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Header 3

List View

- General Information
- Contact
- Default Values
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- Document Information
- Clarification Request

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Procurement Type: Central Master Agreement

Vendor ID: VS0000040682

Legal Name: Transportation Solutions and Lighting

Alias/DBA: TRANSPORTATION SOLUTIONS AND LIGHTING

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Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
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State of West Virginia  
 Solicitation Response

**Proc Folder:** 1037406  
**Solicitation Description:** ADDEMDUM NO\_2 Trailer Mounted Portable Traffic Light  
**Proc Type:** Central Master Agreement

Solicitation Closes	Solicitation Response	Version
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**VENDOR**  
 VS0000040682  
 Transportation Solutions and Lighting

**Solicitation Number:** CRFQ 0803 DOT2200000171  
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**Comments:**

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**Vendor Signature X**      **FEIN#**      **DATE**

All offers subject to all terms and conditions contained in this solicitation

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	Trailer Mounted Portable Traffic Lights	10.00000	EA	27500.000000	275000.00

Comm Code	Manufacturer	Specification	Model #
46161504			

**Commodity Line Comments:** OMJC is the highest quality portable traffic signals on the market.

**Extended Description:**

Trailer Mounted Portable Traffic Lights



# OMJCPöp-üp LD

The LD is optimized to control a single lane closure, but it is capable of far more. Its arm is 9' long, meeting the MUTCD requirements. With the LD, you can quickly have two 12" ITE approved signals in positions mandated by the MUTCD at the mere push of a button. It is light enough that you can tow it with a pickup truck. Because it is only 6' wide (the narrowest in the industry), you can fit it in almost anywhere. The LD features our exclusive Intelight™ ATC controller running Maxtime™ software. Our control units communicate in real time via wireless, license-free, encrypted spread spectrum radio. The control system can easily handle 7 trailers, as well as complex phasing. It can even function as a knock-down. The LD comes standard with 300 watts of PV (adjustable on 2 axis) and 800 Ahr of AGM batteries.



## DC2070 ATC™ Controller

Our system is based upon Intelight's™ proven ATC controller equipped with their Maxtime™ software. It is capable of dual ring actuated operation, controlling up to 8 phases with pedestrian movements. All inputs and outputs are mappable, providing maximum flexibility. It has inputs for coordination, vehicle detection and preemption. It has internal TBC and a clock/calendar and can be programmed for up to 20 day plans with multiple events. The malfunction management unit is an EDI CMU-212. It monitors the following functions in real time: Power, Voltage, Conflict, Lack of signal, and 10 others.

## Pop-Up LD™ Features

- Lift Mechanism - electric over hydraulic with remote pendant, single cylinder both lifts and extends in a single movement
- Arm Extension from side of trailer - 9'
- 12" RYG LED signals - ITE compliant, 1 overhead, 1 side of mast
- 180 degree signal rotation
- Traffic control equipment - Intelight Controller - ATC w/ Maxtime 2070 software – EZ Interface (Just answer 4 questions) - actuated 8 phase, dual ring, with pedestrian movements, preemption and coordination capable, knock-down capable, encrypted wireless connection between master and secondaries, real time monitoring

## Pop-Up LD™ Options

- Vehicle detection option - microwave, video, loop
- Red clearance extender option
- Green recycle option
- Preemption system option
- Pilot Car remote option
- Optional remote monitoring & programming with on-board GPS
- Auto-start generator option

## Specs

- Chassis length - 112", removable hitch adds 56" for a 168" total
- Chassis Width - 72" - narrowest in industry
- Travel Height - 114" with solar
- Weight with solar, batteries, and controls - 2700#
- Clearance under arm - 17'



# Pop-Up LD

QPNW-234-2070

## 1 PERSON, 1 MINUTE

The Pop-Up LD is designed to control a single lane closure, but it is capable of far more. The 9' arm meets MUTCD requirements. Two, 3 section signal heads with 12" RYG that comply with ITE standards, can quickly be in positions mandated by the MUTCD at the mere push of a button. Because the footprint is only 6' wide (the narrowest in the industry), it can fit almost anywhere. The LD features the Intelight 2070 ATC Controller running MAXTIME software. The custom radio system allows wireless communication between OMJC Pop-Up units along with complex phasing ability. The LD comes standard with a 385 watt solar panel (adjustable on 2 axes) and 440-660Ah of AGM batteries.

MAXIMUM VISIBILITY  
180° SIGNAL ROTATION STANDARD



CAN FIT  
ALMOST  
ANYWHERE

6' WIDE -  
NARROWEST  
IN THE INDUSTRY



HYDRAULIC LIFT MECHANISM  
DEPLOY IN 1 MINUTE, UTILIZING ONLY  
1 PERSON



A TRUSTED ALTERNATIVE  
TO THE "FLAGGER"

DUAL POWER

BATTERY CHARGED BY SOLAR  
OR CONNECT TO EXISTING  
INFRASTRUCTURE



# Pop-Up LD

QPNW-234-2070

## Pop-Up LD • STANDARD FEATURES

### DEPLOYMENT

Vertical | Hydraulic with remote pendant

Horizontal | Manual slide out

### ARM EXTENSION

9'

### SIGNAL HEADS

3 section overhead

3 section side of mast

12" RYG LED's, ITE compliant

180° rotation

### TRAFFIC CONTROL EQUIPMENT

Intelight 2070 ATC with MAXTIME software

Actuated 8 phase, dual ring, with pedestrian movements

Encrypted wireless connection between master and secondaries

EDI real time conflict monitor

### CHARGING SOURCE

DC | MPPT solar charge controller

AC | 120V plug-in charger

## SPECIFICATIONS

CHASSIS LENGTH	112.0" (removable hitch adds 56" for 168" total)
CHASSIS WIDTH	72.0" (narrowest in the industry)
TRAVEL HEIGHT	114.0" w/ solar
STANDARD WEIGHT	2,700lbs.
CLEARANCE (UNDER ARM)	17' (meets MUTCD requirements)
BATTERIES	440-660 Ah of AGM batteries, no-spill, no-maintenance
SOLAR	(1) - 385 watt solar panel, adjustable on 2 axes

## Pop-Up LD • ADDITIONAL OPTIONS

### DETECTION

Microwave

Video

Loop

### KNOCKDOWN AVAILABILITY (EMERGENCY POLE REPLACEMENT)

Wireless Knockdown Kit (AC to DC from existing infrastructure)

Wired Knockdown Kit (AC to DC from existing infrastructure)

### PREEMPTION

Audible

Strobe

GPS

### COORDINATION

GPS time based

### REMOTE MANAGEMENT & ALERTING

Cellular wireless router (Verizon, AT&T, or Sprint Certified Device)

### WIRELESS MANUAL CONTROL

Push button control with long range antenna (pilot car remote)

### ADDITIONAL ADD-ONS

Pedestrian signalization

Auto-start generator for on-board ancillary power

Work zone lighting

Countdown timer



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Specifications are subject to change without notice.

## **Specification for Portable Traffic Signal System**

### **Including: Mast Arm Trailer, Controller, Monitor, Cabinet, Wireless Communications, Batteries, Solar Panels and Other Ancillary Equipment**

#### **General:**

This specification delineates an operational independent self-contained system for temporary traffic control. Included are the specifications for the portable mast arm trailer, the traffic control unit with cabinet and terminal facility, vehicle actuation, wireless communications, solar system for battery charging, battery system and other ancillary equipment necessary to provide a complete working system.

#### **Mast Arm Trailer:**

The unit shall be towable, trailer mounted, and have a hydraulically lifted mast and arm. It shall have a minimum of two (2) 12", traffic signal heads with (optional) backplates. Depending on the arm length, the traffic signal heads can be a combination of 3 section, 4 section, or 5 section. The unit shall include a battery powered hydraulic pump for raising and lowering the arm. Lifting mechanisms using cable, winches, or linear actuators are not acceptable. The trailer shall have a minimum of 15" wheels; fenders and standard DOT required trailer lights. The unit shall have a drop tongue that can be hinged down and locked toward the ground as well as be removable. The tongue shall be provided with a standard pintle hitch unless otherwise specified by the end user. There shall be extendable leveling jacks at each of the four corners of the trailer. In the folded position, the unit less the hitch shall not exceed the following over-all dimensions: 72" width, 112" length or 80" height without the solar option and between 114" and 120" in height with the solar option. The removable hitch will typically extend 56" in front of the trailer. In the horizontal position, the trailer mast arm shall be a fixed length (9, 15, or 25 foot) in reach from the side of the trailer and give a minimum of 17' clearance over the baseline established by the jacks. A lock or fixed mechanism shall keep the arm from lowering once the reach is established. Trailers with each arm length and standard equipment, have been third party verified to be wind loaded to 90 mph. The wind gust rating assumes that the entire weight of the unit is carried by the jack stands, that the unit is level, and that the jack stands are on clean, dry pavement. The chassis and mast shall be labeled to designate pinch points, electrical hazards and overhead power line cautions. There shall be an electrical grounding lug provided to terminate a user supplied driven electrical ground. The primary pivot point of the mast, when fully extended, shall have a positive mechanical lock to ensure that the mast remains upright. All other joints and extensions of the mast or arm shall have positive mechanical or hydraulic locks or pins to prevent the collapse or unauthorized movement or dismantling of the mast or arm. The unit shall have a receiver type hitch in the rear, enabling a receiver tube to be installed for towing multiple units in tandem. The unit shall include a rear electrical receptacle for plugging in lights from a 2nd unit for tandem towing. The hydraulic pump shall, at minimum, power the mast in both up

and down directions. The pump flow shall be restricted to limit the maximum speed of travel of the arm to a safe speed.

Operator safety shall be enhanced by the use of a nonconductive pendant to operate the pump via a minimum 10' long cable, allowing the operator to step away from the trailer to ensure they can clearly watch the mast as it rises to observe for power lines, traffic or other obstructions. The hydraulic pump and pump battery terminations shall be housed in a lockable enclosure. The unit shall be powder coated a highway safety orange, and have reflective decals placed appropriately to meet DOT requirements for where used. The unit shall have an axle and suspension rated adequately to handle the overall trailer weight. Trailers that have a gross weight over 3,000 lbs. shall be equipped with trailer brakes. The system shall comply with the requirements for Portable Traffic Control Signals as defined in the Federal Manual of Uniform Traffic Control Devices (MUTCD), Part IV, 4D.32, including specifically the requirements pertaining to signal heads, lamps, spacing of signals, clearance, and number of signal faces. For optimizing signal viewing, signal mountings shall allow a 180-degree vertical axis of rotation and adjustments also for up and down alignments. The system shall be delivered with matching key padlocks for all the enclosures.

### **Emergency Portable Mast Arm Knock-Down Capability (optional):**

Each independent portable signal trailer shall have the capability to flash yellow or red or be used as a "knock down" replacement portable mast arm, independent of other trailers. In this case, the control system shall enable external AC signal inputs to run the DC LED signal heads independent of the normal control system.

### **Traffic Signal Timer Controller:**

The controller shall conform to NEMA TS-5 controller functionality and shall be menu driven through a menu driven display and keypad. The display shall be able to show programming parameters, and real time operational parameters not limited to each timing interval being timed including green min, green max, green extensions, yellow and red as well as which phase is being timed. Standard traffic signal nomenclature shall be used, making the assumption that a movement of traffic is a phase and that individual parts of the phases timing are intervals. The controller shall have a minimum 8 phase controller functionality and shall have a minimum of 6 output circuits at each master or remote location. If the trailer signal outputs are DC for DC LED signal heads, provision shall be provided for running the DC signal heads from an AC signal source. The controller and power systems shall have adequate over current protection using breakers or fuses. Fuses shall be industry standard if used.

The traffic controller shall have the following additional features:

**GREEN RECYCLE:** The controller shall be set up to enable a "recycle" in the middle of the "all red clearance" time when the phase just clearing is headed toward a red rest but receives a vehicle call and there is no other phase receiving a call to service. When this controller is being operated in an actuated mode, this feature shall time an adjustable time interval, typically 5 seconds, before engaging the recycle. The recycle when activated recycles back to green of the last phase serviced, cutting off the remaining "all red time". (This is sometimes called "green revert".) In no case would the recycle be activated if vehicle calls (or any type of call to service) remain on any other phases. The all-red time

related to each phase using the “green recycle” is effectively made up of two-timing intervals, the first a minimum 0-25.5 second interval and the second an interval of minimum 0-255 seconds.

**CONTROLLER MEMORY:** The controller shall have the ability to register and retain a vehicle call on any designated phase if the vehicle call was made at the time when the clearance intervals were initiated. This is to ensure that the phase is serviced at the next appropriate place in the controller phasing, reducing the likelihood of traffic being trapped in the “detection zone”.

**CONFLICT MONITOR:** The conflict monitor shall conform to minimum NEMA TS1 monitor functionality. Monitors shall be factory tested before installation. A multiple trailer signal system consisting of master-secondary arrangements shall, by design, remain inoperable unless the conflict monitor is installed. Provision shall be made in the monitoring system to accommodate different phasing and numbers of remote trailers. It shall also be able to monitor 5 section heads. Monitoring shall be done according to standard permanent signal conventional functionality except for connections being made wireless through the radio system.

**MODES OF FAILURE:** If the conflict monitor orders a fail mode, the traffic signals shall display a default flashing red (also programmable steady red, flashing yellow, & steady yellow) at both ends of the work zone. If there is a loss of power, the traffic signals shall be dark on the trailer affected and the traffic signals on the other trailer shall flash. The monitoring system shall be able to detect the difference between soft and hard fail conditions. Soft fail conditions, such as losing the radio signal, shall enable the system to automatically restart if and when the soft fail condition is corrected. The controller shall be configured to run the all-red time after the fail mode has been cleared to ensure the safety of the road user.

**I/O MAPPING:** The controller system inputs and outputs shall be mappable. This shall, at a minimum, enable detector and phase assignments to be changed.

**VEHICLE ACTUATION:** The system shall be able to run in pre-timed, actuated or semi-actuated modes. This shall be programmable through the controller keypad.

Each unit (Master and Secondary) shall be equipped with a way to have a non-intrusive vehicle detector mounted on its mast arm, which shall require no pavement cuts or any connection to the pavement. The detector shall be capable of covering one or more lanes and have a detection range of up to 200 feet for cars and trucks, assuming straight, level pavement. Other optional detection systems shall be compatible with system inputs.

**PREEMPTION:** The control system shall be able to accommodate the addition of preempt inputs. The preemption programming shall be as typical for permanent traffic signal equipment.

**TIME BASE COORDINATION:** The controller shall have an internal time clock and the ability to configure time base coordination. It shall have the optional capability to coordinate into existing traffic systems.

### **Wireless Communication / Interconnection:**

The following shall be the minimum common requirements for the Wireless Transceiver. It shall:

- Operate in license-free, Spread Spectrum bands (902-928 MHz) utilizing Frequency Hopping

- Operate multiple user-selectable non-overlapping hopping patterns
- Be completely configurable via the provided menu driven display/keypad
- Provide bi-directional radio transmission with confirmation
- Real time data transfer ensuring multiple transfers of data with error checking for live monitoring
- Have LED indicators for PWR / RF Link Status
- Have an operating temperature of -40 to +80 degrees C
- Operate within the full operating voltage ranges of the DC system
- Programmable RF output levels of 1 mW, 10 mW, 100 mW or 1 Watt
- Operate as Master, Secondary, or Repeater
- Have RSSI signal strength indicator LEDS
- Allow firmware updates using industry standard port

### **Radio Remote for Flagger or Pilot Car Control (optional):**

A hand-held remote pendant shall be available that can be used to increment the signals. Provision shall be provided to prevent overriding the clearance times.

### **Cabinet Requirements:**

The radio, monitoring and control equipment shall be enclosed in a weather tight enclosure of NEMA 3R standards. It shall also contain a battery charger (120VAC input) and solar charge controller.

### **Signals:**

The system shall be designed to use LED traffic signal heads. In a fail mode, the signal system shall be programmable for flash or steady, and yellow or red color.

### **Batteries:**

The batteries shall be a deep cycle lead acid absorbed glass mat (AGM) type. They shall be hermetically sealed and shall be maintenance free. Batteries shall be housed in enclosure(s) secure from vandalism, theft, and weather. The enclosure(s) shall also keep the batteries securely in place during transport. Battery capacity on standard equipped Master & Secondary trailer shall be adequate to allow up to 21 consecutive days of operation in flash mode without any additional charging. Greater optional days of autonomy shall be available.

### **Solar Charging:**

Each unit (Master & Secondary) shall have adequate solar charging capacity to ensure that each can operate independently of line power or auxiliary charging devices for a minimum of the six best solar months in the 48 contiguous states of the United States. The solar array on each unit shall be capable of tilt adjustment on 2 axes in order to maximize the efficiency of the solar panels. The panels shall be fastened in a secure manner. Panel mounting hardware shall use high security bolt heads. The solar arrays shall be capable of being stowed in a manner so that they are entirely within the boundaries of the framework of the trailer and minimize wind resistance when the trailer is towed.

### **Battery Charger:**

A 120VAC battery charger shall be provided for the instance when batteries need to be charged from an external source. It shall be rated at a minimum wattage of 700 watts.

**Solar Charge Controller:**

A solar charge controller shall be provided for interfacing between the solar panels, the control system, and the batteries. Any combination shall be able to be used simultaneously. It shall be maximum power point tracking, multiple stage and configurable to optimize charge parameters, battery temperature and AGM battery superior charge parameters. The charge controller shall be rated to handle the solar system maximum outputs. It shall have current limiting and a digital display to monitor charge performance.

**System Capabilities:**

These trailer systems shall be able to be used within bigger, compatible, portable traffic equipment & systems. The radio and control system shall be able to work within larger systems that have greater phasing capabilities, more complex deployments and larger power consumption needs such as 5 section head left turn movement, or side street signals and system with longer mast arms.

**System Warranty:**

OMJC warrants the structural integrity of the trailer for five years from date of shipment barring acts of God or negligence. All OEM components are covered by their respective manufacturers' warranties. OMJC's responsibility under all warranties shall not exceed the amount equal to the purchase price of the equipment proven to be defective.

# Pop-Up HD-XL

**HD-XL 25'**

## IDEAL FOR UP TO 3 LANES OF TRAFFIC

The Pop-Up HD-XL 25' is the first towable portable traffic signal able to control up to 3 lanes of traffic. The HD-XL 25' is the ultimate in versatility with the arm length being adjustable from 9'-25' and the ability to handle countless signal configurations (see options on back) including 3 overhead signals with 4 or 5 section heads on the end position. The solar panels raise to over 10' clearance which allows for bicycle and pedestrian clearance as well as reduces potential vandalism. And because the footprint is only 6' wide (the narrowest in the industry), it can fit almost anywhere.

The HD-XL 25' features the Intelight 2070 ATC Controller running MAXTIME software. The custom radio system allows wireless communication between OMJC Pop-Up units along with complex phasing ability. The HD-XL 25' comes standard with two, 385-watt solar panels (adjustable on 2 axes) and 1,100 Ah of AGM batteries. The HD-XL 25' is designed to allow for customization and an array of additional equipment options.



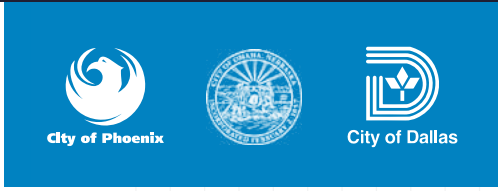
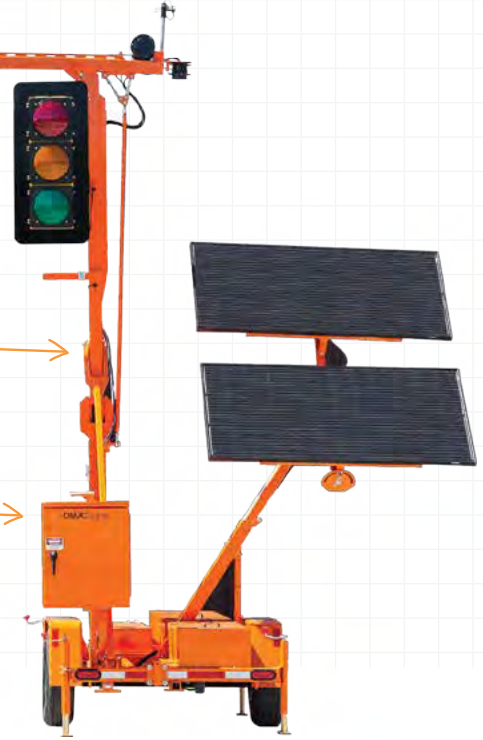
**OUR  
INDUSTRY LEADING,  
25' SOLUTION!**  
\*PATENT PENDING

**3 LENGTH OPTIONS**  
CONTROL 1 TO 3 LANES OF TRAFFIC

**GOODBYE SPAN WIRE,  
HELLO EFFICIENCY.**

**EASY TO DEPLOY**  
1 PERSON, 2 MINUTES

**JOB VERSATILITY**  
CAPABLE OF HANDLING COMPLEX INTERSECTIONS



# Pop-Up HD-XL

## HD-XL 25'

### Pop-Up HD-XL 25' • STANDARD FEATURES

#### DEPLOYMENT

Vertical | Hydraulic with remote pendant

Horizontal | Manual slide out & hydraulic with remote pendant

#### ARM EXTENSION

Adjusts from 9-25'

#### SIGNAL HEADS

3 overhead, 3 section signals

3 section side of mast

12" RYG LED's, ITE compliant

180° rotation

#### TRAFFIC CONTROL EQUIPMENT

Intelight 2070 ATC with MAXTIME software

Actuated 8 phase, dual ring, with pedestrian movements

Encrypted wireless connection between master and secondaries

EDI real time conflict monitor

#### CHARGING SOURCE

DC | MPPT solar charge controller

AC | 120V plug-in charger

### SPECIFICATIONS

CHASSIS LENGTH	112.0" (removable hitch adds 56" for 168" total)
CHASSIS WIDTH	72.0" (narrowest in the industry)
TRAVEL HEIGHT	120.0" w/ solar
STANDARD WEIGHT	6,050lbs.
CLEARANCE (UNDER ARM)	17' (meets MUTCD requirements)
BATTERIES	1,100 Ah of AGM batteries, no-spill, no-maintenance
SOLAR	(2) - 385 watt solar panels, adjustable on 2 axes

### Pop-Up HD-XL 25' • ADDITIONAL OPTIONS

#### DETECTION

- Microwave
- Video
- Loop

#### KNOCKDOWN AVAILABILITY (EMERGENCY POLE REPLACEMENT)

- Wireless Knockdown Kit (AC to DC from existing infrastructure)
- Wired Knockdown Kit (AC to DC from existing infrastructure)

#### SIGNAL CONFIGURATION

Nearly limitless combinations of the following:

- 1 additional overhead signal (custom LED configuration available)
- 4 section - with all arrows or custom combination
- 5 section doghouse - with left turn arrows or custom combination

#### PREEMPTION

- Audible
- Strobe
- GPS

#### COORDINATION

- GPS time based

#### REMOTE MANAGEMENT & ALERTING

- Cellular wireless router (Verizon, AT&T, or Sprint Certified Device)

#### WIRELESS MANUAL CONTROL

- Push button control with long range antenna (pilot car remote)

#### ADDITIONAL ADD-ONS

- Pedestrian signalization
- Auto-start generator for on-board ancillary power
- Work zone lighting
- Countdown timer



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# **OMJC POP-UP XL 25'**

## Quick Start Guide



For the setup of the OMJC Pop-Up XL  
Model ATC-LDX 2070 controller system with monitoring.

**English**



# INTRODUCTION

Thank you for choosing to deploy the most versatile and dependable portable traffic signals on the market. This guide is intended to help you navigate the first couple of deployments with our Pop-Up XL 25' Portable Traffic Signals.

Programming videos and other helpful documents are now available on our free App for either Android or iPhone. Simply visit the marketplace on your Android or Apple device, and search "OMJC Signal". The OMJC Signal app is just one more way we are providing you with superior support.

OMJCSignal **OMJC Signal**  
by OMJC Signal  
★★★★★ (1,618)

## Pocket Tech Support

The power to educate yourself on the use of our portable traffic signals has never been easier. Download our app today!

OMJC Signal  
We provide sustainable cutting edge traffic solutions.  
[www.omjcsignal.com](http://www.omjcsignal.com)

Portable and portable traffic solutions

call us toll free 1.800.776.5999

## 2 DAYS BEFORE YOU GET TO THE JOB SITE

Check your battery voltage levels to ensure the battery bank is fully charged. For best results the voltage levels should be 26 to 28+ VDC.



Check all pivot points on the trailer to ensure they are greased. We recommend checking and regreasing these areas at the beginning of the year and after the trailer has been deployed 4 or 5 times to ensure proper lubrication.

Check to make sure all safety pins and pad locks are locked in place, the solar panels are in the towing position and the tire air pressures are in the 90-95psi range before moving the trailer.



**We highly recommend you setup and run the trailers in your yard prior to taking them to the job site to ensure everything is working properly.**

**Also, make sure to take your OMJC tablet with you in case adjustments need to be made to the radio's while on site.**

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# ■ QUICK START GUIDE: Trailer Info



## Rotate The Outriggers

Once the trailer is in place, adjust each jack downward by pulling the release pin to begin the leveling process. Rotate each jack handle (located at the top of the jack) clockwise.



## Leveling Bubble

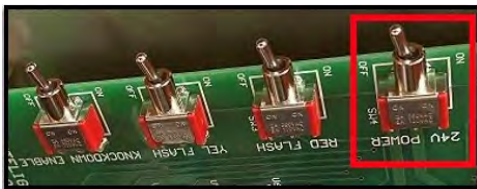
There is a leveling bubble in the middle of the trailer chassis to assist in the leveling process. Be sure the bubble rests in the middle of the circle before continuing.

# ■ QUICK START GUIDE: Detectors

## Powering the Radio Board

Open the trailer cabinet and toggle the top switch on the radio board (labeled 24V power) into the on position as pictured below. The red lights on the signal heads should be flashing.

**Secondary:**



**Master:**



## Mounting Detectors



If vehicle detection is being used, install the detector onto the upper mast arm, located about halfway down the driver's side of the trailer. With the detector in hand, slide the bracket into place, insert the safety pin, and connect the plug. The front of the detector needs to be facing the stop bar for normal operation and may need to be adjusted after the mast arm is raised. Please note: It is easier to adjust the detector once the trailer is deployed if the adjusting screws are left slightly loosened.

The detector can be reached when the mast arm is deployed by using the steps mounted on the trailer or by using a boom truck.

## Testing The Detector

After installing the detector, it is important to test to make sure the radio receives the detection call successfully. Plug the handheld device into the J4 port on the radio board (pictured below in red). Open the wireless program and go to the detector area. The first input pin should display the same number as the desired phase to call when a detection occurs. For example, if the detector is setup to call for phase 1, then the input pin should also be set to 1. From the same screen, an 'X' should appear in the call column when the detector puts in a call. To test functionality, simply wave an object in the detection zone.



Detector	Call	Input Pin
Sensor 1	False	1
Sensor 2	False	0
Sensor 3	False	0
Sensor 4	False	0



# ■ QUICK START GUIDE: Deploying

## Extending Third Stage

Pull safety PIN near end of horizontal arm then manually extend the third stage all the way and re-insert the safety PIN to secure.



## Installing Signal Heads

With the signal lenses facing the ground, install the signal housings by inserting them into the appropriate signal receiver location.

\*Please note for the two center signal heads that you need to extend the second stage horizontal arm to allow for installation. Please see the “Raising The Mast Arm” section for extending directions.\*

Remove the socket cover nearest the signal head receiver and plug the power cable from the signal head into the socket.



# ■ QUICK START GUIDE: Deploying

## Raising The Mast Arm



Once there is confirmation of no overhead obstructions, open the hydraulic pump lid and remove the pendant. Once the operator has established a safe location for deployment (clear of the overhead arm swing zone) press and hold the up button until the auto safety lock bar drops into place at the top of the cylinder. Now that the trailer is fully deployed, press the down button to secure the auto safety lock bar.

Press the OUT button on the hydraulic pendant until the horizontal arm is fully extended over the road way.



## Antenna Information

It is important to be sure the antenna is pointing directly at the Master trailer when the mast arm is fully deployed. This will ensure successful communication and minimize the chance of radio communication issues.



# ■ QUICK START GUIDE: Deploying

## Adjusting Solar Panels

To maximize sun exposure, position the solar panels southward utilizing both the horizontal and the two vertical adjustments. It is recommended the panels be tilted 30° from the horizontal position southward in the summer (March 21 to Sept. 21), and 60° from the horizontal position southward in the winter (Sept. 21 to March 21).



To extend the solar panels away from the trailer, utilize the Solar Up/DN toggle switch inside the cabinet. Be aware that you may need to extend before positioning the solar panels.



# ■ QUICK START GUIDE: Radio Setup

## Setting Signal Channels

Plug the handheld device into the J4 port on the radio board (pictured in red below). Open the wireless program and go to the signals area. Set the channel for lights 1, 2, & 3. The channel for each light should match the desired phase on which the signals should run. Set the fault mode as desired; typically, either flashing red or yellow when there is an issue.

For two signal heads on the same trailer to be running different phases, channels for lights 4, 5, & 6 need to be configured for the overhead signal.



Light	On	Volts (V)	Amps (mA)	Channel	Color	Fault Mode
1	True	27.0	813	2	Red	Flash
2	False	0.0	0	2	Yellow	Dark
3	False	0.0	0	2	Green	Dark
4	False	0.0	0	0	Unused	Dark
5	False	0.0	0	0	Unused	Dark
6	False	0.0	0	0	Unused	Dark

## Radio Configuration

First, go into the radio configuration area and set the hop channel. This will need to be the same number on all radios in the setup. If there are communication issues on the job site, try changing the hop channel (this will need to be done on all radios) as the atmosphere may be affecting the radio signal. Next, set the TX Power. The TX Power indicates the transmission power given to the radio signal. It is recommended to keep the TX Power setting at 1000mW.

Multi Transmit	1	RF Mode	Standard
Delay Slots	0	TX Power	1000 mW
Retries	0	Packet Timeout	250
Hop Channel	3	Fault Timeout	2500

Lastly, on the Master radio, go to the status area. There should be a peer ID listed for each Secondary trailer communicating with the Master. If there is no peer ID or the peer ID has 0 RSSI, hit remove and search. If the Secondary trailer is communicating correctly, the peer ID should be listed with an RSSI number. Trailers are communicating at optimal levels when the RSSI is 40.

# ■ QUICK START GUIDE: Configuration

## CMU Configuration

The CMU unit, as shown, should have both switches in the down position and the appropriate data key (legend below) in the locked vertical position. The signal lights should be running as programmed if all trailer radios are on and configured properly. Please note: If the signal lights are in flash mode, push the reset button on the CMU unit.



Black - 2T2P	
Blue - 3T2P (1&3), 2	
Green - 3T3P	
Yellow - 4T2P (2,4,6,8)	
Grey - 4T4P	



If radios have not been configured to communicate with each other, please complete the Radio Board Set Up section of this guide before continuing.

## Setting RSSI For Radios

RSSI numbers indicate the quality of the communication between trailers, with 40 being the optimal target. Higher RSSI readings can indicate misalignment of the antennas or another radio configuration issue. To check the RSSI, plug the handheld device into the Master radio and open the wireless program. Go to the radio status area and there should be a peer ID listed for each Secondary trailer communicating with the Master. If the RSSI is 80 or below, changes can be made to the radio configuration to increase the stability of the radio network.

Peer ID	RSSI
10130A66	40

TX Power	1000 mW
Packet Timeout	250
Fault Timeout	2500

On the handheld device, go into the Radio Configuration area and increase the TX Power to the max setting of 1000mW. Set the Packet and Fault Timeout to the configuration shown to the left.



# ■ QUICK START GUIDE: Configuration

## Maxtime Main Menu Explained

```
Intelight MaxTime 1.9.12 (#702)
                        ID 0

1. Status
2. Controller
3. Administration
```

When the controller first powers on press '1' to enter the Maxtime program. The menu shown in the picture to the left should appear.

1. Status: is most commonly used to access the Summary function. The Summary function allows the user to monitor current phasing.
2. Controller: is most commonly used to access the phasing/timings options.
3. Administration: is most commonly used to load and re-load pre-configured database files.

## Setting Phasing

Phase	1	2	3	4	5	6	7	8
Walk	10	10	10	10	10	10	10	10
PedClr	7	7	7	7	7	7	7	7
StdDWlk	0	0	0	0	0	0	0	0
MinGrn	5	5	1	5	5	5	5	5
Passage	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Max1	15	15	15	15	15	15	15	15
Max2	0	0	0	0	0	0	0	0
Max3	1	1	1	1	1	1	1	1
YelChg	3.5	3.5	2.0	3.5	3.5	3.5	3.5	3.5
RedClr	3.5	3.5	2.0	3.5	3.5	3.5	3.5	3.5
+RedClr	0	0	0	0	0	0	0	0
RedRvnt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AddInit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MaxInit	0	0	0	0	0	0	0	0
TBRedu	0	0	0	0	0	0	0	0

In the phase timing section, pay attention only to the columns that correspond with the phases which will be running. By default, the controller is loaded with the 2T2P database so the only changes would occur in columns 1 & 2. Arrow down to the line and column which need to be adjusted and enter the adjusted time as measured in seconds. It is recommended to go no lower than 3.5 seconds to allow for radio communication latency.

Some rows show decimals. On those rows, enter a "0" for the decimal column. For example, if the line needs to show 4 seconds, put in 40 and press 'Enter'. The column should display '4.0'. The RedClr line can be set up to a maximum of 25 seconds and is determined by the length of the work zone. This timing setting is typically provided by the governing agency.

\*\*\*Warning: If this time is set too short, there is a risk of head on collisions! \*\*\*

In cases where more than 25 seconds is needed, up to an additional 230 seconds can be added by arrowing down to the +RedClr line. The time configured in this line will be in addition to the RedClr time setting. On the inside door of the Master cabinet, a red clearance timing estimation chart is provided as general guide on how to determine red clearance time. OMJC Signal is not responsible for these times, so please check with your local traffic engineer prior to deploying the trailers.

**Once timings are configured, safety personnel should drive through the work zone to ensure proper traffic flow. In addition, observation of traffic flow is suggested to reveal any necessary timing changes.**

# ■ QUICK START GUIDE: Configuration

## Enabling Detection

To use detection for green time extension, a Passage and Max1 time will need to be added under Phase Timings.

MinGrn: the minimum amount in seconds the phase will remain green

Passage: the amount in seconds added per vehicle detected

Max1: the maximum amount in seconds the phase will remain green

*Since Passage is the amount of time the controller will add for each vehicle that is detected, it is recommended to start by setting passage time at 5 seconds. Doing so will add an additional 5 seconds to the MinGrn time for each vehicle detected. Max1 is the maximum amount of green time allowed for a phase.*

To use detection for actuation, the Min Veh Rcl settings will need to be removed in 'Phase Options'. Arrow down to the Min Veh Rcl line for the actuated phase and press the "-" button. Repeat this for any other phase needing to be actuated. Passage and Max1 will still apply with this setup.

Some scenarios call for the signals to rest in red. To enable this feature, arrow down to the red rest line in 'Phase Options' and enable it for all phases.

Phase	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
Enable	1	2	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Auto Flash Ent.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Auto Flash Exit	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Non Actua 1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Non Actua 2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Non Lock Det Mem	1	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Min Veh Rcl	1	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Max Veh Rcl	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ped Rcl	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Soft Veh Rcl	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Dual Entry	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sim Gap Dis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Guar Pass	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Actua Rest Wlk	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

# ■ QUICK START GUIDE: Maintenance

## WARNING!



FOR THE DURATION OF THE JOB THE BATTERY LEVELS IN THE TRAILERS NEED TO BE MONITORED. EQUIPMENT FAILURE AND BATTERY DAMAGE WILL OCCUR IF THEY AREN'T.

The master trailer will use more power. If either trailer gets down to 24 VDC the unit should be charged via the battery charger. Just plug it into a standard AC outlet or generator for 24-48 hours.

## Monitoring Voltage



Battery voltage can be monitored via the Blue Sky solar charge controller. It should read around 26VDC on average and above 28VDC when fully charged.



# ■ QUICK START GUIDE: Maintenance

## Long Battery Life

Batteries should always be kept fully charged to ensure maximum battery life. When the trailers are deployed, the voltage should never drop below 24 volts. Failure to maintain proper voltage will result in power issues.

The chart below shows the recommended charge time for the battery bank to return to 100% capacity.

Battery Volts	% of charge	80% Recharge	100% Recharge
25.4	90	7 1/4 hrs.	21 3/4 hrs.
25.2	80	7 1/3 hrs.	22 hrs.
24.9	70	7 1/2 hrs.	22 1/2 hrs.
24.6	60	7 2/3 hrs.	23 hrs.
24.3	50	7 3/4 hrs.	23 1/2 hrs.
24	40	8 hrs.	24 hrs.

## Maintaining Voltage



It is very important to keep the batteries charged. If the solar panel is not keeping the batteries charged, a generator or other auxiliary source of 110AC power will be required to re-charge them. There is a PowerMax charge converter on the side of the cabinet which can be plugged in to the desired power source. This charges the batteries in tandem with the solar panel. There is a flapper valve in the bottom of the cabinet to pull the cord through which allows the cabinet door to be closed and locked even when the device is plugged in to auxiliary power.

When storing the trailers, regularly check the battery levels to ensure they stay fully charged. If they are indoors, the battery charger should be plugged in at all times. If they are outdoors, deploy the solar panel southward to ensure optimal sunlight. Leaving the batteries with zero charge for an extended period of time, will cause permanent damage to the batteries.

# ■ QUICK START GUIDE: Travel Position

## Returning to Travel Position

Before bringing the mast arm down you must retract the second stage of the horizontal arm to where the center signal heads are close together with out hitting each other. Do this by pressing the IN button.



Press and hold the button labeled 'Up' momentarily to release the pressure on the auto safety lock bar. Once raised, lift the auto lock bar while pressing in the gold plunger lock to secure the lock bar in the outward position.

When the mast arm is down, remove and store signal heads. Then fully retract the second stage of the horizontal arm. Remove safety PIN for the third stage and manually push third stage back in and replace safety PIN.





# ■ QUICK START GUIDE: Travel Position

## Securing Solar Panels for Transport

Ensure the signal heads stored on the trailer are rotated so the lights are facing toward the solar panels. Then utilize both the horizontal and the two vertical adjustments to position the solar panels to face the inside of the trailer as pictured below. Ensure that the solar panels are fully retracted by utilizing the Solar Up/Dn toggle switch in the cabinet.





Padget Technologies, Inc.  
915 Center Street  
Cedar Falls, IA 50613  
(319) 268-6827

October 18, 2018

OMJC Signal, Inc.  
403 Chestnut St.  
Waterloo, IA 50703

Gentlemen,

The request to determine if the Modified OMJC Pop-Up is capable of maintaining its upright position during a 90mph wind has been completed. The calculations were performed under the following assumptions:

- 1) Constant 90mph wind
- 2) No wind gusts
- 3) Wind direction from left to right and right to left when looking at the signals
- 4) The equipment has not been modified and is being used as indicated by the operators manual
- 5) Modified OMJC Pop-up was in the position shown in drawings only

During the inspection of the geometry, the stance of the jack stands from front to back is 48" longer than the stance from side to side. Because of this, it was determined that the worst case scenario for the wind load calculation was the side to side direction.

To perform the calculations, surface area was measured off of the drawings as well as the centroid of that area. The drag coefficients used were taken from the *AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaries, and Traffic Signals, 5th ed. Table 3-6.*

The results of the calculations confirm that the Modified OMJC Pop-Up is able to stay upright with a constant wind speed of 90mph. The following pages are the calculation and the drawings used to determine this conclusion.

Prepared by:  
Diedrichs & Associates, Inc.  
Brad Meyer, PE

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.



*Brad Meyer*

10/18/18

(signature)

(date)

Brad Meyer  
License number: 18205  
My license renewal date is December 31, 2020  
Pages or sheets covered by this seal: 1-4

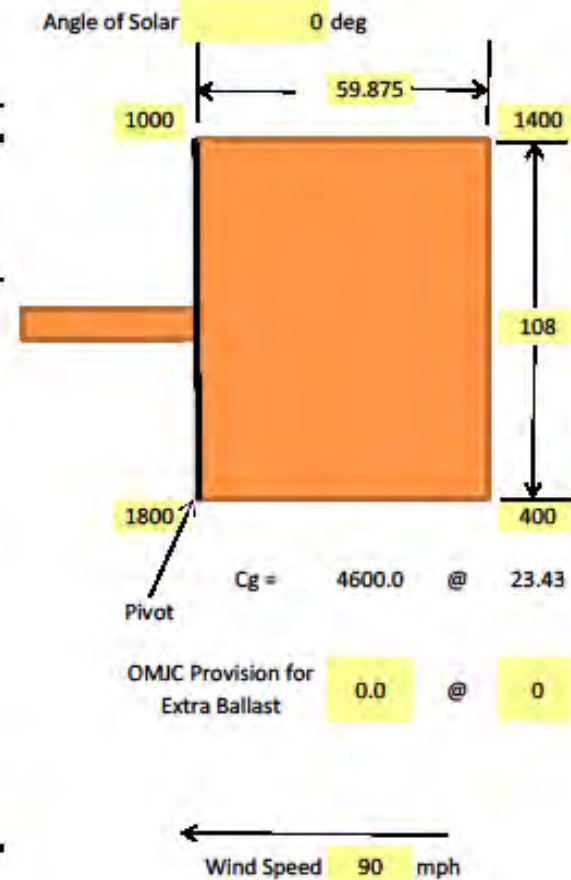
### Mass Calculations

Item	Mass (lb)	Dist to Pivot (in)	Tipping Moment (in*lb)
Complete Unit	4600	-25.30	-116400
<b>Total</b>	<b>4600</b>	<b>-25.30</b>	<b>-116400</b>

### Wind Calculations

Item	Area (in^2)	Drag (C <sub>d</sub> )	Dist to Pivot (in)	Force (lb)	Tipping Moment (in*lb)
Tire	615.8	2.00	13.00	177.3	2305
Tongue	315.0	1.70	13.00	77.1	1002
Jacks	172.0	0.45	15.00	11.1	167
Frame	1213.8	1.70	16.48	297.1	4897
Jack Cylinder	65.8	0.45	39.11	4.3	167
Side Control Box	400.0	1.70	42.54	97.9	4166
Rear Control Box	570.0	1.70	54.48	139.5	7602
Jack Piston	25.5	0.45	60.70	1.7	100
Mast Brace	231.0	1.70	71.78	56.5	4059
Solar Panel Frame	0.0	1.70	0.00	0.0	0
Solar Panel Face	0.0	1.18	0.00	0.0	0
Solar Panel Edge	0.0	1.18	0.00	0.0	0
Solar Panel Lift	0.0	1.18	0.00	0.0	0
Vertical Mast	720.0	1.70	118.33	176.3	20856
Lower Signal	549.5	1.20	164.50	95.0	15621
Top Signal	549.5	1.20	244.90	95.0	23255
Horizontal Mast	9.0	1.70	209.20	2.2	461
Middle Signal	462.0	1.20	234.90	79.8	18754
<b>Total</b>	<b>5898.9</b>	<b>1.54</b>	<b>78.9</b>	<b>1310.9</b>	<b>103413</b>

Combined Moment **-12987** in\*lb      Result = **Upright**





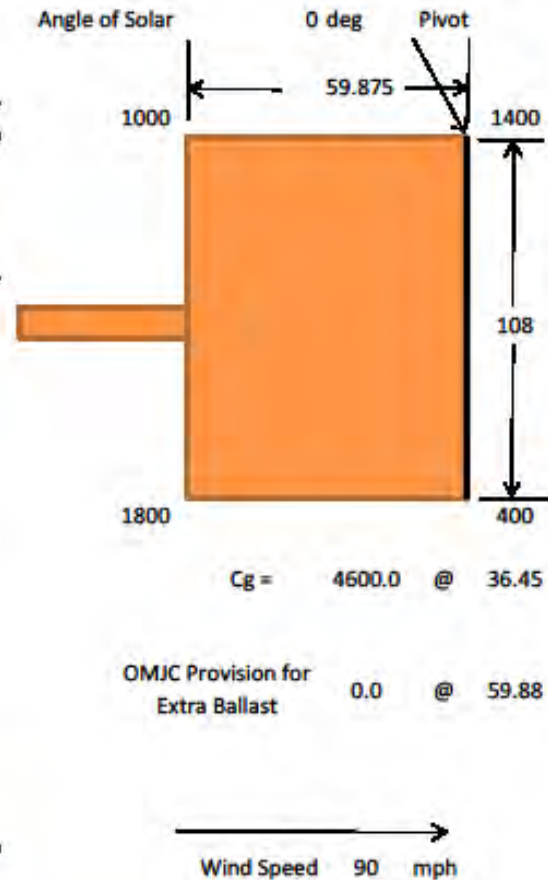
### Mass Calculations

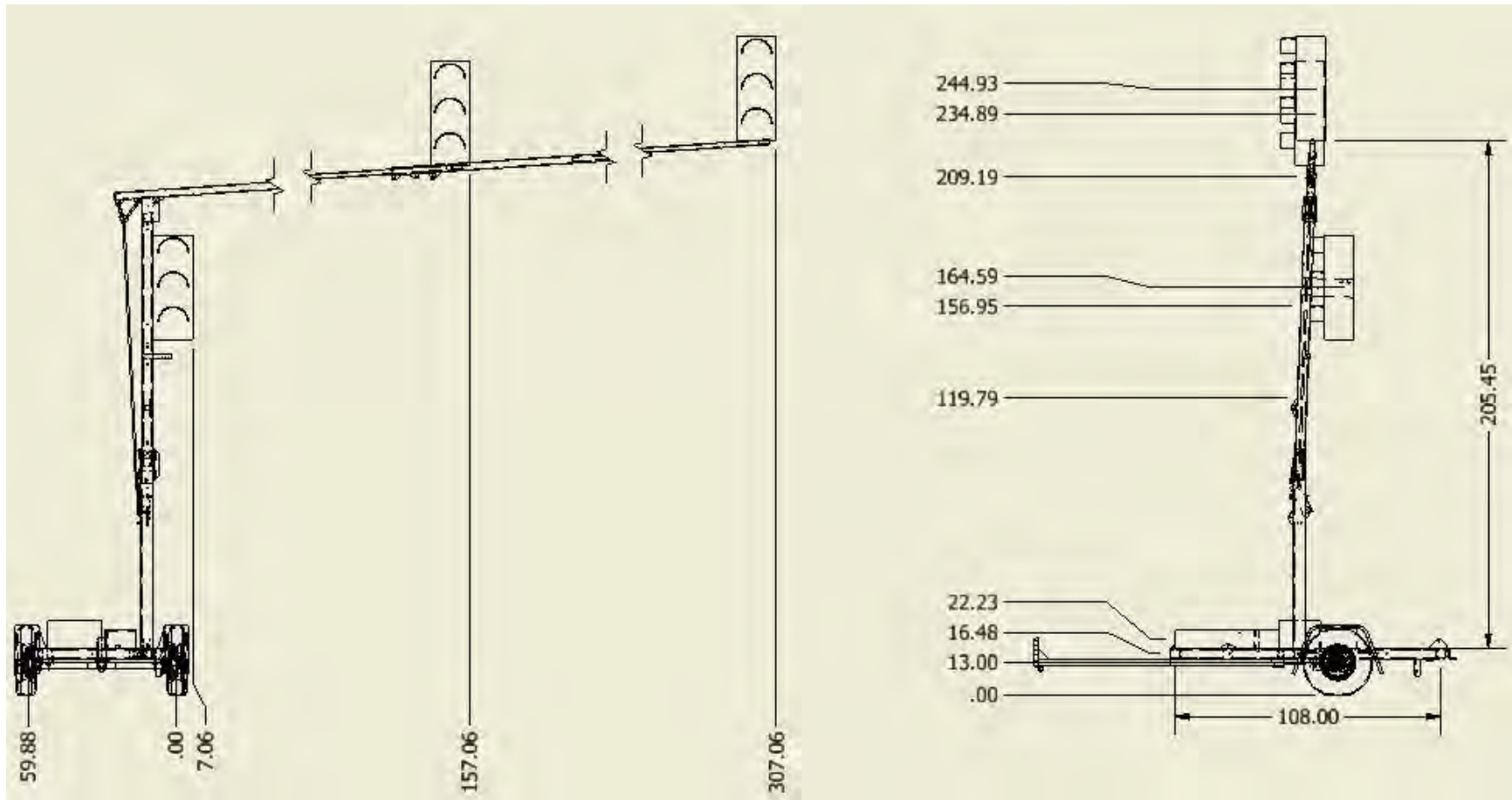
Item	Mass (lb)	Dist to Pivot (in)	Tipping Moment (in*lb)
Complete Unit	4600	-38.32	-176275
<b>Total</b>	<b>4600</b>	<b>-38.32</b>	<b>-176275</b>

### Wind Calculations

Item	Area (in^2)	Drag (C <sub>d</sub> )	Dist to Pivot (in)	Force (lb)	Tipping Moment (in*lb)
Tire	615.8	2.00	13.00	177.3	2305
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Solar Panel Frame	0.0	1.70	0.00	0.0	0
Solar Panel Face	0.0	1.18	0.00	0.0	0
Solar Panel Edge	0.0	1.18	0.00	0.0	0
Solar Panel Lift	0.0	1.18	70.75	0.0	0
Vertical Mast	720.0	1.70	118.33	176.3	20856
Lower Signal	549.5	1.20	164.50	95.0	15621
Top Signal	549.5	1.20	244.90	95.0	23255
Horizontal Mast	9.0	1.70	209.20	2.2	461
Middle Signal	462.0	1.20	234.90	79.8	18754
<b>Total</b>	<b>5898.9</b>	<b>1.54</b>	<b>78.9</b>	<b>1310.9</b>	<b>103413</b>

Combined Moment **-72862** in\*lb      Result = **Upright**





# Pop-Up HD

**INTERSECTION CAPABLE**

## TWO LANE TRAFFIC CONTROL

The Pop-Up HD is capable of signaling up to two lanes of traffic. The 15' arm is engineered to handle a 5 section left turn signal in the overhead position. With the HD, two 12" ITE approved signals can be quickly deployed into positions mandated by the MUTCD at the mere push of a button. Because the footprint is only 6' wide (the narrowest in the industry), it can fit almost anywhere. The HD features the Intelight 2070 ATC Controller running MAXTIME software. The custom radio system allows communication between OMJC Pop-Up units along with complex phasing ability. The HD comes standard with a 385 watt solar panel (adjustable on 2 axes) and 440-660Ah of AGM batteries.



← **INTERSECTION CONTROL**  
 CONTROL WITH VERSATILITY

**PERMANENT MADE PORTABLE** →  
 Intelight 2070 ATC CONTROLLER

**EASY DEPLOYMENT** →  
 SIGNAL CAN BE QUICKLY DEPLOYED  
 WITH THE PUSH OF A BUTTON

**ENVIRONMENTALLY  
 CONSCIOUS**  
 COMES STANDARD WITH SOLAR  
 PANEL & 440-660Ah AGM BATTERIES



**A TRAFFIC SOLUTION THAT  
 JUST MAKES SENSE.**



# Pop-Up HD

INTERSECTION CAPABLE

## Pop-Up HD • STANDARD FEATURES

### DEPLOYMENT

Vertical | Hydraulic with remote pendant

Horizontal | Manual slide out

### ARM EXTENSION

Adjusts to 15'

### SIGNAL HEADS

3 section overhead

3 section side of mast

12" RYG LED's, ITE compliant

180° rotation

### TRAFFIC CONTROL EQUIPMENT

Intelight 2070 ATC with MAXTIME software

Actuated 8 phase, dual ring, with pedestrian movements

Encrypted wireless connection between master and secondaries

EDI real time conflict monitor

### CHARGING SOURCE

DC | MPPT solar charge controller

AC | 120V plug-in charger

## SPECIFICATIONS

CHASSIS LENGTH	112.0" (removable hitch adds 56" for 168" total)
CHASSIS WIDTH	72.0" - narrowest in industry
TRAVEL HEIGHT	114.0" w/ solar
STANDARD WEIGHT	3,400lbs.
CLEARANCE (UNDER ARM)	17' (meets MUTCD requirements)
BATTERIES	440-660 Ah of AGM batteries, no-spill, no-maintenance
SOLAR	(1) - 385 watt solar panel, adjustable on 2 axes

## Pop-Up HD • ADDITIONAL OPTIONS

### DETECTION

Microwave

Video

Loop

### KNOCKDOWN AVAILABILITY (EMERGENCY POLE REPLACEMENT)

Wireless Knockdown Kit (AC to DC from existing infrastructure)

Wired Knockdown Kit (AC to DC from existing infrastructure)

### SIGNAL CONFIGURATION

1 additional overhead signal (custom LED configuration available)

4 section - with all arrows or custom combination

5 section doghouse - with left turn arrows or custom combination

### PREEMPTION

Audible

Strobe

GPS

### COORDINATION

GPS time based

### REMOTE MANAGEMENT & ALERTING

Cellular wireless router (Verizon, AT&T, or Sprint Certified Device)

### WIRELESS MANUAL CONTROL

Push button control with long range antenna (pilot car remote)

### ADDITIONAL ADD-ONS

Pedestrian signalization

Auto-start generator for on-board ancillary power

Work zone lighting

Countdown timer



1.800.776.5999

sales@omjcsignal.com

omjcsignal.com

403 Chestnut Street, Waterloo, IA 50703

# **OMJC POP-UP HD**

## Quick Start Guide



For the setup of the OMJC HD/PU  
Model ATC-LDX 2070 controller system with monitoring.

**English**



# ■ INTRODUCTION

Thank you for choosing to deploy the most versatile and dependable portable traffic signals on the market. We know you will appreciate how safe, and simple it is to deploy our system. This guide is intended to help you navigate the first couple of deployments with our Pop-Up Heavy Duty Portable Traffic Signals.

Programming videos and other helpful documents are now available on our free App for either Android or iPhone. Simply visit the marketplace on your Android or Apple device, and search "OMJC Signal". The OMJC Signal app is just one more way that we are providing you with superior support.

OMJCSignal **OMJC Signal**  
by OMJC Signal  
★★★★★ (1,618)

## Pocket Tech Support

The power to educate yourself on the use of our portable traffic signals has never been easier. Download our app today!

OMJCSignal  
We provide sustainable cutting edge traffic solutions.  
[www.omjcsignal.com](http://www.omjcsignal.com)

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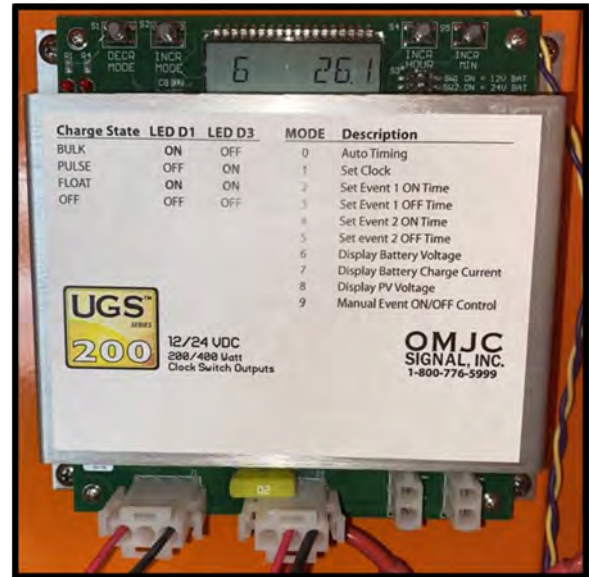
Features Portable and point-to-point traffic solutions

call us toll free 1.800.776.5999

## 2 DAYS BEFORE YOU GET TO THE JOB SITE

Check your battery voltage levels to ensure the battery bank is fully charged. For best results the voltage levels should be 26 to 28+ VDC.

On the UGS, pictured to the right, set the mode to 6 as shown. Use the buttons on the left of the screen to toggle down (DECR) or up (INCR).



Check to make sure all safety pins and pad locks are locked in place, the solar panel is in the towing position and the tire air pressure is in the 60-65psi range before moving the trailer.



**We highly recommend you setup and run the trailers in your yard prior to taking them to the job site to ensure everything is working properly.**

**Also, make sure to take your OMJC tablet with you in case adjustments need to be made to the radio while on site.**

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# ■ QUICK START GUIDE: Trailer Info



## Rotate The Outriggers

Once the trailer is in place, adjust each jack downward by pulling the release pin to begin the leveling process. Rotate each jack handle (located at the top of the jack) clockwise.



## Leveling Bubble

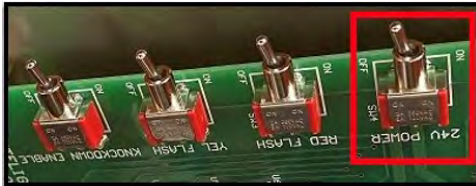
There is a leveling bubble in the middle of the trailer chassis to assist in the leveling process. Be sure the bubble rests in the middle of the circle before continuing.

# ■ QUICK START GUIDE: Detectors

## Powering the Radio Board

Open the trailer cabinet and toggle the top switch on the radio board (labeled 24V power) into the on position as pictured below. The red lights on the signal heads should be flashing.

**Secondary:**



**Master:**



## Mounting Detectors



If vehicle detection is being used, install the detector onto the upper mast arm, located about halfway down the driver's side of the trailer. With the detector in hand, slide the bracket into place, insert the safety pin, and connect the plug. The front of the detector needs to be facing the stop bar for normal operation and may need to be adjusted after the mast arm is raised. Please note: It is easier to adjust the detector once the trailer is deployed if the adjusting screws are left slightly loosened.

The detector can be reached when the mast arm is deployed by using the steps mounted on the trailer or by using a boom truck.

## Testing The Detector

After installing the detector, it is important to test to make sure the radio receives the detection call successfully. Plug the handheld device into the J4 port on the radio board (pictured below in red). Open the wireless program and go to the detector area. The first input pin should display the same number as the desired phase to call when a detection occurs. For example, if the detector is setup to call for phase 1, then the input pin should also be set to 1. From the same screen, an 'X' should appear in the call column when the detector puts in a call. To test functionality, simply wave an object in the detection zone.



Detector	Call	Input Pin
Sensor 1	False	1
Sensor 2	False	0
Sensor 3	False	0
Sensor 4	False	0



# ■ QUICK START GUIDE: Deploying

## Extending the Mast Arm

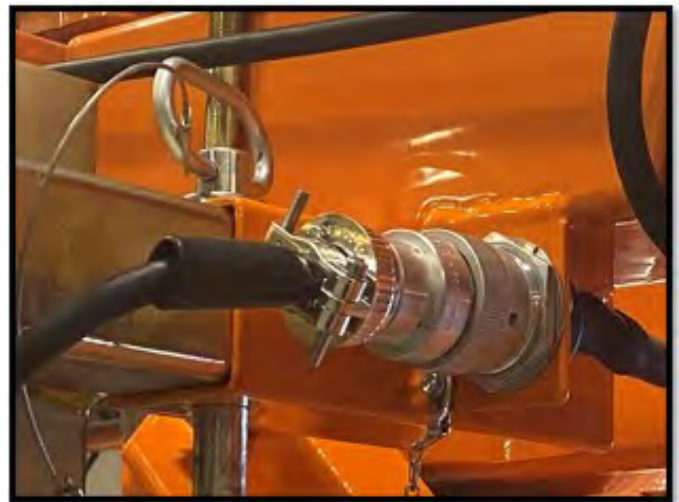
To extend the mast arm take the safety pin out of the rear position of the arm and loosen the T-handle towards the front. Pull the arm all the way out **using care not to hook the cables on the cabinet**, then put the safety pin back in place and tighten the T-handle to properly securing the arm.



## Connecting the Signal Head

Take the cap off the signal connection at the end of the arm and remove the safety pin. Then go to the back of the trailer, remove the safety pin and slide the signal head out of storage area. For normal trailer placement install the signal head face down and replace safety pin. Plug in the signal head by lining up the tabs and turning the plug clockwise.

Check the lower signal head position to make sure it is in the horizontal position with LED's facing the ground and install visors as needed.



# ■ QUICK START GUIDE: Deploying Opening the Hydraulic Pump Lid

Unlock the pump lid located on the passenger's side front corner. Lift up the lid and take out the hand held pendant.



**WARNING!** WATCH FOR OVERHEAD POWERLINES OR OBSTRUCTIONS, WHILE RAISING THE MAST ARM.

## Raising the Mast Arm

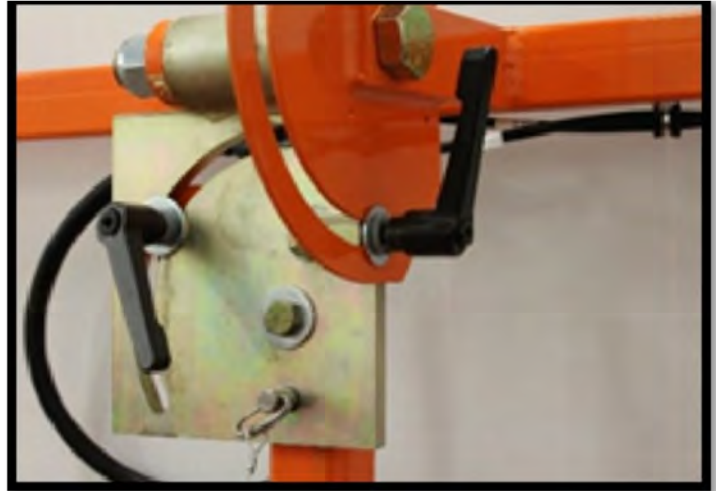
Once the operator has established a safe location for deployment (clear of the overhead arm swing zone) press and hold the safety interlock switch. Then press the up button until the auto safety lock bar drops into place at the top of the cylinder. Now that the trailer is fully deployed, press the down button to secure the auto safety lock bar. The safety interlock switch as to be engaged otherwise the up and down buttons will not work.



# ■ QUICK START GUIDE: Deploying

## Adjusting Solar Panel

To maximize sun exposure, position the solar panels southward utilizing both the horizontal and vertical adjustments. It is recommended the panel be tilted 30° from the horizontal position southward in the summer (March 21 to Sept. 21), and 60° from the horizontal position southward in the winter (Sept. 21 to March 21).



## Antenna Information

It is important to be sure the antenna is pointing directly at the Master trailer when the mast arm is fully deployed. This will ensure successful communication and minimize the chance of radio communication issues.



# ■ QUICK START GUIDE: Radio Setup

## Setting Signal Channels

Plug the handheld device into the J4 port on the radio board (pictured in red below). Open the wireless program and go to the signals area. Set the channel for lights 1, 2, & 3. The channel for each light should match the desired phase on which the signals should run. Set the fault mode as desired; typically, either flashing red or yellow when there is an issue.

For two signal heads on the same trailer to be running different phases, channels for lights 4, 5, & 6 need to be configured for the overhead signal.



Light	On	Volts (V)	Amps (mA)	Channel	Color	Fault Mode
1	True	27.0	813	2	Red	Flash
2	False	0.0	0	2	Yellow	Dark
3	False	0.0	0	2	Green	Dark
4	False	0.0	0	0	Unused	Dark
5	False	0.0	0	0	Unused	Dark
6	False	0.0	0	0	Unused	Dark

## Radio Configuration

First, go into the radio configuration area and set the hop channel. This will need to be the same number on all radios in the setup. If there are communication issues on the job site, try changing the hop channel (this will need to be done on all radios) as the atmosphere may be affecting the radio signal. Next, set the TX Power. The TX Power indicates the transmission power given to the radio signal. It is recommended to keep the TX Power setting at 1000mW.

Multi Transmit	1	RF Mode	Standard
Delay Slots	0	TX Power	1000 mW
Retries	0	Packet Timeout	250
Hop Channel	3	Fault Timeout	2500

Lastly, on the Master radio, go to the status area. There should be a peer ID listed for each Secondary trailer communicating with the Master. If there is no peer ID or the peer ID has 0 RSSI, hit remove and search. If the Secondary trailer is communicating correctly, the peer ID should be listed with an RSSI number. Trailers are communicating at optimal levels when the RSSI is 40.

# ■ QUICK START GUIDE: Configuration

## CMU Configuration

The CMU unit, as shown, should have both switches in the down position and the appropriate data key (legend below) in the locked vertical position. The signal lights should be running as programmed if all trailer radios are on and configured properly. Please note: If the signal lights are in flash mode, push the reset button on the CMU unit.



If radios have not been configured to communicate with each other, please complete the Radio Board Set Up section of this guide before continuing.

## Setting RSSI For Radios

RSSI numbers indicate the quality of the communication between trailers, with 40 being the optimal target. Higher RSSI readings can indicate misalignment of the antennas or another radio configuration issue. To check the RSSI, plug the handheld device into the Master radio and open the wireless program. Go to the radio status area and there should be a peer ID listed for each Secondary trailer communicating with the Master. If the RSSI is 80 or below, changes can be made to the radio configuration to increase the stability of the radio network.

Peer ID	RSSI
10130A66	40

TX Power	1000 mW
Packet Timeout	250
Fault Timeout	2500

On the handheld device, go into the Radio Configuration area and increase the TX Power to the max setting of 1000mW. Set the Packet and Fault Timeout to the configuration shown to the left.

# ■ QUICK START GUIDE: Configuration

## Maxtime Main Menu Explained

```

Intelight MaxTime 1.9.12 (#702)
                    ID 0

1. Status
2. Controller
3. Administration
    
```

When the controller first powers on press '1' to enter the Maxtime program. The menu shown in the picture to the left should appear.

1. Status: is most commonly used to access the Summary function. The Summary function allows the user to monitor current phasing.
2. Controller: is most commonly used to access the phasing/timings options.
3. Administration: is most commonly used to load and re-load pre-configured database files.

## Setting Phasing

Phase	1	2	3	4	5	6	7	8
Walk	10	10	10	10	10	10	10	10
PedClr	7	7	7	7	7	7	7	7
StdDWlk	0	0	0	0	0	0	0	0
MinGrn	5	5	1	5	5	5	5	5
Passage	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Max1	15	15	15	15	15	15	15	15
Max2	0	0	0	0	0	0	0	0
Max3	1	1	1	1	1	1	1	1
YelChg	3.5	3.5	2.0	3.5	3.5	3.5	3.5	3.5
RedClr	3.5	3.5	2.0	3.5	3.5	3.5	3.5	3.5
+RedClr	0	0	0	0	0	0	0	0
RedRvnt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AddInit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MaxInit	0	0	0	0	0	0	0	0
TBRedu	0	0	0	0	0	0	0	0

In the phase timing section, pay attention only to the columns that correspond with the phases which will be running. By default, the controller is loaded with the 2T2P database so the only changes would occur in columns 1 & 2. Arrow down to the line and column which need to be adjusted and enter the adjusted time as measured in seconds. It is recommended to go no lower than 3.5 seconds to allow for radio communication latency.

Some rows show decimals. On those rows, enter a "0" for the decimal column. For example, if the line needs to show 4 seconds, put in 40 and press 'Enter'. The column should display '4.0'. The RedClr line can be set up to a maximum of 25 seconds and is determined by the length of the work zone. This timing setting is typically provided by the governing agency.

\*\*\*Warning: If this time is set too short, there is a risk of head on collisions! \*\*\*

In cases where more than 25 seconds is needed, up to an additional 230 seconds can be added by arrowing down to the +RedClr line. The time configured in this line will be in addition to the RedClr time setting. On the inside door of the Master cabinet, a red clearance timing estimation chart is provided as general guide on how to determine red clearance time. OMJC Signal is not responsible for these times, so please check with your local traffic engineer prior to deploying the trailers.

**Once timings are configured, safety personnel should drive through the work zone to ensure proper traffic flow. In addition, observation of traffic flow is suggested to reveal any necessary timing changes.**



# ■ QUICK START GUIDE: Configuration

## Enabling Detection

To use detection for green time extension, a Passage and Max1 time will need to be added under Phase Timings.

MinGrn: the minimum amount in seconds the phase will remain green

Passage: the amount in seconds added per vehicle detected

Max1: the maximum amount in seconds the phase will remain green

*Since Passage is the amount of time the controller will add for each vehicle that is detected, it is recommended to start by setting passage time at 5 seconds. Doing so will add an additional 5 seconds to the MinGrn time for each vehicle detected. Max1 is the maximum amount of green time allowed for a phase.*

To use detection for actuation, the Min Veh Rcl settings will need to be removed in 'Phase Options'. Arrow down to the Min Veh Rcl line for the actuated phase and press the "-" button. Repeat this for any other phase needing to be actuated. Passage and Max1 will still apply with this setup.

Some scenarios call for the signals to rest in red. To enable this feature, arrow down to the red rest line in 'Phase Options' and enable it for all phases.

Phase	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
Enable	1	2	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Auto Flash Ent.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Auto Flash Exit	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Non Actua 1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Non Actua 2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Non Lock Det Mem	1	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Min Veh Rcl	1	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Max Veh Rcl	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ped Rcl	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Soft Veh Rcl	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Dual Entry	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sim Gap Dis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Guar Pass	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Actua Rest Wlk	U	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

# QUICK START GUIDE: Maintenance

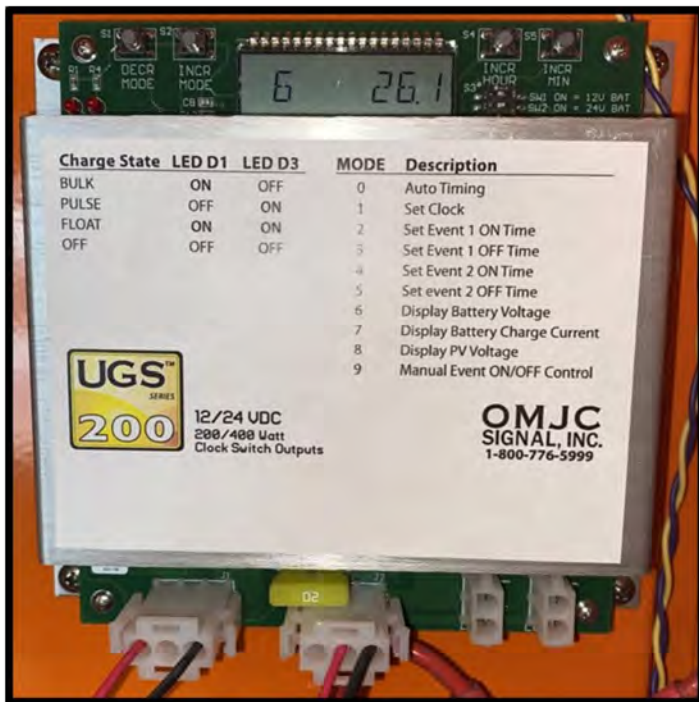
## WARNING!



FOR THE DURATION OF THE JOB THE BATTERY LEVELS IN THE TRAILERS NEED TO BE MONITORED. EQUIPMENT FAILURE AND BATTERY DAMAGE WILL OCCUR IF THEY AREN'T.

The master trailer will use more power. If either trailer gets down to 24 VDC the unit should be charged via the battery charger. Just plug it into a standard AC outlet or generator for 24-48 hours.

## Monitoring Voltage



Battery voltage can be monitored via the UGS solar charge controller. Current battery voltage can be viewed by using the two buttons on the left side of the display and toggling to #6. It should read around 26VDC on average and above 28VDC when fully charged. Toggling to the #7 (Battery Charge Current) shows how much solar is being used to charge the batteries. #8 (PV Voltage) shows the total solar output. If the solar panel is having issues keeping the batteries charged, clean the panel and adjust the angle to maximize sun exposure.

The UGS has a computer inside which allows it to give the batteries as much charge as needed to maintain the desired voltage. Refer to the label on the front of the UGS for more information on LED indication.

# ■ QUICK START GUIDE: Maintenance

## Long Battery Life

Batteries should always be kept fully charged to ensure maximum battery life. When the trailers are deployed, the voltage should never drop below 24 volts. Failure to maintain proper voltage will result in power issues.

The chart below shows the recommended charge time for the battery bank to return to 100% capacity.

Battery Volts	% of charge	80% Recharge	100% Recharge
25.4	90	7 1/4 hrs.	21 3/4 hrs.
25.2	80	7 1/3 hrs.	22 hrs.
24.9	70	7 1/2 hrs.	22 1/2 hrs.
24.6	60	7 2/3 hrs.	23 hrs.
24.3	50	7 3/4 hrs.	23 1/2 hrs.
24	40	8 hrs.	24 hrs.

## Maintaining Voltage



It is very important to keep the batteries charged. If the solar panel is not keeping the batteries charged, a generator or other auxiliary source of 110AC power will be required to re-charge them. There is a PowerMax charge converter on the side of the cabinet which can be plugged in to the desired power source. This charges the batteries in tandem with the solar panel. There is a flapper valve in the bottom of the cabinet to pull the cord through which allows the cabinet door to be closed and locked even when the device is plugged in to auxiliary power.

When storing the trailers, regularly check the battery levels to ensure they stay fully charged. If they are indoors, the battery charger should be plugged in at all times. If they are outdoors, deploy the solar panel southward to ensure optimal sunlight. Leaving the batteries with zero charge for an extended period of time, will cause permanent damage to the batteries.

# Pop-Up LD

**QPNW-234-2070**

## 1 PERSON, 1 MINUTE

The Pop-Up LD is designed to control a single lane closure, but it is capable of far more. The 9' arm meets MUTCD requirements. Two, 3 section signal heads with 12" RYG that comply with ITE standards, can quickly be in positions mandated by the MUTCD at the mere push of a button. Because the footprint is only 6' wide (the narrowest in the industry), it can fit almost anywhere. The LD features the Intelight 2070 ATC Controller running MAXTIME software. The custom radio system allows wireless communication between OMJC Pop-Up units along with complex phasing ability. The LD comes standard with a 385 watt solar panel (adjustable on 2 axes) and 440-660Ah of AGM batteries.

**MAXIMUM VISIBILITY**  
180° SIGNAL ROTATION STANDARD



**CAN FIT  
ALMOST  
ANYWHERE**

6' WIDE -  
NARROWEST  
IN THE INDUSTRY

**HYDRAULIC LIFT MECHANISM**  
DEPLOY IN 1 MINUTE, UTILIZING ONLY  
1 PERSON

**A TRUSTED ALTERNATIVE  
TO THE "FLAGGER"**

**DUAL POWER**

BATTERY CHARGED BY SOLAR  
OR CONNECT TO EXISTING  
INFRASTRUCTURE





# Pop-Up LD

QPNW-234-2070

## Pop-Up LD • STANDARD FEATURES

### DEPLOYMENT

Vertical | Hydraulic with remote pendant

Horizontal | Manual slide out

### ARM EXTENSION

9'

### SIGNAL HEADS

3 section overhead

3 section side of mast

12" RYG LED's, ITE compliant

180° rotation

### TRAFFIC CONTROL EQUIPMENT

Intelight 2070 ATC with MAXTIME software

Actuated 8 phase, dual ring, with pedestrian movements

Encrypted wireless connection between master and secondaries

EDI real time conflict monitor

### CHARGING SOURCE

DC | MPPT solar charge controller

AC | 120V plug-in charger

## SPECIFICATIONS

CHASSIS LENGTH	112.0" (removable hitch adds 56" for 168" total)
CHASSIS WIDTH	72.0" (narrowest in the industry)
TRAVEL HEIGHT	114.0" w/ solar
STANDARD WEIGHT	2,700lbs.
CLEARANCE (UNDER ARM)	17' (meets MUTCD requirements)
BATTERIES	440-660 Ah of AGM batteries, no-spill, no-maintenance
SOLAR	(1) - 385 watt solar panel, adjustable on 2 axes

## Pop-Up LD • ADDITIONAL OPTIONS

### DETECTION

Microwave

Video

Loop

### KNOCKDOWN AVAILABILITY (EMERGENCY POLE REPLACEMENT)

Wireless Knockdown Kit (AC to DC from existing infrastructure)

Wired Knockdown Kit (AC to DC from existing infrastructure)

### PREEMPTION

Audible

Strobe

GPS

### COORDINATION

GPS time based

### REMOTE MANAGEMENT & ALERTING

Cellular wireless router (Verizon, AT&T, or Sprint Certified Device)

### WIRELESS MANUAL CONTROL

Push button control with long range antenna (pilot car remote)

### ADDITIONAL ADD-ONS

Pedestrian signalization

Auto-start generator for on-board ancillary power

Work zone lighting

Countdown timer



1.800.776.5999

sales@omjcsignal.com

omjcsignal.com

403 Chestnut Street, Waterloo, IA 50703



# **OMJC POP-UP LD**

## Quick Start Guide



For the setup of the OMJC LD/PU  
Model ATC-LDX 2070 controller system with monitoring.

**English**

# INTRODUCTION

Thank you for choosing to deploy the most versatile and dependable portable traffic signals on the market. We know you will appreciate how safe, and simple it is to deploy our system. This guide is intended to help you navigate the first couple of deployments with your Pop-Up Light Duty Portable Traffic Signals.

Programming videos and other helpful documents are now available on our free App for either Android or iPhone. Simply visit the marketplace on your Android or Apple device, and search "OMJC Signal". The OMJC Signal app is just one more way that we are providing you with superior support.

OMJCSignal **OMJC Signal**  
by OMJC Signal  
★★★★★ (1,618)

## Pocket Tech Support

The power to educate yourself on the use of our portable traffic signals has never been easier. Download our app today!

OMJCSignal  
We provide sustainable cutting edge traffic solutions.  
[www.omjcsignal.com](http://www.omjcsignal.com)

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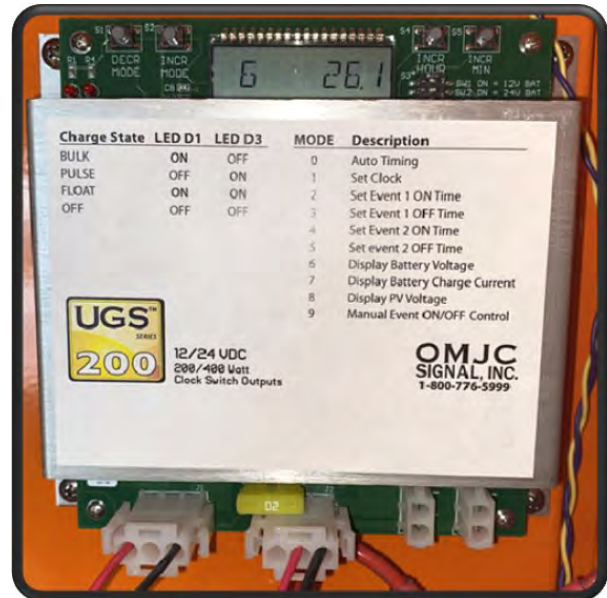
Features  
Portable and point-to-point traffic solutions

call us toll free 1.800.776.5999

## 2 DAYS BEFORE YOU GET TO THE JOB SITE

Check your battery voltage levels to ensure the battery bank is fully charged. For best results the voltage levels should be 26 to 28+ VDC.

On the UGS, pictured to the right, set the mode to 6 as shown. Use the buttons on the left of the screen to toggle down (DECR) or up (INCR).



Check to make sure all safety pins and pad locks are locked in place, the solar panel is in the towing position and the tire air pressure is in the 60-65psi range.



**We highly recommend you setup and run the trailers in your yard prior to taking them to the job site to ensure everything is working properly.**

**Also, make sure to take your OMJC tablet with you incase adjustments need to be made to the radio's while on site.**

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# ■ QUICK START GUIDE: Trailer Info



## Rotate The Outriggers

Once the trailer is in place, adjust each jack downward by pulling the release pin to begin the leveling process. Rotate each jack handle (located at the top of the jack) clockwise.



## Leveling Bubble

There is a leveling bubble in the middle of the trailer chassis to assist in the leveling process. Be sure the bubble rests in the middle of the circle before continuing.



# ■ QUICK START GUIDE: Detectors

## Powering the Radio Board

Open the trailer cabinet and toggle the top switch on the radio board (labeled 24V power) into the on position as pictured below. The red lights on the signal heads should be flashing.

**Secondary:**



**Master:**



## Mounting Detectors



If vehicle detection is being used, install the detector onto the upper mast arm, located about halfway down the driver's side of the trailer. With the detector in hand, slide the bracket into place, insert the safety pin, and connect the plug. The front of the detector needs to be facing the stop bar for normal operation and may need to be adjusted after the mast arm is raised. Please note: It is easier to adjust the detector once the trailer is deployed if the adjusting screws are left slightly loosened.

The detector can be reached when the mast arm is deployed by using the steps mounted on the trailer or by using a boom truck.

## Testing The Detector

After installing the detector, it is important to test to make sure the radio receives the detection call successfully. Plug the handheld device into the J4 port on the radio board (pictured below in red). Open the wireless program and go to the detector area. The first input pin should display the same number as the desired phase to call when a detection occurs. For example, if the detector is setup to call for phase 1, then the input pin should also be set to 1. From the same screen, an 'X' or 'True' should appear in the call column when the detector puts in a call. To test functionality, simply wave an object in the detection zone.



Detector	Call	Input Pin
Sensor 1	False	1
Sensor 2	False	0
Sensor 3	False	0
Sensor 4	False	0



# ■ QUICK START GUIDE: Deploying Adjusting the Signal Head

Go to the signal head at the front of the trailer and remove the safety pin on the horizontal arm. Manually slide out the arm extension and reinstall the safety pin to lock the arm into position. Next loosen the adjustable handle near the pivot point and place the signal head into the horizontal position with the LEDs facing the ground (for typical installations) and re-tighten the handle.



Check the lower signal head to make sure it is in the horizontal position with LED's facing the ground.

Install visors by loosening the screws around the individual LED's and sliding the visor into place. Tighten screws to secure.



# ■ QUICK START GUIDE: Deploying Opening the Hydraulic Pump Lid

Unlock the pump lid located on the passenger's side front corner. Lift up the lid and take out the hand held pendant.



**WARNING!** WATCH FOR OVERHEAD POWERLINES OR OBSTRUCTIONS, WHILE RAISING THE MAST ARM.

## Raising the Mast Arm

Once the operator has established a safe location for deployment (clear of the overhead arm swing zone) press and hold the up button until the auto safety lock bar drops into place at the top of the cylinder. Now that the trailer is fully deployed, press the down button to secure the auto safety lock bar.



# ■ QUICK START GUIDE: Deploying

## Adjusting Solar Panel

To maximize sun exposure, position the solar panels southward utilizing both the horizontal and vertical adjustments. It is recommended the panel be tilted 30° from the horizontal position southward in the summer (March 21 to Sept. 21), and 60° from the horizontal position southward in the winter (Sept. 21 to March 21).



## Antenna Information

It is important to be sure the antenna is pointing directly at the Master trailer when the mast arm is fully deployed. This will ensure successful communication and minimize the chance of radio communication issues.

# ■ QUICK START GUIDE: Radio Setup

## Setting Signal Channels

Plug the handheld device into the J4 port on the radio board (pictured in red below). Open the wireless program and go to the signals area. Set the channel for lights 1, 2, & 3. The channel for each light should match the desired phase on which the signals should run. Set the fault mode as desired; typically, either flashing red or yellow when there is an issue.

For two signal heads on the same trailer to be running different phases, channels for lights 4, 5, & 6 need to be configured for the overhead signal.



Light	On	Volts (V)	Amps (mA)	Channel	Color	Fault Mode
1	True	27.0	813	2	Red	Flash
2	False	0.0	0	2	Yellow	Dark
3	False	0.0	0	2	Green	Dark
4	False	0.0	0	0	Unused	Dark
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## Radio Configuration

First, go into the radio configuration area and set the hop channel. This will need to be the same number on all radios in the setup. If there are communication issues on the job site, try changing the hop channel (this will need to be done on all radios) as the atmosphere may be affecting the radio signal. Next, set the TX Power. The TX Power indicates the transmission power given to the radio signal. It is recommended to keep the TX Power setting at 1000mW.

Multi Transmit	1	RF Mode	Standard
Delay Slots	0	TX Power	1000 mW
Retries	0	Packet Timeout	250
Hop Channel	3	Fault Timeout	2500

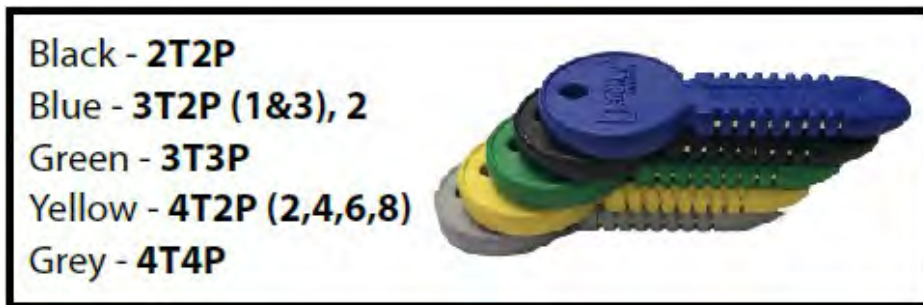
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# ■ QUICK START GUIDE: Configuration

## CMU Configuration

The CMU unit, as shown, should have both switches in the down position and the appropriate data key (legend below) in the locked vertical position. The signal lights should be running as programmed if all trailer radios are on and configured properly. Please note: If the signal lights are in flash mode, push the reset button on the CMU unit.



If radios have not been configured to communicate with each other, please complete the Radio Board Set Up section of this guide before continuing.

## Setting RSSI For Radios

RSSI numbers indicate the quality of the communication between trailers, with 40 being the optimal target. Higher RSSI readings can indicate misalignment of the antennas or another radio configuration issue. To check the RSSI, plug the handheld device into the Master radio and open the wireless program. Go to the radio status area and there should be a peer ID listed for each Secondary trailer communicating with the Master. If the RSSI is 80 or below, changes can be made to the radio configuration to increase the stability of the radio network.

Peer ID	RSSI
10130A66	40

TX Power	1000 mW
Packet Timeout	250
Fault Timeout	2500

On the handheld device, go into the Radio Configuration area and increase the TX Power to the max setting of 1000mW. Set the Packet and Fault Timeout to the configuration shown to the left.

# ■ QUICK START GUIDE: Configuration

## Maxtime Main Menu Explained

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2. Controller: is most commonly used to access the phasing/timings options.
3. Administration: is most commonly used to load and re-load pre-configured database files.

## Setting Phasing

Phase	1	2	3	4	5	6	7	8
Walk	10	10	10	10	10	10	10	10
PedClr	7	7	7	7	7	7	7	7
StdDWlk	0	0	0	0	0	0	0	0
MinGrn	5	5	1	5	5	5	5	5
Passage	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Max1	15	15	15	15	15	15	15	15
Max2	0	0	0	0	0	0	0	0
Max3	1	1	1	1	1	1	1	1
YelChg	3.5	3.5	2.0	3.5	3.5	3.5	3.5	3.5
RedClr	3.5	3.5	2.0	3.5	3.5	3.5	3.5	3.5
+RedClr	0	0	0	0	0	0	0	0
RedRvnt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AddInit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MaxInit	0	0	0	0	0	0	0	0
TBRedu	0	0	0	0	0	0	0	0

In the phase timing section, pay attention only to the columns that correspond with the phases which will be running. By default, the controller is loaded with the 2T2P database so the only changes would occur in columns 1 & 2. Arrow down to the line and column which need to be adjusted and enter the adjusted time as measured in seconds. It is recommended to go no lower than 3.5 seconds to allow for radio communication latency.

Some rows show decimals. On those rows, enter a "0" for the decimal column. For example, if the line needs to show 4 seconds, put in 40 and press 'Enter'. The column should display '4.0'. The RedClr line can be set up to a maximum of 25 seconds and is determined by the length of the work zone. This timing setting is typically provided by the governing agency.

\*\*\*Warning: If this time is set too short, there is a risk of head on collisions! \*\*\*

In cases where more than 25 seconds is needed, up to an additional 230 seconds can be added by arrowing down to the +RedClr line. The time configured in this line will be in addition to the RedClr time setting. On the inside door of the Master cabinet, a red clearance timing estimation chart is provided as general guide on how to determine red clearance time. OMJC Signal is not responsible for these times, so please check with your local traffic engineer prior to deploying the trailers.

**Once timings are configured, safety personnel should drive through the work zone to ensure proper traffic flow. In addition, observation of traffic flow is suggested to reveal any necessary timing changes.**



# ■ QUICK START GUIDE: Configuration

## Enabling Detection

To use detection for green time extension, a Passage and Max1 time will need to be added under Phase Timings.

MinGrn: the minimum amount in seconds the phase will remain green

Passage: the amount in seconds added per vehicle detected

Max1: the maximum amount in seconds the phase will remain green

*Since Passage is the amount of time the controller will add for each vehicle that is detected, it is recommended to start by setting passage time at 5 seconds. Doing so will add an additional 5 seconds to the MinGrn time for each vehicle detected. Max1 is the maximum amount of green time allowed for a phase.*

To use detection for actuation, the Min Veh Rcl settings will need to be removed in 'Phase Options'. Arrow down to the Min Veh Rcl line for the actuated phase and press the "-" button. Repeat this for any other phase needing to be actuated. Passage and Max1 will still apply with this setup.

Some scenarios call for the signals to rest in red. To enable this feature, arrow down to the red rest line in 'Phase Options' and enable it for all phases.

Phase	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
Enable	1	2	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Auto Flash Ent	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Auto Flash Exit	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Non Actua 1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Non Actua 2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Non Lock Det Mem	1	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Min Veh Rcl	1	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Max Veh Rcl	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ped Rcl	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Soft Veh Rcl	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dual Entry	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sim Gap Dis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Guar Pass	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Actua Rest Wlk	v	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

# QUICK START GUIDE: Maintenance

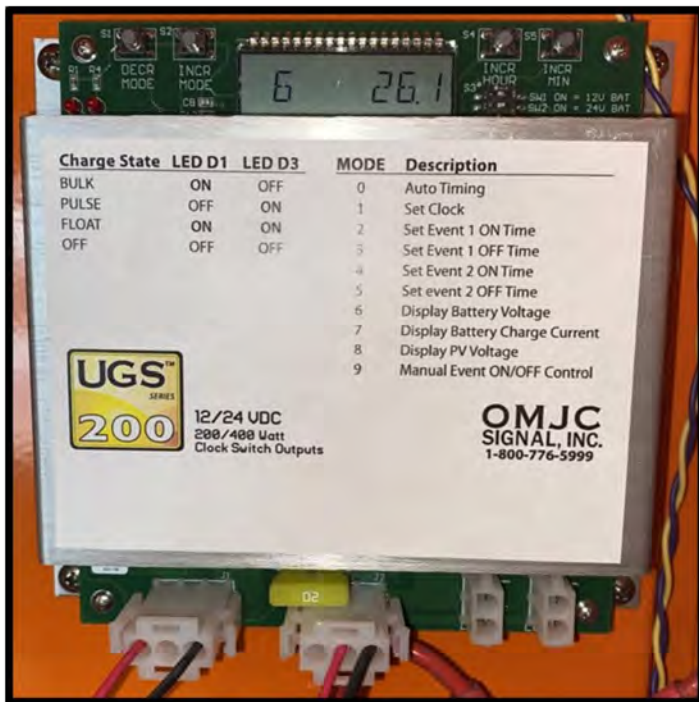
## WARNING!



FOR THE DURATION OF THE JOB THE BATTERY LEVELS IN THE TRAILERS NEED TO BE MONITORED. EQUIPMENT FAILURE AND BATTERY DAMAGE WILL OCCUR IF THEY AREN'T.

The master trailer will use more power. If either trailer gets down to 24 VDC the unit should be charged via the battery charger. Just plug it into a standard AC outlet or generator for 24-48 hours.

## Monitoring Voltage



Battery voltage can be monitored via the UGS solar charge controller. Current battery voltage can be viewed by using the two buttons on the left side of the display and toggling to #6. It should read around 26VDC on average and above 28VDC when fully charged. Toggling to the #7 (Battery Charge Current) shows how much solar is being used to charge the batteries. #8 (PV Voltage) shows the total solar output. If the solar panel is having issues keeping the batteries charged, clean the panel and adjust the angle to maximize sun exposure.

The UGS has a computer inside which allows it to give the batteries as much charge as needed to maintain the desired voltage. Refer to the label on the front of the UGS for more information on LED indication.

# ■ QUICK START GUIDE: Maintenance

## Long Battery Life

Batteries should always be kept fully charged to ensure maximum battery life. When the trailers are deployed, the voltage should never drop below 24 volts. Failure to maintain proper voltage will result in power issues.

## Maintaining Voltage



It is very important to keep the batteries charged. If the solar panel is not keeping the batteries charged, a generator or other auxiliary source of 110AC power will be required to re-charge them. There is a PowerMax charge converter on the side of the cabinet which can be plugged in to the desired power source. This charges the batteries in tandem with the solar panel. There is a flapper valve in the bottom of the cabinet to pull the cord through which allows the cabinet door to be closed and locked even when the device is plugged in to auxiliary power.

When storing the trailers, regularly check the battery levels to ensure they stay fully charged. If they are indoors, the battery charger should be plugged in at all times. If they are outdoors, deploy the solar panel southward to ensure optimal sunlight. Leaving the batteries with zero charge for an extended period of time, will cause permanent damage to the batteries.

# **DIETRICH & ASSOCIATES Inc.**

5714 Nordic Drive  
Cedar Falls, Iowa 50613  
319 266-0549  
Fax 268-0634

May 7, 2012

OMJC Signal, Inc.  
403 Chestnut St.  
Waterloo, IA 50703

Gentlemen,

The request to determine if the OMJC Light Duty Pop-Up is capable of maintaining its upright position during a 97mph wind has been completed. The calculations were performed under the following assumptions:

- 1) Constant 97mph wind
- 2) No wind gusts
- 3) Wind direction from left to right and right to left when looking at the signals
- 4) The equipment has not been modified and is being used as indicated by the operators manual
- 5) OMJC Light Duty Pop-up was in the position shown in drawings only

During the inspection of the geometry, the stance of the jack stands from front to back is 41" longer than the stance from side to side. Because of this, it was determined that the worst case scenario for the wind load calculation was the side to side direction.

To perform the calculations, surface area was measured off of the drawings as well as the centroid of that area. The drag coefficients used were taken from the *AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaries, and Traffic Signals, 5th ed. Table 3-6.*

The results of the calculations confirm that the OMJC Light Duty Pop-Up is able to stay upright with a constant wind speed of 97mph. The following pages are the calculation and the drawings used to determine this conclusion.

Prepared by:  
Diedrichs & Associates, Inc.  
Brad Meyer, PE



I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

*Brad Meyer*

(signature)

5/7/12

(date)

Brad Meyer

License number: 18205

My license renewal date is December 31, 2012

Pages or sheets covered by this seal: 1-4



## Mass Calculations

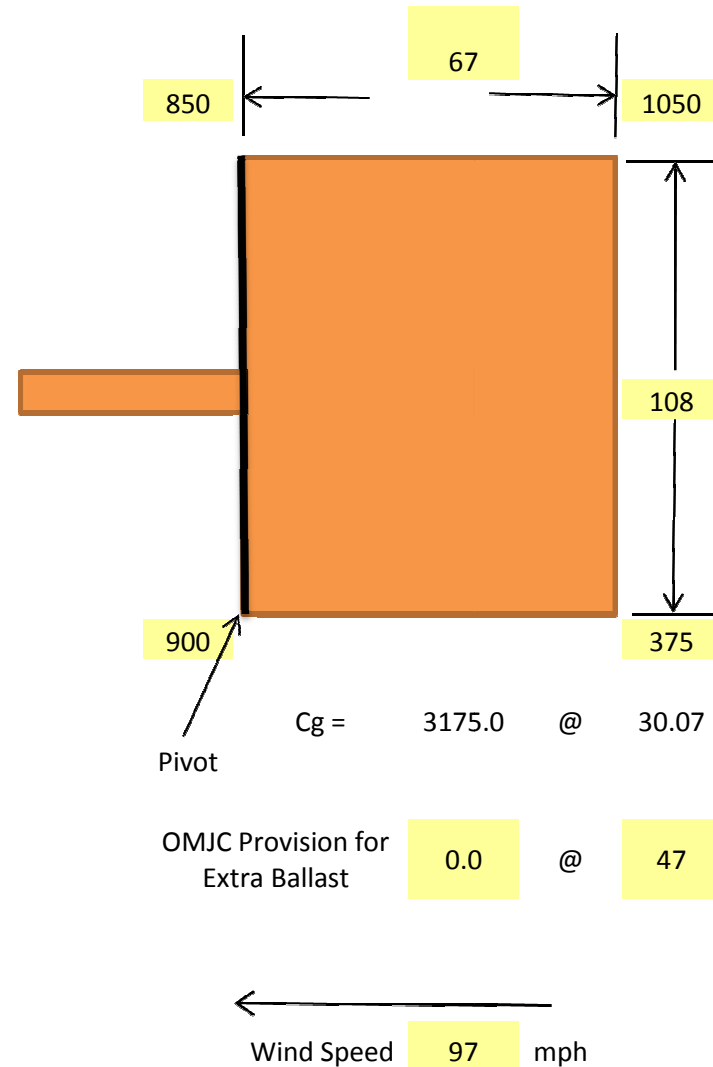
Item	Mass (lb)	Dist to Pivot (in)	Tipping Moment (in*lb)
Complete Unit	3175	-31.95	-101428
<b>Total</b>	<b>3175</b>	<b>-31.95</b>	<b>-101428</b>

## Wind Calculations

Item	Area (in^2)	Drag (C <sub>d</sub> )	Dist to Pivot (in)	Force (lb)	Tipping Moment (in*lb)
Tire	615.8	2.00	14.16	206.0	2917
Tongue	315.0	1.70	15.98	89.6	1431
Jacks	172.0	0.45	19.41	12.9	251
Frame	596.0	1.70	25.14	169.5	4261
Jack Cylinder	65.8	0.45	39.11	5.0	194
Rear Control Box	570.0	1.70	54.48	162.1	8830
Jack Piston	25.5	0.45	60.70	1.9	116
Mast Brace	231.0	1.70	71.78	65.7	4715
Solar Panel Frame	261.0	1.70	70.48	74.2	5231
Solar Panel Face	6195.0	1.18	80.23	0.0	0
Solar Panel Edge	177.0	1.18	80.23	34.9	2803
Solar Panel Lift	6195.0	1.18	50.81	0.0	0
Vertical Mast	720.0	1.70	114.01	204.7	23342
Lower Signal	549.5	1.20	166.09	110.3	18321
Horizontal Mast	9.0	1.70	208.53	2.6	534
Upper Signal	462.0	1.20	224.19	92.7	20792
<b>Total</b>	<b>4769.6</b>	<b>1.54</b>	<b>76.1</b>	<b>1232.1</b>	<b>93738</b>

Combined Moment **-7690** in\*lb Result = **Upright**

Angle of Solar **0** deg





## Mass Calculations

Item	Mass (lb)	Dist to Pivot (in)	Tipping Moment (in*lb)
Complete Unit	3175	-38.80	-123203
<b>Total</b>	<b>3175</b>	<b>-38.80</b>	<b>-123203</b>

## Wind Calculations

Item	Area (in^2)	Drag (C <sub>d</sub> )	Dist to Pivot (in)	Force (lb)	Tipping Moment (in*lb)
Tire	615.8	2.00	14.16	206.0	2917
Tongue	315.0	1.70	15.98	89.6	1431
Jacks	172.0	0.45	19.41	12.9	251
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Jack Piston	25.5	0.45	60.70	1.9	116
Mast Brace	231.0	1.70	71.78	65.7	4715
Solar Panel Frame	261.0	1.70	70.48	74.2	5231
Solar Panel Face	6195.0	1.18	80.23	0.0	0
Solar Panel Edge	177.0	1.18	80.23	34.9	2803
Solar Panel Lift	6195.0	1.18	19.94	0.0	0
Vertical Mast	720.0	1.70	114.01	204.7	23342
Lower Signal	549.5	1.20	166.09	110.3	18321
Horizontal Mast	9.0	1.70	208.53	2.6	534
Upper Signal	462.0	1.20	224.19	92.7	20792
<b>Total</b>	<b>4769.6</b>	<b>1.54</b>	<b>76.1</b>	<b>1232.1</b>	<b>93738</b>

Combined Moment **-29465** in\*lb Result = **Upright**

