



PTZOptics PT-JOY-G4

Product Manual

PT-JOY-G4



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PT-JOY-G4 Getting Started



Setting up your PTZOptics camera is fast and easy with the setup cards below. Each card provides clear, step-by-step instructions to help you connect, configure, and power your camera in minutes. Simply follow the cards in order to get your camera up and running.



POWER



PROGRAMMING



NETWORKING



FIRMWARE

Part Number

PT-JOY-G4

Packing List

- PT-JOY-G4
- 12V 2A International Power Supply
- RS-232C / DB9 female to 8-pin
- Mini-din male cable
- Quick Start Guide
- Grounding Pin

Features

Hive Studio Integration: Control Hive Studio. Achieve far-end camera control through a Hive Studio connection. Adjust & configure camera settings and operate your cameras using the PT-JOY-G4 from anywhere in the world with a Hive Studio connection.

HTTP Authentication & Password Protection: Define a custom password and enable basic HTTP authentication as an added measure of security.

Custom Buttons: Assign, save, or import custom commands to 10 customizable buttons. Ability to save, export, and load custom setups onto the PT-JOY-G4. Custom buttons 1 through 6 can also be triggered through the web interface.

Camera Presets: Save as many presets as your camera allows.

Firmware Updates: This feature allows you to update the joystick's firmware directly from the joystick itself. Firmware is the low-level software that controls the hardware of your joystick. Being able to update it directly on the joystick simplifies the process and ensures you can easily have the latest features and bug fixes.

Simple Network Discovery: Trouble-free discovery of any connected PTZOptics joystick on your network. PTZOptics joysticks can be found by entering `http://ptzoptics.local` into any web browser. You can then change your joystick's IP address or set a custom ID. For example, you could set your joystick's ID to "myjoystick.local". Enter that into a web browser and you're there.

PTZ, Focus, and Preset Speed Adjustment Buttons: Let you quickly adjust the camera settings without the need to enter the camera's on-screen display or Web UI.

Camera OSD Control: Control and operate any PTZOptics camera's on-screen display menu.

Multiple Control Options: Controllable cameras via network connection, RS-232, and RS-485.

Power

The **PT-Joy-G4** can be powered using the included **power supply** or **Power over Ethernet**. Please make sure all connections are secure when using either method.

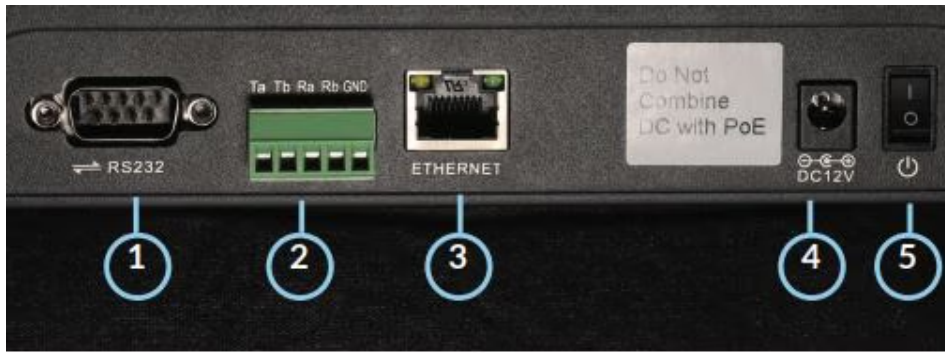
NOTE

Power over Ethernet, or PoE, provides power and network connection. To power your joystick over Ethernet, you will need a PoE source that supports PoE (802.3af). We recommend connecting your joystick to the switch for peak performance using Cat 6 cabling or better. See the example of a power over Ethernet connection below.

Device Powering Options

Product	Power Supply	Power Consumption	Power Over Ethernet Type
Move 4K	JEITA type (DC IN 12V)	Max 2.0A	PoE+ (802.3at)
Move SE	JEITA type (DC IN 12V)	Max 2.0A	PoE (802.3af)
Link 4K	JEITA type (DC IN 12V)	Max 2.0A	PoE+ (802.3at)
Studio Pro	JEITA type (DC IN 12V)	Max 2.0A	PoE (802.3af)
Studio 4K	JEITA type (DC IN 12V)	Max 2.0A	PoE (802.3at)
Studio SE	JEITA type (DC IN 12V)	Max 2.0A	PoE (802.3at)
SimpliTrack3	JEITA type (DC IN 12V)	Max 1.0A	PoE (802.3af)
PT-SUPERJOY-G1	JEITA type (DC IN 12V)	Max 0.5A	PoE (802.3af)
PT-JOY-G4	JEITA type (DC IN 12V)	Max 0.5A	PoE (802.3af)

Connections



PT-JOY-G4 Connection List

1. RS-232 Output
2. RS-485 Interface
3. LAN
4. DC 12V Power
5. Power Switch

Connect a Network Joystick

PTZOptics joysticks can control the Move 4K over the network using **VISCA over IP**, giving you physical joystick control without serial cables.

Network: What You Need

- A PTZOptics joystick (PT-SUPERJOY-G1 or PT-JOY-G4)
- Camera and joystick on the same network
- Camera's IP address

Network: Steps

1. **Connect the joystick** to your network via Ethernet.
2. **Power on the joystick** and wait for it to boot.

3. **Configure the joystick** with the camera's connection details:

- Enter the camera's **IP address**.
- Set the port to **5678** (TCP) or **1259** (UDP).
- Set the protocol to **VISCA over IP**.

4. **Test control:** use the joystick to pan, tilt, and zoom the camera.



TIP

For multi-camera setups, assign each camera a unique address and configure the joystick to switch between them. The SuperJoy supports managing multiple cameras from a single interface.

This camera supports **RS232** and **RS485** serial control for direct, wired connection to PTZ joysticks, control systems, and automation platforms. This page walks you through connecting each type, explains when to choose one over the other, and provides full pin-out and parameter reference tables.

 IMPORTANT

Control connections can be made while the camera is powered on, but we recommend making all connections **before** powering on for proper detection.

When to Use RS232 vs RS485

Both **RS232** and **RS485** provide direct, wired control of a camera without requiring a network connection. They commonly support the same control protocols, such as VISCA, Pelco-D, and Pelco-P. The choice between them comes down to three factors: **distance, number of cameras, and installation environment**.

- **RS232** is the simpler option for small installations. It's primarily designed for a **point-to-point connection** between one controller and one camera, although PTZ cameras support daisy-chaining multiple cameras using their RS232 input and output ports. It works well when the controller is located near the camera, typically within about 98 ft (30 m). Because RS232 uses single-ended signaling, it is more susceptible to electrical noise over longer cable runs. For short distances, however, it provides reliable, straightforward control and remains a common option for single-camera systems.
- **RS485** is the better choice when you need to cover longer distances or control multiple cameras. It uses differential signaling, which transmits data as the voltage difference between two wires instead of referencing a single wire to ground. This makes RS485 much more resistant to electrical noise and interference, making it well suited for large venues, houses of worship, campus buildings, and industrial environments. RS485 supports cable runs of up to 3,937 ft (1,200 m) and allows **multi-drop**

configurations, where multiple cameras share the same communication bus. Each camera is assigned a unique address, allowing a single controller to communicate with each device over the same pair of wires.



TIP

Tip: For most modern networked installations, **VISCA over IP** offers greater flexibility and eliminates many of the distance limitations of serial control. RS232 and RS485 remain valuable when working with legacy control systems, dedicated hardware controllers, or installations where network control isn't available.

Connect RS232 to a Controller

RS232 provides a direct, point-to-point wired connection between your controller and the camera. No network configuration is needed.

RS232: What You Need

- **RS232 cable** with **8-pin Mini DIN** connectors
- A **controller or joystick** that supports VISCA, Pelco-D, or Pelco-P
- **12V DC power supply** (included) or **PoE+ switch/injector** (RS232 does not provide power)

Step 1: Connect the RS232 Cable

1. Connect an RS232 cable (8-pin Mini DIN) from your controller's **RS232 output** to the camera's **RS232 Input** port.
2. For daisy-chaining multiple cameras: connect the camera's **RS232 Output** to the next camera's **RS232 Input**.

WARNING

RS232 pinouts vary between manufacturers. If your controller's pinout differs from the camera's, you may need a **null modem adapter** or a **custom cable**. See the [RS232 Pin-Out Reference](#) below for the Move 4K's pin assignments.

RS232 Step 2: Power the Camera

Power the camera using one of the following methods:

- **12V DC:** Connect the included 12V DC adapter to the camera's DC input.
- **PoE+ (802.3at):** Connect the camera's LAN port to a PoE+ switch or injector.

RS232 Step 3: Configure Your Controller

1. Set your controller to match the camera's protocol: **VISCA** (default), **Pelco-D**, or **Pelco-P**.
2. Set the baud rate to match the camera (default: **9600**).
3. Assign each camera a unique address (default: **1**).



TIP

To change the camera's protocol from the IR remote, press **[Menu]**, navigate to **Communication Setup**, and select your protocol.

RS232 Step 4: Test Control

Use your controller to pan, tilt, and zoom the camera. If the camera doesn't respond:

- Verify the RS232 cable is connected to the correct port (**Input**, not Output).
- Verify the protocol and baud rate match between controller and camera.
- Verify each camera in a daisy chain has a **unique address**.

Connect RS485 to a Controller

RS485 supports long-distance cable runs and multi-drop configurations where multiple cameras share a single communication bus.

RS485: What You Need

- **Twisted-pair cable** (Cat5e, Cat6, or dedicated RS485 cable) with **Phoenix connector** (terminal block)
- A **controller, joystick, or automation system** that supports VISCA, Pelco-D, or Pelco-P
- **12V DC power supply** (included) or **PoE+ switch/injector** (RS485 does not provide power)

Step 1: Connect the RS485 Cable

1. Connect the **positive (red)** wire to the camera's **positive** Phoenix connector port (on the left).
2. Connect the **negative (black)** wire to the camera's **negative** Phoenix connector port (on the right).
3. Connect the positive and negative wires to the matching ports on your joystick controller.
4. For multi-drop: daisy-chain from the first camera's RS485 output to the next camera's RS485 input.

RS485 Step 2: Power the Camera

Power the camera using one of the following methods:

- **12V DC:** Connect the included 12V DC adapter to the camera's DC input.
- **PoE+ (802.3at):** Connect the camera's LAN port to a PoE+ switch or injector.

RS485 Step 3: Configure Your Controller

1. Set your controller to match the camera's protocol: **VISCA** (default), **Pelco-D**, or **Pelco-P**.
2. Set the baud rate to match the camera (default: **9600**).
3. Assign each camera a **unique address**.

RS485 Step 4: Test Control

Use your controller to pan, tilt, and zoom each camera. If a camera doesn't respond:

- Verify the twisted-pair cable is connected with the correct **polarity** (+ and -).
- Verify the protocol and baud rate match.
- Verify each camera has a **unique address**.

Reference

RS232 Pin-Out Reference

The Move 4K uses **8-pin Mini DIN** connectors for RS232. Pin assignments are as follows:

RS232 Input Port (from Controller)

Pin	Signal	Description
1	DTR	Data Terminal Ready
2	DSR	Data Set Ready
3	TXD	Transmit Data
4	GND	Ground
5	GND	Ground
6	GND	Ground
7	IR Out	Infrared Output
8	NC	No Connection

RS232 Output Port (to Next Camera in Daisy Chain)

Pin	Signal	Description
1	DTR	Data Terminal Ready
2	DSR	Data Set Ready
3	TXD	Transmit Data
4	GND	Ground
5	GND	Ground
6	GND	Ground
7	IR Out	Infrared Output
8	NC	No Connection

NOTE

The RS232 Input and Output Mini DIN connectors use the same pin numbering and signal names for daisy-chain wiring.

RS232 Communication Parameters

Parameter	Value
Baud Rate	2400, 4800, 9600 (default), 38400
Start Bit	1
Data Bits	8
Stop Bit	1
Parity	None

RS485 Communication Parameters

Parameter	Value
Baud Rate	2400, 4800, 9600 (default), 38400
Start Bit	1
Data Bits	8
Stop Bit	1
Parity	None
Connector	2-pin Phoenix connector (terminal block)
Max Cable Length	~3,937 ft (1,200 m)

Control Protocol Reference

Protocol	Default	Address Range	Notes
VISCA	Yes (default)	1–7	Industry standard for PTZ cameras
Pelco-D	—	0–254	Common in security systems
Pelco-P	—	0–31	Older Pelco variant

Control Method Comparison

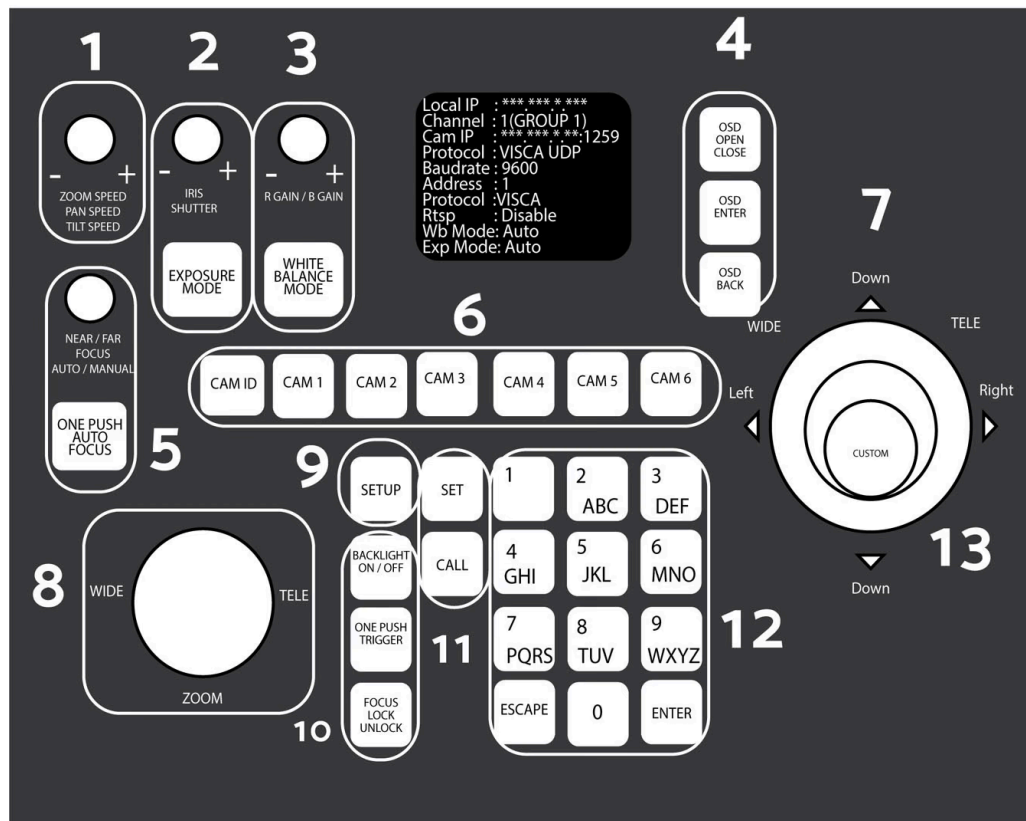
Feature	RS232	RS485
Max Distance	~98.5 ft (30 m)	~3,937 ft (1,200 m)
Connector	8-pin Mini DIN	2-pin Phoenix (terminal block)
Multi-Camera	Daisy-chain	Multi-drop bus
Signaling	Single-ended	Differential (noise-resistant)
Protocols	VISCA, Pelco-D, Pelco-P	VISCA, Pelco-D, Pelco-P
Provides Power	No	No

Joystick Compatibility

Joystick	Connection	Protocols
PT-SUPERJOY-G1	Network (VISCA over IP) or RS232	VISCA, ONVIF, NDI, Panasonic
PT-JOY-G4	Network (VISCA over IP) or RS232	VISCA, ONVIF, Sony VISCA

Buttons

Diagram



Descriptions

Item #	Description
1	ZOOM / PAN / TILT SPEED
2	IRIS SHUTTER GAIN / Exposure
3	R Gain / Blue Gain / White Balance
4	Camera OSD Control

Item #	Description
5	Focus Mode Control
6	Camera Select Buttons
7	Joystick Control
8	Zoom Control Dial
9	System Setup
10	Focus Lock/Unlock, Backlight, One Push
11	Preset Control Buttons
12	Alpha-Numeric Keypad
13	Unique Custom Button

1. Speed Control

The Speed Control section allows you to adjust the speed at which you pan, tilt, and zoom the camera.

- **[SPEED] Knob**

Press the Speed Control knob in to cycle through zoom, pan, and tilt speeds options. Twist the Speed Control knob to increase or decrease the set control speed.

- Zoom Speed Range: 1 - 7
- Pan Speed Range: 1 - 24
- Tilt Speed Range: 1 - 20

2. Iris Shutter / Exposure

The Exposure Control section allows you to adjust the exposure settings of the camera.

- **[IRIS / SHUTTER] Knob**

Twist the [IRIS / SHUTTER] knob to adjust the Iris / Shutter value.

Press the [IRIS / SHUTTER] knob to toggle between Iris and Shutter adjustments.

Controls the camera's Gain. Press in the knob to change from Iris > Shutter > Gain

- **[EXPOSURE MODE] Button**

Press the [EXPOSURE MODE] button to cycle through Exposure modes.

Options include: Auto, Manual, Shutter Priority, Iris Priority, & Brightness Priority.

3. Red Gain / Blue Gain Control

- **[R GAIN / B GAIN] Dial**

Twist the [R GAIN / B GAIN] knob to adjust the Red Gain / Blue Gain value.

Press the [R GAIN / B GAIN] knob to toggle red gain and blue gain adjustment control.

- **WHITE BALANCE MODE Button**

Press the [WHITE BALANCE MODE] button to cycle through the White Balance Modes.

Options include: Auto, Indoor, Outdoor, One Push, & Manual.

4. Camera OSD Control

The Camera OSD Control section allows you to open and adjust the camera's on screen display menu.

- **[OSD OPEN / CLOSE] Button**

i. Press the [OSD OPEN / CLOSE] button to open and close the on screen display menu.

ii. Move the joystick up, down, left, and right to traverse the camera's OSD menu.

- **[OSD ENTER] Button**

Press the [OSD ENTER] button to select an OSD menu option.

- **[OSD BACK] Button**

Press the [OSD BACK] button to go back a menu option.

5. Focus Mode Control

The Focus Control section allows you to adjust the focus value of the camera.

- **[NEAR / FAR FOCUS] Dial**

Twist the [NEAR / FAR FOCUS] dial to focus the camera's image on your scene.

Press the [NEAR / FAR FOCUS] dial in to toggle Auto Focus and Manual focus modes.

- **[ONE PUSH AUTO FOCUS] Button**

Press the [ONE PUSH AUTO FOCUS] button to automatically focus the image on the scene while staying in Manual Focus mode.

6. Camera Select Buttons

The Camera Select section allows you to select a camera to control.

- **[CAM ID] Button**

The [CAM ID] button allows you to select any camera on the controller using the alpha-numeric keypad.

- **[CAM #] Button**

The [CAM #] button allows you to quickly select a camera to control.

Options include: 1 - 6

7. Joystick Control

The joystick controller allows you to pan, tilt, and zoom (twist) the camera. The control speed is affected by the Speed Control dial settings.

8. Zoom Control Dial

The Zoom Control sections allow you to zoom the camera in and out of the scene.

- **[FINE TUNE ZOOM] Knob**

The [FINE TUNE ZOOM] knob allows you to finely zoom the camera in and out at the lowest speed (1) setting.

9. System Setup

The Controller OSD Setup allows you to adjust the settings of the controller.

- **[SETUP] Button**

Press the [SETUP] button to open the joystick's OSD menu.

10. Focus Lock / Unlock / Backlight / One-Push

- **[BACKLIGHT ON / OFF] Button**

Press the [BACKLIGHT ON / OFF] button to toggle the camera's backlight compensation mode.

- **[ONE PUSH TRIGGER] Button**

Press the [ONE PUSH TRIGGER] button to trigger the camera to calculate the scene's white balance value.

- **[FOCUS LOCK / UNLOCK] Button**

Press the [FOCUS LOCK / UNLOCK] button to lock or unlock the camera's focus value from the current position.

11. Preset Control Buttons

The Preset Control section allows you to set and call presets of the cameras.

- **[SET] Button**

Press the [SET] button to set a camera preset. Use the alpha-numeric keypad to set a preset number.

- **[Call] Button**

Press the [CALL] button to call a camera preset. Use the alpha-numeric keypad to call a preset number.

- **Quick set preset shortcut**

Press and hold a number on the alpha-numeric keypad for 3+ seconds to set a camera preset in the current location for that preset number.

- **Quick call preset shortcut**

Quickly press a number on the alpha-numeric keypad to call a camera preset.

12. Alpha-numeric Keypad

The alpha-numeric keypad allows you to use many of the controller features that require numbers and letters, such as adding a camera from the controller OSD.

13. Unique Custom Button

Customizable button located on the top of the joystick controller. This is best utilized for the most frequently needed custom commands.

OSD

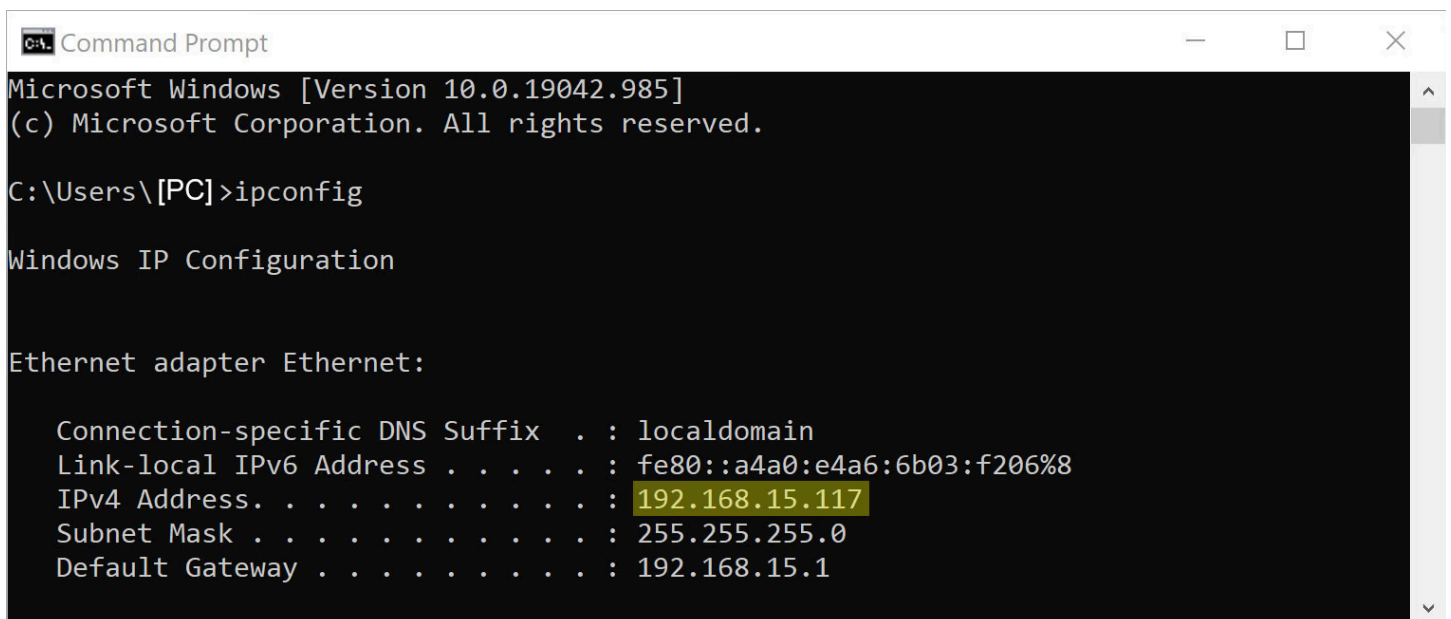
1. **Native IP:** Displays the Joystick's IP address. Type this into a web browser to reach the web UI.
2. **Camera:** Shows the currently selected camera ID and the group it's assigned to.
3. **Network I/F:** Shows the protocol the joystick and the currently selected camera use to communicate for control.
4. **IP/Domain:** Shows the IP address of the currently selected camera.
5. **Target Port:** Shows the camera control port.
6. **Analog I/F:** Shows the Analog Control Method.
7. **Baudrate:** The communication speed between the joystick and the currently selected camera.
8. **Address:** Shows the camera channel.
9. **Active I/F:** Shows the active control method. Choose Network or Analog

Networking

Discovering Your Network

Windows

1. Open the Start menu and type "CMD" into the search bar.
2. Once the Command Prompt is open, type in "ipconfig" and press the Enter key.
3. Scroll down to the section titled "Ethernet adapter Ethernet" or "Ethernet adapter Wireless Network Connection".
4. Locate the "IPv4 Address" in that section. This is your computers local IP address.
5. In the example below, the PC's local address is "192.168.15.117", making the network range "192.168.15.xxx".

A screenshot of a Windows Command Prompt window. The title bar says "Command Prompt". The text inside shows the command prompt version and copyright information, followed by the command "ipconfig" being entered. The output shows the "Ethernet adapter Ethernet" section with various network details. The "IPv4 Address" is highlighted in yellow and is "192.168.15.117".

```
Microsoft Windows [Version 10.0.19042.985]
(c) Microsoft Corporation. All rights reserved.

C:\Users\[PC]>ipconfig

Windows IP Configuration

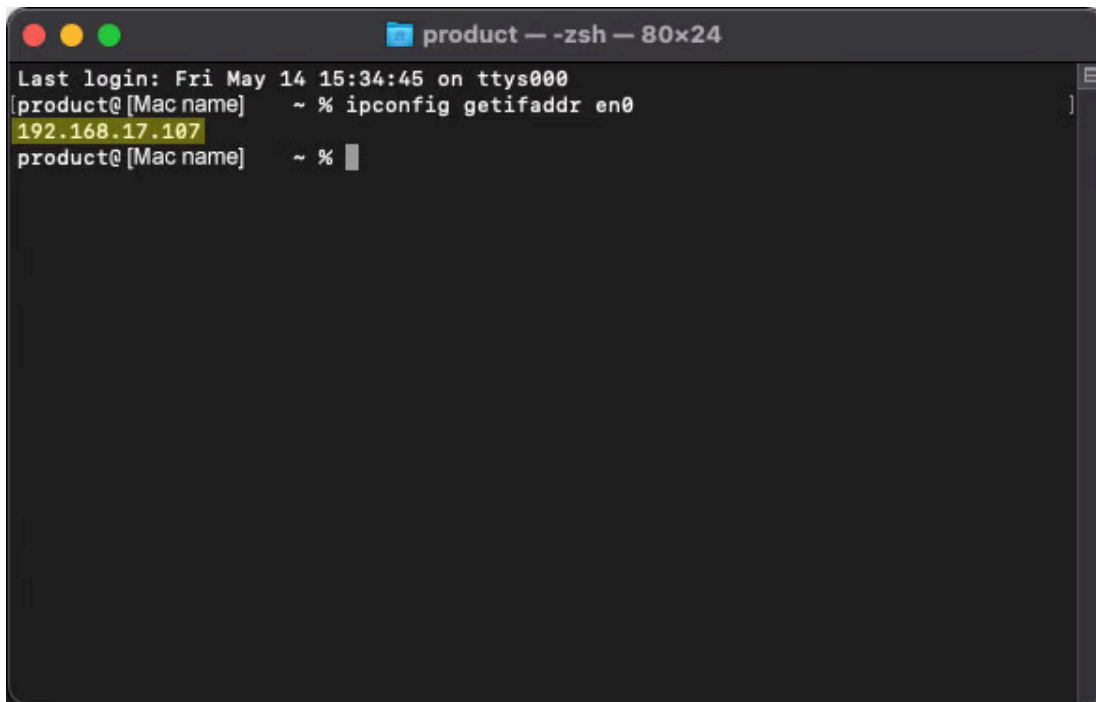
Ethernet adapter Ethernet:

    Connection-specific DNS Suffix  . : localdomain
    Link-local IPv6 Address . . . . . : fe80::a4a0:e4a6:6b03:f206%8
    IPv4 Address. . . . . : 192.168.15.117
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.15.1
```

Mac

1. Open a new Finder window and go to the Applications folder.

2. Open the Utilities folder and select the Terminal program.
3. Once the Terminal program is open, type in "ipconfig getifaddr en0" and press the Enter key.



```
product — zsh — 80x24
Last login: Fri May 14 15:34:45 on ttys000
product@[Mac name] ~ % ipconfig getifaddr en0
192.168.17.107
product@[Mac name] ~ %
```

Network Joystick Connection

PTZOptics carries multiple joysticks including the **PT-SUPERJOY-G1**, and **PT-JOY-G4**, that can be used to control a camera via a network connection.

Steps

1. Ensure the camera and the PTZOptics IP joystick are connected to the same network.
2. Press the **[SETUP]** button on your joystick, and select option one (1) "Network Device" for IP.
3. Fill in the Network Device field to connect the camera. The fields are as follows:
 - **Channel:** (For SuperJoy users enter 1 ~ 9 in the **Group** field) Joystick Camera Address [CAM ID]
Options include 1 - 255.
 - **Protocol Select**
 - **PT-JOY-G4 Protocol Options:**
VISCA (UDP), VISCA (TCP), Sony VISCA (UDP), ONVIF.
 - **HC-JOY-G4 Protocol Options:**
VISCA (UDP), VISCA (TCP), Sony VISCA (UDP), ONVIF.

- **PT-SUPERJOY-G1 Protocol Options:**

VISCA (UDP), VISCA (TCP), Sony VISCA (UDP), ONVIF, NDI, & Panasonic Control

- **IP:** Enter the Camera IP Address Here
- **Ctrl Port:** Enter the camera control port.

4. Once the above fields are filled, press the **[ENTER]** button to save the camera to the controller.

Control Port Numbers

- **UDP 1259**
- **TCP 5678**
- **Sony VISCA Protocol 52381**



One way to find the camera's control port number is to go to its web user interface.

Type the camera's IP address into a web browser and log in using your credentials.

Click the Control tab, then click the Ports tab below. Here, you can see the available control protocols.

Programming

Setting and Calling Presets

Presets let you save commonly used camera shots and recall them when needed. On supported PTZOptics cameras, each preset stores the camera's pan, tilt, and zoom position along with the image settings active when the preset is saved.

AUTOMATIC MODES REMAIN ACTIVE

If auto exposure, auto white balance, or auto focus is enabled, the camera may continue adjusting the corresponding settings after the preset is recalled. These settings will need to be disabled manually before saving a preset if you want the preset to retain specific settings.

Before You Begin

Set the room lighting to the conditions you expect to use during production. Changing the lighting after creating your presets may affect exposure, white balance, and the consistency between shots.

TIP

Evenly distributed lighting is generally easier to work with because it reduces large differences in brightness and color across the room.

Starting from the camera's default image settings can provide a useful baseline, but it is not required. If the camera is already producing the desired image, you can use the current settings as your starting point.

Step 1: Save Your First Preset

Save Preset 1 with the Web Interface (Recommended)

1. Open the **Horizon Web UI** and locate the live preview and PTZ controls.
2. Zoom out to a wide view of the room.

3. Pan and tilt the camera toward the center of the primary shooting area.
4. Adjust the exposure, white balance, focus, and other image settings until you are satisfied with the image.
5. Locate the **Preset Control** section and select Set.
6. Type **1** as the preset number and press Enter on your keyboard to confirm the selection.
7. Select **Call**, enter **1**, and confirm that the camera returns to the expected position and image settings.

Saving Preset 1 with the IR Remote

If you do not have access to the **Horizon Web UI**, you can establish Preset 1 with the IR remote:

1. Use the arrow and zoom buttons to create a wide, centered view of the primary shooting area.
2. Adjust the camera's image settings through the on-screen display as needed.
3. Press **[PRESET]**, followed by **[1]**, to save the position and image settings.
4. Press **[HOME]** to recall **Preset 1** and confirm that the camera returns to the expected position and image settings.

MATCH THE IMAGE, NOT NECESSARILY THE SETTINGS

Different areas of a room may require different exposure or color settings. The settings do not need to be identical across every preset. The resulting images should look consistent when switching between shots.

For easier comparison, monitor every shot on the same display. You can also capture a reference image of Preset 0 or compare the shots in production software such as OBS or vMix.

WARNING

Saving a preset to an occupied number replaces the previously stored shot.

Step 2: Calling Presets

Call Presets with the Web Interface

1. Locate the **Preset Control** section.
2. Select **Call**.
3. Enter the preset number and confirm the selection.

Calling Presets with the IR Remote

Press the desired number button to recall **Presets 0–9**.

Using a PTZ Controller

Select the preset number and use the controller's preset-call command. The exact procedure varies by controller, so refer to the controller's documentation for the correct button sequence.

NOTE

The **Horizon Web UI** and compatible PTZ controllers can access preset numbers beyond the ten presets available directly from the IR remote.

AUTOMATIC MODES AND PRESET INTERACTION

If **Image Presets are disabled**, when the camera recalls the start location, stop location, or target-lost preset, it will only move to the saved position. The camera will continue using the current image settings and will not recall any image parameters from the preset.

If **Image Presets are enabled**, when one of those presets is recalled, the camera will restore both the saved camera position and the image settings stored with that preset.

Clearing Presets

Clear Presets with the Web Interface

Click the **Pencil** icon in the bottom right corner of the **Preset Control** section to open the **Edit Presets** dialog. From there, you can click the **Trash** icon next to a preset to clear it.

Clearing Presets with the IR Remote

Clearing an Individual Preset

1. Press **[RESET]**.
2. Press the number of the preset you want to clear.

Clear All Presets

1. Press **[RESET]**.

2. Press **[RESET]** again.

 WARNING

Clearing all presets cannot be undone. Confirm that you no longer need any of the saved camera positions before clearing them.

Firmware

[Firmware Instructions](#)

[Firmware Changelog](#)

Latest Firmware Files



**PT-JOY-G4
Firmware**

Instructions

Checking Your PT-JOY-G4 Firmware

There are two ways to view the firmware currently running on your joystick.

Method 1

Visit your joystick's Web UI.

Web UI Steps

1. Enter the joystick's IP address into a web browser and log in using your credentials.

IMPORTANT

If this is your first time logging in, you will be prompted to create a username and password.

2. Once logged in, click the **Settings** menu button, then click on the **Version** tab.
3. The firmware version will be displayed in the software field.

Method 2

The Joystick's Display menu

Display Menu Steps

1. Press the **Setup** button on your joystick.
2. Using the joystick, scroll down to **System Info** and press the **Enter** button.
3. The firmware version will be displayed in the software field.

Upgrading Your PT-JOY-G4 Firmware

Upgrade Steps

1. To upgrade your firmware, navigate to [our Downloads page](#).
2. Scroll down the page and click **PT-JOY-G4** then click **Download Firmware**.
3. Return to the joystick's Web UI and go to the **Settings** menu.
4. Click **Browse**. Then, select the firmware file and click **Open**.

 NOTE

You may need to extract the files from the zip file you downloaded earlier.

5. Click **Upgrade**.
6. A pop-up will appear stating that the file is uploading. Upon completion, another pop-up will appear, indicating that the upload was successful. Click the **Upgrade and Restart** button.
 - The joystick's display will state that it is "**Initializing**"
7. The page will automatically refresh and redirect you to the login screen.
8. Click the joystick's "**Setup**" button, then scroll down to the factory reset option. Perform the reset by pressing enter. This will properly load the new features.
9. Congratulations! You can now log back in with the latest firmware.

PT-JOY-G4 Release Notes

Updates on new features, fixes, and known issues for the PT-JOY-G4.

Releases

- [11/16/2023](#)
- [09/23/2021](#)

11/16/2023

PT-JOY-G4 - v4.1.8

New Features

- The PT-JOY-G4 now saves the Pan, Tilt, Zoom, and Focus speed per camera.
- The PT-JOY-G4 now allows you to save Custom Commands. These can be triggered by pressing the joystick top button or changing cameras.
- The joystick now displays the Exposure and White Balance mode on the LCD.
- The PT-JOY-G4 now offers an HTTP-CGI API to perform select functions.
- Added a setting to prevent the joystick top button from toggling between Network and Analog control.
- Added a setting to prevent the joystick from sending the Pan, Tilt, and/or Zoom commands when moved.
- Added the ability to use a PTZOptics camera's `.local` address instead of the IP address. You can also type in `ptzoptics.local` in the Address field in the PT-JOY-G4's web interface when adding a camera.
- Added support for a Camera Stub when sending Custom Commands via TCP, UDP, and HTTP-CGI, for example:

```
http://{{CURRENT_CAM}}/cgi-bin/ptzctrl.cgi?ptzcmd&home
```

- Added support for VISCA WebSockets.

Bug Fixes

- Removed the address offset associated with Pelco-D.
- Fixed an issue where diagonal movement through ONVIF was always performed at maximum speed.
- Changed the field order when assigning a static IP address.
- Fixed an issue that prevented the Focus Near/Far dial from working reliably.

09/23/2021

PT-JOY-G4 - v4.0.3 2021_09_22

New Features and Bug Fixes

- Added Gain to the Iris / Shutter dial. (Now Iris > Shutter > Gain respectively) (Only available in Manual Exposure)

Technical Specs

General Specifications

Feature	Specification
Protocol	• PTZOptics VISCA and VISCA over IP • PELCO-D and PELCO-P via Serial Ports • Limited Sony VISCA and VISCA over IP support • Limited ONVIF support • WebSockets
Baud Rate	1200 to 19200 bps
Maximum Cameras	253 channels / cameras
Maximum Recommended Distance	Ethernet: 328 feet / 100 Meters
Maximum Recommended Distance	RS-232: 50 feet / 15 Meters
Maximum Recommended Distance	RS-485: 3,937 feet / 1200 Meters
Maximum Recommended Distance	RS-422: 50 feet / 15 Meters

Connections

Feature	Specification
Power Connector	12DC Power Connection
Power Requirements	12V DC
Power Consumption	6 Watts

Communication Interface

- RS-232 Control Connection
- RS-422 / RS-485 Control Connection
- Ethernet / RJ-45 (PoE) Network Connection
- Supports 802.3af PoE power
- Network: NIC (TCP and UDP)
- Serial/Analog: RS-232 Full Duplex, RS-485 Semi Duplex, RS-422 Full Duplex

Physical Specifications

Feature	Specification
USB 2.0 Interface	USB 2.0 Service Port (Update Firmware, Import Config, Export Config) DC12V Power required to activate.
Product Material	Aluminum
Dimensions (L x W x H)	9.25" L x 11.938" W x 4.25" H; 234mm L x 303mm W x 107.95mm H
Weight	4.45 lbs / 2.02 kg
Box Dimensions (L x W x H)	10.75" L x 14.2" W x 5.81" H; 273.05mm L x 360.36mm W x 147.64mm H
Box Weight	6.75 lbs / 3.06 kg
Operating Environment	Indoor
Operating Temperature	14° F ~ 122° F (-10° C ~ +50° C)
Operating Humidity	10% ~ 90% (non condensation)
Warranty	2 Year Manufacturer Warranty

Certifications

This joystick has been tested and certified for the standards shown below:

- FCC Class B - Tested under FCC 47 CFR Part 15 Subpart B, Class (sDoC), ANSI C63.4 -2014

- CE - Tested under EMC Directive 2014/30/EU
 - EN 55032: 2015+A11:2020
 - EN 55035:2017+A11:2020
 - EN IEC 61000-3-2:2019
 - EN 61000-3-3:2013/A1:2019
 - RoHS - Tested under RoHS Directive 2011/65/EU
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