



INNOVATION. TECHNOLOGY. RELIABILITY.

Intelligent Track Safety Light

Owner's Manual

Models 6750, 6751 & 6752

Rev G.1



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PRODUCT INFORMATION LINKS

RaceAmerica Website	www.raceamerica.com
RaceAmerica Online Store	store.raceamerica.com
Raceamerica Online Forum	www.raceamerica.com/forum
Product Warranty	www.raceamerica.com/legal.html
Service & Repairs	www.raceamerica.com/service.html
Technical Assistance	www.raceamerica.com/techcall.html
Owner's Manuals	www.raceamerica.com/prodpdf.html
Mounting Diagrams	www.raceamerica.com/mountpdf.html
Product Catalog	www.raceamerica.com/catalog.html

PRODUCT OVERVIEW

The Intelligent Track Safety Light (iTSL) is a microprocessor controlled display using the latest technology Ultra-Bright LEDs configured as a segmented matrix of red, yellow, green and blue LEDs. The Safety Light communicates with a remote handheld controller or centrally controlled 'Track Safety' software via an internal Wireless Data Comm Link or a hard wire. Multiple colors can be displayed in each segment of the iTSL; Model 6751 has four segments and models 6750 and 6752 have eight segments. Each segment in an iTSL can flash or display any of 16 preloaded animations. The wireless iTSL models maintain two way communication with the Track Safety software in the tower to confirm the correct flag is displayed and reports Battery Level and RF Integrity. In the event of a communications breakdown with the tower or very low battery condition, the iTSL can implement a Default Panic Flag automatically pre-selected by the software. Each wireless iTSL can be operated as a live RF signal meter displaying wi-fi network RF signal levels between the tower and locations on the track.

The iTSL is viewable up to 20 degrees in conditions from full sun to total darkness with an adjustable brightness level controlled by the PC software.

Up to 16 safety lights can be controlled from one PC running 'Track Safety' software. Up to 16 wireless iTSLs will operate grouped or independently using the same network Optimizer Code.

For ease of installation and placement, iTSLs can be grouped together and operate as one unit displaying the same flag at the same time for areas of the track requiring multiple safety lights.

NOTE: THIS PRODUCT USES ULTRA-BRIGHT LED TECHNOLOGY. DUE TO THE BRIGHTNESS LEVEL OF THIS DISPLAY, CARE SHOULD BE TAKEN, AS WITH ANY BRIGHT LIGHTING SOURCE, TO AVOID PROLONGED VIEWING AT CLOSE RANGE AND SHORT DISTANCES. AS WITH ANY BRIGHT LIGHTING SOURCE, VISION MAY BE AFFECTED SHORT TERM SIMILAR TO CAMERA FLASHES.

PACKAGE COMPONENTS

Each package includes:

- 1 - Intelligent Track Safety Light (675xAy)
- 2 - Mounting screws 10-32 x 3/4"
- 1 - Antenna (wireless models)
- 1 - Owner's Manual

AVAILABLE OPTIONS

- 3125A Track Safety control software
- 3125B Software to allow MyLaps/Orbits control
- 3125C Track Safety for Karting software
- 3125D Option to allow smart phone interface
- 4591A High gain antenna for increased range
- 6758A Rechargeable Battery Pack
- 6759A Stand with internal Battery Pack
- 5897A Battery Charger
- 6757A AC adapter for 6750/6751 12VDC/2A
- 6757B AC adapter for 6752 12VDC/3A

SET-UP

The iTSL can be mounted in a vertical or horizontal orientation using the 10-32 PEMs located on the back panel. Each iTSL includes connectors on the back panel for external battery power. The dual battery power inputs make the iTSL hot swappable without losing power. iTSLs can be operated with two battery packs for extended time between charges.

It is strongly suggested the system be set up and operational familiarity gained prior to actual use. This can be done virtually anywhere.

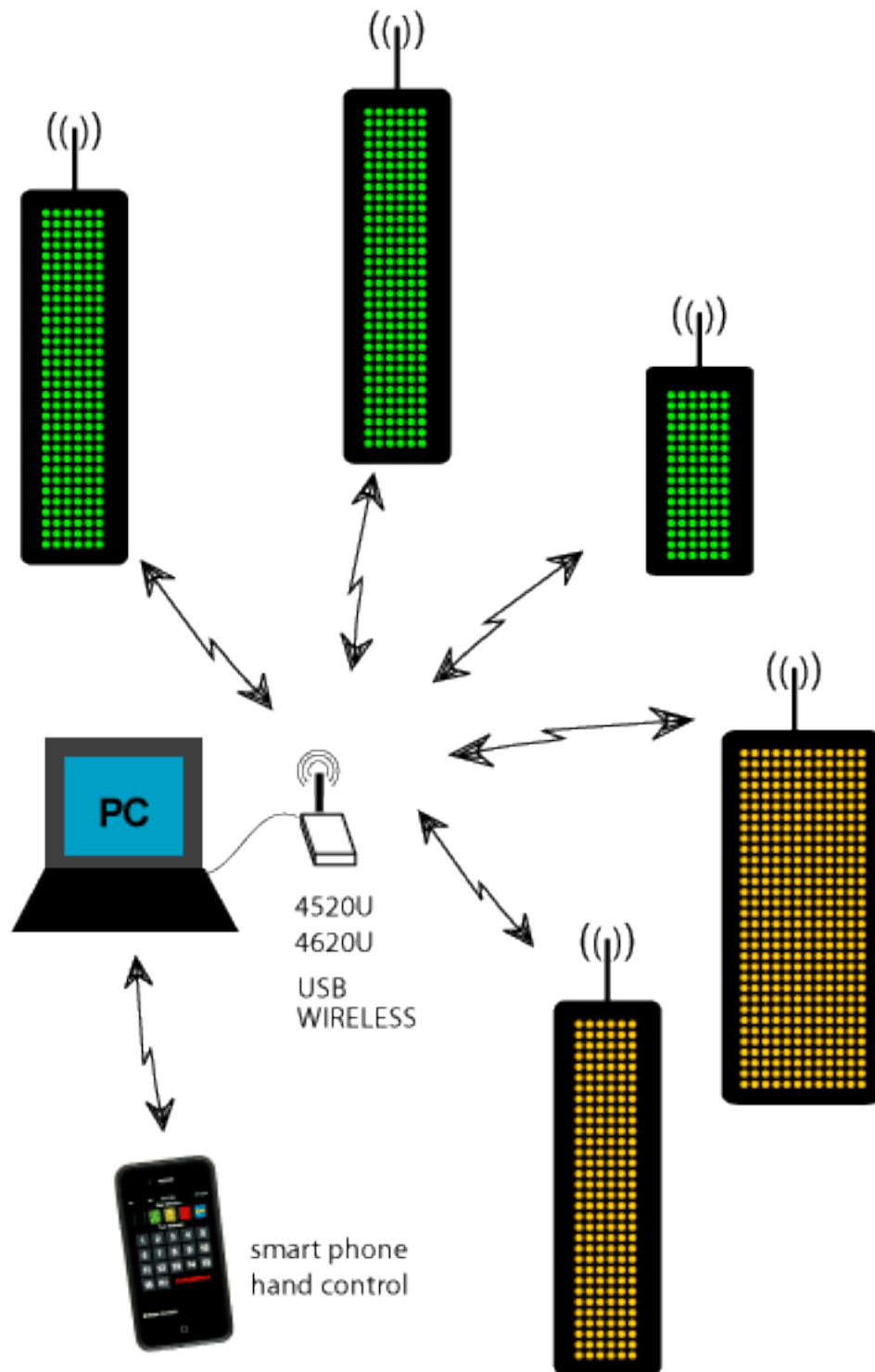


Figure 1 - Track Safety Lights with PC, Smart Phone and Wireless Data Comm Link

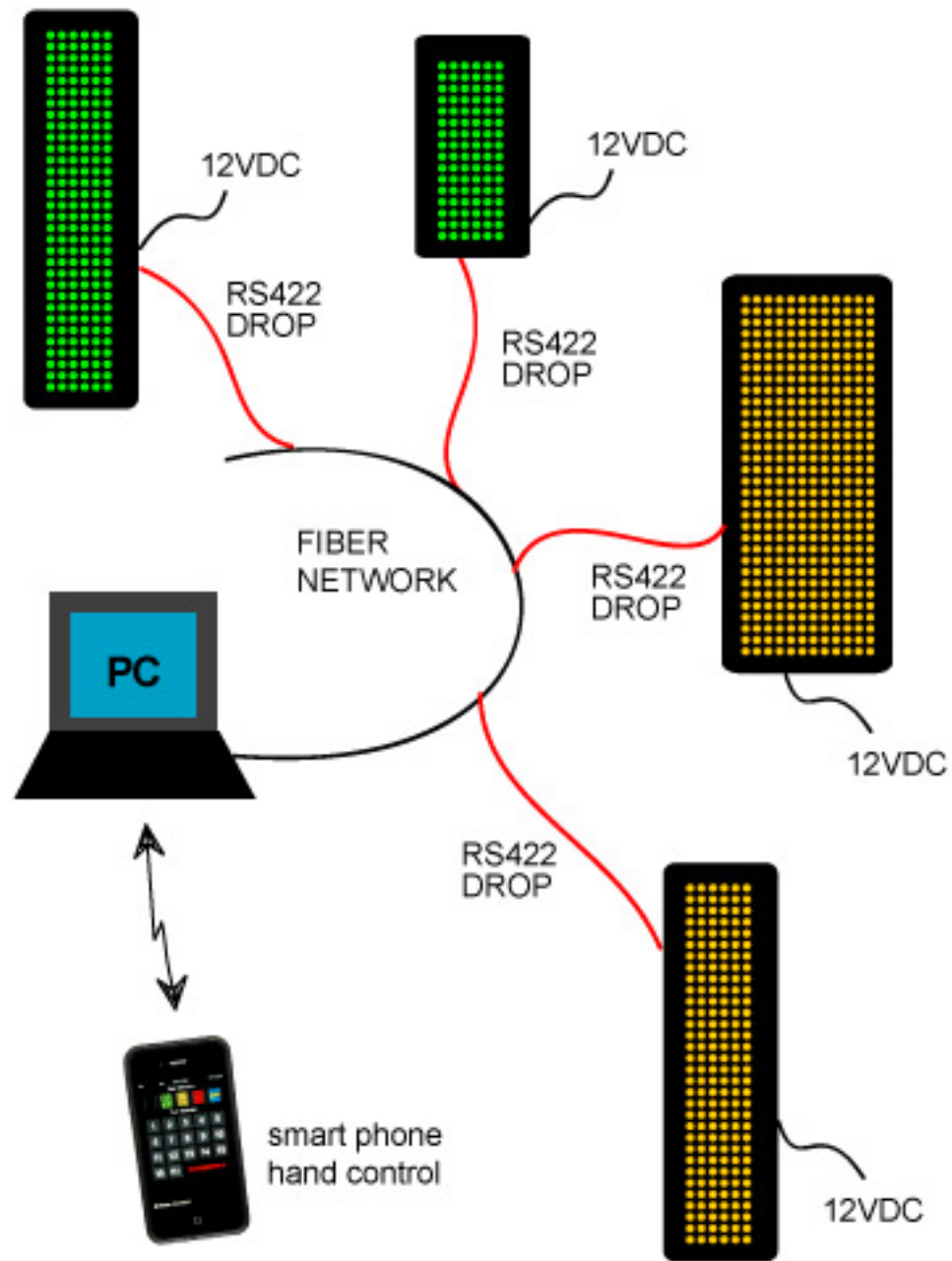


Figure 2 - Track Safety Lights with PC, Smart Phone and Hard wire fiber network with RS422 data drops

DISPLAY OPERATION

When power is applied, the Safety Lights begin a short power-up self-test. One LED segment will ‘walk’ through all LED segments of the iTSL. Each color (blue, green, red, yellow) will in turn ‘walk’ through the iTSL. Next, a color will extend from one segment to all segments, cycling through all four colors. The reserve battery power will display next as a color bar of red, yellow and green. A full display of color is 100% charge available, reds and yellows only is approximately 50% reserve available, reds only is approximately 25% reserve battery power available. Battery level is cleared and the iTSL’s ID is displayed as a color and number of illuminated segments. Spare iTSLs IDs are identified by two or more segments with different colors.

At this point, the iTSL is ready to communicate with the tower and the Track Safety PC software or with smart phones.

MAINTENANCE

The Track Safety Light requires minimal maintenance. Keeping the protective lens clean will maximize visibility and clarity of the flag. To clean the polycarbonate lens, use a non-abrasive cleaner on a soft cloth. If the lens is soiled with mud or dirt, gently remove the grit using a soft wet cloth being careful not to press when wiping to avoid scratching the lens material.

To extend battery life, maintain a minimum battery level of 25% reserve power and stored fully charged. Do not attempt to discharge the battery packs as this will result in battery failure.

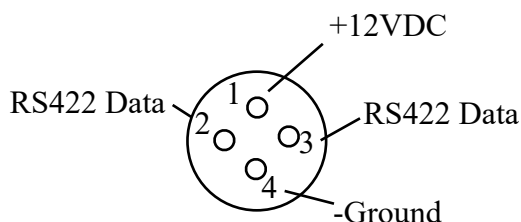


Figure 4 - Hard wired cable pinouts for:
AMP Circular Plug 4-Conductor

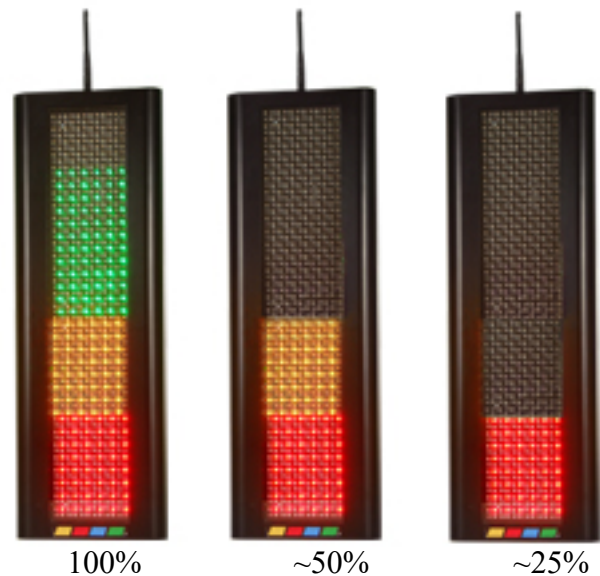


Figure 3 - Battery Level as displayed briefly during



Figure 5 - 6758A Rechargeable Battery Pack
Included charger not shown

SPECIFICATIONS

Model Numbers**	6751	6750	6752
Number of LEDs	384	768	1536
Segments/LED Colors	4 segment/4 color	-----8 segment/4 color -----	
Dimensions:			
LED Display Panel	13in x 5.1in 33cm x 13cm	26in x 5.1in 66cm x 13cm	26in x 10.2in 66cm x 26cm
Enclosure	15.25in x 9.25in 39cm x 23.5cm	28in x 9.25in 71cm x 23.5cm	28in x 16in 71cm x 41cm
Mounting	-----10-32 PEM nuts on rear panel----- -----Horizontal and Vertical orientation-----		
Housing	-----Sealed Powder Coated Aluminum-----		
Front Lens	-----Clear Polycarbonate-----		
Typical Viewing on Track	up to 500ft up to 153m	up to 1,000ft up to 305m	up to 2,000ft up to 610m
Data Transmission			
Wireless	-----Encoded Multi-Channel-----		
Wired	---Ethernet or RS485 Drops from fiber network or equivalent-----		
Battery Life per Charge	20 hours	10 hours	5 hours
	All segments continuously illuminated at full brightness		

** Models available for wireless or hard wire installations:

- 675XA - Hard wired
- 675XAW - 900 Mhz
- 675XAX - 2.4 Ghz

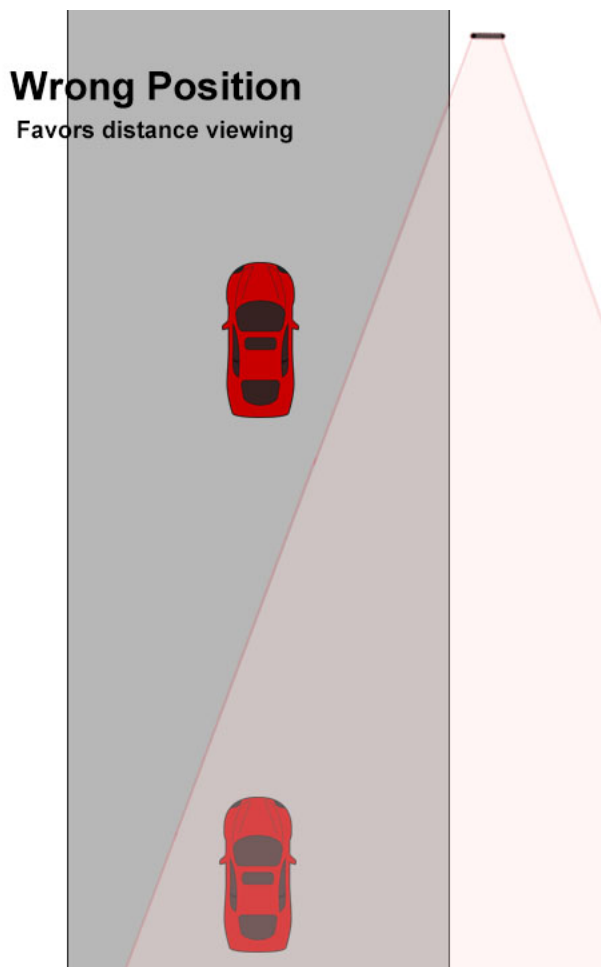


Figure 6 - Wrong Mounting to Track

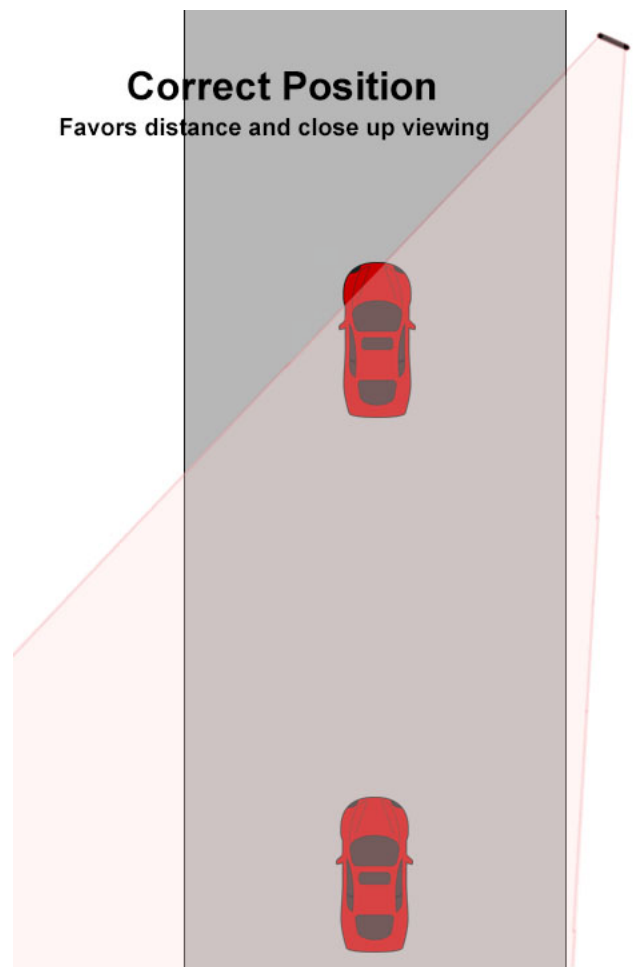


Figure 7 - Correct Mounting to Track

MOUNTING ON TRACK

To optimize the dispersion angle of the LEDs, proper mounting position relative to the track is very important. Figure 6 illustrates a typical mounting position resulting in the TSL appearing to change colors as the vehicle passes the TSL due to the vehicle passing out of the optimum viewing of the TSL. If the driver looks over at the TSL at this hard angle, brightness is reduced and flags effected by the surroundings.

Figure 7 illustrates mounting the TSL at an optimum angle to the track to maximize the viewing angle and make viewing close up the same as at farther distances. This can be achieved by

viewing at distance from both inside and outside extremes of the track at a distance determined by where the drivers will first view the TSL. Then view the TSL close up at the inside and outside extremes of the track.

Figure 7 illustrates how the maximum viewing angle will eliminate the appearance of the TSL changing color as the driver passes. This same alignment for the angle up/down position to the track should also be considered. Aiming the TSL downward towards the track can also maximize the viewing angles of the TSL,