# PTZOptics SimplTrack3

## Product Manual

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# SimplTrack3

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# SimplTrack3 Quick Start Guide


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**

**STREAMING**

**NETWORKING**

**PRESETS**

## Part Number

- HC20X-SIMPLTRACK3

# Packing List

- HC20X-SIMPLTRACK3
- AC Power Supply
- USB B-A Cable
- RS-232C Cable
- Quick Start Guide
- IR Remote
- 2 AAA Batteries

# Features

**Dual Sensor Automatic Tracking** This camera uses a reference camera lens and an optical zoom lens to enable auto-tracking in various scenarios such as education, conferences, and live broadcasts. Even if the presenter walks into the audience area, the camera will follow subject's movements accurately by utilizing the wide-angle reference lens.

**Stage, Blocking, and Preset Zones** This camera leverages zone technology to deliver highly accurate tracking and exceptional customization. Designed for beginners and professionals, these zones allow you to define stage areas, set up blocking zones, or fully automate your workflow by configuring preset zones to trigger commands whenever a subject enters or exits.

**Photo-booth Functionality** Save videos and photos securely to a connected SD card.

**20X Optical Zoom & Wide Angle Reference Lens** A high-resolution 1080p telephoto lens for full HD auto-tracking, paired with a wide-angle 2.4mm reference lens to ensure smooth and reliable tracking, even in challenging, cluttered environments.

**Newly Improved Web UI** Easily customize and manage your camera with the updated camera Web User Interface.

**Low Light** CMOS image sensor with ultra-high SNR can reduce image noise in low light.

**Multiple Interfaces** Supports Simultaneous USB 3.0, HDMI 2.0 / 3G-SDI / IP streaming (NDI/ RTSP / RTMP)

**Multiple Control Options** Controllable via IR remote, network connection, RS-232, and the USB port.

**Motion & Facial Framing** This camera can recognize a presenter and put them in the ideal frame for auto-tracking.

**Total Stage Awareness** This camera can send a wide-angle video feed from the reference lens and a close-up tracking shot from the main lens simultaneously.

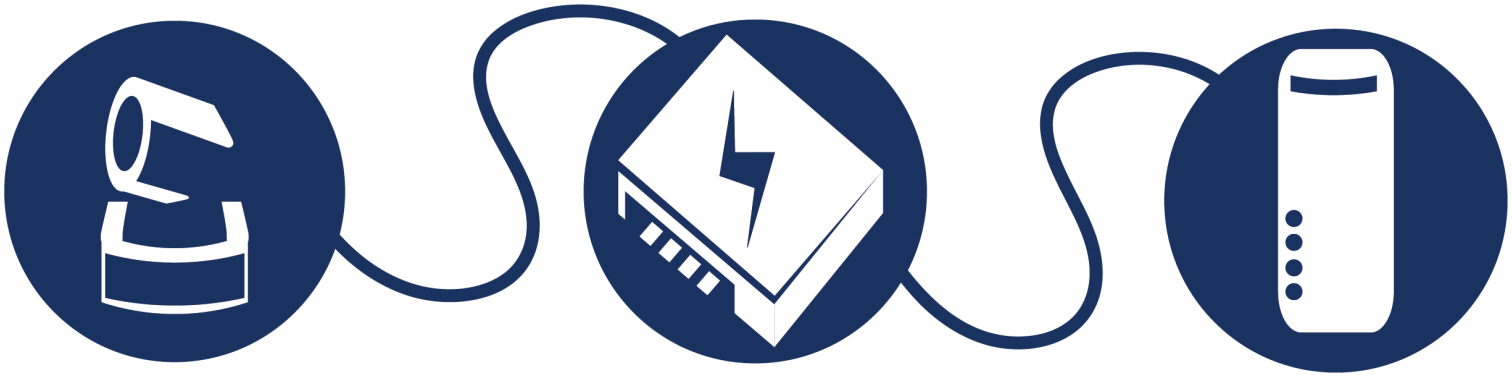
> **NOTE**
>
> This feature only works with the network video feeds.

# Power

The **SimplTrack3** can be powered using the included **power supply** or **Power over Ethernet**. Please make sure all connections are secure when using either method.

When the camera is turned on, it will perform a short startup sequence going through its full range of motion.

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



**Camera** **Power Over Ethernet Switch** **Computer**

## Camera Startup

PTZOptics cameras perform a short startup sequence going through their full range of motion when powered on. **(Stationary cameras or box cameras will also perform a startup sequence, going through their full zoom range.)**

When the sequence is complete, the camera will stop and return to preset 0, as long as you've previously set preset 0, or the Home position.

## 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) |
| SimplTrack3 | 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


## SimplTrack3 Connection List

1. Micro SD Card Slot
2. HDMI Out
3. USB 3.0
4. 3.5mm Line Input
5. 3G-SDI
6. LAN
7. RS-232 In/Out

8. DC-12V Power Connection

# Serial Connection Guide

Serial refers to the RS-232 connections from the camera to a joystick controller using the same connection.

## RS-232 Overview

This uses an 8 Pin Mini-Din connector.

| No. | Function |
|---|---|
| **1.** | DTR |
| **2.** | DSR |
| **3.** | TXD |
| **4.** | GND |
| **5.** | RXD |
| **6.** | GND |
| **7.** | IR Out |
| **8.** | NC |

### Initial Connection

| Camera | Windows DB-9 | Connection Direction |
|---|---|---|
| **1.** DTR | CD | Camera DTR to Windows DTR & CD to none |
| **2.** DSR | RXD | Windows TDX to Camera DSR |
| **3.** TXD | TXD | Camera TDX to Windows RXD |

| Camera | Windows DB-9 | Connection Direction |
|---|---|---|
| **4.** GND | DTR | Camera GND to Windows GND |
| **5.** RXD | GND | Two way from Camera RXD to Windows TDX |
| **6.** Unused | DSR | None |
| **7.** Unused | Unused | None |
| **8.** Unused | Unused | None |
| **9.** Unused | Unused | None |

**Daisy Chain Control Connection**

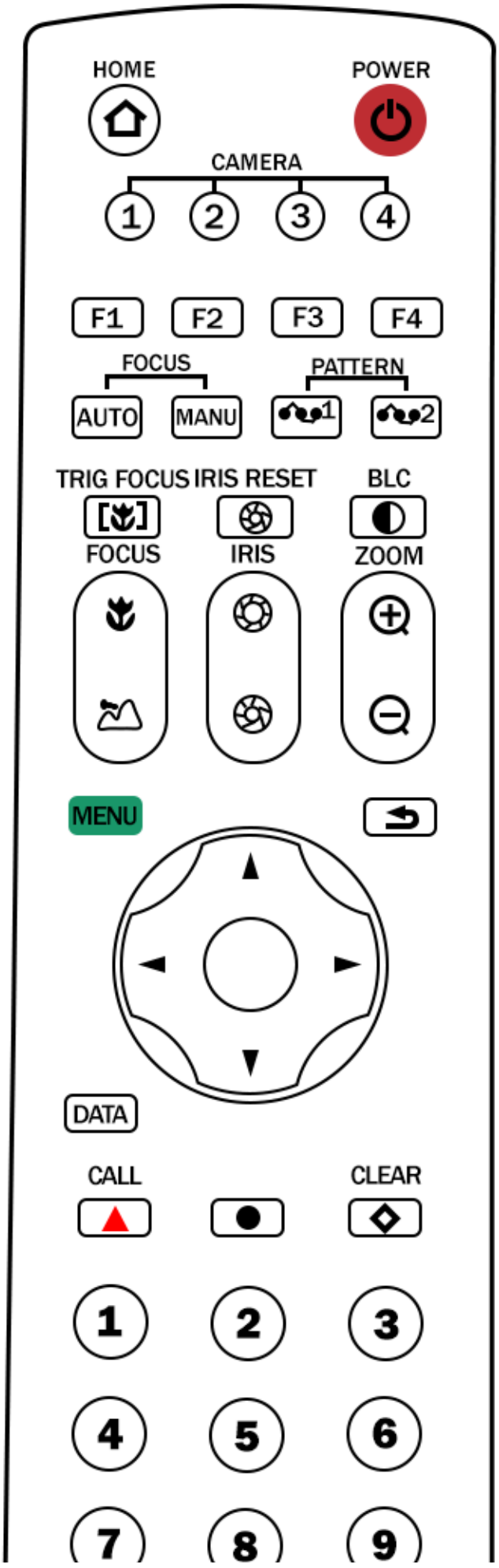
| Camera | Mini DIN | Connection Direction |
|---|---|---|
| **1.** DTR | DTR | Camera DTR to Windows DSR & CD to none |
| **2.** DSR | DSR | Windows DTR to Camera DSR |
| **3.** TXD | TXD | Camera TDX to Windows RXD |
| **4.** GND | GND | Two way from Camera GND to Windows GND |
| **5.** RXD | RXD | Windows TDX to Camera RXD |
| **6.** Unused | Unused | None |
| **7.** Unused | Unused | None |
| **8.** Unused | Unused | None |

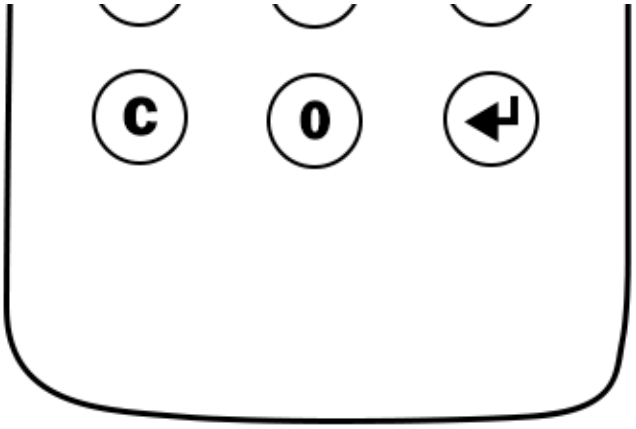
**RS-232 Parameters**

- **Baud Rate:** 2400, 4800, 9600 or 38400 bps
- **Start Bit:** 1 bit

- **Data Bit:** 8 bits
- **Stop Bit:** 1 bit
- **Parity Bit:** None

# IR Remote


HOME
POWER
CAMERA
1
2
3
4
F1
F2
F3
F4
FOCUS
AUTO
MANU
PATTERN
1
2
TRIG FOCUS
IRIS RESET
BLC
FOCUS
IRIS
ZOOM
MENU
DATA
CALL
CLEAR
1
2
3
4
5
6
7
8
9




# SimplTrack3 Remote Button Descriptions

**1. Home Button** Press to send the camera to the preset Zero position. This is the same position the camera assumes after it's been powered on.

**2. Camera Selection Buttons** Used to switch between IR channels when using multiple cameras. Press **1**, **2**, **3**, or **4** to select the corresponding camera. Cameras must be set to the corresponding IR address to be controlled by the remote. to do this, press **[*]** + **[#]** + **[F1]** for Camera 1, **[F2]** for Camera 2, **[F3]** for Camera 3, and **[F4]** for Camera 4.

**3. Power Button** Used to the turn the camera on and off.

**4. Shortcut Buttons (F1, F2, F3, F4)**

**[F1]** > **[1]** > **[ENTER]** - Change camera to Device Address 1
**[F1]** > **[2]** > **[ENTER]** - Change camera to Device Address 2
**[F1]** > **[3]** > **[ENTER]** - Change camera to Device Address 3
**[F1]** > **[4]** > **[ENTER]** - Change camera to Device Address 4

**[F2]** > **[0]** > **[0]** > **[1]**: Set the IP address to DHCP

**[F2]** > **[0]** > **[8]** > **[1]**: Set IP address to: 192.168.100.81
**[F2]** > **[0]** > **[8]** > **[2]**: Set IP address to: 192.168.100.82
**[F2]** > **[0]** > **[8]** > **[3]**: Set IP address to: 192.168.100.83
**[F2]** > **[0]** > **[8]** > **[4]**: Set IP address to: 192.168.100.84
**[F2]** > **[0]** > **[8]** > **[5]**: Set IP address to: 192.168.100.85
**[F2]** > **[0]** > **[8]** > **[6]**: Set IP address to: 192.168.100.86
**[F2]** > **[0]** > **[8]** > **[7]**: Set IP address to:192.168.100.87
**[F2]** > **[0]** > **[8]** > **[8]**: Set IP address to: 192.168.100.88
**[F2]** > **[0]** > **[8]** > **[9]**: Set IP address to: 192.168.100.89
**[F2]** > **[0]** > **[8]** > **[0]**: Set IP address to: 192.168.100.80

**[F3]**: Start Tracking

**[F4]**: Stop Tracking

**5. Focus** Choose between Auto or Manual focus modes.

5.a “Trig Focus button” enables auto focus whenever the camera is zoomed in. Near / Far allows focus adjustment while in manual focus mode.

**6. Pattern Buttons** Non-functional

**7. Iris** Use the Open / Close options to open and close the Iris.

7.a Reset the Iris to the default value using the “Iris Reset button.”

**8. BLC Button** Used to Enable or Disable the Backlight Compensation.

**9. Zoom Buttons** Used zoom in or out.

**10. Menu** Used to open or close the On Screen Display Menu.

**11. Back Button** Used to return to a previous menu, while in the OSD Menu.

**12. Directional Buttons** In the OSD Menu: Navigate through the Menus. Outside the OSD Menu: Pan and Tilt the Camera.

**13. Data Button** Non-functional

**14. Number Keys** Used to input numbers.

**15. Clear Button** Used to cancel an action.

**16. OSD Enter** Used to make selections in the OSD menu

# OSD

## Main Menu

Press the [Menu] button to display the OSD Menu. Use the arrow buttons to navigate the OSD menu, the [Enter] button to make selections, and the [Menu] button to go back a sub-menu.

Opening the On-Screen Display, provides the list of sub-menus seen below.

**1. Image**
**2. Exposure**
**3. Color tone**
**4. Camera**
**5. PTZ**
**6. System**
**7. Device Info**

# Image

The following settings can be adjusted from the Image menu:

| **Lens Image** | |
|---|---|
| **Options** | Tracking Lens, Reference Lens |
| **Default** | Tracking Lens |

| **Sharpness** | |
|---|---|
| **Options** | 0 ~ 11 |
| **Default** | 5 |

| Brightness | |
|---|---|
| **Options** | 0 ~ 14 |
| **Default** | 5 |

| Contrast | |
|---|---|
| **Options** | 0 ~ 14 |
| **Default** | 7 |

| Gamma | |
|---|---|
| **Options** | 0 ~ 4 |
| **Default** | 2 |

| 2DNR (2D Noise Reduction) | |
|---|---|
| **Options** | 0 ~ 7 |
| **Default** | 3 |

| 3DNR (3D Noise Reduction) | |
|---|---|
| **Options** | 0 ~ 7 |
| **Default** | 3 |

| DRC (Dynamic Range Control) | |
|---|---|
| **Options** | 0 ~ 5 |
| **Default** | 0 |

| Mirror | |
|---|---|
| **Options** | On, Off |
| **Default** | Off |

| Flip | |
|---|---|
| **Options** | On, Off |
| **Default** | Off |

# Exposure

The following settings can be adjusted from the Exposure menu:

| Lens Exposure | |
|---|---|
| **Options** | Tracking Lens, Full-view |
| **Default** | Tracking Lens |
| **Note** | *Choose whether the exposure settings affect the Tracking Lens only, or the full-view lens.* |

| Full-view Follow | |
|---|---|
| **Options** | On, Off |
| **Default** | Off |
| **Note** | *When toggled on, the Tracking & Full-view lenses will adjust Exposure settings simultaneously.* |

| Exposure (Modes) | |
|---|---|
| **Options** | Auto, Manual, Shutter, Iris, Bright |

| Exposure (Modes) | |
|---|---|
| **Default** | Auto |

| Anti-Flicker | |
|---|---|
| **Options** | Off, 50HZ, 60HZ |
| **Default** | 60HZ |
| **Note** | *Choose Off, 50HZ, or 60HZ to keep certain light sources such as florescent bulbs from flickering in the image.* |

| BLC (Back Light Compensation) | |
|---|---|
| **Options** | On, Off |
| **Default** | Off |
| **Note** | *Enables backlight compensation to improve visibility in scenes with strong back lighting.* |

| EXP-Comp | |
|---|---|
| **Options** | On, Off |
| **Default** | On |
| **Note** | *Enables automatic exposure compensation based on lighting conditions.* |

| Level | |
|---|---|
| **Options** | -7 ~ +7 |
| **Default** | 0 |

| Gain | |
|---|---|
| **Options** | 0 to +14 |

| Shutter | |
|---|---|
| **Options** | 1/1, 1/2, 1/4, 1/8, 1/15, 1/30, 1/60, 1/90, 1/100, 1/125, 1/180, 1/250, 1/350, 1/500, 1/725, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/6000, 1/10000 |

| Iris | |
|---|---|
| **Options** | CLOSE, F1.6, F2, F2.4, F2.8, F3.4, F4, F4.8, F5.6, F6.8, F8, F9.6, F11, F14 |

# Color Tone

The following settings can be adjusted from the Color Tone menu:

| WB Mode | |
|---|---|
| **Options** | Auto, Manual, Indoor, Outdoor, Static(VAR), One Push (OPWB) |
| **Default** | Auto |

| R. Gain | |
|---|---|
| **Options** | Varies based on WB Mode |
| **Default** | 0 |
| **While in Auto WB Mode:** | -7 to +7 |
| **While in Manual WB Mode:** | 0 to 255 |

| G. Gain | |
|---|---|
| **Options** | Varies based on WB Mode |
| **Default** | 0 |
| **While in Auto WB Mode:** | -7 to +7 |
| **While in Manual WB Mode:** | N/A |

| B. Gain | |
|---|---|
| **Options** | Varies based on WB Mode |
| **Default** | 0 |
| **While in Auto WB Mode:** | -7 to +7 |
| **While in Manual WB Mode:** | 0 to 255 |

| WB-SENSI | |
|---|---|
| **Options** | LOW, MIDDLE, HIGH |
| **Default** | MIDDLE |

| Hue | |
|---|---|
| **Options** | 0 ~ 14 |
| **Default** | 7 |

| Saturation | |
|---|---|
| **Options** | 0 ~ 14 |
| **Default** | 7 |

## Indoor Mode

| Indoor Mode Settings | |
|---|---|
| **Options** | Saturation: 0 to 14 |

## Outdoor Mode

| Outdoor Mode Settings | |
|---|---|
| **Options** | Saturation, Hue |
| **Options** | Saturation: 0 to 14 |
| **Options** | Hue: 0 to 14 |

## Static(VAR) Mode

| Static(VAR) Mode Settings | |
|---|---|
| **Options** | Color Temp.: 2800K to 6500K by increments of 100, Saturation: 0 to 14, Hue: 0 to 14 |

| One Push (OPWB) Mode Settings | |
|---|---|
| **Options** | Clickable button to initiate one-push white balance calibration |

# Camera

The following settings can be adjusted from the Camera menu:

| Run Scene | |
|---|---|
| **Options** | Indoor, Outdoor, Low Light, Custom |
| **Default** | Indoor |

| Digital Zoom | |
|---|---|
| **Options** | On, Off |
| **Default** | Off |

| Zoom Times | |
|---|---|
| **Options** | X1, X2, X3, X4, X5, X6, X7, X8 |
| **Default** | X1 |
| **Note** | *Only available when digital zoom is turned on. Digitally multiply the zoom magnification of the camera.* |

# Pan Tilt Zoom

The following settings can be adjusted from the PTZ menu:

| Pan Speed | |
|---|---|
| **Options** | 1 ~ 24 |
| **Default** | 5 |

| Tilt Speed | |
|---|---|
| **Options** | 1 ~ 20 |
| **Default** | 5 |

| PTZ TRIG AF (Auto-focus) | |
|---|---|
| **Options** | On, Off |
| **Default** | On |

| Power Up | |
|---|---|
| **Options** | Home, Preset 1, Preset 2, Preset 3 |
| **Default** | Home |

# System

The following settings can be adjusted from the System menu:

| Protocol Address | |
|---|---|
| **Options** | 1 ~ 7 |
| **Default** | 1 |

| IR Address | |
|---|---|
| **Options** | 1 ~ 4 |
| **Default** | 1 |

| Mount Mode | |
|---|---|
| **Options** | Stand, Ceiling (Inverted) |
| **Default** | Stand |

| Protocol | |
|---|---|
| **Options** | Visca, Pelco-D, Pelco-P |
| **Default** | Visca |

| Baud Rate | |
|---|---|
| **Options** | 2400, 4800, 9600, 38400 |
| **Default** | 9600 |

| Video Format | |
|---|---|
| **Options** | 1080p 60/50/30/25, 720p 60/50 |
| **Default** | 1080p 60 |

| Language | |
|---|---|
| **Options** | English, Chinese |
| **Default** | English |

| Display Info | |
|---|---|
| **Options** | On, Off |
| **Default** | Off |

| Track Type | |
|---|---|
| **Options** | Tracking, Framing |
| **Default** | Tracking |

| Defaults | |
|---|---|
| **Options** | Confirm, Cancel |
| **Default** | Confirm |

# Networking

## Discovering Your Network

### Windows

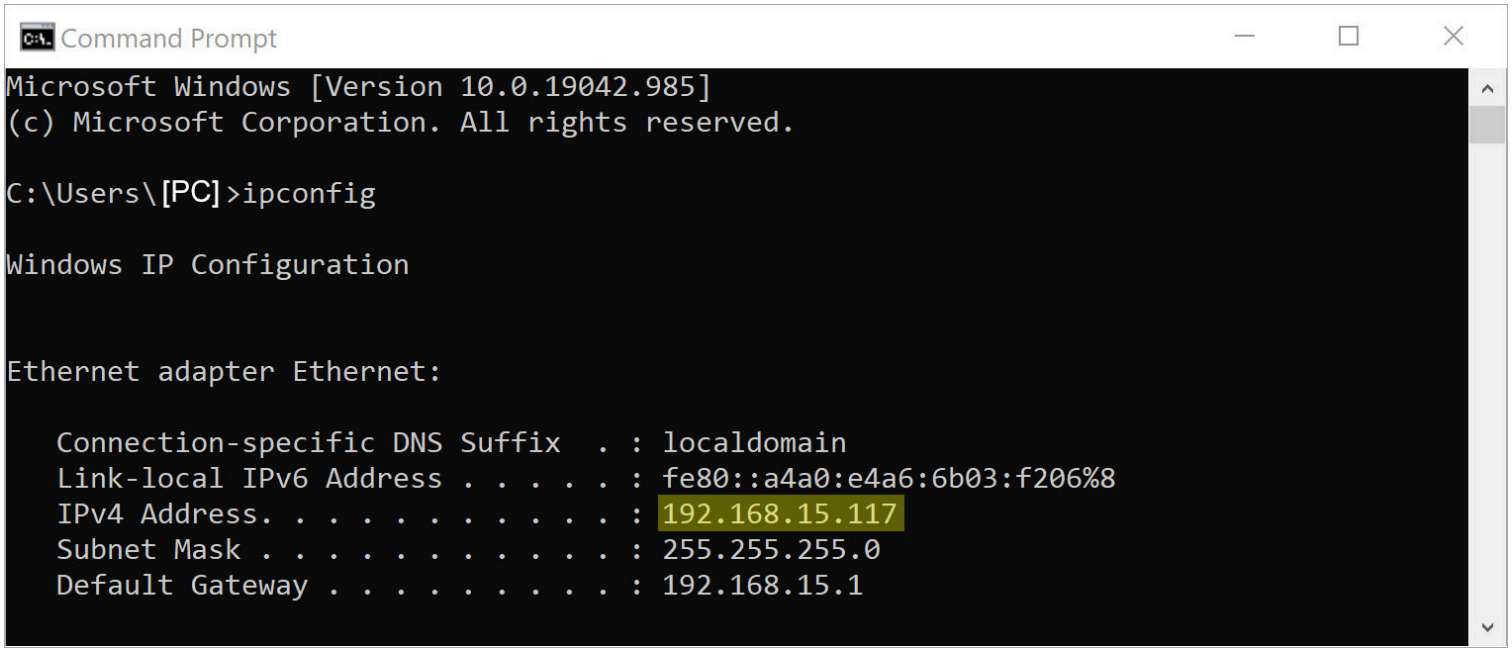
**1.** Open the Start menu and type “CMD” into the search bar.

**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”.

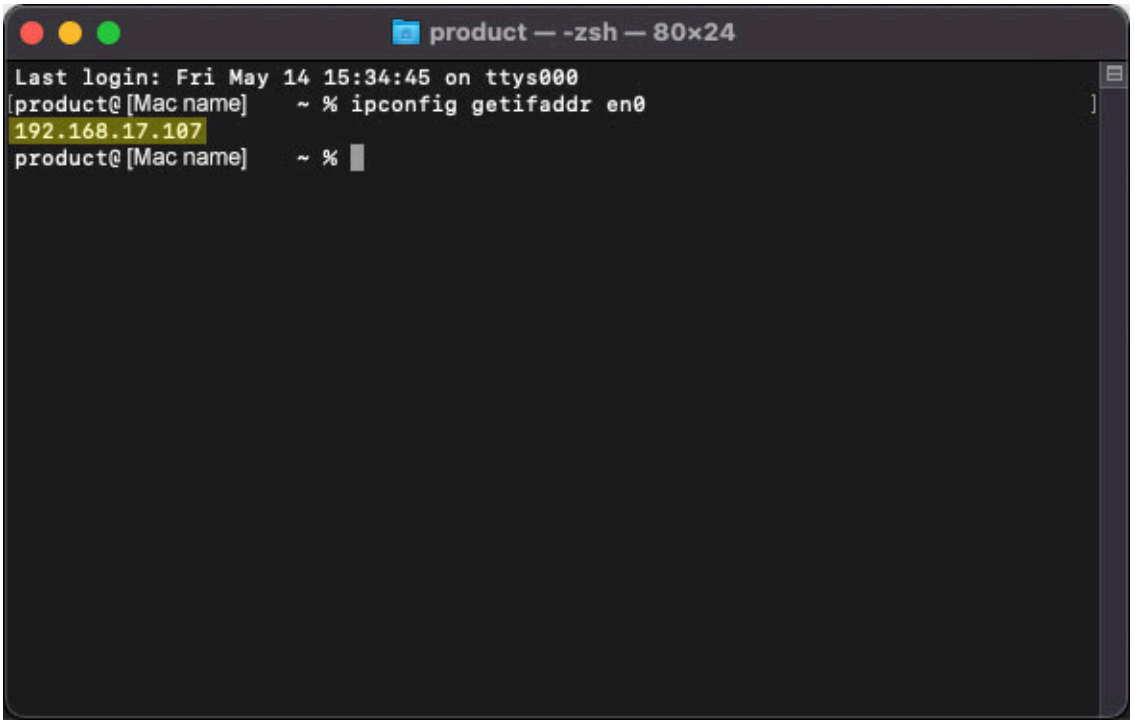



### Mac

**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.




# Finding Your Camera's IP Address

There are two ways to find the SimplTrack3's IP address.

## Method 1

Using the IR Remote

**Steps**

**1.** Connect the SimplTrack3 to a display via HDMI, or connect it to a computer via USB selecting it as your camera in a conferencing application such as Zoom, Google Meet, or Microsoft Teams.

**2.** Press the **Menu** button.

**3.** Navigate to the **System** menu.

**4.** Scroll down and select **Network**.

**5.** The camera's IP can be found in the IP Address field.

## Method 2

**1.** Enter “http://ptzoptics.local/” into a web browser. This is typically done if its the first time you've connected the camera to your network.

**2.** Once logged in, the camera's IP address can be seen in the web browser's search bar. Additionally, you can view all of the camera's network settings by clicking on the **Network Settings** tab in the dashboard.

# Network Joystick Connection

PTZOptics carries two joysticks, the **PT-SUPERJOY-G1**, and the **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.
        - **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

**TIP**

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.

**NOTE**

The SimplTrack 3 does not support simultaneous UDP/TCP control. The default Protocol is TCP with port 5678.

To configure the SimplTrack 3 control port, visit the camera's web interface and navigate to the System Settings. You'll find the control port protocol options under the **Control Settings** section.

# Resetting the Camera's IP Address Using the IR Remote

Use one of the following codes with the IR remote to reset the camera's IP address. This can be useful if you have trouble connecting to the camera or if you want to set a new IP address.

**[F2]** > **[0]** > **[0]** > **[1]**: Set the IP address to DHCP

**[F2]** > **[0]** > **[8]** > **[1]**: Set IP address to: 192.168.100.81
**[F2]** > **[0]** > **[8]** > **[2]**: Set IP address to: 192.168.100.82
**[F2]** > **[0]** > **[8]** > **[3]**: Set IP address to: 192.168.100.83
**[F2]** > **[0]** > **[8]** > **[4]**: Set IP address to: 192.168.100.84
**[F2]** > **[0]** > **[8]** > **[5]**: Set IP address to: 192.168.100.85
**[F2]** > **[0]** > **[8]** > **[6]**: Set IP address to: 192.168.100.86
**[F2]** > **[0]** > **[8]** > **[7]**: Set IP address to:192.168.100.87
**[F2]** > **[0]** > **[8]** > **[8]**: Set IP address to: 192.168.100.88
**[F2]** > **[0]** > **[8]** > **[9]**: Set IP address to: 192.168.100.89
**[F2]** > **[0]** > **[8]** > **[0]**: Set IP address to: 192.168.100.80

# Video

# Setting the Resolution & Frame Rate

There are two ways to change the SimplTrack3's resolution and frame rate.

## Method 1: Using the IR Remote

**1.** Press the **Menu** button.

**2.** Navigate to the **System** menu.

**3.** Scroll down to the **Video Format**, then use the left and right arrow keys to select the resolution and frame rate. Options Include:

- 1080p 60/50/30/25, 720p 60/50

## Method 2

**1.** Enter the camera's IP address into a web browser and log into the Web UI using your credentials.

**2.** Click **Audio & Video**.

**3.** Click the **Video Format** drop-down at the top of the page and select your resolution and frame rate. Then click **Apply**.

# Streaming

## NDI® HX3 Connection

The NDI HX3 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 HX3 connection.

### NDI Setup

1. Download and install the latest NDI Tools from NDI Tools
2. This camera's NDI settings can be configured from the camera's web interface in the NDI settings tab.
3. Select the camera within the NDI compatible device. The NDI feed will utilize the camera's device-friendly name.

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

## RTMP Streaming

The SimplTrack3 camera can send two RTMP(S) streams. To use your camera with an RTMP stream, you will need a Stream URL & Stream Key, from a CDN or from the social network to which you want to stream.

**Steps**

1. Once you have the Stream URL & Stream Key, log into Web UI.
2. Navigate to the Streaming Settings page. In the RTMP(S) Settings section, enter the Stream URL & Stream Key you received from the CDN or social network.
3. Ensure you turn your RTMP stream **"On"** by enabling the appropriate stream, and click the **Apply** button.

# RTSP Streaming

The SimplTrack3 camera is able to send an RTSP stream for viewing video through a LAN.

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

- **Stream 1 (HD)**:
    - rtsp://[IP ADDRESS]:554/1
- **Stream 2 (SD)**:
    - rtsp://[IP ADDRESS]:554/2

If you do not know the IP address of your camera, refer to the Finding the Camera's IP Address section.

# Presets

## Setting & Calling Presets

The PTZOptics Move 4K, the Move SE, and the Link 4K cameras all utilize the same newly upgraded camera presets system. This section explains how to get the most out of presets and how to properly use them.

### Steps

**Step 1. Lighting:** Before adjusting the camera’s settings and saving presets, it is extremely important that you are satisfied with the lighting in the area you plan to operate the camera.

> **TIP**
>
> The easiest lighting to work with, is often referred to as “flat lighting”, meaning the lighting is as evenly dispersed as possible throughout the scene.

**Step 2. Default:** We recommend setting all of the camera’s image settings, exposure settings, color settings, and focus settings to default before setting up presets. The default settings can be found in the On-Screen Display section of this menu. To set the camera's image settings to their defaults, use the Restore Default menu in the on-screen display, or set them to default in the camera's Web UI.

> **NOTE**
>
> Saving a preset saves the camera position as well as all the image settings it had at that exact time.
>
> When panning, tilting, and zooming the camera, all image settings will stay set to their last applied saved values unless the camera is in automatic modes such as auto-exposure.

**Step 3. Preset Zero:** With all the image settings defaulted, the first preset to establish is Preset Zero. This preset, will essentially serve as the baseline reference point.

**Follow the steps below to establish preset zero.**

**1.** Zoom the camera all the way out and point it at the center-most location in the scene.

**2.** Adjust any of the camera’s image settings until satisfied with the look/style of the image.

**3.** Press [PRESET] then [0] using the IR Remote.

**4.** Preset zero is now saved.

> **NOTE**
>
> When using a preset as a start location for auto-tracking , the camera will call that preset and utilize the image settings saved to it.
>
> For example, if a preset is saved with an exposure compensation setting of -3, auto-tracking will automatically move to that preset location and set the exposure compensation to -3.
>
> The camera will switch to the settings saved to the preset regardless of the image settings used before auto-tracking is enabled.

**Step 4. Standard Presets:** These presets can be assigned to any number between 1 and 254.

**1.** Begin by calling preset zero.

> **TIP**
>
> Its recommended to take a screenshot of preset zero to help color match new presets or camera shots from different cameras.
>
> Its also helpful to pull the camera's video feed into live streaming software such as Vmix or OBS for viewing and comparison. To properly compare image quality, ensure you are using the same monitor or screen.

**2.** Move the camera into the position intended to save as a preset.

**3.** Compare the new preset position with preset zero to ensure they match. Most of the time they will not be an exact match, because different areas have different lighting that requires different settings.

**4.** Make adjustments to the image settings to color match with preset zero.

**Step 5. Save the Preset:**

Keep the SimplTrack 3 on the current firmware and use the changelog to verify what changed before you update.

UPDATE PATH

## Firmware Instructions

Follow the step-by-step upgrade flow for the SimplTrack 3 web interface.

**Open instructions**

RELEASE HISTORY

## Firmware Changelog

Open the shared markdown release notes file that the team can extend by prepending new sections.

**View changelog**

# Latest Firmware Files

**SimplTrack 3 Firmware**

Download firmware image

# Instructions

## Checking Your SimplTrack3 Firmware

### Steps

- **1.** Enter the camera'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 **Device Info** in the left-hand dashboard.
- **3.** The firmware version will be displayed in the firmware version field.
- **4.** To see if this is up to date, click **System Settings** in the left-hand dashboard. Scroll down and click the arrow key symbol at the bottom of the screen.
- **5.** Click on the **Check Firmware** button. If your firmware is not up to date, you will receive a pop-up notification that says, "Firmware Update Available!".

## Upgrading Your SimplTrack3 Firmware

### Steps

- **1.** Click the **Download** button. Once the download is complete you will receive a pop-up that says, "Start the firmware upgrade?". Click **Confirm**.
- **2.** Another pop-up will ask you to confirm whether this is the file you want to use. Click **Confirm**.
- **3.** Unzip the file to access the firmware.
- **4.** Drag the img. file from your computer's file explorer into the upload field in the Web UI. Click **Confirm** to proceed.

- **5.** After a few minutes the camera will restart and the firmware upload process will be complete.
- **6.** Go back to the **System Settings** menu and check your firmware again. You will receive a pop-up saying, **"Currently in Latest Version"**.

# SimplTrack 3 Release Notes

Updates on new features, fixes, and known issues for the SimplTrack 3.

## Current Firmware Files

**SimplTrack 3 Firmware**

Download firmware image

## 09/16/2025

**SimplTrack 3 - v1.0.82**

### New Features and Bug Fixes

- Compatibility & Certification: Firmware can now be applied to both PTZOptics cameras and HuddleCamHD models, ensuring unified support and easier maintenance. The camera has also successfully passed the official NDI HX2 Certification program, ensuring compliance and verified compatibility.
- Audio Output Over IP & NDI: Resolved an issue where audio did not play over NDI. Audio is now confirmed to be working over NDI.
- Preset 1-9 Group Naming: Fixed an issue where names assigned to presets 1-9 were not retained after reboot and behaved as group names rather than individual preset labels.
- Baud Rate Reset: Fixed an issue where the baud rate would automatically change to `2400` after position correction was completed.
- TCP Port & Protocol: Corrected default Control settings so the camera now uses port `5678` and TCP as the default protocol.
- Saturation in Reference View: Corrected behavior where Saturation adjustments in the reference view incorrectly affected the PTZ view. Now, unavailable image adjustments are greyed out when the camera is set to reference view.

- Zoom While Tracking: Fixed an issue where the camera continued to zoom in and out even when Zoom While Tracking was disabled.
- NDI Low Bandwidth Mode: Fixed an issue where NDI low bandwidth mode did not function correctly on the reference stream.
- Preset Save Workflow: Fixed an issue where presets could not be renamed during the save process. Presets can now be saved and renamed by clicking Set or pressing Enter.

## Known Issues

- Reference Lens Settings: Image, exposure, and color settings on the reference lens do not save after reboot.
- Exposure Settings: Exposure adjustments do not persist after reboot and revert back to Auto Exposure.
- Zoom & Tracking Interaction: If Zoom While Tracking is enabled and Track Outside Reference View is disabled, the camera may continue to track outside the reference view.
- Gesture Control: Zoom may not function as expected when Gesture Control is enabled.

# 07/30/2025

**SimplTrack 3 - v1.0.81**

## Bug Fixes

- Addressed an issue with high bandwidth and low bandwidth stream mismatch.
- Resolved an issue where NDI low bandwidth mode was not functioning on the PTZ stream.
- Corrected static fallback behavior to default to `192.168.100.88` instead of `192.168.1.180`.
- Resolved issue where some camera presets could not be overwritten.
- Fixed a bug where using the Apply button on Zone Settings (Preset Zone, Tracking Zone, or Blocking Zone) would disable any enabled Preset Zones functions.
- Resolved issue where the NDI device name would not save after reboot.
- Fixed multiple instances of the Discovery Server being referenced simultaneously.
- Corrected issue where the firmware update server could not download new firmware to the local PC.

## Known Issues

- NDI low bandwidth mode does not function on the Reference Stream.
- Audio does not transmit over NDI.

- RTMP issue: If a green screen appears when using Stream 2 or 3, the user must return to Stream 1 before switching.
- Reference Lens: Image, exposure, and color settings on the Reference Lens do not save after reboot.
- When making adjustments to Exposure settings, it will not save after a reboot and revert back to Auto Exposure.
- Adjusting saturation in the Reference View affects the PTZ View instead of the intended Reference View.
- When saving a preset and renaming it, the Set button does not save the name, and pressing Enter does not save the preset. Workaround: Move the camera to the desired location, enter the preset number and press Set, then type the preset name and press Enter.
- If Zoom While Tracking is on and Track Outside Ref. View is off, the camera will continue to track outside the reference view.
- When Gesture Control is enabled, zoom may not function as expected.

# 06/06/2025

**SimplTrack 3 - v1.0.79**

## New Features and Bug Fixes

- Upgraded the firmware of the HuddleCamHD SimplTrack 3 to the new PTZOptics SimplTrack 3 version. This update includes a new Web UI, accessible at `ptzoptics.local` or via the camera's IP address.
- Introduced new SimplTrack Control Software to monitor and configure all SimplTrack products (formerly known as CMS).
- Fixed a bug preventing TCP and UDP control from working properly.

## Known Issues

- No audio over NDI stream.
- After a reboot, changes made to the reference view will revert to default.
- Static fallback may revert to `192.168.1.180`.
- The web interface doesn't properly set zones when the browser is zoomed in or out past `100%`.
- Traversing the OSD with VISCA commands requires you to send the Stop command to continue traversing.
- The NDI Local Device Name can only be changed on the Device Settings page.

- If the camera is set to DHCP and you click the Apply / Save button on the Network Settings page, the camera will acquire a new IP address even if the network type hasn't changed.
- Changing the resolution requires the camera to be rebooted.

# Technical Specs

## Camera & Lens

| Feature | Specification |
|---|---|
| **Main Lens Resolution & Frame Rate HDMI, SDI, NDI** | • **1080p** - 60/50/30/25<br>• **720p** - 60/50 |
| **Main Lens Resolution & Frame Rate USB 3.0** | • **1080p60**<br>• **1080p30**<br>• **720p30**<br>• **360p30** |
| **Sensor** | Sony 1/2.8 inch, CMOS, Effective pixels: 2.14M |
| **Scanning Mode** | Progressive |
| **Main Lens Focal Length (Zoom)** | 20X Optical Zoom f = 4.7mm ~ 94mm |
| **Iris** | F1.6 - F3.5 |
| **Reference Camera** | 8X Digital Zoom, 1/2.8” Exmore sensor, 2.14 Mega Pixel, 2.4mm |
| **Video Based Auto-Tracking** | Supported |
| **Maximum Tracking Distance (w/ Reference Camera)** | 55 feet / 16.8 meters |
| **Maximum Tracking Distance (w/o Reference Camera)** | 100 feet / 33 meters |
| **Minimum Illumination** | 0.5 Lux @ (F1.8, AGC ON) |
| **Shutter** | 1/1 ~ 1/10,000s |

| Feature | Specification |
| --- | --- |
| **White Balance** | Auto Mode, Manual Mode, Indoor Mode, Outdoor Mode, One Push WB, Static |
| **Backlight Compensation** | Supported |
| **Horizontal Field of View** | 3° ~ 59.5° |
| **Vertical Field of View** | 2° ~ 36° |
| **Reference Horizontal Field of View** | 86° |
| **Reference Vertical Field of View** | 52° |
| **Horizontal Rotation Range** | ±170° |
| **Vertical Rotation Range** | -30° ~ +90° |
| **Pan Speed Range** | 120°/second down to ultra slow 0.1°/second |
| **Tilt Speed Range** | 90°/second down to ultra slow 0.1°/second |
| **Image Flip** | Supported |
| **Image Mirror** | Supported |
| **Image Freeze** | Not Supported |
| **POE** | Supported 803.3af |

## Connections

| Feature | Specification |
| --- | --- |
| **Operating System** | Windows 7 / 8.1 / 10 / 11 / Mac OS X+, Linux, Android (Tracking Software is Windows Only) |
| **Color System/Compression** | H.264 & MJPEG & YUY2 |

| Feature | Specification |
| --- | --- |
| **Video Format** | H.264: Max resolution: 1920x1080@30, MJPEG: Max resolution: 1920x1080@30, YUY2: Max resolution: 1920x1080@30 |
| **USB Audio** | Supported |
| **UVC Version** | UVC 1.1 ~ 1.5 |
| **UVC Control** | Supported |
| **Video Compression** | H.264, H.265 |
| **Video Stream** | **Optical Lens:** First Stream, Third StreamP, **Digital Reference Camera:** Second Stream |
| **First Stream Resolutions** | 1920x1080, 1280x720, 640x360, Note: Resolutions and frame rates can be adjusted within the Web UI. |
| **Second Stream Resolutions** | 1280x720, 640x360 |
| **Third Stream Resolutions** | 1920x1080, 1280x720, 640x360 |
| **Video Bit Rate** | First Stream: 32kbps ~ 62000kbps, Second Stream: 32kbps ~ 62000kbps |
| **Bit Rate Type** | Constant Bit Rate (CBR), Variable Bit Rate (VBR) |
| **Frame Rate** | **50Hz:** 1 ~ 50 fps, **60Hz:** 1 ~ 60 fps |
| **Audio Compression** | AAC |
| **Audio Bit Rate** | 48kbps, 64kpbs, 96kbps, 128kbps |
| **Supported Protocols** | TCP or UDP/IP, HTTP, RTSP, RTMP/RTMPS, ONVIF, NDI, Multicast, etc. |

## Input & Output Interface

| Feature | Specification |
| --- | --- |
| **HD Output** | 1x RJ45: 10/100/1000M Adaptive Ethernet Port, 1x HDMI: Version 2.0, 1x USB 3.0: Type B, 1x 3G-SDI: BNC type, 800mVP-p, 75Ω, Along to SMPTE 424M standard |
| **Audio Interface** | 1x 3.5mm Line level Input |
| **Communication Interface** | 1x 8-pin Mini DIN RS232 Input, Max distance: 98.5ft / 30m, Protocol: VISCA / Pelco-D / Pelco-P, 1x 8-pin Mini DIN RS232 Output, Max distance: 98.5ft / 30m,Protocol: VISCA / Pelco-D / Pelco-P |
| **IR** | 4x IR Addresses, Max distance 30ft / 9m |
| **Power Jack** | JEITA Type (DC IN 12V 2.5A) |

## Physical Specifications

| Feature | Specification |
| --- | --- |
| **Dimensions(L x W x H)** | 9.6” L x 6.1” W x 6.4” H / 243mm L x 157mm W x 163mm H |
| **Weight** | 5.7 lbs, 2.59 kg |
| **Input Voltage** | DC 12V / PoE(802.3af) |
| **Current Consumption** | Max 1.0A |
| **Power Consumption** | Max 12W |
| **Operating Temperature** | 32°F ~ 104°F (0°C ~ 40°C) |
| **Storage Temperature** | -4°F ~ 140°F (-20°C ~ 60°C) |
| **Humidity Range** | 10% - 80% |
| **Mounting Insert** | 1/4 20” |

# Compliance

The SimplTrack3 is an NDAA Compliant camera.

Covered by one or more claims of the HEVC patents listed at patentlist.accessadvance.com