

# Timing Running Events with Finishlynx



Jim Clark 650-823-3265 [jim\\_clark@pacbell.net](mailto:jim_clark@pacbell.net) [jim@hifivetiming.com](mailto:jim@hifivetiming.com) [www.hifivetiming.com](http://www.hifivetiming.com)  
Hank Lawson 408-460-6785 [hanklawtrack@gmail.com](mailto:hanklawtrack@gmail.com) [www.lynbrooksports.com](http://www.lynbrooksports.com)



# Agenda

- Finishlynx System Overview
- Set up with one, two or more computers
- Basic configuration guidelines
- Three Easy Steps: Capture, Evaluate, Print
- Making it easier by using Files
- What Can Go Wrong?
- After the Meet is over

# 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

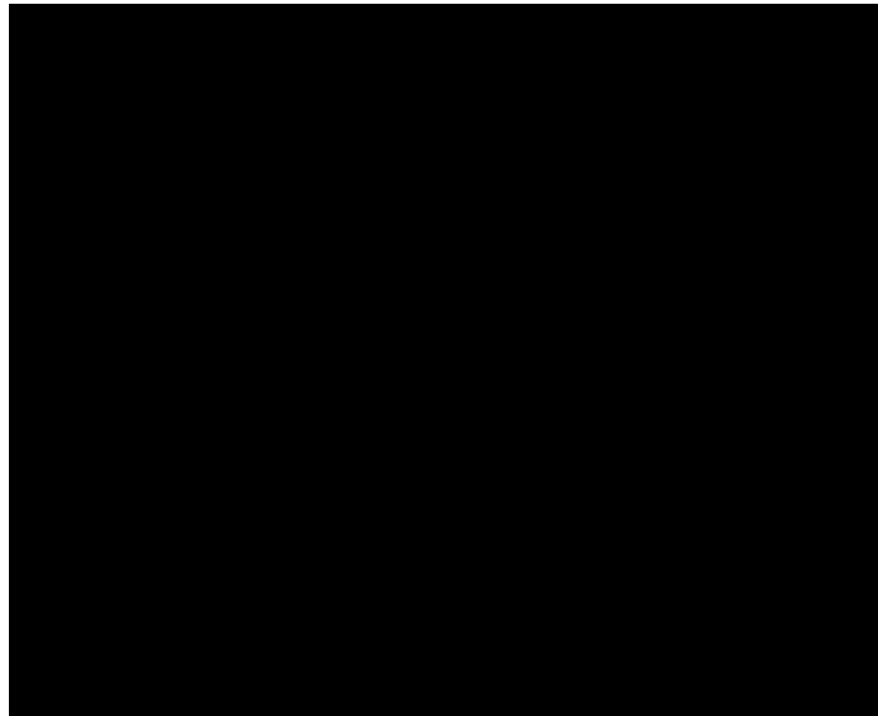
# Finishlynx – What is it?

- **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

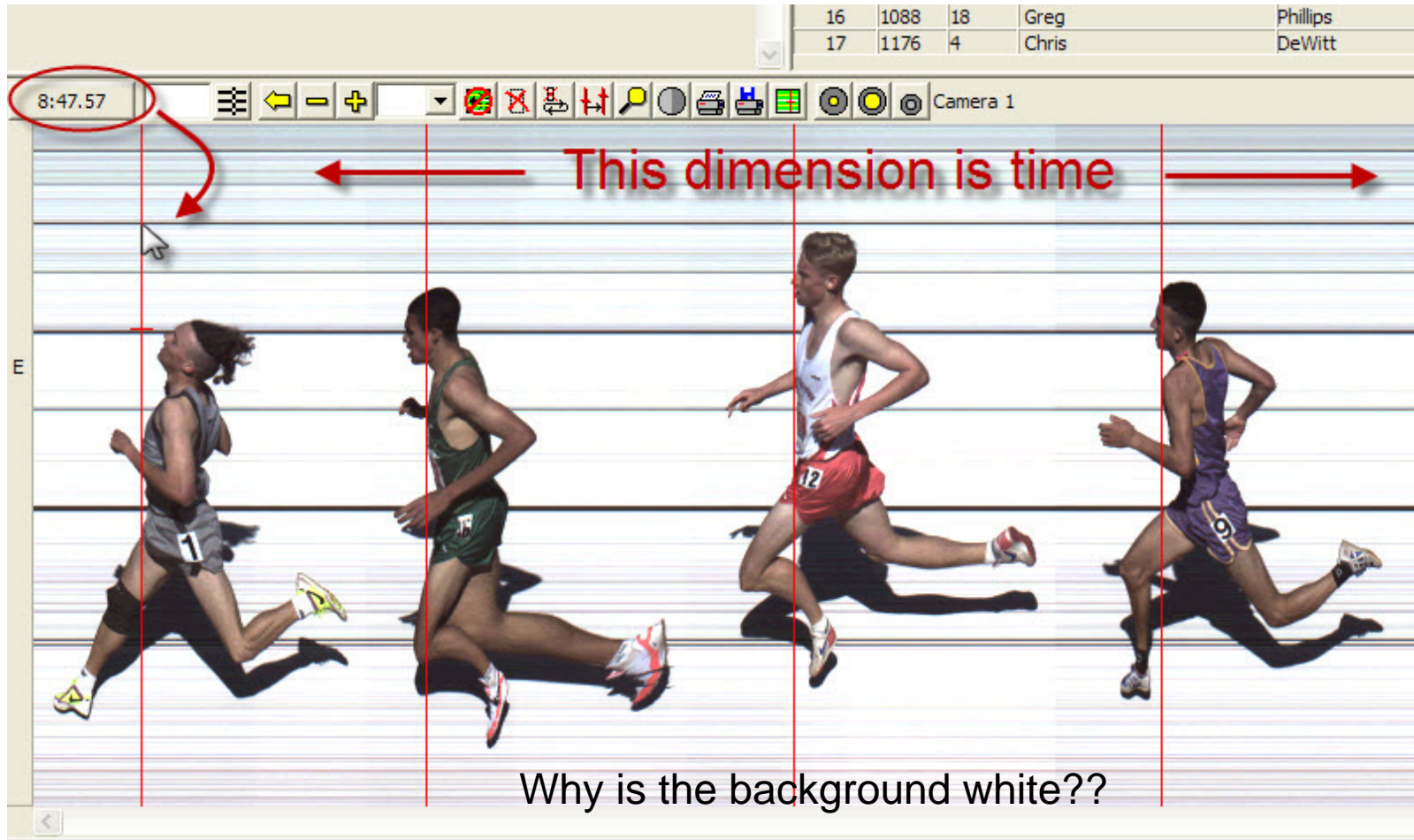
# Finishlynx – How It Works

- Not your normal digital camera
- Takes very narrow “frames” ( $1/8^{\text{th}}$  to  $1/4^{\text{th}}$  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



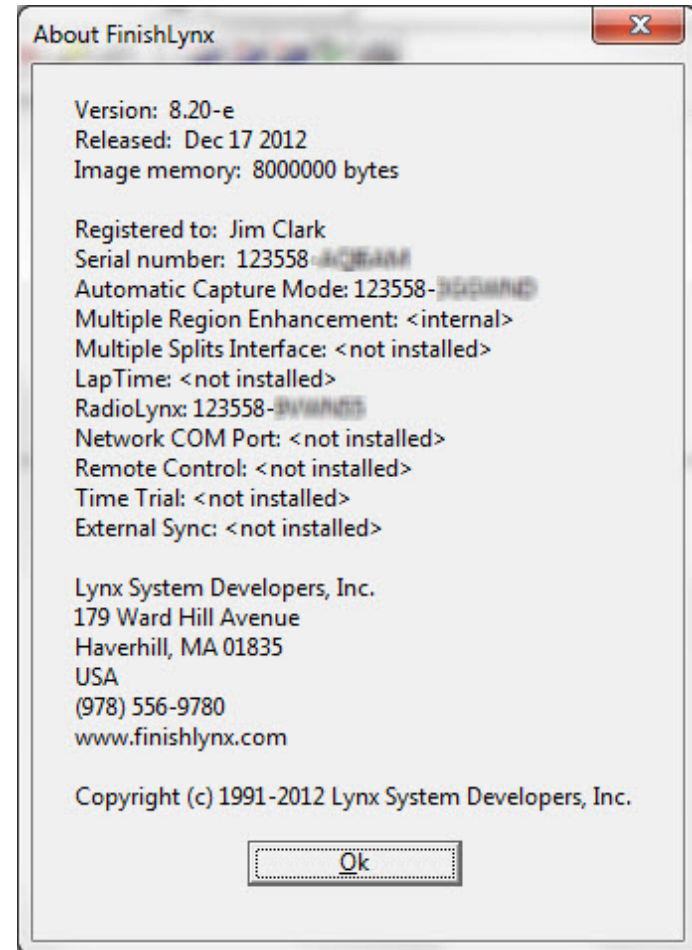
# Finishlynx – Installing Software

- Software available at [www.finishlynx.com](http://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...

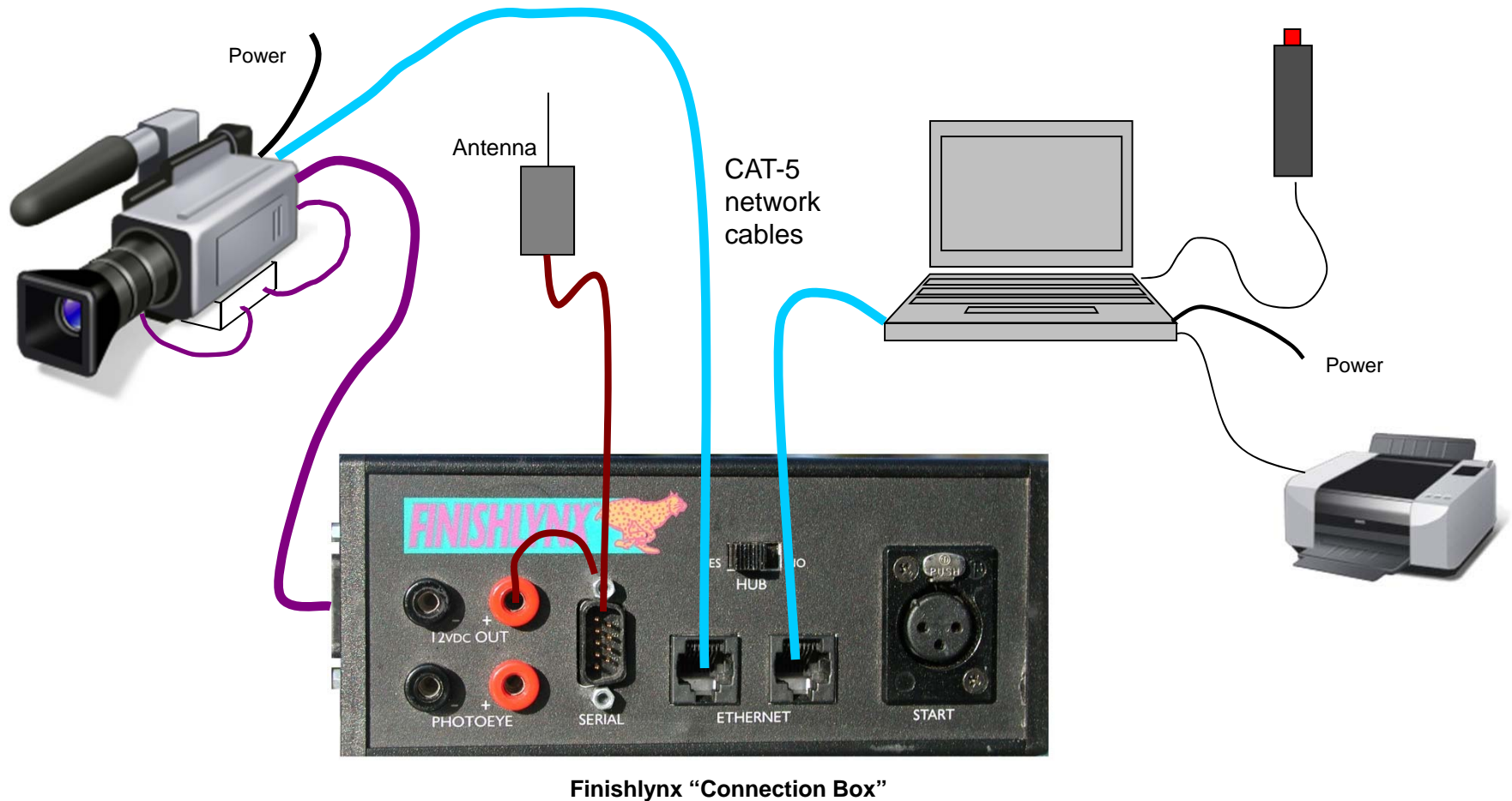


# Finishlynx – Installing Software

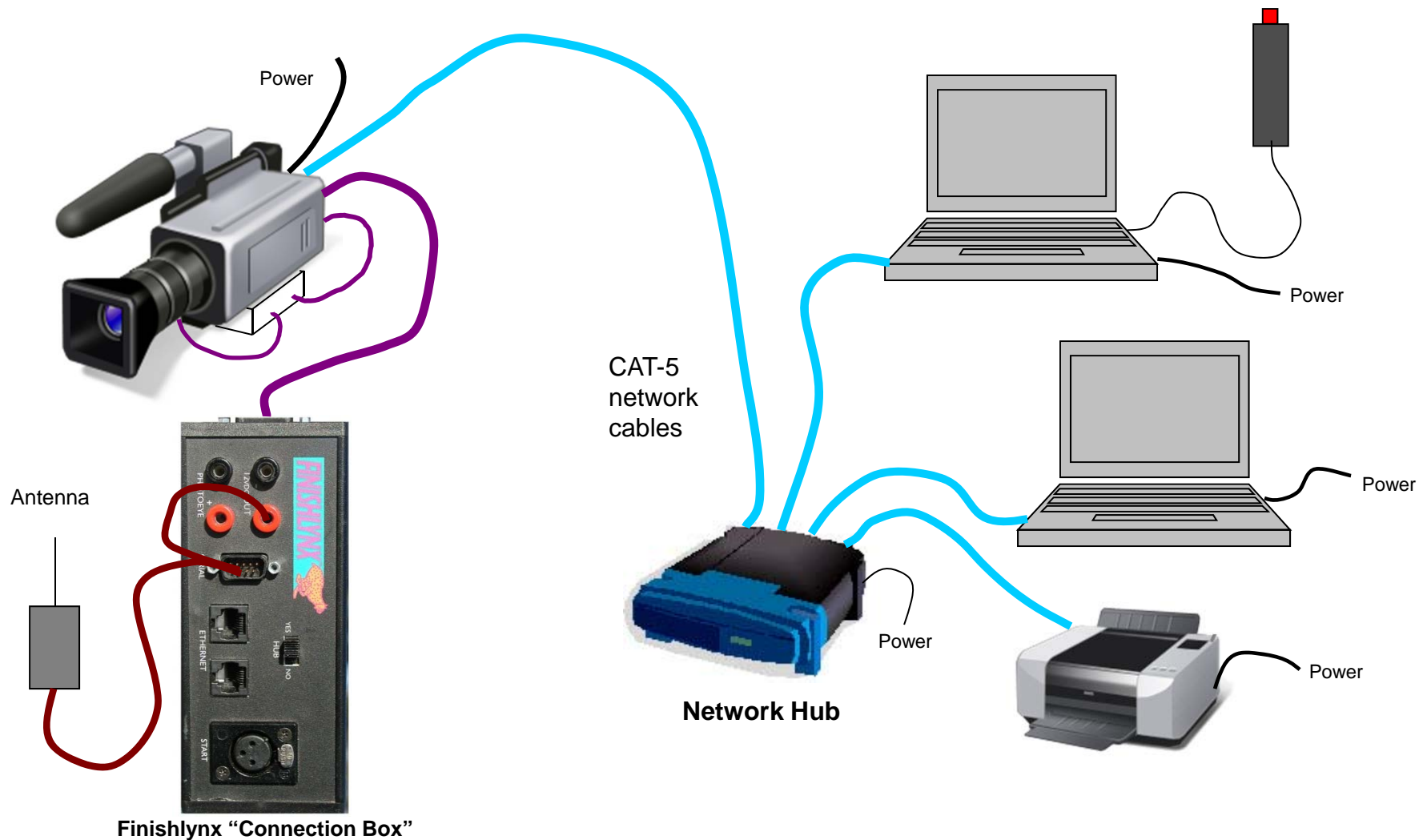
- Write down configuration info before upgrading
  - Updates reset all config parameters
  - Serial numbers are in the Help->About box
- Maybe install each version in a different location instead of default location.



# Setup – One Computer



# Setup – Two Computers

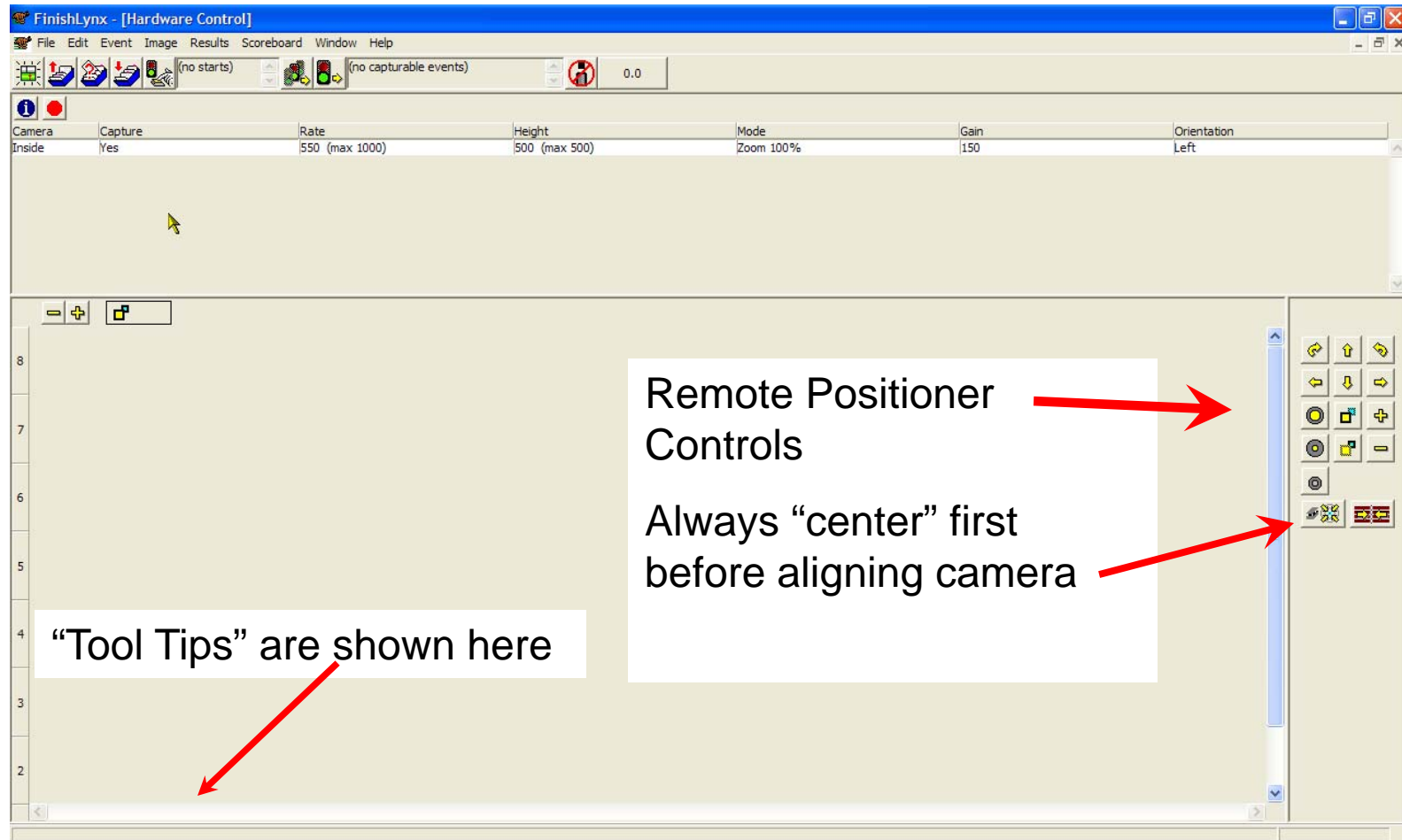


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Finishlynx Essentials

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# The Basic Finishlynx Screen



# The Other Basic Screen

**Event pane**

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

**Results pane**

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

**Image pane**

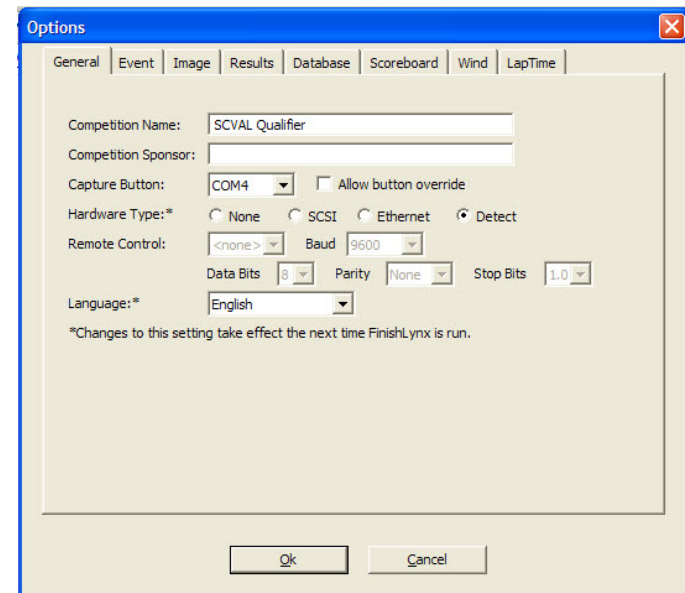
# Aligning the Camera

Demonstration

# Pre-Race Software Setup

## Things to do before any meet

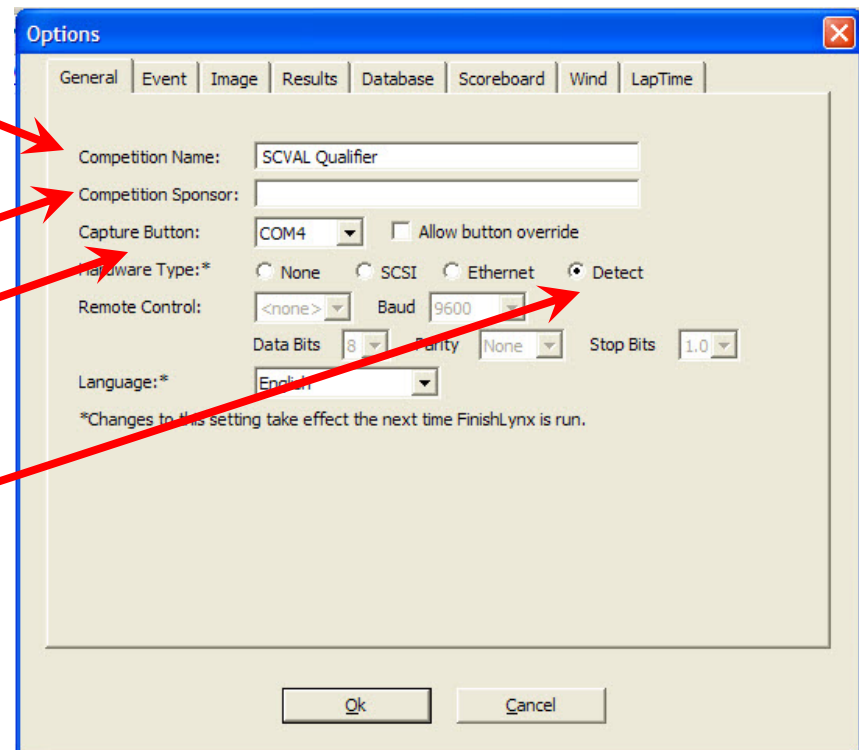
- File->Options
  - Actually, anything->Options
  - 8 tabs, 5 important
- Camera Options
  - 6 tabs, 5 important





# General Options

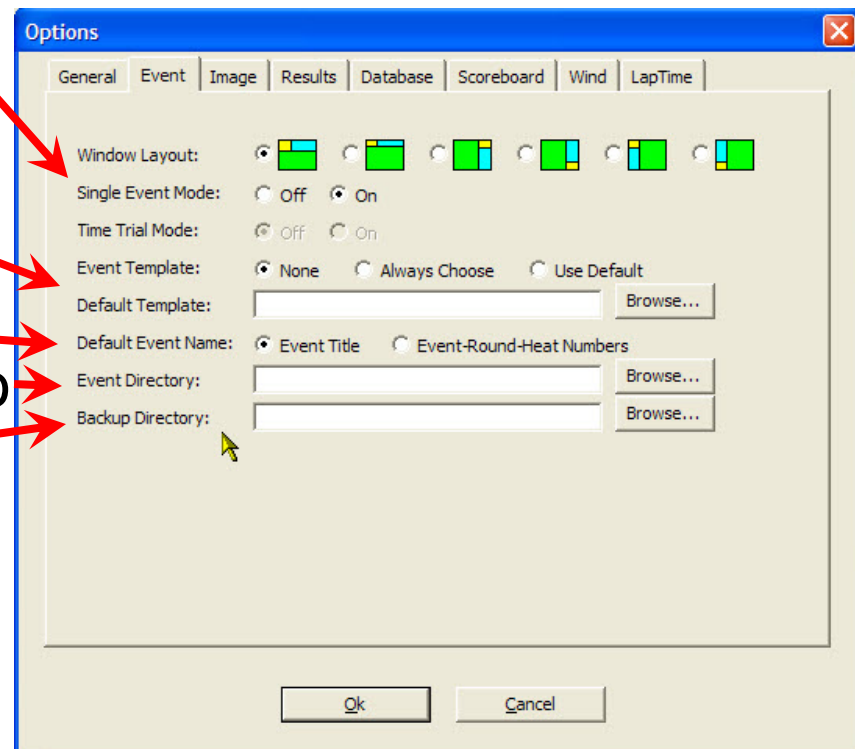
- Name of Event
  - Los Altos vs. Lynbrook
- Sponsor
  - Printed on all results
  - “Visit [www.lynbrooksports.com](http://www.lynbrooksports.com)”
- Port for Capture Button
  - Only lists valid ports
- Let it detect the camera type
  - If multiple computers, set this for capture system only – use none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





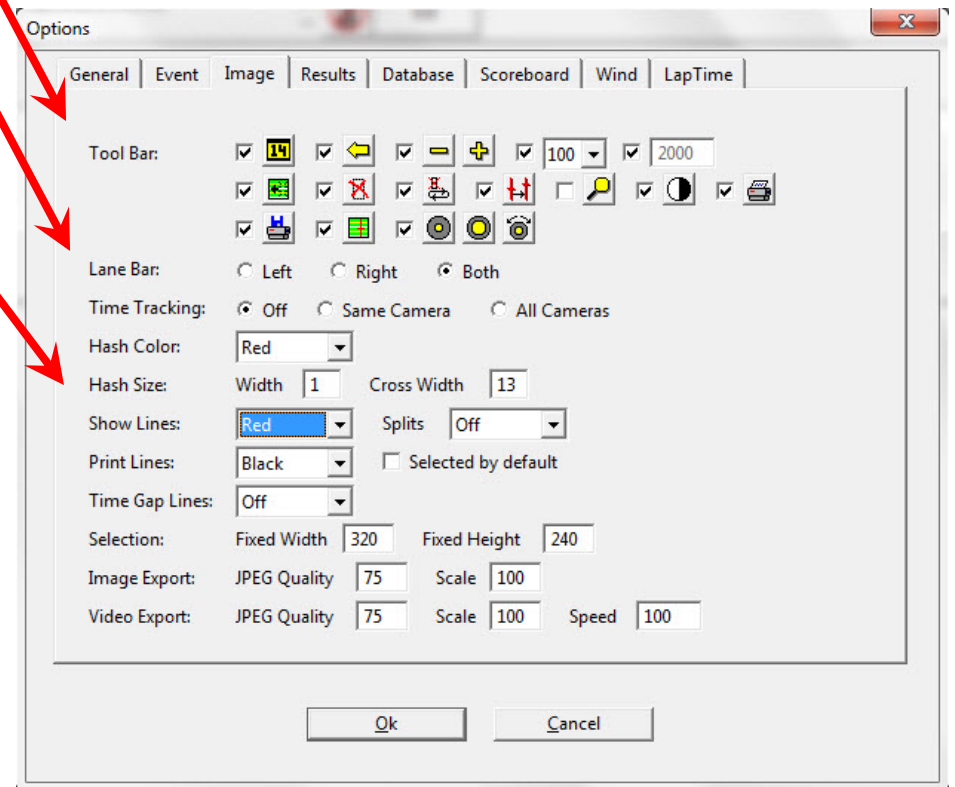
# Event Options

- 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



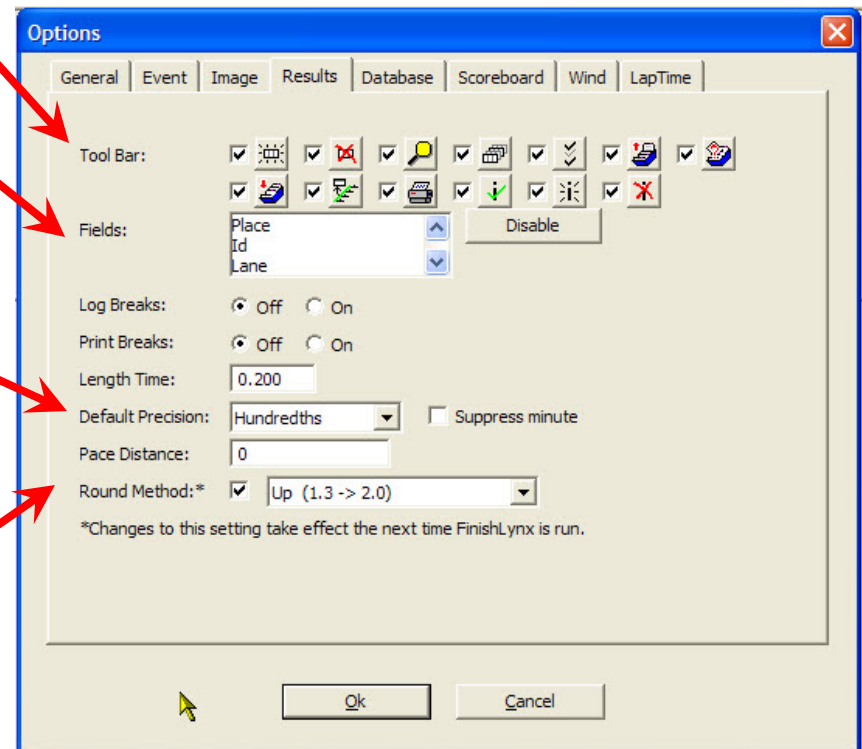
# Image Options

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



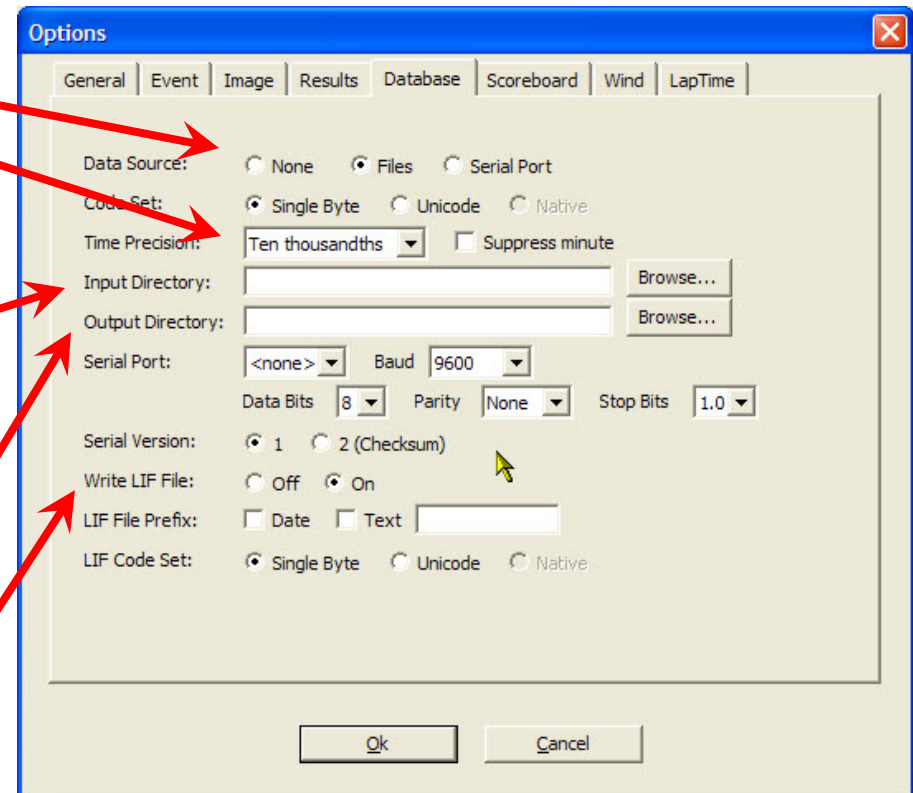
# Results Options

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



# Database Options

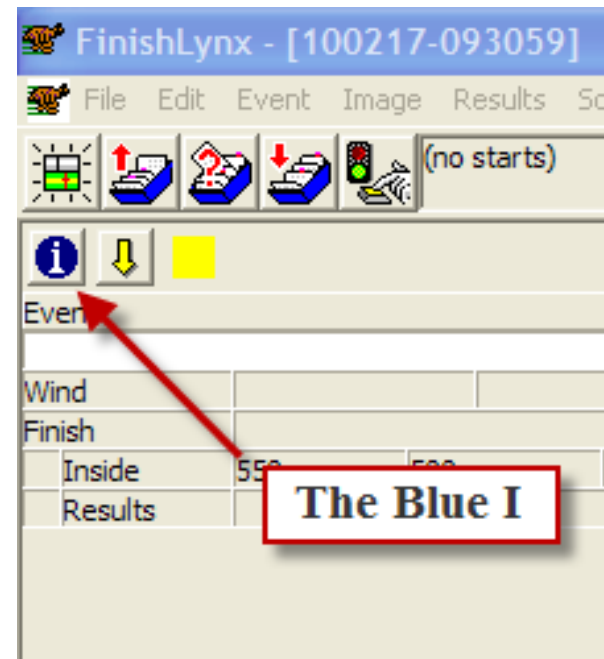
- Use “Files”
- Use “ten thousandths”
  - Controls what’s in the LIF file
- Where to look for .evt file and .ppl file
  - Use same directory as event directory
- Where the LIF files are written
- “Off” for capture, “On” for evaluate system



# Camera Settings

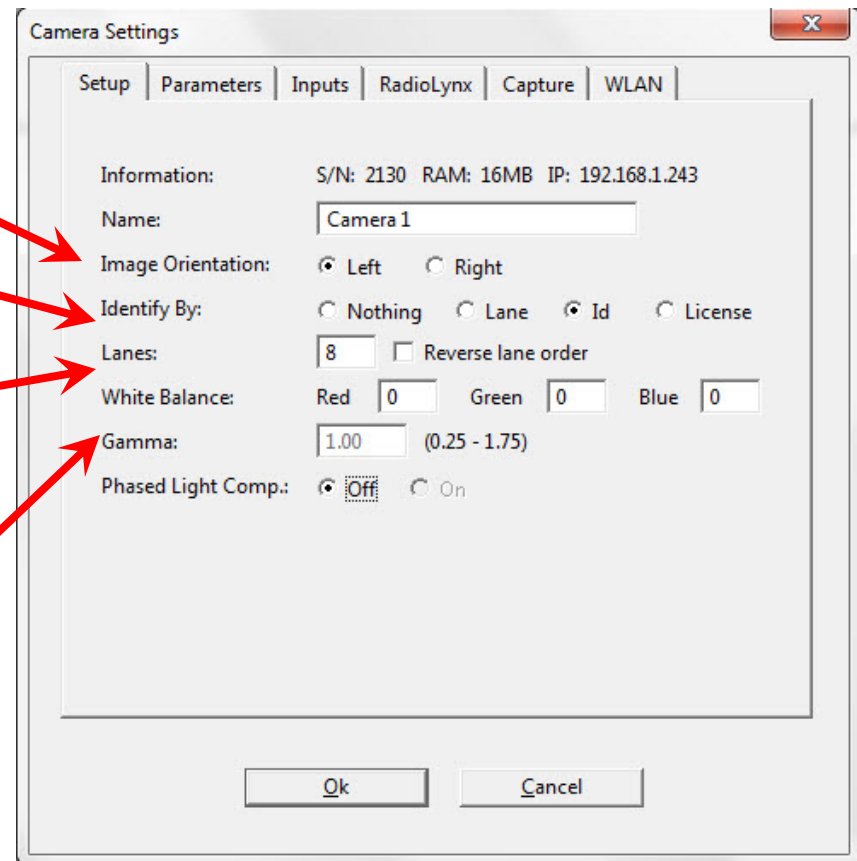
- Used to control “camera specific” options
- If it isn’t on normal “options” windows, it’s probably here.
- Found under the “Blue I”

These parameters can only be changed between races!



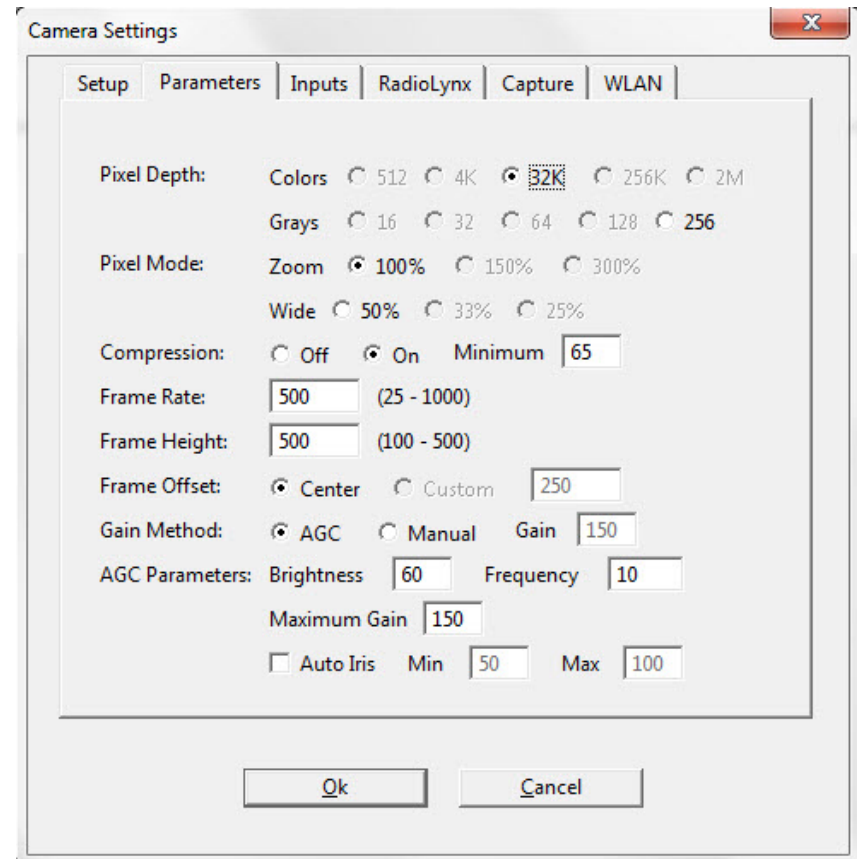
# Camera Setup Tab

- 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



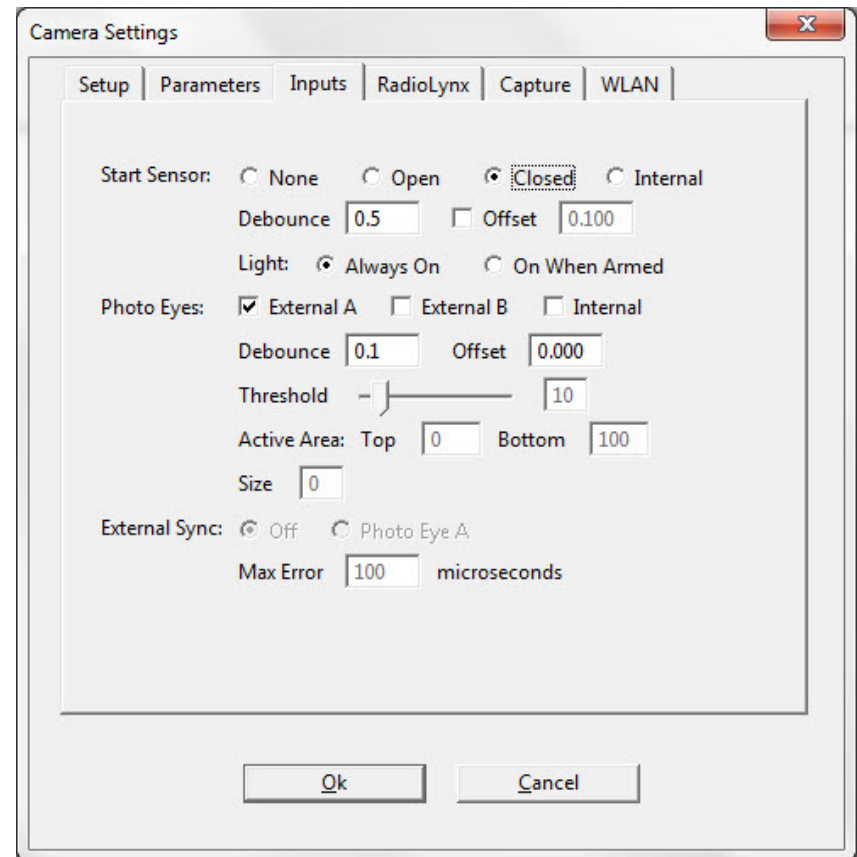
# Camera Parameters

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



# Camera Inputs

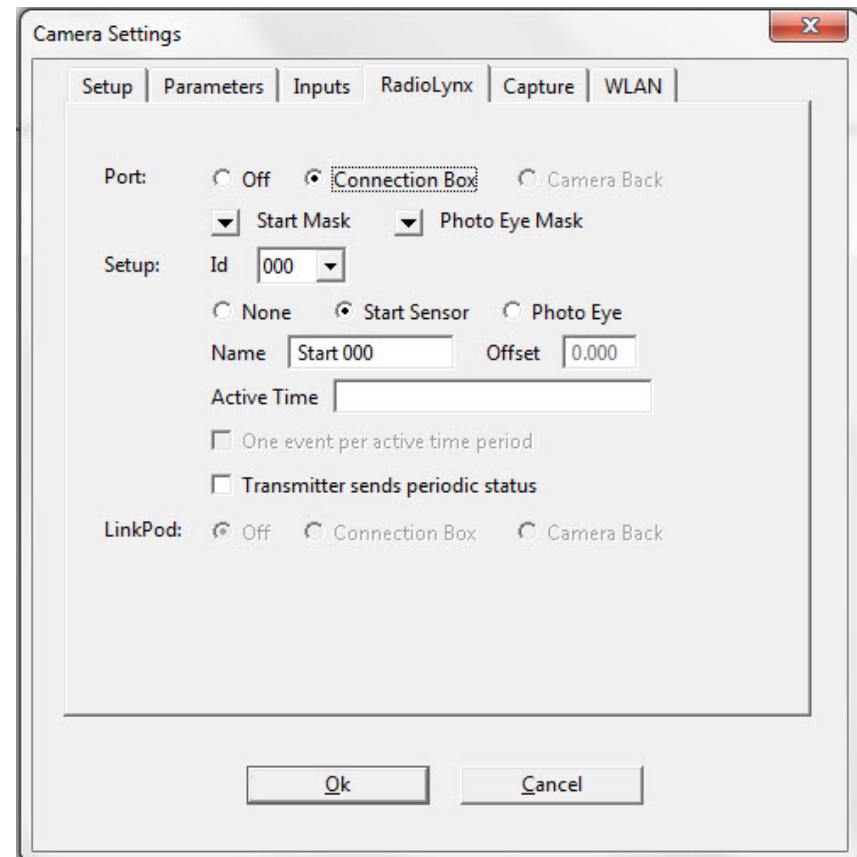
- Using RadioLynx
  - Set to “none”
- Using “Wired” starter
  - Set to “closed” or what is listed on the sensor (look for “NC” or “NO”)
- If not “None” AND you are using wireless sensor, you will see “some sensors failed to arm” when setting up a race





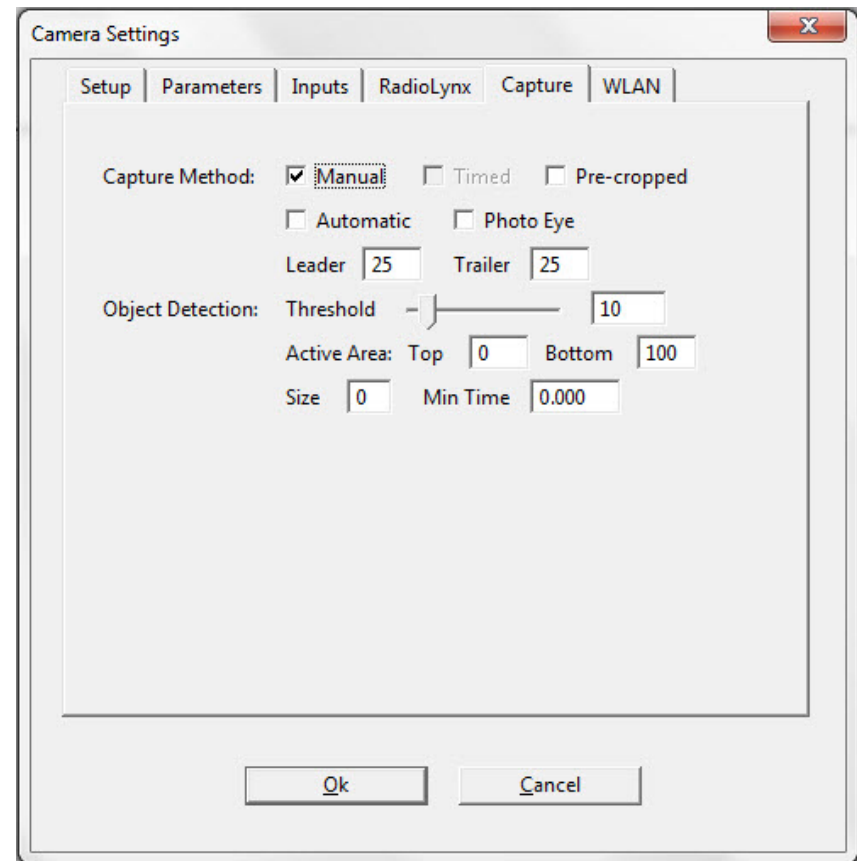
# RadioLynx

- 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 (older RL units only)



# 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

The first screenshot shows the 'FinishLynx - [Hardware Control]' window. A red circle highlights the 'Event' icon in the toolbar, with a red arrow pointing to it and the text 'Click here to create a new event'.

The second screenshot shows the 'FinishLynx - [100216-175854]' window. It displays the 'Event' setup interface. A red circle highlights the 'Event' icon in the toolbar, with a red arrow pointing to it and the text 'Click here to create a new event'. Another red circle highlights the 'a c' status indicator, with a red arrow pointing to it and the text 'a = Armed for next start c = capture will go in this window'. A third red circle highlights the 'Stopwatch / timer' icon, with a red arrow pointing to it and the text 'Stopwatch / timer'. A fourth red circle highlights the 'Event' name field, with a red arrow pointing to it and the text 'Type event name here'. A fifth red circle highlights the 'Yellow' and 'Green' status indicators, with a red arrow pointing to it and the text 'Yellow = armed for next start Green = capture will go in this window'.

Camera	Capture	Rate	Height	Mod
Camera 1	Yes	500 (max 1000)	500 (max 500)	Zoom

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

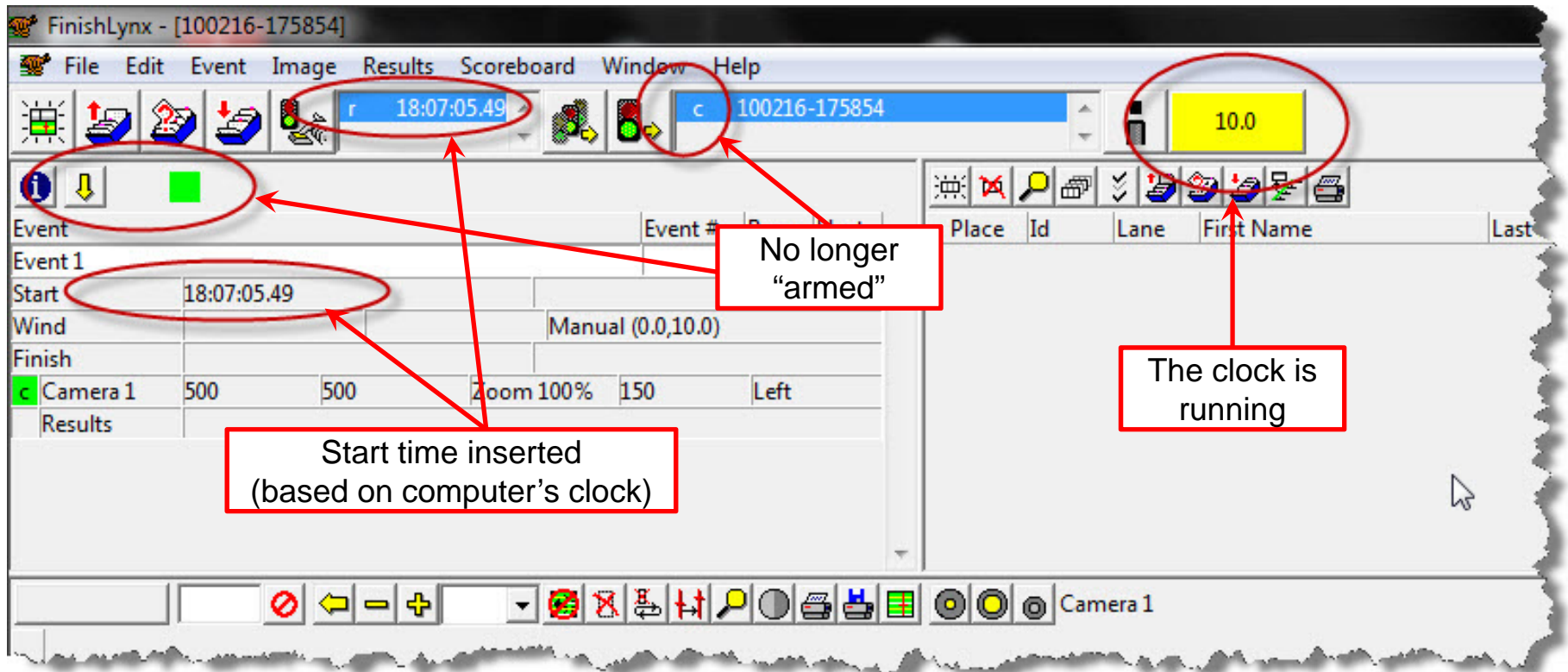
## Step 2 – Signal Start You Are Ready

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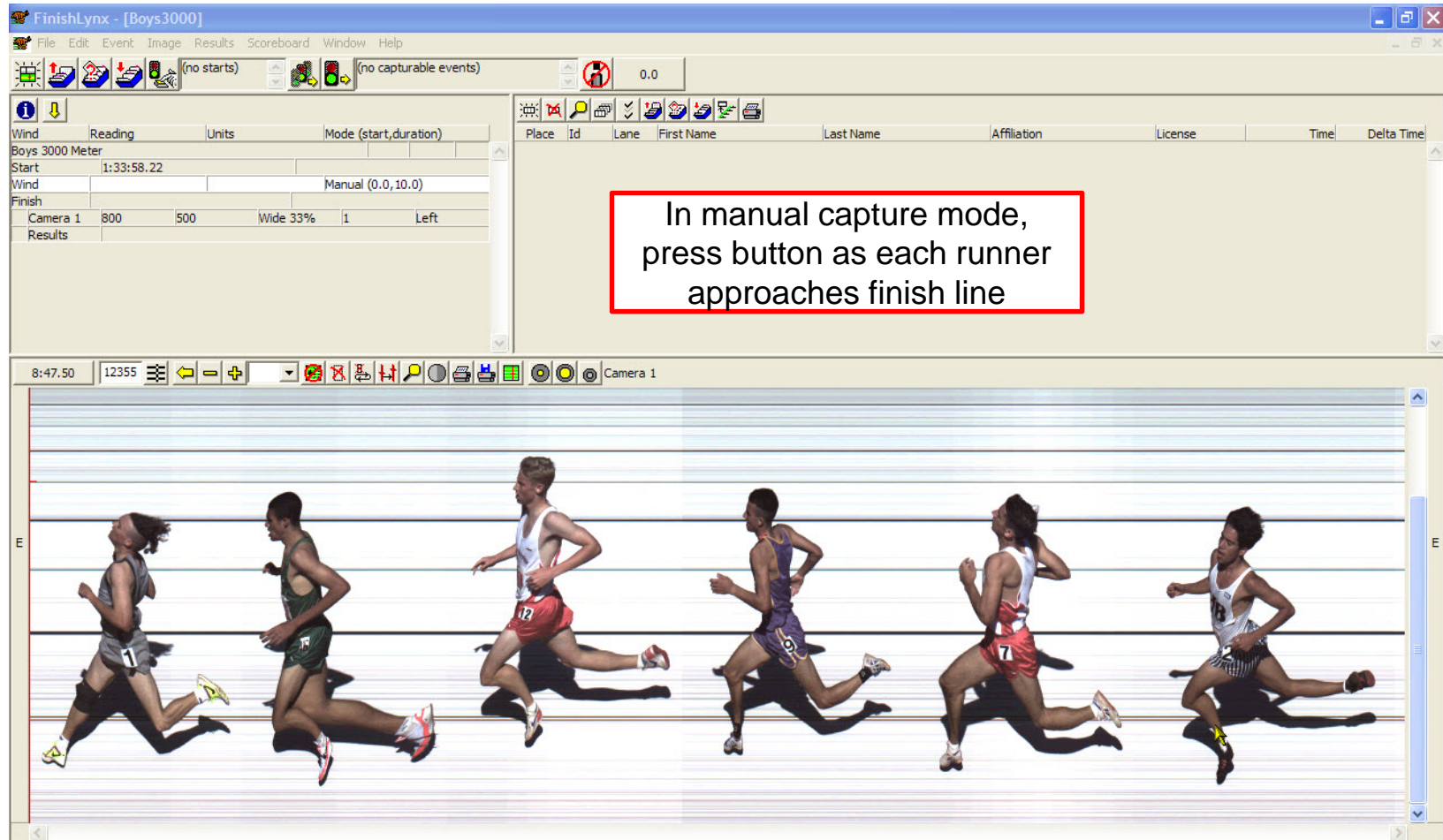
Finishlynx Essentials

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# Step 3 – Verify Start of Race



# Step 4 – Capture The Finishers



## Step 5 – Save the file!



# 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	Miramoto	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

2/11/2013 9:32:20 AM

Boys 3000 Meter

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Finish - Results

Start: 2/13/1997 1:33:58.22

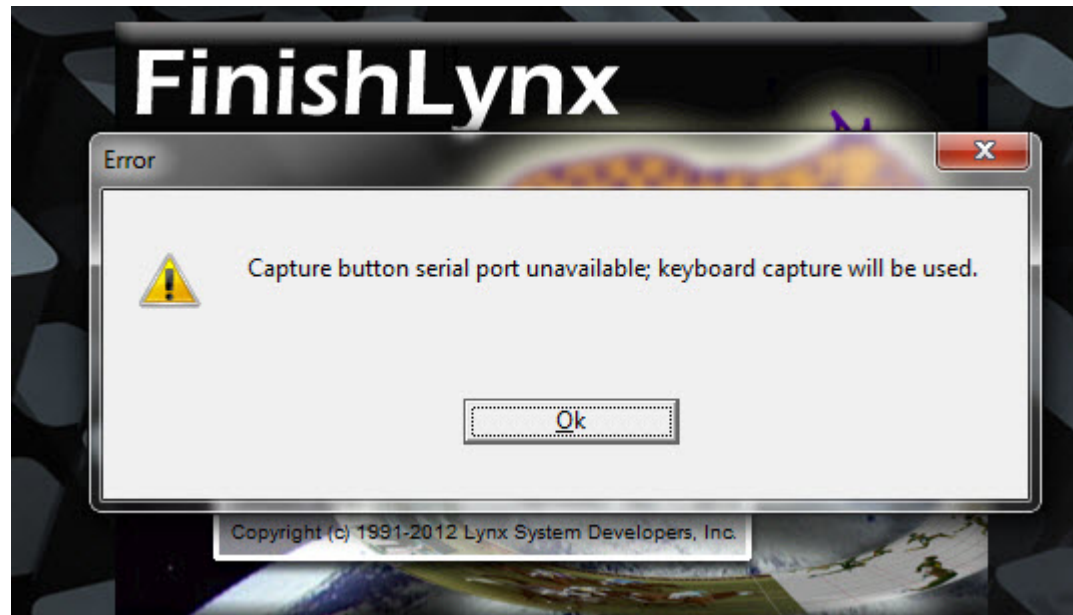
Place	Id	Lane	First Name	Last Name	School	License	Time	Delta Time
1	1507	1	Enrique	Torres	Silver Crk		8:47.57	8:47.57
2	1335	16	Davia	Rodriguez	Mission		8:52.03	4.46
3	1458	12	Brad	Hansen	SaintIgnat		8:52.75	0.72
4	984	9	Brian	Henstorf	Ama Valley		8:54.38	1.63
5	1459	7	Paul	Wellman	SaintIgnat		8:54.96	0.58
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	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
18	1039	10	Jacob	Ekins	Bullard		9:25.92	2.82

# Easy! What Could Go Wrong??

- Setup and Configuration Errors
- “Run Time” Errors

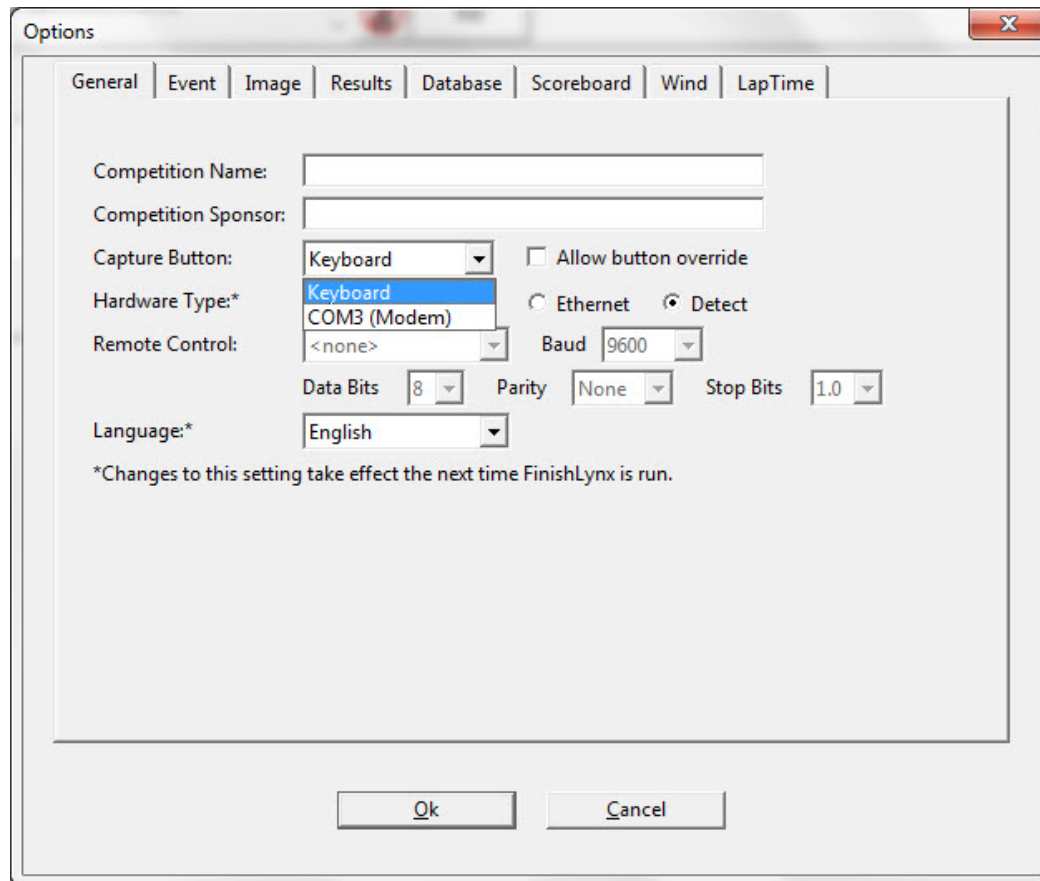
# Setup Errors

- Capture Button error when starting Finishlynx



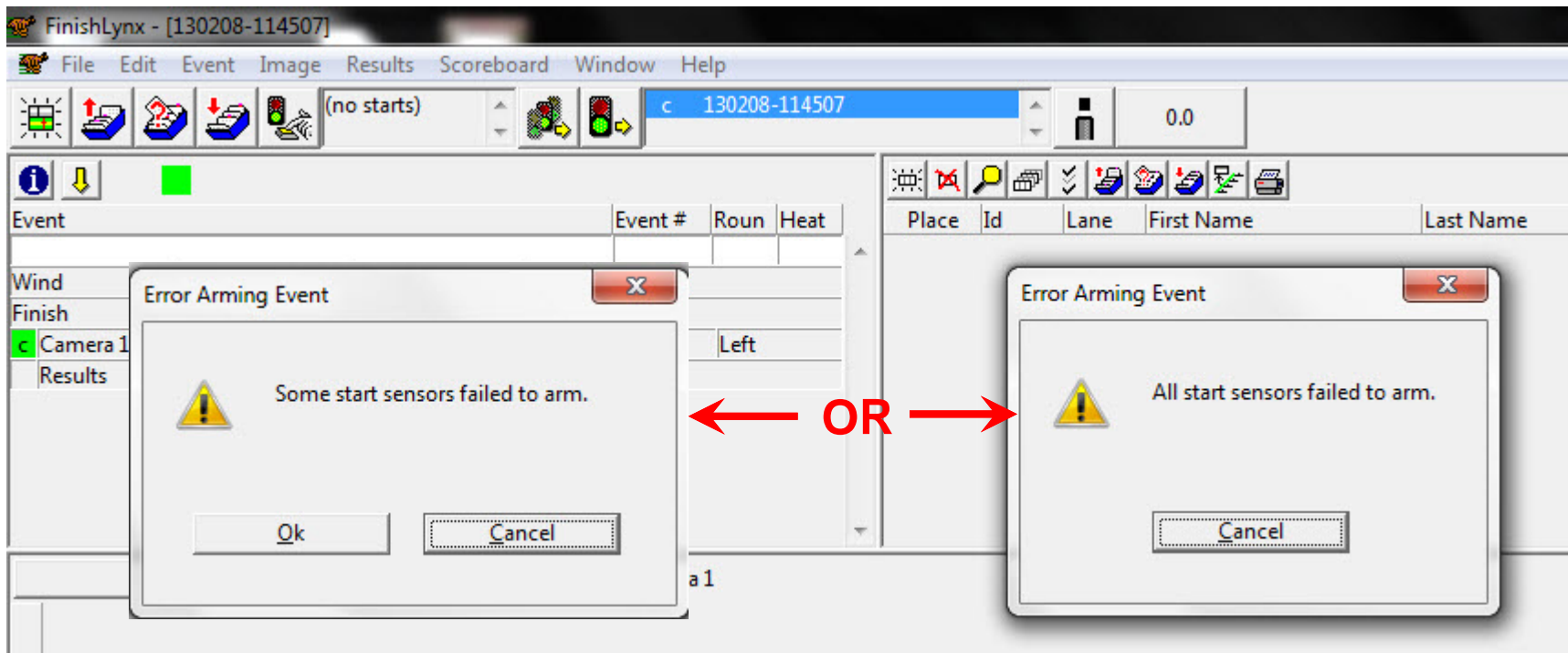
# Setup Errors

- Capture Button fix:

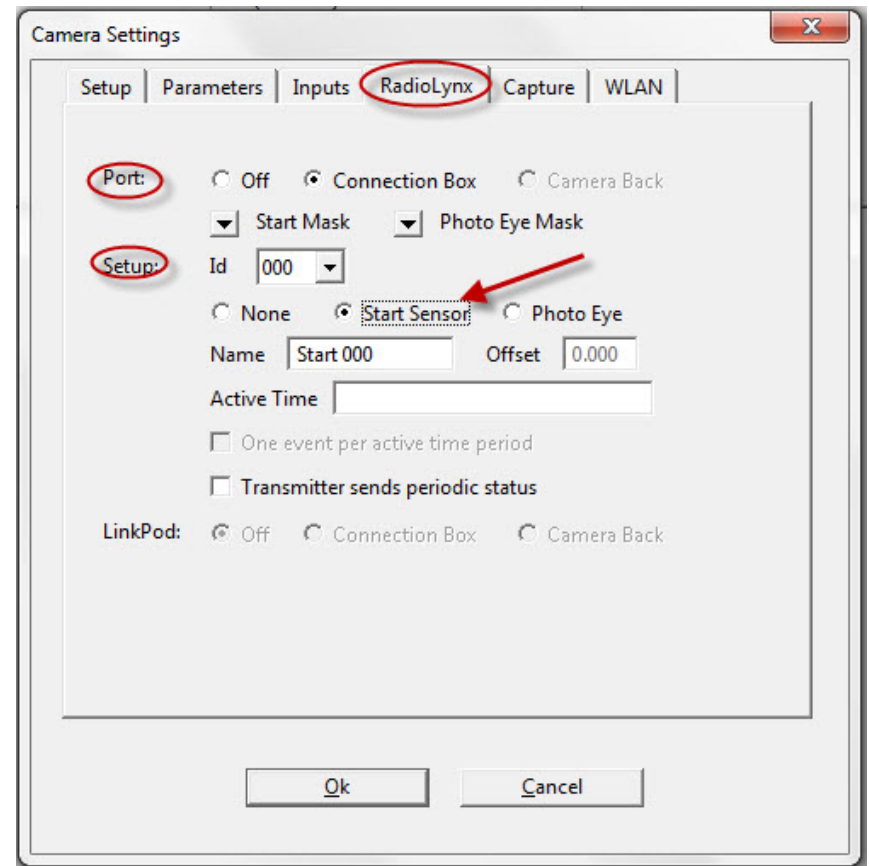
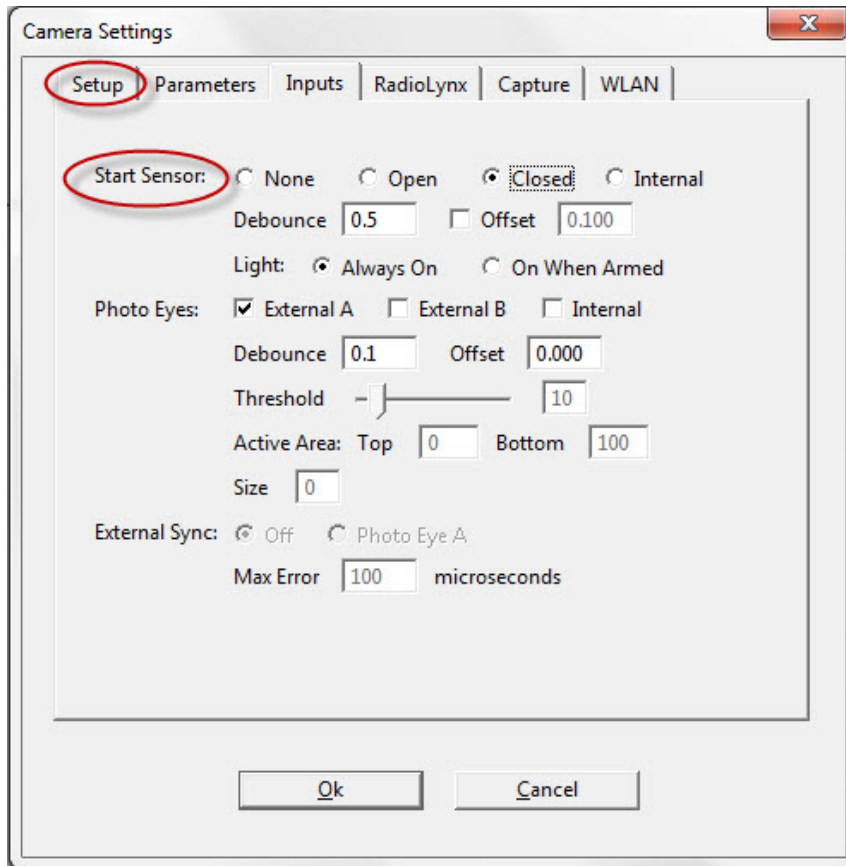


# Setup Errors

- Start Sensor Errors



# Start Sensor Fixes

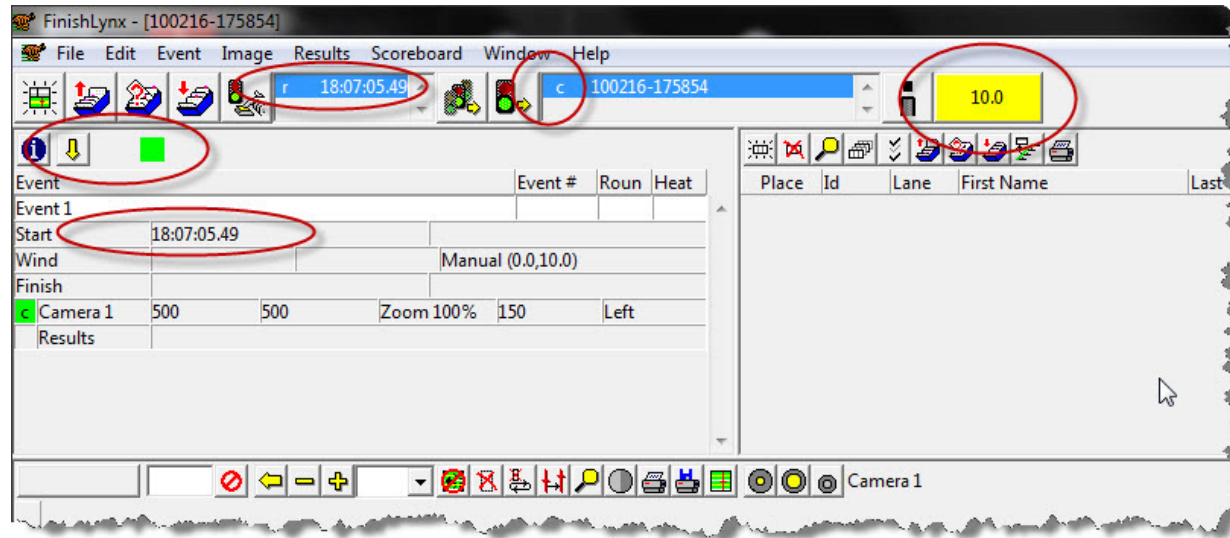


# “Run Time” Errors

- 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



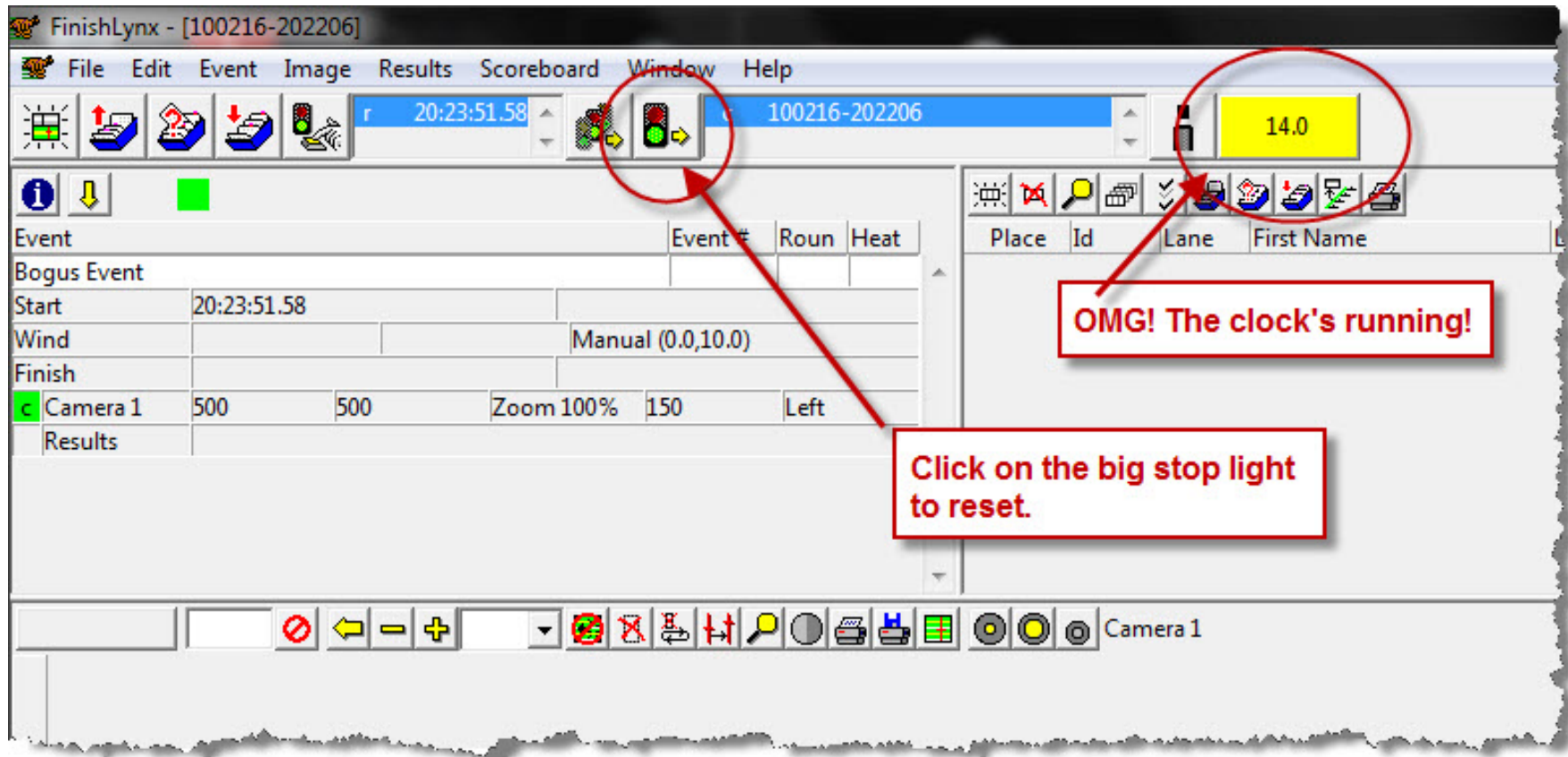
## Two solutions based on time available

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.



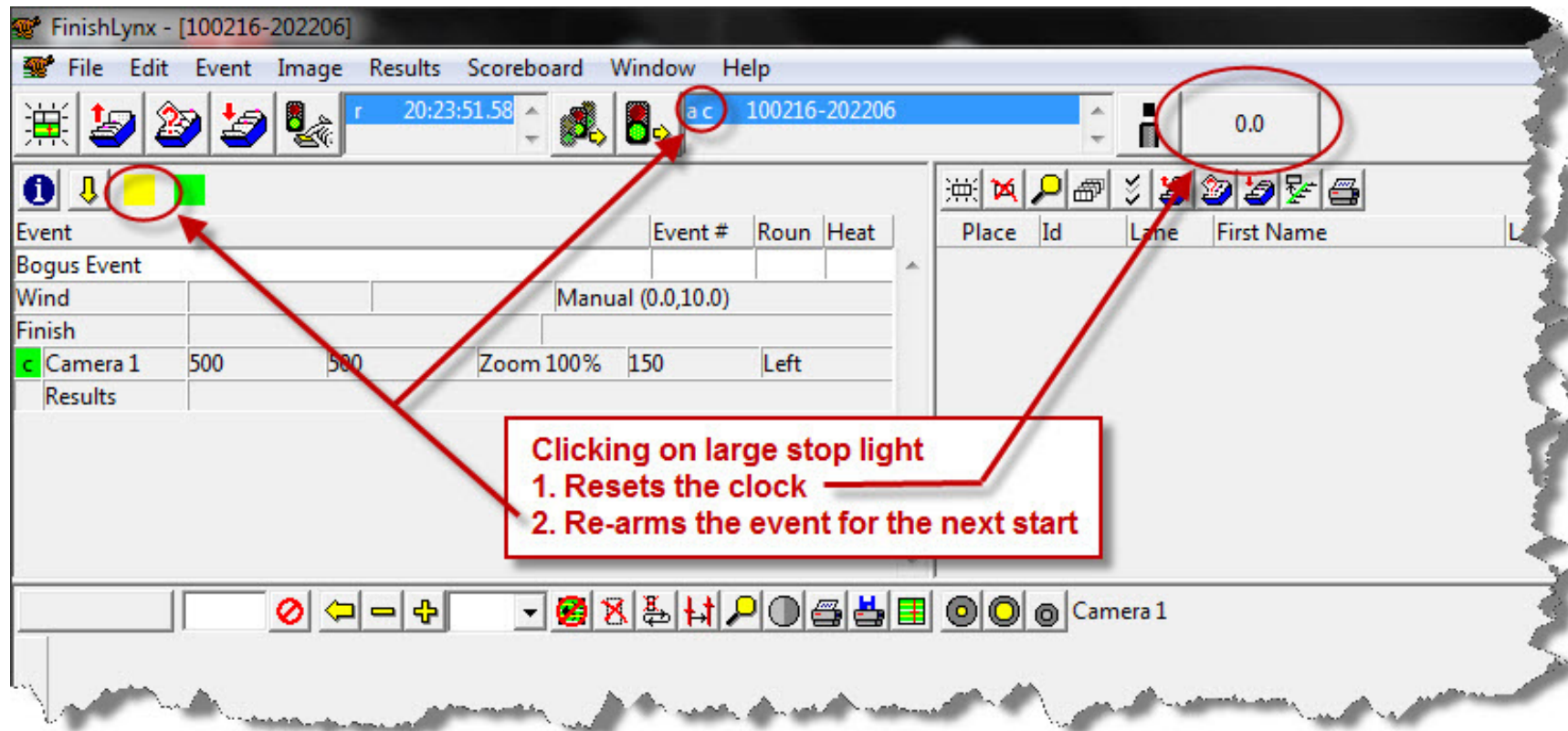
# 1) Re-Arm The Event

- If time permits:



# 1) Re-Arm The Event

- If time permits:



## 2) Assign The Correct Start Time

- “Real” start is about to happen

FinishLynx - [100216-202206]

File Edit Event Image Results Scoreboard Window Help

Start Time List

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

Start time assigned to this event.

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

# Missed Start Signal

## Gun goes off, but no start detected

- **Question 1:** Were you typing at the start?
  - Keyboard entry “holds off” start until you’re done typing – just hit enter a couple of times.
- 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

# 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**

**002,1,2,VB-400-R**

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



# Lynx.sch – the Schedule File

- Optional – don't use it
- Lists events in schedule order
- If present, overrides order in Event file
- Format:

`Event#,round#,heat`

`012,1,1`

`002,1,1`

- **Be careful if you use Meet Manager!**

# 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

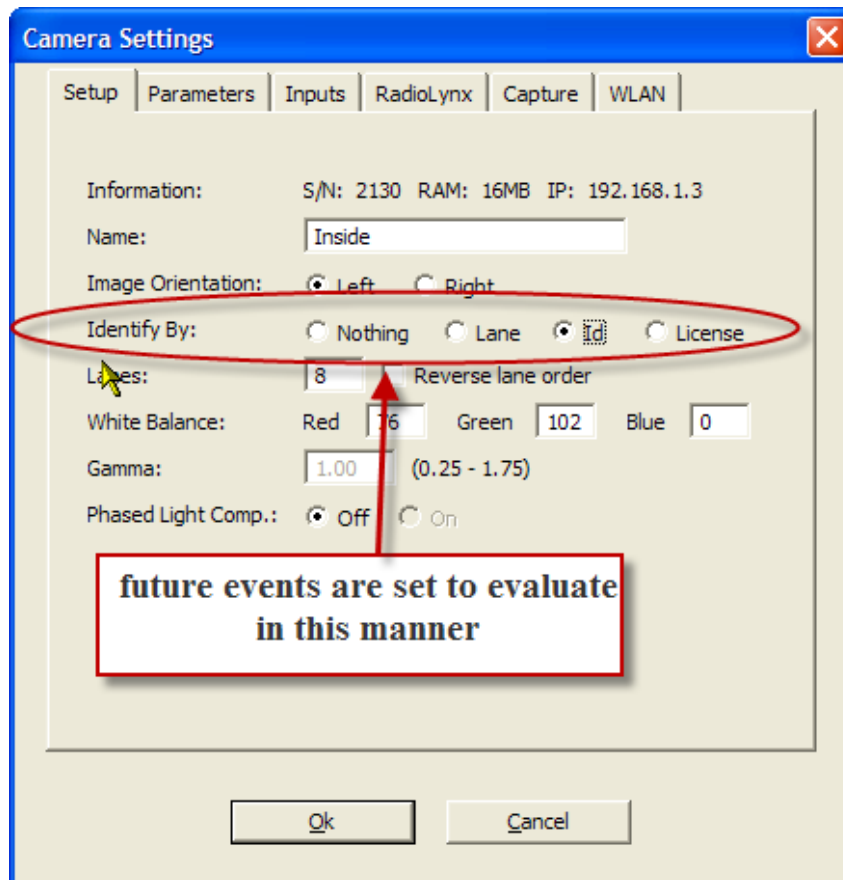
- ID does not have to be numeric – 200A works
- Enter extra entries for relay races  
2000,Los Altos,Los Altos,Los Altos  
2999,Los Altos,Los Altos,Los Altos
- When evaluating, use competitor number instead of typing full name/school, etc.
- Can only enter ID once per race!
- Develop a numbering plan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

# Why Use Files?

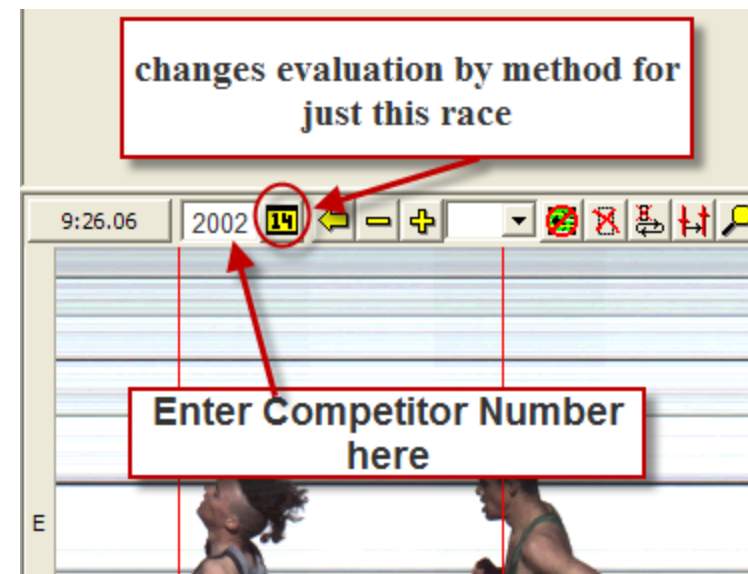
- Speeds up results, requires less people
- Can evaluate by Competitor ID instead of typing full name/school information.

# How To Change Evaluation Method

## Global Setting



## Event-specific setting



# FinishLynx Files Demo

# What Else 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



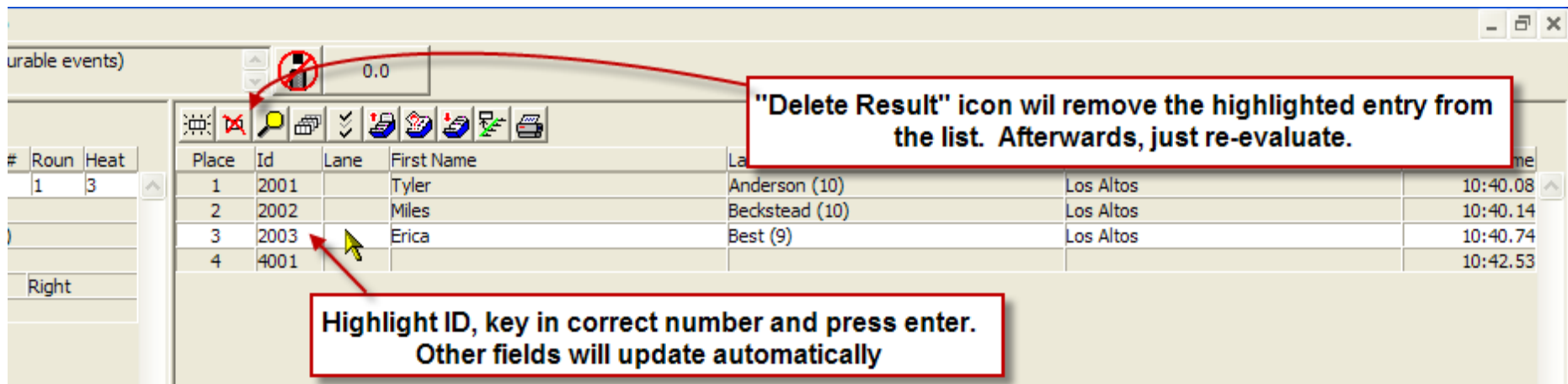
# What Can Go Wrong?

## 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



"Delete Result" icon will remove the highlighted entry from the list. Afterwards, just re-evaluate.

#	Round	Heat	Place	Id	Lane	First Name	Last Name	Time
1	1	3	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

Highlight ID, key in correct number and press enter. Other fields will update automatically

(\* don't use "delete result" if you have a seeded race – (advanced topic)

## Captured a lapped runner

– Skip over the extra runner – no biggie

# What Can Go Wrong?

- Missed capturing a runner
  - Fudge

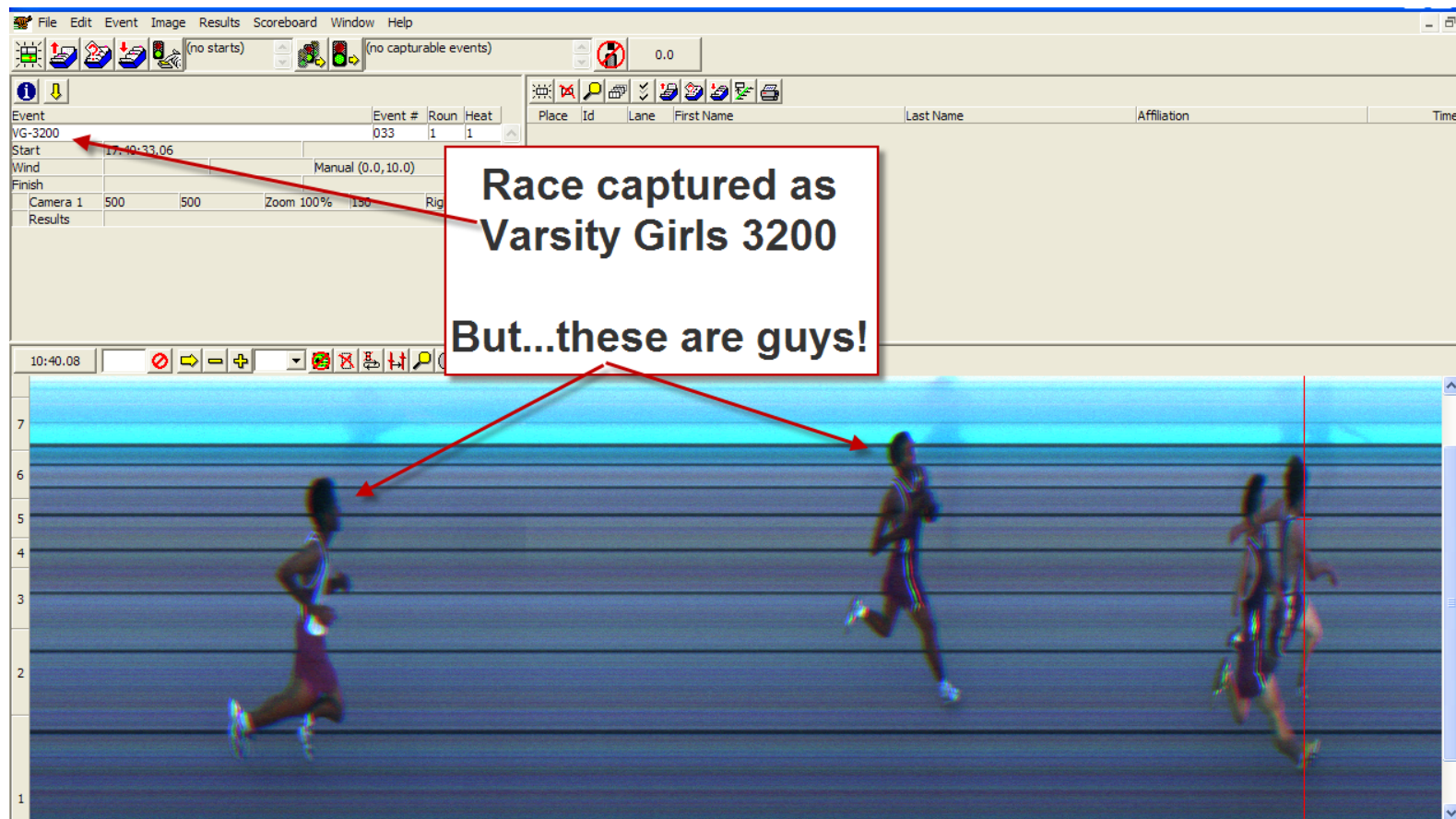
# What Can Go Wrong?

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 (fixed in 8.0)

# What Can Go Wrong?

## Captured using wrong event



# 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. A red arrow points from a callout box to a set of icons in the top toolbar. Another red arrow points from a second callout box to a group of icons in the bottom toolbar. The interface includes a menu bar (File, Edit, Event, Image), a toolbar with various icons, and a data table.

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

Event	Event #	Roun	Heat
VG-3200	033	1	1

Start 17:43:33.06

Wind Manual (0.0,10.0)

Finish

Place	Id	Lane	First Name

Camera 1 500

Results

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

# Fixing the Wrong Event Problem

The screenshot displays the Finishlynx software interface. A 'Goto Event' dialog box is open, showing the following settings:

- Event: 034
- Round: 1
- Heat: 3

The dialog box also includes a 'Load Schedule' button and a list of events. The main window shows the following event details:

Event	Event #	Round	Heat
VG-3200	033	1	1

The 'Start' time is 17:40:33.06. The 'Wind' is Manual (0.0,10.0). The 'Finish' time is 10:40:08. A red arrow points to the 'Start' time field in the main window.

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Finishlynx Essentials

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# 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>

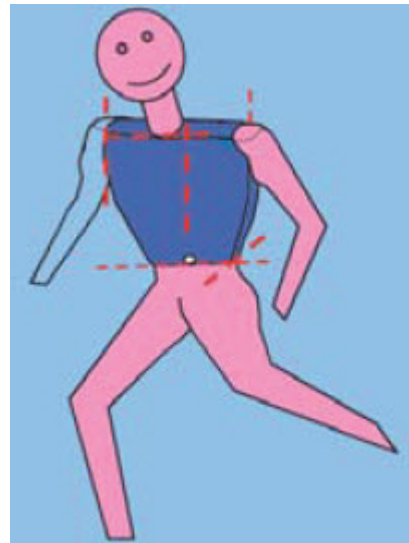
# Evaluating a Picture

## IAAF Rule 164:

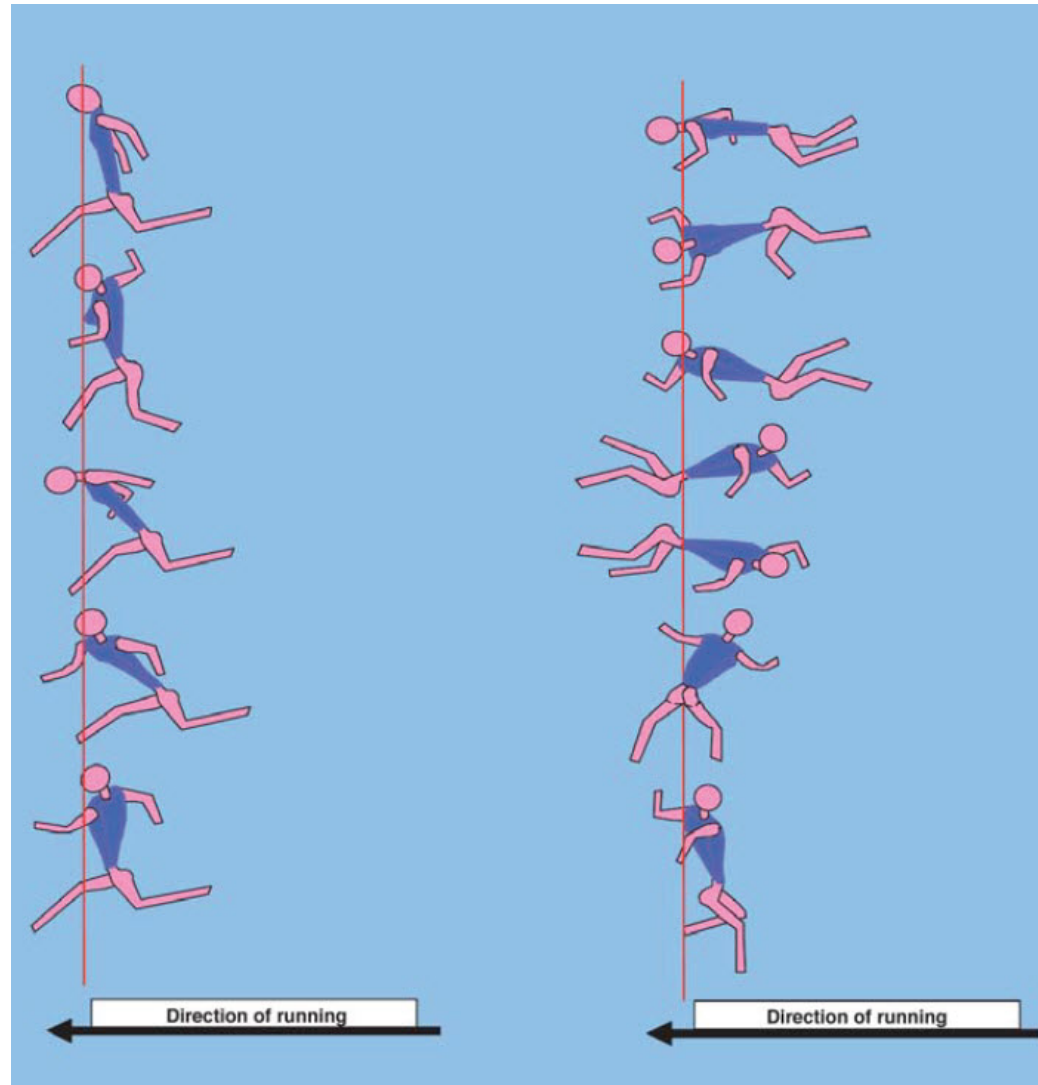
2. The athletes shall be placed in the order in which any part of their bodies (i.e. torso, as distinguished from the head, neck, arms, legs, hands or feet) reaches the vertical plane of the nearer edge of the finish line as defined above.

Or, in a picture...

Sounds  
so simple!



# Evaluating a Picture

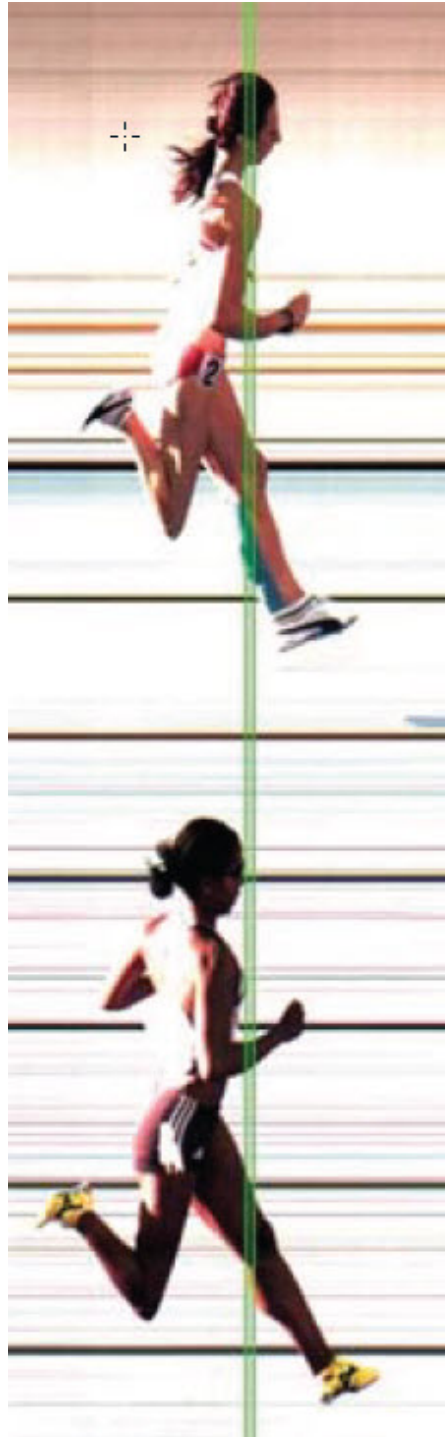


# Evaluating a Picture

- Primary Goal: Be consistent!
- If close, don't be afraid to call it a tie.



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# Other Tricks of the Trade

- Finishline Sheets – examples
- Splitting combined events (Varsity & FSB 1600, etc.)
- Handling combined 3200 (all groups) using autocapture



# After The Race Is Over

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

