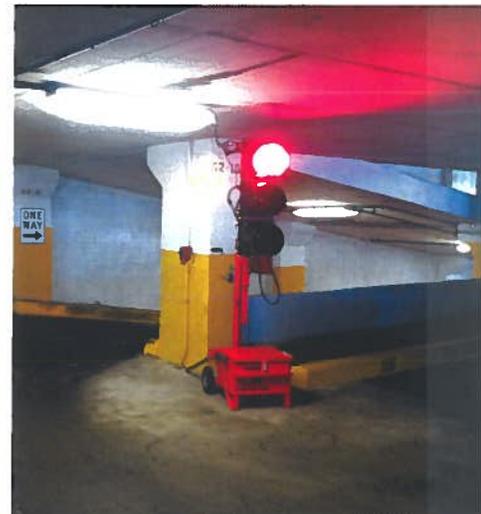


HORIZON SIGNAL TECHNOLOGIES

Horizon Signal Technologies is the leading manufacturer of portable traffic signal systems with manufacturing and service facilities located throughout North America. We have a 25 year history of providing unmatched service and support. Our portable traffic signals are built to high quality standards and deliver the versatility and dependability necessary to meet the demands and challenges of today's traffic control industry. Horizon Portable Traffic Signal Systems conform to both U.S. State DOT requirements and Federal Guidelines.

Our highly trained and knowledgeable staff is available to provide expert assistance ensuring your project requirements are met the first time and every time. Our technical staff is available to provide assistance from the design phase to implementation, right through project completion. Training and support is included in every sale or rental and our Technical Service / Support Center provides 24-hour service to ensure we are there if you need us.

Horizon Signal Systems have been used on a wide variety of construction projects throughout North America. Whether your application requires traffic control for daily maintenance, long term road or bridge repair, complete intersection control, or you require an additional signal to augment your current setup, we have a portable traffic signal system to meet your needs.



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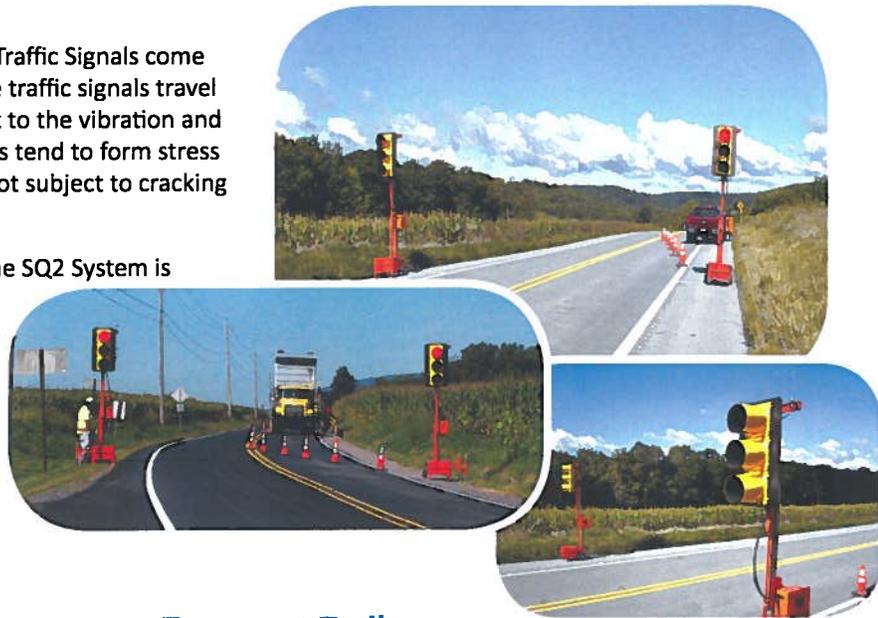
Why choose Horizon? ○○○

Signal Carts

Signal Heads: Horizon SQ2 Pedestal Mounted Portable Traffic Signals come standard with aluminum signal heads. Because portable traffic signals travel to their deployment location in trailers, they are subject to the vibration and bumps of the road. Polycarbonate or plastic signal heads tend to form stress crack and fail after a time. Aluminum signal heads are not subject to cracking and failure.

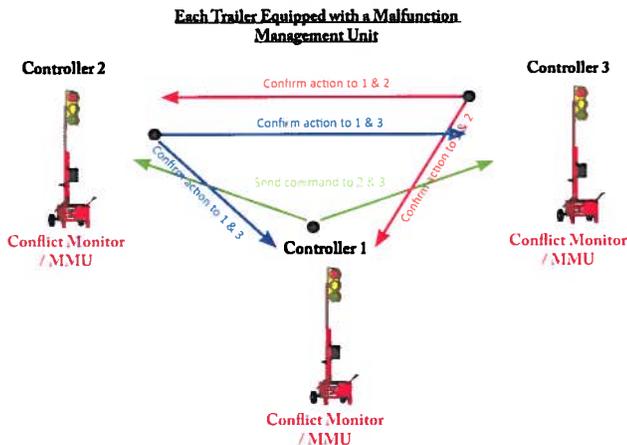
Structural: Heavy duty structural components ensure the SQ2 System is designed to withstand the rigors of the construction environment. It also contributes to the ability of the cart to meet the 40 mph wind load requirement.

Accessories: Stabilizer jacks allow for leveling of carts on uneven surfaces, and improve the wind load capacity to 70 mph. The addition of solar panels help extend battery run time.



Operating System

Malfunction Management System: Each SQ2 is equipped with a MMU System. This feature is exclusive to Horizon Portable Traffic Signals and provides redundancy within each signal set-up by monitoring malfunctions at each cart within the system. It also eliminates the possibility of a MMU failure leaving the signal system without the ability to detect malfunctions, thereby maximizing the specifications for Pedestal Mounted Portable Traffic signals. The specification should also require that the MMU have the capability to communicate and cross check with each MMU at every signal trailer within in the signal set-up.



Transport Trailer

It is important that the transport trailer be structurally adequate to support the weight of the Pedestal Mount Portable Traffic Signal System. The door must be appropriate size to accommodate the cart height and the cart lockdown pegs are vital to ensuring the carts remain in a static position while in transit. The outrigger & solar panel (if specified with the system) storage system ensures these components are locked down during transport.

GVWR: Minimum 7,000 lbs

Axels: Dual Torflex

Cart Lockdown Pegs: Equipped with 8 lockdowns to secure up to 4 carts for transport.

Charging Capability: Equipped with (4) 110v outlets inside cargo area for full system charging when connected to an outside power source.

Outrigger/Solar storage: Equipped with stabilizer jack storage rack and solar panel lockdowns for organization and transport.

Front Storage Box: Equipped with an 18" x 36" x 19" storage box located on the front of the trailer.

Electrical Equipment: Meets all SAE, ICC and DOT regulations.

Lighting Package: Conforms to all DOT regulations.



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Why choose Horizon? ○○○



Component Options

Horizon Signals are engineered to be component-based systems. Our signals are available with a variety of add-on component options which can be added to the system as the need arises.

- Pedestrian Signal Indications
- Message Board interface System
- Pilot Car / Flagger Module
- Wireless Interface System
- Pedestrian Signal Heads
- Remote Monitoring System
- Pre-Emption System for Emergency Vehicles
- Remote controls
- Traffic Actuation Device
- Work Zone Flood Light

Message Board Interface: The Message Board Interface System is comprised of a portable changeable message sign, portable traffic signal trailer/cart and wireless communication system. The Horizon SQ2 cart can be equipped to communicate with a properly equipped portable changeable message sign placed in advance of the work zone to display real time signal status. Upon signal lamp change, the message displayed on message sign shall change to provide the motorist with current signal status / information. As an example, when the signal is red the message could be programmed to read "Caution RED Signal Ahead" and when the signal is in green the message could be programmed to read "Caution Signal Ahead".

Advanced Monitoring System

Remote Monitoring System: The operating system can be equipped with a remote monitoring system capable of reporting the following information:

- Signal location
- Battery voltage / battery history
- System default
- Operating Hours
- Error Logs
- Theft control

The RMS includes a password protected web site viewable from any computer with internet capability. In the event of a system default the RMS shall provide specific information concerning the cause of the system default (i.e....red lamp on signal 1). The RMS shall be equipped with a mechanism capable of immediately contacting a minimum of three previously designated individuals via text messaging and /or email upon a default.

The running program operating the Pedestal Mounted Portable Traffic Signal system shall be available and viewable through the RMS website at all times. The RMS shall maintain a complete history of the operating system in each signal including operating hours and events and the location of the signal system.

Signal ID	Location	Status	Last Update	Signal	Color	Phase	Priority	Event	Report	History	Reset
1344088700	1344088700	2	5/26/2012 12:17:40 PM	2000	Red	DP	1	Start	Generate	View	Control
1344088700	1344088700	2	5/26/2012 12:18:30 PM	2000	Red	DP	1	Start	Generate	View	Control
1344088700	1344088700	2	5/26/2012 12:18:30 PM	2000	Red	DP	1	Start	Generate	View	Control
1344088700	1344088700	2	5/26/2012 12:18:30 PM	2000	Red	DP	1	Start	Generate	View	Control
1344088700	1344088700	2	5/26/2012 12:18:30 PM	2000	Red	DP	1	Start	Generate	View	Control
1344088700	1344088700	2	5/26/2012 12:18:30 PM	2000	Red	DP	1	Start	Generate	View	Control
1344088700	1344088700	2	5/26/2012 12:18:30 PM	2000	Red	DP	1	Start	Generate	View	Control
1344088700	1344088700	2	5/26/2012 12:18:30 PM	2000	Red	DP	1	Start	Generate	View	Control
1344088700	1344088700	2	5/26/2012 12:18:30 PM	2000	Red	DP	1	Start	Generate	View	Control
1344088700	1344088700	2	5/26/2012 12:18:30 PM	2000	Red	DP	1	Start	Generate	View	Control

Why choose Horizon? ○ ○ ○

NCHRP-350 Crash Testing

Although trailer mounted portable traffic signals are exempt from crash testing, the FHWA has determined that temporary traffic signals mounted on pedestals must be crash tested:

“Temporary traffic signals mounted on bases or pedestals are considered Category II work zone devices as they are similar in overall configuration to portable sign stands that are routinely crash tested.”

The SQ2 has been successfully tested to NCHRP-350 Test Level 3 crash testing requirements by an accredited independent test facility. The successful test report shall have been accepted by the FHWA with supporting documentation available upon request.



Horizon Signal Support

Product Training: Horizon provides on-site training with each delivery. Horizon Signal offers web training and education as well as hands-on training classes.

Technical Support: Horizon signal maintains a 24-hour technical support group that allows our customer to communicate with a factory trained Horizon employee to address any technical question or issue.

Product Support: Horizon Signal offers equipment and some component options for rent or lease with turnkey options and on-site support.

Sales Support: Horizon maintains service centers and sales offices throughout North America.

Product Availability: Horizon maintains a strategically located Network of Distributors and Factory Direct Facilities throughout North America. This provides an advantage to companies who own Horizon Signal Systems as additional signal systems and components are readily available and within close proximity.

General specifications are subject to change without notice to reflect improvements and upgrades. Additional information is available. Contact Horizon Signal Technologies for details.



Horizon Signal Technologies

202 Conestoga Road
Wayne, PA 19087
(610) 687-8975

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- Phoenix, AZ
- Cambridge, ON
- Nationwide Local Distribution Network

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SIGNAL
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SQ2[®] System

PORTABLE TRAFFIC SIGNAL SYSTEMS



NCHRP 350 TL-3 ACCEPTED MOBILE TRAFFIC SIGNAL

The SQ2 Portable Traffic Signal System has been designed and tested for fast, efficient deployment without sacrificing quality, versatility or safety. The full matrix operating system features an integrated conflict monitor, programming storage and is actuation ready. The operating system is software-based and conforms to the NEMA performance standards. Failsafe programming is accomplished easily and features fixed time, actuated or manual modes. The NCHRP 350 TL-3 accepted SQ2 System is ideal for daily or short term traffic control applications. It provides increased work zone safety while maximizing traffic flow.

SQ3TS® System

Programming Options

Communication Type	radio - quartz - cable	fixed time - quartz	cable - hardwire	radio
Actuation Option Available	N/A	no	yes	yes
Actuation Method	N/A	N/A	microwave sensor / video detection	microwave sensor / video detection
Min / Max green time available	N/A	no	yes	yes
Dayphase option available	N/A	yes	yes	yes
Green time extensions available	N/A	no	yes	yes
Maximum number of signals per setup	8	8	8	8
Maximum number of phases per setup	7	7	7	7
Hand controller option available	yes	yes	yes	yes
Data logger	yes	yes	yes	yes

Applications

Communication Type	radio - quartz - cable	fixed time - quartz	cable - hardwire	radio
Flagger Applications	yes	yes	yes	yes
Roadside Utility Repair	yes	yes	yes	yes
Construction Projects	yes	yes	yes	yes
Disaster Relief	yes	yes	yes	yes
Parking Lot Access	yes	yes	yes	yes
Sporting Events	yes	yes	yes	yes
Fairs and Festival Traffic Control	yes	yes	yes	yes

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SQ2[®] / SQ2[®] MPR System

OPERATING POSITION

Signal Carts per System	4
Signal Head per Cart	1
Signals per Traffic Phase	2
Indication Type	12" LED
Signal Cart Footprint	31" x 25½"
Signal Height	96" from bottom of green to road surface (per MUTCD)

SIGNAL HEADS

Signal Head Type	Aluminum
Visor Type	Poly (black)
Face color options	Standard black / optional yellow
Lamp Type	LED
Lamp Size	12" LED
<i>Optional back plates</i>	

POWER SUPPLY

Operating Power Source	12 VDC (2 12-volt batteries, optional third)
Battery Capacity	5 days of continuous use @ 72 °
Charge	110-volt on board charger
<i>Optional solar package to supplement batteries</i>	

SYSTEM SETUP

Lift System	Manual hand crank
Signal Positioning	Carts manually wheeled into position
Cart weight	420 lbs

AVAILABLE OPTIONS

Remote Monitoring System | Provides information on location, operating status, and battery voltage.

Wireless Interface | Allows the Horizon Signal System to operate in conjunction with a standard street corner controller.

Back Plates | Provides an additional background around the signal head for enhanced visibility.

Flagger / Pilot Car Module | Allows the flagger or pilot car driver to control the signal system with built-in safeguards.

Traffic Actuators | Facilitates traffic actuation through motion sensors.

Intrusion Alarm | Provides an audible alert in the event a vehicle violates a red indication.

Transport Trailer | An enclosed trailer to transport, store, and accommodate charging of SQ2 System.

SQ2® System

SPECIFICATIONS

Signal Carts per System	4
Signal Heads per Cart	1
Lamp Type	12" (300 mm) diameter LED
Power Source	12V / (2) 12V batteries
Height: Operating Position	96" (244 cm)
Cart Footprint	31 x 25.5" (79 x 65 cm)
Cart Weight	420 lb. (190 kg)

SQ2 SYSTEM FEATURES

- Full matrix operating system
- Bulletproof 900 MHz radio communication option
- True green time extensions
- Manual, fixed time, & traffic actuated operation mode options
- Wireless remote operation mode option
- Work zone indication light to provide visual cues
- Fast, efficient deployment and relocation
- Fully MUTCD and NCHRP 350 compliant
- Integrated conflict monitoring

AVAILABLE OPTIONS

Solar Charging & Outrigger Package The solar charging option extends battery life while the outrigger option provides additional stabilization.

Traffic Actuators Facilitates traffic actuation via motion sensors.

Pedestrian Crosswalk Signals System can be configured with MUTCD compliant pedestrian crosswalk signal indicators.

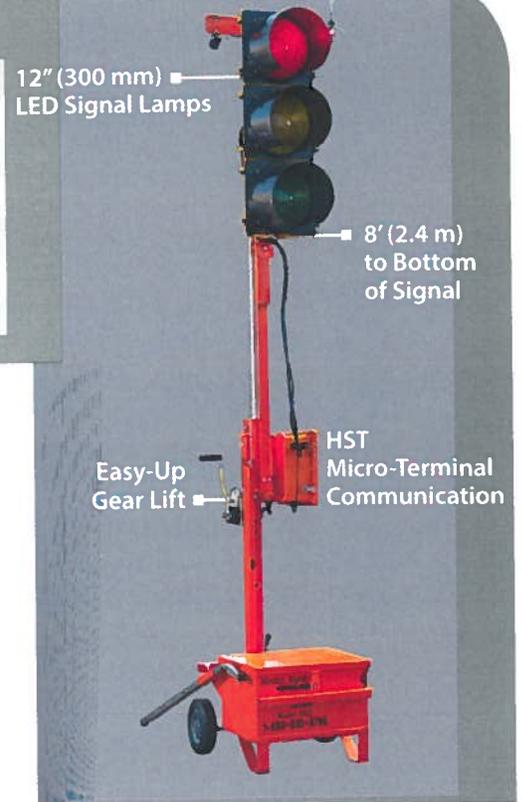
Advanced Remote Monitoring System Allows an authorized user to monitor location, voltage, operating hours and system status.

Back Plates Provides an additional background around the signal head to enhance visibility.

Flagger/Pilot Car Module Allows flagger or pilot car driver to control signal status with built in safeguards.

Transport Trailer An enclosed trailer to transport, store and accommodate charging of SQ2 signals.

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NCHRP 350 TL-3 Accepted

Since mobile work zones are one of the most dangerous environments for workers and motorists, the SQ2 System has been tested to meet NCHRP 350 TL-3 test standards.



General specifications for the SQ2® System are subject to change without notice to reflect improvements and upgrades. Additional information is available. Contact Horizon Signal Technologies for details.

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SIGNAL
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SQ3TS[®] System

PORTABLE TRAFFIC SIGNAL SYSTEMS



TRAILER TOWABLE PORTABLE TRAFFIC SIGNAL WITH SOLAR ASSIST

The SQ3TS Portable Traffic Signal System combines fast efficient setup with highly reliable performance. The multitude of modular add-on components makes the SQ3TS the most versatile portable traffic signal system available today. The SQ3TS is the smart choice for a wide variety of short and long term traffic control applications. From a simple one lane bridge repair project to complete intersection control, the SQ3TS has the attributes to provide safe efficient traffic control.

SQ3TS® System

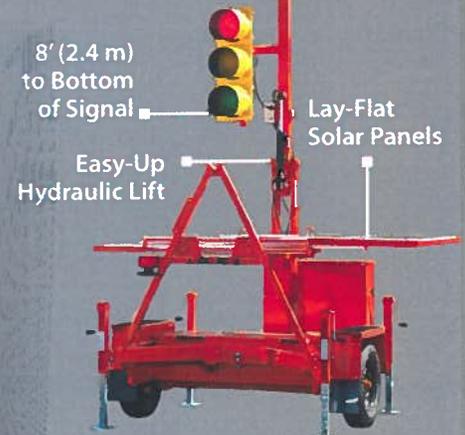
SPECIFICATIONS

Signal Lamp	12" (300 mm) diameter LED
Signal Arm Extension	68 to 109" (173 to 277 cm)
Solar Charge	440W min
Power Source	12V / (16) 6V batteries
Tow Height	89" (226 cm)
Trailer Width	85" (216 cm)
Trailer Weight	3000 lb. (1361 kg)



SQ3TS SYSTEM FEATURES

- Bulletproof 900 MHz radio communication
- True green time extensions
- Conflict monitoring
- Fast efficient setup
- Tandem tow signal trailers
- Highly visible 12" (30.5 cm) LED lights
- Adjustable overhead mast arm
- 180° rotating signal heads
- Fixed time, traffic actuated and manual operation options
- Controls up to seven traffic phases with eight signals
- Battery powered with solar & 110 volt charging



AVAILABLE OPTIONS

GPS Monitoring Provides information on location, operating status, battery voltage, etc.

Interface Module Allows signal to operate in conjunction with a standard street corner control cabinet.

Pre-emption System Recognizes emergency vehicles and changes signal status as programmed.

Back Plates Provide an additional background around the signal head to enhance visibility.

Traffic Actuators Facilitates traffic actuation via motion sensor or true presence video detection.

Flagger/Pilot Car Module Allows flagger or pilot car driver to control signal status with built in safeguards.

Work Zone Light Provides visual signal status inside a work zone.

EASY TO DEPLOY

The SQ3TS Portable Traffic Signal is equipped with a one-touch, easy-up hydraulic lifting system to make deployments simple.

7' 6" (2 m) Transport Height

NEMA 4 Cabinet Enclosure



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General specifications for the SQ3TS® System are subject to change without notice to reflect improvements and upgrades. Additional information is available. Contact Horizon Signal Technologies for details.

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SQ3TS[®] Component Options

PTS UPGRADE KITS



MESSAGE BOARD INTERFACE SYSTEM

A message board can be connected to a Horizon Portable Traffic Signal System that will provide motorists with an advanced notice of a signal ahead. The wireless signal to the message board provides the motorist with advanced notice of the signal status, like "Red Signal Ahead."



ADVANCED REMOTE MONITORING SYSTEM

The Advanced Remote Monitoring (ARM) System allows an authorized user to monitor an entire fleet of Horizon Portable Traffic Signals for location, battery voltage, operating hours and system status. The ARM system will send alerts if a signal is moved, battery voltage is low, or a system fault is detected.



PILOT CAR / FLAGGER MODULE

The Pilot Car / Flagger Module allows a pilot car driver or flagger to operate a Horizon Signal System remotely using a hand held transmitter. The use of Horizon Signal Systems equipped with our Pilot Car / Flagger Module increases safety for both the worker and the motorist.



PRE-EMPTION SYSTEM

The Pre-Emption System provides a green phase in the direction of an approaching emergency vehicle. Indication lights will confirm the system is functioning. Actuation is accomplished through optical strobe detection.



WIRELESS INTERFACE SYSTEM

The Wireless Interface System allows the SQ3TS System to be wirelessly operated from a street corner controller. The System allows for easy signal substitution in the event of a knockdown or traffic pattern reconfiguration. An SQ3TS Signal with Wireless Interface can be deployed in under 30 minutes.



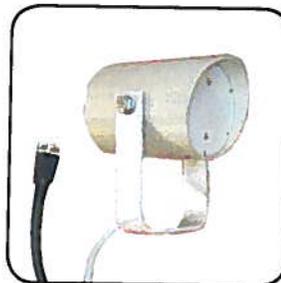
VIDEO ACTUATION

Video Detection Systems offered by Horizon Signal Technologies for traffic actuation combines performance, functionality and ease of use to provide non-intrusive true presence detection. Highly sophisticated algorithms ensure accurate detection zones that can be configured to meet site specific requirements.



GENERATOR ENCLOSURE

The Generator Enclosure provides backup power for Portable Signal Systems operating in areas with limited solar collection capabilities. The unit features a lockable coupler to allow for storage on the rear of the SQ3TS Trailer to keep the unit out of sight. The enclosure is designed to be used with the Honda EU2000i generator.



MOTION ACTUATION

Motion sensors can be configured to detect approaching vehicles only and feature adjustable detection zone. The use of actuation devices allows a signal system to be programmed to accommodate rush-hour and overnight traffic flows.



PEDESTRIAN SIGNAL HEAD

The Pedestrian Signal Upgrade Kit includes MUTCD compliant indications exclusively intended for controlling pedestrian traffic. The pedestrian indications can be easily be integrated into SQ3TS Systems or be furnished on a stand-alone cart.



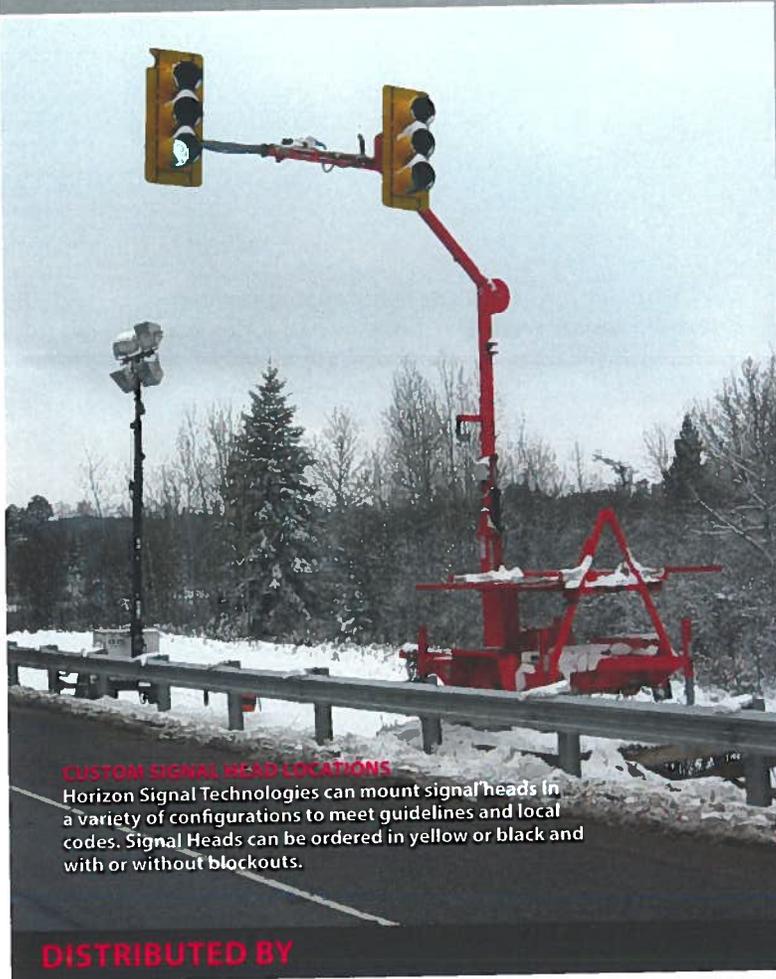
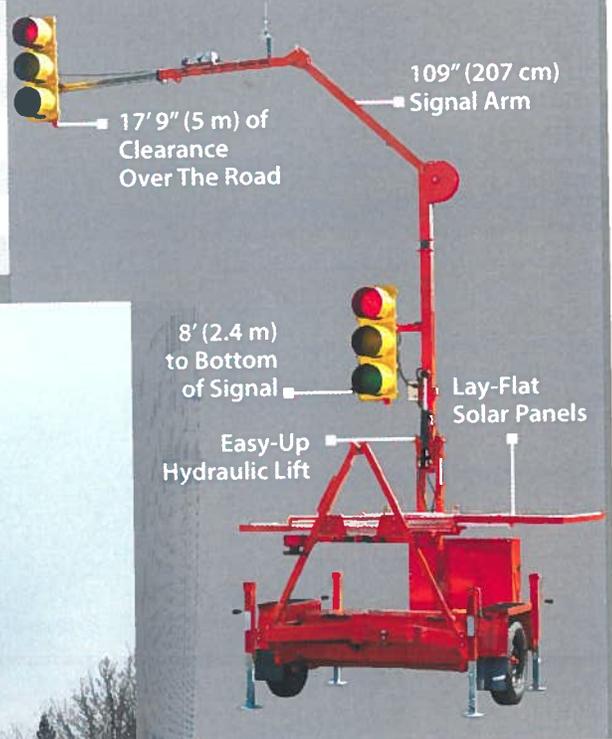
TURN ARROW SIGNAL HEAD

MUTCD compliant turn arrows can be added to the SQ3TS Portable Traffic Signal System. This addition makes for easy, safe traffic flow through intersections during construction, annual events and seasonal traffic.

SQ3TS® System

SPECIFICATIONS

Signal Lamp	Type 12" (300 mm) dia LED
Signal Arm Extension	68 to 109" (173 to 277 cm)
Solar Charge	440W min
Power Source	12V /(16) 6V batteries
Tow Height	89" (226 cm)
Trailer Width	85" (216 cm)
Trailer Weight	3000 lb. (1361 kg)



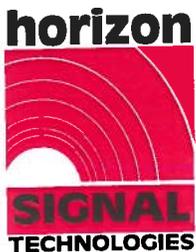
CUSTOM SIGNAL HEAD LOCATIONS

Horizon Signal Technologies can mount signal heads in a variety of configurations to meet guidelines and local codes. Signal Heads can be ordered in yellow or black and with or without blockouts.

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EASY TO DEPLOY

The SQ3TS Portable Traffic Signal is equipped with a one-touch, easy-up hydraulic lifting system to make deployments simple.



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