## Quick-Start Guide – EtherLynx Vision Camera

To aid in product identification, representative images are shown below. If you have questions setting up your system after following this quick start guide, call: 1-800-989-LYNX. For additional tech support documents and downloads, visit [www.finishlynx.com/support/](http://www.finishlynx.com/support/)

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Part #</th>
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<tr>
<td></td>
<td>EtherLynx Vision high sensitivity camera</td>
<td>5L500</td>
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|      | Power Injector for Power Over Ethernet | IDL-PoE
|      | CS-Mount 6mm f1.2 fixed lens      | CS-612 |

### Optional Items shown below

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<tr>
<th>Item</th>
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<tr>
<td></td>
<td>C-Mount 8-48mm f1.2 Manual Zoom Lens</td>
<td>C848</td>
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<td></td>
<td>C-Mount 8-48mm f1.2 Motorized Zoom Lens</td>
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<td>CS-Mount to C Mount Adapter</td>
<td>MCS-C</td>
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<td></td>
<td>Geared head</td>
<td>BG3275</td>
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<td></td>
<td>Camera tripod</td>
<td>BG3036</td>
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<td></td>
<td>Connection box</td>
<td>C-Box</td>
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<td>8 port Power over Ethernet switch and power supply</td>
<td>HUB 8</td>
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<td></td>
<td>Super head clamp</td>
<td>BG2909</td>
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<td></td>
<td>Remote positioner</td>
<td>2L102</td>
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<td></td>
<td>Connection box cable</td>
<td>451</td>
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Step 1: Install the software
Install using the Lynx Resource USB or download the latest version of FinishLynx at: www.finishlynx.com/product/software/finishlynx-results-software/  
Open the USB drive and find the Serial Numbers. Then open the software folder to begin the installation of FinishLynx. Follow the prompts and enter the serial number when requested.
1) Start FinishLynx by clicking the Windows Start button and selecting All Programs | FinishLynx.

Step 2: Configure the network for Windows OS prior to Windows 7 (See Step 3: below for Windows 7, 8 and higher)
1. Click the Microsoft Windows Start button and select Control Panel, or click Start | Settings | Control Panel.
2. Double-click Network Connections.
3. Right-click the Local Area Connection associated with the network interface card (NIC) in use and select Properties. The Local Area Connection Properties dialog appears.
4. Make sure you see a line that reads, Internet Protocol (TCP/IP). You may have to scroll down to see it.
   a. Click Install and select Protocol.
   b. Click Add....
   c. Click to select the Microsoft TCP/IP option and then click OK.
5. Check the box next to Internet Protocol (TCP/IP).
6. Click to select Internet Protocol (TCP/IP) and then click Properties. The Internet Protocol (TCP/IP) Properties dialog appears.
7. Click the Use the following IP Address: button and then type the following numbers:
   - IP address: 192.168.0.5
   - Subnet mask: 255.255.255.0. Click OK and then click OK again.
8. If you are running Windows XP, follow these steps to disable the firewall. Otherwise continue to Step 4:
   a. Open the Windows Network & Sharing Center.
   b. Right-click the Local Area Connection associated with your system, and select Properties. The Local Area Connection dialog appears.
   c. Click the Advanced tab.
   d. Make sure the box under Internet Connection Firewall is unchecked.
   e. Click OK and then exit the Network Connections screen. Restart your computer.

Step 3: Configure the network for Windows 7, 8 & 10 (if applicable)
1. Go to the windows Control Panel. On the top right is View By with a drop down arrow. Click the drop down arrow and choose Small or Large Icons.
2. Find and double click on Network and Sharing Center. They are listed alphabetically by icon name.
3. This will open the Network and Sharing Center. On the left is a blue section titled Control Panel Home.
4. Click on the Change Adapter Settings icon.
5. A new window will open displaying your network connections. Right click on the Wireless Network Connection and select Disable from the list of items. This is only necessary for the FinishLynx Capture computer.
6. Right click on the Local Area Connection and select Properties from the list of items. A new window will appear with a list of connection items. Click to select Internet Protocol Version 4 (TCP/IPv4) and click the Properties button.
7. A Properties window will appear and is typically set to Obtain an IP address automatically. Click to select the radio button for Use the following IP address. In the box for IP address, enter 192.168.0.5 for FinishLynx and hit Tab key to auto fill in Subnet mask 255.255.255.0
8. Click OK and navigate back to the Control Panel. In the control panel click on the Windows Firewall icon. Under Control Panel Home, on the left, click on Turn Windows Firewall on or off.
9. Turn off both Home and Public Firewalls (Domain for Windows Pro).

Step 4: Set up the camera and tripod
Setup the tripod in line with the finish line, preferably on the infield and approximately 10 feet back. Note: Minimum recommended camera distance from track is 8 feet (at this distance you may not be able to see the feet of the athlete in Lane 1 – being able to see the feet is not a requirement for accurate timing on the Torso of the athlete). If you need to be closer than this you may have to use the optional 6mm lens.
1. Extend the tripod legs so the geared head is approximately 7 ft high.
2. On the near side of the finish line, hold a plumb bob so that it is suspended directly above the middle of the finish line. This is the plumb line, shown as a in the image below.
3. Tie string to the screw on the top of the tripod head. Have your assistant take the other end of the string to the far side of the finish line and hold the string taught. This is the sight line, shown as b in the image below.
4. Move the tripod to the left or right until the plumb line and sight line touch at position C in the image below. The tripod is now in the plane of the finish line.
Step 5: Attach the camera to the tripod

1. If using the optional remote positioner, secure it to the camera bottom by turning the black handled thumbscrew. Make sure the FinishLynx label faces in the same direction as the camera lens will face.

Note: Cables omitted for clarity and actual lens may vary from model shown

2. Connect the cable that comes with the remote positioner to the port on the remote positioner.
3. Connect the cable on the remote lens to the remaining serial port on the remote positioner.
4. Secure the geared head to the top of the tripod.
5. Note how the mounting plate is attached to the top of the geared head. Then, pull back on the lever at the top of the geared head to release the mounting plate.
6. Tighten the mounting plate to the bottom of the remote positioner by turning the screw with a flathead screwdriver. Make sure the Lens marking on the bottom of the plate is facing the front of the remote positioner (where the Lynx label is affixed).
7. Attach the camera with the remote positioner and mounting plate to the tripod by clicking the mounting plate into place on the geared head.
8. With the camera lens lined up with and facing the finish line, make minor adjustments to the tripod legs so both bubbles on the tripod are centered.
9. Turn on the camera by pressing and holding the black power button on the back.

Step 6: Connect the cables

Note: Alternate configurations shown below.

Step 7: Align the EtherLynx camera

Note: The EtherLynx Vision camera can be aligned using either 1-D mode or 2-D EasyAlign mode. We recommend using EasyAlign. If you are using an older model EtherLynx camera, however, it must be aligned using classic 1-D mode.

NOTE If running a wireless Ethernet card on your computer, we recommend that you disable it while the camera is booting.

Start FinishLynx. Wait while the green status bar in the lower right corner of the screen completes its cycle.

Align Vision Camera in EasyAlign 2-D Video Mode

1. Activate EasyAlign by clicking on the 2D align Icon in the top left hand corner of the FinishLynx Hardware Control.
screen. The icon turns green and the 2-D video viewer appears within the software. The 2-D viewer makes it easy to see how your camera is aligned on the finish. The goal is to align the green vertical line with the painted finish line and near its front edge.

2. **Adjust Remote Lens/Positioner Controls** - Adjust the remote lens/position controls on the right of the FinishLynx hardware control screen.

**Center Remote Camera Positioner**

Click ![center](image) to center the camera automatically using the remote positioner.

**Remote Camera Tilt, Pan & Swivel**

Use the remote Tilt, Pan, and Swivel buttons to adjust the orientation of the camera on the finish. You want to ensure that the green vertical line is perfectly aligned on the white finish line and that all lanes are visible in the viewer.

Have your assistant run through the finish line and watch where he/she appears on the computer monitor. The goal is for the runner’s torso to be fully visible in both the inside and outside lanes. Once the camera’s position is correct, you can then optimize the remote lens settings.

**Remote Iris (adjusts amount of light in lens)**

Open or Close the remote iris to bring the ACM value as close to 1 as you can by clicking and holding the remote iris buttons.

**Remote Focus (adjusts near/far image focus)**

Click and hold the ![tilt](image), ![pan](image), and ![swivel](image) buttons on the keypad on the right of the FinishLynx screen until the image becomes crisp. Start by focusing on the far lane and adjust until all lanes are in focus. Ensure that athletes in all lanes (near and far) are in focus.

Note: If you are having a hard time getting crisp focus, try opening the remote iris to bring the ACM value as close to 1 as possible.

3. **Adjust FinishLynx camera settings**

   1. Click ![camera settings](image) to open the Camera Settings dialog.
   2. Click to select the **Setup** tab:
      a. **Name**: enter a name to identify the camera(s)
      b. **Image Orientation**: select the correct orientation for finish (infield would be Left orientation)
      c. **Identify By**: select Lane for track competition
      d. **Lanes**: enter the number of lanes on the track; the remaining should be left as default.
   3. Click to select the **Parameters** tab:
      a. **Rate**: type a value in the field between 800-1000 for sprints (400m and under) or type 600-800 for distance events. Change this value when moving between sprints and distance races, or else the competitors in your FinishLynx image appear distorted. Note: Image distortion does not affect timing accuracy.
      b. **Frame Height**: will vary by camera models, 640 is recommended for most track competitions;
      c. **Gain Method**: set to AGC for outdoor light and set up. Set **Brightness** to 70. Use Manual when needed.
   4. Click to select the **Inputs** tab:
      a. **Start Sensor**: is defaulted to Closed for the wired gun start. If using the Radiolynx then set **Start Sensor to None** to turn off the wired start (they are independent of each other).
   5. Click to select the **Capture** tab:
      a. **Capture Method**: select Manual if using the Capture Button or Automatic if using ACM plug-in (both methods can be active at the same time by selecting both).
   6. Click ![ok](image) to close the Camera Settings and it is advised to restart the FinishLynx software.
   7. **Set White Balance**
      a. Open a new event in FinishLynx by clicking ![new event](image) in the top left corner of the screen.
      b. Capture a small amount of image containing a white object, such as a person wearing a white t-shirt.
      c. Right-click and draw a box around a small amount of the white image. You may need to zoom in to the image to do this.
      d. Click ![image](image) from the Menu bar and select **Set white balance**.