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# HD-COAXINATOR TVI™



ST-HDC2PTZFM

## QUICK START GUIDE



**Quick Start Guide**

**About this Manual**

This Manual is applicable to HD-COAXINATORTVI Speed Dome Cameras.

This Manual includes instructions for using and managing the product. Pictures, charts, images and all other information hereinafter are for description and explanation only. The information contained in this Manual is subject to change, without notice, due to firmware updates or other reasons. Please use this user manual under the guidance of professionals.

## Regulatory Information

### FCC Information

**FCC compliance:** This equipment has been tested and found to comply with the limits for 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 2006/95/EC, the EMC Directive 2004/108/EC, the

RoHS Directive 2011/65/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 the 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

- All electronic operation should be in strict compliance with the electrical safety regulations, fire prevention regulations and other related regulations in your local region.
- Please use the power adapter, which is provided with the camera. The standard of the power adapter is 24VAC±10% or 12VDC±10% (depending on models). The power consumption cannot be less than the required value.
- Do not connect several devices to one power adapter as adapter overload may cause over-heat or fire hazard.
- Please make sure that the power has been disconnected before you wire, install or dismantle the speed dome.
- When the product is installed on wall or ceiling, the device shall be firmly fixed.
- If smoke, odors or noise rise from the device, turn off the power at once and unplug the power cable, and contact support for further assistance.
- If the product does not work properly, please contact your dealer or the nearest service center. Never attempt to disassemble the speed dome yourself. (We shall not assume any responsibility for problems caused by unauthorized repair or maintenance.)



### Cautions

- Do not drop the dome or subject it to physical shock, and do not expose it to high electromagnetic radiation. Avoid installing the equipment on surfaces subject to shock or vibration (failure to do so can cause equipment damage).
- Do not place the dome in extremely hot, cold, dusty or damp locations, otherwise fire or electrical shock may occur. The operating temperature should be -22°F ~ 149°F(outdoor speed dome) and -14°F ~ 122°F (indoor speed dome).
- The indoor dome cover should be protected from rain and moisture.
- Exposing the equipment to direct sun light, low ventilation or a heat source such as heater or radiator should be avoided (failure to do so could cause a fire hazzard).

- Do not aim the speed dome at the sun or extremely bright scenes. A blooming or smear may occur (which is not a malfunction), and affecting the longevity of sensor at the same time.
- Please use the provided glove when opening up the dome cover, avoid direct contact with the dome cover, because the acidic sweat of the fingers may erode the surface coating of the dome cover.
- Please use a soft and dry cloth when cleaning inside and outside surfaces of the dome cover, do not use alkaline detergents.
- Please keep all wrappers after unpacking them for future use. In case of any failure, you will need to return the speed dome to the factory with original packaging to prevent to damage to the camera while in transit.
- For further assistance, or if you encounter any issue while using this product, please contact your distributor or Securitytronix at: 800-688-9282 Press 3 for support, then 2 for CCTV.

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# 1 Installation

## **Before you start:**

Check the package contents and make sure that the device in the package is in good condition and all the assembly parts are included.

There are several ways to install the HDC-TVI speed dome. The wall mounting is taken as an example below.

## 1.1 Connecting the Cables

Please turn the power off before connecting the cables.

The cable interfaces of speed dome are shown in following figure. The cables are distinguished by different colors. The labels attached on the cables are for identification.



The cables may vary according to different camera models. Please refer to the actual device.

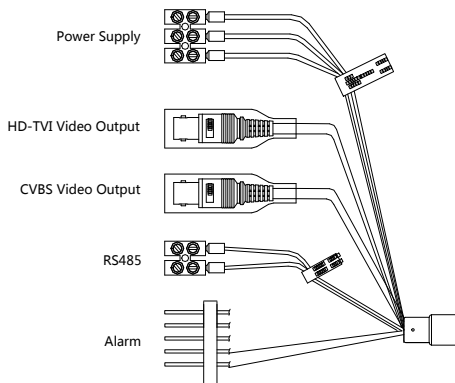


Figure 1-1 Cables

Table 1-1 Cables Description

Name	Description
Power Supply	24V AC/ 12V DC
HDC-TVI Video Output	HDC-TVI and coaxial video output
CVBS Video Output	SD analog video output
RS485	RS 485 control
Alarm	Alarm input and alarm output

## 1.2 DIP Switch Settings

### 1.2.1 5-inch Speed Dome Settings

The DIP switch is used for setting the address and baudrate for the speed dome, with value ON=1 and OFF=0.

The SW1 switches from the first to the eighth are used to set the address. The SW2 switches are used to set the baudrate.



The default dome address is 0. The default baudrate is 2400.

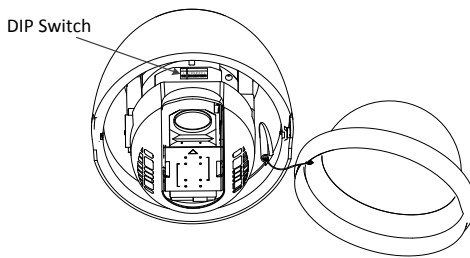


Figure 1-2 DIP Switch Settings for 5-inch Outdoor Speed Dome

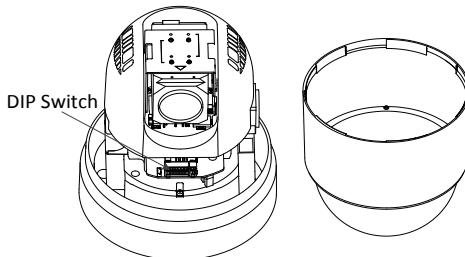


Figure 1-3 DIP Switch Settings for 5-inch Indoor Speed Dome



Figure 1-4 Enlarged View of DIP Switch

#### ● Address Settings

The SW1 switches from 1 to 5 are used for setting the address of speed dome. You can refer to Table 1-2 for details of setting the speed dome address to a specific number.

Table 1-2 Set the Dome Address

Switch No. Dome Address	1	2	3	4	5
0	OFF	OFF	OFF	OFF	OFF
1	ON	OFF	OFF	OFF	OFF
2	OFF	ON	OFF	OFF	OFF
3	ON	ON	OFF	OFF	OFF
...	...	...	...	...	...
31	ON	ON	ON	ON	ON

### ● Protocol Settings

The number 6 and 7 of SW1 switches are for setting the protocol of the speed dome. You can refer to Table 1-3 for details of setting the speed dome protocol.

Table 1-3 Set the Protocol of the Dome

Switch No. Protocol	6	7
Self-adaptive	OFF	OFF
PELCO_D	ON	OFF
MAN_BOSCH	OFF	ON
MAN_AD	ON	ON

### ● TVI Mode Settings

The number 8 of SW1 switches is for setting the TVI mode of the speed dome. You can refer to Table 1-4 for details of TVI mode settings.

Table 1-4 Set the TVI Mode

Switch No. TVI Mode	8
V2.0	OFF
V1.0	ON

### ● Baudrate Settings

The number 1 and 2 SW2 switches are used for setting the baudrate of the speed dome. The baudrate can be 2400bps, 4800bps, 9600bps and 19200bps. The baudrate will be set as 2400bps by default if it is out of this range. Refer to the following table:

Table 1-5 Set the Baudrate of the Dome

Switch No. / Baudrate	1	2
2400	OFF	OFF
4800	ON	OFF
9600	OFF	ON
19200	ON	ON

### 1.2.2 5-inch IR & Mini IR Speed Dome Settings

The DIP switch is for setting the speed dome address, baudrate, protocol, etc., with value ON=1 and OFF=0. The switch label of the 5-inch IR speed dome is on the back of the SWITCH cover as shown in Figure 1-5. The DIP switch of mini IR speed dome is shown in Figure 1-6.

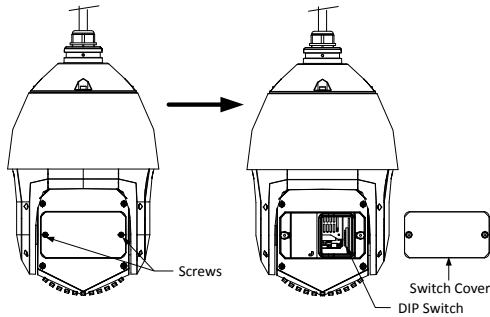


Figure 1-5 Position of DIP Switch for 5-inch IR Speed Dome

- **DIP Switch Location of Mini IR Speed Dome**

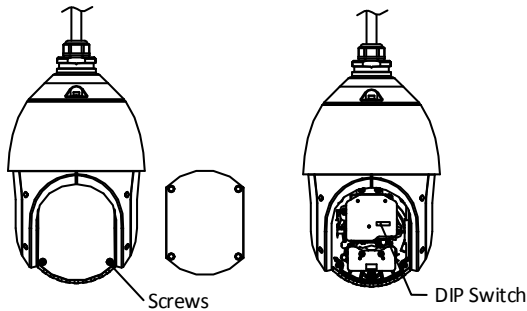


Figure 1-6 DIP Switch of Mini IR Speed Dome

- **Setting DIP Switch**



Figure 1-7 Enlarged View of DIP Switch



- For some certain models, the two individual DIP switches at the left side of the Figure 1-7 are supported for turning on/off the terminator; while other models are not supported.
- The default dome address is 0; the default baudrate is 2400; and the default value of the 120  $\Omega$  terminator is OFF.

Table 1-6 Switch Functions

Switch	Function
1 to 5	Set the address for the speed dome
6, 7	Set the baudrate for the speed dome
8	Set the protocol for the speed dome
9	Set the TVI mode for the speed dome
10	Set the terminal resistor for the speed dome

The DIP switch is designed according to binary system. When the switch is ON, it stands for the number 1. When the switch is OFF, it stands for the number 0.

**Example:**

The switches from No. 1 to 5 are used to set the speed dome address. No. 1 is the lowest digit and No. 5 is the highest. Turning on all these 5 switches stands for the binary number 11111. Converting the 11111 to a decimal number is 31. So the speed dome address will be 31.

● **Address List**

For convenient settings, refer to the following list to set the address for the speed domes.

Table 1-7 Dome Address

Switch No. Dome Address	1	2	3	4	5
0	OFF	OFF	OFF	OFF	OFF
1	ON	OFF	OFF	OFF	OFF
2	OFF	ON	OFF	OFF	OFF
3	ON	ON	OFF	OFF	OFF
...	...	...	...	...	...
31	ON	ON	ON	ON	ON

### ● Baudrate List

For convenient settings, refer to the following list to set the baudrate for the speed dome. The baudrate will be set as 2400bps by default.

Table 1-8 Baudrate

<b>Switch</b> <b>Baudrate</b>	<b>6</b>	<b>7</b>
2400	OFF	OFF
4800	ON	OFF
9600	OFF	ON
19200	ON	ON

### ● Protocol List

For convenient settings, refer to the following list to set the protocol for the speed dome.

Table 1-9 Protocol

<b>Protocol</b>	<b>8</b>
Self-adaptive	OFF
MAN_AD	ON

### ● TVI Mode

Table 1-10 TVI Mode

<b>TVI Mode</b>	<b>9</b>
V2.0	OFF
V1.0	ON



The speed dome is self-adaptive to private protocol when the No.8 and 9 switches are both OFF.

### ● Terminal Resistor

Table 1-11 Terminal Resistor

<b>Terminal Matching Resistance</b>	<b>10</b>
Turn on the Resistor	ON
Turn off the Resistor	OFF

### 1.2.3 7-inch IR Speed Dome Settings

Two DIP switches *SW1* and *SW2* are for setting the speed dome address, baudrate, protocol, etc., with value ON=1 and OFF=0. The switch label is on the back of the SWITCH cover as shown in Figure 1-8.

Each number of the switch represents a DIP value, ranging from 1 to 8 for the lowest to highest.

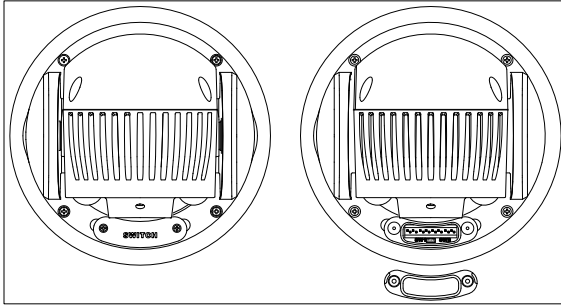


Figure 1-8 Label of DIP Switch for IR Speed Dome



Figure 1-9 Enlarged View of DIP Switch



The default dome address is 0; the default baudrate is 2400; and the default value of the 120Ω terminator is OFF.

#### ● Address Settings

The SW1 switches are used for setting the address of speed dome. You can refer to Table 1-12 for details of setting the speed dome address to a specific number.

Table 1-12 Set the Dome Address

Dome Address	1	2	3	4	5	6	7	8
0	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
1	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
2	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
3	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
...	...	...	...	...	...	...	...	...
255	ON	ON	ON	ON	ON	ON	ON	ON

### ● Baudrate Settings

The No. 1, 2 of SW2 switches are for setting the baudrate of the speed dome, standing for 2400bps, 4800bps, 9600bps and 19200bps respectively. The baudrate will be set to 2400bps by default if it is out of this range, refer to the following table:

Table 1-13 Set the Baudrate of the Dome

DIP Switch SW2-Baudrate Settings		
Baudrate	1	2
2400	ON	OFF
4800	OFF	ON
9600	ON	ON
19200	OFF	OFF

### ● Protocol Settings

For convenient settings, refer to the following list to set the protocol for the speed dome.

Table 1-14 Set the Protocol of the Dome

DIP Switch SW2-Protocol Settings			
Protocol	3	4	5
Self-adaptive	OFF	OFF	OFF
PELCO_P	ON	OFF	OFF
PELCO_D	OFF	ON	OFF
HIKVISION	ON	ON	OFF
KALATE	OFF	OFF	ON
VICON	ON	OFF	ON
MAN_BOSCH	OFF	ON	ON
MAN_AD	ON	ON	ON

### ● TVI Mode Settings

The No. 7 of SW2 switches is for setting the TVI mode of the speed dome. You can refer to the following table for details of setting the speed dome TVI mode.

Table 1-15 Set the TVI Mode

TVI Mode	7
V2.0	OFF
V1.0	ON

● **Terminal Resistor Settings**

The No. 8 of SW2 switches is used for turning on/off the 120Ω terminal resistor.

Table 1-16 Set Terminal Resistor

<b>Terminal Matching Resistance</b>	<b>8</b>
Turn on the Resistor	ON
Turn off the Resistor	OFF



The o-ring in the groove of the switch cover is for waterproof.

**1.2.4 Mini Speed Dome Settings**

● **DIP Switch Location of Mini HDC-TVI Speed Dome**

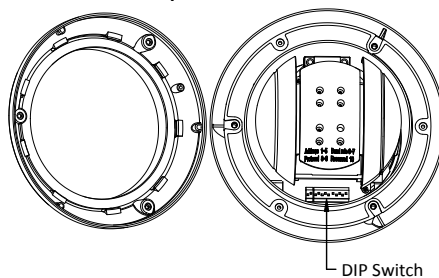


Figure 1-10 DIP Switch of Mini HDC-TVI Speed Dome

● **Setting DIP Switch**



Figure 1-11 Enlarged View of DIP Switch

Table 1-17 Switch Functions

Switch No.	Function
1 to 5 (SW1)	Set the address for the speed dome
6, 7 (SW1)	Set the baudrate for the speed dome
8, 9 (SW1)	Set the protocol for the speed dome
10 (SW1)	Set the TVI mode for the speed dome
1,2 (SW2)	Set the terminal resistor for the speed dome



The DIP switch is designed according to binary system. When the switch is ON, it stands for the number 1. When the switch is OFF, it stands for the number 0.

**Example:**

The SW1 switches from No. 1 to 5 are used to set the speed dome address. No. 1 is the lowest digit and No. 5 is the highest. Turning on all these 5 switches stands for the binary number 11111. Converting the 11111 to a decimal number is 31. So the speed dome address will be 31.

● **Address List**

For convenient settings, refer to the following list to set the address for the speed domes.

Table 1-18 Dome Address

Switch No. Dome Address	1	2	3	4	5
0	OFF	OFF	OFF	OFF	OFF
1	ON	OFF	OFF	OFF	OFF
2	OFF	ON	OFF	OFF	OFF
3	ON	ON	OFF	OFF	OFF
...	...	...	...	...	...
31	ON	ON	ON	ON	ON

● **Baudrate List**

For convenient settings, refer to the following list to set the baudrate for the speed dome. The baudrate will be set as 2400bps by default if it is out of this range.

Table 1-19 Baudrate

Switch No. Baudrate	6	7
2400	OFF	OFF
4800	ON	OFF
9600	OFF	ON
19200	ON	ON

● **Protocol List**

For convenient settings, refer to the following list to set the protocol for the speed dome.

Table 1-20 Protocol

Switch No. / Protocol	8	9
Self-adaptive	OFF	OFF
Pelco_P	ON	OFF



The speed dome is self-adaptive to private protocol when the No.8 and 9 switches are both OFF.

### ● TVI Mode

For convenient settings, refer to the following list to set the TVI mode of the speed dome.

Table 1-21 TVI Mode

Switch No. / TVI Mode	10
V2.0	OFF
V1.0	ON

### ● Terminal Resistor

Table 1-22 Terminal Resistor

Switch No.	1	2
Turn on the Resistor	ON	ON
Turn off the Resistor	OFF	OFF

## 1.3 Wiring and Installation

There are several ways to install the speed dome. The wall mounting is taken as an example below.

### 1.3.1 Wiring

Surveying of the installation environment and wire planning is highly recommended before actual deployment of the wire is implemented in order to provide a safe and steady power supply and a reasonable wiring route.

- Get familiar with the installation environment before deploying the wire, including the wiring distance, surrounding, and electromagnetic interference and so on.
- Please choose the cable with nominal voltage higher than the actual voltage, to ensure normal operation.
- To protect the power cable and the signal transmitting cable from human tampering, you

should pay attention to the routing and reinforcement of the cables.

- When deploying the wire, please do not over tighten the wires or leave the wire loose.

\*The wiring of the speed dome camera should be performed by professionals.

### 1.3.2 Installing the Bracket

#### **Before you start:**

Wall mounting is applicable for indoor/outdoor solid wall construction. The following are the mandatory conditions for wall mounting:

- The wall must be thick enough to install the expansion screws.
- Please make sure that the wall is strong enough to withstand more than 8 times the weight of the dome and the mount.

#### **Steps:**

1. Check whether the type of the bracket and the number of accessories are right, as shown in the figure below.

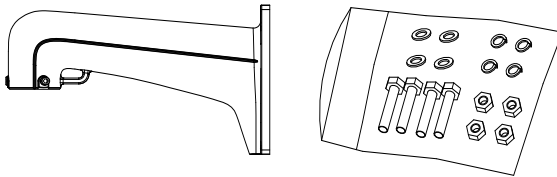


Figure 1-12 Wall Mount Bracket, Nuts and Flat Washers

2. Drill 4 screw holes in the wall according to the holes of the mount, and then insert M8 expansion screws (not supplied) into the mounting holes.

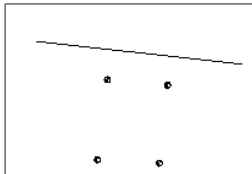


Figure 1-13 Drill Mounting Holes

3. Attach the wall mount to the wall by aligning the 4 screw holes of the mount with expansion screws on the wall.
4. Secure the wall mount with 4 hex nuts and washers.

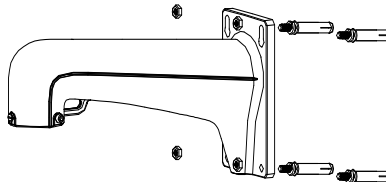


Figure 1-14 Secure the Mount

5. Install the speed dome to the mount. Please refer to *Section 1.3.4 Installing the Speed Dome* for installation details.



Follow the same instructions described above for the short-arm wall mounting. For outdoor applications, please ensure water proofing measures are taken. The short-arm wall mount is not optimal for outdoor applications.

### 1.3.3 Setting the DIP Switch

Set the address and baudrate for the speed dome. The default value of DIP switch is shown below:

- ◆ **Address: 0**
- ◆ **Baudrate:2400**
- ◆ **Terminal Resistor: OFF**

Please refer to the *Section 1.2 DIP Switch Settings* for DIP switch settings.

### 1.3.4 Installing the Speed Dome



The sketches of installing the speed dome are for reference only.

#### **Steps:**

1. Hang the safety rope to the speed dome and then hook to the mount as shown in Figure 1-15(left).
2. Route the cables of the speed dome through the wall mount.
3. Connect the corresponding video/power/RS-485 cables.
4. Install the speed dome to the mount, and secure the speed dome by rotating the speed dome clockwise.
5. Fasten the two lock screws with the Allen wrench, as shown in Figure 1-15(right).

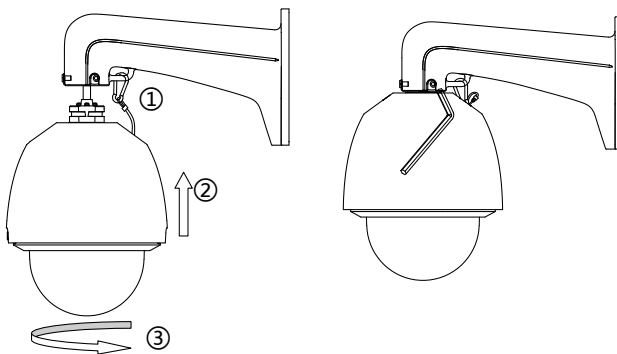


Figure 1-15 Install the Speed Dome

## 2 In-door Mounting Applications

### Before you start:

- For cement wall, you need to use expansion screws to fix the mount. The mounting hole of the expansion pipe on the wall should align with the mounting hole on the mount.
- For wooden wall, you can just use the self-tapping screw to fix the mount.

### 2.1 5-inch Speed Dome In-ceiling Mounting Applications

#### Before you start:

The in-ceiling mounting is applicable for ceiling construction. The following are mandatory conditions for mounting:

- The height of the space above the ceiling must be more than 250mm.
- The thickness of the ceiling must range between 5 and 40mm.
- The ceiling must be strong enough to withstand more than 4 times the weight of the dome and its accessories.

#### Steps:

1. Rotate the lower dome counterclockwise to separate it from the back box as shown in Figure 2-1.
2. Remove the protective lens cover, foam and sticker from the dome drive.
3. Set the address and baudrate for the HDC-TVI speed dome. Please refer to the *Section 1.2.1 5-inch Speed Dome Settings* for DIP switch settings.
4. Attach lower dome to the back box, and rotate clockwise to secure it.

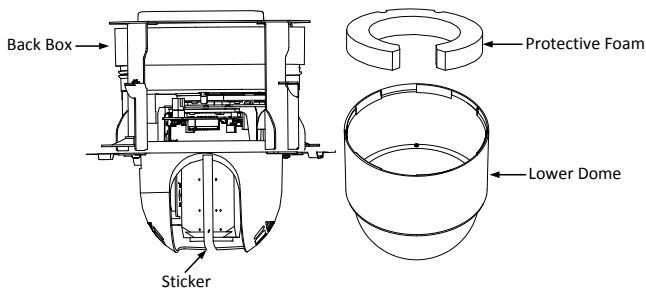


Figure 2-1 Remove the Protective Accessory

5. Drill a hole on the ceiling according to the drill template (supplied).



±2mm of the diameter of the circle is tolerable.

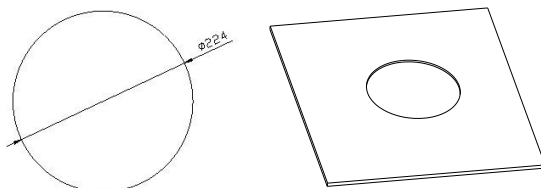


Figure 2-2 Draw and Cut Hole on the Ceiling

## 6. Connect the cables.

Make sure the video cable and control wire have been connected to the corresponding interfaces. Connect the power cable and the red LED indicator turns on when the power is on.



Please turn the power off after checking the speed dome.

## 7. Install the speed dome.

- (1) Loosen the two lock screws on both sides of the back box and make the locks in internal position, as shown in the following figure:

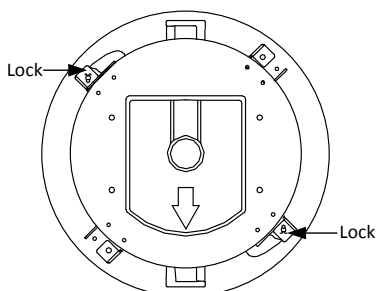


Figure 2-3 Locks and Lock Screws

- (2) Push the back box into the mounting hole in the ceiling
- (3) Tighten the lock screws with the screwdriver and the locks will automatically rotate outwards to secure the in-ceiling mount to the ceiling.

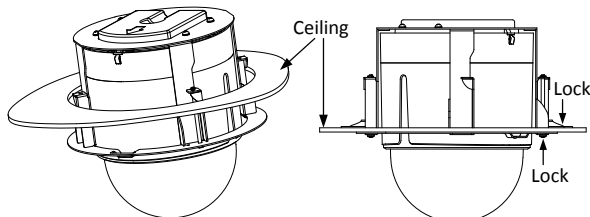


Figure 2-4 Install the back box

## 8. Install the trim ring.

- (1) Attach the trim ring to the lower dome and align the triangular notch of the trim ring with the arrow label on the in-ceiling mount.
- (2) After having firmly placed the trim ring to the ceiling, rotate the trim ring in the direction of arrow to secure the trim ring in place.



- Please remove the protective film on the lower dome after the installation is finished.
- In order to obtain clear video images, please wear anti-static gloves when you install the speed dome.

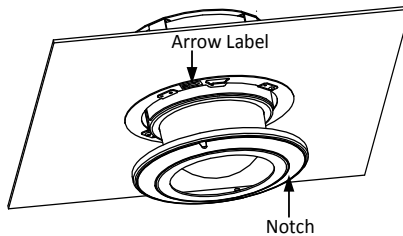


Figure 2-5 Install the Trim Ring

## 2.2 5-inch Speed Dome Ceiling Mounting Applications

### *Before you start:*

The ceiling mounting is applicable for indoor/outdoor solid ceiling construction. The following are the mandatory conditions for ceiling mounting:

- The thickness of the ceiling must range between 5 and 40mm.
- The ceiling must be strong enough to withstand more than 4 times the weight of the dome and its accessories.

### 2.2.1 Removing the Mounting Bracket

It is required to modify the external structure of the in-ceiling mount speed dome before the operation of ceiling mounting.

#### **Steps:**

1. Remove the 4 screws on the back box by a Phillips screwdriver.

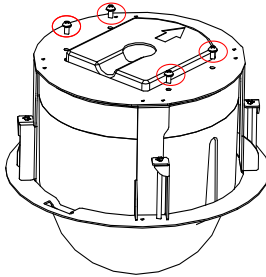


Figure 2-6 Remove 4 screws

2. Remove the in-ceiling mounting bracket.

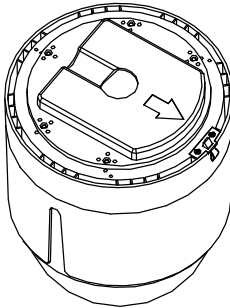


Figure 2-7 Remove the in-ceiling mounting bracket

3. Screw 4 bolts onto the back box by a Phillips screwdriver.

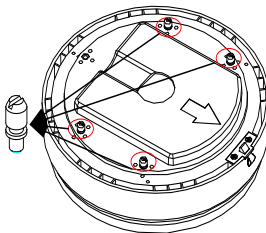


Figure 2-8 Install the bolts

### 2.2.2 Wiring

The cables of dome can be routed either from the top or the side of the back box. For the cables routed from the top of the back box, it is required to drill a cable hole in the ceiling.

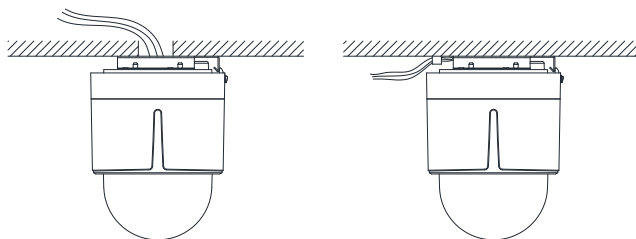


Figure 2-9 Cabling for Ceiling Mounting

### 2.2.3 Ceiling Mounting

#### Steps:

1. Rotate the lower dome counterclockwise to separate it from the back box. Refer to the Figure 2-1.
2. Remove the protective lens cover, foam and sticker from the dome drive.
3. Set the address and baudrate for the HDC-TVI speed dome. Please refer to the *Section 1.2.1 5-inch Speed Dome Settings* for DIP switch settings.
4. Attach lower dome to the back box, and rotate clockwise to secure it.
5. Use the mounting base as a template to mark four screw holes onto the ceiling.
6. If you route cables from the top of the back box, mark the cable hole on the ceiling and drill a hole.

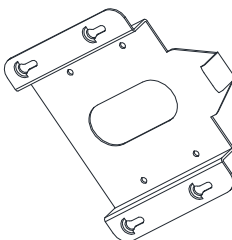


Figure 2-10 Mark the Screw Positions

7. Secure the mounting base to the ceiling with set screws.
  - If the speed dome is installed to a wooden wall, use the self-tapping screws to secure the mounting base.
  - If the dome is installed to the cement wall, drill three  $\Phi 5$  mounting holes onto the wall according to the hole locations, and then insert the cement screws into the holes and finally use self-tapping screws to secure the mounting base to the wall.

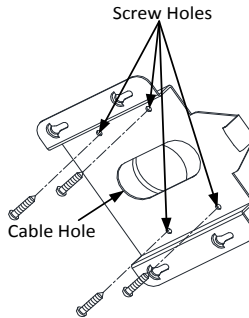


Figure 2-11 Secure the Mounting Base

8. Install the speed dome to the mounting base.
  - (1) Route the cables for the speed dome. Align the bottom of the speed dome with the mounting base.
  - (2) Line up the direction of arrow with the spring end of the mounting base.
  - (3) Push the speed dome upwards and then forwards in the direction of arrow. When the speed dome is placed in position, the spring will automatically snap into the lock clip firmly. Refer to the following figure.

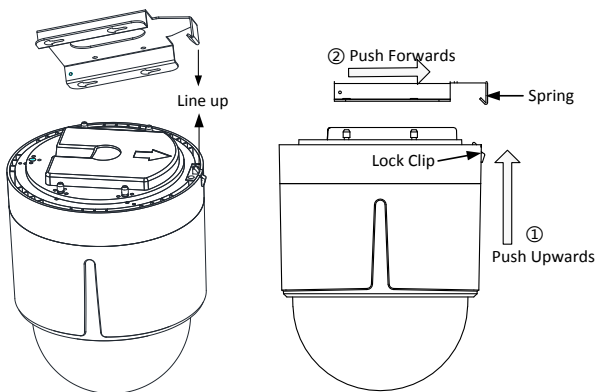


Figure 2-12 Attach the Back Box to the Mounting Base



- Please remove the protective film on the lower dome after the installation is finished.
- Do avoid direct hand contact with the dome cover to prevent image distortion.

## 2.3 Mini Speed Dome In-ceiling Mounting Applications

### Before you start:

The in-ceiling mounting is applicable for indoor ceiling construction. The following are the mandatory conditions for mounting:

- The height of the space above the ceiling must be more than 250mm.
- The ceiling must be between 5 and 40mm in thickness.
- The ceiling must be strong enough to withstand more than 4 times the weight of the dome and its accessories.

### Steps:

1. Drill holes in the ceiling.
  - (1) Attach the drill template to the ceiling where you need to install the speed dome.
  - (2) Cut a hole and drill screw holes according to the drill template.



±2mm of the diameter of the circle is tolerable.

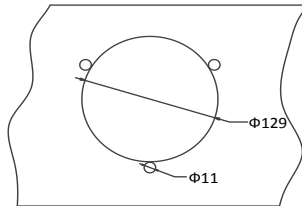


Figure 2-13 Drill Holes

2. Disassemble the speed dome.
  - (1) Loosen three screws as shown in the following figure.
  - (2) Remove the lower dome.
  - (3) Loosen three screws and remove the back box.
  - (4) Remove the protective lens cover, foam and sticker from the dome drive.

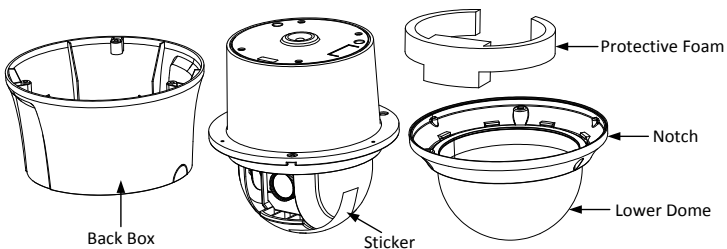


Figure 2-14 Disassemble the Speed Dome

3. Install the toggle bolts.
  - (1) Remove the toggle from the toggle bolt.
  - (2) Insert the bolts into the screw holes on the dome.

- (3) Rotate the bolts through the screw holes.
- (4) Reinstall the toggles as shown in Figure 2-15.

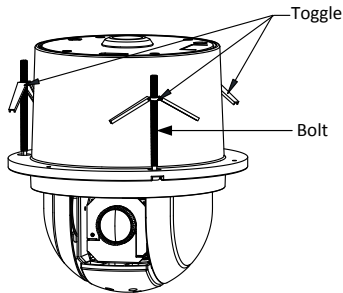


Figure 2-15 Install the Toggle Bolts

4. Align the toggle bolts with the screw holes on the ceiling.
5. Push the dome to the mounting hole on the ceiling.
6. Rotate the bolts again. The toggle will automatically rotate down to secure the dome to the ceiling.

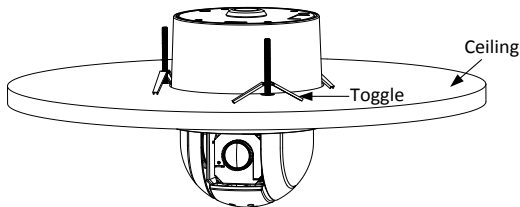


Figure 2-16 Install the Dome to the Ceiling

7. Secure the lower dome to the back box with three screws as shown in Figure 2-17.

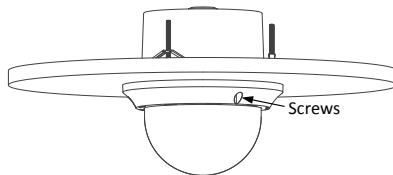


Figure 2-17 Install the Lower Dome

8. Route the cables through the ceiling for the speed dome. Please refer to the *section 1.1 Connecting the Cables* to connect the cables.

## 2.4 Mini Speed Dome Ceiling Mounting Applications

### Before you start:

The ceiling mounting is applicable for indoor/outdoor solid ceiling construction. The following are the mandatory conditions for ceiling mounting:

- The ceiling must be between 5mm and 40mm in thickness.
- The ceiling must be strong enough to withstand more than 4 times the weight of the dome and its accessories.

### 2.4.1 Wiring

The cables of dome can be routed either from the top or the side of the back box, as shown in Figure 2-18. For the cables routed from the top of the back box, it is required to drill a cable hole in the ceiling.

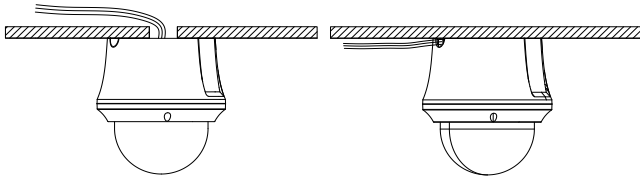


Figure 2-18 Cabling for Ceiling Mounting

### 2.4.2 Ceiling Mounting

#### Steps:

1. Drill Screw holes in the ceiling.
  - (1) Attach the drill template to the ceiling where you need to install the speed dome.
  - (2) Drill screw holes and a cable hole (optional) according to the drill template.

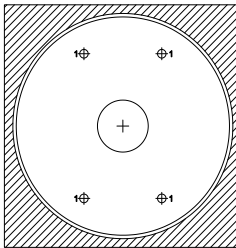


Figure 2-19 Drill Template

2. Disassemble the speed dome.
  - (1) Loosen three screws on the notch.
  - (2) Remove the lower dome.
  - (3) Remove the protective lens cover, foam and sticker from the dome drive as shown in Figure 2-20.

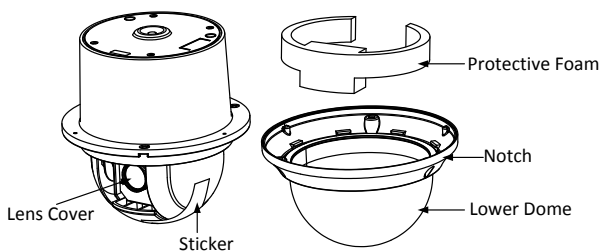


Figure 2-20 Disassemble the Speed Dome

3. Attach lower dome to the back box, and secure it with screws.
4. Align the ceiling mount with the screw holes on the drill template. Secure the ceiling mount to the ceiling with screws (supplied).

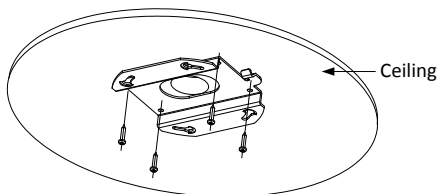


Figure 2-21 Install Ceiling Mount

5. Align the hook of the ceiling with unlock label on the speed dome.
6. Push the speed dome to the ceiling mount and rotate clockwise to secure it.

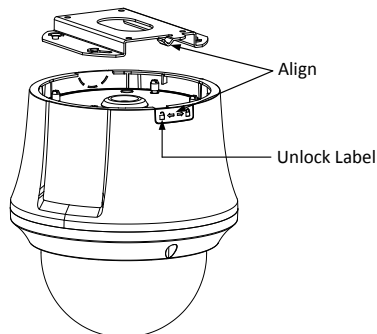


Figure 2-22 Install Speed Dome



- For cement ceiling mounting, you need to use expansion screws to fix the mount. The mounting hole of the expansion pipe on the wall should align with the mounting hole on the mount.
- For wooden ceiling mounting, you can just use self-tapping screws to fix the bracket.

## 3 Application and Operations

### 3.1 System Application

The device can be controlled through the back-end device or control software. The back-end device includes control keyboard, HDC-TVI (TVI Video Recorder), etc., and the control software includes client software. Here we take the connection of a TVR as an example.



Figure 3-1 System Application



- If both the speed dome and the DVR support CoC (Control over Coaxial cable), the RS485 cable is not necessary.
- The HDC-TVI video output can only be connected to specific HD-TVI DVR.

### 3.2 Basic Operations

Make sure the speed dome is connected properly, and the following basic operations are functioning:

#### Panning and tilting:

Click the direction buttons to control the pan and tilt movement of the speed dome.

#### Zooming:

Click the **ZOOM+** and **ZOOM-** buttons to control the zoom.

#### Focusing:

Click the **FOCUS+** and **FOCUS-** buttons to adjust the focus.

#### Iris:

Click the **IRIS+** and **IRIS-** buttons to adjust the iris.

#### Preset control:

The speed dome supports the preset function, and the configurable preset range varies according to the control system. The system menu pops up after you call the No.95 preset

The main menu interface is shown as follows:

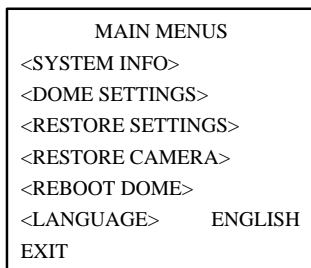


Figure 3-2 Main Menu



Refer to the full user's manual for the detailed instruction on setting the speed dome.

### 3.2.1 Configuring Patrol

You can set the patrol function by the DVR and OSD menu, as well as the one-touch patrol can be configured.

- **Configuring Patrol by DVR**

**Steps:**

1. Enter the PTZ Control interface.

Menu>Camera>PTZ



Figure 3-3 PTZ Settings

2. Select patrol No. in the drop-down list of patrol.
3. Click the **Set** button to add key points for the patrol.

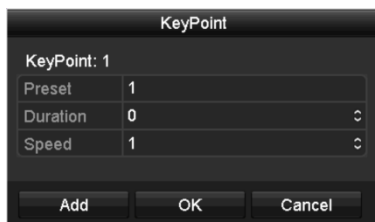


Figure 3-4 Key point Configuration

4. Configure key point parameters, such as the key point No., duration of staying for one key point and speed of patrol. The key point is corresponding to the preset. The **Key Point No.** determines the order at which the PTZ will follow while cycling through the patrol. The **Duration** refers to the dwell time of the corresponding key point. The **Speed** defines the speed at which the PTZ will move from one key point to the next.
5. Click the **Add** button to add the next key point to the patrol, or you can click the **OK** button to save the key point to the patrol.

You can delete all the key points by clicking the **Clear** button for the selected patrol, or click the **Clear All** button to delete all the key points for all patrols.

#### ● Configuring Patrol by OSD Menu

##### Steps:

1. Call the preset 95 to enter the main menu and move the cursor to enter patrol configuration submenu:

MAIN MENU > DOME SETTINGS > PATROLS

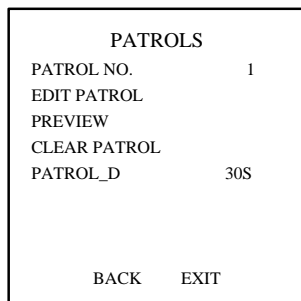


Figure 3-5 Patrol Configuration Menu

2. Choose the patrol number.
  - (1) Move the cursor to **PATROL NO.** and click **IRIS+** to enter edit mode.
  - (2) Click the up and down direction buttons to select the number of the patrol which is to be configured.
  - (3) Click **IRIS+** again to confirm the settings and exit edit mode of this column.



Up to 8 patrols can be configured.

3. Edit the patrol.

- (1) Move the cursor to **EDIT PATROL** and click **IRIS+** to enter edit mode.

NUM	PST	DWELL	SPEED
1	0	6	30
2	0	6	30
3	0	6	30
4	0	6	30
5	0	6	30
6	0	6	30
7	0	6	30
IRIS+ OK		IRIS- CANCEL	

Figure 3-6 Edit the Patrol

- (2) Click up/down direction buttons to choose the number and locate the preset to be edited.
- (3) Click left/right direction buttons to position the cursor to the column of **PRESET**, **DWELL** and **SPEED**. You can click the up/down direction buttons to set the value of preset number, dwell time and patrol speed.



The presets you set for a patrol should be the ones that have been pre-defined by users. The dwell time (5-800 seconds selectable) is the time that the speed dome stays on a certain preset; the patrol speed (level 1-40 selectable) is the scanning speed the speed dome switching between the presets.

- (4) Follow the above steps to define the other presets for the selected patrol. You can configure up to 32 presets in sequence for a patrol. Press **IRIS+** to save the new settings or press **IRIS-** to cancel and return to the previous menu.
4. Call the defined patrol.

Back to the live view interface after you finish editing the patrol, and call the special presets to call the defined patrol. The presets 35~38 stand for patrol 1~4 and presets 102~105 stand for patrol 5~8.

● **Calling Quick Patrol**

The dome starts patrol from the predefined preset 1 to preset 32 in order after the park time. The undefined preset will be skipped.

**Steps:**

1. Set the preset 1~32 by DVR or OSD menu.
2. Call the preset 46 to start the quick patrol.

### 3.2.2 Configuring Park Actions

#### **Purpose:**

For some certain modes of the speed dome, it can be configured to start a predefined park action (scan, preset, patrol and etc.) automatically after a period of inactivity (park time).

#### ● **Configuring Park Actions by DVR**

##### **Steps:**


1. Click the button **PTZ** in the lower-right corner of the PTZ setting interface;  
**Menu>Camera>PTZ**
2. Click the  button to show the one-touch function of the PTZ control.



Figure 3-7 PTZ Panel - One-touch

3. There are 3 one-touch park types selectable, click the corresponding button to activate the park action.

**Park (Quick Patrol):** The dome starts patrol from the predefined preset 1 to preset 32 in order after the park time. The undefined preset will be skipped.

**Park (Patrol 1):** The dome starts move according to the predefined patrol 1 path after the park time.

**Park (Preset 1):** The dome moves to the predefined preset 1 location after the park time.



The park time can only be set through the speed dome configuration interface, by default the value is 5s.

4. Click the button again to activate it.

#### ● **Configuring Park Actions by OSD Menu**

##### **Steps:**

1. Call the preset 95 to enter the main menu and move the cursor to enter motion parameters setting submenu:  
**MAIN MENU > DOME SETTINGS > MOTION SETTINGS**

MOTION	
AUTO FLIP	ON
PROPORTIONAL PAN	ON
PARK TIME	5
PARK ACT	NONE
SCAN SPEED	28
IMAGE FREEZE	OFF
DOME SPEED	6
BACK	EXIT

Figure 3-8 PTZ Configuration

2. Move the cursor to the **PARK TIME**, and set the value in the range from 5 to 720 seconds.
3. Move the cursor to the **PARK ACT**, and the action can be set as preset 1-8, pattern 1-5, patrol 1-10, pan scan, tilt scan, random scan, frame scan, panoramic scan, day mode, night mode, patrol-d or none.

## 4 Troubleshooting

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### 4.1 Device Exceptions

#### Question

Why does the speed dome fail to start or repeatedly reboot? Why does the speed dome restart intermittently when controlling PTZ, calling presets or turning on the infrared lights of the IR dome at night?

#### Answer

- Check the supply voltage of the dome. Ensure the supply voltage meets the power requirements of the speed dome.
- Check whether the diameter (AWG) of the power wires meet the requirements.

### 4.2 PTZ Control Exceptions

#### Question

The speed dome cannot do PTZ control but can do zoom control.

#### Answer

- For the 5 inch speed dome, you need to remove the protective sticker and foam of the camera module by opening the bubble, correctly install the speed dome again and then wire up.
- For IR speed dome, please remove the protective sticker and then wire up.

#### Question

Neither zoom control nor PTZ control is available for the speed dome.

#### Answer

- Check the supply voltage of the dome. Ensure the supply voltage meets the power requirements of the speed dome.
- Check whether the diameter (AWG) of the power wires meet the requirements.

### 4.3 Other Questions

#### Question

The preview image of the speed dome is not clear.

**Answer**

- Please check whether the protective film of the bubble has been removed.
- Please check whether there are foreign objects on the bubble or the lens.
- Please check where there are obstructions such as spider webs nearby.
- Open the bubble and check whether the lens cover has been removed.
- Restore the device to the default settings. Call the preset 95 to enter the OSD menu and select the **RESTORE CAMERA function**.

**Question**

For the IR speed dome, the image is washed out when the IR light is turned on at night.

**Answer**

- Please check whether there are obstructions near the lens, e.g. wall, leaf, spider webs, cables, etc., which will cause the over-exposure due to the IR light reflection. Clear the obstructions if necessary.

**Question**

The speed dome cannot focus when working in indoor conditions.

**Answer**

- Please restore the device to the default to exclude incorrect configurations.
- Reduce the minimum focusing distance of the device by configuring the image settings through the OSD menu.

For further assistance and troubleshooting, please contact SecurityTronix tech support at: **(800) 688-9282**, press **3** for Tech Support, then press **2** for CCTV.

**SECURITYTRONIX 1-Year Limited PTZ Camera Warranty**

Securitytronix. (the "Company") warrants to the Original Purchaser that the PTZ Camera is free from defects in workmanship or material under normal use. This warranty starts on the date of shipment of the hardware to the Original Purchaser. During the warranty period, the Company agrees to repair or replace, at its sole option, without charge to Original Purchaser, any defective component in the PTZ Camera. To obtain service, the Original Purchaser must return the PTZ Camera to the Company properly packaged for shipping. All defective products must be returned to the Company within thirty (30) days of failure. Products must be returned with a description of the failure and Return Merchandise Authorization (RMA) number supplied by the Company. To receive a RMA number and a return shipping address on where to deliver the hardware, call 610-429-1821. The shipping, and insurance charges incurred in shipping to the Company will be paid by Original Purchaser, and all risk for the hardware shall remain with the Original Purchaser until such time as Company takes receipt of the hardware. Upon receipt, the Company will promptly repair or replace the defective unit, and then return said unit to Original Purchaser, shipping prepaid. The Company may use reconditioned or like-new parts or units, at its sole option, when repairing any hardware. Repaired products shall carry the same amount of outstanding warranty as from original purchase. Any claim under the warranty must include dated proof of purchase or invoice. In any event, the Company's liability for defective hardware is limited to repairing or replacing the hardware. This warranty is contingent upon proper use of the hardware by Original Purchaser and does not cover: if damage is due to Acts of God (including fire, flood, earthquake, storm, hurricane or other natural disaster), accident, unusual physical, electrical, or electromechanical stress, modifications, neglect; misuse, operation with media not approved by the Company, tampering with or altering of the hardware, war, invasion, act of foreign enemies, hostilities (regardless of whether war is declared), civil war, rebellion, revolution, insurrection, military or usurped power or confiscation, terrorist activities, nationalization, government sanction, blockage, embargo, labor dispute, strike, lockout or interruption or failure of electricity, air conditioning, or humidity control, internet, network, or telephone service. The warranties given herein, together with any implied warranties covering the hardware, including any warranties of merchantability or fitness for a particular purpose, are limited in duration to one year from the date of shipment to the Original Purchaser. Jurisdictions vary with regard to the enforceability of warranty limitations, and you should check the laws of your local jurisdiction to find out whether the above limitation applies to you. The Company shall not be liable to you for loss of data, loss of profits, lost savings, special, incidental, consequential, indirect, or other similar damages arising from breach of warranty, breach of contract, negligence, or other legal action even if the Company or its agent has been advised of the possibility of such damages, or for any claim brought against you by another party. Jurisdictions vary with regard to the enforceability of provisions excluding or limiting liability for incidental or consequential damages. You should check the laws of your local jurisdiction to find out whether the above exclusion applies to you. This warranty allocates risks of product failure between Original Purchaser and the Company. The Company's hardware pricing reflects this allocation of risk and the limitations of liability contained in this warranty. The warranty set forth above is in lieu of all other express warranties, whether oral or written. The agents, employees, distributors, and dealers of the Company are not authorized to make modification to this warranty, or additional warranties binding on the Company. Accordingly, additional statements such as dealer advertising or presentations, whether oral or written, do not constitute warranties by the Company and should not be relied upon. This warranty gives you specific legal rights. You may also have other rights which vary from one jurisdiction to another.