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Get Started Page!



P T Z OPTICS™

Studio 4K



About PTZOptics

We are committed to continually enhancing our products, ensuring they meet the highest quality and performance standards. We incorporate valuable customer insights and suggestions by updating our firmware several times a year, driving constant improvement. We are thrilled to have you join our community and look forward to delivering an exceptional experience!

Packing List

Please make sure the items below are included in the box:

- **Studio 4K**
- **AC Power Supply**
- **Quick Start Guide**
- **IR Remote**
- **2 AAA Batteries**
- **USB C-A Cable**
- **Camera Lens Cap**

Models:

PT12X-STUDIO-4K-GY-G3

PT12X-STUDIO-4K-WH-G3

PT20X-STUDIO-4K-GY-G3

PT20X-STUDIO-4K-WH-G3

Precautions

Do not subject the camera to rain or moisture.

Do not remove the cover. Removal of the cover will void the camera's warranty and may cause an electric shock. For any abnormal operation, please contact <https://community.ptzoptics.com/s/>.

Never operate outside of the specified operating temperature range or humidity.

The power supply included in the box is the only power supply to be used with this camera.

To purchase a replacement power supply, please visit <https://ptzoptics.com/where-to-buy/>

Please use a soft cloth to clean the unit. If the unit is very dirty, clean it with diluted neutral detergent; do not use solvents.



Warranty

PTZOptics includes a limited parts & labor warranty for all PTZOptics manufactured cameras. The warranty is valid only if PTZOptics receives proper notice of such defects during the warranty period. PTZOptics, at its option, will repair or replace products that prove to be defective. PTZOptics manufactures its hardware products from parts and components that are new or equivalent to new in accordance with industry-standard practices.

For the U.S. PTZOptics Hardware Warranty Documentation. You can go to <https://ptzoptics.com/wp-content/uploads/2020/11/PTZOptics-Jan-2020-to-present.pdf> This product has a **5-year warranty**.

For the International PTZOptics Hardware Warranty Documentation you can go to <https://ptzoptics.com/wp-content/uploads/2024/03/International-Warranty-Statement.pdf>



Covered by one or more claims of the HEVC patents listed at [HTTPS://ACCESSADVANCE.COM/ADVANCE-PATENT-LISTS/](https://accessadvance.com/advance-patent-lists/)

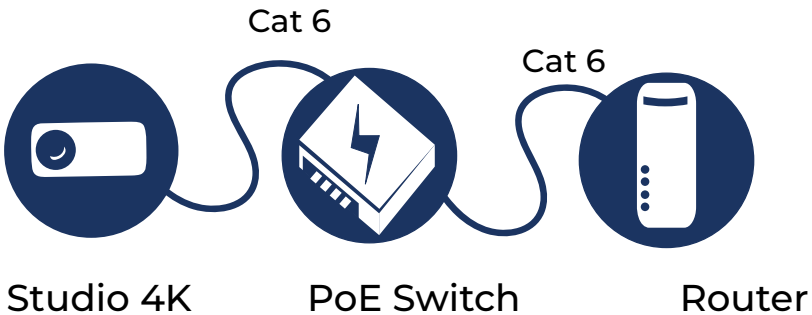
Starting the Camera

Power

This camera can be powered using the included **power supply** or **over Ethernet**. Please make sure all connections are secure when using either method.

Note: *To power the camera over Ethernet (PoE: Provides power and network connection), you will need a PoE+(802.3at) PoE switch. For peak performance, we recommend connecting the camera to the switch using Cat 6 cabling or better. See the example of a power over Ethernet connection below:*

When the camera is turned on, it will perform a short startup sequence going through its full zoom range. When the sequence is complete, the camera will stop and return to the home position. You can change the final position by setting preset 0.



Connections

- 1.) Standby
- 2.) RS485 Connection
- 3.) Power
- 4.) 3.5mm Output
- 5.) LAN
- 6.) HDMI
- 7.) 3G-SDI
- 8.) USB Service Port
- 9.) USB 3.0
- 10.) DC 12V Power
- 11.) 3.5mm Input

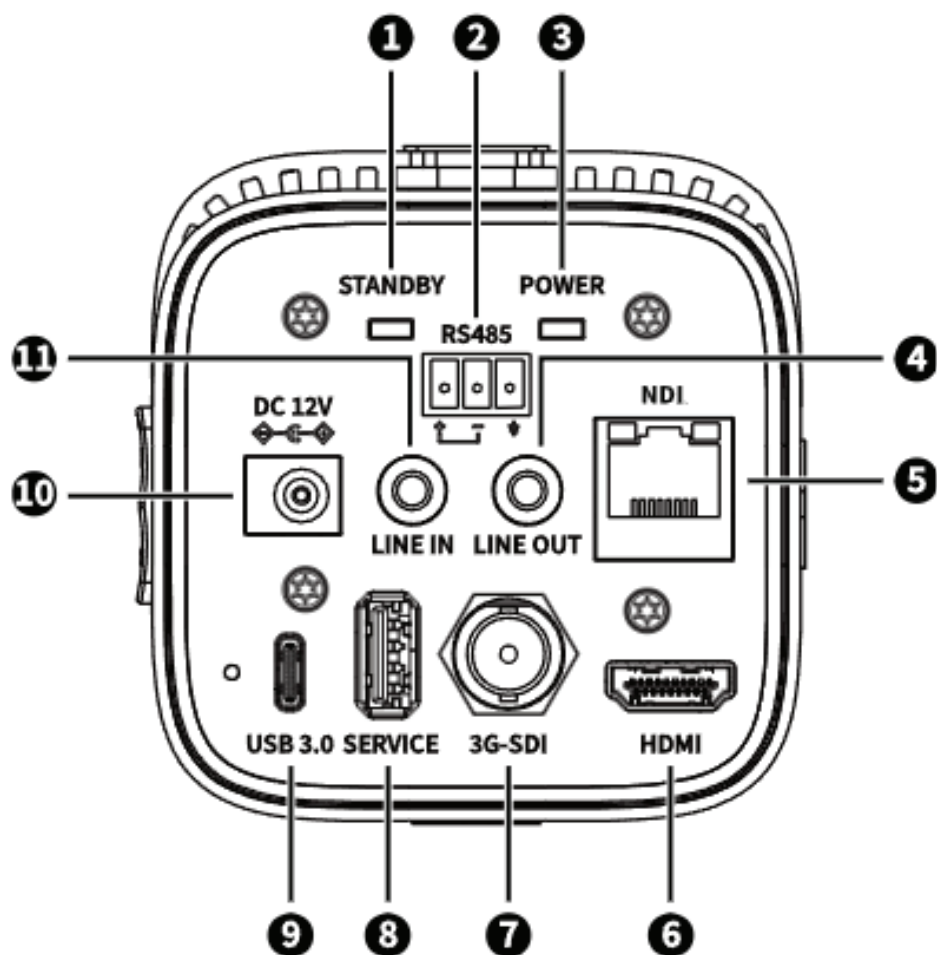
Note: You can send video out using the following connections: SDI, HDMI, USB, or LAN.

Simultaneous Output combinations:

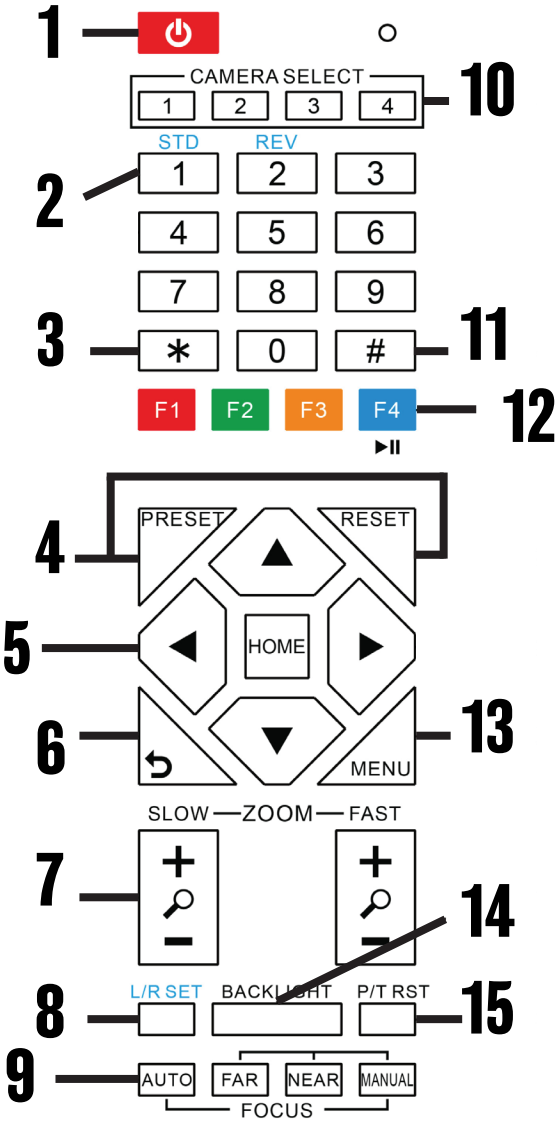
HDMI or SDI + IP + RTMP + NDI

HDMI or SDI + USB

HDMI or SDI + IP + USB



IR Remote Control



1. Standby Button

Press this button to enter standby mode. Press it again to enter normal mode.

Note: Power consumption in standby mode is approximately half of the normal mode.

2. Number Keys

Press to set or call preset camera position or input a number.

3. * Button

Used predominantly when calling shortcuts.

4. Set / Clear Presets

To Set a Preset: save a camera position, press [PRESET] + any number zero through nine.

To Clear a Preset: erase a camera position, press [RESET] + any number zero through nine. To erase all presets, press [*] + [#] + [RESET]

5. Navigation

The arrow keys are used to navigate through the camera's on screen menus. Press the [HOME] button to return the camera to the home position.

6. Return Button

Press the [RETURN] button to go back to a previous menu within the on screen display (OSD)

7. Zoom Buttons

Press [+] to zoom in (Slow and fast speed)

Press [-] to zoom out (Slow and fast speed)

8. L / R Set Buttons

Set the Left & Right directional buttons for the remote. Press the following buttons simultaneously.

Press [L/R SET] + [1]: Buttons function normally

Press [L/R SET] + [2]: Buttons function inverted

9. Focus Buttons

Adjust camera focus.

[AUTO]: focuses the image on the center object.

[MANUAL]: Manually control focus. Press [FAR] to focus on a far object. Press [NEAR] to focus on a near object.

10. Camera Select Buttons

Press a number to select the corresponding camera you want to operate.

11. # Button

For multiple functions. Typically used when calling shortcuts

12. Multi Function Buttons

Function 1: For setting camera IR address.

Press these 3 keys one after another to set the camera IR address as follows:

[*] > [#] > [F1]: Address 1

[*] > [#] > [F2]: Address 2

[*] > [#] > [F3]: Address 3

[*] > [#] > [F4]: Address 4

Function 2: Image Freeze

[F4]: Freeze the video feed. Repeat to unfreeze.

13. Menu Button

Press to enter the camera's On Screen Menu (OSD)

[MENU]: Open or close the On Screen

Display menu

14. Backlight Button

Use to enable or disable backlight compensation.

Note: Only effective in auto exposure mode.

Note: If there is light behind the subject, they may appear darker.

In this case, use Backlight Compensation to enhance image.

15. P / T RST Button

Perform camera self-calibrate pan and tilt movement.

(The Studio 4K does not support this feature)

**Resetting the IP address of the camera from the remote:
This Camera is in DHCP mode by default.**

[*] > [#] > [MANUAL]: Resets IP information to default

[#] > [*] > [4]: Enable Dynamic IP address

[#] > [*] > [#] > [1]: Sets IP address to 192.168.100.81

[#] > [*] > [#] > [2]: Sets IP address to 192.168.100.82

[#] > [*] > [#] > [3]: Sets IP address to 192.168.100.83

[#] > [*] > [#] > [4]: Sets IP address to 192.168.100.84

[#] > [*] > [#] > [5]: Sets IP address to 192.168.100.85

[#] > [*] > [#] > [6]: Sets IP address to 192.168.100.86

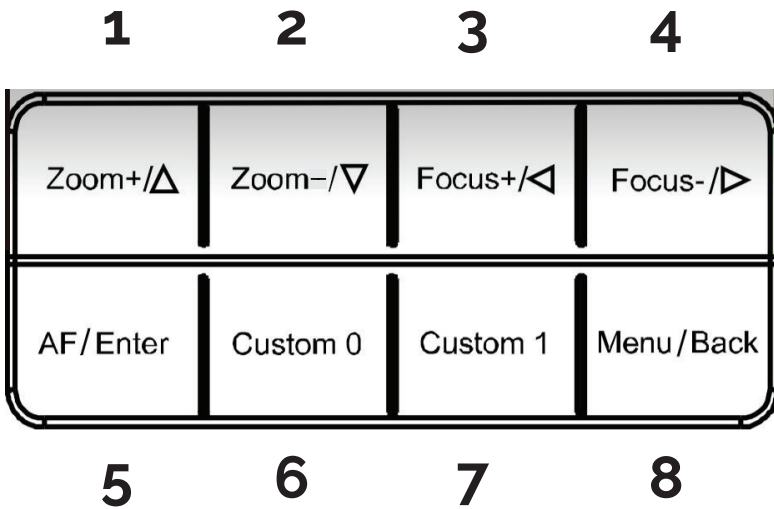
[#] > [*] > [#] > [7]: Sets IP address to 192.168.100.87

[#] > [*] > [#] > [8]: Sets IP address to 192.168.100.88

[#] > [*] > [#] > [9]: Sets IP address to 192.168.100.89

[#] > [*] > [#] > [0]: Sets IP address to 192.168.100.80

Quick Keys



- 1.) Zoom the camera IN.
(When in the menu, directional key UP.)
- 2.) Zoom the camera OUT.
(When in the menu, directional key DOWN.)
- 3.) Focus IN.
(When in the menu, directional key LEFT.)
- 4.) Focus OUT.
(When in the menu, directional key RIGHT.)
- 5.) The Auto-Focus button.
(When in the menu, acts as the ENTER key.)
- 6.) Press to call preset zero or hold to set preset zero.
- 7.) Press to call preset one or hold to set preset one.
- 8.) Press to bring up the on-screen menu.
(When in the menu press to go BACK.)

Finding the Camera's IP Address?

Method 1: Use a Internet browser and type in "http://ptzoptics.local/" to reach the camera's web interface. You will be prompted to set up a username and password. Once logged in, click on the Network Settings tab to make adjustments to the camera's network settings.

Method 2: Run an HDMI cable from the camera to a display. Use the IR remote shortcut [*] > [#] > [4] to display the camera's IP address.

Note: *If you are setting up multiple cameras, it's recommended to do so one at a time.*

Tip: Assign a unique Device ID to each camera from the Web UI's Device Info tab. This will allow you to reach each camera's web interface without needing to memorize an IP address.

Examples:

"http://cameraOne.local/" and "http://cameraTwo.local/".

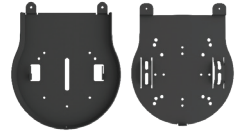
Mounting Options



Pipe Mounts



Wall Mounts



Ceiling Mounts



Scan here to view mounting options

Joysticks

For those who prefer hardware control of our cameras, PTZOptics PT-JOY-G4 offers simplicity with fine-tune options, and the PT-SUPERJOY-G1 provides the highest level of customization and flexibility for advanced users.



PT-JOY-G4



PT-SUPERJOY-G1



Scan here
for Joysticks

Connecting the Studio 4K Camera to a PTZOptics Joystick

PTZOptics carries two joysticks, the **PT-SUPERJOY-G1**, and the **PT-JOY-G4**, that can be used to control the Studio 4K via a network connection.

Steps

1. Ensure the Studio 4K 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:** Joystick Camera Address [CAM ID] Options include 1 - 255.
 - **Protocol Select**
 - **PT-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.

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

Important:

PTZOptics and HuddleCamHD port assignments:

- 1259 for UDP control
- 5678 for TCP control.
- 52381 Sony VISCA Protocol

Live Streaming

NDI® HX2 Connection

The NDI HX2 connection allows you to connect and control the camera through any NDI compatible hardware or software on a Local Area Network. Once the camera is setup on a LAN, you can utilize the NDI HX2 connection.

NDI Setup

Download and install the latest NDI Tools from <https://www.ndi.tv/tools>.

This camera's NDI settings can be configured from the camera's web interface in the NDI settings tab.

Select the camera within the NDI compatible device.

The NDI feed will utilize the camera's device-friendly name.

NewTek® NDI®, NDI 4, 5, 6, NDI HX, NDI HX2, and NDI HX3 are all registered trademarks by NewTek. Please note that your NDI License key is non-transferable.



RTSP Streaming

This camera is able to send an RTSP stream for viewing video through a LAN or Internet connection.

Using VLC or another RTSP enabled video program, type the following string into the network streaming section:

Stream 1 (HD):

```
rtsp://IIP ADDRESSI:554/1
```

Stream 2 (SD):

```
rtsp://IIP ADDRESSI:554/2
```

If you do not know the IP address of the camera, refer to the IP Connection section of this guide.

RTMP Streaming

This camera can send two RTMP(S) streams. To use the camera with an RTMP stream, you will need a Stream URL & Stream Key, which you receive from a CDN or from the social network to which you want to stream.

Once you have the Stream URL & Stream Key, log into Web UI.

Navigate to the Streaming Settings page. In the RTMP(S) Settings section, you will enter the Stream URL & Stream Key you received from the CDN or social network.

Ensure you turn the RTMP stream "On" by enabling the appropriate stream.

Troubleshooting

No image

- 1.) Check whether the power cord is connected, voltage is OK & power LED is lit.
- 2.) If using SDI or HDMI, check that the desired connection is selected to output video. You can select the desired connection from the OSD Menu or through the Web Interface.
- 3.) Check that the video cable is connected to the destination device correctly.

Image is shaky or vibrating

- 1.) Check whether the camera is mounted solidly to a steady horizontal and level surface.
- 2.) Check the building and any supporting furniture for vibration. Ceiling mounts are often affected by building vibration more than wall mounts. Any external vibration that is affecting the camera will be more apparent when zoomed in (tele).

Image settings are changing on their own:

Please check the camera's presets. When a preset is saved, many of the exposure, color, and image settings are saved. Image settings change with preset recall.

If you've confirmed that the presets and image settings are tuned and saved correctly and you are still experiencing image changes, please contact support.

IR Remote controller does not control the camera

- 1.) Does one of the four “Camera Select” buttons at the top of the remote light up when you press any of the buttons? If not, change the batteries in the remote.
- 2.) Check that the remote and camera are on the same IR channel. The “Camera Select” buttons will light up with the selected IR channel when a button is pressed. You can change the camera’s IR channel by accessing the System Settings of the web interface.
- 3.) Try removing other sources of IR interface (sunlight, fluorescent lighting, etc.)

Serial communication does not control the camera

- 1.) Make sure the camera is on and functioning with the IR remote controller.
- 2.) Verify that the RS-485 cable is connected correctly and using the proper pinout.
- 3.) Verify the communication settings of the control software or device (e.g. joystick).
- 4.) Verify that the communication port on the controlling device is activated (e.g. Com port on PC).
- 5.) Verify that all communication settings in the OSD Setup Menu correlate to the commands being used (e.g. VISCA address).

IP communication does not control the camera

- 1.) Verify that the camera and controlling device are on the same LAN with unique IP addresses.
- 2.) Verify that the controlling device is using the appropriate control port for the protocol.

The default control ports are as follows:

TCP: 5678, UDP: 1259, Sony UDP: 52381

If you need further assistance, please contact our support team at <https://community.ptzoptics.com/s/login/>



Give Hive a Try! Its Free!



*The free version of Hive Studio is limited to a single camera connection at a time

Hive Studio is a professional-grade video production app that allows you to produce and direct live video from anywhere in the world.

This PTZOptics camera is Hive-Linked, ensuring a quick and easy connection to Hive Studio

Sales: sales@ptzoptics.com

Support: community.ptzoptics.com

www.instagram.com/ptzoptics



www.facebook.com/ptzoptics

