

## Warranty Statement

Data Signs provides a two (2) year warranty on the LED boards, Sign Controller, Chassis and other parts of this DataSign-VMS. The warranty excludes wheels and batteries. A separate manufacturer's warranty of 3 months applies to the batteries. The purchase invoice must be provided with warranty claims. For more details visit the Data Signs website; [www.datasigns.com.au](http://www.datasigns.com.au).

## Contact Data Signs

For contact details of your nearest service agent, or service branch please visit the Contact Us page online at [www.datasigns.com.au](http://www.datasigns.com.au).



- Search "Data Signs" on these sites for latest news.

*Please leave this document with the product.*



**Data Signs Pty Ltd**  
AUSTRALIA  
Since 1976

VIC: (03) 9312 2177  
QLD: (07) 5546 6489  
NSW: (02) 9820 6394

MAN 010 Issue 23 Rev: 25-11-2016

## VMS Operations, OH&S and Maintenance Manual



Read and understand this manual before attempting to operate the Data Signs' **Variable Message Signs** (DataSign). This manual covers set-up, take-down and maintenance. *This manual is to be stored in the plastic pouch in the VMS Control box, do not remove.* A **Manufacturer Plant Risk Assessment** document is available from Data Signs separately. You must comply with the relevant road authority training requirements for use of this product in your state or territory.

Sign Serial Number:

SMS Number:

### Sign Set-up and Positioning

*If hiring this VMS, contact Hire Company for assistance.*

When positioning the Sign, **ensure solar panels will not be in shade**. Wear personal protective equipment (PPE) whenever working with the Sign. Some listed features may not be fitted.



1. If fitted, engage the park brake on the trailer coupling.

2. Unhook the tow coupling. Let the clip rest as shown.



3. Wind down the jockey wheel to allow the tow coupling to be free of the vehicle's tow ball.

4. Undo the trailer cable and store this in the Battery box compartment.



5. Extend each of the stabilizer arms (outriggers). Find the handle in the VMS Control Box, wind down all four legs. Use the legs to level the Sign. Raise to allow the wheels to **spin freely**, which stops the Sign moving in windy conditions. A drill adaptor bit for the Legs is also supplied.

**CAUTION: If using drill, slow it down to avoid kick-back as it gets to the end.**

Apply WD-40 or equivalent to extension post regularly.

6. Undo the safety chain attached to the towing vehicle.



7. Access the VMS Control Panel by raising the lid by sliding the hidden latch right. **The VMS COMPUTER is an optional extra and may not be fitted.**



## SIM Card Setup

The Data Signs' Variable Message Signs and Speed Advisory Signs can be fitted with SIM cards to provide remote communications options. With a SIM card fitted into your Sign, you will then be able to send SMS's from your mobile phone or our SMS Designer software to update the Sign with new messages. Interact with your Sign remotely using the fully featured **WebVMS2™**: our web-based fleet management application.

You should enable an internet data plan on the SIM card so your Signage can communicate through the internet using **WebVMS2™**. Charges may apply for setup on WebVMS2™.


If you wish to use Telstra as your service provider in Australia, Data Signs can obtain the SIM cards on your behalf and fit these into your Signs and ensure they are setup correctly. No contract applies, and no additional fees. For more information, please contact Data Signs. Or, for setup in other countries, contact Data Signs for contact details of telcos we have worked with in the past.

Ensure the SIM card is setup in the following way:

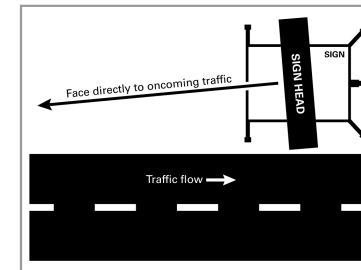
- As of November 2016, a *micro* SIM card is required.
- Both Incoming and Outgoing SMS.
- To enable your Signs to communicate through the internet (via NextG/3G/GPRS), you will **definitely** need an internet plan on the SIM card. This is known in Telstra as the **M2M \$0 plan** with \$10 per month data which currently allows up to 150 MB worth of data transfer per month. (M2M: Machine to Machine).
- No VoiceMail or MessageBank service enabled.
- No barring on other services.

Data Signs prefer that *pre-paid* SIM cards are **not** used, as these are not usually setup correctly and once credit runs out or expires the Telstra NextG (or equivalent) communications with the Signs will stop.

The **RM.32C Sign Controllers** are fitted to our DataSigns-VMS. These support the Telstra 3G network in Australia (or equivalent) including the following: HSDPA 7.2 Mbps, UMTS/HSDPA (WCDMA/FDD) 850/1900/2100 MHz, Quad-band EGSM 850/900/1800/1900, GPRS and EDGE (class 12).

 - Search "DataSigns" on YouTube for more instructional videos including *Inserting SIM card*.

14. Position the Sign head to face oncoming traffic.



15. Lock the Sign head into place with the Mast brake.



16. Feed the chains through the wheels and fit the locks, if required.

17. Secure all lock-points with locks.  
The Sign is set up. Please read through the remainder of this document to familiarise yourself with this equipment.



# VMS COMPUTER (optional extra) — Quick Usage Guide

The VMS COMPUTER is an *optional extra*, and may not be fitted.

If fitted, the VMS COMPUTER is located in the Control box enclosure.



Slide the RS232 Switch to the right to turn the VMS COMPUTER on, or press the **MENU** button.

## LOGIN SCREEN

When turned on, the VMS COMPUTER *may* ask for a login pin code.

The default pin number is: **0000**

This pin code can be changed later from the Main Menu.

You can also turn the pin request on/off once you have logged in.

You are allowed three attempts to enter the correct pin code.

**If the pin code is entered incorrectly, wait 15 minutes and try again.**

If you cannot remember the pin code, the pin code on the VMS COMPUTER will need to be reset at a Data Signs Service Centre.

You may then be asked to enter the *SMS Security Password*.

Enter the value: 123456.

The Main Menu is displayed.

Navigate through the Main Menu using the ↑ and ↓ arrow buttons.

## Frame 3

Frame Time: **.T**

In seconds. 1 to 9, only specify if not 2 (default).

The Sign can automatically choose the font size based on the text you enter, otherwise specify a font size, where: **.1** = 1 Line Font (largest), **.2** = 2 Line Font, **.3** = 3 Line Font, **.4** = 4 Line Font (smallest)

1st line of text	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<b>.N</b>
2nd line of text	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<b>.N</b>
3rd line of text	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<b>.N</b>
4th line of text	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<b>.N</b> code not required

**.F** If you need another frame, type in the .F code first, and continue ...

## Frame 4

Frame Time: **.T**

In seconds. 1 to 9, only specify if not 2 (default).

The Sign can automatically choose the font size based on the text you enter, otherwise specify a font size, where: **.1** = 1 Line Font (largest), **.2** = 2 Line Font, **.3** = 3 Line Font, **.4** = 4 Line Font (smallest)

1st line of text	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<b>.N</b>
2nd line of text	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<b>.N</b>
3rd line of text	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<b>.N</b>
4th line of text	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<b>.N</b> code not required

**.F** If you need another frame, type in the .F code first, otherwise .F code not required.

## SMS Usage Sheet

This SMS cheat sheet has been provided to show you how to update your Sign with a new message display using SMS commands from your mobile phone. The *SMS Cheat Sheet* documents are available upon request.

✍ Fill out your message using a blue pen, then read down the page and type in all the blue text into your mobile phone and send as an SMS to your Sign:

**Password:** **.S**       The password must exist at the start of every message.

**Frame 1** **Frame Time:** **.T**  In seconds. 1 to 9, only specify if not 2 (default).

The Sign can automatically choose the font size based on the text you enter, otherwise specify a font size, where: **.1** = 1 Line Font (largest), **.2** = 2 Line Font, **.3** = 3 Line Font, **.4** = 4 Line Font (smallest)

1st line of text	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<b>.N</b>
2nd line of text	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<b>.N</b>
3rd line of text	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<b>.N</b>
4th line of text	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<b>.N</b> code not required

**.F** If you need another frame, type in the .F code first, and continue ...

**Frame 2** **Frame Time:** **.T**  In seconds. 1 to 9, only specify if not 2 (default).

The Sign can automatically choose the font size based on the text you enter, otherwise specify a font size, where: **.1** = 1 Line Font (largest), **.2** = 2 Line Font, **.3** = 3 Line Font, **.4** = 4 Line Font (smallest)

1st line of text	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<b>.N</b>
2nd line of text	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<b>.N</b>
3rd line of text	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<b>.N</b>
4th line of text	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<b>.N</b> code not required

**.F** If you need another frame, type in the .F code first, otherwise .F code not required.

## VMS COMPUTER — continued ...

### Displaying a Message on the Sign

Select the **CREATE NEW MESSAGE** menu item and push the **ENTER** button. The message creation screen will appear. Enter the text as you want it to be displayed on the Sign. The left side of the screen shows the number of lines used for the current frame. If you are connected to a 5-colour Sign, you will also see and be able to change the colour selected for each line.

The middle of the screen is where the message text can be entered and the right side of the screen shows the current frame you are on, with its display time.

Enter text in this frame. An example is shown below. To go to a new line, use the ↓ arrow button. The cursor will then move down a line.

```

L1 | ROADWORK | F01
L2 | AHEAD | /01
L3 | DETOUR |
   | | Tm2
    
```

If you want to add another page, press the **NEXT** button to go to a new frame. (The NEXT button is located just below the LCD, and is also the Blue function).

To show the message on the Sign, push the **ENTER** button. The **MESSAGE OPTIONS** screen will appear.

Select the **SHOW MSG, NO SAVE** option and press the **ENTER** button to show the message on your Sign.

After communication with the Sign is completed, a confirmation screen will appear to say the message is now showing. Push the **MENU** button to return to the Main Menu. Your message will now be displaying on the Sign.

Further information can be found in the *VMS COMPUTER, User Manual*. Request a copy of this document from Data Signs or your nearest service agent.

## Ballast Tanks, if fitted

The procedure below outlines how to fill and empty the ballast tanks with water, if ballast tanks are fitted to the DataSign-VMS. The caps fitted may be different to those shown; from December 2012 a different type of ballast cap used on the DataSign-VMS. Each tank has **100 litre** capacity approximately.



On delivery from Data Signs, the keys for the ballast tank caps are located in the plastic pouch below the shelf in the VMS Control box.

There are two ballast tank caps. One located towards the back and the other towards the front, on the checker-plate base.



Unlock the ballast tank cap to raise the lid.



To lock the ballast tank cap, press down and turn the key.

It is recommended that the keys for the ballast tank caps are stored in the plastic pouch below the shelf in the VMS Control box.



There are two plugs on the front ballast tank and three plugs on the rear ballast tank. Use a coin to undo the plugs to empty the water out of the ballast tanks.

## Sign SMS Communications



The DataSign must be fitted with a SIM card if you want to send SMS messages to it, or to use WebVMS™. You can send SMS messages to the Sign to update it (and other functions) from your mobile phone.

First, you will need to know the SMS number of the DataSign you wish to send an SMS message to. This phone number will be provided with each SIM card by your SIM card provider. A SIM card may already have been fitted into your Sign by Data Signs. The SMS number of this DataSign should be noted down on the front page of this manual.

### SMS Command Codes

Apart from the normal message text which you may want to show on your VMS display, there are special command codes that need to be included in the SMS message that you send. These codes are used by your VMS display to ensure security and for other functions. Each special command code is preceded by the . symbol (the period, or *full stop*). On most mobile phone key-pads, press the / key to enter the period symbol into your SMS message. These special command codes are not case-sensitive. Therefore, .S and .s mean exactly the same thing. To use the period in a message, enter two periods one after the other, e.g. **end of sentence..**

### SMS Message Format and Useful Codes

Start each SMS you send to the Sign with the .S security password code. Then add the SMS code for the function you wish to perform. For example, if you want to Blank the Sign, you would send the following SMS to the Sign:

**.s123456.B**

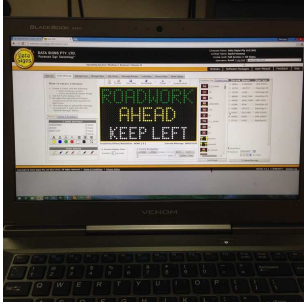
Other useful SMS codes are provided below.

- .B** Blank. The Sign will not show anything, but alarms will still be enabled.
- .Z** Put Sign to Sleep. The Sign will not show anything and alarms will be disabled.
- .X** Re-awake. Used when Sign is being setup. Shows last message, enables alarms.
- .A** Alarm Acknowledge. If you receive an alarm SMS, send this code back to Sign.
- .Q** Query Status. The Sign will send you an SMS containing status data info.

For a complete list of SMS commands for other functions, see the **SMS Communications** manual. [Request a copy of this document from Data Signs or your nearest service agent.](#)

A sample of the SMS Cheat Sheet has been provided on the following pages.

## WebVMS2™ — Web-based Sign programming



The **WebVMS2™** web-based interface was developed by the software development team at Data Signs Pty Ltd.

**WebVMS2™** runs on all web-browsers (although Google Chrome is preferred). It can also be accessed from various popular devices such as iPad, Samsung tablet, and others.

This web-based application allows you to update your Sign with new messages, track the location of each Sign (*using the GPS tracker built into each Sign*), check the battery voltage, schedule message changes, setup the radar and much more!

More features are being added all the time.

If you did not receive a Username and Password, please email your nearest Data Signs Service Centre and supply the following details:

- Company Name
- Company/Site Street Address
- Your Name, Position and Contact Numbers
- Serial Number (and SIM card SMS Number) of each Sign

In the Subject of the email message, put in **WebVMS2 Setup Request**.

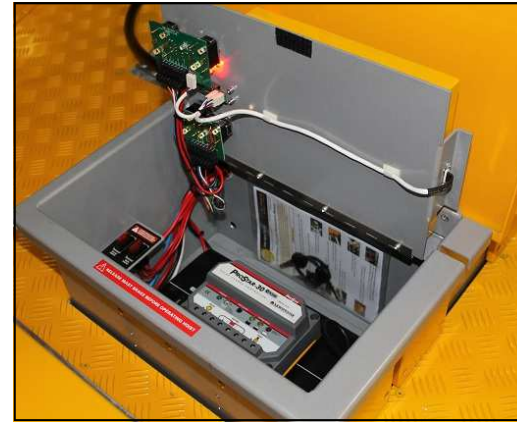
We will then be able to supply your Username and Password, and when you login you will be able to interact with all your DataSigns. Charges may apply to be setup.

A SIM card must be fitted to your DataSign to allow WebVMS2™ to be used. See later in this manual for more details on the SIM card setup.

Once logged in to WebVMS2™, access the **Help** from the link on the top/right of the page.

## Battery Charger, if fitted

A separate Battery Charger User Manual is provided in the plastic pouch if a battery charger is fitted.



The switches on the battery charger should be set as:



Battery type: AGM  
Float voltage: 13.8  
Mode: Battery charger

**NOTE:** For the DataSign-A and SATS, a different charger is used that does not have switches.

The Battery charger is located in the Control box enclosure. Lift the shelf up to access it.



Slot on box to feed 240V cable through. Holds the cable in place when shelf and lid are closed.

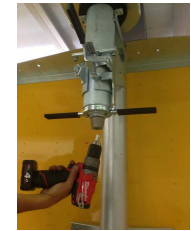
To charge the batteries, plug the power cable into 240V Mains power.

## Sign Take-down and Towing

It is crucial that the Sign is correctly taken down and hitched to the towing vehicle. If the Sign comes loose, **serious injury or death may result**. The correct take-down and hitching procedure is detailed below. Some steps may not apply to smaller model trailers.



1. If the Sign is turned on, you can put it to sleep using the VMS COMPUTER, by using the **.s123456.Z** SMS message, by using **WebVMS™**, or by using the BLANK switch on the Operator Panel located in the VMS Control box.



2. Release the mast brake and lower the Sign using the Hoist Up/Down button. Make sure that the black conduit is clear when lowering the Sign, as shown.

The Sign head should lower into position onto the cradle.

3. If a Manual solar tilt/rotate (STR) system is fitted, use the switches to rotate and tilt the solar array to lower the solar array down into transport position.

**CAUTION: If using drill, slow it down to avoid kick-back as it gets to the end .**



4. If chains are locked into the wheels, pull these out and secure on both sides of the trailer. We recommend combination locks.

5. Drain the ballast tanks, if filled. This is optional, the Sign can be towed with completely full tanks. Use a 50c piece, undo the plugs at the back and front.



6. Make sure the jockey wheel is down and locked into place with the pin. This is to stabilise the Sign while the legs are being wound up.

7. Wind each of the legs up and pull in each of the outriggers. Make sure the legs and outriggers are secured in place with the pins. The front legs should be stowed vertically, for transport.

**CAUTION: If using drill, slow it down to avoid kick-back as it gets to the end .**

**CAUTION: Don't wind the leg down too far, otherwise it may make contact with the mudguard.**



8. Hook up the tow coupling of the Sign to the towing vehicle. The tow hitch release should click and lock into place. See page 11 for instructions on adjusting the tow-coupling to the vehicle.



9. Attach and secure the safety chain(s) to vehicle.



## Radars Unit, if fitted — No Calibration Required



If a radar unit has been fitted to this Sign, this information is relevant.

If fitted, the radar unit is a small black box located on the top/right of the Sign head as indicated here with an orange circle.

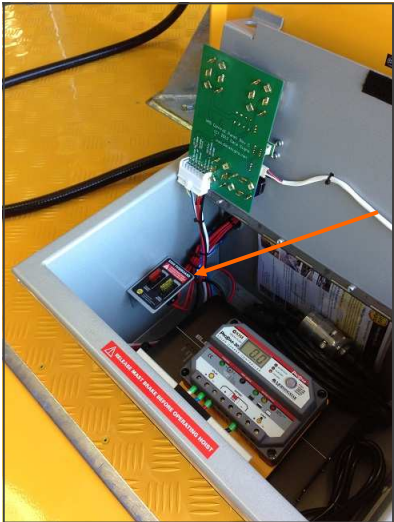
The Radar unit is manufactured in the USA. The supplier checks the speed measurement accuracy of each and every radar by an automated test system by using a digital Doppler target simulator. They also have in house multiple EIP548 26GHz bench top counters with temperature compensated ovenized crystal option to directly measure the carrier frequency of the radars for cross check purposes. In addition, they have a HP 492 microwave spectrum analyzer for further checks if required.

The test results are printed in the automatically generated test report. This has been included in the plastic pouch with this Sign—if this has been misplaced please contact Data Signs for another copy. A signed verification certificate with each radar with the radar's serial number printed on it can also be supplied.

The radars are completely digital in signal processing and inherently accurate by design and **require no calibration** after they leave the suppliers' factory.

### Location of Fuses

The primary fuses are located below the shelf in the VMS Control box. The plastic pouch may also contain spare fuses.



The Sign Controller has two fuses, as shown below. For Colour LED boards, use 20 Amp fuses, for Amber use 15 Amp fuses.

To access the Sign Controller, open the Sign Lid. Detailed instructions to complete this can be found in the *VMS Displays QuickStart Guide* document.



10. If fitted, ensure the reversing lock on the tow coupling is pushed out before you start travelling, as shown.



11. Wind up the jockey wheel and slot into position. Make sure the jockey wheel does not move once in the towing position.

12. Release the hand brake if this is still engaged (and fitted).



13. Plug the tow cable into the plug on the trailer and the towing vehicle. Check the trailer lights are functioning correctly.

Walk around the Sign to confirm that it is ready for transport and that no steps were missed.



Trailers not to be towed behind a truck with 4.5t GVM or higher without a suspension tow hitch/draw bar. **Max tow speed is 80 km/h.**

*Note: Do not tow the Sign if it is not registered with the relevant road authority.*

### Sign Height

⚠ When towing the Sign, bridges and other low obstacles may be encountered. The Sign Height chart below shows the towing height of each of the Signs.

Model	Height
SATS	2300
DATASIGN-A/5	2160
DATASIGN-B/5, C/5	2550

## Tow Coupling Adjustment

Adjust the tow coupling to fit snugly onto the tow ball of the towing vehicle to improve tow ride. In Australia, the tow coupling is designed to fit a 50mm ball. This adjustment is not completed during manufacture as each tow ball may be a slightly different diameter due to wear, or other factors. This is a guide only, please view the disclaimer at the end of the document. Additionally, ensure tow ball is at the correct height to tow the trailer. Note: Bolt



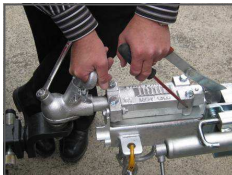
1. Release the 19mm locking nut.



2. Undo the locking nut to give some leeway.



3. Using a flat-head screw driver on the slot on top of the pin, turn until tight, and then loosen very slightly. This will pull the coupling forward onto the tow ball and grip it.



4. Check that you can still unhook the coupling without too much effort, but maintaining a tight fit on the tow ball when attached.



5. Tighten the locking nut.  
Torque setting:  
**65lbs.ft or 90Nm**



Note: when towing, ensure the reverse-lock is not engaged. Push out of the way, as shown.

Deploy only when attempting to reverse the Sign into position.

The procedure is provided below. An electric drill is used, if possible set the drill so the clutch does not engage.



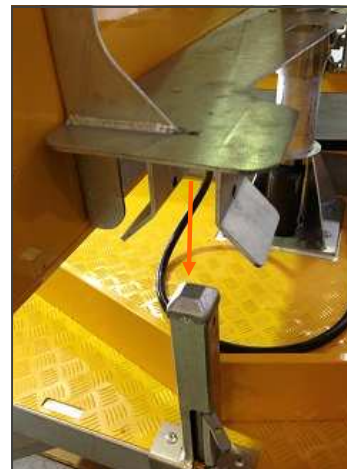
Release the Mast brake.



Complete this under the trailer chassis.

Use the Allen key to undo the cover plug.

Then, ensure the Allen key is fully inserted into the socket. Gently engage the drill, do not use full power.



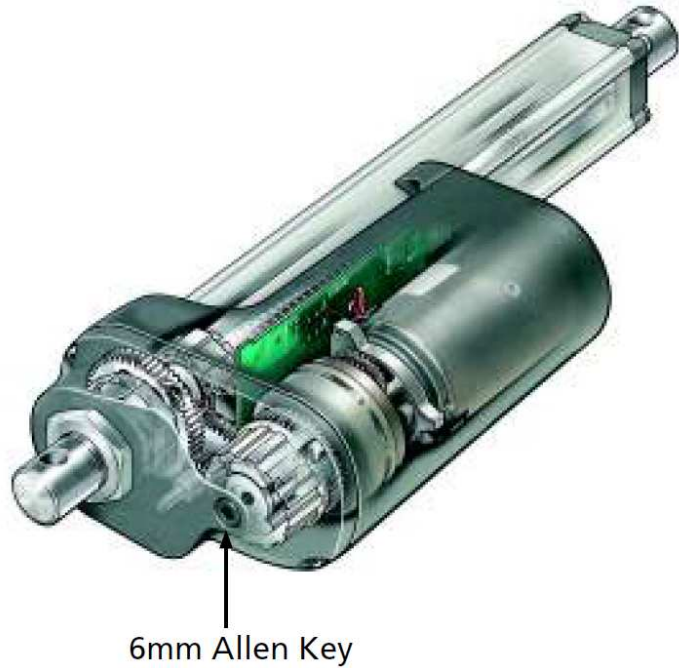
IMPORTANT: Before lowering completely, make sure the Sign cradle is lined up as shown.



Then fit the cover plug back on using the Allen key.

## Electric Actuator—Manual Hand Crank

The electric actuator is used to raise and lower the Sign Head. In the event of low voltage or defective batteries, the electric actuator can be manually lowered. Follow the instructions to complete this process. A 6mm Allen key (straight that can fit into a drill) can usually be obtained at a hardware store.



The cover over the socket must be unscrewed with the 6mm Allen key before the Hand Crank can be operated.

- Note:**
- The power supply has to be disconnected during manual operation, pull out the fuses.
  - If the actuator is operated as a Hand crank, it must be operated by hand or carefully by power tool (i.e. screwdriver), otherwise there is a potential risk of overloading and thereby damaging the actuator.
  - With stainless steel screws use 6mm Allen key

## Retractable Drawbar, if fitted

This DataSign-VMS is fitted with an easily retractable drawbar. The drawbar is in the retracted position for transport on the back of a truck (not towing) and to reduce the footprint on the ground when setup. Follow this procedure to extend the drawbar for towing.



Lower the two front legs. The outriggers may need to be extended slightly on the DataSign-A model. On all products, where the drawbar can be retracted: ensure the two front wind-down legs are lowered in the down position to prevent tipping whenever the drawbar is retracted.

Free the brake cable. The jockey wheel should only just touch the ground so there is no upward pressure on the drawbar; you should be able to wobble the drawbar. This ensures the pin can move freely.



Lift the pin and pull the drawbar out, until the pin drops into place again.

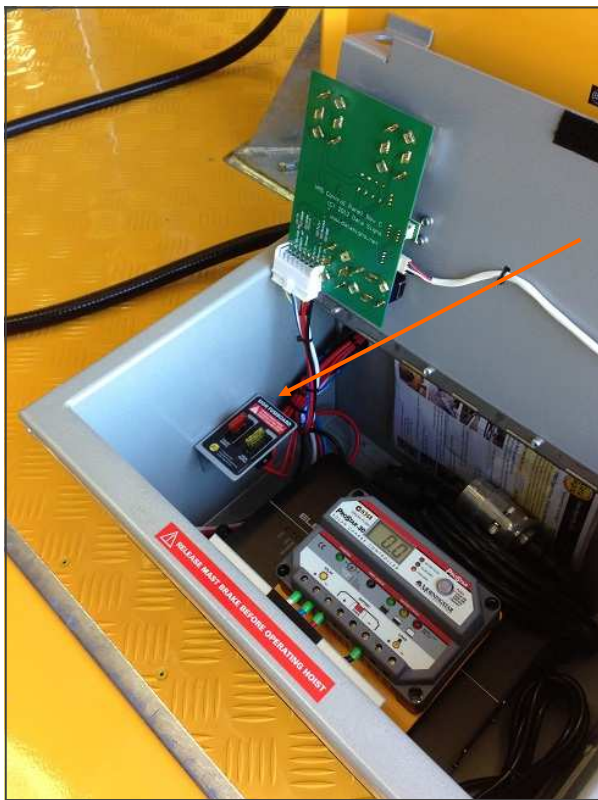


Slide lock-pin lever into bracket to holder and secure in place with a lock.

To retract the drawbar, lower the two front legs and ensure the jockey wheel is down, following the procedure above in reverse.

## Removing/Restoring Sign Power

Disconnect the power to the Sign for long-term storage (i.e. longer than a month), for transport, or when working on the Sign. To disconnect the power follow the instructions below.



Open the VMS Control box.

Lift the shelf/insert to access the fuse board.

To remove Sign power, pull out the SIGN SUPPLY fuse.

If working on the Sign for repair (i.e. welding) disconnect both fuses.

To restore Sign power, insert the SIGN SUPPLY fuse. Push down to ensure it is properly fitted.

**Notes for Undercover storage:** Storage outside is recommended so batteries can maintain charge via the solar array. If storing the Sign undercover for a long-term (i.e. over one month), unplug the SIGN SUPPLY fuse. Please be aware that the batteries *will* drain over time; therefore fitting a battery charger is recommended. Battery warranty is voided if batteries allowed to completely drain.

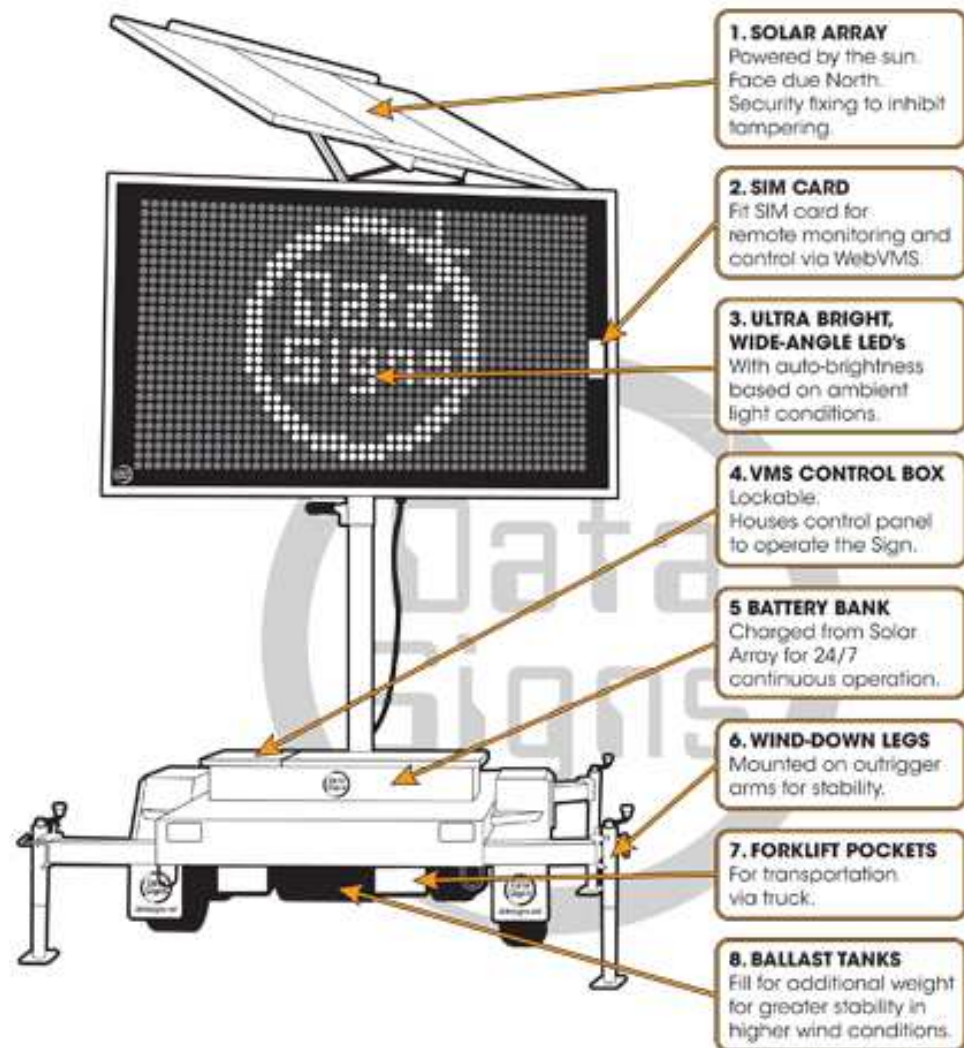
## Trailer Weight

The trailer weight is provided on the VIN plate. The VIN plate is located on the front of the trailer chassis, near the tow coupling. The actual weight of this VMS is listed as the TARE TRAILER MASS on the VIN plate. This is the weight of the trailer when it leaves one of our assembly plants, ready for operation. The DataSign-A, B & C models are fitted with a manual braking system as they are over 740kg in weight (as outlined in the Australian Design Rules).

## Sign Overview

The diagram below shows the location of parts commonly referred to throughout this manual.

Some parts are optional extras and may not be fitted to your Sign.



## Battery Voltage (and Fuses)

The Signs are fitted with either a fixed or STR solar array. The solar panels are used to charge a 12V battery array via a solar regulator. The battery array powers the Sign. The batteries are considered flat when they get below 10.5 V. Once the voltage on the batteries gets this low, the Sign will go into Battery Recharge mode and the display will blank. If your batteries are low, check the following items:



The solar regulator is situated in the VMS Control box. The LCD screen cycles through three settings, as indicated by the LED's to the right of the screen. Use the LCD screen to check the Battery Voltage and Solar Amps. NOTE: On the Voltech solar regulator, press the Page button on the left to scroll between values.

The Solar Amps reading shows the amount of power currently received from the solar array. In full sun the Solar Amps value can be above 18 Amps while the batteries are charging, however this value may vary once the batteries get fully charged.

The solar regulator has a clear button on it marked PUSH. Only push this button if you wish to turn solar charging off.



Ensure the solar panels are kept clean and free of dust.

The Sign should be positioned so the solar panels receive at least 6 hours of sunlight per day.



Check the Solar fuse is operational.



On some Signs there is also a small fuse on the bottom edge of the VMS Control Board, as pointed out in the photo.

## DataSign-VMS Usage Guidelines

Each state or territory has its own guidelines and training or accreditation requirements for the use of the DataSign-VMS on public roads, particularly for road works usage.

The usage and training requirements are outside the scope of documentation provided by Data Signs. The list below serves as a guide only; please contact the road traffic authority in your state or territory for more information.

- ◆ In New South Wales, refer to the *Traffic Control at Worksites* document released by the RTA/RMS. **Note the training requirements in section 2.4.**
- ◆ In Victoria, refer to the *Road Management Act 2004 – Worksite Safety – Traffic Management*, Code of Practice for guidance on the use of the DataSign-VMS on roads in Victoria. Note the training requirements.
- ◆ In Queensland, see the Traffic and Road Use Management (TRUM) manual that is issued under the authority of Section 166 of the *Transport Operations (Road Use Management) Act 1995*. Also see the *Manual of Uniform Traffic Control Devices (Queensland)*, which within the meaning of the *Transport Operations (Road Use Management) Act 1995*, contains the design of, and the methods, standards and procedures in relation to every sign, signal, marking, light or device, installed on a road. Training requirements are available from the Main Roads QLD website.
- ◆ In Western Australia, see the *Traffic Management for Works on Roads - Code of Practice*. Note the accreditation requirements. Also see the *Traffic Controllers' Handbook*.
- ◆ In South Australia, there is a Workzone Traffic Management course. For details, see: <http://www.transport.sa.gov.au/educational/training/workzone/wtmtp.asp>.
- ◆ Generally, the *Australian Standard AS 1742.3-2002: Manual of Uniform Traffic Control Devices, Part 3: Traffic Control Devices for Works on Roads* should also be consulted.

The DataSign-VMS are designed and manufactured by Data Signs Pty Ltd to *Australian Standard AS 4852.2-2009 Variable message Signs, Part 2: Portable Signs (where the ballast tanks, VMS COMPUTER, Solar Manual tilt-rotate (Manual STR) and Battery charger options have been fitted).*

## Sign Maintenance

This section details the Sign maintenance procedures. It is important that your Sign is regularly maintained to make certain that it is in continued working order. Note: The Warranty associated with your VMS may be voided if ad-hoc repairs outside the scope of this maintenance section are attempted.

### Solar Panels

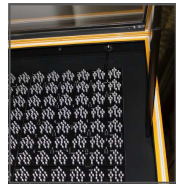
Keeping the Solar panels clean will ensure they are providing as much charge to the batteries as possible. To clean the Solar panels, ensure the Sign head is lowered and that the stabilizing legs are fully deployed. With a damp and soapy cloth, clean each of the panels, or hose them down (see General Cleaning section). The solar panels should be cleaned every month; or as often as possible, since they can quickly become dusty.

### Batteries



Lead acid batteries—including the sealed maintenance-free type—may produce flammable gases while charging. No naked flame should be allowed near the Signs. If replacing batteries, use the same rating and type of batteries. See the “About Batteries” document for more details regarding the batteries used in Data Signs’ products.

### Check Sign Head Seals

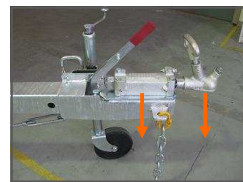


Occasionally, complete a visual check of the seals around inside the Sign head. Check that they are adhering and run straight around the Sign head. Otherwise, water ingress may occur.

### Graffiti

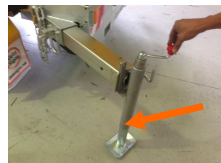
If the poly-carbonate screen on the Sign head is marked with graffiti, Data Signs can provide a safe-to-use cleaning product or anti-graffiti paint that can be applied on the Sign. Under no circumstances should abrasive solvents be used anywhere on the Sign. Do not use thinners. Methylated spirits can be used, if required. More details are available from Data Signs upon request.

### Hand Brake



After some months of use, the brakes should be checked. They may require adjustment. Use an authorised auto-mechanic for this. Also, grease using grease nipples (see photo) every 6 months.

### Wind Down Legs



Apply WD-40 or equivalent to the extension pole of the Wind Down Legs (Jack Stands) regularly.

## Trailer Wheels and Wheel Bearings



Regularly check the tyre pressure. At the same time check tyre condition and that the wheel nuts are tight. Every 6 months—and after a few months of use have a qualified mechanic check the wheel bearings. Grease the wheel bearings every 12 months under normal operating conditions. More frequently for adverse/harsh road or operating conditions. Further, check after having travelled 1500 km.

Torque setting for wheel nuts:  
**65lbs.ft or 90Nm**

The tyre pressures for each Sign model is listed in table. Ensure wheel nuts are tightened according to manufacturer specifications for this trailers’ tyre size. If unsure, contact your local mechanic.

Model	Pressure
DataSign-A	55 psi
DataSign-B, DataSign-C	55 psi

### General Cleaning

The front of the Sign head (poly-carbonate screen) and trailer can be hosed. However, the back of the Sign head should be carefully hosed as water ingress through fan ventilation louvers may cause water damage to the internal electronics. Avoid the fan ventilation louvers when hosing the back of the Sign head, shown. No abrasive solvents or thinners can be used anywhere on the Sign.



**No Hose Down Area!**

### Light Sensor Lens



The light sensors (photo-electric cells) lens is located on the back of the Sign head. This should be kept clean. The amount of light entering this lens affects the level of Sign display brightness.

### MODEL A/A5 Only: Resettable Fuse

If the Hoist Up/Down switch does not raise or lower the Sign, the fuse may need to be reset. As shown, the resettable fuse is located under the shelf in the VMS Control Box. Use a flat-head screw driver or similar to push the tab down in order to reset the fuse.

The resettable fuse is fitted to the DataSign-A and DataSign-A5 only. If the fuse constantly needs to be reset, have the Sign checked by a Data Signs service agent.

