HDCVI Compact Mobile Camera User's Manual

Version 1.0.0

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Welcome

Thank you for purchasing our HDCVI camera!

This user's manual is designed to be a reference tool for your system.

Please read the following safeguard and warnings carefully before you use this series product!

Please keep this user's manual well for future reference!

Important Safeguards and Warnings

1．Electrical safety

- All installation and operation here should conform to your local electrical safety codes.
- The power shall conform to the requirement in the SELV (Safety Extra Low Voltage) and the Limited power source is rated DC 12V or AC24V in the IEC60950-1. (Power supply requirement is subject to the device label).
- Please install easy-to-use device for power off before installing wiring, which is for emergent power off when necessary.
- Please check if the power supply meets the requirements of working voltage of the camera before operating the device (The material and length of the power supply cable will influence terminal voltage value).
- Please prevent the line cord from being trampled or pressed, especially the plug, power socket and the junction from the device.

2．Environment

- Please don't aim the device at strong light (such as lighting, sunlight and so on) to focus.
- Please transport, use and store the device within the range of allowed humidity and temperature.
- Please do not allow water and other liquid falling into the camera in case that the internal components are damaged.
- Please keep the sound ventilation in case of heat accumulation.
- Heavy stress, violent vibration or water splash are not allowed during transportation, storage and installation.
- Please pack the device with standard factory packaging or material with same quality when transporting the device.
- It is recommended to use the device together with lightning protection device to enhance lightning protection effect.
- It is recommended to GND the device to enhance device reliability.
- It is advised to use qualified video transmission cable to improve video quality. It is recommended to use 75-3 coaxial cable or higher standard.

Warning

- Please use the standard accessories provided by manufacturer and make sure the device is installed and fixed by professional engineers.
- Please prevent the device surface from the radiation of laser beam when using laser beam device.

- Please do not provide two or more power supply modes for the device, otherwise it may cause damage to the device.

Statement

- Please refer to the actual product for more details; the manual is just for reference.
- The manual will be regularly upgraded according to the product update; the upgraded content will be added in the manual without prior announcement.
- Please contact the customer service for the latest procedure and supplementary documentation.
- The company is not liable for any loss caused by the operation which is not followed by the manual.
- Please refer to the company's final explanation if there is any doubt or dispute.

1 General Introduction

1.1 Overview

This series HDCVI camera conforms to the HDCVI standard. It supports video signal high-speed long distance transmission without any delay. It can be controlled by the HCVR conforming to the HDCVI.

1.2 Features

- Adopts high performance CMOS image sensor, megapixel definition.
- Supports coaxial transmission of HD video, audio and control signal.
- 720P series supports 75-3 coaxial transmission without loss, the distance is over 800m, 1080P series supports 75-5 coaxial transmission without loss, and the distance is over 500m.
- High speed, long distance real-time transmission.
- Support HDCVI HD video output.
- Support OSD menu adjustment parameters.
- Support auto exposure, AWB, auto electronic gain.
- Support ultra WDR function, the range can reach 120dB (only supported by WDR models)
- Support DC 12V power supply.
- It can be applied to small-sized mobile scenarios inside the vehicle, such as front windshield, vehicle roof, A column and trunk roof etc.

2 Device Framework

2.1 Structure Dimension

Please refer to Figure 2-1 for the dimension of **model A, B, C** and **D**. The unit is mm (inch).
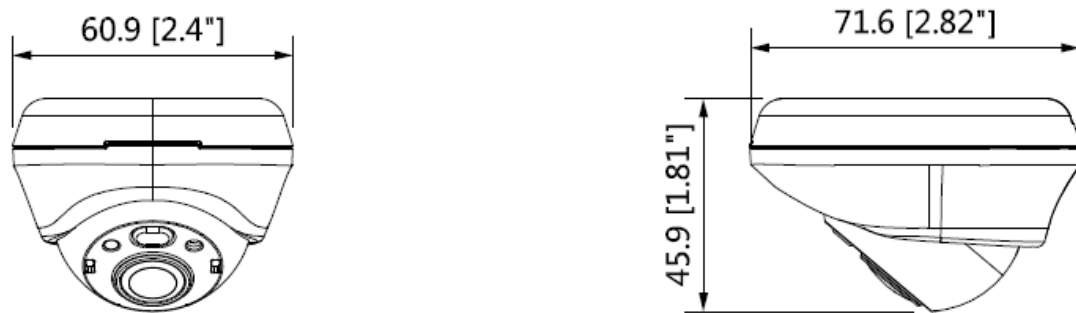

Figure 2-1

Please refer to Figure 2-2 for the chassis dimension of **model A, B, C** and **D**. The unit is mm (inch).
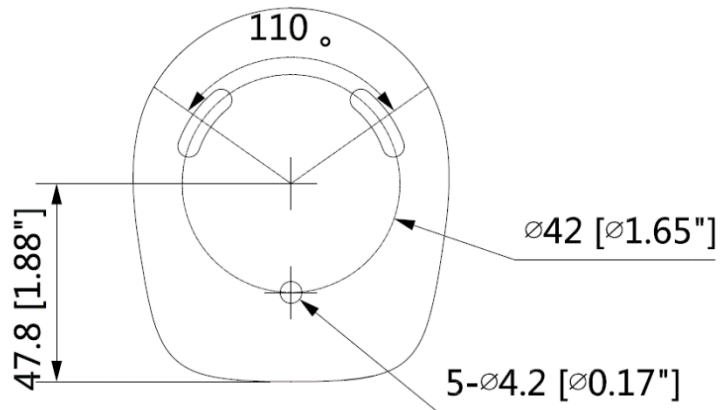

Figure 2-2

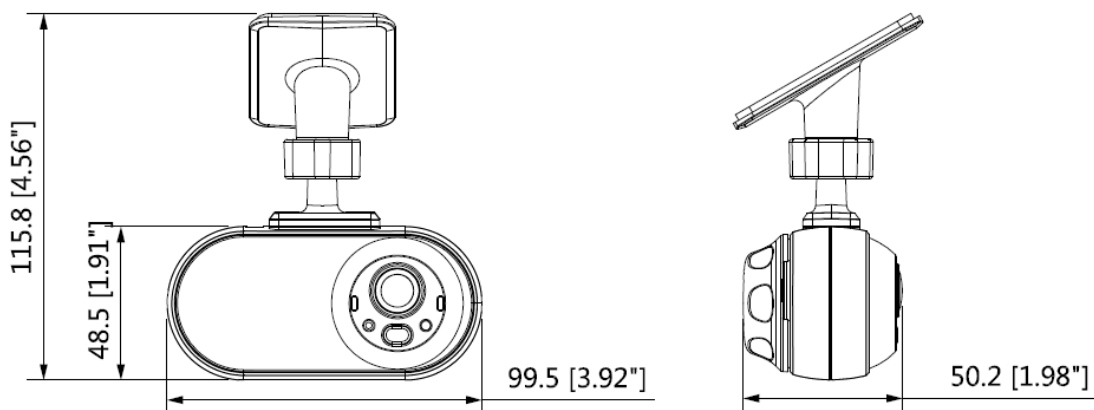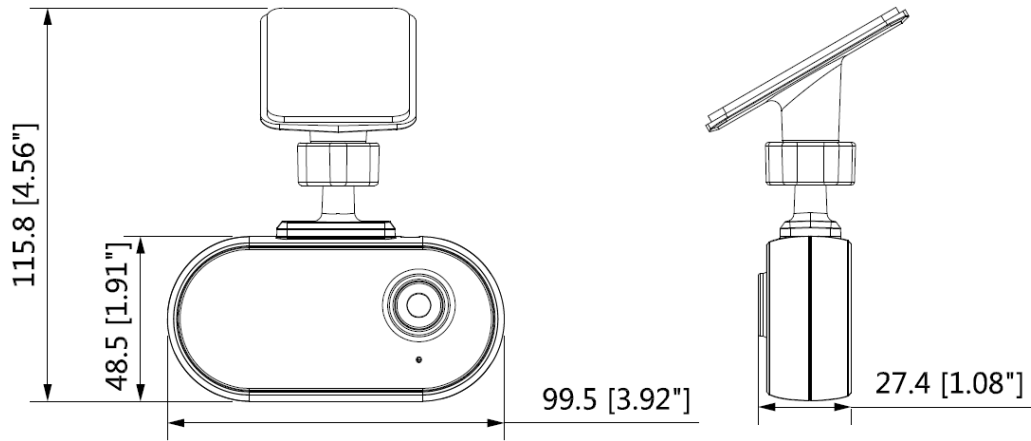Please refer to Figure 2-3 for the dimension of **model E** and **F**. The unit is mm (inch).

Figure 2-3

Please refer to Figure 2-4 for the dimension of model G and H. The unit is mm (inch).

Figure 2-4

2.2 Cable Port

Note

- The figures are for reference only, which are used to know the function of cable port.
- Different devices may have different cables, please refer to the actual device for more details.
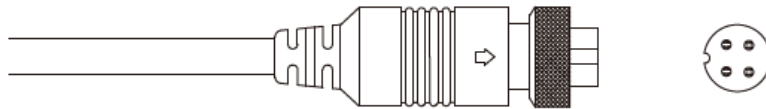
Please refer to Figure 2-5 for mobile aviation port.

Figure 2-5

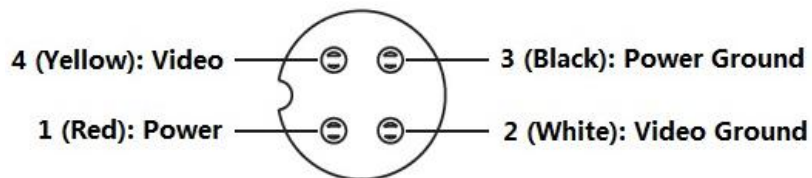Please refer to Figure 2-6 for the cable sequence of HD aviation port.

4 (Yellow): Video —— 3 (Black): Power Ground

1 (Red): Power —— 2 (White): Video Ground

Figure 2-6

Please refer to Figure 2-7 for the cable sequence of analog aviation port.

4 (Yellow): Video —— 3 (White): Audio

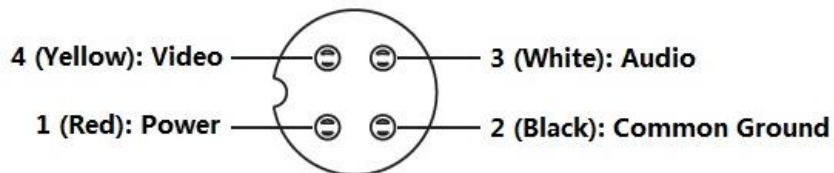1 (Red): Power —— 2 (Black): Common Ground

Figure 2-7

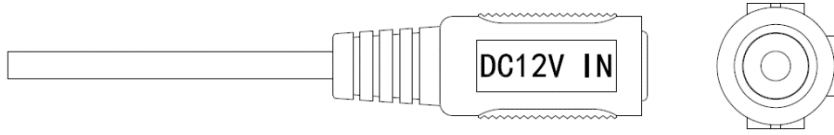Please refer to Figure 2-8 for the power input port.

Figure 2-8

Please refer to Figure 2-9 for the video output port.
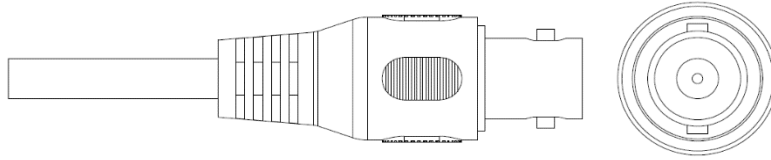

Figure 2-9

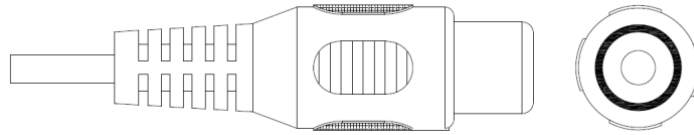Please refer to Figure 2-10 for the audio input port.

Figure 2-10

3 Installation

Caution:

- Please install the device in time after it is taken apart, which is to avoid the camera module being exposed to damp environment for too long.
- Before the installation, please make sure the installation surface is thick enough to sustain at least 3X weight of the camera.
- For the installation mode of side outlet, make sure the direction of side outlet is in accordance with that of the installation position map when sticking the installation position map. Besides, pull the cable through the pedestal cable slot before locking the screw.
- The installation figures below are for reference only.

3.1 Mobile Camera Installation (1)

The installation location for this type of mobile camera includes vehicle operating platform, vehicle trail or it can also be hang-mounted on the ceiling inside the vehicle.
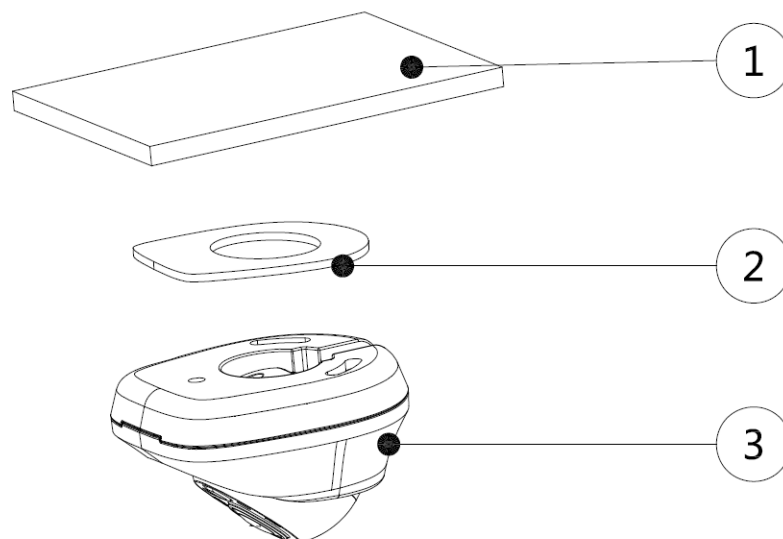
3.1.1 3M Adhesive Installation Scheme

Figure 3-1

Step 1

Take out the 3M adhesive ② from the device accessory bag and stick it on the camera chassis (cable led out from side).

Step 2

Paste the camera onto the mounting surface ① according to the monitoring location of the camera ③。

Step 3

Connect device cable to the back-end HCVR device.

Step 4

Adjust lens angle to proper monitoring location after it displays image on the back-end coding device, which is shown in Figure 3-2.
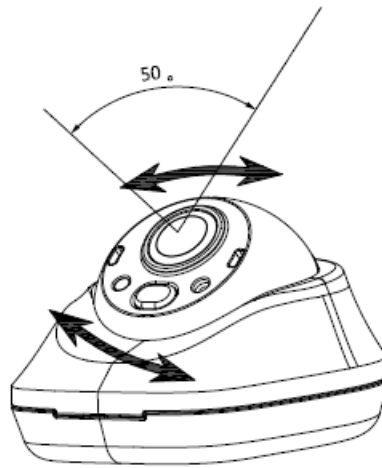
Figure 3-2

So far, the device installation and cable connection have been completed, you can check device monitoring image via back-end coding device.
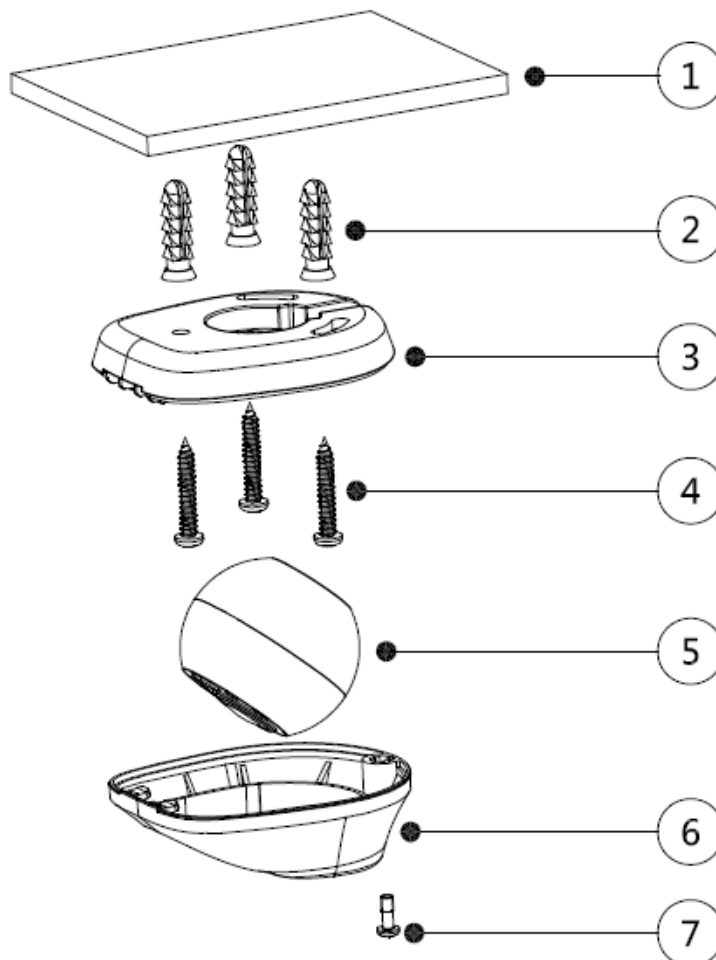
3.1.2 Screw Fixing Scheme

Figure 3-3

Step 1

Take down the pedestal.

Loosen the locking screws ⑦ anticlockwise to make it separate.

Step 2

Mark pedestal ③ mounting hole sites on the mounting surface ①, and dig three expansion bolt bottom holes on the mounting hole sites. Then insert expansion bolts ② into the mounting holes and lock them firmly.

Step 3

Adjust pedestal ③ location (lead out cable from lateral cable slot if it adopts side cable outlet). Align the bolt fixing hole of device pedestal with the expansion bolt fixing hole of the mounting surface; insert the self-tapping screws ④ into the expansion bolts and lock them firmly to fix the pedestal on the mounting surface (If it is top cable outlet, lead out cable from the outlet hole on the mounting surface after the pedestal is fixed).

Step 4

Install dome body ⑤ and enclosure ⑥.

Insert the enclosure into the pedestal together with the dome body, twist locking screw ⑦ clockwise and fix it preliminarily; Rotate enclosure and dome body to proper monitoring location; finally tighten the locking screw and make it firmly fixed.

Step 5

Connect device cable to back-end HCVR device.

So far, the device installation and cable connection have been completed, you can check device monitoring image via back-end coding device.

3.2 Mobile Camera Installation (2)

Generally the installation location of this type of mobile camera is front windshield.
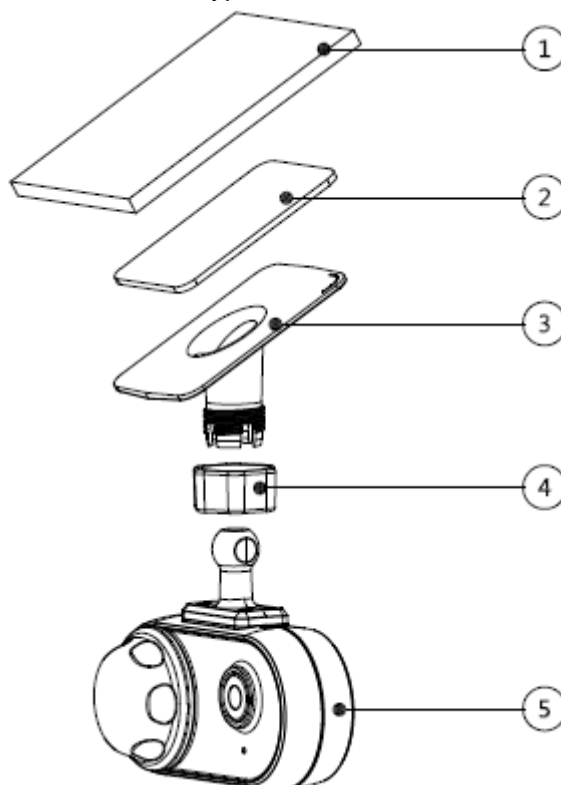

Figure 3-4

Step 1

Take out the 3M adhesive ②from the device accessory bag and stick it on the camera pedestal ③.

Step 2

Paste the camera onto the mounting surface (front windshield) ① according to the monitoring location of the camera ⑤.

Step 3

Connect device cable to the back-end HCVR device.

Step 4

Adjust lens angle to proper monitoring location after it displays image on the back-end coding device.
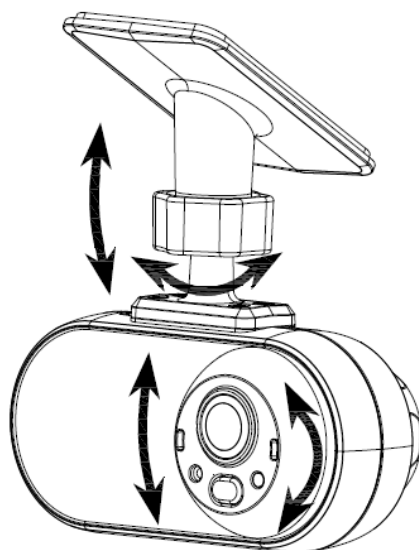

Figure 3-5

So far, the device installation and cable connection have been completed, you can check the monitoring image via back-end coding device.

4 Menu

4.1 HCVR Settings

This HDCVI camera series can adjust OSD menu via coaxial control. After connected the camera to the HDCVI series HCVR, from Main Menu->Setting->System->PTZ, you need to select the channel number for access and set control mode as HDCVI and the protocol as HD-CVI. Click "Save" button to save current setup. See Figure 4-1.
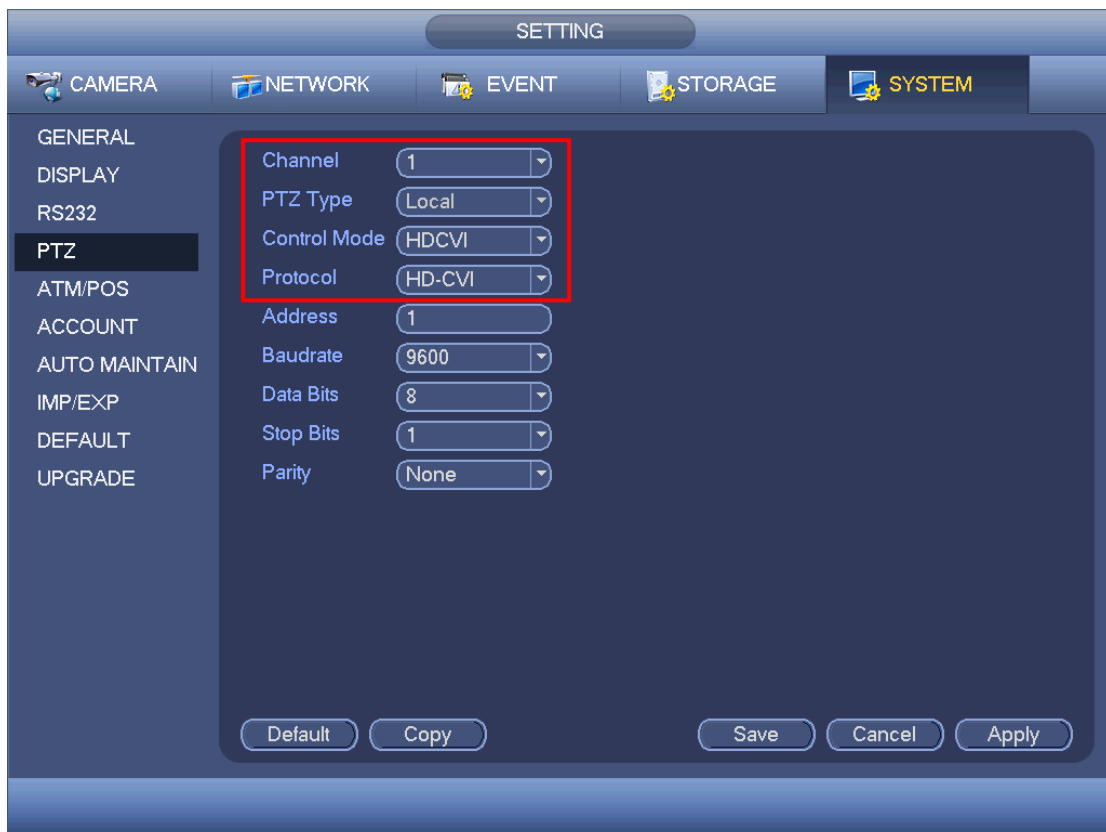

Figure 4-1

4.2 Set Audio Coax

From "Main Menu > Setting > Camera > Encode > Encode", you need to set "Audio Format" as "G711a" and the "Audio Source" as "HDCVI". Click "Save" after setting is completed. See Figure 4-2 for more details.
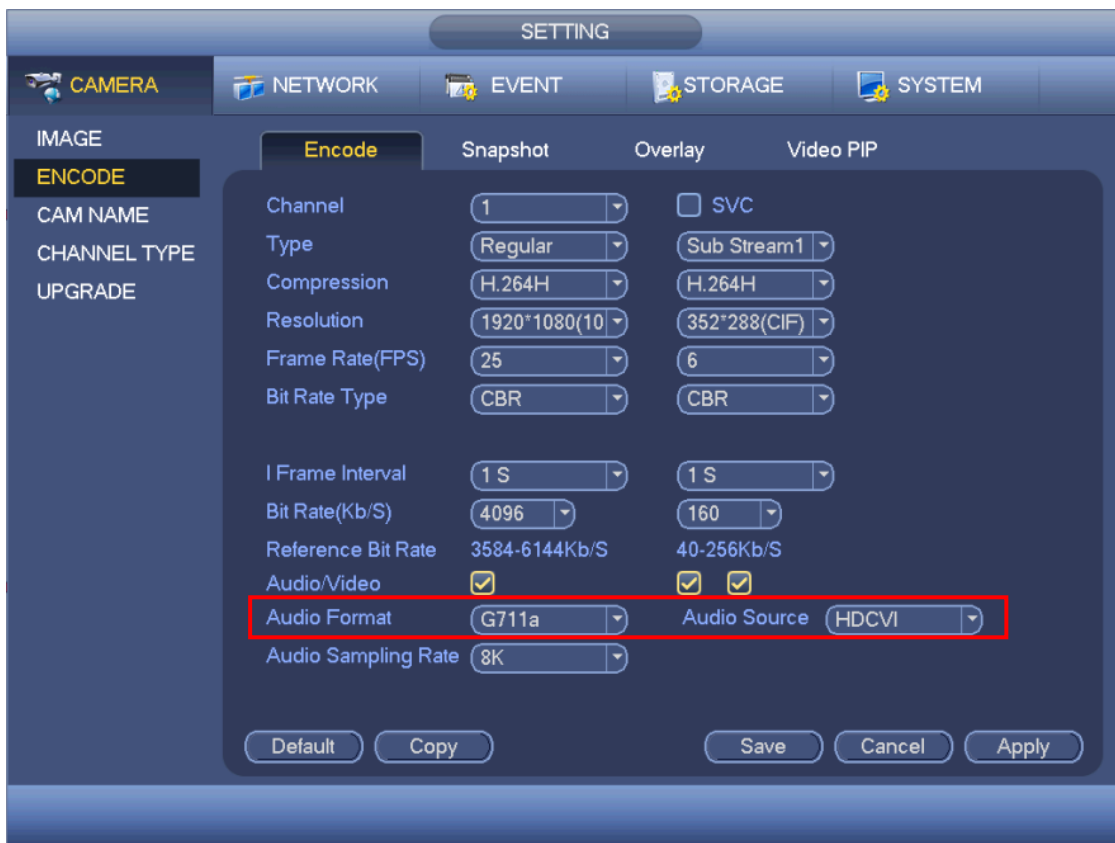
Figure 4-2

4.3 Menu Operation

Click the right mouse button and select "PTZ Control", then you will see the "PTZ Setup" menu, which is as shown in Figure 4-3 and Figure 4-4.

Figure 4-3

Figure 4-4

See Table 4-1 for the details of button functions.

Button	Function
+ Enter	Open menu
▲、▼	Select menu item
◀、▶	Select menu value

Table 4-1

If there is " ↵ " in the parameter value, click the "Enter" button in "Menu Operation" interface to go to the 2nd menu. Click "Return" button to go back to the previous menu interface.

Note

- The operation interface above is an example of HCVRHG-AF series, different back-end devices have different operation interface, please refer to corresponding HCVR manual for more details.
- Menus are different according to different products, please refer to actual device for exact menu.

Appendix I Maintenance

Attention

Please maintain the device according to the following instructions in order to ensure the image effect and long-term stable operation of the device.

Maintenance for lens and mirror surface

The lens and mirror surface are covered with antireflection coating, so it may produce hazardous substance and lead to performance reduction or scratch, dimness etc. Please don't touch sensor CCD (or CMOS) directly, you can use hair dryer to remove dust or dirt on the lens surface. Please use dry cloth slightly soaked with alcohol to get rid of dust and dirt gently if it is necessary to be cleaned.

Camera Body Maintenance

Use a soft dry cloth to clean the camera body when it is dirty, in case the dirt is hard to remove, use a clean dry cloth soaked with mild detergent and wipe gently, make it dry later. Don't use volatile solvent like alcohol, benzene, thinner and etc. or strong detergent with abrasiveness, otherwise it will damage the surface coating or reduce the working performance of the device.

Note

- **This manual is for reference only. Slight difference may be found in the user interface.**
- **All the designs and software here are subject to change without prior written notice.**
- **All trademarks and registered trademarks mentioned are the properties of their respective owners.**
- **If there is any uncertainty or controversy, please refer to the final explanation of us.**
- **Please visit our website or contact your local service engineer for more information.**