FINISHLYNX SCHOLASTIC PACKAGE QUICK START GUIDE
FOR ETHERLYNX VISION CAMERAS

Scholastic - Track

* Computers and starting pistol not included in package

Updated May 2018
# FinishLynx Scholastic System

Verify that your FinishLynx Scholastic System contains the components pictured here. If something is missing, or if you have questions setting up your system after following the instructions in this quick start guide, call: 1-800-989-LYNX.

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Be sure to keep your USB flash drive safe. It includes your Serial Numbers, Software, & Quick-Start Guides. To access the files, insert the flash drive in your computer and navigate to the folders.

**Items not included**

- Computer (laptop recommended) running Microsoft Windows. Your computer needs: one available USB port or a serial port (a 9-pin connection found on the back), and one available Ethernet port.
- Plumb bob and string. The plumb bob is available at your local hardware store, and you can use virtually any type of string or twine, as long as it is at least the width of your track (optional).
- Printer (optional).

**Introduction**

In this quick start guide, you will learn how to set up and configure the FinishLynx LITE network, set up the EtherLynx Scholastic camera and align it with the finish line, capture, evaluate, and print a FinishLynx LITE image and results, and import a start list created in LynxPad.

For more detailed or advanced instructions, consult the online FinishLynx Operator’s Manual ([help.finishlynx.com](http://help.finishlynx.com)) or the technical support section of our website: [www.finishlynx.com/support/](http://www.finishlynx.com/support/).
Step 1. Go to the track

Bring your FinishLynx system (and an assistant) to the track. Make sure there is power available for your computers and for the Power over Ethernet switch. The EtherLynx Vision camera and the IdentiLynx camera will receive their power via the Ethernet data cables.

Set up a table near the finish line, ideally on the infield if power is available. The finish line should have black lane markers painted or taped on the finish. If not, we suggest you use black matte tape to designate lane lines. This will help you align the camera and get clearer images.

Step 2. Install the Software

A. FinishLynx LITE (Scholastic Package)

Install FinishLynx LITE from the USB thumb drive provided with your system or download the latest version at: www.finishlynx.com/product/software/finishlynx-results-software/

When prompted, enter the serial number(s) provided on the flash drive. Please note that your FinishLynx LITE serial number will not work with the regular version of FinishLynx.

B. LynxPad

Install using the Lynx flash drive or download the latest version of LynxPad at: http://www.finishlynx.com/product/event-management/lynxpad/

Follow the instructions on your screen to install LynxPad. When prompted, enter the serial number found inside the Lynx flash drive.

Note: You should Right Click on the installer and select Run as Administrator to install LynxPad, if you do not, you will not be able to print from LynxPad.

C. USB/Serial adapter

1. Install using the Lynx flash drive by navigating to the USB-to-Serial Adapter folder.
2. Insert the USB adaptor into an available USB port on your computer. Allow Windows to run through its recognition process for the device and driver.

Step 3. Evaluate a sample image

1. Start FinishLynx LITE. Click File - Open....
2. Double-click Sprint.evn to open the sample event.

Note: This sample is a two-camera image. Your Scholastic System uses only 1 line-scan camera and produces single-camera images.

3. Click the mouse once on the torso of a competitor on the left side of the screen. A red hairline appears. You can click and hold the red crosshair and drag it up or down to the correct lane number on the left side of your screen.
4. Press the Enter key on your computer. The finisher’s time appears in the start list above the image.
5. Repeat these steps for all of the competitors on the screen. You have just successfully evaluated a race in FinishLynx.

6. Click File | Close window. If you want to reuse the image later for practice evaluation, click No when asked to save your changes. Close FinishLynx.

Step 4. Configure the network for Windows OS prior to Windows 7 (See Step 5 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 Step 6 below
   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 5. **Configure the network for Windows 7 & 8 (if applicable)**

*Note: Sections 1 and 2 should be completed on both FinishLynx and Meet Management computer.*

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 6. **Set up the EtherLynx Scholastic camera and tripod**

*Note: In addition to following the instructions in this quick start guide, we recommend you view the Camera Setup, Mounting, and Alignment videos available on the Lynx YouTube channel and website: www.finishlynx.com/support/setup-videos/*

1. Open the legs of the tripod in line with the finish line, preferably on the infield and approximately 8-10 feet back.
2. Extend the legs of the tripod so they are at full height - approximately 6 feet.
3. Attach the supplied 1/4” to 3/8” brass adaptor to the screwed stud on top of the tripod (Adaptor is taped to adjustment handle of tripod)

4. Secure the geared head to the stud on top of the tripod.
5. Note how the mounting plate is attached to the geared head. Then, pull back on the lever at the top of the geared head to release the mounting plate.
6. Using the hole closest to the camera lens on the bottom of the camera, tighten the mounting plate by screwing it into place. The arrow on the bottom of the mounting plate should point toward the lens. Use a flathead screwdriver or a coin to tighten the mounting plate.
7. Make minor adjustments to the tripod legs so both bubbles on the tripod are centered.

Step 7. **Align camera on finish line**

1. On the near side of the finish line, hold the 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.
2. 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.
3. Move the tripod to the left or right until the plumb line and sight line touch at position c in the image below. The camera is now in the finish line plane.

4. Attach the camera to the tripod by clicking the mounting plate in place on top of the geared head. The lens should point toward the finish line.
5. Turn the black knob on the geared head that controls the tilt of the camera so that it is at about a 30 degree angle to the ground.
**Step 8. Connect the cables**

1. Connect an Ethernet cable between the back of the camera labeled **POE 10/100/1000** to the port labelled **Out** on the Power over Ethernet injector.
2. Connect an Ethernet cable to the network connection on your computer and the other end to a port labelled **In** on the Power over Ethernet injector.
3. Connect the male end of the start sensor cable to the DB15 to XLR Connection cable. Attach the start sensor to the other end of the cable and keep the start sensor close by.
4. Connect the capture button cable to the USB/Serial adapter and connect this to a USB port on your computer.
5. Turn on the camera by pressing and holding the black power button on the back.

**Step 9. 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 LITE.** 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 Camera Orientation**

   Use the tripod’s **Tilt**, **Pan**, and **Swivel** knobs to adjust the camera 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.

3. **Adjust & Optimize Lens Settings**

   - **Manually adjust lens aperture ring** to control the amount of light in the lens. If your picture looks too white or washed out, turn the aperture ring to a higher f-number, to let less light in.

   - **Manually adjust lens focus ring to infinity (∞).** This ensures your **Far Focus** (focus of lanes farthest from camera) appears crisp.
After your far lanes appear in focus, ensure that your near lanes are similarly in focus as well. This will usually be the case automatically. Note: If you are having a hard time getting crisp focus, try opening your lens iris and allowing the AGC to drop closer to zero.

4. Once the camera appears to be aligned, Click the green alignment icon to close 2D alignment and then click on the red 1-D alignment icon. You will know when your camera is aligned on the finish line because the 1-D image will be primarily white. See image below for proper 1-D alignment.

If you followed the steps closely in 2-D align, the camera should already be aligned in 1-D mode as well. The 1-D image should look similar to the following screen capture:

If your picture looks washed out by too much light, turn the aperture ring to a higher f-number, to let less light in.

5. 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. Now, have your assistant run through the inner-most and outer-most lanes. Adjust the tilt of the camera until he/she is clearly visible on both ends of the finish line.

Note: It may be necessary to move the camera further back from the track if you cannot see all lanes in the image.

6. After the image on the computer shows a white background and black lane lines and your assistant appears in the inner and outer-most lanes, adjust the camera lens focus ring again until all lanes appear crisp and in focus.

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**Step 10. Adjust FinishLynx camera settings**

1. Click Parameters | AGC.
2. Click the Setup tab and enter the number of lanes at your finish line in the Lanes field.
3. Check that Identify by... is set to Lanes.
4. Click Ok.
5. Select File | Options from the FinishLynx Lite menu bar.
6. Under the General tab select the correct USB/Serial Port from the Capture Button drop down listing.

**Step 11. Create a shared directory for FinishLynx and LynxPad**

1. Right-click on your computer desktop and select New | Folder. When the New Folder appears, change the name to Practice competition.
2. In FinishLynx, click File | Options... Click the Browse button on the Event Directory: and navigate to the Practice competition directory you just created. Then, click Ok.
3. Still in FinishLynx, click File | Options... and click the Database tab. Click the Browse... button next to the Output Directory: and navigate to the Practice competition directory. Then, click Ok.
4. Now, start LynxPad by clicking the Windows Start button and then All Programs | LynxPad.
5. Click File | Options... and uncheck the Load Existing Results on Program Start box. Then, click Ok.
6. Open the sample competition by clicking File | Open. Navigate to C:\LynxPadData\Sample and then double-click the lynx.cmp file. A practice competition opens on the screen.
7. Still in LynxPad, click File | Options... Click the Browse button next to the Directory: text field. Navigate to the Practice competition file you created earlier. Select it and click Ok. Click Apply and then click Ok again.
8. Still in LynxPad, click File | Save as... and navigate to the Practice competition folder. Then, click Ok. Now, FinishLynx can get start lists created in LynxPad, and LynxPad can import results generated by FinishLynx.

**Step 12. Use FinishLynx with LynxPad Data**

1. In FinishLynx, click to load the schedule of events from LynxPad. The Go To Event dialog appears.
2. Click the Load Schedule button once. Click the drop-down list under the Load Schedule button. A list of events appears. Click to select the “110 Meter Hurdles Men (9, 3, 1)” event in the list, and then click Ok. The first heat of the third round of the men’s 110m hurdles opens on the FinishLynx screen.
3. Either use a starting gun, or knock the sensor sharply against a hard object - this simulates the firing of the starting gun and starts the yellow FinishLynx timer.

4. Have your assistant run through the finish line while you press down and hold the red capture button to capture the image. Release the button as soon as he/she has run completely through the finish line.

5. Practice evaluating the image by following the same steps you followed earlier in Step 3

6. Click File | Save to save the race to the Practice competition directory.

7. Crop space between competitors in your FinishLynx image by right-clicking and drawing a box around the unwanted space. Release the mouse button and select Crop from the dialog that appears.

8. (Optional) Print the results and a portion of the FinishLynx image by right-clicking on the image and drawing a box around the portion you want to appear in your printout. For example, the first place finisher or a close finish between two competitors. Click Ok and then select the printer from the Print dialog to print the image and results.

9. Click File | Close window and then click Yes to save changes you made to the FinishLynx image when you cropped it.

10. In LynxPad, click to highlight Men 110 Meter Hurdles in the Events window. The start list appears in the Heats window.

1. Still in LynxPad, click Competition | Refresh All Results. The results from the race you just evaluated appear in LynxPad.

This completes the FinishLynx Scholastic System Quick Start Guide.