

Timing Running Events

with

Finishlynx



Agenda

Finishlynx – What is it?

- **What Finishlynx Does**

- Electronic timing for track and cross country events.
- Accurate times to 4 decimal places (1/10,000 of a second)
- Provides Finish times, place info, and race results
- Supports multiple cameras, scoreboards, split times, and more

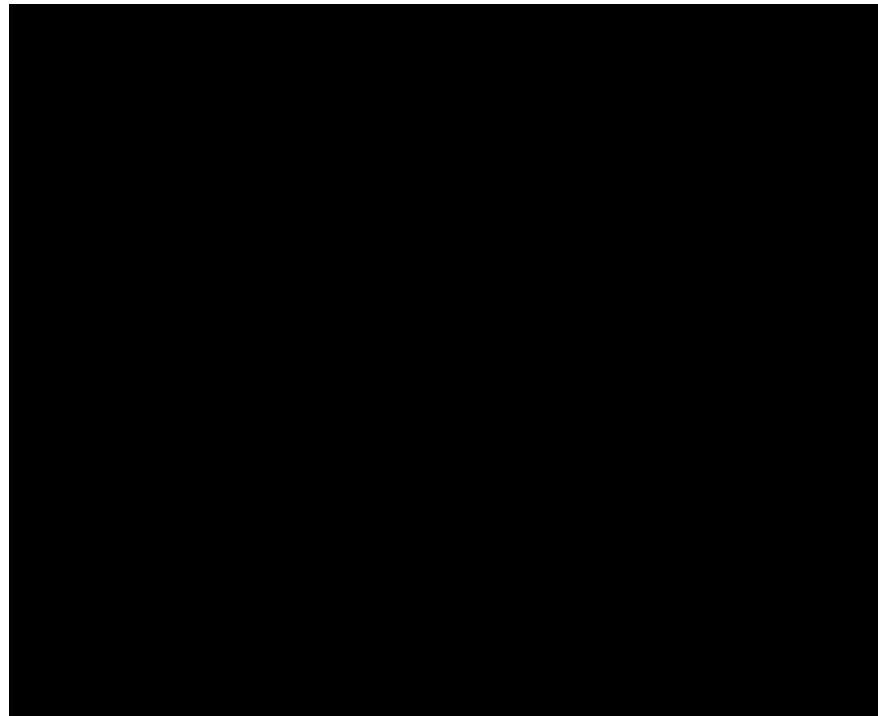
Finishlynx – What is it?

- **What Finishlynx Doesn't Do**
 - Not a full-featured race management system
 - Does not manage meet entries – no “clerk of the course” features
 - (athlete/school/events/etc)
 - Does not do any scoring

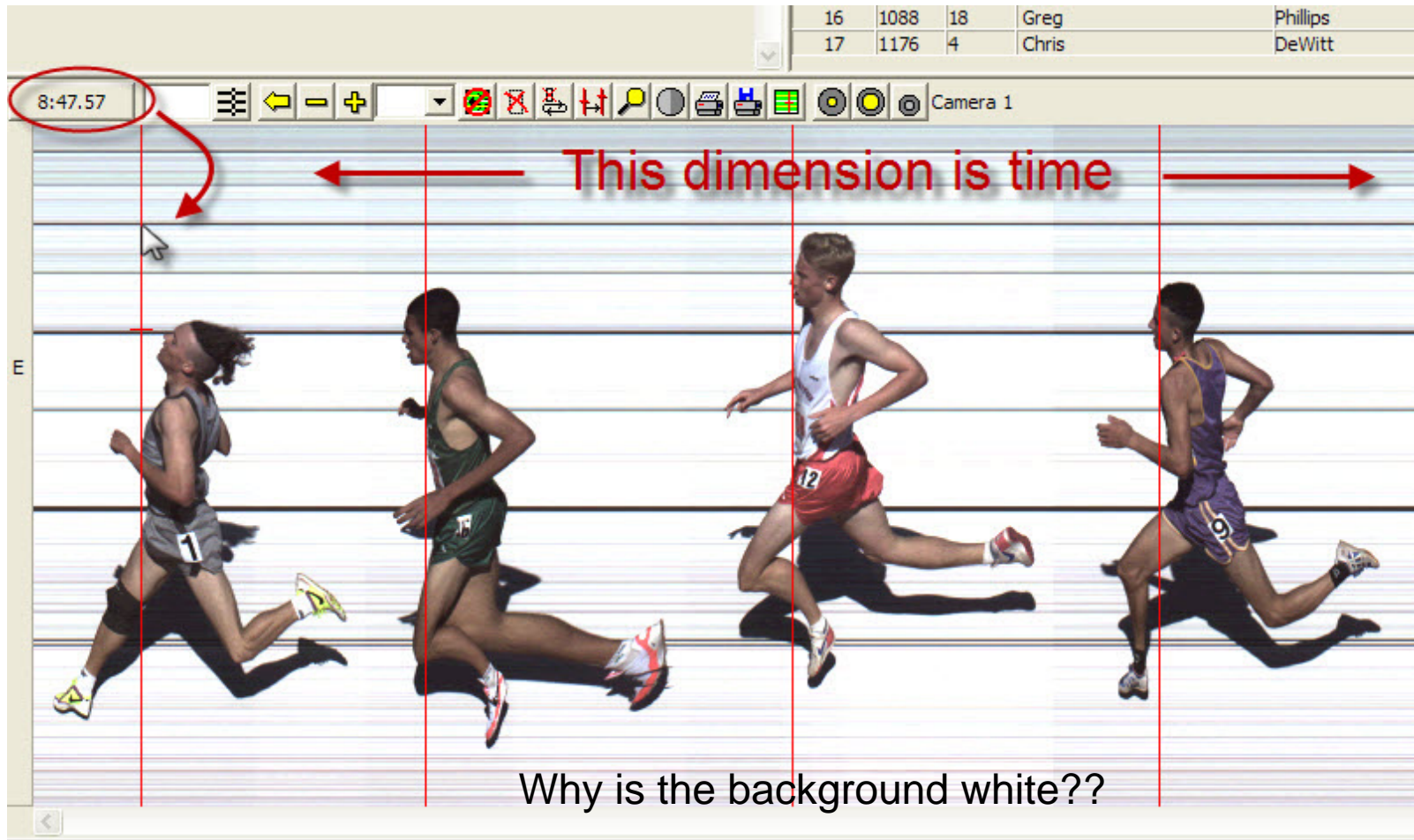
Finishlynx – How It Works

- Not your normal digital camera
- Takes very narrow “frames” (1/8th to 1/4th of an inch wide)
- Each frame is assigned a time by the camera
- Frames are “glued” together to form a composite image that you see on the screen.
- Can capture and evaluate at the same time

Finishlynx – How It Works



Finishlynx – The Picture

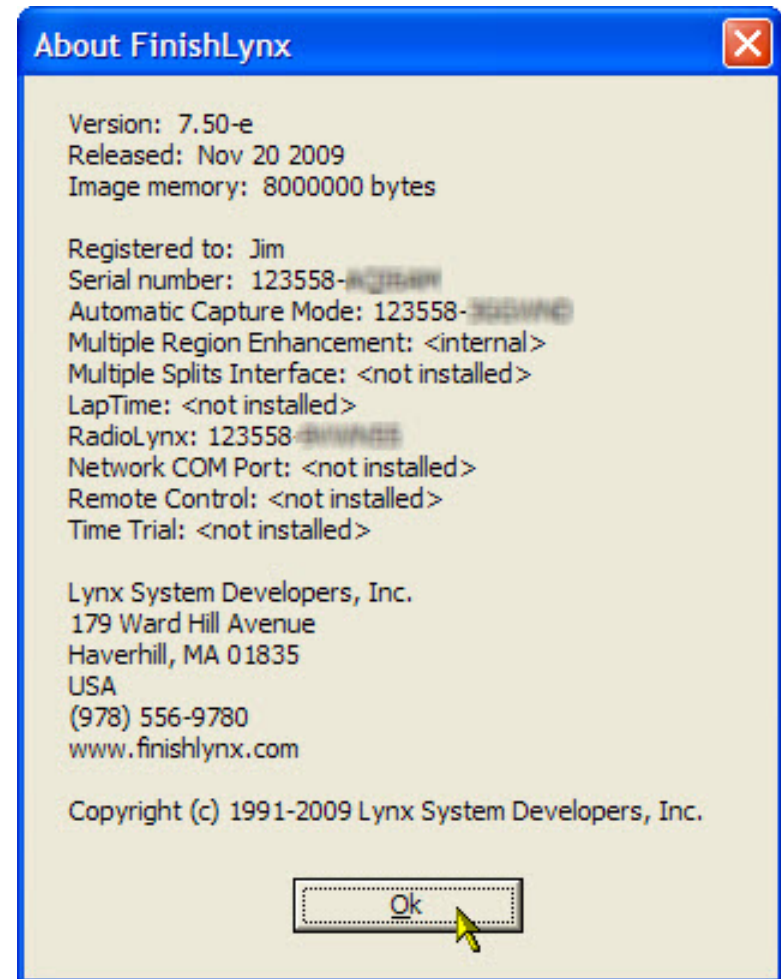


Finishlynx – Installing Software

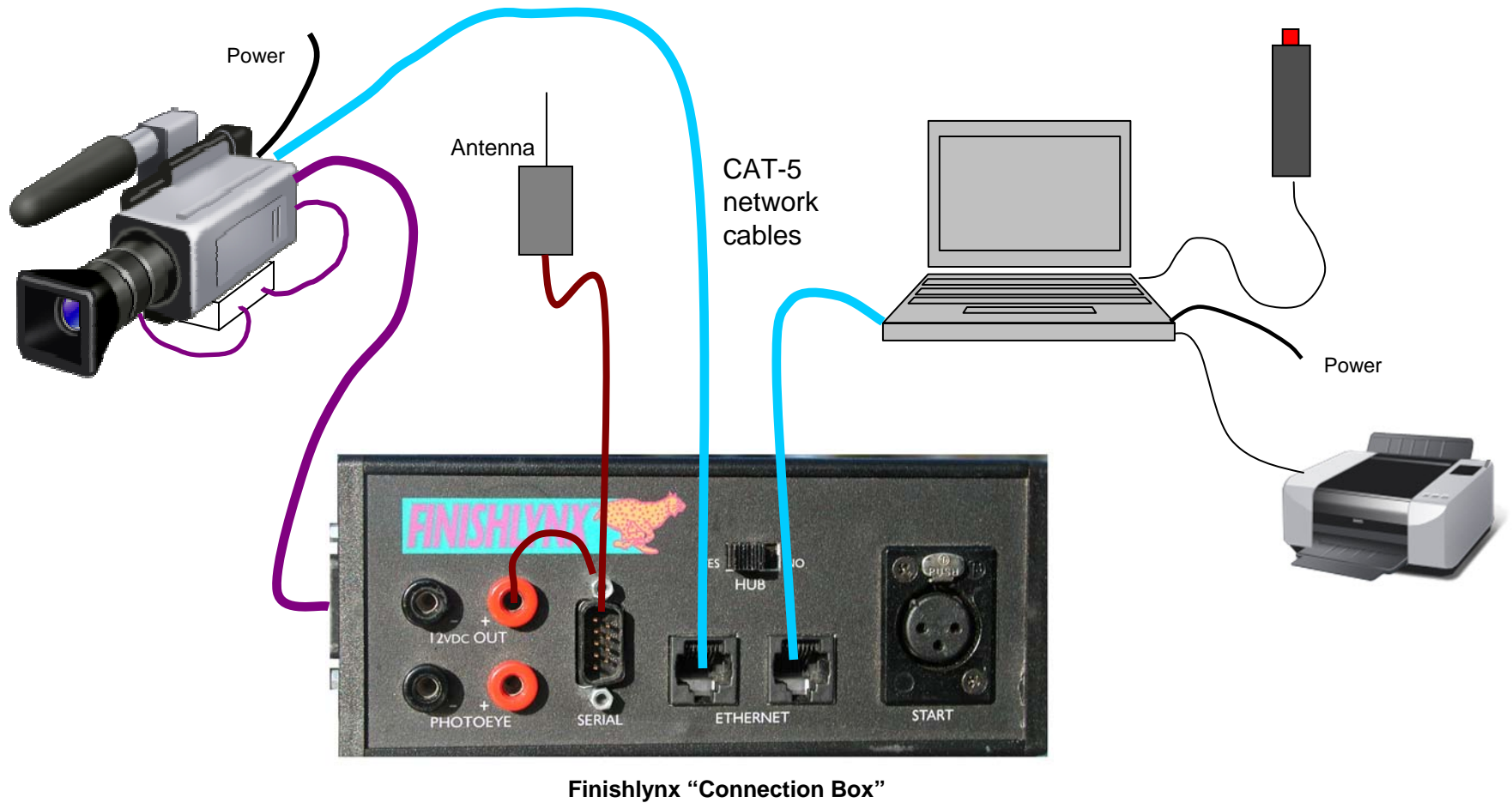
- Software available at www.finishlynx.com
- Don't forget the plug-ins
- No support contract – upgrades are free!
- All components use different activation keys (serial numbers)
- Step 1 each year – install new software
- But first...

Finishlynx – Installing Software

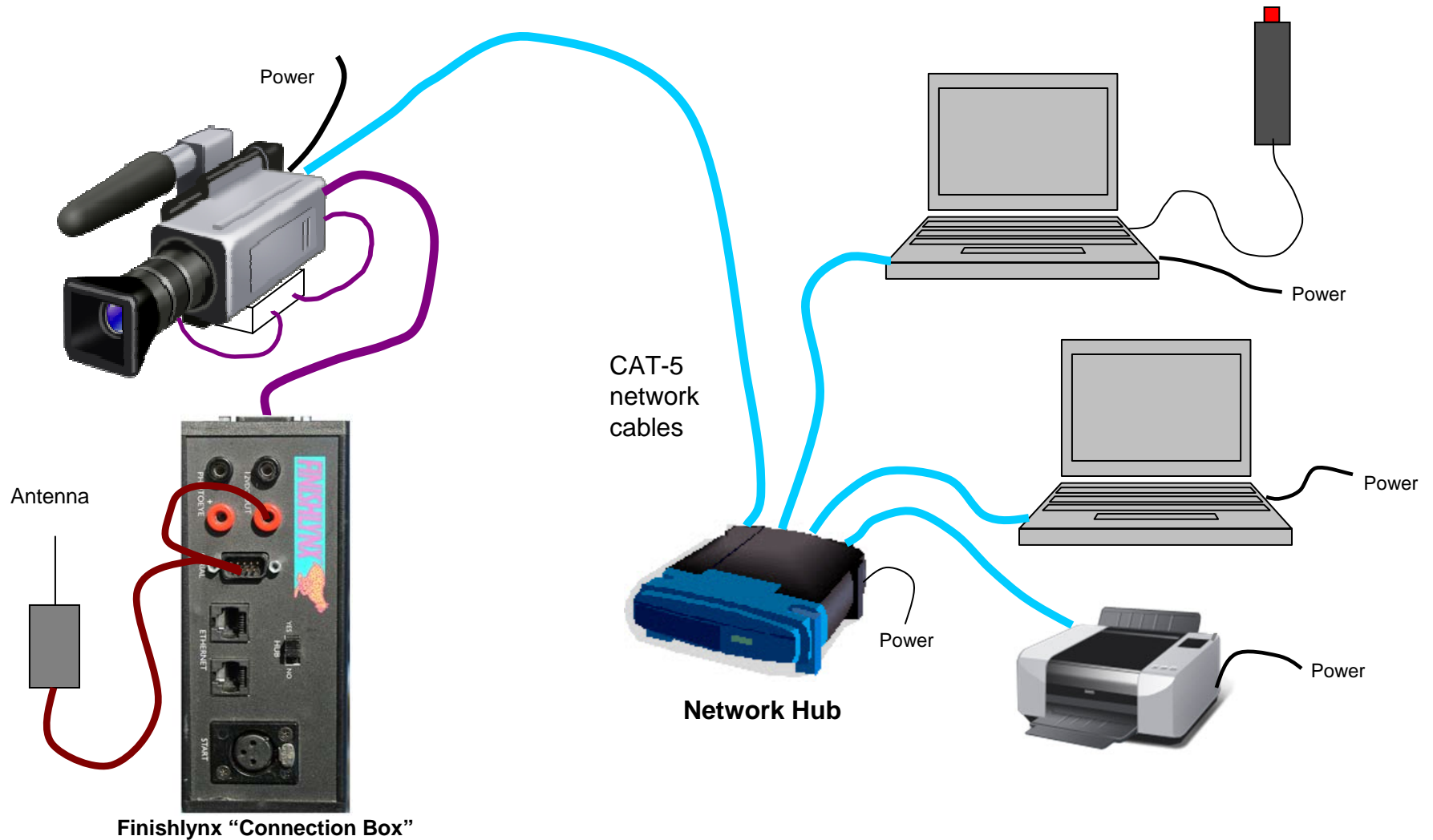
- Write down configuration info before upgrading
 - Updates reset all config parameters
 - Serial numbers are in the Help->About box
- Maybe install each version in a different location instead of default location.



Setup – One Computer



Setup – Two Computers

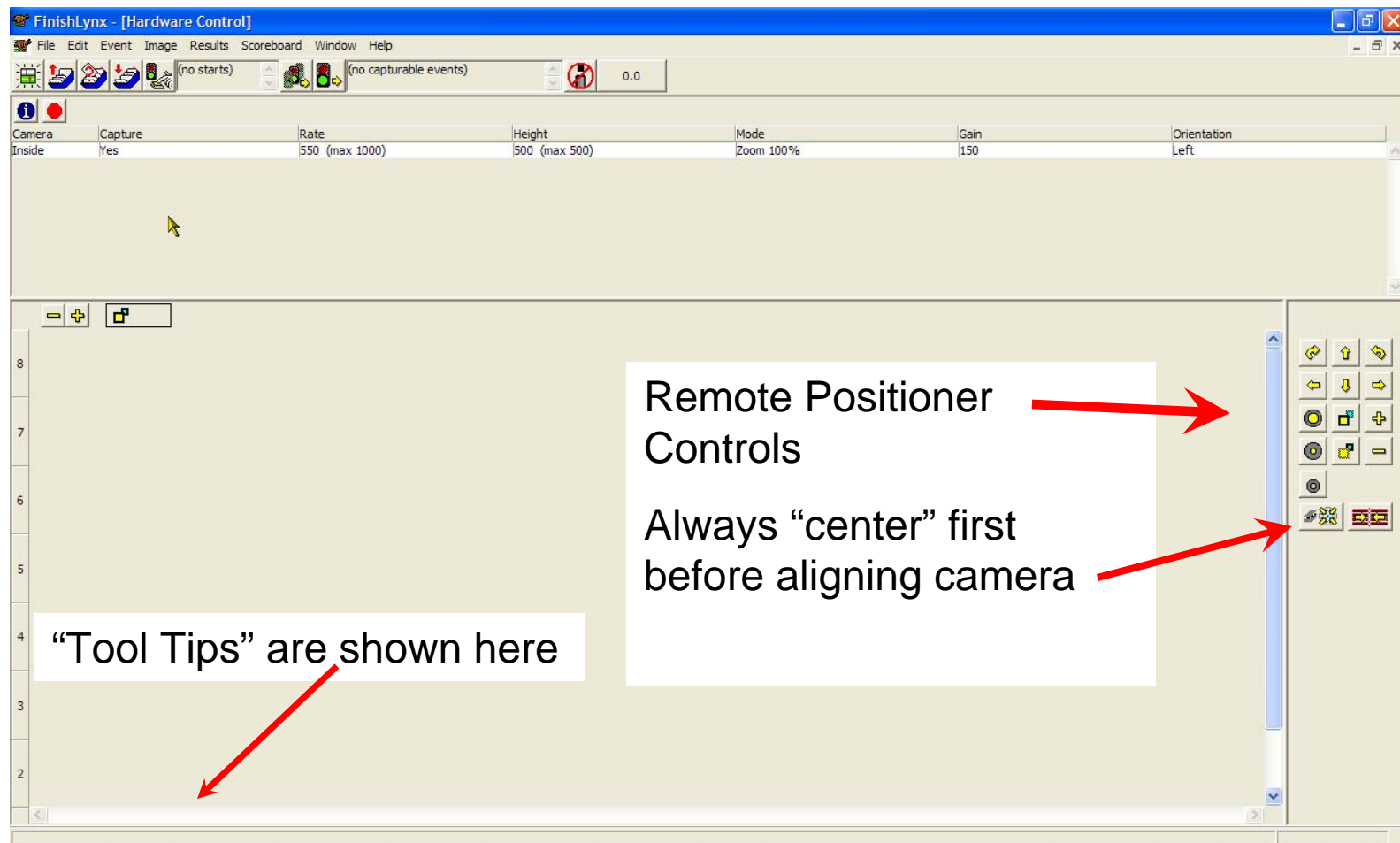


Feb 27, 2010

Finishlynx essentials

11

The Basic Finishlynx Screen



The Other Basic Screen

FinishLynx - [Boys3000]

File Edit Event Image Results Scoreboard Window Help

(no starts) (no capturable events) 0.0

Wind Reading Units Mode (start,duration)

Boys 3000 Meter

Start 1:33:58.22

Wind Manual (0.0,10.0)

Finish

Camera 1 800 500 Wide 33% 1 Left

Results

Place	Id	Lane	First Name	Last Name	Affiliation	License	Time	Delta Time
6	1163	2	Tony	Trueba	Huntington		8:56.24	1.28
7	1222	5	Daniel	Embaye	Logan		8:57.46	1.22
8	1116	19	Juan Pablo	Miramonte	Golden Val		8:57.67	0.21
9	1520	14	Daniel	Gohlke	Skyline		8:58.04	0.37
10	1350	3	Jim	Nelson	Napa		8:59.02	0.98
11	1223	6	Chad	Foster	Logan		9:01.80	2.78
12	1158	17	Dan				9:02.07	0.27
13	1213	8	Joe				9:02.16	0.09
14	1402	11	Daw				9:09.22	7.06
15	1187	15	Ada				9:17.08	7.86
16	1088	18	Greg				9:18.28	1.20
17	1176	4	Chris	DeWitt	Jesuit		9:23.10	4.82

9:26.06

Camera 1

“Event” pane

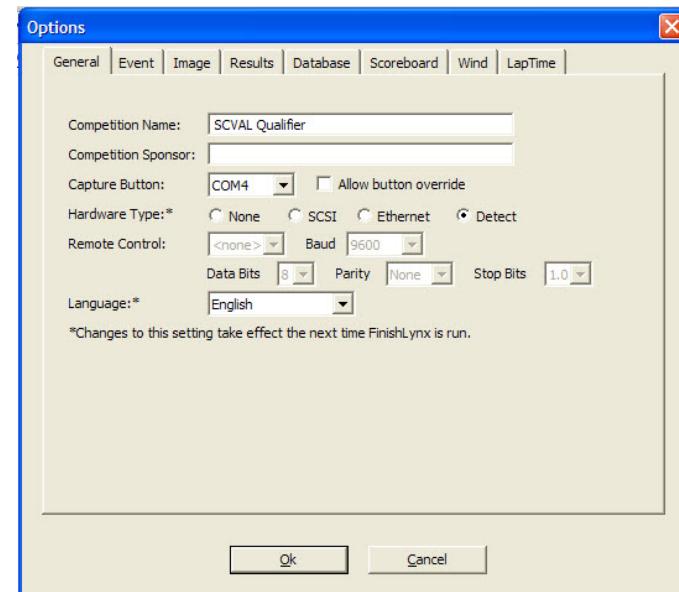
“Results” pane

“Image” pane

Pre-Race Software Setup

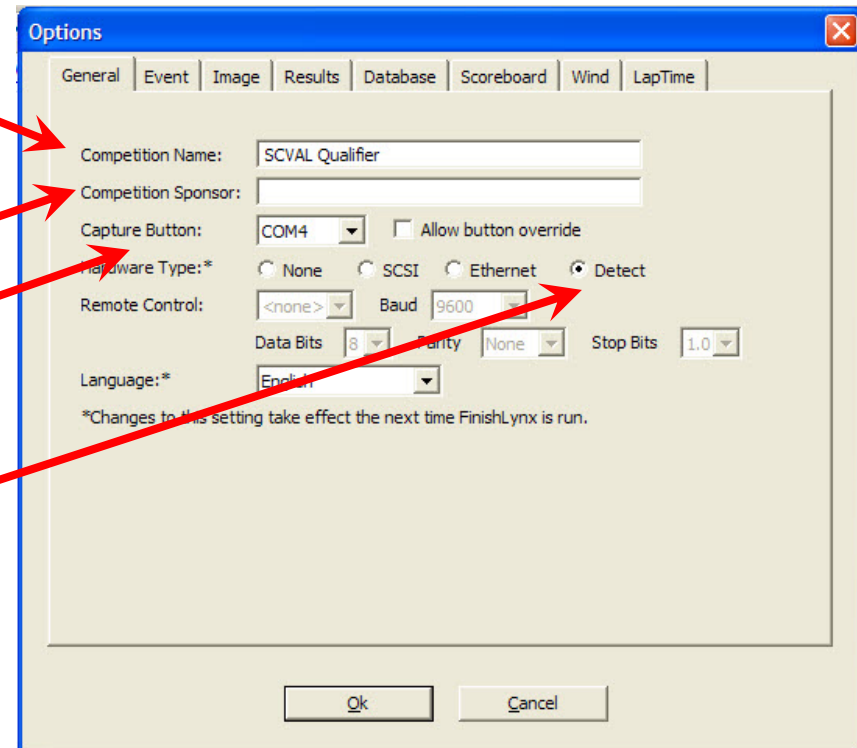
Things to do before any meet

- File->Options
 - Actually, anything->Options
 - 8 tabs, 5 important
- Camera Options
 - 6 tabs, 5 important



General Options

- Name of Event
 - Los Altos vs. Lynbrook
- Sponsor
 - Printed on all results
 - “Visit www.lynbrooksports.com”
- Port for Capture Button
 - Only lists valid ports
- Let it detect the camera type
 - If multiple computers, set this for capture system only – use none for others



Event Options

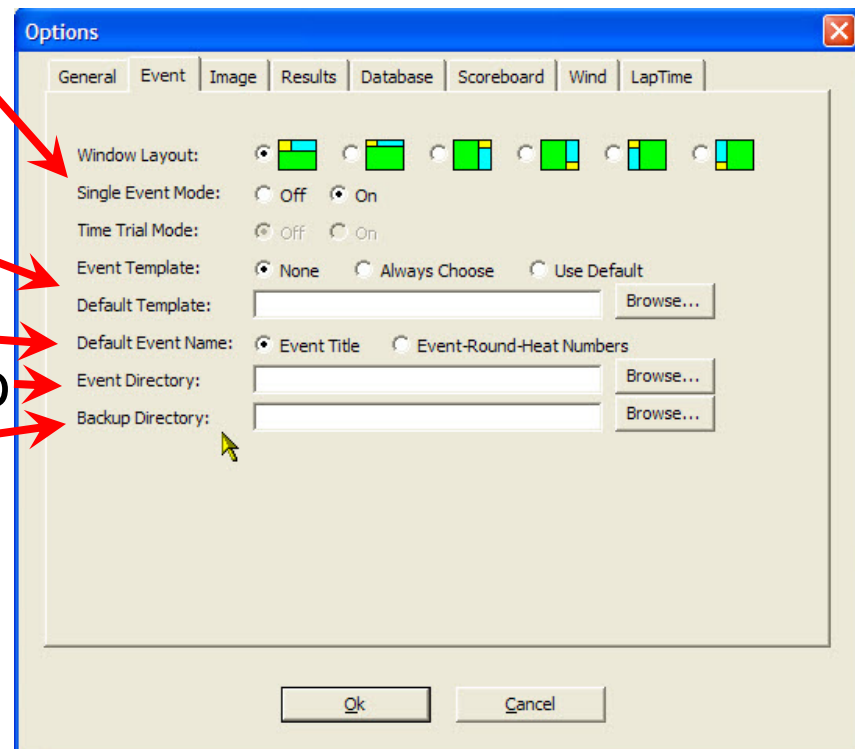
- Single Event mode to “On”
 - “off” if you’re really, really good

- Default Template
 - Suggest leaving blank

- File naming

- Where your saved files will go

- Backup directory
 - Can be different than event directory
 - Maybe a USB thumb drive
 - File->Backup



Database Options

- Use “Files”
- Use “ten thousandths”
 - Controls what’s in the LIF file
- Where to look for .evt file and .ppl file
 - Use same directory as event directory
- Where the LIF files are written
- “Off” for capture, “On” for evaluate system

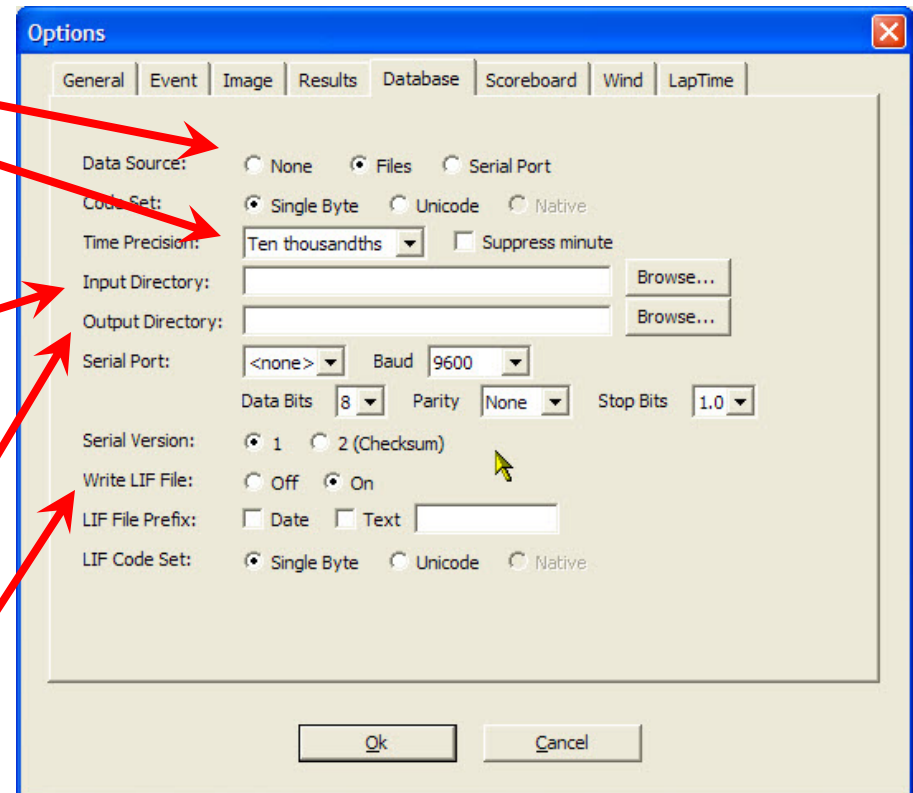
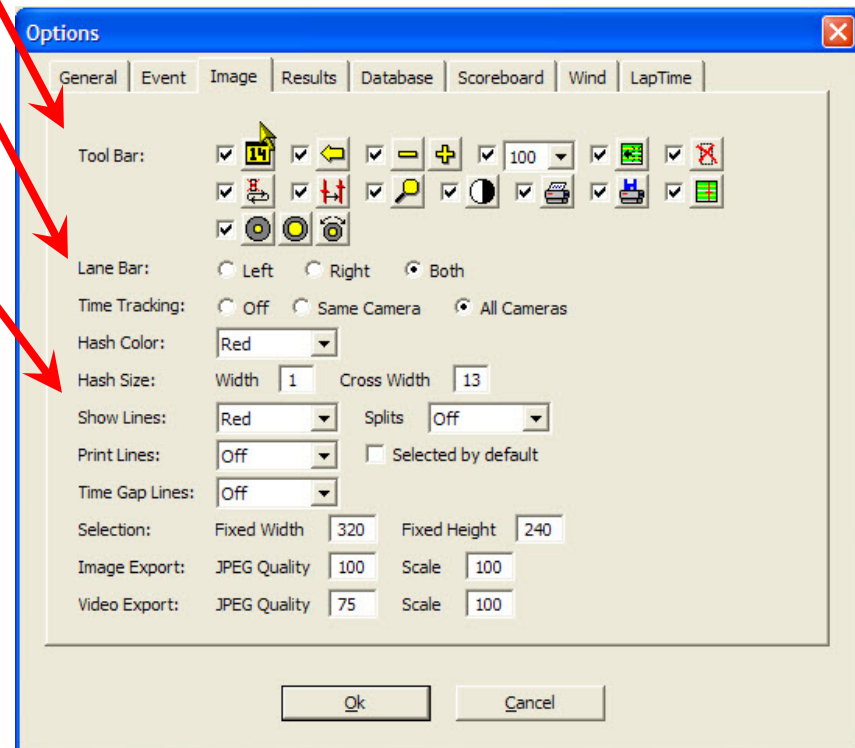


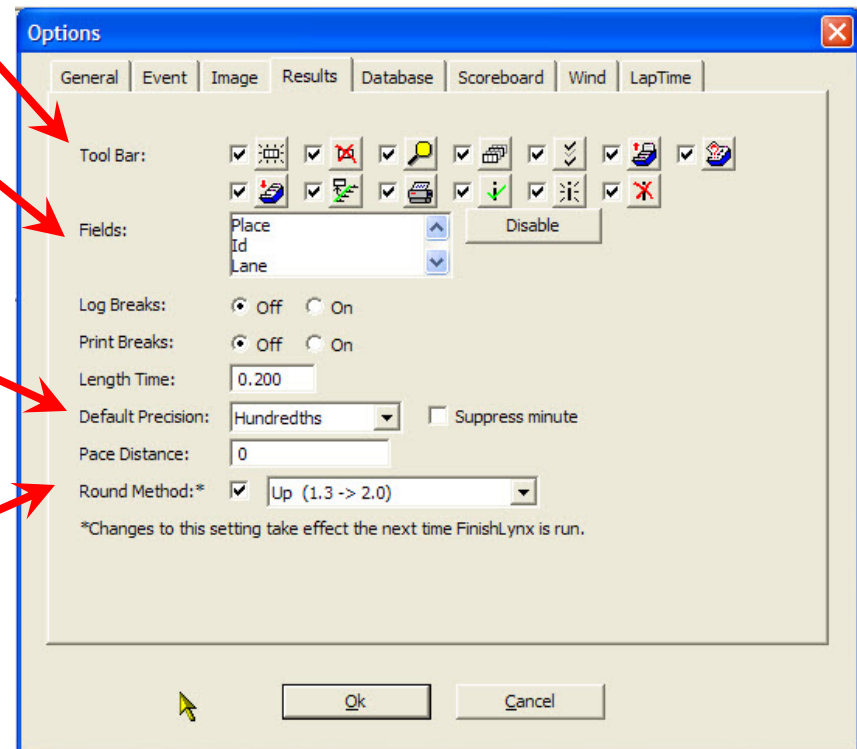
Image Options

- Enable all toolbar items
- Lane Bars on both sides
- Use defaults for other items



Results Options

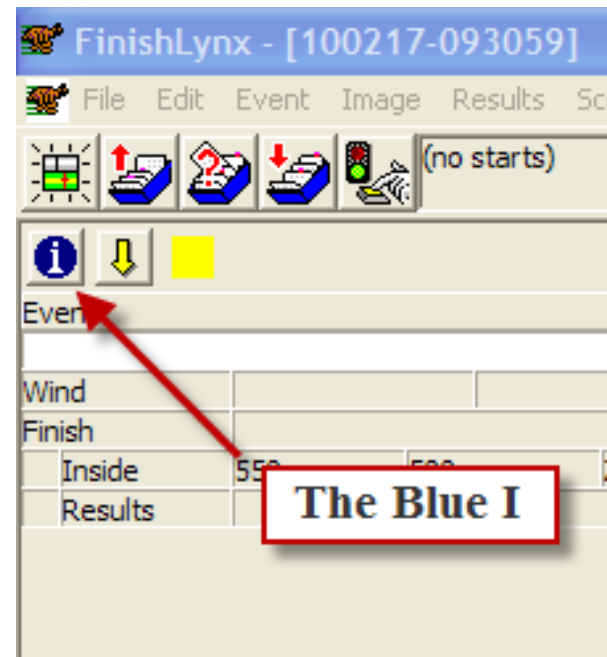
- Enable all toolbar items
- Choose fields to list
 - Defaults OK
- Default Precision to “hundredths” (2 decimal positions)
- Use default “round” method



Camera Settings

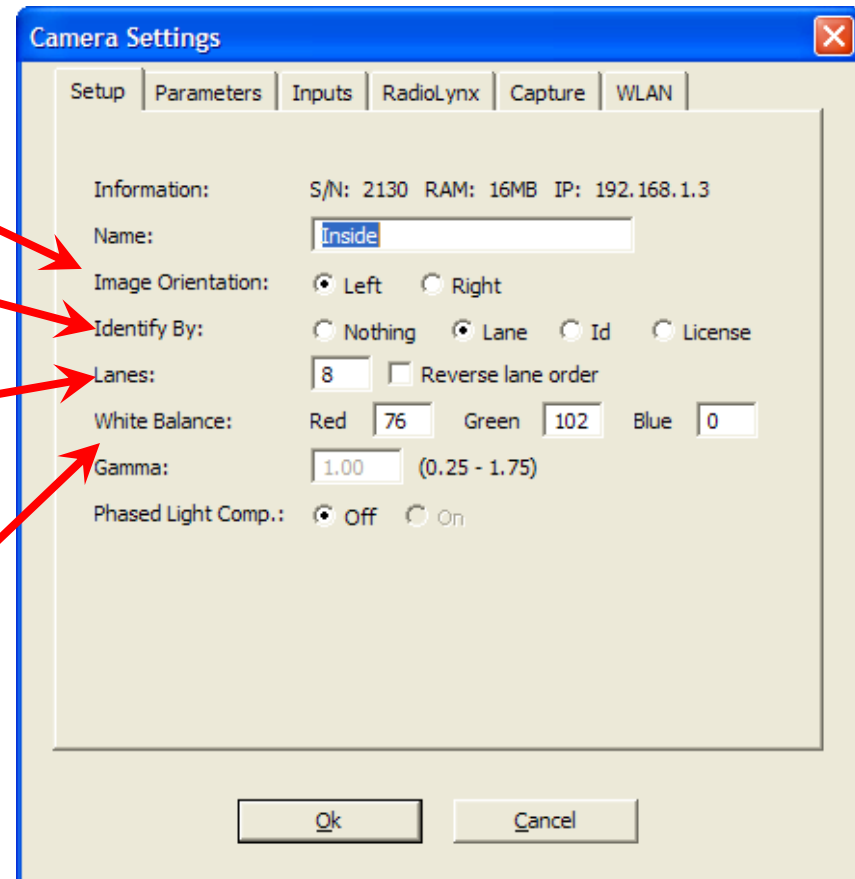
- Used to control “camera specific” options
- If it isn't on normal “options” windows, it's probably here.
- Found under the “Blue I”

These parameters can only be changed between races!



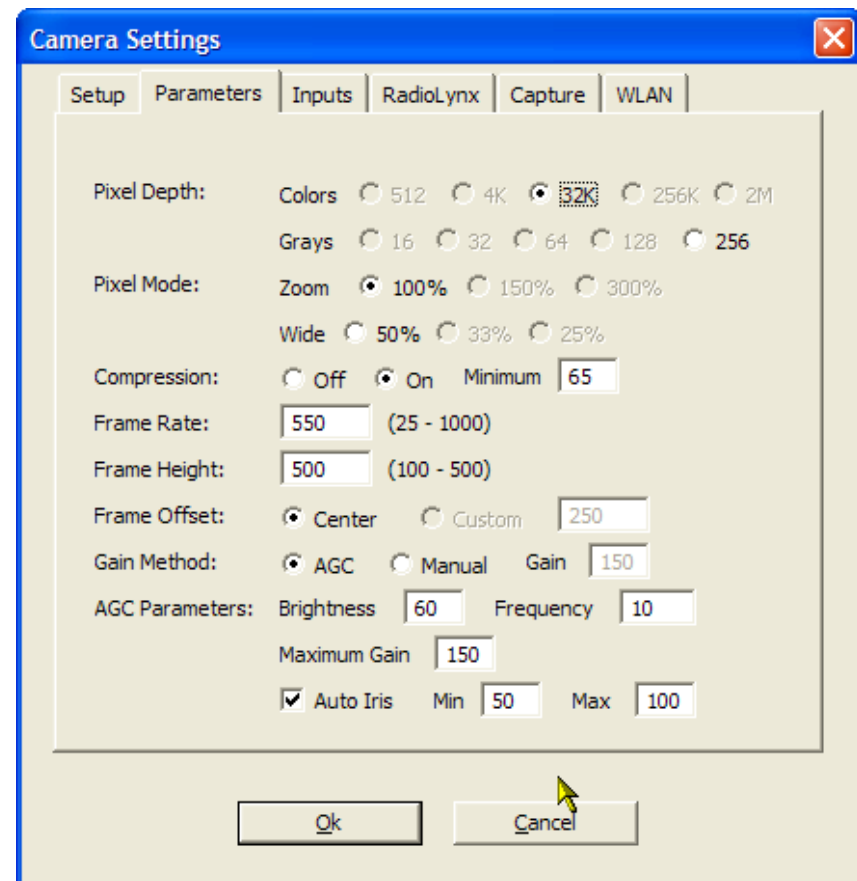
Camera Setup Tab

- Which way are the runners going?
- Race-specific
 - Can be overridden later
- Controls “lane bars”
 - And which lane is at top of picture
- Set to zero, then do white balance



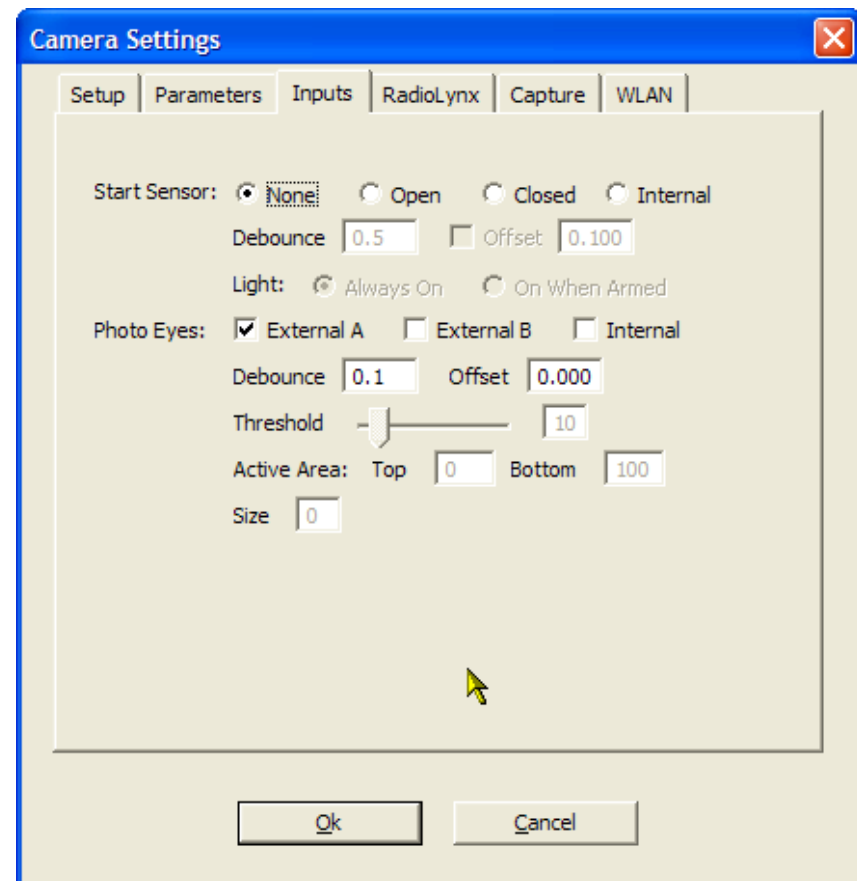
Camera Parameters

- Start with defaults
- Gain – how much electronic “boost” to the picture.



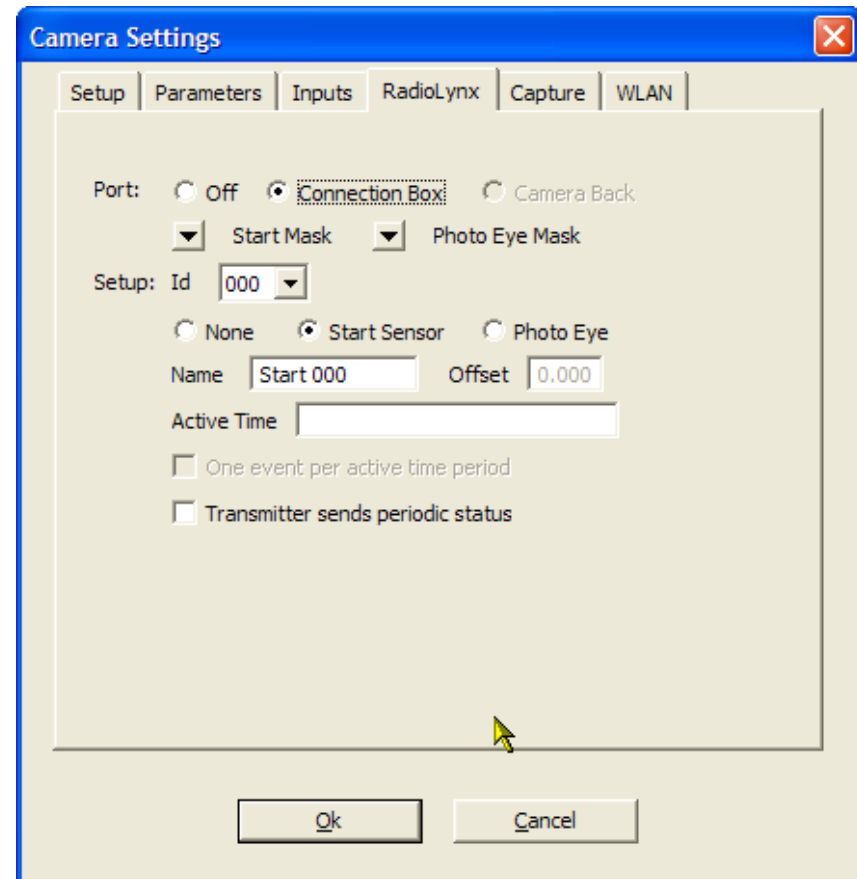
Camera Inputs

- Using RadioLynx
 - Set to “none”
- Using “Wired” starter
 - Set to “closed” or what is listed on the sensor (look for “NC” or “NO”)
- If not “None” AND you are using wireless sensor, you will see “some sensors failed to arm” when setting up a race



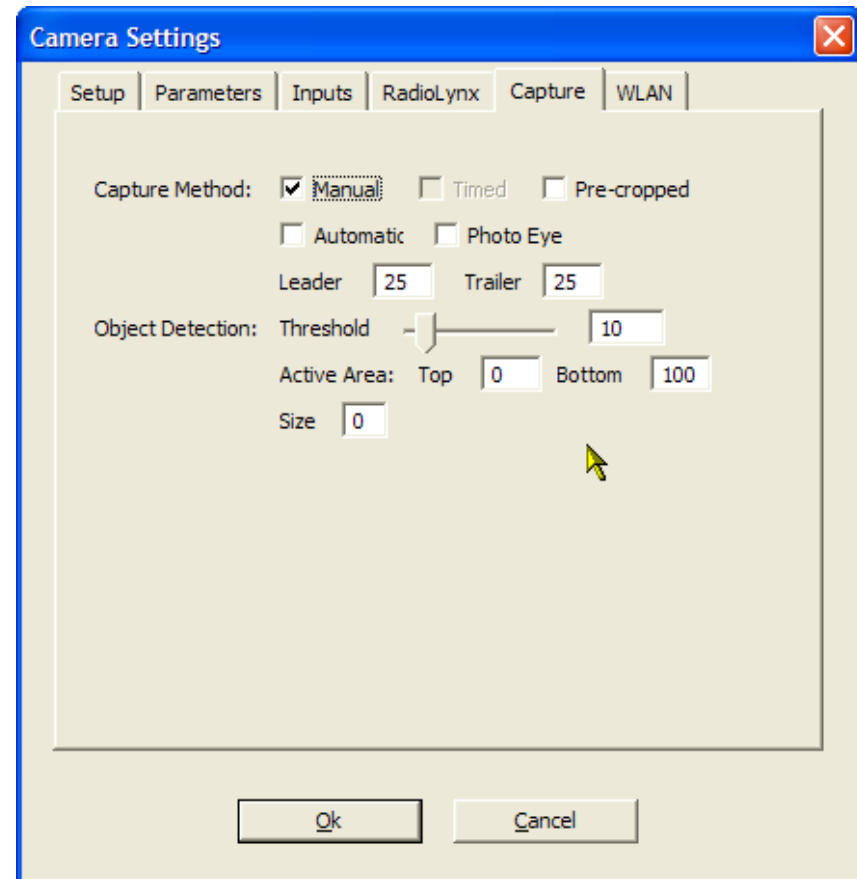
RadioLynx

- Set to “Connection Box” to enable wireless start
- Set to “Start Sensor”
- Default other values
- If using multiple systems, can use setup ID and mask to eliminate confusion



Capture Options

- Suggest “Manual” at first
- “Automatic” isn’t so automatic – have to enable during the race



Three Easy Steps

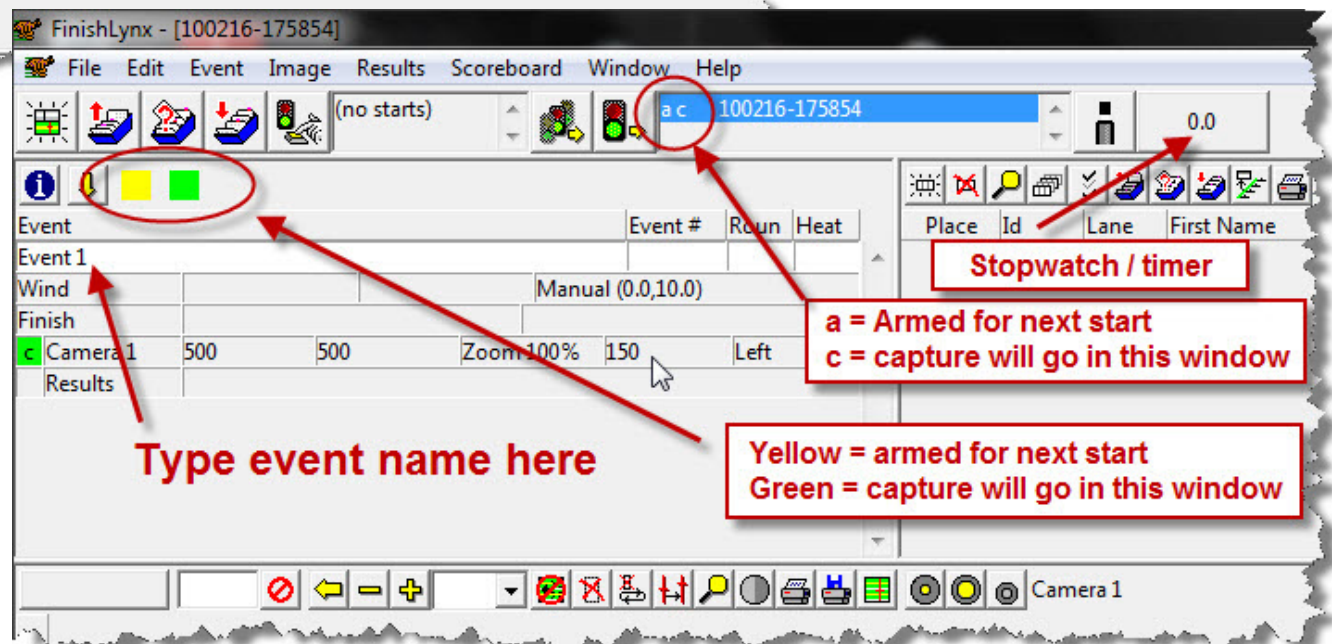
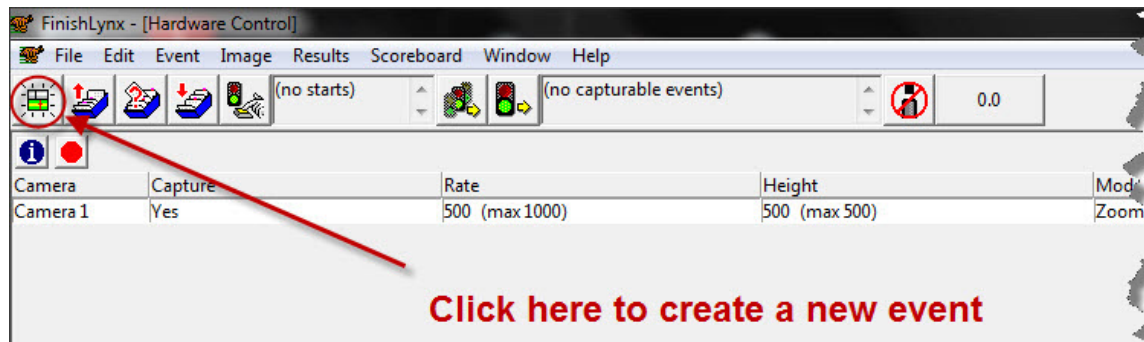
1. Capture
2. Evaluate
3. Print

What can be so hard?

Timing an Event – The Steps

1. Set up the event and “arm” the system
2. Signal starter that you are ready
3. Wait for gun. Verify that clock has started
4. Capture finishers as they cross finish line
5. Save the file
6. Evaluate the results and print
7. Save the file
8. Lather, rinse, repeat...(or capture, evaluate, print)

Step 1 – Set Up the Event



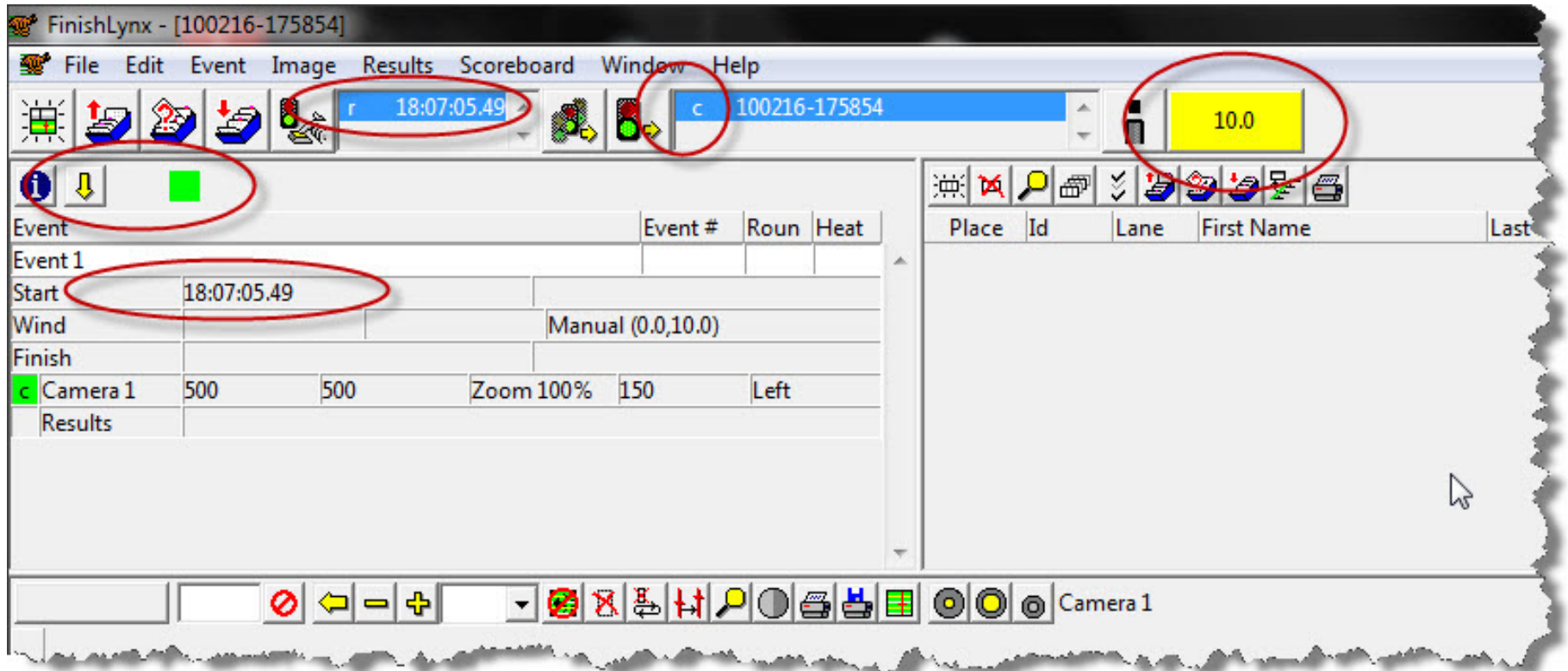
Step 2 – Signal Start You Are Ready

Feb 27, 2010

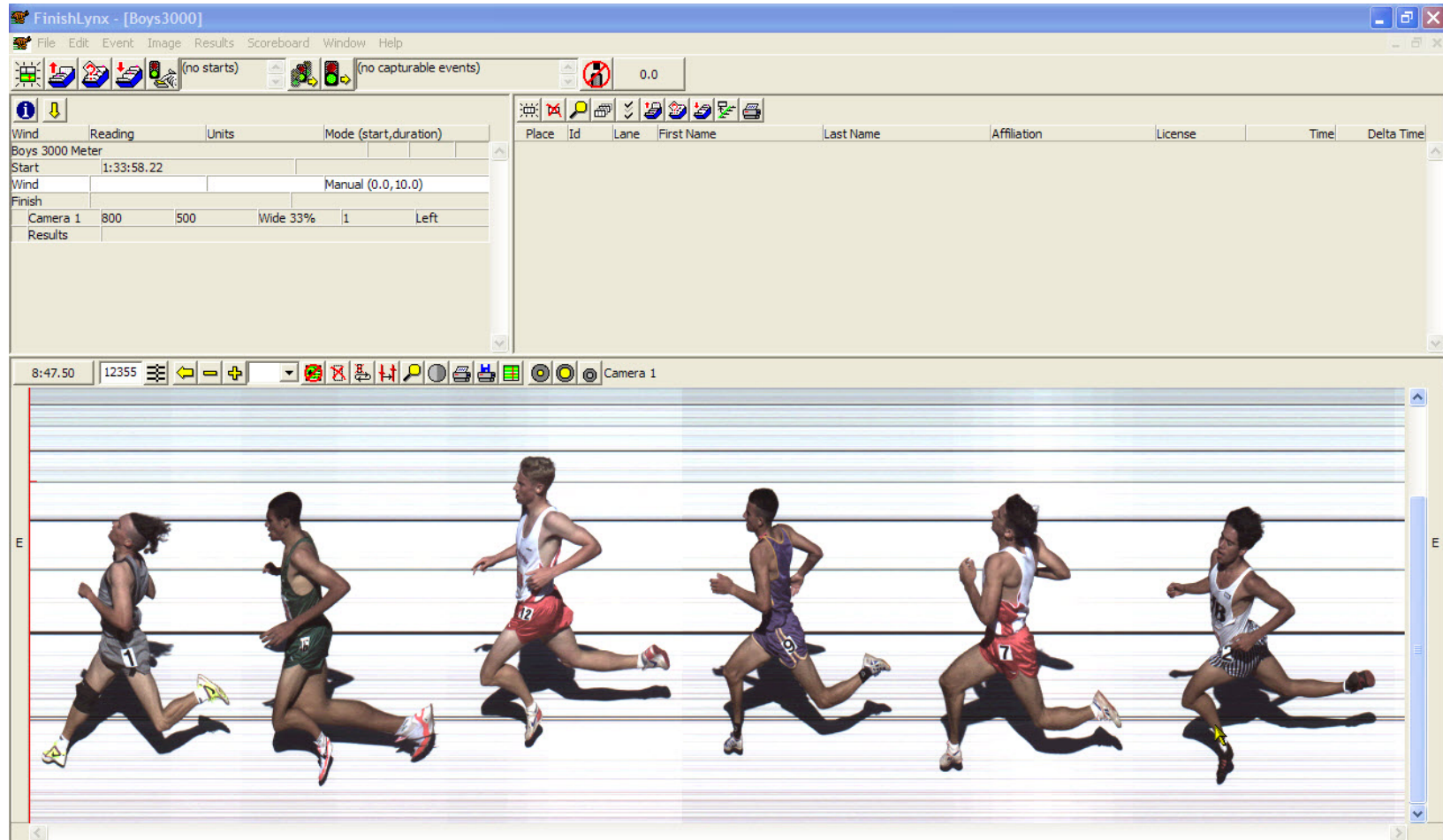
Finishlynx essentials

28

Step 3 – Verify Start of Race



Step 4 – Capture The Finishers



Step 5 – Save the file!

Feb 27, 2010

Finishlynx essentials

30

Step 6 – Evaluate Results

1. Click and drag line to torso.
2. Press "enter" key

Place	Id	Lane	First Name	Last Name	Affiliation	License	Time	Delta Time
6	1163	2	Tony	Trueba	Huntington		8:56.24	1.28
7	1222	5	Daniel	Embaye	Logan		8:57.46	1.22
8	1116	19	Juan Pablo	Miramenta	Golden Val		8:57.67	0.21
9	1520	14	Daniel	Gohlke	Skyline		8:58.04	0.37
10	1350	3	Jim	Nelson	Napa		8:59.02	0.98
11	1223	6	Chad	Foster	Logan		9:01.80	2.78
12	1158	17	Dan	Gaston	Huntington		9:02.07	0.27
13	1213	8	Joe	Smith	Livermore		9:02.16	0.09
14	1402	11	Dave	Lemarr	Oregon Cty		9:09.22	7.06
15	1187	15	Adam	Perez	Serra		9:17.08	7.86
16	1088	18	Greg	Phillips	Eureka		9:18.28	1.20
17	1176	4	Chris	DeWitt	Jesuit		9:23.10	4.82

3. Click in each field and type in the information.
4. Tab to next field

7. Print the results
8. Save the file again!

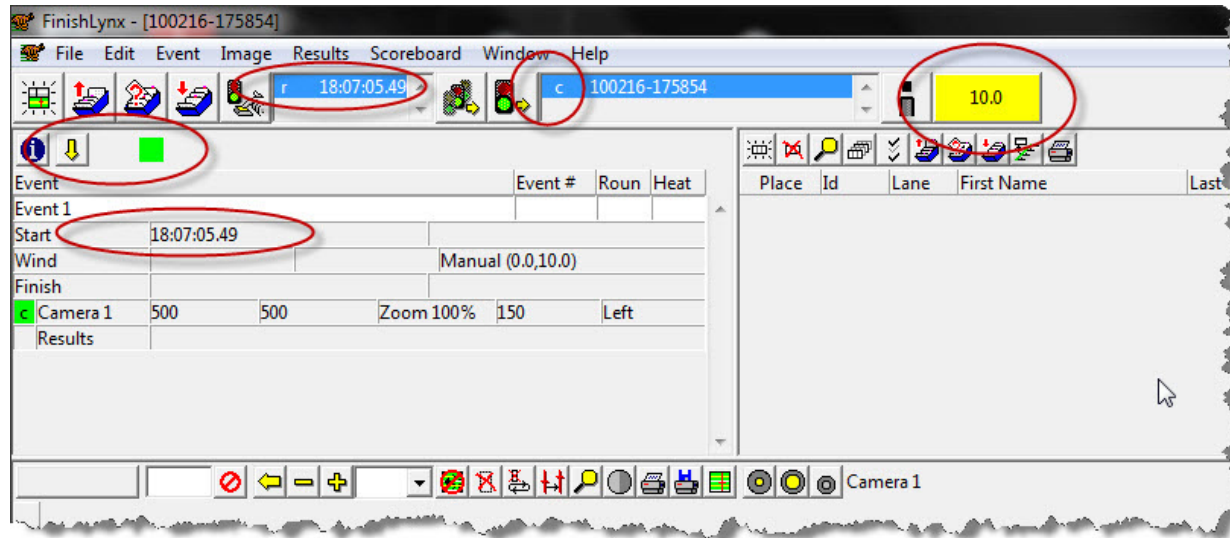
Step 7 – Print The Results

Easy! What Could Go Wrong??

- Clock starts before the gun goes off
 - Usually the starter bumps start sensor
- Gun goes off, but the clock doesn't start
 - Transmitter not turned on
 - Transmitter not charged
 - Starter not holding sensor properly
 - Receive antenna close to metal objects

All of these are considered “false starts”.

Clock Starts Before Gun Fires



Two solutions based on time available

1. If time available (gun not up), click on the big traffic signal – this just resets everything.
2. Gun up (real start imminent). Wait and assign correct start time.

1) Re-Arm The Event

- If time permits:

The screenshot shows the FinishLynx software interface for event [100216-202206]. The top menu bar includes File, Edit, Event, Image, Results, Scoreboard, Window, and Help. Below the menu is a toolbar with various icons. A red circle highlights a large stop light icon in the toolbar. Another red circle highlights a yellow box displaying the number 14.0. A red arrow points from the stop light icon to a text box that says "Click on the big stop light to reset." Another red arrow points from the 14.0 box to a text box that says "OMG! The clock's running!". The main window displays event details for "Bogus Event", including start time (20:23:51.58), wind speed (Manual (0.0,10.0)), and finish details (Camera 1, 500, 500, Zoom 100%, 150, Left). A results table is also visible.

Event	Event #	Roun	Heat
Bogus Event			
Start	20:23:51.58		
Wind			Manual (0.0,10.0)
Finish			
Camera 1	500	500	Zoom 100% 150 Left

Place	Id	Lane	First Name

1) Re-Arm The Event

- If time permits:

The screenshot shows the FinishLynx software interface. The title bar reads "FinishLynx - [100216-202206]". The menu bar includes "File", "Edit", "Event", "Image", "Results", "Scoreboard", "Window", and "Help". The toolbar contains various icons, including a large stop light icon (a yellow square with a black border) and a timer displaying "0.0". A red box with a white background and a red border contains the following text:

Clicking on large stop light
1. Resets the clock
2. Re-arms the event for the next start

The interface also displays a table with the following data:

Event	Event #	Roun	Heat
Bogus Event			
Wind			Manual (0.0,10.0)
Finish			
Camera 1	500	500	Zoom 100% 150 Left
Results			

2) Assign The Correct Start Time

- “Real” start is about to happen

The screenshot shows the FinishLynx software interface for event [100216-202206]. The menu bar includes File, Edit, Event, Image, Results, Scoreboard, Window, and Help. The toolbar contains various icons for event management. A dropdown menu is open, showing two options: 'r 20:35:03.71' and 'r 20:34:42.40'. The 'r 20:34:42.40' option is highlighted. A red circle is drawn around this option, and a red arrow points from it to the 'Start' field in the event configuration table, which contains the value '20:34:42.40'. Another red arrow points from the 'r 20:34:42.40' option to a smaller traffic light icon in the toolbar. A red oval highlights the 'Start' field with the text 'Start time assigned to this event.' A red box on the right side of the interface contains the text 'Start Time List' and a numbered list: '1. Highlight correct start time.' and '2. Click smaller traffic light'. The event configuration table shows a 'Bogus Event' with 'Start' at '20:34:42.40', 'Wind' at 'Manual (0.0,10.0)', and 'Finish' at 'Camera 1' with '500' in the 'Event #' column. The 'Results' section shows 'Camera 1' with '500' in the 'Event #' column, 'Zoom 100%', '150' in the 'Lane' column, and 'Left' in the 'First Name' column. The bottom toolbar includes various icons for camera control and a 'Camera 1' label.

Event	Event #	Roun	Heat
Bogus Event			
Start	20:34:42.40		
Wind		Manual (0.0,10.0)	
Finish			
Camera 1	500	500	Zoom 100% 150 Left

Results	Event #	Lane	First Name
Camera 1	500	150	Left

Start Time List

1. Highlight correct start time.
2. Click smaller traffic light

Start time assigned to this event.

Missed Start Signal

Gun goes off, but no start detected

- Nothing you can do on the system
- Signal “false start” to starter (gun, horn)
 - Check connections
 - Gently tap start sensor to create a signal

(Should have tested this before the first event!)

Hints / Good Practices

- **Pay attention!**

- Watch actions of starter and start line. As they set in the blocks, check the clock.
- When the gun's up, watch the clock and have air horn in your hand

- **Use a customized sound file for starts**

- Rename your favorite .wav file to `finishlynxstart.wav` (keep it short)
- Turn volume up!

Play Time and Questions

- Set up an event
- Create a “start”
- Capture something
- Evaluate
- Save

Any Questions??

Important FinishLynx Files

- Used to ease the typing task
- Plain ASCII files but don't end in .txt
 - (use Notepad or Textpad to edit/create)
- Commas separate fields (don't put commas in names like Smith, Jr.)
- Stored in the events directory
- “Weird” behavior if you get the commas wrong

Important FinishLynx Files

- **Lynx.evt** – the Event file
- List running events, usually in order
- Can list entries (seeded race)
- Format:

`Event#,round#,heat#,event_name`

`001,1,1,VG-400-R`

`002,1,1,VB-400-R`

Hint: Add extra entries for races known to have more than one heat (main dashes).

Important FinishLynx Files

- **Lynx.sch** – the Schedule file
- Optional – don't use it
- Lists events in schedule order
- If present, overrides order in Event file
- **Careful if you use Meet Manager!**
- Format:

Event#,round#,heat

012,1,1

002,1,1

Important FinishLynx Files

- `Lynx.ppl` – the People file
- Lists every possible running competitor
- Used to assign “competitor numbers” to names
- When evaluating, use competitor number instead of typing full name/school, etc.

- Format:

```
ID,last_name,first_name,school
```

```
2001,Anderson(10),Tyler,Los Altos
```

```
8001,Anderson(9),Marcus,Palo ALto
```

Lynx.ppl Hints

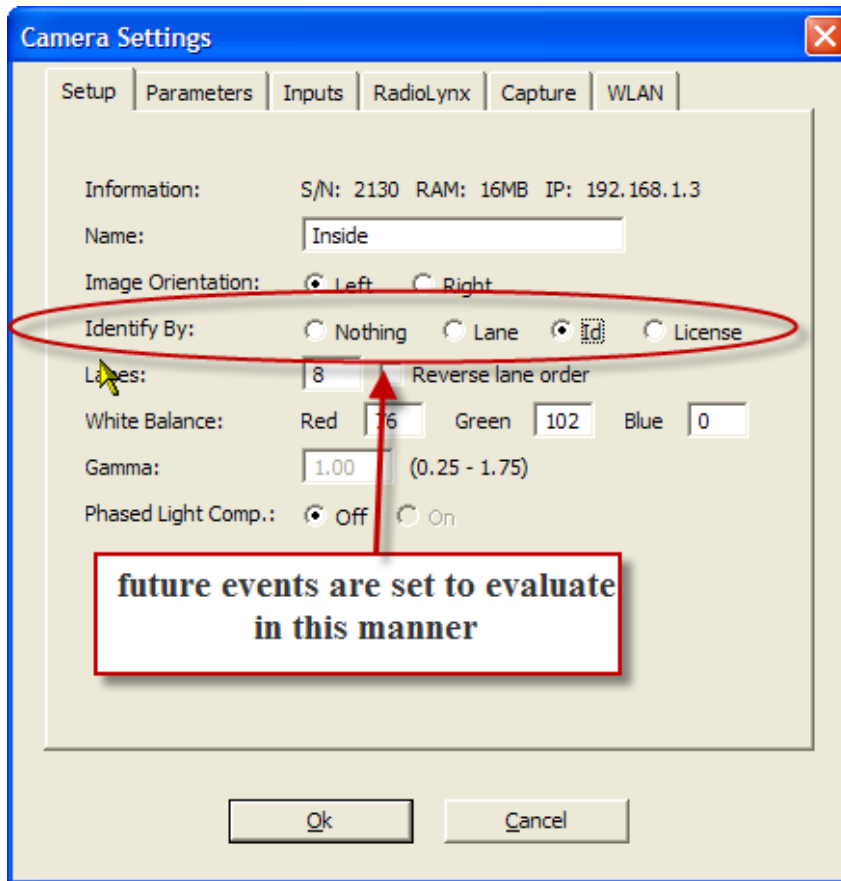
- ID does not have to be numeric – 200A works
- Enter extra entries for relay races
2000,Los Altos,Los Altos,Los Altos
2999,Los Altos,Los Altos,Los Altos
- When evaluating, use competitor number instead of typing full name/school, etc.
- Can only enter ID once per race!
- Develop a numbering plan that works for your environment

Why Use Files?

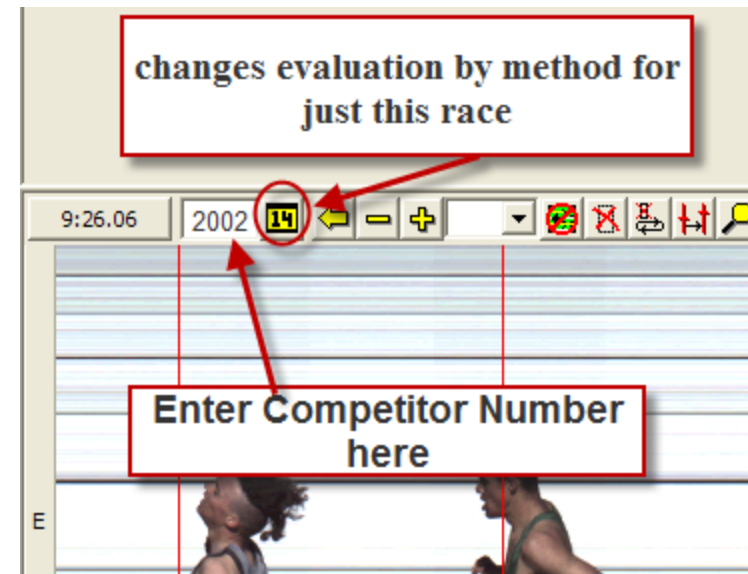
- Speeds up results, requires less people
- Can evaluate by Competitor ID instead of typing full name/school information.

How To Change Evaluation Method

Global Setting



Event-specific setting



FinishLynx Files Demo

What Can Go Wrong?

- Missing/Wrong Competitor/ID Number
- Wrong name info shows up on evaluations
- Evaluated using wrong competitor number
- Captured a lapped runner
- Missed capturing a runner
- Bizarre finish times (minutes for 100 meters)
- Captured using wrong event
- No sensors working
- Capture button doesn't work

What Can Go Wrong?

Missing/Wrong Competitor/ID Number

- Look at the lynx.ppl file
 - Competitor # missing or typo
 - Wrong number of parameters
 - Duplicate competitor number

What Can Go Wrong?

Wrong name info shows up on evaluations

- Look at the lynx.ppl file
 - Duplicate competitor number
 - Wrong information

What Can Go Wrong?

Evaluated using wrong competitor number

The screenshot shows a software interface with a table of race results. The table has columns for Place, Id, Lane, First Name, and Time. The data is as follows:

Place	Id	Lane	First Name	Time
1	2001		Tyler Anderson (10)	10:40.08
2	2002		Miles Beckstead (10)	10:40.14
3	2003		Erica Best (9)	10:40.74
4	4001			10:42.53

Annotations in the image:

- A red box highlights the "Delete Result" icon (a trash can with a red 'X') in the toolbar. A callout box states: "Delete Result" icon will remove the highlighted entry from the list. Afterwards, just re-evaluate.
- A red box highlights the ID "2003" in the table. A callout box states: Highlight ID, key in correct number and press enter. Other fields will update automatically.

Captured a lapped runner

- Skip over the extra runner – no biggie

What Can Go Wrong?

- Missed capturing a runner
 - Fudge

What Can Go Wrong?

Bizarre finish times (minutes for 100 meters)

- The start time is wrong – pick the different start time from the list. You may have to try a few times – maybe you missed the start (pay attention).
- This takes time and can only be done on the capture system

What Can Go Wrong?

Captured using wrong event

The screenshot displays a software interface for capturing sports events. The top menu bar includes File, Edit, Event, Image, Results, Scoreboard, Window, and Help. Below the menu is a toolbar with various icons. The main window is divided into several sections:

- Event Information:** Shows Event # 033, Round 1, Heat 1, and Event VG-3200. The start time is 17:40:33.06. The finish time is Manual (0.0,10.0).
- Results Table:** A table with columns for Place, Id, Lane, First Name, Last Name, Affiliation, and Time. The table is currently empty.
- Video Player:** Shows a video of a race in progress. The time is 10:40.08. The video shows three male runners on a track. A red box highlights the runners with the text "Race captured as Varsity Girls 3200 But...these are guys!".

Fixing the Wrong Event Problem

Stop and take your time. Delay the next race if necessary – you need to get this right otherwise you can lose race information.

The screenshot shows the FinishLynx software interface. The title bar reads "FinishLynx - [033-1-01]". The menu bar includes "File", "Edit", "Event", and "Image". The toolbar contains several icons, including a question mark icon. A red arrow points from a text box to the question mark icon. Another red arrow points from a text box to a group of icons in the toolbar, including a person icon with a red 'X' over it. A third red arrow points from a text box to a group of icons in the toolbar, including a person icon with a red 'X' over it. The main window displays a table with the following data:

Event	Event #	Roun	Heat
VG-3200	033	1	1

Below the table, there are fields for "Start" (17:48:33.06), "Wind" (Manual (0.0, 10.0)), and "Finish" (Camera 1 500). A "Results" button is also visible. The interface also shows a "Place" column and a "First Name" column in the table header.

Use these icons to select the right race. They simply replace the race name and start list (if any)

Do not use these! The entire event will be overwritten!

Fixing the Wrong Event Problem

The image shows a software interface for event management. A 'Goto Event' dialog box is open, displaying a list of events. The event 'VB-3200 (034, 1, 3)' is selected. The main window shows event details for 'VB-3200' with Event # 034, Round 1, and Heat 3. A red arrow points to the 'Start' time '17:40:33.06' in the main window.

Goto Event Dialog:

Event:	034
Round:	1
Heat:	3

Main Window Event Details:

Event	Event #	Round	Heat
VB-3200	034	1	3

Start Time: 17:40:33.06

What Can Go Wrong?

- No sensors working
- Capture button doesn't work
 - Use keyboard start work-around buttons.

What *Else* Can Go Wrong??

- Lots
 - Power, batteries in laptops
 - People on the track in camera's view (auto capture)
 - Camera gets bumped
 - Electronic starter not fully charged
 - Static electricity on artificial fields! Zap!
 - No paper, no toner/ink
 - Lack of patience
 - <your hot item goes here>

After The Race Is Over

- Congrats, You Survived!
- Figure out what worked, didn't work.
- Go celebrate!

