



FinishLynx **Cross Country** LapTime RFID System IPICO ELITE READER Quick Start Guide

Verify that your system contains the components pictured below.
If not, or if you need additional help, call: **USA 978 556 9780**



IPICO Elite Reader



Antenna Mat(s) (2.40m x 1.20m)



AC Power Supply/Charger



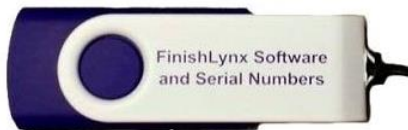
IPICO Shoe Tag(s)



Cross-over Cable



12v DC Battery Power Supply Connector



Lynx Resource USB Drive

Items Not Included

- Computer (laptop recommended) running Microsoft Windows, with an Ethernet port and a USB port.
- Network Hub/Switch
- Optional: IPICO Software (Dashboard/Tag Scanner) and Registration (USB) Reader

Introduction

In this quick start guide, you will learn how to set up and configure the FinishLynx LapTime plug-in, set up the IPICO RFID chip timing system, create a Map File, collect chip times.

For more detailed or advanced instructions, consult the [IPICO Sport Elite Reader User's Manual](#).



Step 1: Prep IPICO Equipment

- a. Always fully charge the battery when you first receive the unit. Time will depend on charger type used, but 16 hours is typical (Constant Voltage 13.8v type).
- b. Use a label maker to identify the Shoe Tags (chips) in a sequential manner.

See Map File for more information on Tag ID.

Note: Always recharge within 24 hours after use.

Step 2: IPICO Reader and Mat(s) Setup for Competition or Testing

Read [IPICO Sport Elite Reader User's Manual](#) for best practices on how to avoid radio interference and optimal configuration using multiple mats (color order of mats and overlap are important to success of the system).

- a. Position the antenna mat(s) at the finish location.
- b. Position the IPICO reader in a safe, protected location near the finish area.
- c. Plug the mat(s) into the appropriate port on the Reader.
- d. Connect the IPICO Reader to the power supply (12v DC battery can also provide power using the IPICO Battery power supply connectors).
- e. Connect the IPICO Reader to the network hub via an Ethernet (CAT5 or CAT6) cable.
- f. Do NOT turn on the reader until the computer is on and connected to the network.
- g. Power the IPICO Reader and allow a minimum of 2 minutes for the system to boot and synchronize.
- h. Tune the antennas by pressing the **Manual Tuning Switch**.

Step 3: Configure Windows for a LapTime Device

The FinishLynx computer and the IPICO Reader must be configured on the same network subnet (the first 3 numbers of the IP address must be the same) to allow communication. The IPICO Elite Reader IP address factory default is: 10.19.1.101.

To change the IP address of the IPICO Lite Reader

- a. Set the computer's IP address to the same subnet as the Reader:
 - i. From the Windows menu, navigate to the **Control Panel**.
 - ii. Double-click **Network and Sharing Center**.
 - iii. Click **Change Adapter Settings**.
 - iv. Right-click **Local Area Connection**, then **Properties**.
 - v. Select **Internet Protocol Version 4 (TCP/IPv4)** and then **Properties**.
 - vi. Click **Use the following IP Address:** and type:
 - IP address: 10.19.1.5
 - Subnet mask: 255.0.0.0.
 - Click **Ok**, then **Ok** again.
 - vii. From the Windows menu, navigate to the **Windows Firewall**.
 - viii. Click **Turn Windows Firewall on or off**. Turn off the firewall for each network type.
- b. Open a web browser and type the IPICO Reader's IP address in the address bar: **10.19.1.101**. Click **Ok** with blank username/password.
- c. Click **Network** in the left menu pane.
- d. Enter a new IP address and subnet mask for the IPICO Reader that is compatible with your FinishLynx network:
 - IP address: 192.168.0.151
 - Netmask: 255.255.255.0
- e. Click the **Ok** button. Then click **Apply Settings** in the left menu pane.
- f. Reset the computer's IP address back to the initial settings (ie. 192.168.0.5).

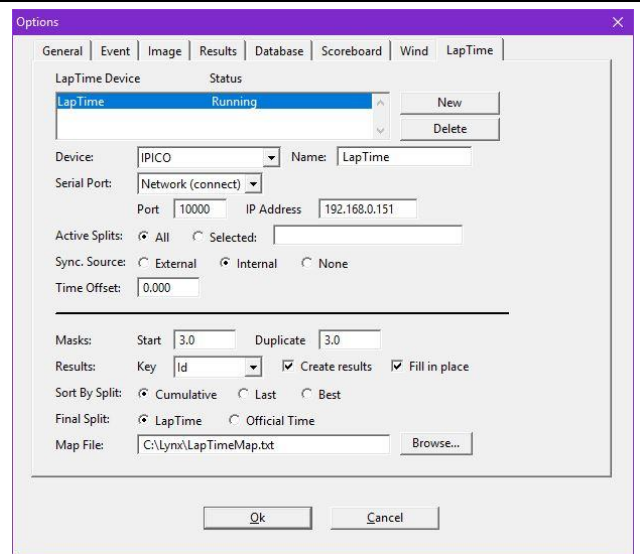
Step 4: Install the Software

- a. Insert the Lynx Resource USB into your computer.
- b. Follow the instructions to install FinishLynx software, LapTime (LT) plug-in, and Network COM Port (NCP) plug-in.
- c. When prompted, enter the serial number found in the serial numbers file on the USB drive.
- d. Open FinishLynx, click **Help | About** and verify a serial number is listed next to LapTime and Network COM Port (this verifies installation was successful).

Step 5: Set Up LapTime Options

- Open FinishLynx and click **File | Options**. Select the **LapTime** tab in the **Options** window.
- Click the **New** button to create a new LapTime Device with all settings as shown to the right.
- Click **Browse...** for Map File after one is created (see Step 7) and navigate to select the saved file.
- Select the **Results** tab. Scroll the *Fields* list and enable **Cumulative Split Time**, **Last Split Time** and **Laps**.
- Close, then restart FinishLynx. Go to the **LapTime Options** and verify Status is now **Running**.

Note: To use the IPICO System without a camera, go to **File | Options**. On the **General** tab set Hardware Type to **None** and then restart FinishLynx. This will allow a manual start to be accepted.



Step 6: Hidden Settings for LapTime Options

Optional: Follow these steps to allow the *Time* field in the *Results Zone* to be populated with the *Cumulative Split Time* at the finish of the race (when laps to go = 0) when using a camera, instead of evaluating each competitor from the image.

- Open FinishLynx. Hold down **CTRL + SHIFT** and click **File | Options**. A window for *Other Settings* will open.
- Click the **+** next to LapTime. A deeper menu appears. Select **FillInTime** and enter Value: **2** (Always)

Optional: For advanced users – Follow these steps to control which chip read is accepted by FinishLynx.

- Scroll down and click the **+** next to IPICO and select **Suffix**.
- In the text box, you have 3 options to use: **FS** (First Seen), **LS** (Last Seen) and **Blank** (Raw Data).

Blank (default): For the Reader on **Port 10000**. This will read the chip every time it is detected. The Start and Duplicate mask time in FinishLynx will affect how often the Raw Data chip reads are accepted. (*Recommended*)

FS: Can be used for the Reader at the finish line on **Port 10200** to read the First Seen chip read only.

- Set the port to **10200** under LapTime | Options.

LS: Typical for the Reader used at a Start Line on **Port 10200** to only accept the Last Seen chip read as the competitor has passed the mat for the last time.

- Set the port to **10200** and Start Mask to **0.0** when using IPICO and the LS hidden setting.

Step 7: Creating a Map File for FinishLynx

A Map File is used to associate a specific Chip ID sequence with an ID/Bib number in FinishLynx. All shoe tags (chips) should be labeled clearly in a sequential order before beginning to create a Map File.

Alternative Method: Use the optional IPICO Registration Reader and Tag Scanner application. See IPICO documentation for details.

- In FinishLynx, go to **File | Options** and select the **Database** tab. Note the *Output Directory*:. The *.lif file will be saved to this directory.
- If not using a camera:** Select **General** tab and set *Hardware Type* to **None**. Close and restart FinishLynx. (This allows a Manual start for the timer without having a camera attached).
- Create a **New Blank Event**, click **LapTime** in the *Information Zone* and set the Laps to 1.
- Click **Event | Manual Start...** Hit the **SPACEBAR**.
- Pass chip #1 over the mat and verify that the tag ID appears in the ID column, a time is assigned, and a number 1 appears in the Place column of the Results Zone.

- f. Continue passing shoe tags over the mat in sequential order and verify that **Place** matches the chip ID/Bib number.
- g. Once all chips have been read into FinishLynx, click **File | Save LIF**.
- h. Navigate to the **Output Directory**: where the .lif file is saved and open the .lif file in Notepad or Excel.
- i. There are two options to edit the .lif file and create the Map File for the shoe tag (chip) ID.
 - i. Manually edit the *.lif by deleting the obsolete information and characters in Notepad.
 - ii. Import the .lif file to Excel, delete the unnecessary columns, convert to a CSV file, and rename as a *.txt file for the ID mapping.

Manual edit of the .Lif File to Map File

- a. Manually edit the *.lif file until each line contains the Place value, a comma, and the chip internal ID. (12-digit code)

Example (no spaces before or after the comma):

- 1,05800151f932
- 2,05800151f60f

- b. Save the new file created as a *.txt file.

Create a Map File by Importing to Excel

- a. Open Excel and click **File | Open**. Select **All Files** in the *File Type* drop-down.
- b. Navigate to the directory where the *.lif file was saved. Double-click the *.lif file and the *Text Import Wizard* will open.
- c. Click the radio button for **Delimited** then **Next**.
- d. Click the box for **Comma** under *Delimiters*, then **Next**.
- e. Click on the chip ID column to highlight it.
- f. Click the radio button for **Text** under *Column Data Format* then **Finish**.
 - Newer version of Excel allow each column to be highlighted and a Skip option to select – if so, select all columns except Place (1) and Shoe Tag (chip) ID (2) and select the **Skip** option. Click **Finish**.
- g. An Excel file will open with each bit of unique data in a separate column.
 - i. Delete all columns except the Place (1) and Shoe tag (chip) ID (2).
 - ii. Delete Row 1 (LIF file information 0,0,...)
- h. Click **File | Save As**. Click the drop-down for *Save as type*: and choose **CSV (Comma delimited)**
- i. In *File Name*: type a unique name for the file then **Save**.
- j. In File Explorer, go to the directory where the CSV file was saved.
- k. Right-click on the CSV file and select **Open With** from the menu. Choose **Notepad** from the selections.
- l. Click **File | Save As**. In the *File Name*: delete the .csv extension.
 - i. Verify that *Save as type*: is Text Documents (*.txt).
 - ii. Encoding should read **ANSI**.
 - iii. Click **Save** and the Map File is complete.

After creating the Map File, be sure to direct the Map File directory to the file in the LapTime Option.

Step 8: Test Map File

- a. In FinishLynx, go to **LapTime | Options**. Click **Browse...** next to **Map File**.
- b. Select the **Map File** from the previous step then **Ok**.
- c. Create a **New Blank Event**, click **LapTime** in the *Information Zone* and set the *Laps* to **1** or higher.
- d. Click **Event | Manual Start...** and hit the **SPACEBAR**.
- e. Pass a shoe tag (chip) over the mat (antenna) and see if result data is captured and displayed. The ID column should display the ID/Bib number entered in the map file (not the internal Chip code).
- f. You are now ready for your first race!

Note: Pay attention to the time as the chip passes over the antenna (beeps when read) and the time displayed in the Cumulative Lap Time. If there is a significant delay and a time difference, shut down system and follow directions methodically and accurately – this means there was not a proper synchronization of the systems.

This completes the FinishLynx **CROSS COUNTRY** IPICO RFID LapTime System Quick Start Guide