



User Guide

GD-CT-BP2247P

EN

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GRUNDIG

Quick Guide

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Safety Instruction

Make sure that you only use the power adapter that is specified in the specifications sheet of the product. If you use any other adapter or connect the power supply incorrectly, this may cause explosion, fire, electric shocks or damage the product. Do not connect several devices to one power adapter as this may cause an adapter overload and can lead to over-heating and fire. Make sure that the plug of the power adapter is firmly connected to the power socket.

Do not place containers with liquids on the product. Do not place conducting items like tools, screws, coins or other metal items on the product. These may fall from the product or can cause fire or electric shocks or other physical injuries.

Do not push or insert any sharp items or any objects into the device as this may cause damage to the product, fire, electric shocks and/or physical injuries.

Do not block any ventilation openings, if there are any. Ensure that the product is well ventilated to prevent any over-heating.

Do not subject the device to physical shock or drop the product.

If the product uses batteries, please use a battery type that is recommended by the manufacturer. Improper use or replacement of the battery may result in the hazard of explosion.

Do not use any accessories that are not recommended by GRUNDIG. Do not modify the product in any way.

If the product starts to smell or smoke comes out of the device, immediately stop using the product and disconnect it from the power supply to prevent fire or electric shocks. Then contact your dealer or the nearest service center.

If the product does not work correctly, contact your dealer or nearest service center. Never open, disassemble or alter the product yourself. GRUNDIG cannot accept any liability or responsibility for problems caused by attempted and unauthorized repair and maintenance.

Special Installation Instructions for Cameras

Do not touch the sensor module with your fingers.

Do not aim the camera or camera lens at a strong light such as the sun or a bright lamp. Irreversible damage to the camera can be caused by a strong light.

Do not expose the sensor of the product to laser beams as this may damage the sensor.

If the product supports IR, you need to take some precautions to prevent IR reflection. Do not install the product close to reflective surfaces of objects as this may cause reflection. If the product has a dome cover, please remove the protection film only after installation to prevent dust or grease on the camera which can cause reflection. The foam ring around the lens must be seated flush against the inner surface of the bubble to isolate the lens from the IR LEDs. Fasten the dome cover to the camera body so that the foam ring and the dome cover are attached seamlessly.

For cleaning, use a clean cloth with a bit of ethanol and wipe it carefully and gently. In any case, do not use alkaline detergents.

If a glove is provided in the package, please use it to open the product cover. Never touch the product cover directly with fingers, because the acidic sweat of the fingers may damage the surface coating of the product cover.

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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 analog speed dome. The wall mounting is taken as an example below.

1.1 Connecting the Cables

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.

Note:

The Figure 1-1 contains all the possible cables, and they may vary according to different camera models. Refer to the actual device for the specific cables.

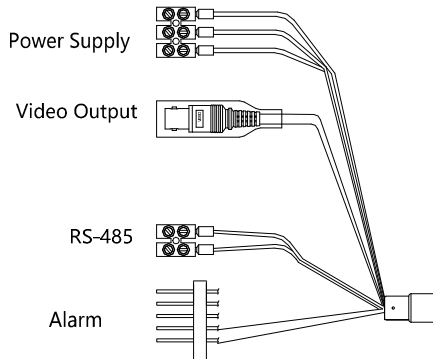


Figure 1-1 Cables

Table 1-1 Cables Description

| Name | Description |
|--------------|------------------------------|
| Power Supply | 24 VAC/12 VDC |
| Video Output | Coaxial video output |
| •RS-485 | 485 control |
| Alarm | Alarm input and alarm output |

1.2 DIP Switch Settings

1.2.1 IR Speed Dome Settings

The DIP switch is used for setting the speed dome address, baud rate, protocol, video output mode, and terminal resistor, with value OFF=0.

DIP switch of mini IR speed dome is shown in figure 1-7, and the DIP switch of 5-inch IR speed dome is shown in figure 1-8.

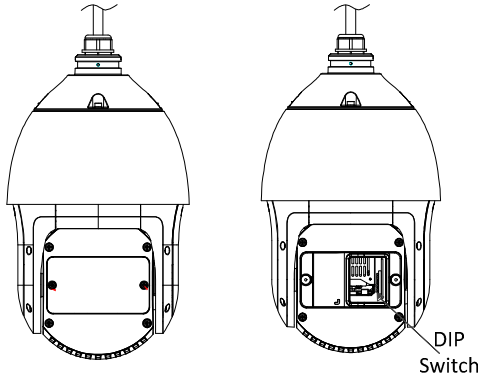


Figure 1-2 DIP Switch of 5-inch IR Speed Dome

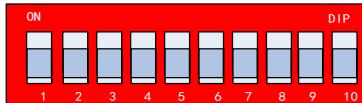


Figure 1-3 Enlarged View of DIP Switch

Note:

The default address is 0, the default baud rate is 2400, and the default terminal resistor is OFF.

Table 1-2 Switch Functions

| Switch No. | Function |
|------------|--|
| 1 to 5 | Set the address for the speed dome |
| 6 | Set the baud rate for the speed dome |
| 7 | Set the protocol for the speed dome |
| 8 to 9 | Set the video output mode for the speed dome |
| 10 | Set the terminal resistor for the speed dome |

- **Address Settings**

The No.1 to No.5 DIP switches are for setting the address of speed dome, with value ON=1, 2, 3, 4, 5 standing respectively for 1, 2, 4, 8, 16, and OFF=0. You can refer to Table 1-14 for setting the address.

Table 1-3 Set 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 |
| 4 | OFF | OFF | ON | OFF | OFF |
| ... | ... | ... | ... | ... | ... |
| 31 | ON | ON | ON | ON | ON |

- **Baud rate Settings**

The No.6 DIP switch is for setting the baud rate. The baud rate will be set as 2400bps by default, when it is out of this range. Refer to the following table for setting the baud rate.

Table 1-4 Set Baud rate

| Switch No. Baud rate | 6 |
|-------------------------|-----|
| 2400 | OFF |
| 9600 | ON |

- **Protocol Settings**

The No.7 DIP switch is for setting the protocol. Refer to the following table for setting the protocol.

Table 1-5 Set Protocol

| Protocol | 7 |
|---------------|-----|
| Self-adaptive | OFF |
| MAN_AD | ON |

The speed dome is self-adaptive to private protocol when the No.7 switch is OFF.

● **Video Output Settings**

The No.8 and No.9 DIP switches are for setting the video output mode of the speed dome. You can refer to Table 1-17 for setting the video output.

Table 1-6 Set Video Output

| Switch No. Description | 8 | 9 |
|---|----------|----------|
| TVI | OFF | OFF |
| AHD | ON | OFF |
| CVI | OFF | ON |
| CVBS | ON | ON |

● **Terminal Resistor Settings**

The No. 10 DIP switch is for turning on/off the 120 Ω terminal resistor. You can refer to Table 1-18 for setting the terminal resistor.

Table 1-7 Set Terminal Resistor

| Switch No. Description | 10 |
|---|-----------|
| Turn on the resistor | ON |
| Turn off the resistor | OFF |

1.3 Wiring and Installation

There are several ways to install the speed dome. Here we take wall mounting as the example.

1.3.1 Wiring

Check the installation environment and cables before wiring.

- Get familiar with the installation environment before wiring, including the wiring distance, surrounding, electromagnetic interference, etc.
- Choose the cable with nominal voltage higher than the actual voltage to guarantee a normal running.
- To protect the power cable and the signal transmitting cable from human tampering, you should pay attention to the protection and reinforcement of the cables.
- When wiring, do not tighten the wire or loosen the wire.

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

1.3.2 Installing the Mount

Before you start:

Wall mounting is applicable for the indoor/outdoor solid wall. The followings are the mandatory precondition for wall mounting:

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

Steps:

1. Make sure that the type of the mount, and the number of accessories are right, as shown in the figure below.

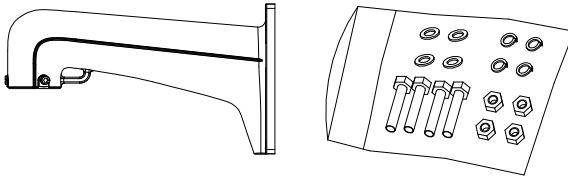


Figure 1-4 Wall Mount, Nuts, and Flat Washers

2. Drill 4 screw holes in the wall according to the holes of the mount, and then insert expansion screws into the screw holes.

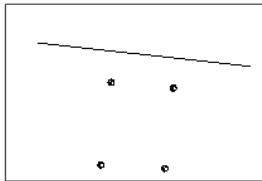


Figure 1-5 Drill Mounting Holes

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.

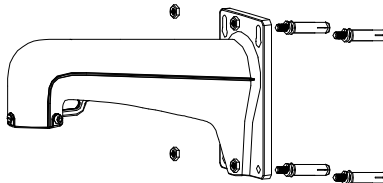


Figure 1-6 Secure the Mount

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

Note:

Follow the same instructions described above for the short-arm wall mount. For outdoor applications, adopt the water-proof measures. The short-arm wall mount is not recommended for outdoor applications.

1.3.3 Setting the DIP Switch

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

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

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

1.3.4 Installing the Speed Dome

Note:

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

Steps:

1. Hang the safety rope to the speed dome, and then hook it to the mount as shown in Figure 1-7 (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 1-7 (right).

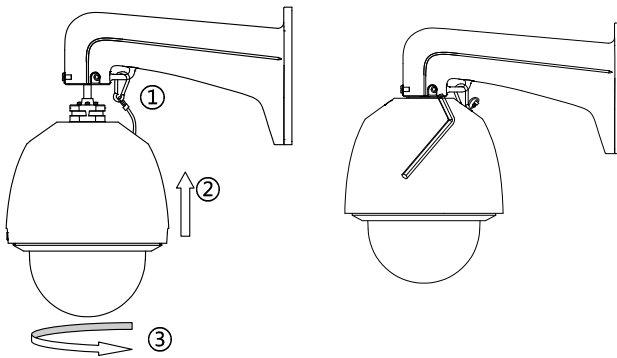


Figure 1-7 Install the Speed Dome

2 Application and Operations

2.1 System Application

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

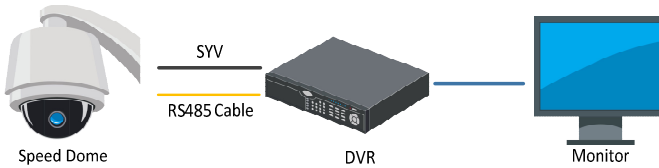


Figure 2-1 System Application

Note:

- If both the speed dome and the DVR support the coaxial function, the RS-485 cable will not be needed.
- The HD-TVI video output can only be connected to a specific HD-TVI DVR.

2.2 Basic Operations

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

Panning and tilting:

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

Zooming:

Click the **ZOOM+** or **ZOOM-** button to control the zooming.

Focusing:

Click the **FOCUS+** or **FOCUS-** button to adjust the focus.

Iris:

Click the **IRIS+** or **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 preset 95.

The main menu interface is shown as follows:

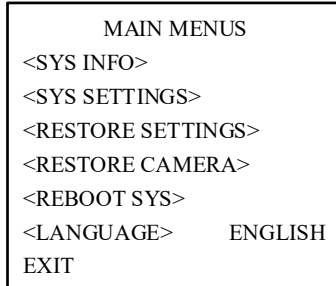


Figure 2-2 Main Menu

Note:

Refer to the user manual for details to set the speed dome.

2.2.1 Configuring Patrol

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

- **Configuring Patrol by DVR**

Steps:

1. Enter the PTZ Control interface.

Menu > Camera > PTZ

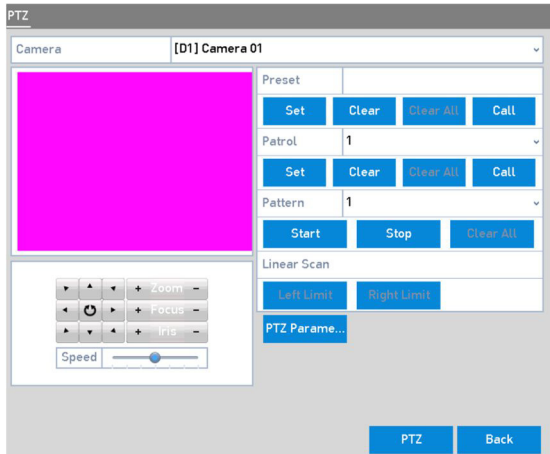


Figure 2-3 PTZ Settings

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

| KeyPoint | |
|---|----|
| KeyPoint: 1 | |
| Preset | 1 |
| Duration | 15 |
| Speed | 1 |
| <div style="display: flex; justify-content: space-around;"> Add OK Cancel </div> | |

Figure 2-4 Key point Configuration

- 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 time span to stay at the corresponding key point. The **Speed** defines the speed at which the PTZ will move from one key point to the next.
- Click the **Add** to add the next key point to the patrol, or you can click the **OK** to save the key point to the patrol.

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

● Configuring Patrol by OSD Menu

Steps:

- All the preset 95 to enter the main menu and move the cursor to enter patrol configuration submenu:

MAIN MENU > DOME SETTINGS > PATROLS

| | |
|-------------|-------|
| PATROLS | |
| PATROL NO. | 1 |
| EDIT PATROL | |
| PREVIEW | |
| CLEAR PATH | |
| PATROL-D | 15S |
| DWELL TIME | EQUAL |
| BACK | EXIT |

Figure 2-5 Patrol Configuration Menu

- Choose the patrol number.
 - Move the cursor to **PATROL NO.** and click **IRIS+** to enter edit mode.
 - Click the up and down direction buttons to select the number of the patrol which is to be configured.
 - Click **IRIS+** again to confirm the settings and exit editing mode.
- Set the dwell time.

There are two choices for the dwell time set section. If you select **GRADE**, the actual implement by the dome will be different from the instruction sent by the DVR. For example, you set the DVR to 15s, corresponding to the dome it would be 140s. Refer to the interface for more details. However, if you select **EQUAL**, they will be exactly the same.

4. Edit the patrol.

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

| NO. | PST | DWELL | SPD |
|----------------|-----|-------|-----|
| 1 | 0 | 20 | 30 |
| 2 | 0 | 20 | 30 |
| 3 | 0 | 20 | 30 |
| 4 | 0 | 20 | 30 |
| 5 | 0 | 20 | 30 |
| 6 | 0 | 20 | 30 |
| IRIS+: OK | | | |
| IRIS - :CANCEL | | | |

Figure 2-6 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.

Note:

The presets you set for a patrol should be the ones that have been pre-defined by users. The dwell time (15 to 800 seconds selectable) is the time that the speed dome stays on a certain preset. The patrol speed (level 1 to 40 selectable) is the scanning speed for 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.
5. 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 to 38 stand for patrol 1 to 4 and presets 102 to 105 stand for patrol 5 to 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 to 32 by DVR or OSD menu.
2. Call the preset 46 to start the quick patrol.

2.2.2 Configuring Park Actions

Purpose:


For some certain model 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 **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.

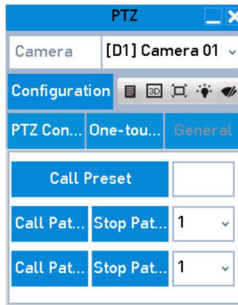


Figure 2-7 PTZ Panel - One-touch

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 moving 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.

Note:

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

4. Click the button again to inactivate 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 settings submenu:

MAIN MENU > SYS SETTINGS > MOTION PARAMETER

| MOTION | |
|------------------|------|
| AUTO FLIP | ON |
| PROPORTIONAL PAN | ON |
| PARK TIME | 5 |
| PARK ACT | NONE |
| SCAN SPEED | 28 |
| IMAGE FREEZE | OFF |
| MOVE SPEED | 5 |
| BACK | EXIT |

Figure 2-8 PTZ Configuration

2. Select the **PARK TIME**, and set the value according to your needs.
3. Select the **PARK ACT**, and the action can be set to **NONE, PAN SCAN, TILT SCAN, PANORAMA, FRAME SCAN, RANDOM SCAN, PATROL-D, PATROL 1-10, PATTERN 1-5, PRESET 1-8, DAY, and NIGHT**.

Note:

If no control signal is received after the park time under the following circumstances, no park actions will be performed: in the process of performing dome actions by calling special presets.

3 Troubleshooting

3.1 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 to meet the power requirements of the speed dome. The nearest power supply is recommended.
- Check whether the diameter of the power wire meet the standards.

3.2 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 to meet the power requirements of the speed dome. The nearest power supply is recommended.
- Check whether the diameter of the power wire meet the standards.

3.3 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 web 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**.

Question

For the IR speed dome, the image is abnormal white when the IR light is turned on in the night.

Answer

- Please check whether there are obstructions near the lens, e.g. wall, leaf, spider web, 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 the indoor condition.

Answer

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

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