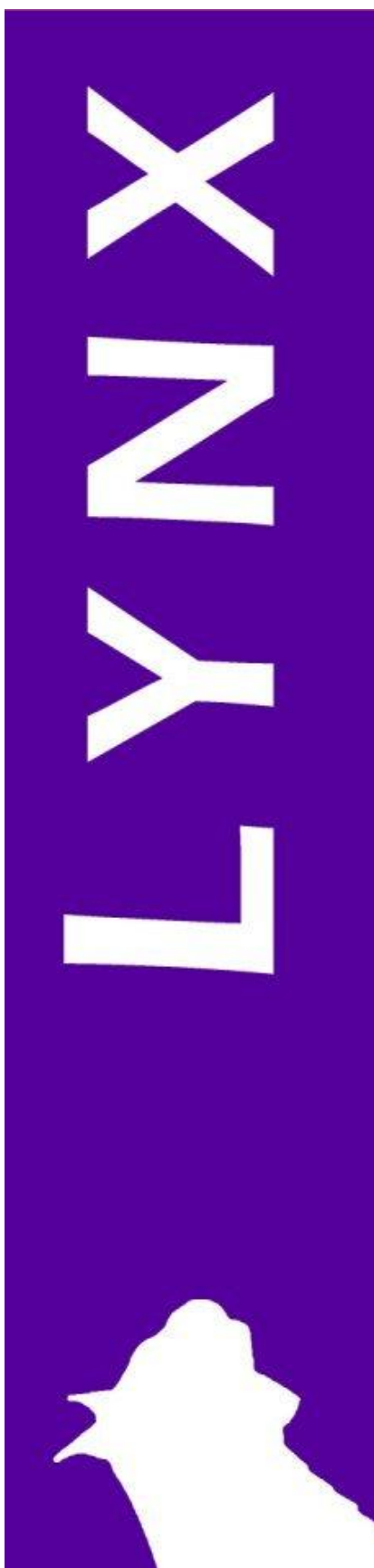




Electronic Recording Using FieldLynx

Grade 2 ERD Skills

An introductory manual for using
the FieldLynx System in electronic
recording for USATF Officials.

Prepared by Laura Gast
November 2014

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I. Competency Levels

Grade 1 ERD Skills

Provided with a handheld device or other Electronic Recording Device that has been pre-loaded, and with the event set-up (i.e. scoreboard addresses, database address, height progressions, number of trials, whether or not there will be finals, etc.), the Association level official will exhibit the following skills:

- Check in athletes
- Set starting height for each competitor (vertical jumps)
- Enter marks
- Enter wind readings (horizontal jumps, outdoor)
- Set up a final (from multiple flights and from 1 flight)

Grade 2 ERD Skills

Provided with a handheld device or other Electronic Recording Device that has been preloaded, the National level official will exhibit the following skills:

- Manage the event set-up
 - Select English or Metric as the means of measurement
 - Set height progressions (vertical event)
 - Set the number of trials
 - Set the number of finalists
- Add an athlete
- Send results to a scoreboard
- Send results to the meet database at the end of each round
- Accomplish the skills for Association level

Grade 3 ERD Skills

Provided with a handheld device or other Electronic Recording Device, the Master level official will exhibit the following skills:

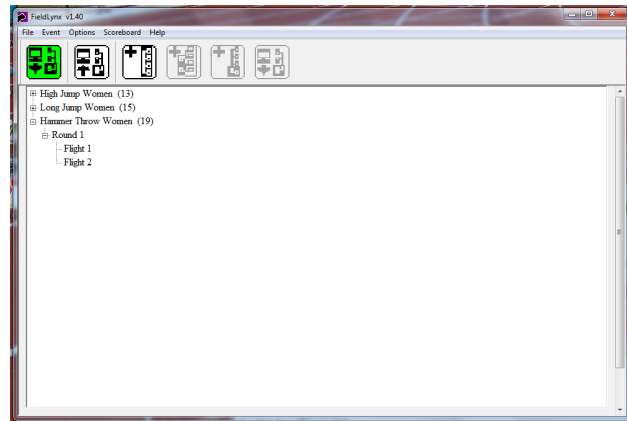
- Set-up the scoreboard address / connect to a scoreboard
- Download the event schedule from the meet database
- Download an event from the meet database
- Accomplish the skills for National Level
- Accomplish the skills for Association Level

II. Introduction to the System

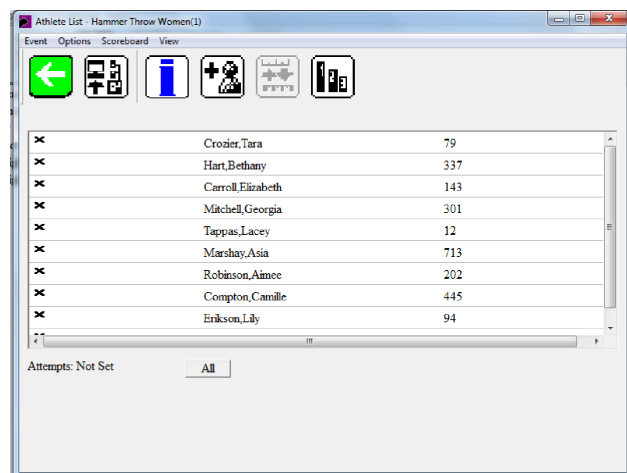
FieldLynx Windows

There are three screens in the FieldLynx system.

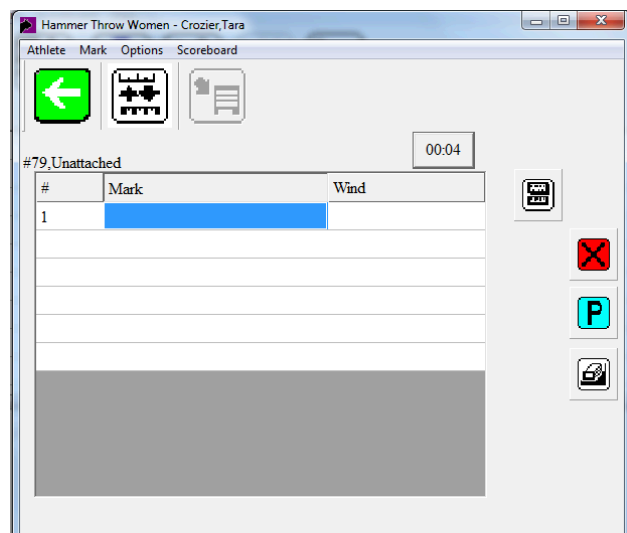
The Main window displays the loaded events, rounds, and flights.



The Flight window displays the list of athletes in a single flight.



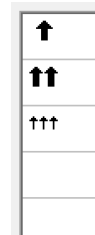
And the Athlete window, in which an athlete's marks are entered.



Up, On-Deck and On Hold

Once athletes are checked in and the event is set up, arrows will appear on the left side of the screen (where the check-in X marks used to be).

During vertical jumps, when opening heights are set, these arrows will only indicate those athletes who are jumping at the current height.



Computer Error

If your computer freezes or the FieldLynx program force-shuts down, DO NOT PANIC. The entered scores will be saved. Simply re-open the program and locate the next athlete up and resume recording.

When re-opening the program, the Up/On-Deck/Hold arrows may not be accurate. Do not trust them for the first few attempts after resuming; verify you are recording the correct athletes scores.

Occasionally, especially working with wire-connected LaserLynx systems, the most recent mark may be deleted during the programs force-shut down. If this happens, quickly confer with the paper recorders, and resume recording.

Toggling Between Windows

As much as is possible, use the Green Arrow to return to a previous window.



Using the red X mark at the top right of the screen (as on all Windows-based programs) can sometimes cause errors in the program causing a force-shut down.



Performance Order

In order for marks to be transferred to the main timing system easily and accurately, do not delete or re-arrange athletes from flights. It is possible to do these things, (and some advanced users may know how to ensure the program coding will transfer scores properly), however it is *strongly suggested* that FieldLynx operators confer with the timing company if changes are to be made to the performance order. The only exception to this is in a situation where an athlete is added to an event. The athlete must not be on the paper copies provided to the paper recorders (indicating it is not in the timer's system for the event). Confer with your event head as to which flight to add the new athlete and then refer to Section 6 in this manual.

Using Digital Performance Boards During Competition

If your computer is connected by Ethernet cable to a digital performance board, the timing of opening windows is important. Each timing company / venue has different settings for how results are displayed on the boards. A reasonable assumption is that whichever athlete's window you are viewing, that is what the audience is viewing on the display board.

For instance, when you are viewing the athlete window, waiting for the person to complete their attempt, the audience is seeing that athlete's name with a blank space where the mark is.

If you are in the athlete window, and you have a mark highlighted (either by clicking on a previous mark or having just entered a new mark) that mark will be displayed by the athlete's name on the board. Because of this, try to delay opening the "Up" athlete's window until sufficient time has passed so that the audience can see the prior athletes score.

For more information, see the Digital Performance Board section in this manual.

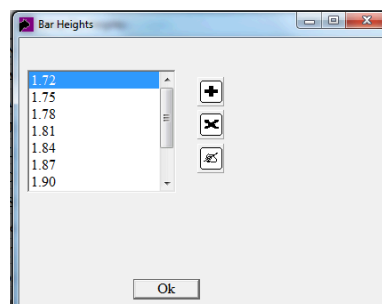
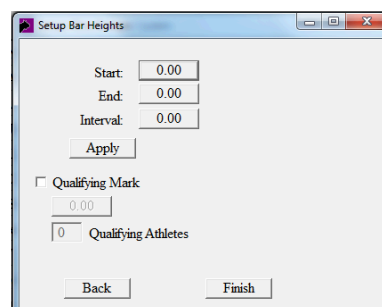
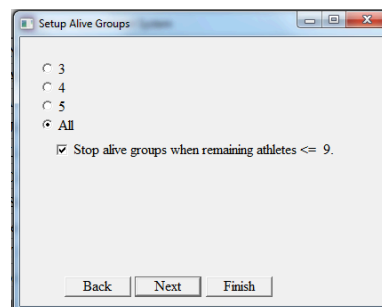
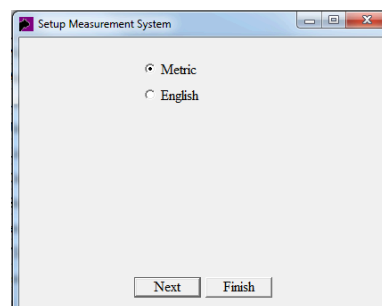
III. Setting Up an Event

Setting up an event must be done before you can check in athletes or enter scores for an event. The timing company or meet management may have already done this step for you, but often times you will be responsible for doing it.

If a wire-connected LaserLynx system will be used for measurement (typically for long throws), have your EDM-Certified official present during set-up to synchronize the computer and laser.

Vertical Jumps

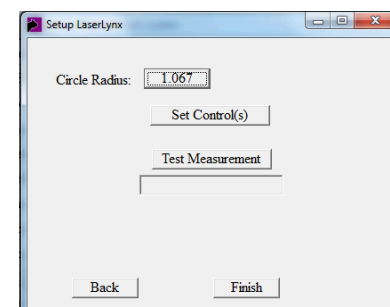
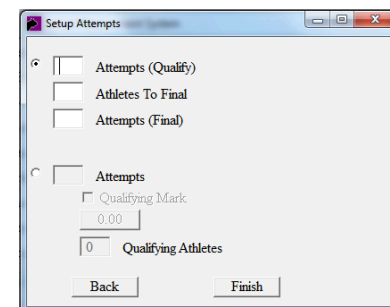
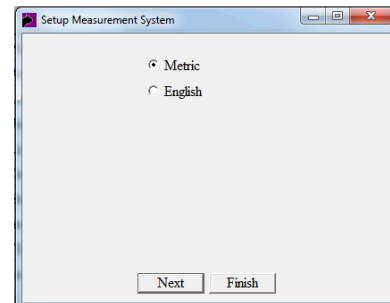
1. Open the Flight 1 Window.
2. Click the Information button. 
3. Choose Metric or English measurement.
4. Press the “Next” button.
5. If you are using a 5-Alive protocol for the event, select the appropriate settings on this window.
6. Enter the Starting bar height, ending bar height, and the progression interval.
7. Click “Apply” and then “View”. Here you can edit heights if the progression is not uniform.
8. Click the “OK” button.
9. Hit the “Finish” button.



IMPORTANT NOTE: If you are running two pits, that is a low pit and a high pit, it is imperative that the height progression is the same for both pits. For the higher pit, you will select “Pass Height” for all of the lower marks for each athlete. This is necessary so that when the results from the two pits can be combined when they are loaded in to the main results computer in the timing booth.

Horizontal Jumps & Throws

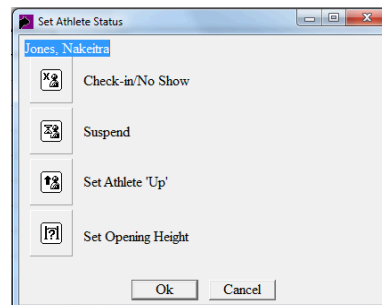
1. Open the Flight 1 Window.
2. Click the Information button. 
3. Choose Metric or English measurement.
4. Press the “Next” button.
5. Specify the event operation: Attempts, Number Advancing to Finals and Additional Attempts (open), or simply Number of Attempts (multis).
6. Click the “Next” button.
7. The following screen is to sync the computer with a wire-connected LaserLynx system. **Have your EDM-Certified official guide you through this window.** He or she will verify the circle radius, and set a zero point for the laser system. If measurements will taken manually using tape or a ‘point-and-shoot’ system not wire-connected to the computer (e.g., a rail-mounted Leica laser typically used for horizontal jumps), this screen is unimportant.
8. Hit the “Finish” button.



IV. Checking In & Scratching Athletes

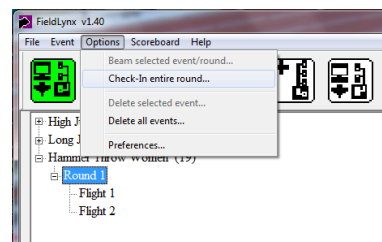
To check in individual athletes in a flight, click on the X mark in the Flight window (far left side of the row with their name) to open the Set Athlete Status window and select “Check-in/No Show”.

To check out individual athletes in a flight, click on the same area (which should be blank) and click the “Check-in/No Show” button.

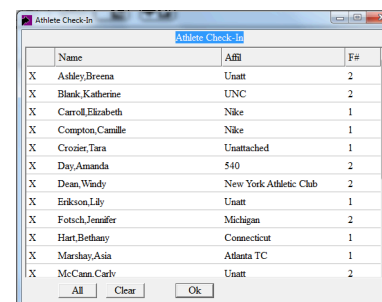


OPTIONAL SHORTCUT: To check in all athletes at once:

1. Go to the main window and click on the “Round 1” header so that it is highlighted.
2. Click “Options” in the toolbar.
3. Click “Check in entire round”.
4. Click “All”.
5. Click “OK”.

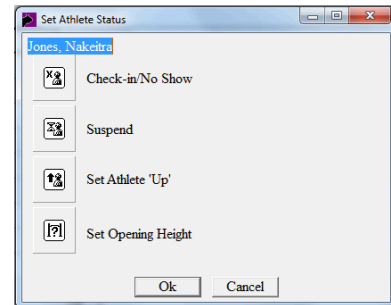


Now that all your athletes for the entire event are checked in, you can go back to check out the few athletes that are no-shows by using the instructions above.



V. Setting Opening Height for Each Competitor

1. Open the Set Athlete Status window by clicking on the far left of the row with the athlete's name.
2. Click "Set Opening Height" and select the height.
3. Click "OK".



VI. Marking an Athletes Score

Manually Entering Scores for Vertical Jumps

1. Open the Athlete window by clicking on the athlete's name.
2. Ensure that you are marking the correct athlete's scores by verifying using the information on the Athlete window [Bib number, Affiliation, Athlete Name].

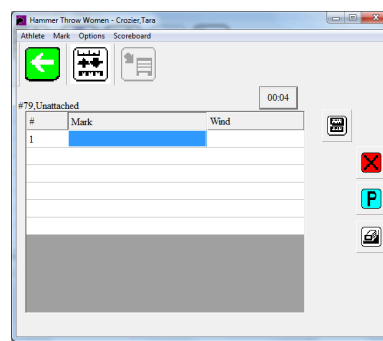
3. Click on Successful Attempt , foul , or Pass .

4. Use the green arrow to return to the main window.



Manually Entering Scores for Horizontal Jumps & Throws

1. Open the Athlete window by clicking on the athlete's name.
2. Ensure that you are marking the correct athlete's scores by verifying using the information on the Athlete window [Bib number, Affiliation, Athlete Name].



3. Click on the Enter Mark , Pass , or foul button .

4. Either click on the numbers or use the computer's number keys to enter the score.
5. Click the enter button or press the computer's enter key.
6. Use the green arrow to return to the Main Window.



Using LaserLynx to Retrieve Scores for Horizontal Jumps & Throws

1. Open the Athlete window by clicking on the athlete's name.
2. Ensure that you are marking the correct athlete's scores by verifying using the information on the Athlete window [Bib number, Affiliation, Athlete Name].
3. Wait for your laser operator to locate the mark through the spotting scope and tell you to mark the score.
4. Click on the Retrieve Mark Button. The laser unit will beep multiple times as it retrieves the measurement and calculates the mark.
5. Use the green arrow to return to the Main Window

NOTE: Avoid clicking the Retrieve Mark Button until your laser operator has located the mark with the laser. Clicking the button early should not cause errors in the accuracy of measurement, but repeatedly doing so will drain the battery on the laser rapidly.

If the laser cannot find the reflector quickly, it *may* freeze the program. If this happens, don't panic. Simply close the FieldLynx program and re-open it to proceed.

Editing Scores

Sometimes it is necessary to modify an athlete's mark.

Situational example: Your event team is using tape to measure marks. When verifying marks with the paper recorders at the conclusion of each flight, you discover you have entered an athlete's first attempt incorrectly.

In order to change the first attempt mark, you must erase the marks for attempts three and two before you can edit attempt one. The FieldLynx program is coded so that it is difficult to accidentally change marks without noticing.



Verifying Best Marks

At the conclusion of each round, verify your recorded marks with the paper recorders' marks.

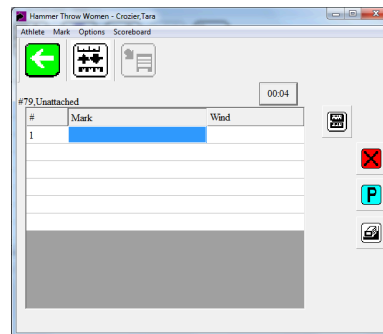
If you wish to verify all three of an athlete's marks, simply open the athlete window and compare.

If you wish to verify only your athletes' best marks, click on the Standings button in the Flight window. This will display the top mark for each athlete and rank him or her as related to the other athletes in their flight.



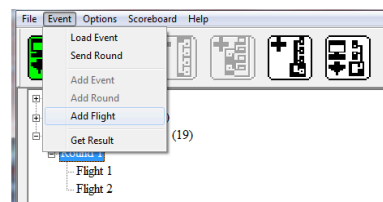
VII. Entering Wind Readings

1. Open the Athlete window by clicking on the athlete's name.
2. Ensure that you are marking the correct athlete's scores by verifying using the information on the Athlete window [Bib number, Affiliation, Athlete Name].
3. Click in the space to the right of the mark in column marked "Wind".
4. Either click on the numbers or use the computer's number keys to enter the wind reading measurement.
5. Click the enter button or press the computer's enter key.
6. Use the green arrow to return to the Main Window.

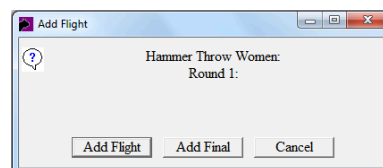


VIII. Creating a Final

1. On the Main Window, click on the Round button to highlight it.
2. Click Event, then "Add a Flight".



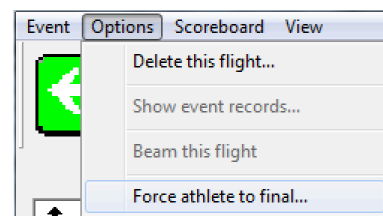
3. Click the "Add a Final" button.
4. On the pop up window, click "OK".



Forcing an Athlete to the Final Round

FieldLynx is coded to break ties to go to finals. You may need to force an additional athlete to go to the final round, based upon a tie for the last advancement position to go to finals (NCAA Rule), or by instruction that a certain number of schools must be represented (possible Games Committee decision) or by special protest.

1. Open the Final.
2. Select "Options", then "Force Athlete to Final"
3. Select the athlete to be added to the Final and click "OK".



IX. Working with Digital Scoreboards

Displaying results on a digital scoreboard

If your computer is connected by Ethernet cable to a digital performance board, the timing of opening windows is important. Each timing company / venue has different settings for how results are displayed on the boards. A reasonable assumption is that whichever athlete's window you are viewing, that is what the audience is viewing on the display board.

For instance, when you are viewing the athlete window, waiting for the person to complete their attempt, the audience is seeing that athlete's name with a blank space where the mark is.

If you are in the athlete window, and you have a mark highlighted (either by clicking on a previous mark or having just entered a new mark) that mark will be displayed by the athlete's name on the board. Because of this, try to delay opening the "Up" athlete's window until sufficient time has passed so that the audience can see the prior athletes score.

If the timing company / venue does *not* have the program set to automatically display results to a digital scoreboard, you must click the "Send Results to Scoreboard" button in the following situations:



1. When an athlete is called "Up"
Be sure the space next to their current attempt is highlighted, and push the "Send Results to Scoreboard" button. This will display the athlete's name, current attempt number, current standing/place, and a space for the mark.
2. When an athlete's mark is retrieved.
Be sure to enter the correct mark by the correct attempt number (or collect the mark automatically using LaserLynx). After the mark is entered, while still in the athlete window, push the "Send Results to Scoreboard". This will display the athlete's name, current attempt number, current standing/place, and their mark.

Be sure to leave the athlete's mark up on the digital scoreboard for a period of time sufficient for the audience to see the athlete's score. If the athletes are moving very quickly through the event, reduce the amount of time that the "Up" athlete is displayed on the scoreboard, not the amount of time that the result mark is displayed.

X. Sending Results to the Meet Database

Before beginning an event, ask the timer how often they would like the results sent to the database. They may ask that you send results after each individual marks, after all 1st attempts and all subsequent attempts, after each flight, or simply at the end of final attempts. Most often, you will either send results at the end of finals, or the timer will have the program set to automatically send results to the database as soon as you enter them (as they are generally posted directly to the internet for live results.)

To send results, simply press the “Send Results to Database” button on the Main Window at the designated point (after attempt, round, final, etc).



XI. Atypical Situations

Flights Run Out of Order

Due to scheduling or weather, it may be necessary to have an athlete from one flight compete in a different flight. If this occurs, do not add athletes already in the system to other flights. Simply toggle back and forth between flights to place the athletes marks by their names.

Be sure to verify that you are entering the mark under the correct athlete's name by using their bib number, team affiliation, and name listed on the athlete window.

Adding an Athlete

Some times, it will be necessary to add an athlete to the computer just before the event is run. Do NOT use this to add an athlete already listed in a separate flight (See above, "Flights Run Out of Order").

1. Open the flight in which the athlete is to be added.



2. Click on the "Add Athlete" button.
3. Enter the athlete's information (all fields are required).
4. Select "OK". The athlete will be added to the end of the final.

XII. FAQs

As an Electronic Management official, you may be asked questions by coaches or parents about the system works. Here are a few common questions.

How does the long throws laser work?

Remember high school geometry and the Pythagorean theorem? That is the basis on which the long throws laser systems work. The unit uses the distance from the laser to the “zero point” (the center of the throwing circle), and then the distance from the laser to the implement landing spot, and then calculates the hypotenuse, which is the official mark.

The important difference between a simple triangle and a throws measurement is that these lasers take geodetic measurements, which take into consideration the curvature of the earth. As an extreme example, the distance from the New York City to Perth, Australia straight through the Earth is much shorter than the distance if you travel over the surface of the Earth.

In long throws, the difference between straight line and geodetic (Earth-curved) measurement can be significant.

How much does a system like this cost?

Often times, coaches are impressed with electronic systems

FieldLynx is free to download, however you must pay a fee to have it sync with Meet Manager, the system that timing companies use to manage and score meets. Just do a Google search for FieldLynx and you can download a copy to check it out for yourself.

Leica Disto, point-and-shoot type systems aren’t prohibitively expensive. The Laser itself can cost around \$500, and then you must also purchase the reflector as well as a tripod system.

Gowin, triangulation-type systems are quite pricey. The laser costs on the order of \$3,000 - \$4,000, and the coordinating reflectors and tripods are also quite expensive.

How hard is it to learn to use?

FieldLynx is very easy to use when it is working properly. Unfortunately, it was originally coded to work on Palm Pilots, and was only slightly adapted to work on computer. Because of this, users can frequently encounter errors in the system and the program can force shutdown. There is no real competitive product to FieldLynx, so there is little

incentive for the program to be overhauled. Basically, when it works, it's easy. When it doesn't, and it often doesn't, it's frustrating.

The Laser systems are also fairly simple to operate when they are working. However it is important to remember that the set-up of these systems is not simple (especially long throws triangulation systems) and must be done to an exacting protocol to be certified as accurate. Factors such as laser unit height and placement of the laser tripod must be factored in to the measurement. You **must** have a Certified EMD (Electronic Measurement Device) Official to certify the set-up of the laser as accurate in order to certify records.

There are exceptionally few USATF Certified EMD Officials. Many individuals have taken a clinic on how to set up devices, but an extensive hands-on, one-on-one test with an existing Certified EMD Official is required to become a Certified EMD Official.

Contact your Association Certification Chair to get more information about EMD clinics and the EMD certification process.

