



PTZOptics HC-JOY-G4

Product Manual

HC-JOY-G4



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Getting Started

The **HuddleCamHD HC-JOY-G4** is a professional serial camera controller designed for precise control of PTZ cameras. It features a joystick for intuitive pan, tilt, and zoom control, along with a variety of buttons and dials for adjusting camera settings and recalling presets. The **HC-JOY-G4** supports both RS-232 and RS-422/RS-485 communication protocols, making it compatible with a wide range of PTZ cameras.



Power

The **HC-JOY-G4** includes a 12V DC power supply and can be powered on using the power switch located on the rear of the controller.

Camera Connection

The **HC-JOY-G4** can be connected to PTZ cameras using either the RS-232 or RS-422/RS-485 communication protocols. The appropriate connection method depends on the specific camera and its supported communication protocols. The **HC-JOY-G4** can control up to 7 cameras via RS-232 daisy-chaining and up to 255 cameras via RS-422/RS-485.

 IMPORTANT

When daisy-chaining cameras, be sure each camera uses the same control protocol (RS-232 or RS-422/RS-485) and has a unique camera ID (e.g., 01, 02, 03, etc.) assigned to it to ensure proper communication and control.

Setup

To connect the HC-JOY-G4 to a camera using RS-232, use a DB9 serial cable to connect the RS-232 port on the rear of the HC-JOY-G4 to the RS-232 port on the camera. If connecting multiple cameras in a daisy-chain configuration, connect the first camera to the HC-JOY-G4, then connect subsequent cameras using additional cascade cables.

Then, scroll down to the **ADD** section of the camera's OSD menu and select the appropriate protocol and camera ID for each camera in the daisy chain to establish communication between the HC-JOY-G4 and the cameras.

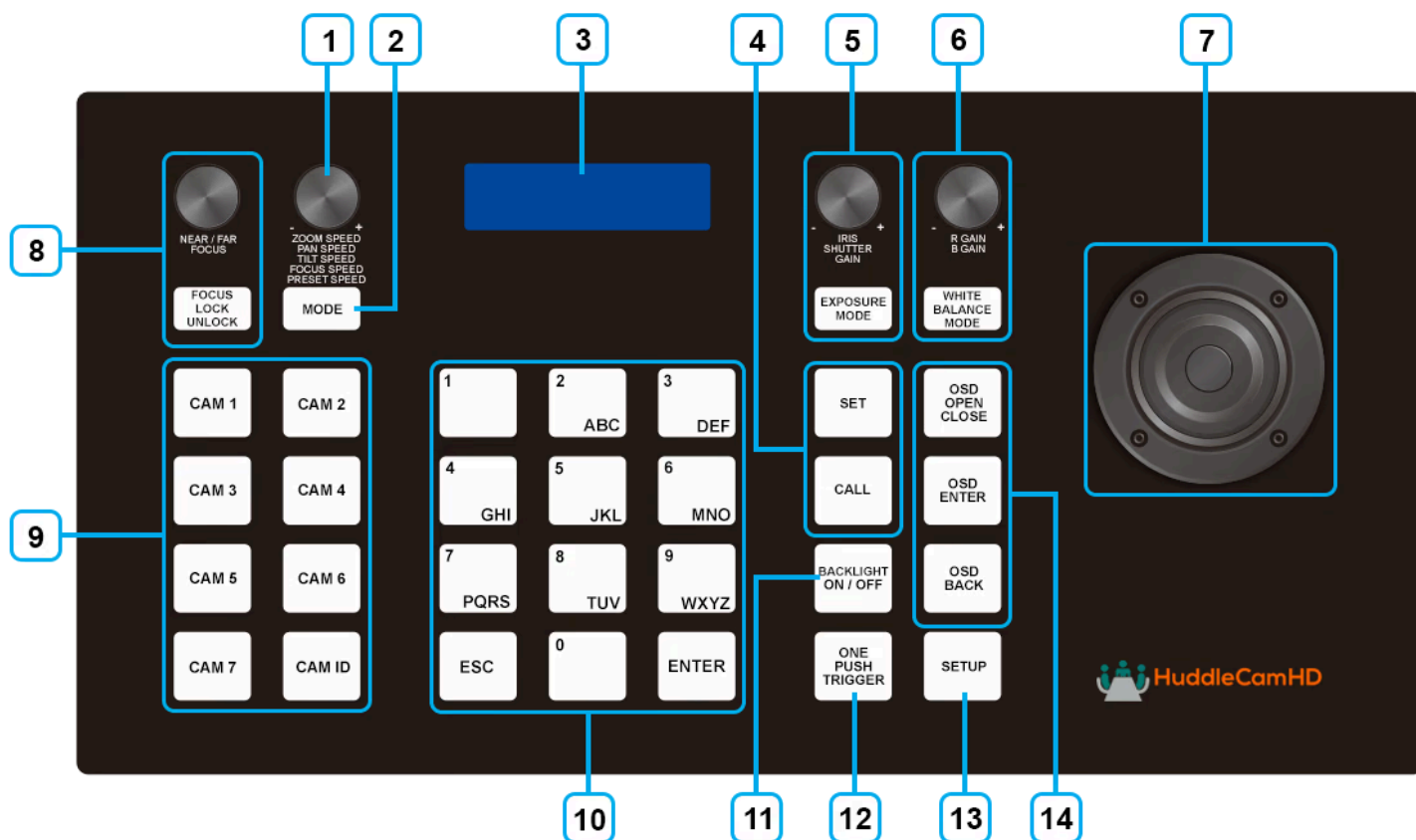
Sections

The sidebar provides navigation across all sections of the web interface:

Element	Description
Button Layout	Covers the layout and function of each button on the HC-JOY-G4.
Programming	Programming options.
Technical Specifications	Provides detailed technical specifications of the HC-JOY-G4.

Button Layout

Diagram



Button Descriptions

Button	Description
1. Speed Control Dial:	Adjust the speed of the camera's pan, tilt, zoom, focus and preset recall movements.
2. Mode Change Button	Toggle between Basic and Matrix modes. In Basic mode, the camera select button will switch between the cameras. In Matrix mode, the camera select button will switch between the presets for each camera.

Button	Description
3. LCD Display	Displays the current camera or preset selection, as well as other relevant information.
4. Set & Call Presets	Use the numeric buttons to set and call presets. Presets recall camera position, pan/tilt speed, zoom speed, focus speed, and white balance settings.
5. Exposure Control	Adjust the camera's exposure settings, including iris, gain, and shutter speed.
6. White Balance Control	Adjust the camera's white balance settings, including color temperature and tint.
7. Joystick Controller	Control the camera's pan, tilt, and zoom movements with the joystick. The joystick can also be used to navigate the OSD menu when the joystick setup button is pressed.
8. Focus Control Dial and Focus Lock / Unlock Button	Adjust the camera's focus and lock it in place when desired.
9. Camera Select	Lets you select from cameras 1-10 in basic mode and presets 1-10 for each camera in matrix mode. The current camera or preset selection is displayed on the LCD screen.
10. Numeric Buttons	Used to set and call presets up to 255 total per camera. This keypad also has an ESC function that can be used to exit out of menus and an ENTER function that can be used to select options within the OSD menu as well as confirm / execute preset recalls and settings changes.
11. Backlight Toggle	Toggles the button's backlights on and off.

Button	Description
12. OnePush Trigger	One push white balance the currently selected camera when pressed.
13. Joystick Setup Menu	Opens the joystick's on screen display menu to allow for adjustments to the joystick's behavior and functions.
14. Camera OSD	Opens the currently selected camera's on screen display menu to allow for adjustments to the camera's settings and functions.

Connections



1. RS-232 Port (DB9 connection)
2. RS-422 / RS-485 Port
3. 12V DC Power Port
4. Power Switch
5. Grounding Knob

OSD Menu

Options

Key Tone:

- Options include: On, Off

Restore Default:

- You must press Enter twice to restore the default settings. Press the Escape button to cancel.

ADD:

- Options include: VISCA, Pelco-D, Pelco-P
- To add a camera to the joystick, you will need to select the desired control protocol then press the Enter button. Use the joystick to select the camera ID.
 - Left and Right move in increments of 1.
 - Up and Down move in increments of 5.

Version:

- Displays the firmware version

Invert Pan:

- Options include: On, Off

Invert Tilt:

- Options include: On, Off

Programming

Joystick Modes

The modes cycle through sequentially. To select a control mode, press the “Modes” button until the desired mode is selected. You can return to standard camera control by selecting “Basic Mode Off”.

- No Mode selected: All of the joystick’s functionality behaves as expected.
- Basic (PTZ Disabled): Most of the joystick’s functionality is disabled. The user is only capable of selecting a camera to control, and calling presets on that camera.
- Basic (PTZ Enabled): Most of the joystick’s functionality is disabled. The user is only capable of selecting a camera to control, calling presets on the camera, and moving it with the joystick.
- Matrix Mode: Most of the joystick’s functionality is disabled. The only thing the user can perform is calling the first 3 presets on cameras 1, 2, & 3.
 - On the alphanumeric buttons:
 - Buttons 1 - 3 call presets 1 - 3 on camera 1.
 - Buttons 4 - 6 call presets 1 - 3 on camera 2.
 - Buttons 7 - 9 call presets 1 - 3 on camera 3.

Selecting a Camera

Quick Camera Select

1. Press the CAM # button associated with the camera you want to control.

CAM ID Button

1. Press the CAM ID Button
2. Input the Camera ID you want to control.
3. Press the Enter button

PTZ Presets

Set a PTZ Preset

- **Quick Preset Set**
 - i. Press and hold one of the 0 - 9 buttons for 3+ seconds to Set a preset in the current position.
- **Set Button**
 - i. Press the “Set” button
 - ii. Input the Preset number you want to Set
 - iii. Press the “Enter” button to save the preset.

Call a PTZ Preset

- **Quick Preset Call**
 - i. Quickly press one of the 0 - 9 buttons to Call that preset.
- **Call Button**
 - i. Press the “Call” button
 - ii. Input the Preset number you want to Call
 - iii. Press the “Enter” button to call the preset.

NOTE

For your convenience, the HC-JOY-G4 uses the same presets as the IR remote controller, VISCA, Pelco-D, or Pelco-P protocols. This is in contrast to Sony’s traditional offset of 1 between the IR remote and VISCA commands.

Manual Control Options

- **Focus Control** – VISCA Protocol only. Pelco-D & P do not support Manual Focus commands.
 - You can adjust the focus level by twisting the Focus knob. Manual Focus is automatically enabled once the knob is twisted.
 - Twist the knob clockwise to Focus Far, and counter-clockwise to Focus Near.
 - You can return to Auto Focus mode by pressing in the Focus knob.

- **Exposure Control** – VISCA Protocol only. Pelco-D & P do not support Manual Exposure commands.
 - The Iris / Shutter / Gain knob allows you to adjust the corresponding Exposure settings. Press the knob in to change your selection.

i NOTE

Some cameras do not have an “Iris” or “Shutter” mode. Use Manual Exposure mode for best results.

- **White Balance Control** - VISCA Protocol only. Pelco-D & P do not support Manual White Balance commands.
 - The R Gain / B Gain knob allows you to adjust the corresponding Red or Blue Gain level. Press the knob in to change your selection.
 - Note: Your camera must be set to Manual White Balance mode in order to manually define the Red and Blue Gain levels.
- **Speed Control**
 - You can adjust the Pan, Tilt, Zoom, Focus, and Preset control speeds by twisting the Speed knob. Press the knob in to change your selection.
 - You can adjust the Pan (0 – 24), Tilt (0 - 20), Zoom (1 - 7), Focus (1 - 7), and Preset Speed (1 - 24).

Technical Specifications

General Specifications

Specification	Description
Protocol Support	VISCA, Pelco-D, Pelco-P
Control Outputs	RS-232 (DB9), RS-422/RS-485
Power Supply	12V DC
Max Cameras	7 via RS-232 daisy-chaining, 255 via RS-422/RS-485
Max Cable Run Distance	RS-232: 100 feet, RS-422/RS-485: 4000 feet

Physical Specifications

Specification	Description
Dimensions (W x D x H)	12.6" x 7.1" x 4.3" (320mm x 180mm x 110mm)
Weight	3.4 lbs (1.54 kg)
Operating Temperature	32°F to 131°F (0°C to 55°C)
Warranty	2 years

