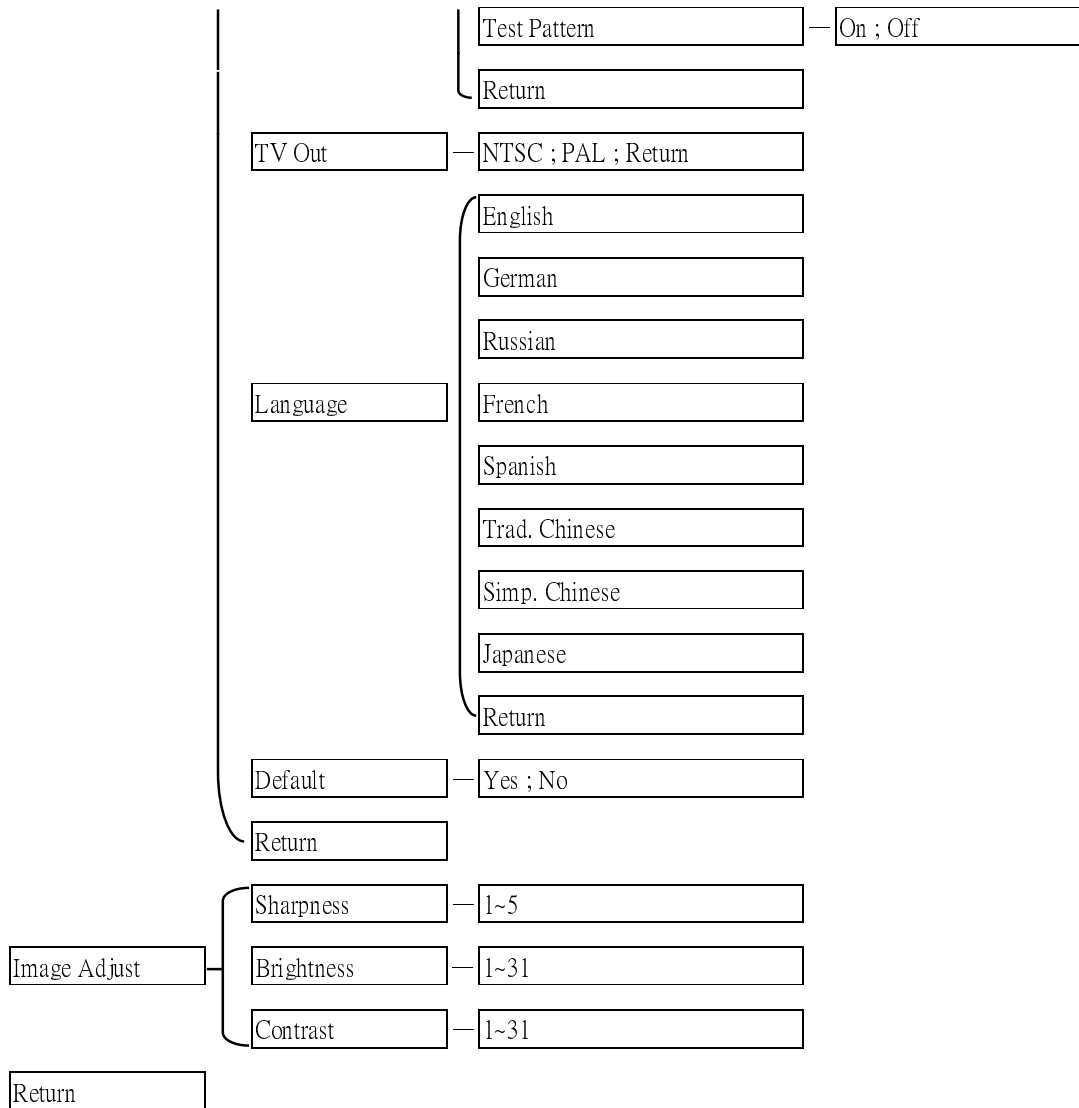


Access the user setup menu screen:

- 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 EDH5240 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's 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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Ihr EverFocus Produkt wurde entwickelt und hergestellt mit qualitativ hochwertigen Materialien und Komponenten, die recycelt und wieder verwendet werden können. Dieses Symbol bedeutet, dass elektrische und elektronische Geräte am Ende ihrer Nutzungsdauer vom Hausmüll getrennt entsorgt werden sollen. Bitte entsorgen Sie dieses Gerät bei Ihrer örtlichen kommunalen Sammelstelle oder im Recycling Centre. Helfen Sie uns bitte, die Umwelt zu erhalten, in der wir leben.



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