

# PTZOptics Producer Kit

## “Getting Started Video Guide”



**Step 1** - The first thing to do when you receive your PTZOptics Producer Kit is read through the included manual. The PTZOptics producer kits comes in two varieties. The standard Producer Kit and the Producer Plus Kit. The standard producer kit can support up to two plug and play SDI cameras and the Producer Plus Kit can support up to four SDI cameras. The main difference is the use of two Magewell SDI capture cards OR the Magewell 4-port PCIe SDI thunderbolt enclosure.



**NOTE:** You can upgrade a standard Producer Kit in the future by purchasing the PT-PRODUCER-UPGRADE SKU which includes the 4-port SDI to thunderbolt enclosure.

**Step 2** - Let's review everything that comes inside the box. Inside your Producer Kit box you will find a USB keyboard and mouse, a HuddleCamHD joystick controller, PTZOptics Camera, an Intel NUC computer, a magewell SDI capture card (or 4-port SDI enclosure with Producer Plus Kit), a USB

3.0 7 port hub, a Shure MVI XRL to USB interface, a 100' plenum rated 3G SDI cable, a 100' serial camera control cable, a 6' HDMI cable and a displayport to HDMI adapter.

**Step 3** - Let's start by setting up your Intel NUC Skull Canyon Computer. The Intel NUC i7 Skull Canyon is a powerful micro PC which includes a 3 year warranty. This compact PC is perfect for use with your favorite video mixing software including OBS, Wirecast, xSplit or vMix. This super fast micro PC computer comes with Windows 10 Enterprise already installed and ready for setup. Inside you will find a 6th generation Intel® Core™ 2.6 to 3.5 GHz i7 Quad Core Processor, 32 Gigabytes of Ram and a 256 Gigabyte solid state hard drive. Don't let this computer's small size fool you. Intel includes a built in a Intel Iris Pro Graphics 580 card which supports up to three video outputs and plenty of horse power for multi-camera video production software. Inside the Intel NUC box you will find the Intel NUC, a included power supply, a manual, a VESA wall with hardware and a optional black faceplate. Let's go ahead and remove the Skull faceplate and replace it with the standard intel NUC top plate. Once you have optionally changed your faceplate you can also decide to wall mount the Intel NUC. You can wall mount the included metal VESA plate to and screw in the connection hardware to the back of the Intel NUC. Once this is done you can easily slip the Intel NUC into the VESA wall mount slots like so.



**Step 3** - Let's plug your Intel NUC computer into a power source with the included power supply. Next we can connect your computer to one of your available video outputs. The Intel NUC supports a full sized HDMI 2.0 output, a Mini DisplayPort and a DisplayPort 1.2 via USB-C. An example use of all three video outputs would include one monitor for your video production software, one monitor for a multi-view or full screen camera preview and a third monitor for a presentation software like Powerpoint or ProPresenter.

**NOTE:** The kit includes an HDMI cable and mini-display port to HDMI adapter. To connect a third monitor you will need to purchase a thunderbolt to HDMI adapter.

**Step 4** - Next we can plug in the included keyboard and mouse and turn on your computer. Once your computer is on and Windows is running, we highly suggest connecting your computer to the internet via WiFi or a hard-wired ethernet connection.

**NOTE:** We highly recommend using a minimum of Cat-5e ethernet cabling to provide your computer and camera(s) with a full gigabit data connection to your local area network.

**Step 5** - Now we need to make sure you are connected to the internet so that you can download the applications that you plan on using for video production, presentation and file sharing. For example, you may want to install OBS for live streaming and video recording, PowerPoint for presentations and Dropbox for file sharing from remote computers. No matter what live streaming or video production software you choose the Intel NUC computer should be able to support it.

**NOTE:** In some advanced video production software you have to enable your Intel NUC's graphic card for optimal performance. This setting is typically available in the settings menu of your preferred production software.

**NOTE:** You may want to download our free PTZ Camera Applications available at [ptzoptics.com/apps](http://ptzoptics.com/apps)

**Pro TIP:** The Skull Canyon also includes Intel® Turbo Boost Technology 2.0 which accelerates processor and graphics performance for peak loads, automatically allowing processor cores to run faster than the rated operating frequency. Your computer should have no problem live streaming and recording with multiple cameras even using advanced video production workflows.

**TIP:** When you are setting up your Windows PC we highly suggest using the “Performance Mode” in power settings. Also, be aware that using anti-virus or malware protection software that runs in the background of Windows will slow down your computer and may cause potential issues.



**Step 6** - Now it's time to setup your cameras. As you can see, each PTZOptics camera has the ability to output three simultaneous video feeds including: SDI, HDMI and an IP Stream via RTSP or RTMP. The producer kits include 100 foot of high quality, plenum rated, 3G-SDI cabling with locking connectors for reliable latency free SDI video connections to your camera. You can use HDMI and IP Streaming for more video production workflows covered in our camera specific setup videos available at [PTZOptics.com/SDI](http://PTZOptics.com/SDI). You will also see that there are multiple control options for your camera including RS-232, RS-485 and IP. For the purposes of this video, we will be using SDI for video and RS-232 for camera control.

**Step 7** - For a flexible two (2) camera setup, we generally suggest a PTZOptics 12X-SDI camera and a PTZOptics 20X-SDI camera, since these cameras have different capabilities, such as zoom ranges and fields of view, to serve different needs. The PTZOptics 20X-SDI camera can be placed on the back wall of your room (to zoom in on the presenter) while the PTZOptics 12X-SDI can be used for other shots such as an audience or choir, as it provides a wider field of view (The PTZOptics 12X-SDI has a 72.5° HFOV versus the PTZOptics 20X-SDI with a 61° HFOV). If you require more than

two cameras, remember you will need to select, or upgrade to, the PTZOptics Producer Plus kit.

**NOTE:** For more advanced information regarding the setup of your PTZOptics SDI camera please refer to the PTZOptics SDI camera setup video.



**Step 8** - Plug your camera into an available wall outlet, or optionally plug your camera in a network switch that can provide PoE (Power over Ethernet). Let's put our AAA batteries inside our remote control and test our ability to operate the PTZ Cameras. Your remote control can operate up to 4 PTZOptics cameras. You can switch between the cameras you would like to control using the four camera select buttons on the top of the IR remote. To setup each camera to respond to these unique buttons let's turn just one camera on at a time

and program each using the IR remote shortcut “\*# F2”. The shortcut allows you to change the button each camera will respond to up to 4 using \*# and the function key number you would like to utilize.



**Step 9** - Once your camera is powered on, and you have setup your IR remote control let's plug the camera into your SDI cable to check for video by using the included Magewell SDI to USB capture device. The SDI cable will connect to the capture device using the included SDI to mini SDI adapter. The capture device will connect to your computer using the included USB 3.0 male to male cable. Once the capture card is connected to your computer you can open up your camera inside OBS, or another video

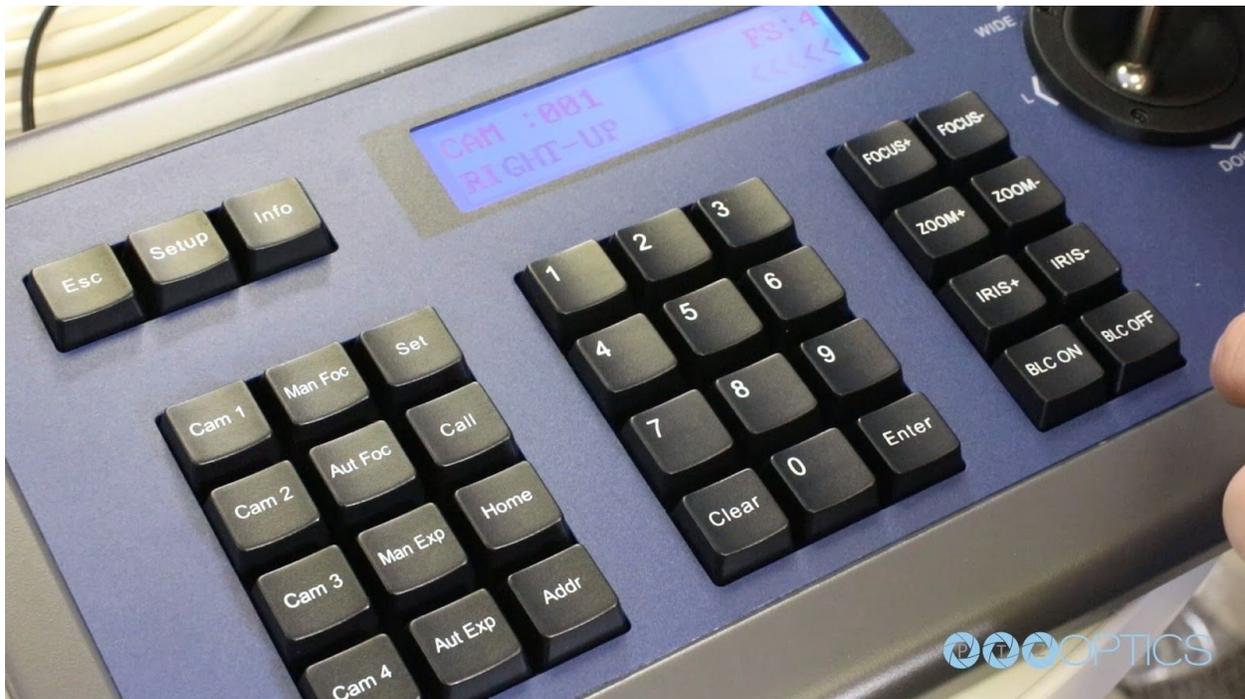
production software, by adding it as an input. The cameras SDI / HDMI output resolution will be set by the yellow dial switch on the back of the camera. Using this dial you can output up to 1080p@60 fps. You can reference the available frame rates and resolution on the bottom of your camera.



**NOTE:** Do not plug the Magewell capture device(s) into the included USB 3.0 hub. The USB 3.0 hub is only included for used with non-video devices such as keyboards, mice, etc....

**Step 10** - Now it's time to setup our joystick controller with the included serial control cables. First let's connect the HuddleCamHD Joystick Controller to power using the included power supply and available outlet. Next let's connect the included DB9, joystick side, to 8-pin mini din, camera side, cable into your joystick controller. Now connect the 8-pin mini din side of this cable into your PTZOptics camera RS232 In Port. To connect additional cameras to this setup you will need to use the RS232 Out Port of your first camera and connect a cascade control cable to the RS232 In Port of your next camera.

In this way, you can daisy chain your joysticks control.



**Step 11** - Now let's verify that your first camera is set up properly. Bring up the OSD of the first camera and go to "setup" you can view the OSD menu on your video feed coming in to your computer via SDI. Make sure that the protocol is set to "VISCA", the Net Mode is "Serial", the V-AddrFix is "On", and the Baud Rate is "9600". Make sure the V\_Address is set to "1". You will need to repeat this process for each camera in your chain of control, setting each visca address to be unique.

**TIP:** You can use the joystick controller to bring up the OSD menu by calling preset 95 on the joystick controller. You can then use the joystick to navigate the menu and use the iris plus and minus buttons to enter inside new menus.



**Step 12** - Now that we have control of our cameras with our joystick controller it is time to set some PTZ presets. To do so, we can drive the camera(s) to specific positions of interest and once we have the camera at a PTZ preset location that we will want to recall in the future simply click the set button and the number you would like to save this position as and press enter. We can repeat this process with over 200 presets until we have saved every location that we desire.

**TIP:** Consider keeping a sheet of paper with a legend to record the locations that each camera preset corresponds to.

**Step 13** - Now that our cameras are fully operational, it's time to bring in our audio. Use the included Shure MVi to plug in a microphone or audio source from an existing sound board. You can connect any XLR or 1/4" audio input to the Shure MVi with the MVi connected to an available USB port on your Intel NUC computer. Once your Shure MVi is fully connected you can pull this audio source into your video production much like we did with our camera inputs as a new source.



**Step 14** - Now that audio and video inputs are all setup it's time to make a test video recording and a live stream. The Intel NUC Skull canyon includes a 256GB Solid State drive which can store hours of high quality recordings. Once you have selected a recording format and location in your software go ahead and hit the record to create a test video.

**TIP:** Using OBS or another video production software, you may want to setup a dedicated folder for your saved recordings.

**Step 15** - Now let's test a live stream. You can login into your Facebook or YouTube account to setup a test live stream. Copy and paste the Stream URL and Stream Key into OBS or your preferred live streaming software and click save. Finally you can hit the stream button, you now should see your video and audio stream appear inside Facebook or YouTube within a few seconds.

**Step 16** - You have now successfully setup your PTZOptics Producer Kit. Remember that if you have any questions during the setup of your Producer Kit that you can always call the PTZOptics Support Team at the phone number listed on the PTZOptics website. You can also submit a support ticket at [help.PTZOptics.com](http://help.PTZOptics.com) at anytime. Happy streaming!