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SOLUTIONS

Application Note

Phantom™ Camera Notes

VIC-3D 11

2026

Phantom Camera Notes

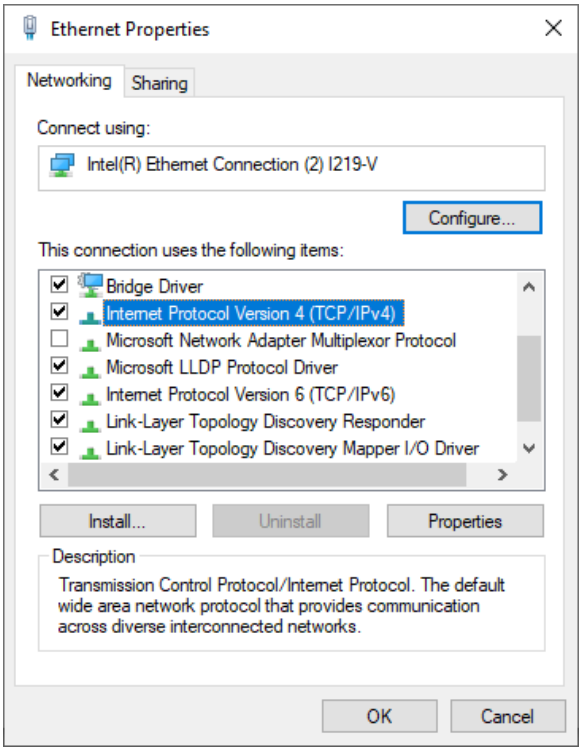
Introduction

The newest generation of Phantom high-speed cameras are supported directly through VIC-Snap.

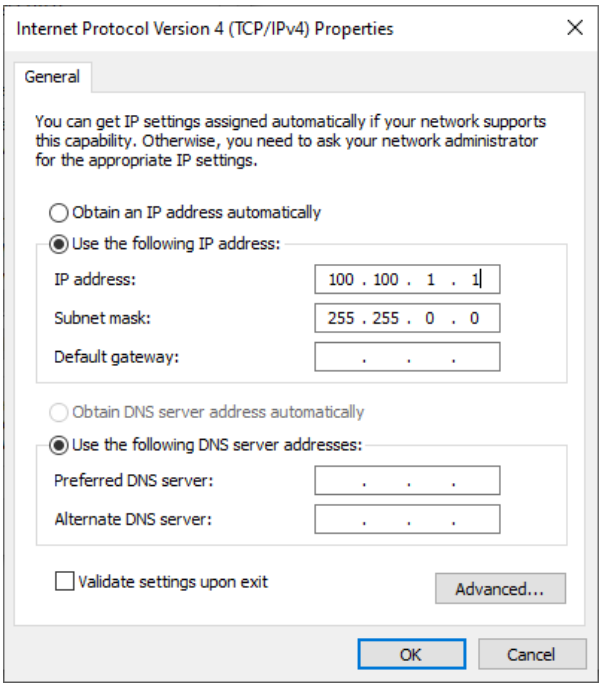
PC Setup

To use these cameras, a gigabit (1000mbps) Ethernet adapter will provide the fastest image transfer and control. This may be either onboard the PC or installed as a PCI Express desktop expansion or ExpressCard laptop expansion.

The IP address of the host connection should be set to 100.100.1.1. This can be accessed by using *Control Panel… Network Connections* or searching on *View network connections*; right-clicking on the relevant connection; and clicking *Properties*.



Select *Internet Protocol (TCP/IP)* (IP V4, in Windows 10), and click *Properties*.



Click on “Use the following IP address” and set the IP address and subnet mask, and click *OK* to complete.

Camera Setup

For multiple cameras, use an Ethernet hub to connect the cameras to the PC.

Synchronizing Cameras

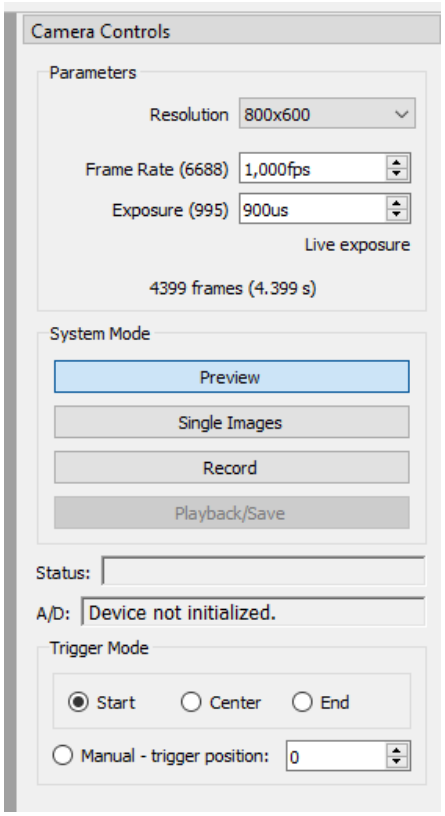
Two hardware connections must be made in total.

- Connect the “F-sync” (3 I/O) or “Sync imaging” connector from one camera to the other.
- Connect the selected trigger source to the “Trigger In” of *all* cameras.

Starting VIC-Snap

When the Phantom camera module is installed and VIC-Snap is keyed for high-speed, select Phantom when starting VIC-Snap. The high-speed controls will appear at the right side of the screen.

The Resolution, Exposure time, and Frame Rate can be selected using the controls. The total number of frames and total recording time are displayed beneath.



Acquiring Calibration Images

To acquire calibration images, click the **Single Images** button. Then, each time the switch is pressed, a single image pair will be saved to disk. This is the most convenient way to acquire calibration images.

Acquiring Test Images

To acquire test images, confirm that the cameras are synchronized. Then, use the relevant trigger mode (Start, Center, End, or Manual).

- In **Start** trigger mode, clicking the trigger will record all frames after the trigger until memory is full.
- In **Center** trigger mode, the camera begins buffering as soon as you enter record mode. Then, clicking the trigger will record an equal number of frames before and after the trigger. In the example above, 2199 frames will be recorded before the trigger, and 2199 after.
- In **End** trigger mode, the camera begins buffering when record mode is entered. When the trigger is clicked, all the buffered frames up to the trigger are recorded.
- In **Manual** mode, the spin box controls the number of frames recorded after the trigger is received.

Once you have selected the trigger mode, click the **Record** button to start recording or buffering.

Saving Images

When acquisition is complete, VIC-Snap will switch to the **Playback** mode. You may play through the video using the controls. Use the __/ button to mark the start frame and the __ button to mark the end frame. Click **Write to Disk** to save the selected frames.

Other Considerations

- By default, the shutter speed will be set to the inverse of the frame rate – i.e., for a frame rate of 1000fps, the shutter speed will be set to 1/1000=1ms. Where significant motion happens from one frame to the next, this shutter speed setting will result in motion blur. For a typical test, the shutter speed will be a small fraction of the frame rate.
- For critical tests that use strobe lighting, it may be helpful to perform a 'dry run' to check lighting levels through the duration of the test. The selected lighting should result in neither overdrive at the peaks nor overly dim images away from the peak.
- Sometimes, a test must be run at reduced resolution (i.e., 256x64) to achieve the necessary frame rate. In this case, it is not necessary to calibrate at the reduced resolution. Acquire images at the full resolution, and calibrate in VIC-3D. Then, add the reduced-resolution speckle images. Click *Calibration… Adjust for cropping* in VIC-3D, and accept the default values. This adjustment must be performed only once.

Troubleshooting

- **No cameras appear in the software:** check that the cameras are connected, that the cameras and hub are powered, and that the firewall is disabled. Confirm that the IP of the computer is set correctly.
- **Only one camera (of two) appears:** check that the two cameras are set with unique IP addresses.
- **Torn images, no images, image corruption:** confirm that the cameras are synchronized - all cameras except one should show both "Sync Mode" and "Sync In". The master camera should show neither.

Support

If you have any questions about this document or any other questions, comments, or concerns about our software, please contact us at support@correlatedsolutions.com, or visit our website at support.correlatedsolutions.com.