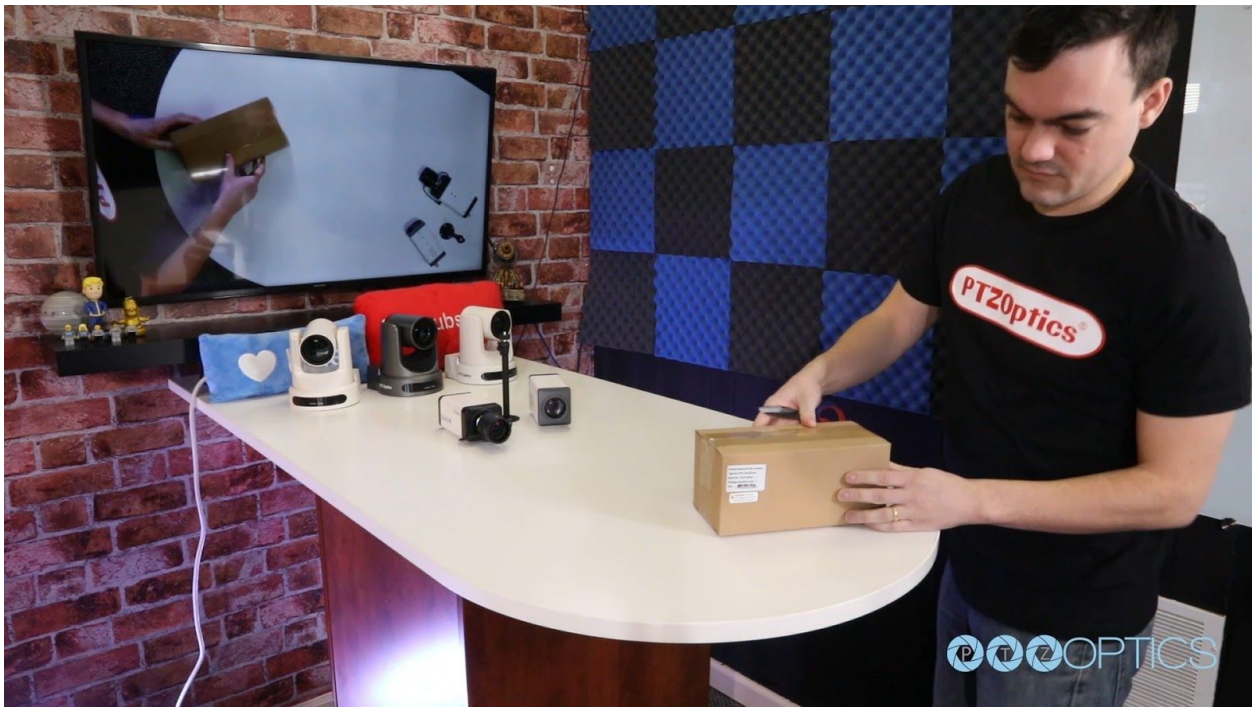
PTZOptics ZCAM Camera
Quick Start Guide



Step 1: When you first receive your PTZOptics ZCam Camera, the first thing you should do is download the ZCam manual available at https://ptzoptics.com/downloads. It's important to note that there are two distinct types of ZCams: NDI and SDI. The PTZOptics ZCam models are also available with multiple different lens types. In this video, we will discuss how to setup the both NDI and SDI ZCams Camera models.

Step 2: Inside your box you will find your camera, the camera and an included wide angle variable lens if you have the ZCam-VL and the power supply. The 12X and 20X ZCams models include an integrated Zoom lens. The Variable Lens ZCAM-VL can support a variety of C/CS mount type lenses to fit multiple unique use cases.

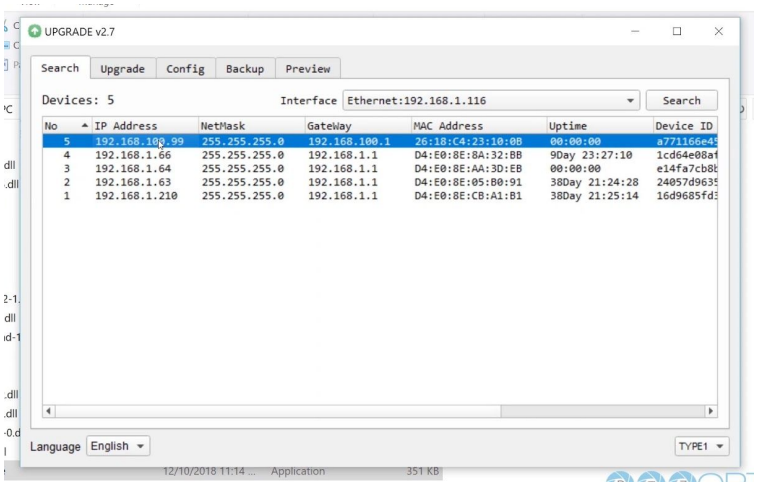
Step 3: Once you have read your manual, it is time to decide whether you will power your ZCam with an included power supply or ethernet cable connected to a power over ethernet enabled network switch. The PTZOptics ZCams support PoE 802.3af and the same cable used for video and connectivity can be used to power the camera.

Step 4: Once you have selected a method of powering your camera, you can plug it in and the camera will turn on automatically turn on. You will see the power light illuminate once the camera has successfully powered on.

Step 5: You have two options for viewing the video from your ZCam. We can view the video over an IP connection or over the SDI video connection. Let's plug in your SDI connection first to check that the video is working with your system. To do this, connect the cameras SDI output to an available SDI input. We will use an SDI to USB capture card from Magewell for this example.

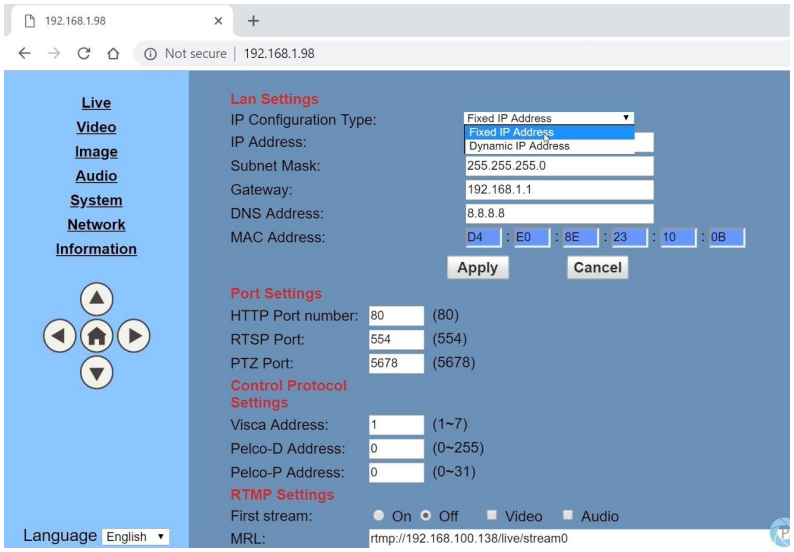
Step 6: Once your camera your camera is plugged into the Magewell capture card and your computer, we can open up Open Broadcaster Software and click the plus button in the sources section. We will select the video capture device input and name our input PTZOptics ZCam. This will bring up the cameras video feed. Now we can use the buttons on the back of the ZCam to open up the On Screen Display Menu. Inside the OSD menu you can adjust your exposure settings, color, image, focus, noise reduction and more. We can also view information about the cameras current IP address, Gateway and Netmask settings. Let's now look at your options for setting up a static or dynamic IP address for your camera.

Step7: To setup a static IP address for your PTZOptics Zcam you will need to download and use our IP address settings available for Windows. The IP Address Settings Tool can be downloaded at ptzoptics.com/downloads. Once you have downloaded this tool, unzip the files and put them onto your computer. You can then launch the application by clicking the upgrade.exe file inside the folder. This tool should automatically find your camera on your network. By default your ZCam will have the IP address of 192.168.100.99. You can right click



your camera showing up with the 192.168.100.99 IP address and choose the dropdown option “Config”. This will allow you to setup a static or dynamic IP Address on your network. We highly suggest setting up a known static IP address on your network. But, you can setup a dynamic IP address with the drop down menu by selecting DHCP if you choose. Let’s configure the IP address and IP gateway. Let’s setup an open IP address on our local area network of 192.168.1.98. Once we click the set button our camera will reboot and turn on with a new IP address. Let’s right click the camera’s new IP address and preview the camera’s video feed by clicking the preview button.

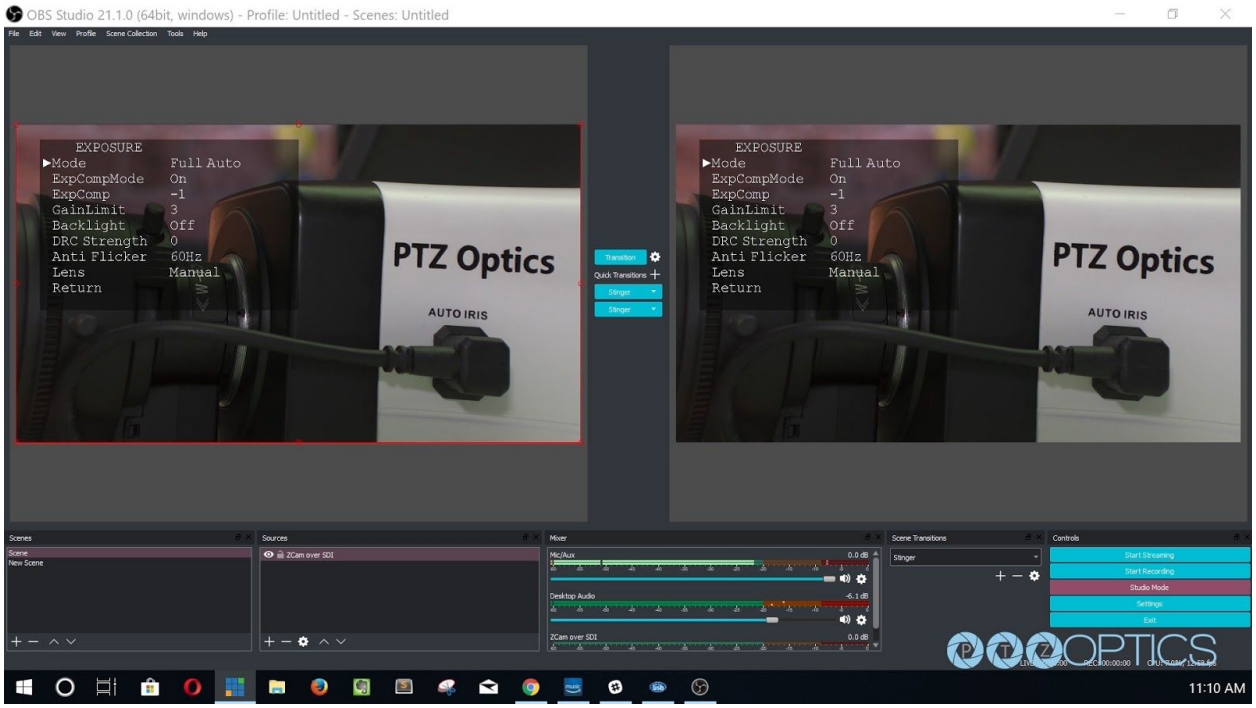
Step 8: Once you have setup an IP address for your camera, you can now connect to the camera using a regular web-browser by typing in the IP address into the address bar. When prompted enter the default username and password which is “admin / admin”. You may want to consider changing this default password in the admin area.



Tip: You can also use our free camera control application available at ptzoptics.com/apps. This is a great tool for connecting to the camera, getting a live video preview and tweaking the camera settings remotely.

Step 10: Navigate to the “Network” tab and see that you can choose a “Fixed IP Address” or “DHCP” from the very first drop down menu. Now that you have access to the camera over your network you have access to remote control the camera's settings. While in the network tab, you may want to consider turning on your RTSP video streams for remotely viewing them with the PTZ app.

Step 11: Now let’s connect to the RTSP video stream from our camera with Open Broadcaster Software to test out our IP connection. The following steps will be very similar in video production software such as vMix, Wirecast or xSplit. Open OBS and add a Scene. In this scene we can add a source with the plus button in the area right next to scenes. Select “Media Source” and name the input. In the Properties of this media source we will uncheck the first two boxes: Local File and Restart Playback when source becomes active. Now we simply need to enter our RTSP information into the input text field which is the following “RTSP://[YOUR-CAMERA-IP-ADDRESS]:554/1”. The last “Slash 1 or Slash 2” represents the two available RTSP streams you can pull from each camera. Stream 1 is your High Definition Stream and Stream 2 is your standard definition stream.



Step 12: To add audio into our RTSP stream we will use a Rode Microphone with a line level output and plug it into the 3.5mm audio input on the back of our camera. The 3.5mm audio input will provide audio embedded into our IP stream and HDMI output.

Step 13: You can configure your cameras RTSP Settings in the Video Tab of the network interface. You have the ability to tweak your cameras RTSP settings to deliver reliable high quality video over IP. Let's quickly review our recommended settings used for streaming RTSP video over your network.

NOTE: PTZOptics cameras also support MJPEG and H.265 HEVC encode protocols. If you would like to customize your RTSP Settings we highly recommend reviewing our "PTZOptics Streaming Settings Guide" available at ptzoptics.com/downloads.

Step 14: If you have one of our NDI ZCams you can now set up the NDI functionality. First of all, we want to download the NDI HX drivers onto your Mac or PC computer. These can be downloaded at https://www.newtek.com/ndihx/products/. Once you have downloaded and installed your NDI HX Drivers we are ready to select the quality of your NDI Stream.

Tip: NDI|HX video sources are generally one tenth of the bandwidth of full NDI sources. Let's take a look at a bandwidth comparison chart.

NOTE: All IP Video included NDI video is limited to 30 frames per second on ZCam models.

Tip: Network Bandwidth head room recommendations can vary widely from 30% - 60% depending on what the network is utilized for. Please consult your network administrator before adding NDI sources to your local area network. Newtek suggest "NDI traffic should not take up more than 75% of the bandwidth of any network link.".

Step 15: With the latest NDI tool pack installed, it's time to pull up your video feed and do some final testing. You can open up the NDI Studio Monitor application and right click anywhere in the window to select from your available NDI sources. Select your camera and confirm that the video feed is working over NDI.

Note: If you have multiple NDI cameras on your network each camera will require a unique multicast address. If multiple PTZOptics NDI cameras are using the same default multicast address, you may have issues with the same NDI video feed interrupting each cameras feed. Refer to our NDI camera setup video for more detailed information.

Step 16: Your camera is now setup and working on your network. Remember each computer you want to use with NDI|HX sources will require the the latest NDI tool package to be installed.

Step 17: You camera is now setup and your have learned how to access the cameras video over IP. Your cameras can also output high definition video through SDI simultaneously to fulfill even more advanced video production workflows. Consider joining our PTZOptics User Group at facebook.com/groups/ptzopticspals and if you have any follow up questions do not hesitate to reach out. If you encounter any issues during this setup process feel free to submit a support ticket at help.ptzoptics.com or simply call the phone number listed on our website. Enjoy!