



# 2 MP Series Audio PT Turret Camera

## User Manual

### User Manual

Thank you for purchasing our product. If there are any questions, or requests, do not hesitate to contact the dealer.

This manual applies to the models below:

Type	Model
I	DS-2CE70DF3T-PTS
II	DS-2CE70D0T-LPTS

This manual may contain several technical incorrect places or printing errors, and the content is subject to change without notice. The updates will be added to the new version of this manual. We will readily improve or update the products or procedures described in the manual.

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## **Initiatives on the Use of Video Products**

Thank you for choosing Hikvision products.

Technology affects every aspect of our life. As a high-tech company, we are increasingly aware of the role technology plays in improving business efficiency and quality of life, but at the same time, the potential harm of its improper usage. For example, video products are capable of recording real, complete and clear images. This provides a high value in retrospect and preserving real-time facts. However, it may also result in the infringement of a third party's legitimate rights and interests if improper distribution, use and/or processing of video data takes place. With the philosophy of "Technology for the Good", Hikvision requests that every end user of video technology and video products shall comply with all the applicable laws and regulations, as well as ethical customs, aiming to jointly create a better community.

### **Please read the following initiatives carefully:**

1. Everyone has a reasonable expectation of privacy, and the installation of video products should not be in conflict with this reasonable expectation. Therefore, a warning notice shall be given in a reasonable and effective manner and clarify the monitoring range, when installing video products in public areas. For non-public areas, a third party's rights and interests shall be evaluated when installing video products, including but not limited to, installing video products only after obtaining the consent of the stakeholders, and not installing highly-invisible video products.
2. The purpose of video products is to record real activities within a specific time and space and under specific conditions. Therefore, every user shall first reasonably define his/her own rights in such specific scope, in order to avoid infringing on a third party's portraits, privacy or other legitimate rights.
3. During the use of video products, video image data derived from real scenes will continue to be generated, including a large amount of biological data (such as facial images), and the data could be further applied or reprocessed. Video products themselves could not distinguish good from bad regarding how to use the data based solely on the images captured by the video products. The result of data usage depends on the method and purpose of use of the data controllers. Therefore, data controllers shall not only comply with all the applicable laws and regulations and other normative requirements, but also respect international norms, social morality, good morals, common practices and other non-mandatory requirements, and respect individual privacy, portrait and other rights and interests.
4. The rights, values and other demands of various stakeholders should always be considered when processing video data that is continuously generated by video products. In this regard, product security and data security are extremely crucial. Therefore, every end user and data controller, shall undertake all reasonable and necessary measures to ensure data security and avoid data leakage, improper disclosure and improper use, including but not limited to, setting up access control, selecting a suitable network environment (the Internet or Intranet)

where video products are connected, establishing and constantly optimizing network security.

Video products have made great contributions to the improvement of social security around the world, and we believe that these products will also play an active role in more aspects of social life. Any abuse of video products in violation of human rights or leading to criminal activities are contrary to the original intent of technological innovation and product development. Therefore, each user shall establish an evaluation and tracking mechanism of their product application to ensure that every product is used in a proper and reasonable manner and with good faith.

## Regulatory Information

### FCC Information

Please take attention that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**FCC compliance:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

### FCC Conditions

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

### EU Conformity Statement



This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European

standards listed under the Low Voltage Directive 2014/35/EU, the EMC Directive 2014/30/EU.

2012/19/EU (WEEE directive): Products

marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new

equipment, or dispose of it at designated collection points. For more information see: [www.recyclethis.info](http://www.recyclethis.info).

2006/66/EC (battery directive): This product contains a

battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may

include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information, see: [www.recyclethis.info](http://www.recyclethis.info).



### Industry Canada ICES-003 Compliance

This device meets the CAN ICES-3 (A)/NMB-3(A) standards requirements.



## Safety Instruction

These instructions are intended to ensure that user can use the product correctly to avoid danger or property loss.

The precaution measure is divided into “Warnings” and “Cautions”.

**Warnings:** Serious injury or death may occur if any of the warnings are neglected.

**Cautions:** Injury or equipment damage may occur if any of the cautions are neglected.

	
<b>Warnings</b> Follow these safeguards to prevent serious injury or death.	<b>Cautions</b> Follow these precautions to prevent potential injury or material damage.



### Warnings

- In the use of the product, you must be in strict compliance with the electrical safety regulations of the nation and region.
- Input voltage should meet both the SELV (Safety Extra Low Voltage) and the Limited Power Source with 12 VDC according to the IEC60950-1 and IEC62368-1 standard. Refer to technical specifications for detailed information.
- The socket-outlet shall be installed near the equipment and shall be easily accessible.
- An all-pole mains switch shall be incorporated in the electrical installation of the building.
- Do not connect multiple devices to one power adapter to avoid over-heating or a fire hazard caused by overload.
- Make sure that the plug is firmly connected to the power socket.
- If smoke, odor or noise rise from the device, turn off the power at once and unplug the power cord, and then contact the service center.
- Never attempt to disassemble the camera by unprofessional personal.



### Cautions

- No naked flame sources, such as lighted candles, should be placed on the equipment.
- Install the equipment according to the instructions in this manual.
- To prevent injury, this equipment must be securely attached to the floor/wall in accordance with the installation instructions.
- Do not drop the camera or subject it to physical shock.
- Do not touch sensor modules with fingers.
- Do not place the camera in extremely hot, cold (the operating temperature shall be  $-40^{\circ}\text{C}$  to  $60^{\circ}\text{C}$ ), dusty or damp locations, and do not expose it to high electromagnetic radiation.
- If cleaning is necessary, use clean cloth with a bit of ethanol and wipe it gently.
- Do not aim the camera at the sun or extra bright places.

- The sensor may be burned out by a laser beam, so when any laser equipment is in using, make sure that the surface of sensor will not be exposed to the laser beam.
- Do not expose the device to high electromagnetic radiation or extremely hot, cold, dusty or damp environment.
- To avoid heat accumulation, good ventilation is required for the operating environment.
- Keep the camera away from liquid while in use for non-water-proof device.
- While in delivery, the camera shall be packed in its original packing, or packing of the same texture.

## Mark Description

Table 0-1 Mark Description

Mark	Description
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# 1 Introduction

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## 1.1 Main Features

### 1.1.1 Type I Camera

- High performance CMOS sensor
- Low illumination, 0.0005 Lux @ (F1.0, AGC ON), 0 Lux with white light
- 24/7 Color Imaging
- OSD menu with configurable parameters
- Auto white balance
- SMART Light
- 2-axis adjustment

### 1.1.2 Type II Camera

- High performance CMOS sensor
- Low illumination, 0.01 Lux @ (F1.2, AGC ON), 0 Lux with IR
- IR cut filter
- Support white and IR supplement light
- OSD menu with configurable parameters
- Auto white balance
- SMART IR
- 2-axis adjustment

## 1.2 Overview

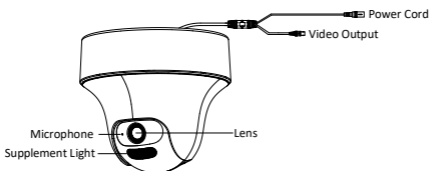


Figure 1-1 Overview of the Camera

## 2 Installation

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### **Before you start:**

- Make sure that the device in the package is in good condition and all the assembly parts are included.
- Make sure that all the related equipment is power-off during the installation.
- Check the specification of the products for the installation environment.
- Check whether the power supply is matched with your power output to avoid the damage.
- Make sure the wall is strong enough to withstand three times the weight of the camera and the bracket.
- If the wall is cement, insert expansion bolts before installing the camera. If the wall is wooden, use self-tapping screws to secure the camera.
- If the product does not function properly, contact your dealer or the nearest service center. **DO NOT** disassemble the camera for repair or maintenance by yourself.

### 2.1 Ceiling Mounting

#### **Steps:**

1. Secure the adapter plate to the ceiling with three screws.

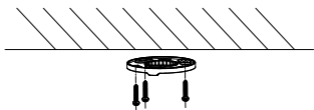


Figure 2-1 Secure the Adapter Plate to the Wall

2. Align the camera with the adapter plate and rotate the camera to finish installation.

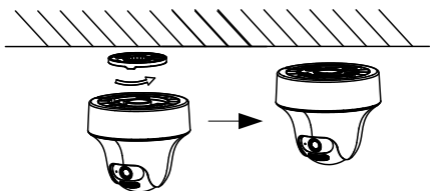


Figure 2-2 Finish Installation

3. Connect the corresponding cables.
4. Power on the camera to check whether the image on the monitor is gotten from the optimum angle. If not, adjust the camera according to the figure below to get an optimum angle.

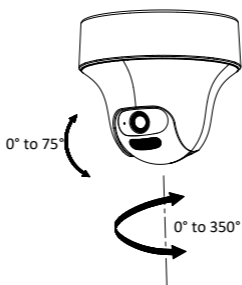


Figure 2-3 2-Axis Adjustment

**NOTE:**

DO NOT adjust the angle of the main body or enclosure manually. Adjust the pan and tilt angle through the DVR menu or Hik-Connect.



## 3 Menu Description

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Please follow the steps below to call the menu.

**NOTE:**

The menu description part is for your reference only. It might have some differences due to the specific model that you have.

**Steps:**

1. Connect the camera with the TVI DVR, and the monitor, shown as the figure 3-1.

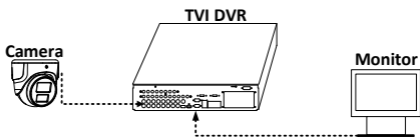



Figure 3-1 Connection

2. Power on the camera, TVI DVR, and the monitor to view the image on the monitor.
3. Click PTZ Control to enter the PTZ Control interface.
4. Call the camera menu by clicking  button, or call preset No. 95.

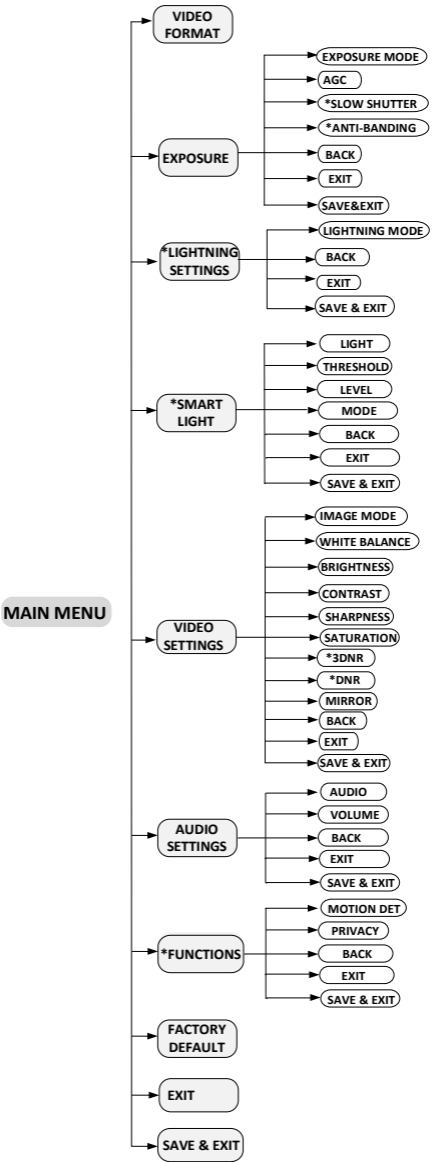


Figure 3-2 Main Menu Overview

**Note:**

\* indicates that the function is supported by some models.

5. Click the direction arrow to control the camera.
  - 1) Click up/down direction button to select the item.
  - 2) Click Iris + to confirm the selection.
  - 3) Click left/right direction button to adjust the value of the selected item.

## 3.1 VIDEO FORMAT

You can select the video format as 2 MP @ 25 fps or 2 MP @ 30 fps.

You can also select PAL, or NTSC in CVBS mode.

## 3.2 EXPOSURE

### EXPOSURE MODE

You can set the **EXPOSURE MODE** to **GLOBAL**, **BLC**, **HLC**, **WDR** (supported by Type I camera), **DWDR** (supported by Type II camera), or **HLS** (supported by Type I camera).

- **GLOBAL**

**GLOBAL** refers to the normal exposure mode which adjusts lighting distribution, variations, and non-standard processing.

- **BLC (Backlight Compensation)**

The **BLC** (backlight compensation) function can compensate light to the object in the front to make it clear, but this causes the over-exposure of the background where the light is strong.

- **HLC (Highlight Compensation)**

**HLC** stands for highlight compensation. The camera detects the strong spots (the over-exposure portion of image), then reduce the brightness of the strong spots to improve the overall images.

- **WDR (Wide Dynamic Range)**

The wide dynamic range (**WDR**) function helps the camera provide clear images even under back light circumstances. When there are both very bright and very dark areas simultaneously in the field of view, **WDR** balances the brightness level of the whole image and provide clear images with details.

**Note:**

**WDR** is only supported by Type I camera.

- **DWDR (Digital Wide Dynamic Range)**

Digital wide dynamic range gives the camera the ability to view dark areas of the given image as well as extremely lighted portions of the image, or areas of high contrast.

**Note:**

**DWDR** is only supported by Type II camera.

- **HLS (Highlight Suppression)**

It is the same visual effect as the solar eclipse. If the brightness of a part in the image exceeds the threshold, this part will become black. Then whole image can be clear.

**Note:**

**HLS** is only supported by Type I camera.

### **AGC**

It optimizes the clarity of the image in poor light conditions. The **AGC** level can be set to **HIGH**, **MEDIUM**, or **LOW**.

**Note:**

The noise will be amplified when setting the **AGC** level.

### **SLOW SHUTTER**

**SLOW SHUTTER** increases the exposure time on a single frame, which makes a camera more sensitive to the light so it can produce images even in low lux conditions.

You can set the **SLOW SHUTTER** function to OFF, ×2, ×4, ×8, or ×16 according to the different light conditions.

**Note:**

**SLOW SHUTTER** is only supported by Type I camera.

## ANTI-BANDING

**ANTI-BANDING** is to prevent the phenomenon of horizontal lines (banding) when photographing images in low frequency light or high brightness environments.

**Note:**

ANTI-BANDING is only supported by Type I camera.

## 3.3 LIGHTNING SETTINGS

**Note:**

LIGHTNING SETTINGS is only supported by Type II camera.

### LIGHTNING MODE

You can set the **LIGHTNING MODE** to **IR** or **WHITE LIGHT**.

#### IR

Set the **LIGHTNING MODE** to **IR**.

- **IR LIGHT**

You can turn on/off the IR LIGHT to meet the requirements of different circumstances.

- **SMART IR**

The **Smart IR** function is used to adjust the light to its most suitable intensity, and prevent the image from over exposure. The **SMART IR** value can be adjusted from 0 to 3 as shown below. The greater the value is, the more obvious effects are.

LIGHTNING SETTINGS	
MODE	◀ AUTO ▶
IR LIGHT	◀ ON ▶
SMART IR	◀ 2 ▶
D-N THRESHOLD	◀ 2 ▶
N-D THRESHOLD	◀ 7 ▶
BACK	⏪
EXIT	⏪
SAVE&EXIT	⏪

Figure 3-3 DAY/NIGHT

- **D→N THRESHOLD (Day to Night Threshold)**

Day to Night Threshold is used to control the sensitivity of switching the day mode to the night mode. You can set the value from 1 to 9. The larger the value is, the more sensitive the camera is.

- **N→D THRESHOLD (Night to Day Threshold)**

Night to Day Threshold is used to control the sensitivity of switching the night mode to the day mode. You can set the value from 1 to 9. The larger the value is, the more sensitive the camera is.

### WHITE LIGHT

Set the **LIGHTNING MODE** to **WHITE LIGHT**.

- **WHITE LIGHT**

You can set the **WHITE LIGHT** as **AUTO** or **OFF**.

- **AUTO**

Under the **AUTO** mode, the white light turns on automatically as the environment becomes dark.

The **THRESHOLD** is the environmental light level at which the white light turns on. You can set the value from 1 to 3. The greater the value is, the darker the environment should be to activate the light.

The value of **LEVEL** controls the brightness of the white light. The greater the value is, the brighter the light is.

- **OFF**

The white light is always off except when alarm is set and triggered.

### 3.4 SMART LIGHT

**Note:**

SMART LIGHT is only supported by Type I camera.

#### LIGHT

**SMART LIGHT** is used to control the integrated white light and avoid overexposure when the light is on. You can set the light as **AUTO** or **OFF**.

SMART LIGHT	
LIGHT	◀ AUTO ▶
THRESHOLD	◀ 2 ▶
LEVEL	◀ 5 ▶
MODE	MODE 1/MODE2
BACK	↵
EXIT	↵
SAVE & EXIT	↵

Figure 3-4 SMART LIGHT

- **AUTO**

Under the **AUTO** mode, the white light turns on automatically as the environment becomes dark.

The **THRESHOLD** is the environmental light level at which the white light turns on. The greater the value is, the darker the environment should be to activate the light.

The value of **LEVEL** controls the brightness of the white light. The greater the value is, the brighter the light is.

- **OFF**

The white light is always off except when alarm is set and triggered.

#### MODE

You can set the MODE to **MODE1** or **MODE2**.

The function is to reduce frame rate in low-light environment in order to increase SNR and enhance the brightness of the image.

- MODE1: Turn on the function.
- MODE2: Turn off the function.

### 3.5 VIDEO SETTINGS

Move the cursor to **VIDEO SETTINGS** and click Iris+ to enter the submenu. **IMAGE MODE**, **WHITE BALANCE**, **BRIGHTNESS**, **CONTRAST**, **SHARPNESS**, **SATURATION**, **3DNR** (for Type I), **DNR** (for Type II), and **MIRROR** are adjustable.

#### IMAGE MODE

**IMAGE MODE** is used to adjust the image saturation, and you can set it to **STD** (Standard), **HIGH-SAT** (High Saturation) or **HIGHLIGHT**.

#### WHITE BALANCE

White balance, the white rendition function of the camera, is to adjust the color temperature according to the environment. It can remove unrealistic color casts in the image. You can set **WHITE BALANCE** mode to **AUTO**, or **MANUAL**.

#### BRIGHTNESS

Brightness refers to the brightness of the image. You can set the brightness value from 1 to 9 to darken or brighten the image. The greater the value is, the brighter the image is.

## CONTRAST

This feature enhances the difference in color and light between parts of an image. You can set the **CONTRAST** value from 1 to 9.

## SHARPNESS

Sharpness determines the amount of detail an imaging system can reproduce. You can set the **SHARPNESS** value from 1 to 9.

## SATURATION

Adjust this feature to change the saturation of the color. The value ranges from 1 to 9.

## 3DNR (Digital Noise Reduction)

The **3DNR** function can decrease the noise effect, especially when capturing moving images in poor light conditions and delivering more accurate and sharp image. You can set the **3DNR** value from 1 to 9.

### **Note:**

3DNR is only supported by Type I camera.

## DNR (Digital Noise Reduction)

DNR refers to digital noise reduction. This function reduces noise in video stream.

### **Note:**

DNR is only supported by Type II camera.

## MIRROR

**OFF**, **H**, **V**, and **HV** are selectable for mirror.

**OFF**: The mirror function is disabled.

**H**: The image flips 180° horizontally.

**V**: The image flips 180° vertically.

**HV**: The image flips 180° both horizontally and vertically.

## 3.6 AUDIO SETTINGS

### AUDIO

Under the **AUTO SETTINGS** sub-menu, you can set the mode to **ON** or **OFF**.

### VOLUME

Adjust the **LEVEL** to a higher value to raise the volume.

## 3.7 FUNCTIONS

### **Note:**

FUNCTIONS is only supported by Type I.

### MOTION DET

In the user-defined motion detection surveillance area, the moving object can be detected and the alarm will be triggered. Up to 4 motion detection areas can be configured.

Select a **MOTION** area. Set the **MODE** to **ON**. Click the up/down/left/right button to define the position, and the size of the area. Set the **SENSITIVITY** from 1 to 9.

### PRIVACY

The privacy mask allows you to cover certain areas which you don't want to be viewed, or recorded. Up to 4 privacy areas are configurable.

Select a **PRIVACY** area. Set the **MODE** to **ON**. Click up/down/left/right button to define the position, and the size of the area.

## 3.8 FACTORY DEFAULT

Reset all the settings to the factory default.

## 3.9 EXIT

Move the cursor to **EXIT** and click Iris+ to exit the menu.

### **3.10 SAVE & EXIT**

Move the cursor to **SAVE & EXIT** and click Iris+ to save the settings, and exit the menu.