Lynx Technology Datasheets

FinishLynx Fully Automatic Timing
Major Products

Lynx System Developers, Inc.

3 Key Reasons to Choose FinishLynx

1. Simple, but Powerful

Lynx technology incorporates more than a decade of customer feedback that has resulted in a product line that is easy to use and customizable. Underlying all Lynx products is a philosophy that all our products will link together seamlessly.

This simple concept of links between products is, in fact, the motivation for the company name: Lynx. To the customer, it means that event management is easy: from start lists, to results production, to displaying information on scoreboards. Data flows instantly and without errors.

2. Modular and Expandable

The entire Lynx product line is designed so that the customer can expand in two ways: either by adding new products, or by upgrading existing products to a higher specification. Customers can feel confident that there will be no problems if they choose to buy a basic product; they can upgrade to a more advanced level at a later date.

Our commitment to continuous development and improvement means that enhancements are constantly being added in software design and the implementation of new features. But, thanks to our commitment to free software updates, you can always download and install new software, without worrying about being left behind.

3. Sophisticated, Yet Easy to Use

The numerous Worldwide and U.S. patents that the company holds are evidence of the cutting-edge nature of our products and our commitment to product development.

Whether you are buying a Vision PRO, the most technologically advanced digital photo-finish camera in the world, or LynxPad, an elegantly simple event management program, you can be certain that it has been engineered to the very highest specification, in a way that combines power with ease-of-use. The equipment in use at an International Competition is the same as that in use at Clubs and Universities.

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FinishLynx Photo-Finish Software
## Datasheet

Introduction

FinishLynx is the world's most popular and powerful digital photo-finish and sports timing software. When combined with an EtherLynx photo-finish camera, FinishLynx produces time-stamped results images (accurate to .001 or greater) for world-class fully automatic timing. The FinishLynx software also allows users to interface with an endless combination of cameras, scoreboards, and other 3rd-party accessories to create a powerful and secure results network from behind a laptop.

FinishLynx stands above the rest

FinishLynx differs from other types of results technology because it powers a full range of EtherLynx line-scan cameras to produce true *Fully Automatic Timing* (F.A.T.) results **accurate to 1/1000th of a second (or greater)**. Now that F.A.T. is required by a growing number of national and international athletic organizations (IAAF, USATF, etc.), we've had more and more clubs and federations from across the globe adopting FinishLynx technology.

A line-scan image is comprised of a series of incredibly thin individual pictures of the finish line (and whatever happens to be crossing it), placed one after another. As more and more vertical images are pieced together side-by-side inside FinishLynx, the picture begins to take shape.
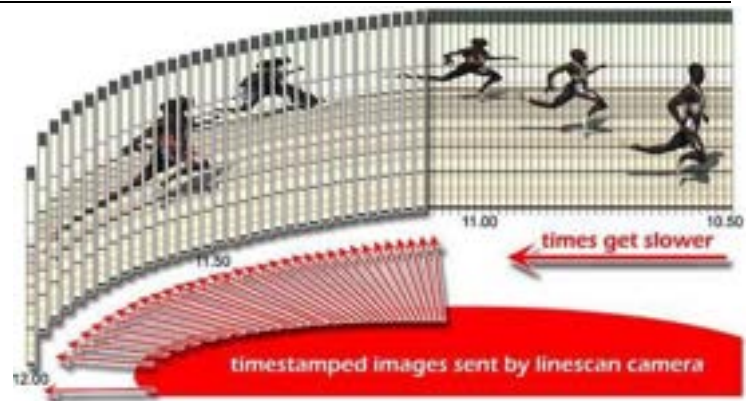
FinishLynx software features

- ✓ Secure file system with enhanced file sharing permissions
- ✓ Control multiple cameras simultaneously, mixing monochrome and color
- ✓ Manual or automatic lane identification inside FinishLynx
- ✓ Image/results printing with automatic start indication
- ✓ Intelligent continuous image zoom and rolling scrolling
- ✓ Live video mode for accurate camera alignment
- ✓ Contrast post-processing and gamma control
- ✓ Start-logging capability
- ✓ Multi-language support
- ✓ Object finder and automatic dead space elimination
- ✓ Native virtual memory for continuous imaging (unlimited maximum capture time)
- ✓ User-configurable pari-mutuel specific interface with automatic beaten lengths calculation
- ✓ Real-time serial user-specified scoreboard interface for running time and results
- ✓ FinishLynx can import/export data directly from/to LynxPad and is also compatible with many 3rd-party database applications.

EtherLynx Vision Camera – 5L500

EtherLynx Vision Photo-Finish Camera
with EasyAlign Mode & LuxBoost Low-Light Upgrade

The (5L500) EtherLynx Vision Camera brings powerful new features to the EtherLynx family of photo-finish cameras. Along with the EasyAlign™ and LuxBoost™, Vision cameras offer hardware and software improvements that make FinishLynx timing systems more powerful and user-friendly than ever before.

Intelligent power management, an onboard rechargeable battery option, faster data transfers, and user-friendly upgrades all combine to make the Vision line of cameras the most versatile sports timing cameras ever made.

EasyAlign allows operators to switch seamlessly between 2-D (alignment) and 1-D (capture) modes for even faster set up. The base model Vision camera captures **1,000** frames per second at **640** pixels high and the high resolution upgrade enables captures up to **2,000** fps at **1,280** pixels. The EtherLynx Vision is an ideal camera for sports like athletics and road races. To capture higher speed finish lines like motorsports or horse racing at up to 20,000 fps, we recommend the next generation **Vision PRO**. See below for a list of brand new features and upgrades available with the Vision.

Powerful Features & Add-Ons

EasyAlign - Full-frame video mode makes camera alignment easier than ever.

Power-Over-Ethernet - All Vision cameras can draw power via the Ethernet cable.

Full-Color - All Vision cameras come standard with the ability to capture color images.

Gigabit Transfers - The first EtherLynx camera to allow for Gigabit Ethernet transfers (1,000 Mbps).

Silent Operation - The Vision runs silently thanks to reduced power consumption and no fans.

Advanced Power Control - New power controls ensure the best power source in each situation.

Wi-Fi [Upgrade] – Connect a small, external Wi-Fi unit to wirelessly transfer timing & results data.

Onboard Level [Upgrade] - Monitor the camera's level and orientation directly from FinishLynx.

LuxBoost™ [Upgrade] - Amplifies available light for better race images in low-light conditions.

Electronic Filter Control [Upgrade] - Users can enable/disable low-light filters from FinishLynx.

High-Resolution [Upgrade] – Provides captures up to **2,000** fps with up to **1,280** pixels of height.

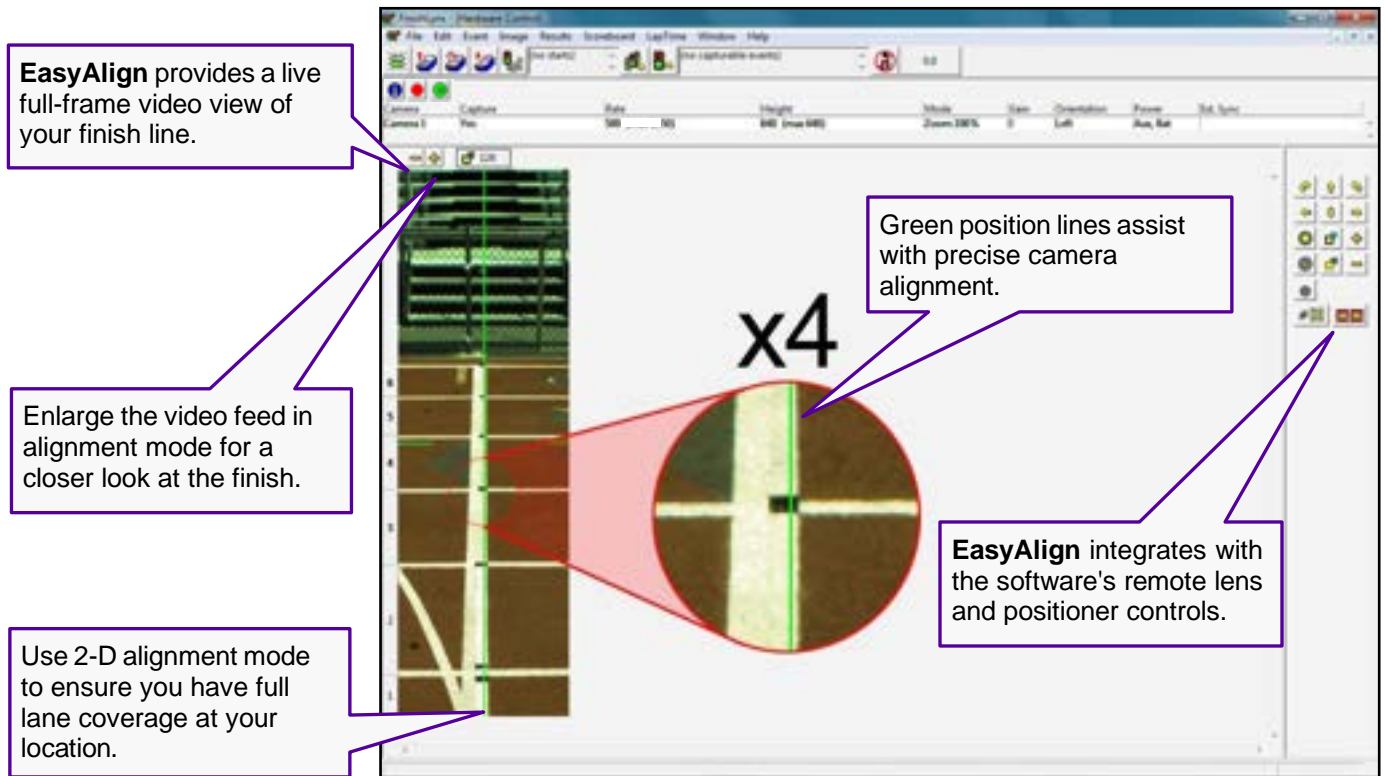**Internal Battery Backup [Upgrade]** - Battery pack allows the camera to withstand power loss.

Electronic Viewfinder [Upgrade] – Connect a video viewfinder to the HDMI port for alignment.

Video Display Module [Upgrade] - Send live results from camera to HDMI-connected display.

EasyAlign 2-D Video Alignment Mode

All EtherLynx Vision cameras offer EasyAlign full-frame video alignment mode. EasyAlign displays a live, full-frame video preview of the camera's field-of-view on your computer screen. The 2-D preview also overlays two thin lines (vertical and horizontal) so the camera can be adjusted visually to ensure precise alignment on the finish line. Once aligned, just switch the camera back to 1-D capture mode for accurate, photo-finish results images. This new 2-D video mode makes it extremely simple to align the camera quickly and accurately on the finish line to ensure accurate results.

EasyAlign provides a live full-frame video view of your finish line.

Enlarge the video feed in alignment mode for a closer look at the finish.

Green position lines assist with precise camera alignment.

EasyAlign integrates with the software's remote lens and positioner controls.

Use 2-D alignment mode to ensure you have full lane coverage at your location.

Advanced Power Options and Management

The Vision offers a number of advanced power options not previously available in EtherLynx cameras. The Vision can receive power via PoE, from an AC adaptor, or from an optional battery pack. These options not only give timers more flexibility, but also provide new power management options inside the FinishLynx software.

Power-Over-Ethernet: The Vision can run completely over a PoE connection. This means it can be operated without any AC power (just like IdentiLynx cameras). Simply connect the Vision to an Ethernet PoE switch or injector with a single CAT5/6 cable to provide both power and data connectivity.

PoE or DC inputs

Software Power Controls

See Available Sources

Power
Aux, Bat

Monitor Battery Health

Power
Bat (7.1v-Ok)

Click to Reboot Remotely

Power
Aux, Bat
Shut down...   Power ▶
Restart...

Advanced Power Control: The Vision has a brand new advanced power control option that works with the software to monitor available power options, and it can even be used to remotely reboot distant or hard-to-reach cameras.

Optional On-Board Battery: With the optional rechargeable NiMH battery pack installed, the software reports battery levels, and seamlessly switches to battery operation in the event of a loss of power.

LuxBoost™ Low-Light Amplification Technology

The optional LuxBoost technology dramatically amplifies the light available for 1-D image captures. Improved light sensitivity means that the camera can capture high-quality images in very low-light conditions. Historically, once an operator had made all possible adjustments to scan rate, gain and filters, they were still limited by the available light. LuxBoost changes that.

LuxBoost employs advanced hardware and software techniques to amplify the available light. The images on the right show a direct comparison between two EtherLynx cameras capturing the same race at dusk (8:00pm). The top image was captured with an EtherLynx 2000+ while the bottom was captured with an EtherLynx Vision using LuxBoost.

With a light amplification factor that is user-configurable between 2x and 4x, LuxBoost not only illuminates the image, but it also increases the visibility of key elements necessary for athlete identification like the hip numbers.

The Value of LuxBoost Low-Light Amplification
EtherLynx 2000+ Capture at Dusk
EtherLynx Vision with LuxBoost

Unaltered Images
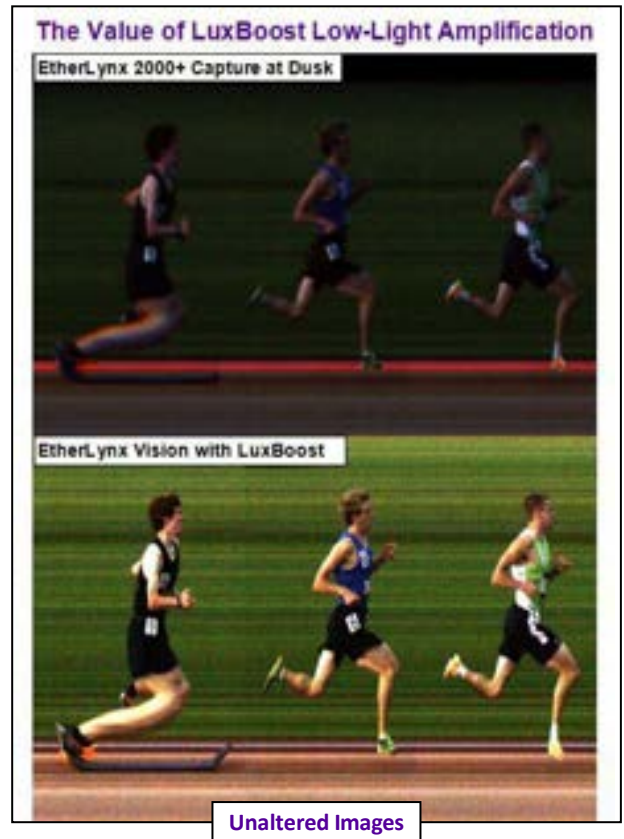
All-Inclusive Packaged Solutions

Packages Contain Everything You Need

ETHERLYNX VISION CAMERA

Vision Hardware Specifications

Item	Specification
Pixels (vertical)	640; 1280 with High Resolution Option (continuously adjustable)
Distance Camera to Computer	100m Cat 5/6, 2,000m Fiber Optic (with converter)
PC-connection	10/100/1000Mbit/s 802.3 Ethernet Topology
#colors/pixel	Up to 31bit – 2 billion colors (user adjustable)
Sensor Type	CMOS Array
Internal Camera Memory	1Gb, Expandable to 2Gb
Acquisition Rate	100 – 1,000 frames per second; 2,000 with High-Resolution option
Frame Rate Adjustment	Continuously Adjustable
Time Base	1 Part Per Million (.001s per 16.7 min) - Temp. Compensating
Lens Mount	CS Mount (C-Mount with adaptor)
Camera Alignment Aids	EASYALIGN ™ full video image preview
Remote Lens Option	Yes
Remote Alignment Option	Yes
Phased Light Compensation	Optional Add-on
Built-In Battery Backup	Optional Add-on
802.11 Wireless connectivity	Optional Add-on
Light Sensitivity	High – Extreme low-light capability with optional LuxBoost™
Switchable IR Filter	Optional - Electronically Controlled 2 stage
Digital Zoom	Optional 2x
Gamma Control	Software
Image Compression	Real-time Lossless
Built-In Battery Backup	Optional
Start Signal Options	• Manual Start • Normally Open wired sensor/switch closure • Normally Closed wired sensor/switch closure • Optional RadioLynx wireless start
Power Input	POE, internal rechargeable batteries, 100-240 VAC with Adaptor, or optional 12v DC input
Operating Temperature	0° - 60°C
Control multiple cameras from 1 computer	Yes
Mix and Match Camera Models	Yes
Auto-Iris (in addition to Auto-Gain)	Yes
"Hot-swap" instant replacement guarantee	Yes. Applies to in-warranty cameras
Approvals	UL and CE
Camera Body Dimensions	15.7cm x 7.5cm x 15.5cm
Camera Body Weight (Excluding Lens)	1.4Kg

FinishLynx Software Features

- Selectable User Interface Language
- Evaluate image while race still in progress
- Allows multiple events to be active simultaneously
- Apply missed starts
- Interface to Meet Manager
- Optional Automatic Capture capability

- Optional Software Photocell function
- User Configurable Screen Layout
- Optional IP-network connection to serial devices
- User-scriptable scoreboard interface
- Optional Interface to RFID transponders/pushbutton timers for split timing

EtherLynx Vision PRO Camera – 5L600

EtherLynx Vision PRO Photo-Finish Camera
with EasyAlign, LuxBoost, and up to 20,000 FPS Capture

The **EtherLynx Vision PRO** is an elite-level photo-finish camera that combines the user-friendly features of the EtherLynx Vision with the speed and power of the EtherLynx PRO. The Vision PRO is the latest in a long line of EtherLynx cameras and it brings powerful new features to the world of high-speed sports timing.

Along with the EasyAlign™ and LuxBoost™ features, Vision cameras offer hardware and software improvements that make FinishLynx timing systems more intuitive than ever. The standard Vision PRO captures **3,000** frames per second at 1024 pixels high and includes features like LuxBoost4, On-Board Level, and Electronic Filter Control all standard. There are also two high- resolution upgrades that increase image height and capture rates to **6,000 fps** (at 2048 pixels) and an unprecedented **20,000** fps. The high frame rate (20k) and advanced capture settings make the Vision PRO an excellent choice for high-speed timing applications like horse racing, cycling, motorsports, and more.

Elite-Level Photo-Finish Camera Features

High-Speed Capture – Comes standard with **3,000** fps. Optional upgrades enable **6,000** & **20,000** fps.

Power-Over-Ethernet – Provide camera power and data transfers from a single Ethernet cable.

EasyAlign - Full-frame video mode makes photo-finish camera alignment easier than ever.

Gigabit Transfers - Capture large images quickly with Gigabit Ethernet transfers (1,000 Mbps).

LuxBoost™ - Amplifies available light for better race images in low-light conditions.

Advanced Power Control - New power controls ensure the best power source in each situation.

Backwards Compatible - The Vision PRO is compatible with all Lynx cameras sold since 1996.

Onboard Level - Monitor the camera's level and orientation directly from FinishLynx.

Electronic Filter Control - Users can enable or disable low-light filters from FinishLynx.

Phased Light Compensation [Upgrade] – Helps reduce dark lines caused by artificial lighting

Internal GPS [Upgrade] - Sync with GPS times for use with Motorsports and Time of Day events.

Video Display Module [Upgrade] - Send live results from camera to HDMI-connected display.

High-Resolution [Upgrade] – High-Res. provides **6,000** or **20,000** fps captures at **2048** pixels high.

Electronic Viewfinder [Upgrade] – Connect a video viewfinder to the HDMI port for alignment.
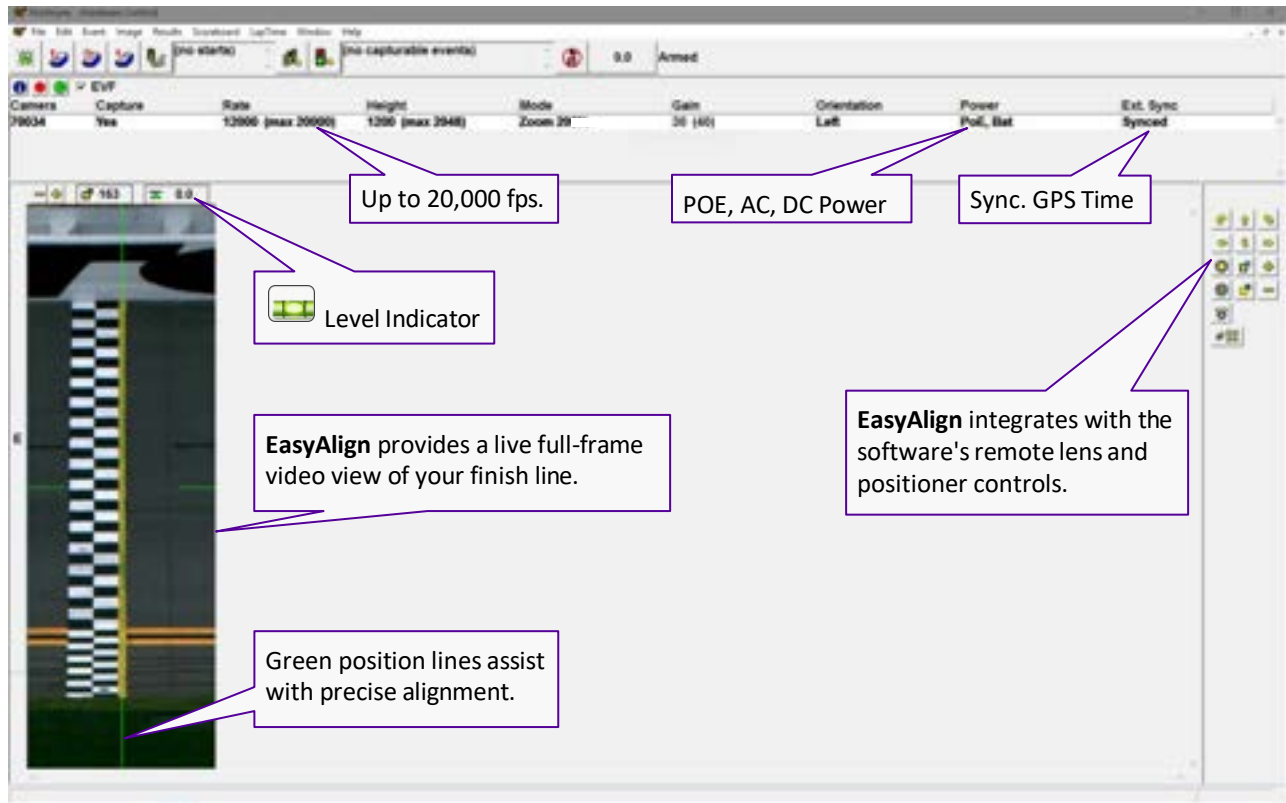
Wi-Fi [Upgrade] – Connect a small, external Wi-Fi unit to wirelessly transfer timing & results data.

Internal Battery Backup [Upgrade] - Battery pack allows the camera to withstand power loss.

⊞ EasyAlign™ 2-D Video Alignment Mode

The Vision PRO offers EasyAlign full-frame video alignment mode. EasyAlign displays a live, full-frame video preview of the camera's field-of-view on your computer screen. The 2-D preview also overlays thin lines (vertical and horizontal) so the camera can be adjusted visually to ensure precise alignment on the finish line. Once aligned, just switch the camera back to 1- D capture mode for accurate, photo-finish results images. This new 2-D video mode makes it extremely simple to align the camera quickly and accurately on the finish line to ensure flawless FAT results.

Up to 20,000 fps.

POE, AC, DC Power

Sync. GPS Time

Level Indicator

EasyAlign provides a live full-frame video view of your finish line.

EasyAlign integrates with the software's remote lens and positioner controls.

Green position lines assist with precise alignment.

⊡ Advanced Power Options and Management

The Vision PRO offers several advanced power options not previously available in EtherLynx cameras. The Vision PRO receives power via Power-over-Ethernet (PoE), from an AC adaptor, or from an external battery. These options provide more flexibility for all types of venues.

Power-Over-Ethernet: The Vision PRO can run completely over a PoE connection. This means it can be operated

PoE or DC inputs

without any AC power (just like IdentiLynx cameras). Simply connect the Vision PRO to an Ethernet PoE switch with a single CAT5/6 cable to provide both power and data connectivity.

Advanced Power Control: The Vision has an advanced power control option that works with the software to monitor available power options, and it can even be used to remotely reboot distant or hard-to-reach cameras.
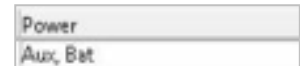
Optional On-Board Battery Backup: With the optional rechargeable NiMH battery pack, the software reports battery levels, and seamlessly switches to battery operation in the event of a loss of power or disconnected cable.
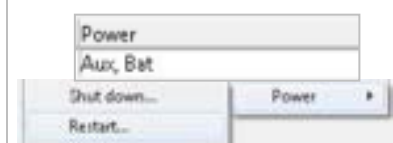
Software Power Controls

See Available Sources

| Power |
| Aux, Bat |

Monitor Battery Health

| Power |
| Bat (7.1v-Ok) |

Click to Reboot Remotely

| Power |
| Aux, Bat |

| Shut down... | Power ▸ |
| Restart... | |

LuxBoost Low-Light Amplification

LuxBoost is a premium feature for Vision cameras that dramatically amplifies the light available during image captures. Improved light sensitivity means that the Vision PRO can capture high-quality images in very low-light conditions. LuxBoost illuminates the image and increases the visibility of key elements. It is particularly valuable for high-speed applications and racing at twilight or under artificial lighting conditions. Historically, once a timer made all possible adjustments to scan rate, gain, and filters, they were still limited by the available light. LuxBoost changes that.

Maximum LuxBoost Levels

Frame Rate	Pixel Height	Max LuxBoost
3,000 fps	1,024	**8x**
6,000 fps	2,048	**8x**
10,000 fps	2,048	**6x**
20,000 fps	1,024	**5x**
20,000 fps	2,048	**1x**

The Vision PRO comes standard with LuxBoost4 for **4x** light amplification. LuxBoost8 can also be added for extreme low-light conditions. The max LuxBoost levels are also limited by camera frame rates and image heights. Lower capture speeds allow for greater LuxBoost ranges, while higher frames rates max out at certain LuxBoost levels (1x – 8x). See the chart (above) for more details. LuxBoost also supports **Auto LuxBoost Mode**, which automatically configures the LuxBoost levels depending on how much extra light is needed.

The Vision PRO sets new standards for resolution and light sensitivity. As seen in the motorsport capture (right), the camera tackles adverse conditions such as artificial lighting and a difficult optical perspective where the camera needs to cover a 90-meter wide finish line from 40 meters away. With the Vision PRO, trucks can be seen at much greater resolution and improved luminosity than previously possible—even at 120 meters away.

The Power of LuxBoost Low-Light Capture

Old EtherLynx PRO in Low-Light

New Vision PRO with LuxBoost in Low-Light

Capture Photo-Finishes at up to 20,000 Frames per Second

Vision PRO Hardware Specifications

Feature	Specification
Vertical Pixels	1024; 2048 max with High Resolution Option
Vertical Pixel Adjustment	Continuously adjustable
Max Frame Rate	3,000 frames per second standard; 6,000 fps upgrade; 20,000 fps upgrade
Frame Rate Adjustment	Continuously Adjustable
Distance Camera to Computer	100m Cat 5/6, 2,000m Fiber Optic (with converter)
PC-connection	10/100/1000Mbit/s 802.3 Ethernet Topology
# colors/pixel	Up to 2 million colors (user adjustable)
Sensor Type	CMOS Array (single line in photo-finish mode)
Time Base	0.5 Part Per Million (.0005s per 16.7 min) - Temp. Compensating
Available Lens Mounts	CS-Mount; C-Mount; F-Mount
Camera Alignment Aids	EasyAlign full-frame video preview
Remote Lens & Remote Alignment Options	Yes
LuxBoost Low-Light Capture & Auto LuxBoost	Yes – LuxBoost4
On-Board Level	Yes
Frame Offset	Optional Add-On
Built-In Battery Backup	Optional Add-On
Phased Light Compensation	Optional Add-On
802.11 Wireless Connectivity	Optional Add-On
Light Sensitivity	High – Extreme low-light capability with optional LuxBoost8
Switchable IR Filter	Yes – Electronically Controlled 2 Stage
Digital Zoom	Optional 200%
Gamma Control	Hardware and Software
Image Compression	Real-time Lossless
Start Signal Options	Manual Start • Normally Open wired sensor/switch closure • Normally Closed wired sensor/switch closure • Optional RadioLynx wireless start • Image Start
Power Inputs	802.3at PoE, 100-240 VAC with optional adaptor, or 12v DC input
Backup Power Options	Optional Internal Rechargeable Batteries; Optional External Battery
Operating Temperature	0° - 60°C
Control multiple cameras from 1 computer	Yes
Mix and Match Camera Models	Yes
Automatic Luminance Control	Auto-Iris; Auto-Gain; Auto LuxBoost
"Hot-swap" instant replacement guarantee	Yes. Applies to in-warranty cameras
Approvals	UL and CE
Camera Body Dimensions	15.7cm x 7.5cm x 15.5cm
Camera Body Weight (Excluding Lens)	1.4Kg

For more information on all FinishLynx cameras and accessories, visit **www.finishlynx.com**

IdentiLynx SR Digital Race Timing Camera

The **IdentiLynx SR** is an Ethernet-based, full-frame digital video camera that integrates with EtherLynx photo-finish cameras to produce time-stamped finish line videos. **IdentiLynx** video cameras provide high-resolution, front- facing video that is time-synchronized inside FinishLynx to quickly and accurately identify competitors at the finish line.

The IdentiLynx SR camera captures up to **1280 x 960** pixels at **30 fps** and offers several improvements over past IdentiLynx models. The camera includes an auto-iris motorized lens so the zoom and focus can be adjusted remotely within the FinishLynx software. In addition, it comes with auto-Iris which automatically adjusts, leaving one less thing to worry about during an event. This model is exceptionally sturdier than past models and is water-resistant, protecting the lens and rear connections from moisture and damage better than ever. Set up the IdentiLynx SR at your finish line and start capturing high-definition, time-stamped videos at all your races.

Compare IdentiLynx SR with the IdentiLynx HRS (High Resolution/Speed)

- Separate capture modes allow you to optimize the capture resolution for your event.
- Adjust the camera's remote control focus and zoom from within the FinishLynx Software.
- The sturdy, weatherproof housing protects the lens and connections from damage.

IdentiLynx Model	Standard (SR)	High Res./Speed (HRS)
Max Resolution	1280 x 960 @ 30 fps	3840 x 2160 @ 10 fps
Max Frame Rate	30 fps (1280 x 960)	60 fps @ 1280 x 720
Resolution 1	n/a	320 x 240 @ 60 fps
Resolution 2	n/a	720 x 480 @ 60 fps
Resolution 3	n/a	800 x 600 @ 60 fps
Resolution 4	n/a	1280 x 720 @ 60 fps
Resolution 5	n/a	1280 x 960 @ 45 fps
Resolution 6	n/a	1920 x 640 @ 45 fps w*
Resolution 7	n/a	1920 x 1080 @ 30 fps
Resolution 8	n/a	2048 x 1536 @ 20 fps
Resolution 9	n/a	2304 x 768 @ 30 fps w*
Resolution 10	320 x 240 @ 30 fps	2592 x 1944 @ 15 fps
Resolution 11	720 x 480 @ 30 fps	2688 x 1520 @ 15 fps
Resolution 12	800 x 600 @ 30 fps	3072 x 1024 @ 20 fps w*
Resolution 13	1280 x 720 @ 30 fps	3264 x 1840 @ 10 fps
Resolution 14	1280 x 960 @ 30 fps	3840 x 1280 @ 15 fps w*
Resolution 15	n/a	3840 x 2160 @ 10 fps

w* denotes wide format

Athlete Identification Has Never Been Easier

IdentiLynx Video integrated with the FinishLynx Software
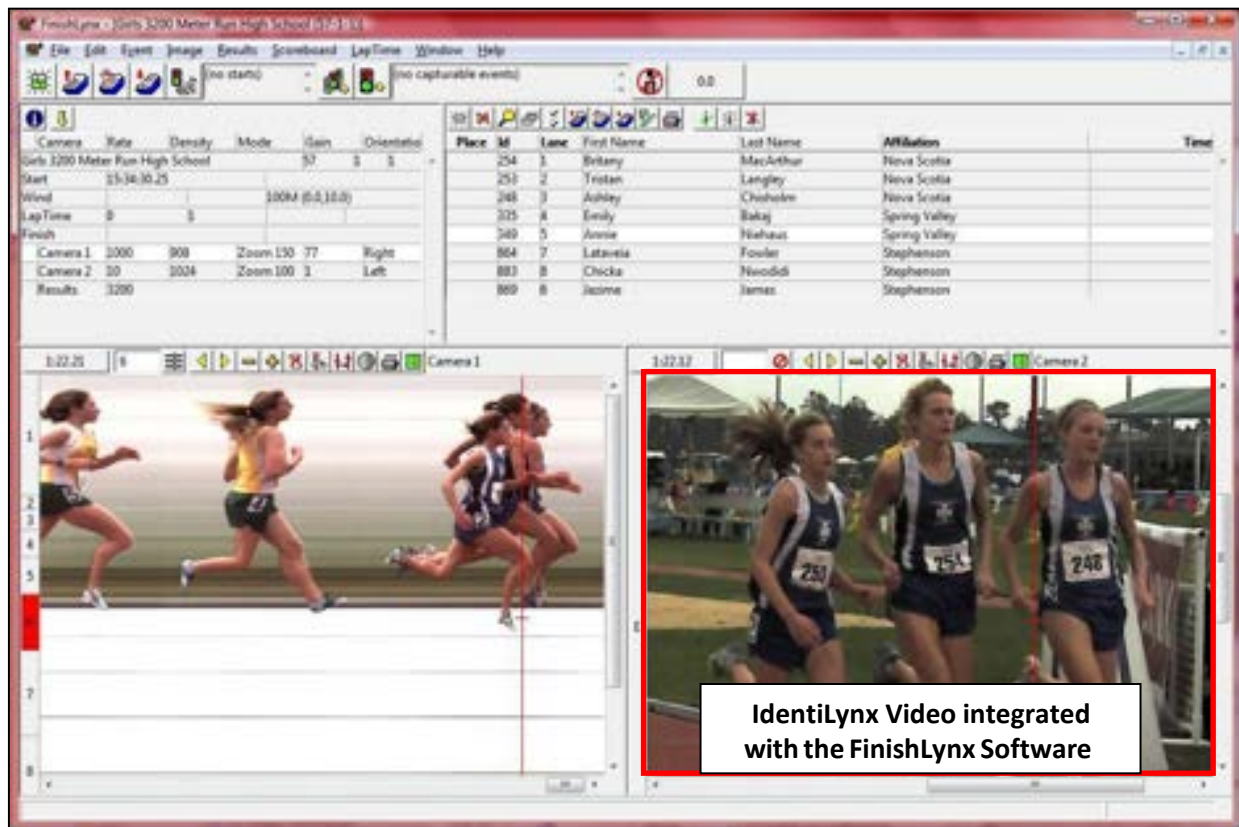
IdentiLynx SR Hardware Specifications

Shutter Speed	Automatic
JPEG image quality	Up to 2 megapixels
Gain	Automatic
Lens	3.1-10mm, 3.2X Optical Zoom, f/1.4-f/2.8, Auto-Iris, Motorized Zoom Lens
Power Supply	Power-Over-Ethernet (PoE+ IEEE 802.3at class 4) up to 18.72W
Dimensions	6.7" (170 mm)(L) x 3.5" (89mm)(Diam)
Weight	2.6 lb (1.2 kg)
Construction	Plastic and Aluminum

Integration with FinishLynx Timing Software

- Remotely adjust the camera's zoom and focus within the FinishLynx software to optimize image quality.
- IdentiLynx SR video is automatically time-synced with the photo-finish image – clicking on a finish line capture will instantly show the corresponding front-facing video frame.
- IdentiLynx SR videos can be advanced and rewound frame-by-frame to ensure timers can find frames with a clear bib/hip number. Videos can also be reviewed in real time while the race is still underway.
- Overlay athlete names, times, and affiliations on the video frames from inside FinishLynx.
- IdentiLynx cameras can be used with the Automatic Capture Mode (ACM) plug-in.
- FinishLynx enables the standard EtherLynx camera features to be used with IdentiLynx cameras, including zoom, automatic scrolling, gamma, brightness, and contrast adjustment.
- IdentiLynx SR video images are stored on the computer as individual images and can be printed directly from the FinishLynx software, either with or without included results.
- IdentiLynx videos can be manually cropped, viewed in forward or reverse, viewed at different speeds, exported to AVI format, and uploaded to the internet if desired.

IdentiLynx HRS High Resolution/Speed

The **IdentiLynx HRS** is an Ethernet-based, full-frame digital video camera that integrates with EtherLynx photo-finish cameras to produce time-stamped finish line videos. **IdentiLynx** video cameras provide high-resolution/speed, front-facing video that is time-synchronized inside FinishLynx to quickly and accurately identify competitors at the finish line.

The **IdentiLynx HRS** offers many advantages over the standard IdentiLynx, including higher image resolution and speed, variable frame rates, and more capture modes. The standard IdentiLynx camera maxes out at 1280 x 960 pixels, while the IdentiLynx HRS captures up to **3840 x 2160 at 10 fps** or **1280 x 720 at 60 fps**. It also offers several improvements over past IdentiLynx models. The camera includes an auto-iris motorized lens so the zoom and focus can be adjusted remotely within the FinishLynx software while the Iris adjusts automatically. It also has a sturdy housing that protects the lens and rear connections from moisture and damage. Set up the IdentiLynx HRS at your finish line and start capturing high-definition, time-stamped videos at all your races.

Compare the IdentiLynx HRS Camera with the Standard IdentiLynx

- The IdentiLynx HRS offers several improvements over the standard IdentiLynx, adding increased image resolution, variable frame rates, and a remote control lens.
- 15 different capture modes allow you to optimize the capture rate/resolution for your event.
- Adjust the camera's remote control focus and zoom from within the FinishLynx Software.
- The sturdy, weatherproof housing protects the lens and connections from damage.

IdentiLynx Model	High Res./Speed (HRS)	Standard (SR)
Max Resolution	3840 x 2160 @ 10 fps	1920 x 1080 @ 30 fps
Max Frame Rate	60 fps @ 1280 x 720	30 fps (1920 x 1080)
Resolution 1	320 x 240 @ 60 fps	n/a
Resolution 2	720 x 480 @ 60 fps	n/a
Resolution 3	800 x 600 @ 60 fps	n/a
Resolution 4	1280 x 720 @ 60 fps	n/a
Resolution 5	1280 x 960 @ 45 fps	n/a
Resolution 6	1920 x 640 @ 45 fps w*	n/a
Resolution 7	1920 x 1080 @ 30 fps	n/a
Resolution 8	2048 x 1536 @ 20 fps	n/a
Resolution 9	2304 x 768 @ 30 fps w*	n/a
Resolution 10	2592 x 1944 @ 15 fps	320 x 240 @ 30 fps
Resolution 11	2688 x 1520 @ 15 fps	720 x 480 @ 30 fps
Resolution 12	3072 x 1024 @ 20 fps w*	800 x 600 @ 30 fps
Resolution 13	3264 x 1840 @ 10 fps	1280 x 720 @ 30 fps
Resolution 14	3840 x 1280 @ 15 fps w*	1280 x 960 @ 30 fps
Resolution 15	3840 x 2160 @ 10 fps	n/a

w* denotes wide format

Athlete Identification Has Never Been Easier

IdentiLynx Video integrated with the FinishLynx Software
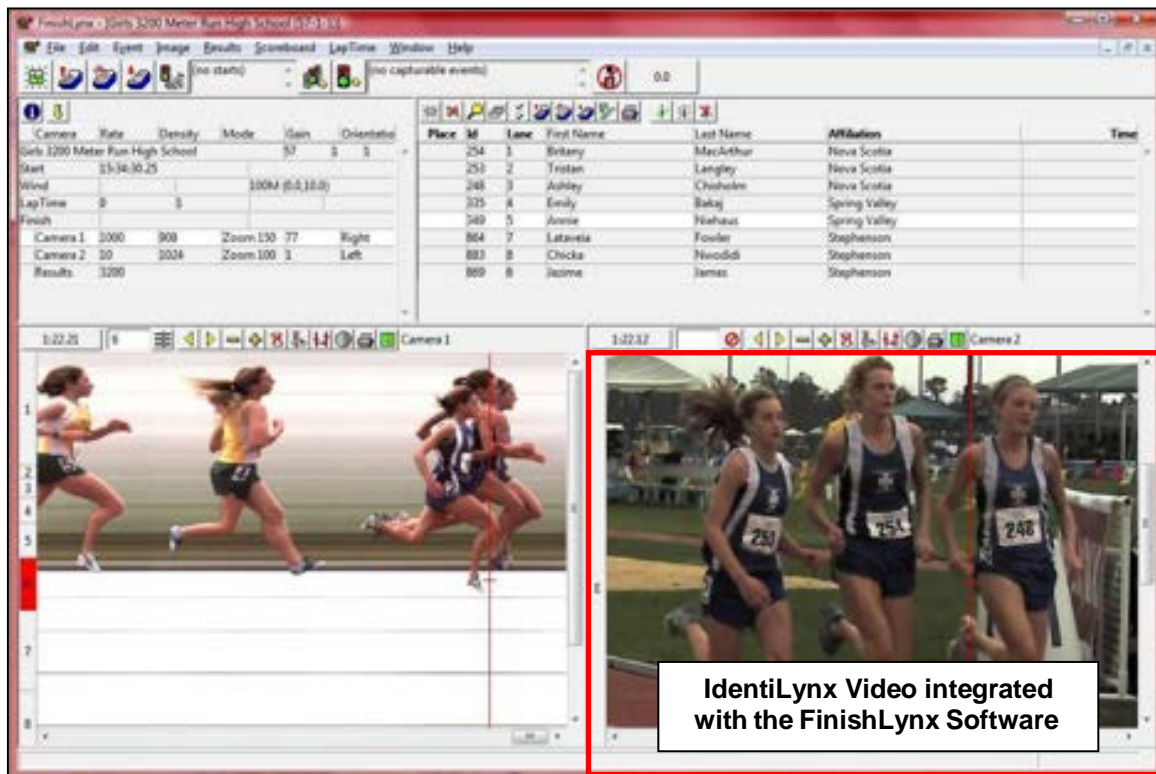
IdentiLynx HRS Hardware Specifications

Shutter Speed	Automatic
JPEG image quality	Up to 8 megapixels
Gain	Automatic
Lens	3.6-10mm, 2.8X optical zoom, f/1.5 – f/2.8, Auto-Iris, Remote Zoom/Focus (auto-focus)
Power Supply	Power-Over-Ethernet (PoE 802.3af) up to 19.68W
Dimensions	3.50" (89mm) (D) x 6.7" (170mm) (L)
Weight	2.6 lb (1.2 kg)
Construction	Plastic and aluminum

Integration with FinishLynx Timing Software

- Remotely adjust the camera's zoom and focus within the FinishLynx software to optimize image quality.
- IdentiLynx video is automatically time-synced with the photo-finish image – clicking on a finish line capture will instantly show the corresponding front-facing video frame.
- IdentiLynx videos can be advanced and rewound frame-by-frame to ensure timers can find frames with a clear bib/hip number. Videos can also be reviewed in real time while the race is still underway.
- Overlay athlete names, times, and affiliations on the video frames from inside FinishLynx.
- IdentiLynx cameras can be used with the Automatic Capture Mode (ACM) plug-in.
- FinishLynx enables the standard EtherLynx camera features to be used with IdentiLynx cameras, including zoom, automatic scrolling, gamma, brightness, and contrast adjustment.
- IdentiLynx video images are stored on the computer as individual images and can be printed directly from the FinishLynx software, either with or without included results.
- IdentiLynx videos can be manually cropped, viewed in forward or reverse, viewed at different speeds, exported to AVI format, and uploaded to the internet if desired.

On-Screen Information Display

The FinishLynx software combines the data from the Transponder system(s), EtherLynx camera(s), and IdentiLynx camera(s) and displays all the information about the hardware on the screen.

Changes to any camera settings can be made quickly and easily.

Automatic Athlete Listing

A drop-down listing of the athletes in the order they crossed the finish line makes results production easy.

EtherLynx Vision Camera

The phenomenal light sensitivity and the availability of affordable fast lenses for the Fusion camera means that sharp, clear images can be taken, even in poor light conditions.

Evaluating races with 100, 200, 300 competitors is no problem – image capture time is virtually unlimited so you never have to worry about missing a competitor.

Image can be scrolled and zoomed so that even the closest of races are easily resolved.

MYLAPS BibTags

Transponder Times on Image

See the lines and instantly verify that every athlete's transponder has been recorded by the system.
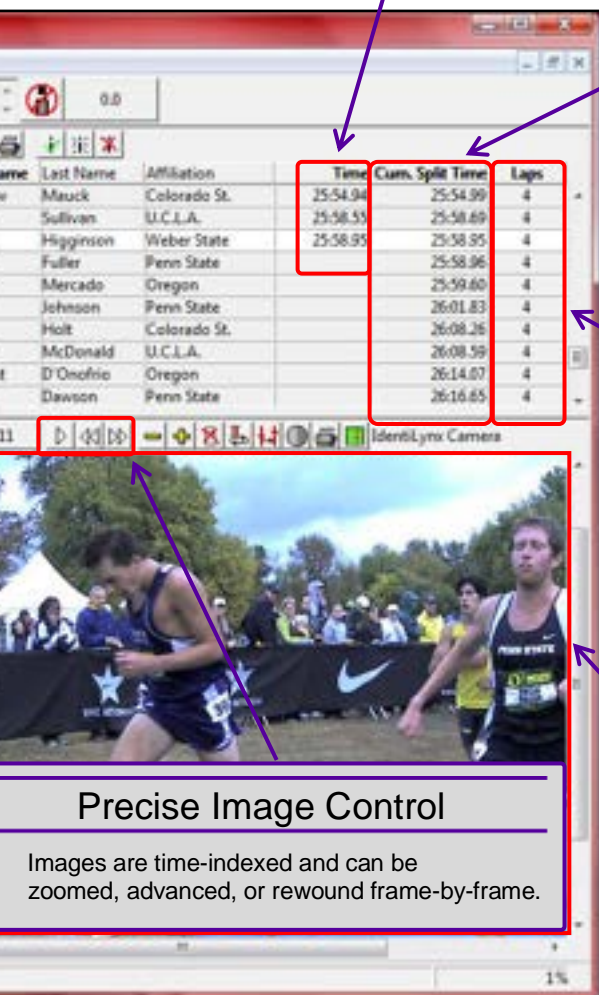
Accurate Times from Photo-Finish

When times are read from the photo-finish image, they are accurate and precise. Finish order generated by Transponders is based on the location of the tag, but photo-finish times are accurately read from the position of the torso – for precise results.

MYLAPS BibTag Decoder

The BibTag decoder produces times from EasyMats (4M or 6M) covering the finish line.

ame	Last Name	Affiliation	Time	Cum. Split Time	Laps
v	Mauck	Colorado St.	25:54.94	25:54.99	4
	Sullivan	U.C.L.A.	25:58.55	25:58.69	4
	Higginson	Weber State	25:58.95	25:58.95	4
	Fuller	Penn State		25:58.96	4
	Mercado	Oregon		25:59.60	4
	Johnson	Penn State		26:01.83	4
	Holt	Colorado St.		26:08.26	4
	McDonald	U.C.L.A.		26:08.59	4
t	D'Onofrio	Oregon		26:14.07	4
	Dawson	Penn State		26:16.65	4

IdentiLynx Camera

Precise Image Control

Images are time-indexed and can be zoomed, advanced, or rewound frame-by-frame.

Lap Counting

Transponders can record lap counts automatically. Also, you can set a "too fast" and "too slow" time for each split and the system will warn you if an athlete is missing.

IdentiLynx Camera

The full-frame video images confirm athlete identification with ease. Video footage can be cropped and exported to AVI files or JPGs.

VeriLynx V30 Full-Frame Video Camera

Under World Athletics Technical Rule 30.1.1, horizontal jump take-off failures are re-defined to include any breaking of the vertical plane of the take-off line. Rule 29.5 strongly encourages judges to use video or other technology to assist the decision process. **VeriLynx Field Event Verification cameras**, along with special configuration of the FinishLynx software, can be used for this purpose.

The VeriLynx camera is an Ethernet-based, full-frame digital video camera that integrates with the FinishLynx software produce time-stamped videos. FinishLynx software version 12.00 and later includes the VeriLynx profile. This profile is customized to support the use of VeriLynx cameras for video review of field events, such as the verification of take-off fouls in the Long or Triple Jump events.

Align the VeriLynx camera with the take-off board, load the field event start list, capture, verify, and timestamp every attempt. VeriLynx will save all images to disk in real-time (no image loss) and allow you to quickly review every attempt for every athlete, providing proof in case of a foul.

The VeriLynx camera captures up to **1280 x 960** pixels at **30 fps**. The camera includes an auto-iris motorized lens so the zoom and focus can be adjusted remotely within the FinishLynx software. It also has a sturdy housing that protects the lens and rear connections from moisture and damage. Set up the VeriLynx camera at your next field event and start capturing high-definition, time-stamped videos to verify each attempt.

Field Event Verification Has Never Been Easier

VeriLynx Video integrated with the FinishLynx Software
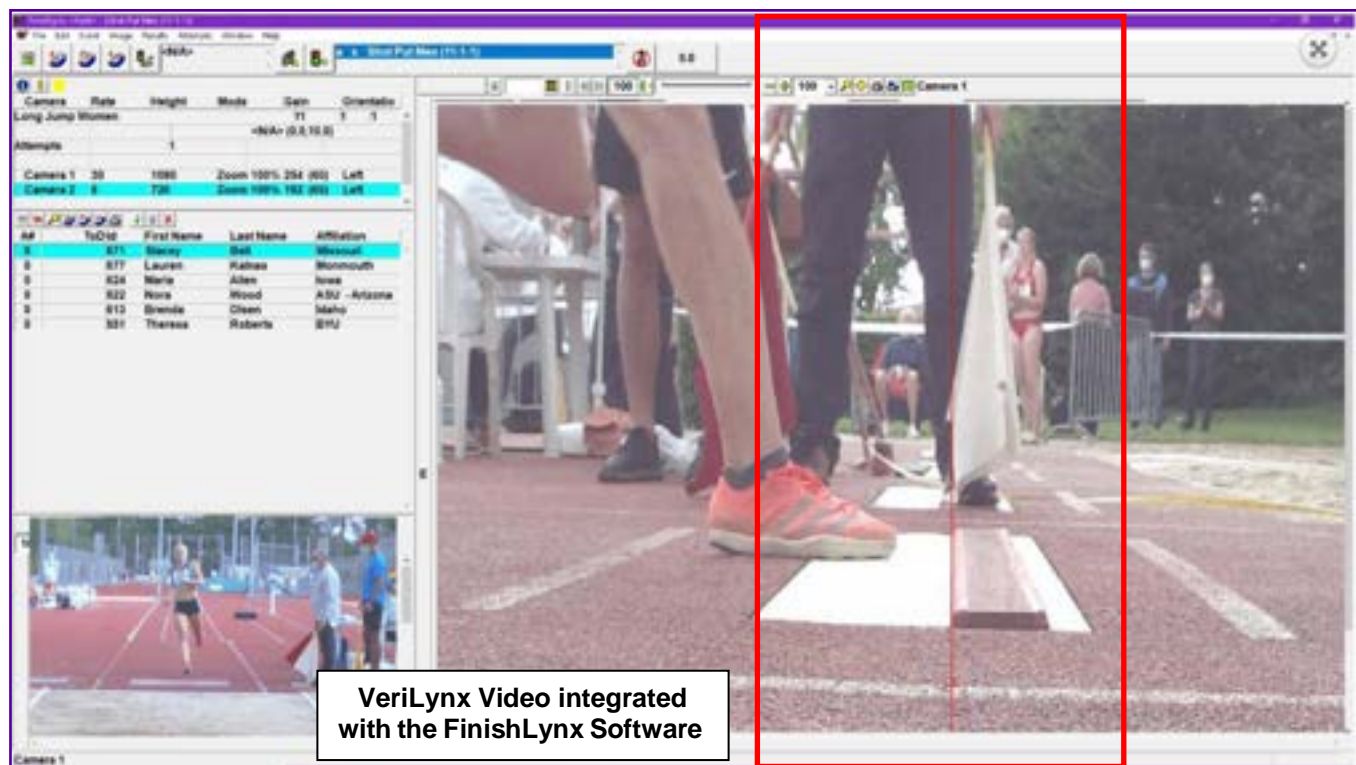
VeriLynx V30 Camera Hardware Specifications

Shutter Speed	Automatic
JPEG image quality	Up to 2 megapixels
Gain	Automatic
Lens	3.1-10mm, 3.2X Optical Zoom, f/1.4-f/2.8, Auto-Iris, Motorized Zoom Lens
Power Supply	Power-Over-Ethernet (PoE+ IEEE 802.3at class 4)
Dimensions	6.7" (170 mm)(L) x 3.5" (89mm)(Diam)
Weight	2.6 lb (1.2 kg)
Construction	Plastic and Aluminum

Integration with FinishLynx Timing Software

- Remotely adjust the camera's Zoom and Focus within the FinishLynx software to optimize image quality

- VeriLynx videos can be advanced and rewound frame-by-frame to ensure judges can find the frames showing the athletes' attempts. Videos can also be reviewed in real time while the event is still underway.

- FinishLynx enables the standard EtherLynx camera features to be used with VeriLynx cameras, including zoom, automatic scrolling, gamma, brightness, and contrast adjustment.

- VeriLynx video images are stored on the computer as individual images and can be printed directly from the FinishLynx software

- VeriLynx videos can be manually cropped, viewed in forward or reverse, viewed at different speeds, exported to AVI format, and uploaded to the internet if desired.

- VeriLynx video can be exported to .avi and uploaded to YouTube, Facebook, or other popular services

- Pre-configured profile available with standard FinishLynx installation giving a customized user interface for field events

- Ability to load field events from the field event schedule file (fldlynx.sch)

- Ability to view a vertical line in alignment mode for VeriLynx cameras to facilitate camera alignment with the take-off board

- Ability to automatically capture based on detected motion and review all attempts from a flight into the same FinishLynx image

- Ability to set the ACM active area so it is limited to the image's vertical area of the take-off board

- Ability to mark/log attempts with the time of day to allow quick review of all attempts for each athlete during or after the event

- Ability to display the attempt number of each attempt in the Results Zone and on the image using Line Labels

- Ability to automatically export an image (jpg) when an attempt is marked/logged

- Ability to time track (scrolling through an image of one camera refreshes the other image panes with the equivalent frame) between images of multiple cameras to easily review different angles, including the option of using a front-facing camera to identify the athlete

VeriLynx V60 Full-Frame Video Camera

Under World Athletics Technical Rule 30.1.1, horizontal jump take-off failures are re-defined to include any breaking of the vertical plane of the take-off line. Rule 29.5 strongly encourages judges to use video or other technology to assist the decision process. **VeriLynx Field Event Verification cameras**, along with special configuration of the FinishLynx software, can be used for this purpose.

The VeriLynx camera is an Ethernet-based, full-frame digital video camera that integrates with the FinishLynx software produce time-stamped videos. FinishLynx software version 12.00 and later includes the VeriLynx profile. This profile is customized to support the use of VeriLynx cameras for video review of field events, such as the verification of take-off fouls in the Long or Triple Jump events.

Align the VeriLynx camera with the take-off board, load the field event start list, capture, verify, and timestamp every attempt. VeriLynx will save all images to disk in real-time (no image loss) and allow you to quickly review every attempt for every athlete, providing proof in case of a foul.

The VeriLynx camera captures up to **1280 x 720** pixels at **60 fps**. The camera includes an auto-iris motorized lens so the zoom and focus can be adjusted remotely within the FinishLynx software. It also has a sturdy housing that protects the lens and rear connections from moisture and damage. Set up the VeriLynx camera at your next field event and start capturing high-definition, time-stamped videos to verify each attempt.

Field Event Verification Has Never Been Easier

VeriLynx Video integrated with the FinishLynx Software
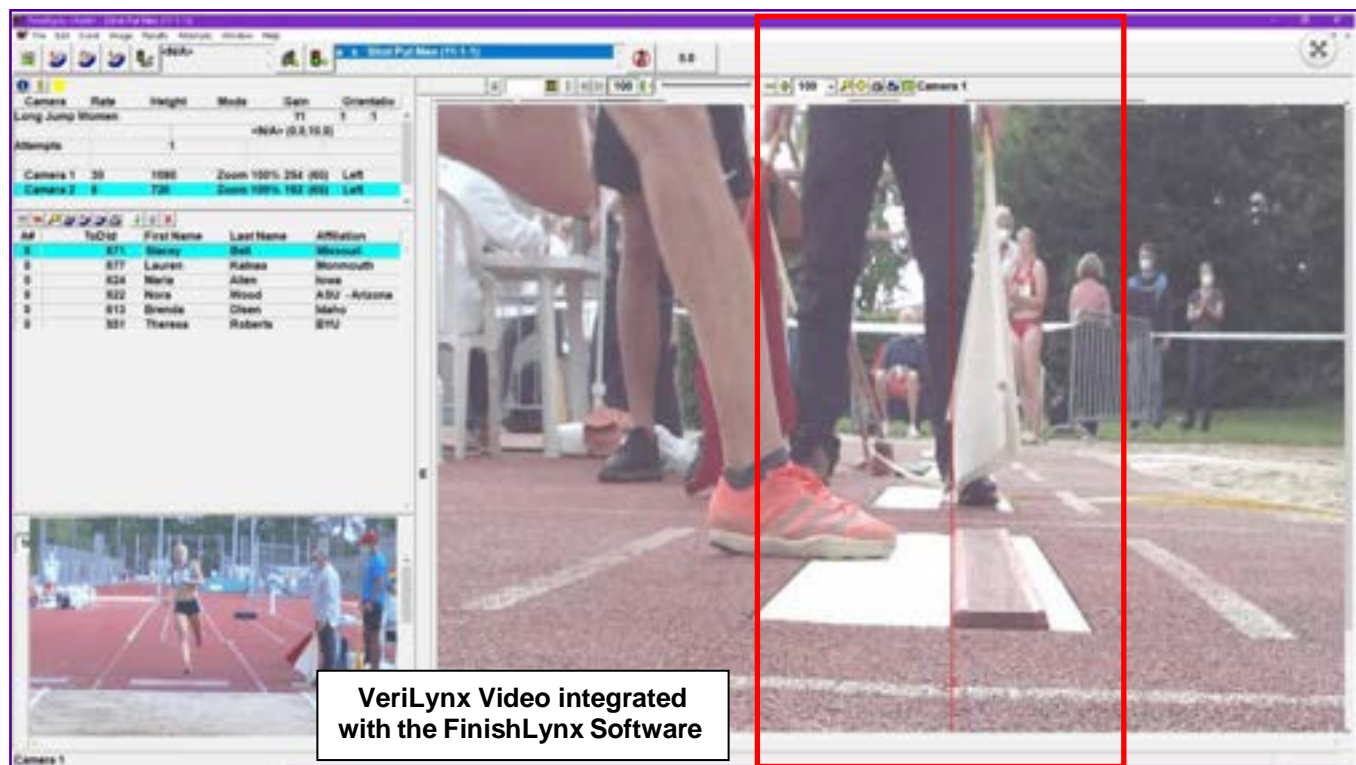
VeriLynx V60 Camera Hardware Specifications

Shutter Speed	Automatic
JPEG image quality	Up to 8 megapixels
Gain	Automatic
Lens	3.6-10mm, 2.8X Optical Zoom, f/1.5-f/2.8, Auto-Iris, Remote Zoom/Focus (auto-focus)
Power Supply	Power-Over-Ethernet (PoE 802.3af); 12VDC; 24 VAC
Dimensions	6.7" (170 mm)(L) x 3.5" (89mm)(Diam)
Weight	2.6 lb (1.2 kg)
Construction	Plastic and Aluminum

Integration with FinishLynx Timing Software

- Remotely adjust the camera's Zoom and Focus within the FinishLynx software to optimize image quality

- VeriLynx videos can be advanced and rewound frame-by-frame to ensure judges can find the frames showing the athletes' attempts. Videos can also be reviewed in real time while the event is still underway.

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- Pre-configured profile available with standard FinishLynx installation giving a customized user interface for field events

- Ability to load field events from the field event schedule file (fldlynx.sch)

- Ability to view a vertical line in alignment mode for VeriLynx cameras to facilitate camera alignment with the take-off board

- Ability to automatically capture based on detected motion and review all attempts from a flight into the same FinishLynx image

- Ability to set the ACM active area so it is limited to the image's vertical area of the take-off board

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- Ability to display the attempt number of each attempt in the Results Zone and on the image using Line Labels

- Ability to automatically export an image (jpg) when an attempt is marked/logged

- Ability to time track (scrolling through an image of one camera refreshes the other image panes with the equivalent frame) between images of multiple cameras to easily review different angles, including the option of using a front-facing camera to identify the athlete

## Remote Camera Positioner for FinishLynx Cameras

The Remote Camera Positioner is a camera mounting platform that allows operators to make precision adjustments to the camera remotely from within the FinishLynx software. The remote-control positioner is compatible with all EtherLynx cameras and allows for precise alignment on the finish line using the remote control **Pan**, **Tilt**, and **Swivel** commands inside FinishLynx.

Product Description

The FinishLynx operator can use the icons visible in the bottom right corner of the Hardware Control window to make incredibly precise adjustments in the camera alignment.

The precision stepper motors in the unit can control **Pan** [side to side], **Tilt** [up and down] and **Swivel** [rotation]. Using the remote positioner means that even cameras mounted up and out of reach can be adjusted and aligned with ease. The remote positioner is compatible with all EtherLynx photo-finish cameras and is highly recommended for cameras that will be placed on high tripods or mounting poles, in the venue rafters, or on the opposite side of the timing station. It is also a great add-on for fine-tuning the camera position on-the-fly during an event to compensate for any wind or tripod movement that may occur. The positioner also includes addition serial ports to support remote lens adjustment when available. The Remote Positioner kit includes 3 main items:

1. **Custom positioner mounting platform with precision motors.**
2. **Serial cable to connect the positioner directly to the FinishLynx camera.**
3. **Rugged weatherproof case for safely transporting and storing the positioner.**

Software Controls
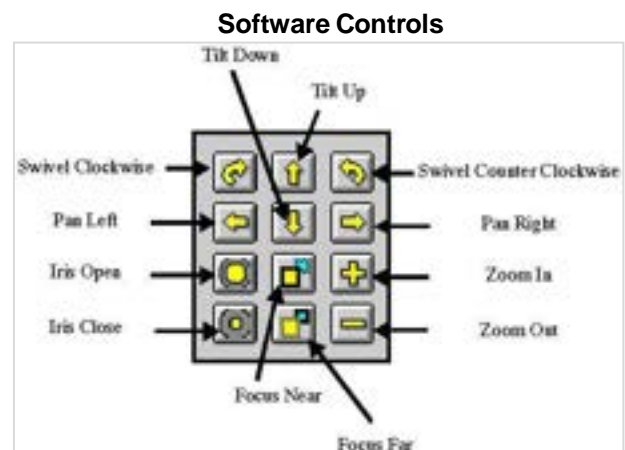
Specifications	2L102 Remote Positioner
Weight	1 kg
Size	18 x 14 x 15 cm
Motor type	Precision step motors
Manufacturer	Custom-made by Lynx

Lynx System Developers, Inc.
www.finishlynx.com

179 Ward Hill Ave., Haverhill, MA 01835 USA
Toll Free: 800.989.5969

Tel: 978.556.9780
Fax: 978.556.9781

Key Features

- World Athletics-Compliant Technology
- 0-60m/s (116 knots) Wind Speed
- Direct RS232 Connection To Lynx Hardware
- Seamless Data Integration With FinishLynx
- Solid-State – No Moving Parts – Maintenance-Free
- Corrosion-Free Materials

The Lynx Wind Gauge is an affordable anemometer that utilizes World Athletics-compliant ultrasonic technology to provide accurate wind speed and direction data. The unit is a FinishLynx accessory that connects directly to an EtherLynx Camera, Connection Box, SeriaLynx unit, or a computer serial port. Data integration with the FinishLynx Software is seamless and does not require operator intervention.

Housed in a robust, corrosion-free polycarbonate casing, this small, lightweight wind gauge operates flawlessly in harsh environmental conditions, and has no moving parts to ensure maintenance-free operation.

WORLD ATHLETICS TECHNICAL RULE 17.8/17.9 – Wind Measurement

8. *All wind gauge equipment shall be manufactured and calibrated according to international standards. The accuracy of the measuring equipment used in the competition shall have been verified by an appropriate organization accredited by the national measurement authority.*

9. *Non-mechanical wind gauges shall be used at all International Competitions under paragraphs 1.1 to 1.8 of the International Competition definition and for any performance submitted for ratification as a World Record.*

Range	0 - 60 m/s
Accuracy	±2% @12 m/s
Resolution	0.01 m/s (0.02 knots)
Voltage	5-30 VDC (13mA @ 12V)
Size	142mm x 160mm
Weight	0.5kg
Protection Class	IP65
Operating Temperature	-35°C to +70°C
Storage Temperature	-40°C to +80°C
Operating Humidity	< 5% to 100% RH
Output	RS232
Warranty	Full warranty as per regional requirements
Storage and Transport	Carrying case provided
Software Compatibility	Requires FinishLynx 8.20 or higher
Mounting	Tripod provided
Cables	DC supply & 60m Serial cable
Battery	Optional extra (7LBATT)

Connection to Camera

12 Volt DC Supply

Serial Data Connection

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Electronic Start System

Datasheet

Many World Championship events have made the switch from using firearms to start their events to using electronic technology, and it is clear that a change in thinking has arrived: Guns are no longer welcome.

After extensive testing, Lynx has established that this system ensures absolute synchronization between the audible output, the stroboscopic flash, and the electronic signal to your timing system. The Electronic Start System is also fully compatible with RadioLynx for true wireless/gunless operation.

What's Included: Electronic Starting Gun
Primary 12 Volt Battery Pack
Megaphone Speaker with cable
Headset Microphone
Auxiliary Microphone
Tripod

Electronic Start Features

- ✓ Eliminates the need for a gun
- ✓ No expensive blank cartridges
- ✓ High visibility strobe light
- ✓ Absolute accuracy
- ✓ Direct interface to FinishLynx
- ✓ Choose either simulated gun or tone signal
- ✓ Compatible with a range of audio systems
- ✓ Can be used with RadioLynx for wireless starts
- ✓ Battery powered for portability

Specifications

	PA Unit	Electronic Gun	
Weight	About 3.3kg (excluding batteries)	410g (excluding batteries)	
Power Options	Internal Battery:10x D cells (not included) External: 12V rechargeable battery (included)	Internal Battery: 2x AA cells (included)	
Battery Life	Normal usage approximately 7 hours	Strobe approximately 1,200 flashes, Audio approximately 125 hours	
Dimensions	35cm x 50cm (L) 13.8" x 19.9"(L).	20cm x 15cm x 4cm, 8" x 6" x 1.75"	
Tone Power Output	45W Max	**Tone Repeat** (for false start signal):	Less than 0.25 sec
Range	0.8 - 2.2km depending on operating conditions.	N/A	
Speaker Impedance	8Ω	N/A	
Start Signal Output	N/A	Normally Open Male XLR3 (Pins 1 & 3)	

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Introduction

The hard part used to be getting the start cable from Point A to Point B. That is not an issue with the RadioLynx Wireless Start as it eliminates the need for start cables.

RadioLynx is a state-of-the-art system for wireless transmission of timing signals that uses a field-proven technology to ensure accuracy and stability.

RadioLynx gives you total freedom and unprecedented security. When the Starter has true mobility and there are no worries about 'spiked' cables, you will see the true benefits of RadioLynx.

Contact Sales for more information:

US Domestic Sales   domsales@finishlynx.com
International Sales   intlsales@finishlynx.com

Simple Design

The two-component hardware setup consists of a Transmitter and a Receiver. These units are each about the size of a deck of playing cards but you won't be gambling on anything when you add this functionality to your Fully Automatic Timing system. The RadioLynx software plug-in, which can be found on our website, completes the system.

Secure and Powerful

With a range up to 2 kilometers (in good conditions) from the standard version, and an extended range configuration which will increase the transmission range, the system is powerful enough for every situation.

Complementing the extensive range of the units is the time-stamp technology that copes effortlessly with jammed or interrupted transmission. Every signal is sent multiple times and can be re-sent minutes, or even hours, later, ensuring that your critical data always gets through.

Specifications

Weight	110g
Dimensions	110 x 50 x 27mm (h x w x d)
Transmission Mode	Digital FSK transmission: (127 selectable channels)
Impulse Transmission Accuracy	±0.4ms
Time Base	Digitally compensated 32768Hz quartz Real Time Clock ·4MHz ± 10ppm between - 20° and +70°C
Precision	±0.425 s/day for external temperatures between -20° and +70°C
Operating Temperature	-20°C/+70°C
Power Supply	Internal NiMh batteries, rechargeable
Battery Life	About 2,000 events
Onboard Microprocessor	C-MOS 8 bit microprocessor

RadioLynx Components

RadioLynx is an extremely reliable and particularly popular upgrade to a FinishLynx system. Being able to correctly identify the components can help when troubleshooting potential issues or ordering replacement or spare parts.

RadioLynx parts can be broken down into two categories: **Transmitter** or **Receiver.** The Transmitter comes with an Antenna, Charger, and Clip Kit. The Receiver will come with an Antenna. Antennae can be purchased separately.

Transmitter Components

MG-ENC004 **EncRadio Transmitter with Antenna**	**3L300R** **Normally Open Start Sensor for RadioLynx**	**8L-Clip** **Belt Clip Kit for RadioLynx Transmitter**
MG-ENC004_Input **Transmitter Input Cable**	**8L-PS** **12V Power Supply**	

Receiver Components

MG-DEC004 **DecRadio Receiver with Antenna**	**MG-DEC004_Serial** **Receiver Serial Cable**

False Start Detection – Wireless

ReacTime is the world's only completely wireless Championship False Start Detection System that can also be used as a modular Reaction Training System. Unlike some simpler systems, ReacTime has no "contact pads," and it cannot be tricked.

The system is easy to use and rugged. The battery or AC powered blocks are weatherproof and are designed to withstand the tough demands of a track environment.

When used as a stand-alone personal training system to help sprinters improve their starting technique, an individual ReacTime module can be used to record and display an athlete's gun-to-motion times to an accuracy of 1/1000th of a second.

The Competition ReacTime system detects false starts (as defined by World Athletics Technical rule 16.6 and USATF rule 162.14) – also to an accuracy of 1/1000th of a second – and instantly signals this information to the starter.

Helps Ensure Fairness

- Measures reaction times to 1/1000th of a second.

- Detection mechanism clips to virtually every manufacturer's starting blocks.

- Control Center for the starter is lightweight and portable.

- Battery operated and rechargeable or AC powered.

- All athletes hear the starter's commands or the sound of the gun simultaneously.

- Includes all required cables as well as headset for the starter.

- 100% integration with the FinishLynx timing system, including the ability to store the reaction time of the athletes in the FinishLynx results area and print with results.

- Optional wireless adapters eliminate the need to lay out cables to each of the starting blocks.

- ReacTime Software for Windows allows the power waveforms for all the athletes in a race to be graphed, compared, saved and printed.

- Paper tape printer allows reaction times of the athletes to be printed trackside for each race
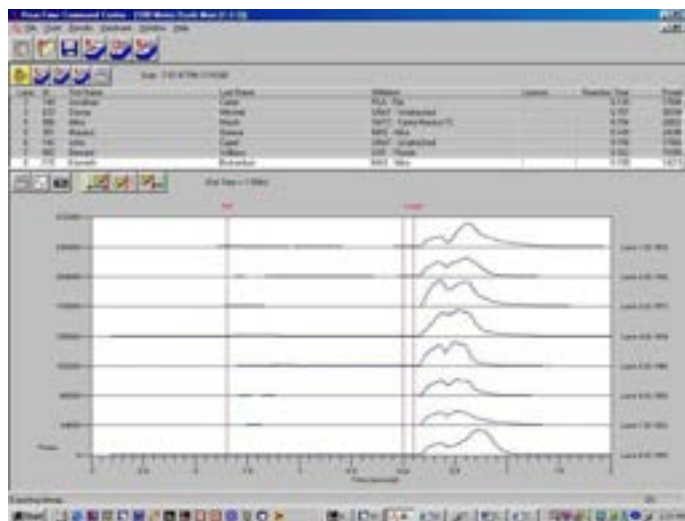
Modular and Upgradeable

- Same technology for Reaction-Time Training System and Championship False Start System. Buy a Training System today and simply upgrade to the Championship System at a later date.

- Accurate to 1/1000th of a second.

- Downloadable reaction traces for detailed start analysis.

- Battery operated and rechargeable.

- Clips to virtually any starting block.

- 24 hours – 7 days a week – U.S. based – technical support from the manufacturer.

- Cannot be "tricked" like many other systems.

- Training system starter commands can be personally recorded.

- Rugged, weather resistant construction designed to withstand the rigors of everyday use.

- Affordable. Training system prices start at $1,000.

- The world's top sprinters have shown that reaction times can be improved by training – and ReacTime can be the cornerstone of that training process.

- Can be operated with an external starter giving the commands and the firing a gun. Or with speaker option, can be pre-programmed to give the commands "On your marks," "set," and a gun sound. The timing of the instructions is randomized within a programmable range.

- Two Personal Training Systems can be linked for competitive training. Can be connected to photoeyes or a FinishLynx system for total sprint timing.

- Protects your investment. Personal ReacTime units can be used as components of a full false start detection system.

- Data from your entire workout, including power waveforms, can be stored in the unit and retrieved later on your own PC using the Personal ReacTime software.

World Athletics and USATF Compliant

WORLD ATHLETICS TECHNICAL RULE 15.3

In competitions held under paragraphs 1.1, 1.2, 1.3 and 1.6 of International Competition definition and for any performances submitted for ratification as a World Record under Rules 32 and 34 of the Competition Rules, the starting blocks shall be linked to to a World Athletics certified Start Information System. This system is strongly recommended for other competitions.

WORLD ATHLETICS TECHNICAL RULE 16.6

When a World Athletics certified Start Information System is in use, the Start and/or an assigned Recaller shall wear headphones in order to clearly hear the acoustic signal emitted when the System indicates a possible false start (i.e. when the reactime time is less than 0.100 second). As soon as the Start and/or Recaller hears the acoustic signal, and if the gun was fired, there shall be a recall and the Starter shall immediately examine the reactime times and other available information from the Start Information System in order to confirm which, if any, athlete(s) is/are responsible for the recall.

FieldLynx – Networked Field Event Administration Software
Datasheet

FieldLynx is a FinishLynx-compatible software application for the scoring and administration of field events in athletics (track & field). The FieldLynx software connects with your meet management software and allows operators to access athlete listings, score events, and instantly upload results to any computers or scoreboards on the FinishLynx network.
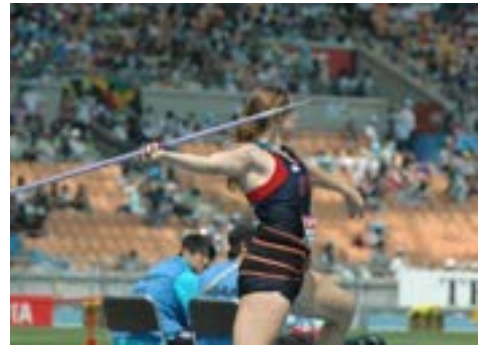
Data entry is simple and intuitive and the software easily converts marks between Metric and Imperial measurements. Share live event data across your network so you never have to retype athlete info and results again.

Key Software Features

FieldLynx offers the complete field results-production in the palm of your hand. Adding FieldLynx to any fully automatic timing network will enhance the speed, efficiency and quality of your athletics field events.

The FieldLynx software allows users to interface seamlessly with devices and applications across the venue, including LaserLynx EDM units, scoreboards, wind gauges, and most track and field database applications. With FieldLynx, field event results can be entered directly to a Windows-based mobile device and shared instantly with scoreboards, officials, or announcers throughout the venue.

- **Custom Rules**. Use different rule books, including IAAF, NCAA, and NFHS
- **All Events**. FieldLynx supports all indoor and outdoor field events; Pole Vault, High Jump, Hammer, Weight Throw, Shot Put, Discus, Javelin, Long Jump, and Triple Jump.
- **Configurable**. Fully configurable event setup: Advancement, Seeding, Bar Heights, Attempts, etc.
- **Check-Ins**. Choose Athlete Up, On Deck, & On Hold. Suspend athletes as needed, to allow participation in other events.
- **Five Alive Groups**. Automatically generate *Alive* group for 3, 4, or 5 alive groupings. Edit groups on the fly.
- **Multiple Languages**. FieldLynx software is available in many different languages. (English, Russian, etc.)
- **Network Integration.** Share data via either Serial or Ethernet topology (depending on hardware configuration). Interface with wind gauges, LaserLynx EDM units, Meet Manager databases, and countless types of scoreboards and displays.

Enhanced Operation Using FieldLynx Plug-ins

Scoreboard Plug-In	LaserLynx Plug-In	Wind Gauge Plug-In
Send results to multiple displays.	Full EDM control from software.	Integrate wind data with results.

Intuitive Software and Settings

Load Events From Database	Customize Event Options	Configure Software Settings

Manage Athlete Status	Easily Enter Athlete Marks	Connect via Serial or Ethernet

Database Integration with NetExchange

With the use of the Lynx NetExchange data server software, it is easy to download athlete information and upload results to the central Meet Management computer – using either wired or wireless networks.

Struggling to read handwritten notes on soggy paper or re-typing athlete data multiple times during an event are both a thing of the past. Use FieldLynx to import, export, and share event data effortlessly using .lff files. Connect officials, timers, and event administrators with secure event data by building an extensive and powerful Lynx results network at your venue.

Access athlete lists; add/edit events or athletes; enter marks; instantly share results with database and CIS

Peripheral Device Integration with SeriaLynx

Toughbooks or mobile devices running FieldLynx can interface with a range of external devices like scoreboard displays, LaserLynx EDM units, and wind gauges. Multiple peripherals can be connected simultaneously; either through available serial ports, or over an Ethernet network – direct connection or by using a **SeriaLynx** unit.

In either configuration, device setup is easy and intuitive from within the FieldLynx software – as shown to the right.

Electronic Distance Measurement

LaserLynx is a powerful laser-based measuring device linked by state-of-the-art Lynx software to a NetBook, laptop or hand-held computer. The resulting product is in a class by itself. Never has distance measurement in a track and field environment been so accurate, or so easy, or so affordable.

In addition, because all the measurements are computer generated, information can be shared effortlessly with meet management databases, scoreboards, infield displays, databases and with CIS for announcers.

Fast – 15-minute equipment setup

Accurate – Accurate to ±2mm & ±2 angular seconds - Exceeds all required standards*

Powerful – Links to scoreboards and databases

Simple – One touch measurement in Metric and Imperial Units

Portable – Rechargeable batteries with up to 60 hours on a single charge

*__2008 IAAF Facilities Manual__ P: 203. __Section 5.2.2.1 Distance for Throws__: *The accuracy of the measured distance is ± 0.005m and of the measured angle ± 10 angular seconds, which is equivalent to an average error for thrown distances of ± 0.005m.*

Operational Simplicity – Measures at the Touch of a Button

To measure a throw, all the LaserLynx operator needs to do is have sight on the LaserLynx prism, held at the point of impact by the Measurement Official, and tap the **Acquire** button on the FieldLynx unit. Instantly the athlete's Performance is computed and displayed on the screen.

1. Prior to the event, the LaserLynx unit is set up adjacent to the throwing area and leveled.

2. After each throw, the Official marking the throw places the LaserLynx prism at the point of impact closest to the throwing circle/arc.

3. Using the built-in telescopic sight, the LaserLynx operator aligns the unit on the prism held by the marking official.

4. When the LaserLynx prism is at the center of the cross-hairs, the operator taps the **acquire** button on the FieldLynx unit and distance is calculated.

How it Works

Geometry has established that given an accurate measurement of two sides of a triangle, and an accurate measurement of the angle between these two known sides, it is possible to compute the length of the third side. By incorporating the radius of the throwing arc or throwing circle into the calculations that it does, LaserLynx is able to accurately measure an athlete's performance without venturing into the throwing area to make the measurement. An athlete's performance is computed as shown below in the diagram by using data that was entered prior to the start of the competition – the LaserLynx Station Reference Measurement (shown below), and the radius of the throwing circle.
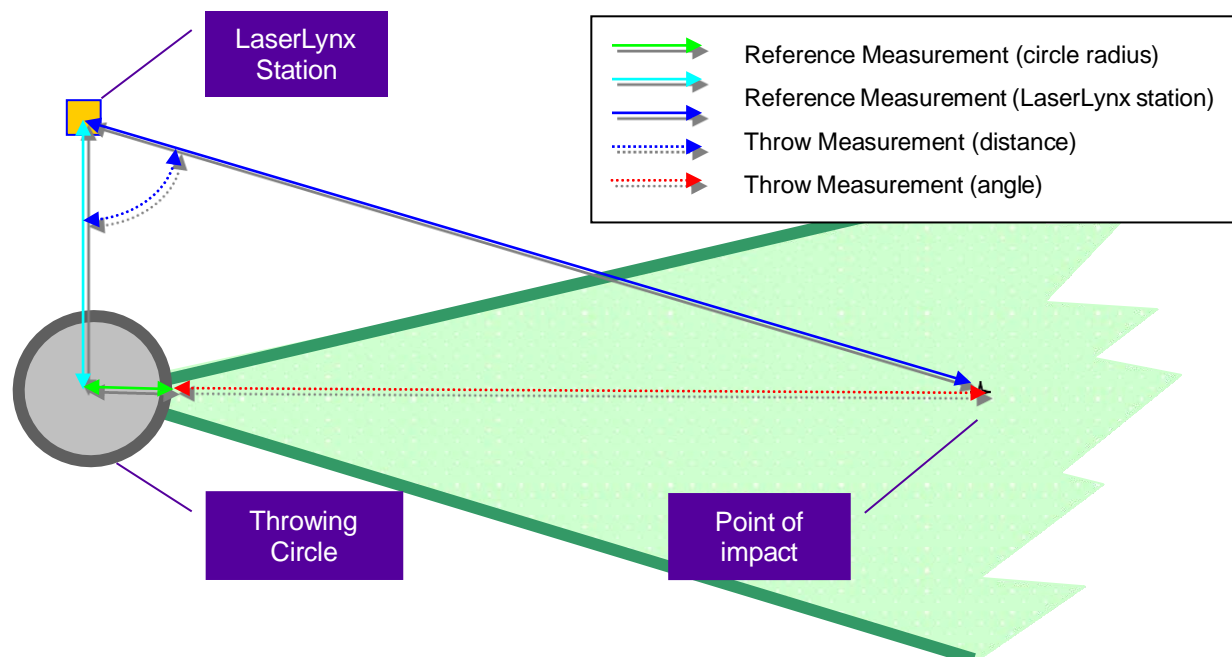
Specifications	LaserLynx Pro
Telescope Length	150mm
Object Lens Diameter	45mm (EDM: 50mm)
Distance Accuracy	±(2mm + 2ppm x D) m.s.e.
Calculation Accuracy	±2 ppm
Angle Accuracy	2 sec.
Distance Range	1 Prism: 2,000m **|** 3 prism: 2,700m
Measuring Time	Fine Mode – 1.0mm: 1.2sec **|** 0.2mm: 2.8sec Coarse Mode – 0.7sec **|** Tracking Mode – 0.4sec
Ambient Temperature Range	-20 to +50 Celsius
Battery Life	Angle & Distance Measurement: 14h Angle Measurement only: 60h
Eyepiece Magnifications	30x
Keyboard & Display	24-Key Numeric Keypad **|** 2- Sided Dot Matrix Graphic LCD
Internal Data Memory	24,000 pts
Environment Protection	IP54

Simple

There has never been an easier-to-use program for administering an Athletics competition than LynxPad.

The simple and intuitive LynxPad interface makes it painless to create a list of events, enter athletes names, enter their affiliations, and enter their seeding marks.

With a simple click on an icon, the LynxPad software will automatically create heats or flights according to the criteria you enter for each event.

The included FinishLynx, FieldLynx, ReacTime and ClerkLynx interface is as easy as choosing a directory to store your data files.

Flexible

- LynxPad formats all information so that it can be imported into FinishLynx and FieldLynx, and it can also be used as a standalone application.

- The software has built-in multi-language support – including character-based languages like Chinese, and Cyrillic alphabet languages like Russian.

- Intuitive screen layout and keystroke shortcuts make for rapid data entry.

- Creates finals from flights with a single click.

- Prints entries, heat sheets, results, field series, etc..

- Assigns athletes to events using a simple pull down listing.

- User-configurable seeding criteria, lane-assignment, and advancement procedures.

- User-configurable team scoring for track and field competitions, cross-country meets, etc..

Affordable

LynxPad can do all the important things that many expensive and complicated meet management programs will do; however, there is no comparable product that will do as much for the same price.

One price – one product – that creates the data files you need. To interface with your other Lynx software you will not need any expensive optional extras, or plugins. Guaranteed.
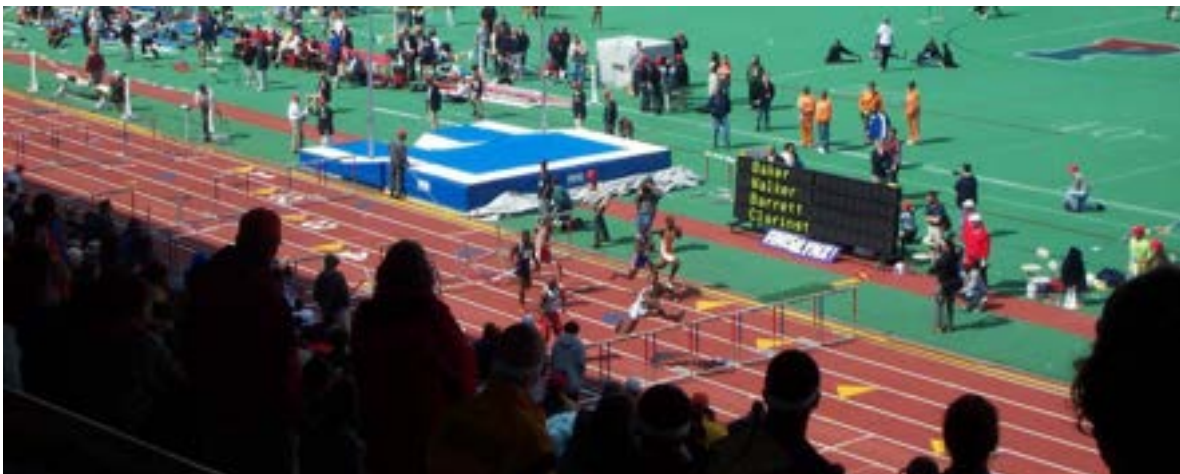
Screenshots

- Add an Event
- Edit an Event
- Delete an Event

- Seed an Event
- Import Results
- View Details
  (splits, field series, etc.)

- Add/Delete an Athlete
- Assign an Athlete to an Event
- Remove Athlete from Event
- View Athletes by Gender

Add Athletes to events using a simple pull-down selection

Event Information

- Set up Rounds (Heats, Semis, Finals)
- Seeding criteria (Random, Serpentine, Best to Worst, etc.)
- Advancement Criteria (Time, Place, Place & Time)

Seeding Information

- Highly Customizable Automatic or Manual Seeding
- Preferred Lanes
- For all-comers meets, lane allocation can be done at the starting line using wireless ClerkLynx

User-Configurable Data Display Program

ResulTV can display official results instantaneously from a variety of sources: FinishLynx, external database programs, etc.

The software can just as easily be used to display start lists and standings.

Since the software is user-configurable, you can bring in additional information to be displayed: reaction times, lap count, projected finish time, wind readings and event records. You can easily move between the displays of varied event data by creating the appropriate templates.

A Cost-Effective Alternative

An alternative to costly TV graphics production can be achieved when a computer running ResulTV is connected to a Scan Converter: the graphics produced are suitable for local broadcast or display.

For broadcast, ResulTV will produce graphics for television without the need for a Chyron graphics generator. And for display, you can present information and results at a limitless number of locations: data terminals for judges, announcers and athletes, concourse and concession displays, sponsor reception areas and luxury boxes.
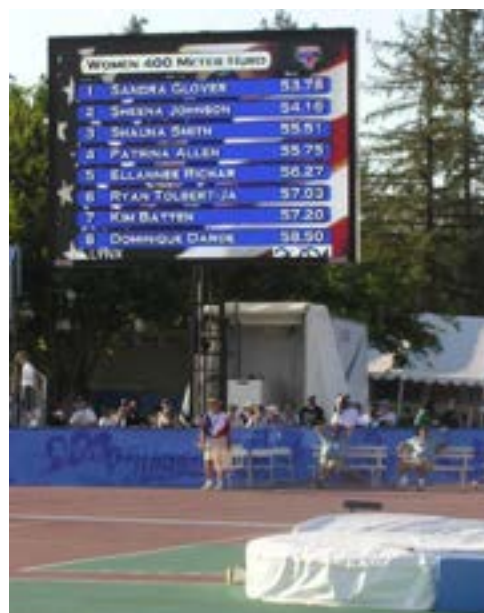
Simple Product for Complex Applications

Among the sports which are currently using ResulTV are Athletics, Thoroughbred Horse Racing, Trotting, Greyhound Racing, Cycling, Canoe and Kayak, Rowing, Speed Skating and Swimming.

ResulTV can be configured to operate with practically any sport that can send a digital data stream to a scoreboard.

Features

- Displays Static and/or Dynamic Text
- Displays Static and/or Dynamic 24-bit Graphics
- Can display Results and Running Time
- User-Configurable Layouts and Templates
- Accepts Multiple Data Sources
- Works with PAL and NTSC formats
- With the built-in ability to communicate with FinishLynx using TCP/IP network protocol, your ResulTV computer can be located practically anywhere.

Users

- US Olympic Trials for Track and Field
- Millrose Games
- US National Championships of Track and field
- Louisiana State University
- City College of San Francisco
- Cicero-North Syracuse High School
- Short Track Speed Skating
  - World Cup Competitions
  - World Junior Championships
  - European Championships
  - World Team Championships
  - World Championships.

Dynamic Bitmaps Build Graphic Displays Automatically

With ResulTV you can generate vivid graphic displays that update automatically. These displays can pull information directly either from previously created and stored files (graphics showing trainers' silks, National flags, team colors, etc.), or from dynamically created files like the one shown overleaf where a race image is instantly available for display.

Layered Graphics

Using the built in 'transparency' feature, and the ability to move graphic layers to the back or front of the layout, interesting and eye-catching graphic layouts can be rapidly built.

Multiple Font Capability

ResulTV has the capability to use the full range of Windows Fonts.

They can also display Character based languages: Korean, Japanese, Chinese, etc. All fonts can be set at any point size above the minimum.

Copy, Cut, Paste, and Align

When the ability to copy and paste components from one ResulTV layout to another is coupled with the ability to align components, users will find that layout building is easier than ever.
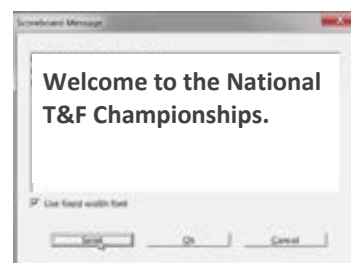
Lynx Portable Display

The Lynx portable LED display is custom-designed by Lynx to meet the demands of every competition level, from small high school meets to World Athletics championships. The display is portable, weather-proof, and integrates seamlessly with FinishLynx technology to display live results at your finish line or field event.

The LED panel measures 100cm x 50cm (19.68" x 39.5") and displays high-visibility text, images, results, and animated graphics for superior fan engagement. Plus, the **5mm** pixel pitch and **4500 nits** of brightness ensure that your live race results are visible in both indoor and outdoor venues.

Display Running VDM

Software Compatibility

The display receives data through a standard HDMI connection and is compatible with any software capable of sending graphics to an HDMI-connected display. Place it at the finish line or field event and connect it to ResulTV to output results and broadcast-ready graphics, or send live results and images directly from FinishLynx cameras using the Video Display Module (VDM).

Welcome to the National T&F Championships.

Video Display Module on Lynx Cameras

The portable LED display can connect directly to EtherLynx Vision-series photo-finish cameras running the Video Display Module to display live finish times, results, custom text, and even FinishLynx results images directly from the camera's HDMI output. The VDM option uses custom scoreboard scripts to output live race data and the options can be controlled from inside the FinishLynx software interface. Select capture images, send custom messages, or edit the display layout with a click of the mouse.

Port_Dsply
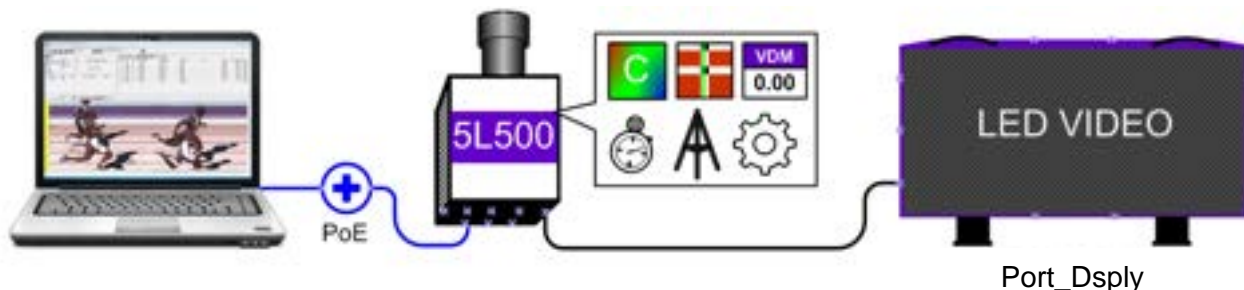
Key Features

- Seamless data integration with FinishLynx/FieldLynx and ResulTV
- Connect directly to a Vision-series camera to display live results using the Video Display Module (VDM) option
- HDMI input is compatible with most graphic display programs
- 5mm pixel-pitch and >5000 nits brightness produces high-visibility graphics suitable for indoor and outdoor events
- IP65 (front) and IP54 (back) weatherproof design protects the LED hardware from harsh weather conditions
- Custom aluminum frame supports the LED panels and provides a polished, professional design
- Scoreboard package includes the mounting feet, carrying case, and all the cables you need

Scoreboard Package Contents (KPort_Dsply)

Part Number	Description
Port_Dsply	High Resolution, 0.5 SQM, LED Video display. Works with 5LVDM, ResulTV, ResulTV-Connect & HDMI-Extender
FLT-LXLEDFeet	Universal Display Foot Set for Level/Flat Mounting
HDMI-05M-WR	HDMI Cable 5M – Water-Resistant Connector
HDMI-050	HDMI Cable 50 feet
Port_Dsply_CS	Travel/shipping case for Lynx Portable Display
USBCBL-A2B-06	USB A to B Cable, 6' long
USPwr25-WR/ EuroPwr25-WR	25' Power Cord – Water-Resistant Connector

Hardware Specifications

LED Panel Dimensions	100 cm x 50 cm
LED Matrix	104 x 208 pixels
Full Unit Dimensions	100 cm x 52 cm x 17.53 cm (39.5" x 20.5" x 6.9")
Full Unit Weight	27.9 kg (61.4 lbs)
Pixel Pitch	4.81 mm
Refresh Rate	>2000 Hz
Brightness	Up to 4500 nits
Pixel Density	43264 dots/sqm
Input Voltage	AC100-240V/50-60Hz
Average Power Consumption	260 W/m² (130W per side)
Max Power Consumption	780 W/m² (390W per side)
Operating Temperature	-20°C to +60°C
Operating Humidity	10% to 90% RH
Life Span	100,000 Hours
Front Ingress Protection Class	IP65
Back Ingress Protection Class	IP54
Frame Materials	Aluminum Frame
Mounting	Universal Display Feet, (Optional) BG3036 Tripod
Connections	HDMI, AC Power

ResulTV - Field Event Results
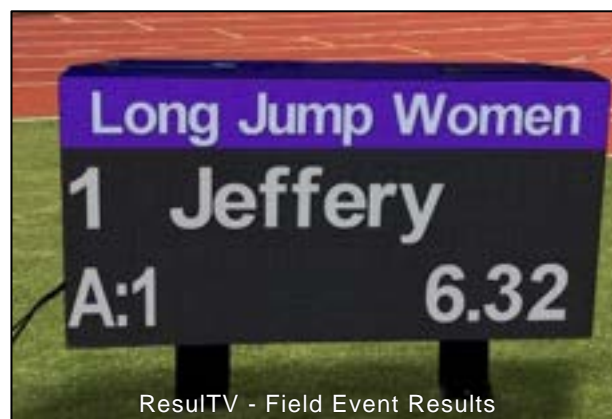
Request more information online at: www.finishlynx.com/product/displays/lynx-portable-display/

LED VIDEO

Lynx 360 Display

The Lynx 360 LED video display is custom-designed by Lynx to meet the demands of every competition level, from small high school meets to World Athletics championships. This modular display is available in single or double configuration and uses flexible, weather-proof panels that link in a circle. It also integrates seamlessly with Lynx technology to display live results for your field events.

Four LED panels connect to form a 4-meter circle and display high-visibility scrolling or static text, images, results, and animated graphics for superior fan engagement everywhere around the venue. Plus, the **6mm** pixel pitch and **6000 nits** of brightness ensure that your live race results are visible in both indoor and outdoor venues.

Figure 1 - Lynx 360 (single)

Software Compatibility

The display receives data through a standard HDMI connection and is compatible with any software capable of sending graphics to an HDMI-connected display. Place it near your field events and connect it to ResulTV to output scrolling graphics of results data from FieldLynx, FieldLynx Lite, or FinishLynx.

Construction & Frame

Each LED panel measures 100cm x 50cm (19.68" x 39.5") and together creates a 4-meter circumference (127cm diameter). Looking to add some extra height? The display allows stacking four additional panels on top to offer a full vertical meter of stunning graphics.

The custom aluminum frame offers solid, weatherproof construction and a lightweight design. The entire unit weighs just 55/101 kg (120/222 lbs) for the single/double options and includes a sturdy storage case on wheels for easy transportation to and from your event. Once assembled, hook the trolley handle to the frame and easily roll the display to the preferred location in the venue.

A removable vinyl cover is also included to cover the top of the display.

Key Features

- 360-degree view of scrolling graphics
- Seamless data integration from FieldLynx or FinishLynx via ResulTV
- HDMI input is compatible with most graphic display programs
- 6mm pixel-pitch and 6000 nits brightness produces high-visibility graphics suitable for indoor and outdoor events
- IP65 (front) and IP43 (back) weatherproof design protects the LED hardware from harsh weather conditions
- Custom aluminum frame supports the LED panels and provides a polished, professional design
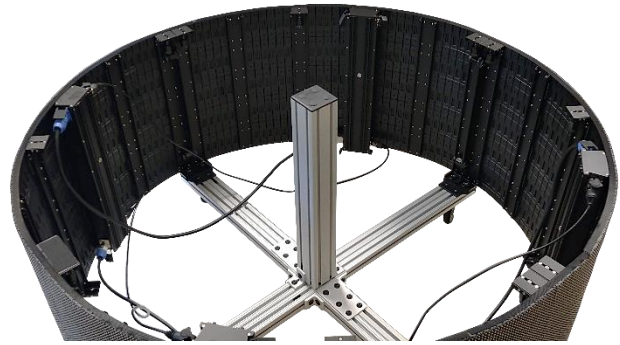- Trolley handle and wheels makes it easy to move

Figure 2 - Lynx 360 (double)

Live Field Event Results

Custom-Built Aluminum Frame

Weatherproof Internal Connections

Modular Single or Double Designs

Hardware Specifications

LED Panel Dimensions	100 cm x 50 cm (4 linked panels)
LED Matrix	640 x 80 pixels (single) or 160 pixels (double)
Full Unit Dimensions	Circumference: 4 meters Height: • Single (4 panels) - 72 cm (28.25") • Double (8 panels) – 122 cm (48")
Full Unit Weight	Single (4 panels) - 55 kg (120 lbs) Double (8 panels) – 101 kg (222 lbs)
Pixel Pitch	6.25 mm
Refresh Rate	1920 Hz
Brightness	1200/6000 nits
Pixel Density	25600 dots/sqm
Input Voltage	AC100-240V/50-60Hz
Average Power Consumption	280 W/m² (360W per row of 4 panels)
Max Power Consumption	830 W/m² (1660W per row of 4 panels)
Operating Temperature	-50°C to +50°C
Front Ingress Protection Class	IP65
Back Ingress Protection Class	IP54
Frame Materials	Aluminum frame, vinyl cover
Mounting	4-Wheel assembly (with trolley handle)
Connections	HDMI, AC Power

Request more information online at: www.finishlynx.com/product/displays/lynx-360-display/

Lynx LED Video Displays for Track & Field Results

The LED infield video displays from Lynx are custom designed to meet the demands of championship-level World Athletics events. These modular displays are available in 1, 2, or 3-sided units and integrate seamlessly with FinishLynx technology to display live results throughout the venue.

Each LED panel is **2 meters** long by **1 meter** high and provides high-visibility text, images, or animated graphics for superior fan engagement in large indoor or outdoor venues. Each display unit can receive data independently over an HDMI connection, or multiple units can be connected with an Ethernet cable to broadcast a single video/graphic feed simultaneously to displays located across the infield.


148 cm

211 cm

Software Compatibility

The displays are compatible with the ResulTV live display software, FieldLynx field event software, the Video Display Module for EtherLynx Vision cameras, or any custom software capable of outputting graphics to an HDMI-connected display. Infield displays can connect to a laptop or netbook to show live field event scores and measurements using the FieldLynx software. Finish line displays can connect to ResulTV for advanced broadcast-ready graphics, or display race results and images directly from FinishLynx cameras using the Video Display Module.
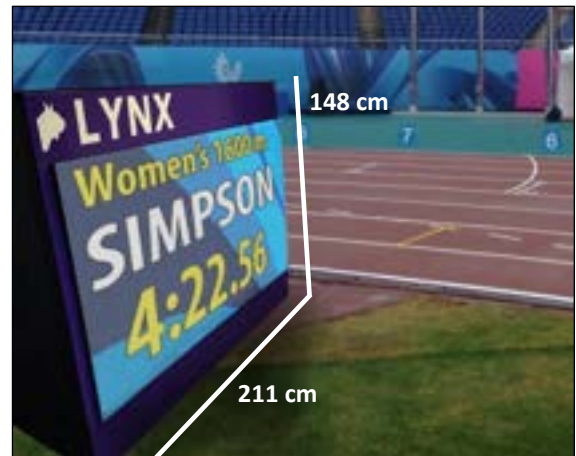
Video Display Module on Lynx Cameras

The 1, 2, and 3-sided displays can connect directly to an EtherLynx Vision series photo-finish camera running the Video Display Module to display live finish times, results, custom text, and even FinishLynx results images directly from the camera's HDMI output. The VDM plug-in uses custom scoreboard scripts to output live race data and the options can be controlled from inside the FinishLynx software interface. Select images, send custom messages, or edit the display layout with a click of the mouse.
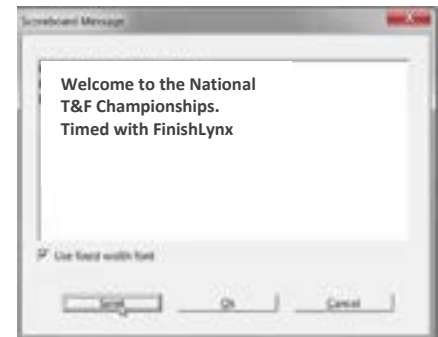
Construction & Frame

The premium aluminum frame offers solid, weatherproof construction and a lightweight design. Plus, the optional wheel assembly for the 2 and 3-sided units makes it easy to move the display within the infield or transport it between events. The large LED panels fit snugly into the aluminum frame and the rear connections are easily accessible during setup. The frame also includes removable vinyl panels to cover the rear of each display. Because the display units are modular, a 1-sided display can be turned into a 2 or 3-sided at a later date if necessary. Any of the four modular LED panels can also be swapped out or replaced at any time.

Key Features

- Large panels produce high-visibility graphics suitable for outdoor events
- Weatherproof design protects the LED hardware from harsh weather conditions
- Custom aluminum frame supports the LED panels and provides a polished, professional design
- Seamless data integration with FinishLynx cameras and software
- HDMI input is compatible with most graphic display programs
- Connect multiple display units using an Ethernet cable
- Modular design means you can choose any combination of 1, 2, or 3-sided displays

Lynx LED Video Displays for Track & Field

Live Field Event or Race Results

Custom-Built Aluminum Frame

Weatherproof Internal Connections

Modular 1, 2, or 3-Sided Designs

Hardware Specifications

LED Panel Dimensions	200cm W x 100cm H
LED Matrix	416 x 208 pixels
Full Unit Dimensions	**1-Sided**: 211cm x 148cm x 61cm
	2-Sided: 285cm x 148cm x 183cm
	3-Sided: 285cm x 148cm x 247cm
Full Unit Weight	**1-Sided**: 110 kg
	2-Sided: 210.5 kg
	3-Sided: 303.5 kg
Pixel Pitch	4.81 mm
Refresh Rate	>2000 Hz
Brightness	Up to 4500 nits
Pixel Density	43264 Dot/sqm
Input Voltage	AC100-240V/50-60Hz
Average Power Consumption	260 W/m^2 (520W per side)
Max Power Consumption	780 W/m^2 (1560 W per side)
Operating Temperature	-20°C to +60°C
Operating Humidity	10% to 90% RH
Life Span	100,000 Hours
Front Ingress Protection Class	IP65
Back Ingress Protection Class	IP54
Frame Materials	Aluminum Frame, Vinyl Cover
Mounting	Optional Wheel Assembly Base
Connections	HDMI, AC Power

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