

PTZOptics PTZ Camera Controller 1.4.1



User Manual (English)

Please check ptzoptics.com for the most up to date version of this document

Preface

Thank you for downloading the PTZOptics PTZ Camera Controller. This application is available for Mac and Windows. It is also available as a dockable plugin for OBS (Open Broadcaster Software). The OBS plugin adds some additional features (Hotkeys), but does not offer all the functionality available in the main Mac & Windows applications.

Prerequisites

Before using this software, you will need to determine how you wish to control your camera(s). This control software offers control through PTZOptics VISCA over IP (UDP) & the UVC protocol. For best results and compatibility, use an IP connection with one of the cameras below.

- **PTZOptics VISCA over IP**
 - All PTZOptics PTZ cameras
 - All PTZOptics ZCAM cameras.
 - HuddleCamHD Pro IP camera.
- **UVC**
 - All PTZOptics USB PTZ cameras.
 - All PTZOptics Webcams
 - All HuddleCamHD USB cameras.



To ensure your camera is capable of everything the control software offers, download the latest and greatest firmware at <https://ptzoptics.com/firmware-finder/>

Software Specifications	
Supported Operating Systems	Windows 10 32bit/64bit Mac OS – Catalina and later
Computer Specifications	CPU: Core i5 and above Memory: 4GB and above Display: 1280x960 and above (1920x1080 and above is recommended).
Supported Controllers (Windows only)	Most USB connected controllers. Including but not limited to: Microsoft Xbox 360 controller PowerA Xbox 360 Pro controller (Model: 1414135-02) AmazonBasics Xbox controller (Model: 1500890-01)

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Features

- Independently control up to 8 cameras over an IP (LAN) or USB connection.
- Live video preview with automatic camera switching.
- Set and Call up to 9 presets per camera.
 - You can name all 9 presets!
 - Call all 9 presets using Hotkeys!
 - The first 6 presets include a snapshot of the preset position.
 - You can save a specific Exposure level with each preset.
- Full control over Pan, Tilt, Zoom, Focus, and Presets with adjustable speeds.
 - Pan & Tilt Lock for consistent pan & tilt speeds
- Advanced image adjustment through Contrast, Luminance, and Hue.
- Selectable Exposure modes (Auto, Manual, SAE, AAE, & Brightness).
 - Full control over Iris (Only available in Manual and AAE Exposure modes).
 - Full control over Shutter (Only available in Manual and SAE Exposure modes).
 - Full control over Brightness (Only available in Brightness Exposure mode).
 - Exposure Presets for Low Light, Sports Day, & Sports Night (Sets camera to Manual Exposure mode).
- Selectable White Balance modes (Auto, Indoor, Outdoor, OnePush, & Manual respectfully).
- Flip and/or Mirror camera image.
- Camera On Screen Display Menu controls
- Set Pan and Tilt limits to prevent control beyond a specified point.
- Real-time reporting of camera status.
 - Also retrieves camera Serial Number and other Camera information.
- Compact, Advanced, and Preview Modes.
 - Preview window allows for HD & SD video feeds for bandwidth conservation (Windows only).
- Ability to snap and unsnap preview window to main control window.
- Ability to take a camera snapshot of preview window.
- 3rd party Xbox joystick controller (Windows only).
- 3rd party USB joystick controller (Windows only).

Installation Process

Windows

1. Download the latest PTZOptics PTZ Controller application from ptzoptics.com.
2. Run the Setup Wizard and install the application in the desired location.
3. Open the application from the Windows Search Bar

Mac

1. Download the latest PTZOptics PTZ Controller application from ptzoptics.com.
2. Open a new finder window and open the Applications folder.
3. Drag the PTZOptics PTZ Controller application from the Downloads folder and drop it into the Applications folder.
4. Open the application from the Applications folder.



The first time you open the app you may be greeted with a window saying "PTZOptics cannot be opened because the developer cannot be verified." To bypass this window and being using the application, open your Mac's System Setting and "Allow" the PTZOptics application to be granted access for use.

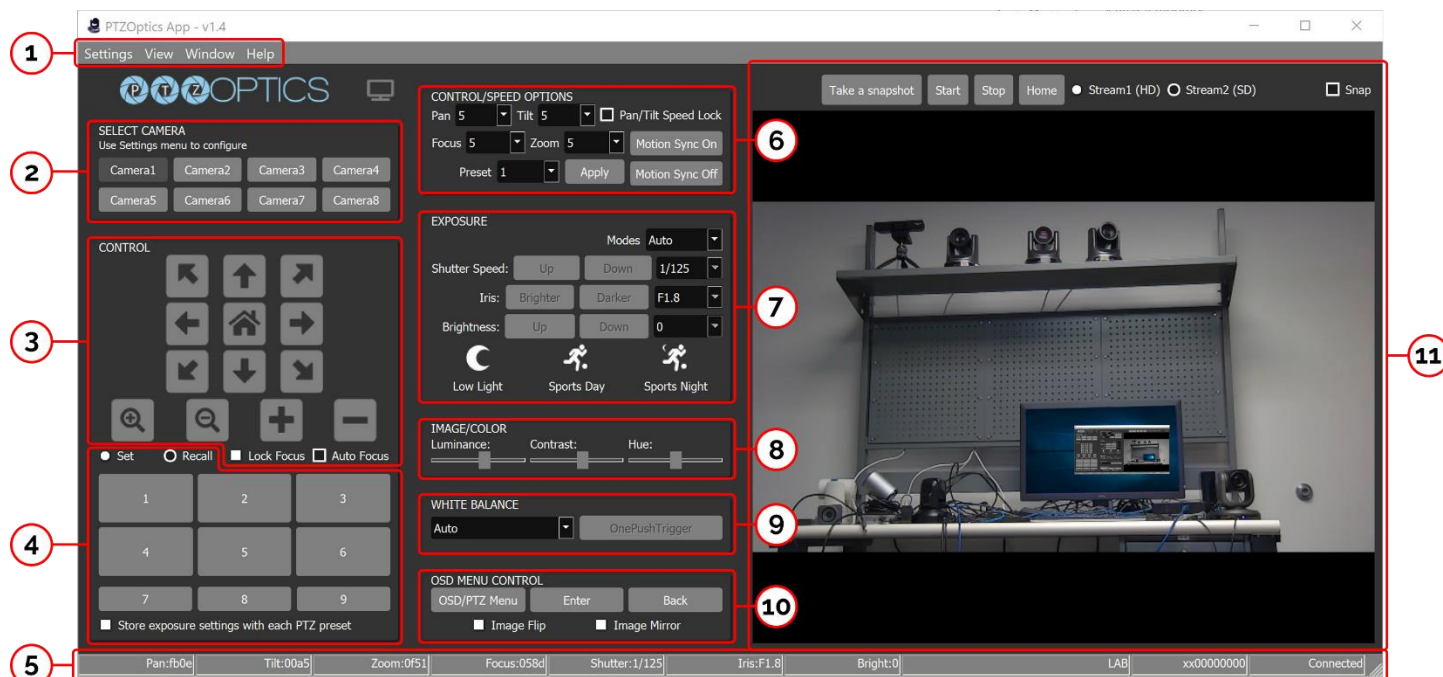
OBS Plugin (Windows)

1. Download the latest PTZOptics PTZ Camera Controller OBS Plugin from ptzoptics.com.
2. Unzip the files to an easily accessible location, such as the desktop.
3. Open a new File Explorer window and navigate to the plugins folder of OBS Studio.
 - a. By default, OBS Studio is installed in os (C:) \Program Files\obs-studio\obs-plugins\64bit
4. Copy the unzipped files to the plugins folder you just opened.
5. Once copied over, click "Continue" to finish the process. You will need administrator privileges in order to click "Continue".
6. Open OBS Studio, then select "Plugins" from the top. The PTZOptics PTZ Controller will be within that menu.

OBS Plugin (Mac)

1. Download the latest PTZOptics PTZ Camera Controller OBS Plugin from ptzoptics.com.
2. Unzip the files to an easily accessible location, such as the desktop.
3. Open a new Finder window and navigate to the plugins folder of OBS Studio.
 - a. You can quickly access this folder by right-clicking OBS in the applications folder and selecting "Show Package Contents".
4. Copy the "obs-ptzcontroller.so" file to the OBS\Contents\Plugins.
5. Copy the "SDL.framework" to OBS\Contents\Frameworks.
6. Open OBS Studio, then select Tools from the top. The PTZOptics PTZ Controller will be within that menu.

Software Overview



1 Software Settings Dropdown Section

Adjust the control parameters of the software.

2 Camera Selection Section

Select the camera you wish to control.

3 Camera Control Section

Pan / Tilt / Zoom / Focus your camera to a desired location.

4 Preset Section

Set and Recall up to 9 presets. Presets 1 – 6 include Preset Preview when utilizing an IP connection.

5 Camera Status Bar

Displays general camera information such as device name, serial number, connection status, and more.

6 Control Speed Section

Adjust the Pan, Tilt, Focus, Zoom, or Preset Speed. Enable / Disable Preset MotionSync.

7 Exposure Control Section

Adjust camera's Exposure settings.

8 Image Control Section

Adjust camera's Image settings.

9 White Balance Control Section

Adjust camera's White Balance settings. (OnePush Trigger only available while in OnePush)

10 OSD Menu Control Section

Open / Close and traverse the camera's OSD menu. Flip / Mirror the image if needed to correct orientation.

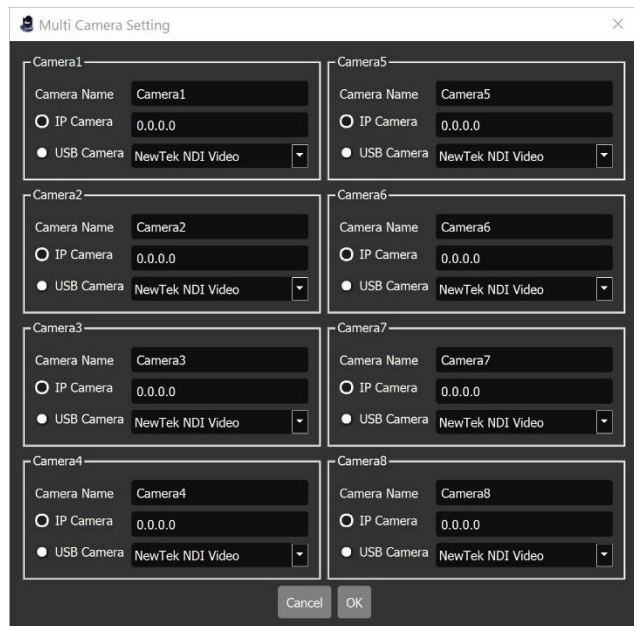
11 Camera Preview Window Section (Snapped)

View the connected camera's video feed & take a screenshot of the current view.

Using the Software

Adding a Camera

To add a camera to the software, click the Settings dropdown and select "Multi Camera Settings". Select the radio button for the control method you wish to use. If IP, type in the IP address of the camera. If USB, select the camera from the UVC dropdown. You may give it a name if desired. This name is seen from the Camera Select section.



Controlling the Camera

You have a few methods at your disposal as to how you pan, tilt, zoom, and focus the camera(s). You can use the on-screen directional arrows, Keyboard Hotkeys (Windows only), or a USB Controller (Windows only).

In any case, you will first need to select the camera from the Camera Selection section to begin controlling. Your method of camera control will decide which functions work with your camera. As a whole, an IP connection is always recommended over UVC, as the UVC protocol is much more limited than the PTZOptics VISCA over IP command library.

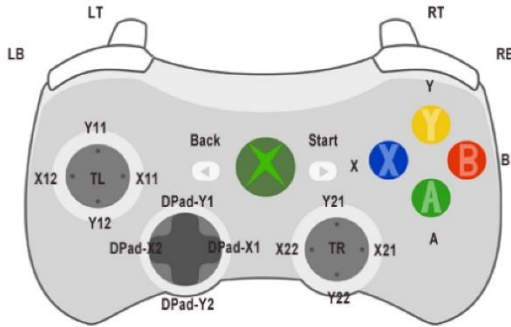
Keyboard Hotkeys

You have the ability to use your keyboard to control the camera. To do so, you will need to enable HotKeys by clicking the Settings dropdown and selecting "Additional Input Settings". From there, click the radio associated with HotKeys, then click "Ok". Once enabled, you can control the camera by following the commands below.

Key	Function	Key	Function
F1	Call Preset 1	W / ↑	Tilt Up
F2	Call Preset 2	A / ←	Pan Left
F3	Call Preset 3	S / ↓	Tilt Down
F4	Call Preset 4	D / →	Pan Right
F5	Call Preset 5	Q	Zoom In (Tele)
F6	Call Preset 6	E	Zoom Out (Wide)
F7	Call Preset 7		
F8	Call Preset 8		
F9	Call Preset 9		

USB Controller

You have the ability to use a USB connected joystick / controller to control the camera. To do so, you will need to enable the joystick by clicking the Settings dropdown and selecting "Additional Input Settings". From there, click the radio associated with "Use Joystick" and select your USB controller from the dropdown menu, then click "Ok". Once enabled, you can control the camera by following the commands below.



LT: Focus Out	X12: Connect to Camera4	RT: Focus In	TR: Move to Home
LB: Zoom Out	DPad-Y1: Move Up	RB: Zoom In	Y21: Move Up
TL: Show OSD Menu(HD only)	DPad-X1: Move Right	A: Call Preset1	X21: Move Right
Y11: Connect to Camera1	DPad-Y2: Move Down	X: Call Preset2	Y22: Move Down
X11: Connect to Camera2	DPad-X2: Move Left	Y: Call Preset3	X22: Move Left
Y12: Connect to Camera3	Back: OSD Menu Back	B: Auto/Manual Focus	Start: OSD Menu Enter

Pan / Tilt Limit Setting

You have the ability to prevent the camera from moving beyond a defined range. To do so, click the Settings dropdown and select "Pan/Tilt Limit Setting". Pan / Tilt Limit Setting can only be used when connected through IP.

Pan/Tilt Limit Setting
 ×

Left

Right

170

170

Down

Up

30

90

←

↶

→

↷

⬆

⬆

⬆

Pan(right) :0 Tilt(Up) :0

After moving to the position you want, please wait for 6 seconds to get the correct position.

Apply To Left Down

Apply to Right Up

Move the camera to the bottom-left most position you wish to prevent the camera from moving beyond. Once there, wait about 6 seconds for the software to finish querying the camera position. Once the Pan(Left) & Tilt(Down) parameters update, you may click "Apply To Left Down".

Move the camera to the top-right most position you wish to prevent the camera from moving beyond. Once there, wait about 6 seconds for the software to finish querying the camera position. Once the Pan(Right) & Tilt(Up) parameters update, you may click "Apply To Right Up".

Snapshot Path

This software takes snapshots whenever preset 1 – 6 is stored via IP, or you press the "Take a snapshot" button from the Preview Window. To access these snapshots, you can head to the default location of:

C:\Users\[PC]\AppData\Roaming\PTZOptics\ptzoptics-controller\downloads.

If you wish to change this location, click the Settings dropdown and select "Snapshot Path". Browse your PC for a suitable directory, then click "Select Folder".

Snapshot can only be used when connected through IP.

Web Server Settings

The Web Server Settings allow you to set up a Web Server from your PC, that allows other devices on your Local Area Network to connect to and control the cameras. It can be configured to control the connected camera(s), and to act as a switcher for OBS or vMix.

You can control a camera by connecting to the Full View or Camera View tab. From there, you have control over Pan, Tilt, Zoom, Focus, Presets, and the control speeds associated with each command.

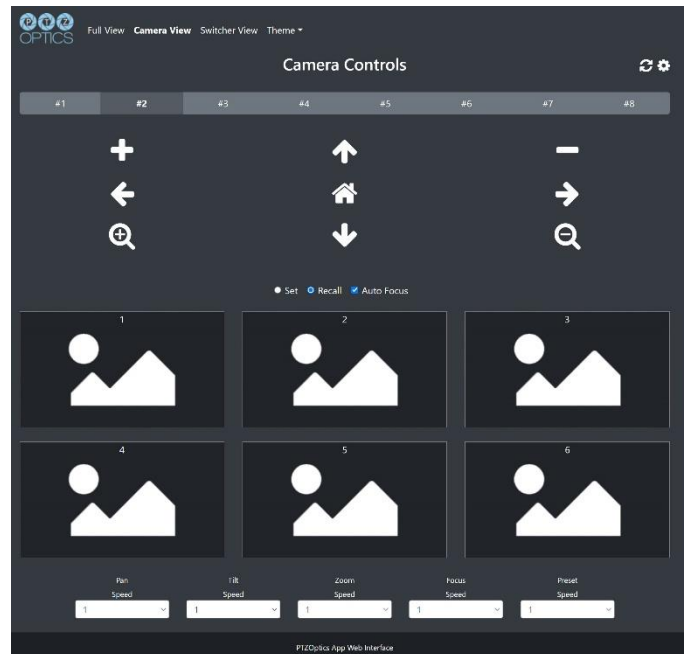
You can also use the PTZ Controller as a switcher for OBS or vMix by enabling "OBS Controls" or "vMix Controls". From there, configure the settings as desired for control over OBS or vMix.

 The Web Server mirrors the main software. Using the Main Software and Web Server simultaneously can result in a control conflict.

Full View



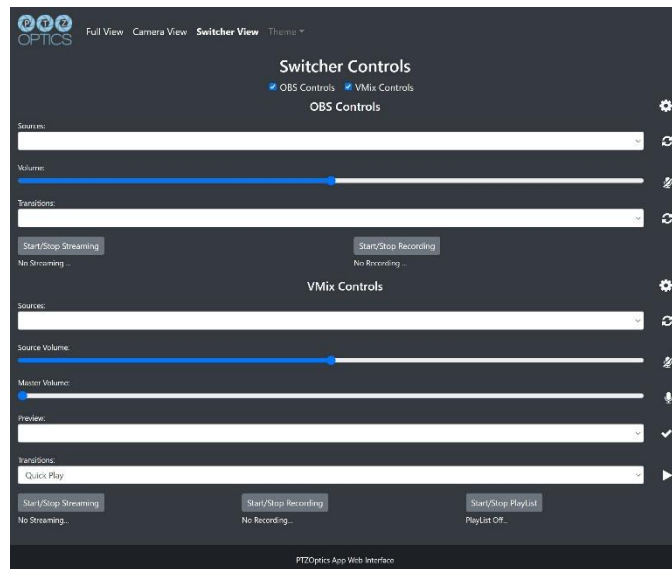
Camera View





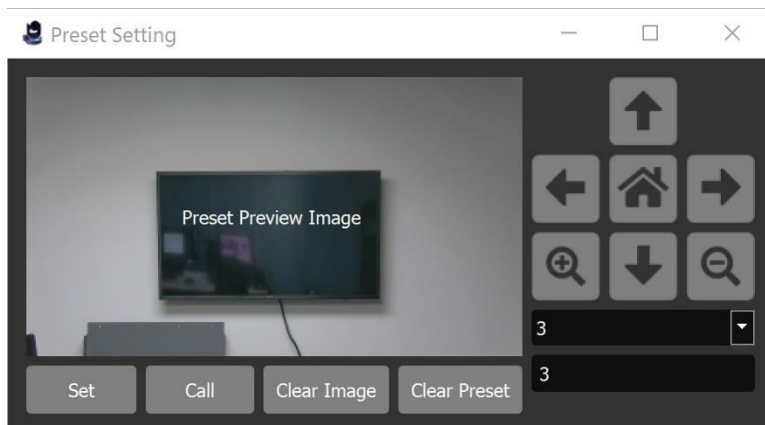
Share Your Vision

Switcher View



Preset Settings

The Preset Settings allows you to edit camera presets 1 - 127. In this interface you can Set, Call, and Clear Presets, in addition to clearing the image associated with the Preset Preview.



To set or call a preset, click the preset dropdown below the directional arrows, then click the "Set" or "Call" button. When setting a preset, you can give that preset a name by changing the Preset Name (default name is the preset number). When the preset is set, a snapshot of the camera feed will immediately be taken and shown in the Preset Preview Image section as shown above.



You can set unique Exposure, Color/Image, & White Balance values per preset by checking the radio "Store exposure settings with each PTZ preset" before setting a preset.

Preset Setting can only be used while connected through IP.

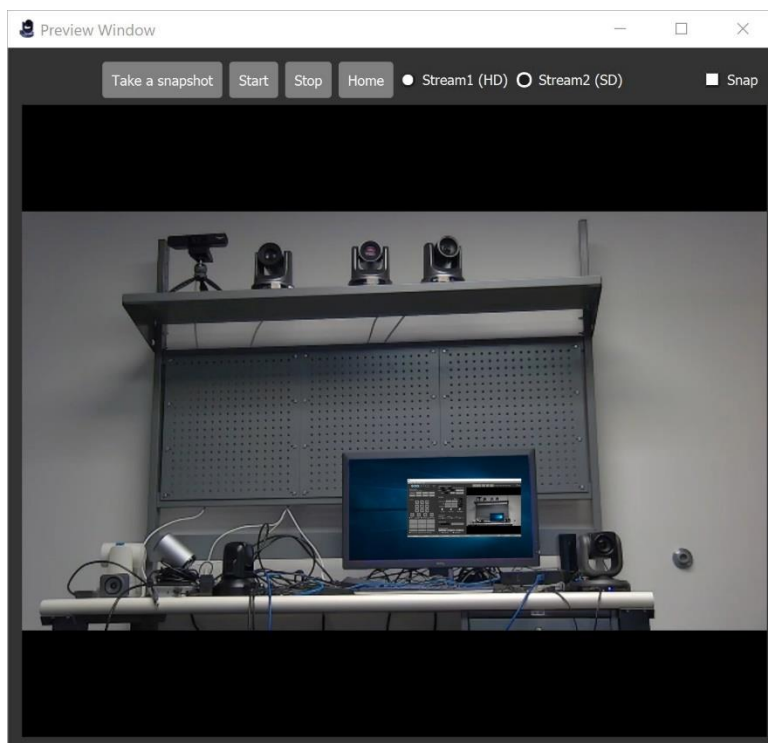
Preset Preview

The Main Software allows you to see a preview of preset positions 1 - 6 before calling them. To set up a Preset Preview, simply set a preset using this software. When the preset is set, a snapshot of the camera feed will immediately be taken and shown in the corresponding preset button.

You can also set the Preset Preview of presets beyond 6 using the Preset Settings section mentioned above.

Preset Preview can only be used while connected through IP.

Preview Window



The Preview Window allows you to see the camera video feed while connected. When connected to a camera through IP, you have the choice of viewing the 1st stream (HD) or 2nd stream (SD).


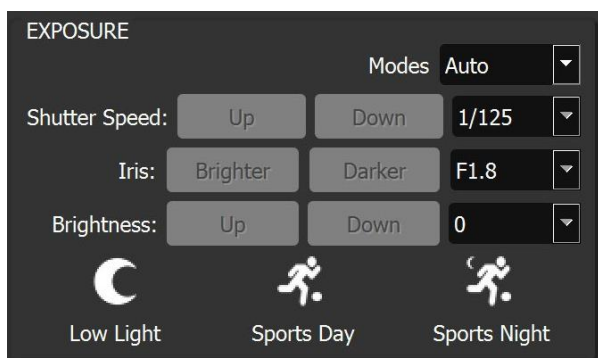
 When utilizing UVC (USB), you can only pull the camera feed into a single software at a time. If using the camera's video feed in another software, you won't be able to use the Preview Window.

Image Adjustment

Using the Advanced Panel of the software, you can adjust the camera's video feed. This section is only available when connected through an IP connection.

Exposure Settings

To adjust your camera's Exposure settings, you will first need to click the Exposure dropdown and select an Exposure Mode. From there, you're free to adjust the video feed as needed for your environment.

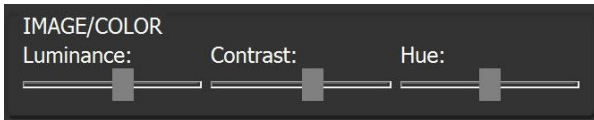


The Exposure Presets "Low Light", "Sports Day", and "Sports Night" are good starting points when needing to make significant changes to the video feed.

The Exposure settings can only be changed when connected through IP.

Image / Color Settings

To adjust the camera's color settings, simply click and drag the Luminance, Contrast, and/or Hue slider to the desired value.



The Image / Color settings can only be changed when connected through IP.

White Balance Settings

To adjust the camera's White Balance mode, click the White Balance dropdown and select the desired value. To utilize OnePush Mode properly, set the camera to OnePush White Balance mode, then press the "OnePush Trigger" button.



The White Balance settings can only be changed when connected through IP.

On Screen Display Menu Control

You can further adjust the video parameters and / or general camera settings using the camera's On Screen Display Menu (OSD Menu). To do so, click the "OSD/PTZ Menu" button to open the OSD Menu. You can traverse the OSD by using the Directional Arrows, make selections using the "Enter" button, and go back a field by using the "Back" button.

The OSD Menu can only be accessed when connected through IP. In addition, the OSD Menu will only be displayed on Stream 1 (HD).

Occasionally, the camera feed will require you to flip the image vertically or horizontally in order to view the feed properly. You can do so by pressing the "Image Flip" (vertical flip), and/or the "Image Mirror" (horizontal flip).