



# PTL Compact Type 2 Operations and Maintenance Manual

## Controller QuickStart Guide

**NxG**

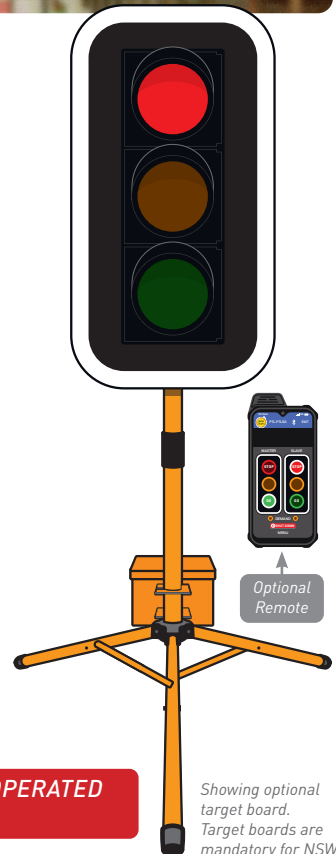


This QuickStart Guide covers the PTL Controller Operation as per Australian Standards AS- 4191:2015 and Various State Authority requirements.

For Advanced Features, download the Portable Traffic Lights Advanced Features Document, this covers the sections as follows:

1. All-Red Time, Yellow and Green Manual programming.
2. Additional operational modes. These are not part of the Australian Standards and may not apply to specific state Type approvals.
3. Additional features, Radio Link explained, Fault logging as per Australian Standards, troubleshooting guide.

This User Manual applies to Controllers operating on firmware 07.01.xx or later.



Showing optional target board.  
Target boards are mandatory for NSW.

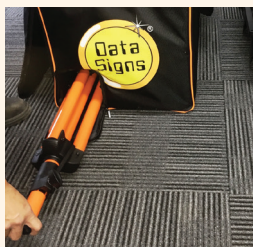


**THE PORTABLE TRAFFIC LIGHTS SHOULD ONLY BE OPERATED BY QUALIFIED TRAFFIC MANAGERS.**

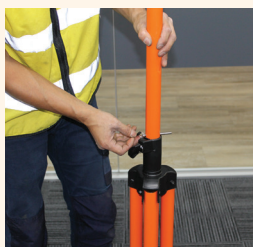
# ■ Installation - Setting Up for Operation



**Step 1:**



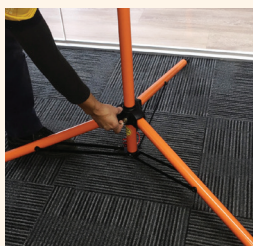
**Step 2:**  
Take out the stand.



**Step 3:**  
Loosen locking tab, lift the post to the pin-hole & place pin.



**Step 4:**  
Pull out spring pin and slide the tripod legs down to the first hole.



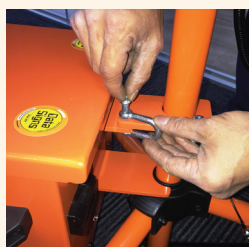
**Step 5:**  
Release the spring pin and ensure the tripod is locked.



**Step 6:**  
Fit Battery Box.



**Step 7:**  
Twist and fit around the post.



**Step 8:**  
Lock the holding bracket with a padlock or similar.



**Step 9:**  
Remove light from carry bag, pull spring pin and lower onto post.  
  
Release the pin into the fixing hole.



**Step 10:**  
Run cable down to base of stand.  
  
Wrap cable around the pole to keep it tidy



**Step 11:**  
Lift the flap and  
plug the cable in as  
shown.

Connect the aerial  
cable.



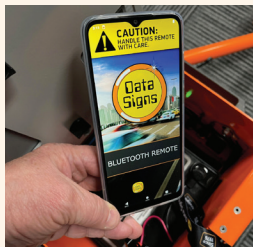
**Step 12:**  
Completed setup.



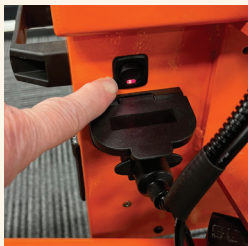
**Step 13:**  
To open control /  
battery box slide  
the locking pin  
underneath to the  
right.



**Step 14:**  
Open control panel  
to access  
PTL-Remote.



**Step 15:**  
PTL Remote taken  
out.



**Step 16:**  
Switch on power  
using switch as  
shown.

*Refer to Manual to use the PTL Remote.*

*To dismantle the unit use reverse process.*

## ■ Installation - Target Board Setup (if optional)



**Step 1:**  
Remove the four  
sides from the side  
pocket.



**Step 2:**  
Assemble this way.



**Step 3:**  
Attach top section  
to the 2 sides.

Line up the tick  
marks.



**Step 4:**  
Place the  
assembled sections  
over the lamps as  
shown



**Step 6:**  
Now, assemble the  
bottom panel as  
shown.



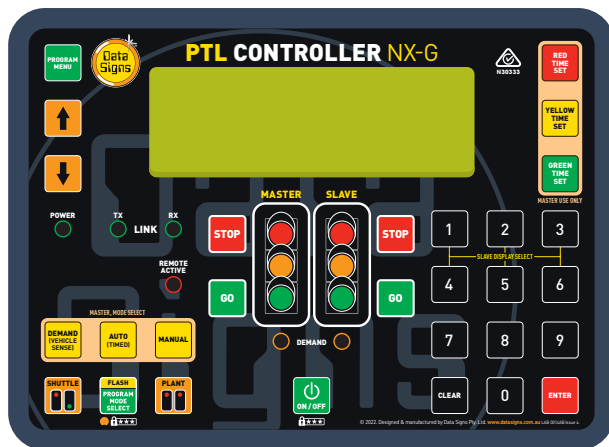
Optional 20Kg  
Ballasts shown



Turning the Lights On	6
QUICK START	7
Controller display screens for Master and Slave	8
Shuttle Control – Single-Lane Usage	9
Plant-Crossing Control – 2 way Traffic	12
Yellow Flash mode	14
Setting All-Red, Yellow & Green Times	15
Auto-Return Functions	16
Other Menu Items for Basic PTL Operation	17



## ■ Turning the Lights On



To turn the lights on, press and hold



(and enter code if required).

Do this to the Slave, then the Master.

The Master and the Slave controllers will begin to establish a radio link as indicated by the **TX** and **RX** green lights on the controllers.

Both lights will show Flashing Yellow aspects and progress to showing RED aspects.


Also, the Controllers will complete a self-diagnosis and check any connected external equipment such as the *optional* vehicle detectors.


The Controllers will start up in the last mode that was set.






If **FLASH PROGRAM MODE SELECT** is activated, the Controller will wait for further input and all connected traffic lights will display Flashing Yellow when End OPERATION is selected.

The message: SYSTEM OPERATING will be displayed.

You can select to End OPERATION by selecting the  & **ENTER** buttons, or press **ENTER** to keep the Lights operating in the background while you make changes on the fly such as Light timing, Auto return type, change Manual to Auto or Demand Modes, or most other menu items.

Press the  button to exit the selected MENU and return to the main screen.

After PROGRAM MODE selections are made, press either  or  buttons to resume normal operation.











To turn the lights off, press and hold the  button.

Note the controller will remain on as indicated by a slow pulse on the POWER indicator. (And continue to communicate with DS-Live if a DataSign SIM Card is fitted).

# ■ QUICK START

M	A	I	N		M	E	N	U								[	A	U	T	O	]
		V	I	E	W		P	T	L		S	T	A	T	U	S					
*		Q	U	I	C	K		S	T	A	R	T									
		U	N	I	T		S	E	T	T	I	N	G	S							

The Quick Start Menu item is used to get your PTL Lights set up in a few simple steps:

1. After selecting the Quick Start Menu, select  for Master or  for Slave operation and press .
2. Select the RF Channel or press  to keep current channel.
3. Press  for OPERATION (*TEST is only used when units are joined*).
4. Enter the work site length, followed by site speed and finally the time which to set the lights on GREEN.  
(*for SLAVE you only need to set the site length.*)
5. Select DEMAND, AUTO or MANUAL   .
6. Finally, select Shuttle  or  Plant Crossing operation.

The current MODE setting is shown on the top display line in between square brackets, i.e. [AUTO] as per above display screen.

- **AUTO (TIMED)** AUTO MODE of operation. *For this Manual, AUTO will always mean (Automatic Timed Mode).*
- **DEMAND** is Vehicle-actuated MODE of operation. Vehicle detectors **MUST** be fitted. *For this Manual, DEMAND will always mean Vehicle-actuated.*
- **MANUAL** is Manual MODE of operation.
- **YELLOW FLASH** is active while Program Mode and End OPERATION is selected.

**For more detailed programming of any of these items see the Advance Functions Document.**

# Controller Display Screens for Master and Slave

**Master ID=0** The following values will be shown on the display panel during normal operation

1	2	.	1	V		G	S	M	:	N	/	A			1	2	.	4	V	
		A	U	T	O	-	T	I	M	E	D									
S	H	U	T	T	L	E	:	2							G	R	E	E	N	
C	H	A	N	N	E	L	:	1			S	1			0	5	6	S	e	c

**First line:** Master Battery Voltage, GSM status. Right side, alternates between Slave Battery Voltage and Signal Strength.

**Second line:** Current MODE in use or Warnings, i.e. LID OPEN.

**Third line:** Alternates between Control Type (i.e. *SHUTTLE:2*) and AUTO Return Type (*AR:RED, AR:GRN, AR:OFF*). Right side, Current light sequence.

**Fourth line:** Alternates between Current Time (if GSM module fitted), Current RF Channel, or other communication mode.

Right side, Current state remaining time of light phase.

**Slave ID=1 (up to slave 5)** The following values will be shown during normal operation:

U	N	I	T		I	D	:	S	L	A	V	E	1		1	2	.	4	V
C	H	A	N	N	E	L	:	1											
C	O	N	N	E	C	T	E	D		T	O	:			1	2	A	4	5
T	I	M	E	O	U	T		I	N	:			0	5		S	e	c	

**First line:** The ID of this unit. Right side, current Battery Voltage.

**Second line:** RF Channel set on this unit.

**Third line:** The Serial Number of the Master Controller this unit (Slave) is connected to.

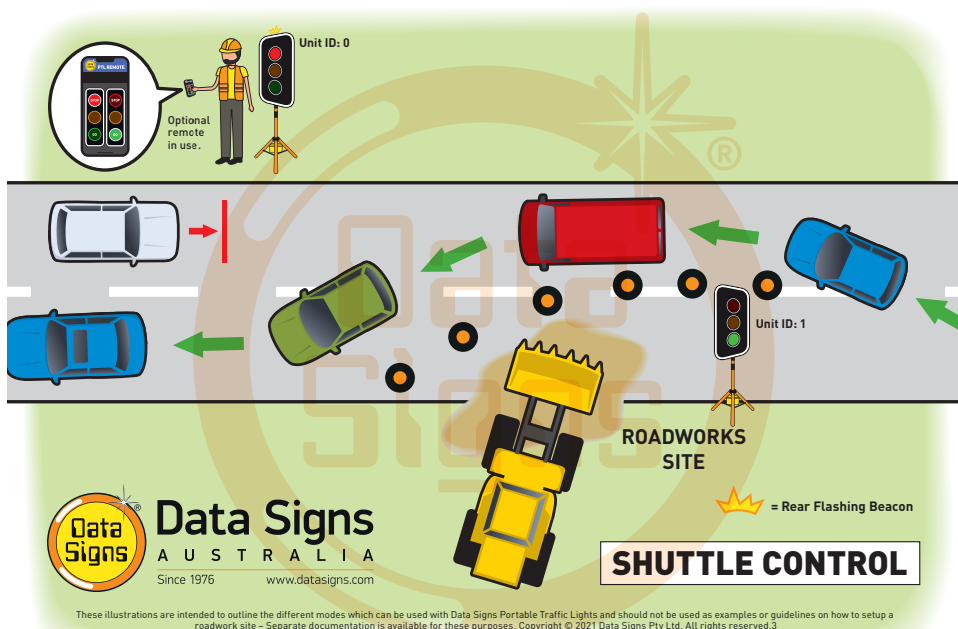
**Fourth line:** The current RF timeout value. If this starts to count down there are interruptions to the RF communications. *For more information regarding the radio link, see the Radio Link Explained in the PTL Advance Features Document.*



## ■ Shuttle Control – Single-Lane Usage

Shuttle Control is a form of traffic control used where a portion of the roadway is closed so that only a single lane can be used alternatively by traffic from opposite directions. Only one Portable Traffic Light unit can show the Green signal phase at any time; either the Master or the Slave. The diagram below illustrates the traffic control scenario where Shuttle control would typically be used.

*Note: This diagram should not be used as a guideline for setting up a roadwork site, it is provided as an example only.*



Each PTL unit will go to the Green signal phase in turn, with the All Red sequence in between each green phase. See Appendix 1 for more details.

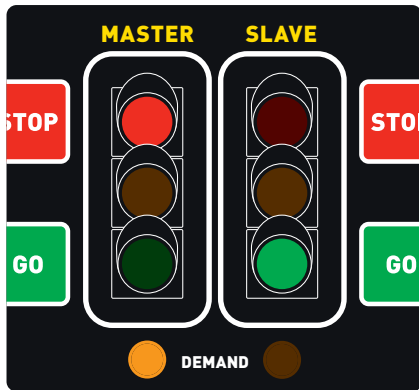
## SHUTTLE: MANUAL MODE.

Buttons used:

**MASTER:** STOP  or GO 

*Manual mode is used when an operator wants to control the traffic. On start-up, both the Master and Slave will rest on All-Red phase until a demand for Green phase is entered.*

To enter a demand for either Red or Green phase, press the **STOP** or **GO** buttons.



**Master / Slave Controller**



**PTL Remote Screen**

### Shuttle Control, Manual mode example:

1. Slave unit is currently showing the Green signal phase.
2. Master: **GO** button is pressed.
3. If the Minimum Green time has expired, the Slave will cycle immediately to Yellow and then Red. If the Minimum Green time has not expired, the Master DEMAND LED will flash.
4. Once the Minimum Green time has expired, the Slave will cycle to Yellow and then Red. *The DEMAND LED will turn off once demand has been met.*
5. Both Master and Slave now show Red signal phase for the pre-set All-Red interval.
6. The Master then cycles to Green **and remains on Green** until a Slave **GO** or a Master **STOP** button is pressed, the sequence can then be repeated.
7. If Auto Return is set, the light will return back to Red or Green on the Master.

*In Manual mode the signal phases can remain indefinitely on Green/Red, Red/Green or All-Red.*

## SHUTTLE: AUTO MODE



**IT IS EXTREMELY IMPORTANT THAT THE ALL-RED INTERVAL IS SET CORRECTLY FOR EACH TRAFFIC CONTROL SITUATION.**

Buttons available for HOLD-RED/RESUME feature:

**MASTER:** STOP  or GO 

In AUTO mode, the Portable Traffic Lights will operate in cyclic order according to the pre-set times.

## PAUSE – HOLD ALL-RED / RESUME

While in AUTO Mode, the operator can Pause and (hold) on All-Red.

Press the **STOP** button to hold All-Red for as long as required. The display will show 'PAUSING'. To resume the AUTO mode, press the **GO** button.

## SHUTTLE: DEMAND MODE

(optional vehicle detectors must be fitted)

Buttons available to introduce artificial demands:

**MASTER:** STOP  or GO 

For DEMAND mode to operate, the optional Vehicle Detector must be fitted to each Portable Traffic Light unit. A "NO VEHICLE DETECTOR" message will appear on the Master Controller display if no vehicle detector is attached and the DEMAND mode is selected.

The vehicle detector is preset to detect and create a DEMAND signal when vehicles approach the Portable Traffic Light at speeds between 10 km/h and 80 km/h. However, this can be changed, using the UNIT SETTINGS menu on both the Master and Slave units.

See also **SUB-MENU: OPERATING SETTINGS - DEMAND CYCLE**

## REAR BEACON LAMP

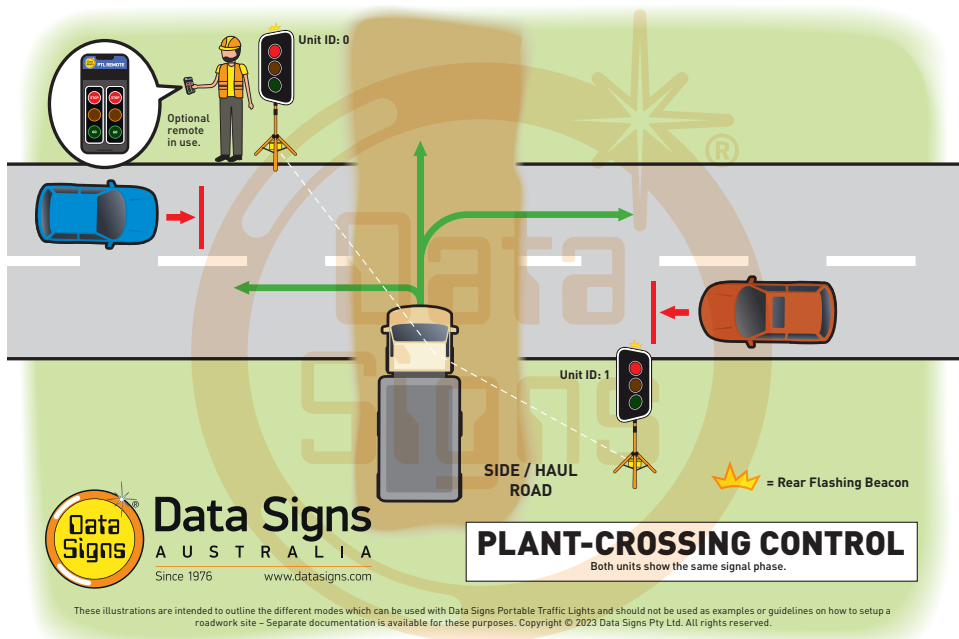
When enabled, the Beacon Lamps mounted behind the lights flash when the Red Light is ON.

This acts as a visual indicator to the Traffic controller that the Light is on Red, it also serves as a 'caution light' to oncoming traffic.

# Plant-Crossing Control 2 way through traffic usage

Plant-Crossing control is used to enable both directions of traffic flow along a roadway to be simultaneously stopped, e.g. to allow road construction vehicles to cross. The diagram below illustrates Plant-Crossing control usage.

*Note: This diagram should not be used as a guideline for setting up a roadwork site, it is only provided as an example.*



*Normally, the operator would use a Remote Control to change the Master and Slave units to the Red signal phase when a plant vehicle requires thoroughfare.*

## REAR BEACON LAMP

When enabled, the Beacon Lamps mounted behind the lights flash on each unit when the Red Lights are ON. This acts as a visual indicator to the Plant (vehicles) Crossing the road that it is safe to do so.

## PLANT CROSSING: MANUAL MODE.

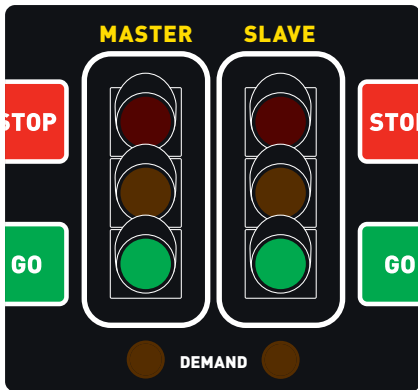
Buttons used:

**MASTER:** STOP  or GO 

On start-up, both the Master and Slave will rest on Green signal phase for Plant-Crossing Control until a demand for Red signal is entered by the operator.

The operator can enter a demand for All-Red signal using either the Master: **STOP** or Slave: **STOP** buttons. Both the Master and Slave units will then cycle to Yellow and the Red signal.

To change back to Green signal, either the Master: **GO** or Slave: **GO** button is pressed. When the All-Red time has expired, the lights will cycle back to the Green signal.



Master / Slave Controller



PTL Remote Screen

### Plant-Crossing Control, Manual mode example:

1. Both the Master and Slave are on the Green signal phase.
2. Either the Master: **STOP** or Slave: **STOP** buttons are pressed.
3. If the Minimum-Green time has expired *both* the Master and Slave will cycle immediately to Yellow and then to Red. Otherwise - if the Green time has not expired - the DEMAND LED's will flash.
4. Once the Green time has expired, the Master and Slave will cycle to Yellow and then Red. The DEMAND LED will turn off once the demand has been met.
5. Both the Master and Slave now show Red for the preset All-Red interval.
6. **If the Auto-Return option is enabled and set to Green**, the Master and Slave will cycle back to Green signal phase automatically after the All-Red interval has expired.

## PLANT CROSSING: AUTO MODE



**IT IS EXTREMELY IMPORTANT THAT THE ALL-RED INTERVAL IS SET CORRECTLY FOR EACH TRAFFIC CONTROL SITUATION.**

In AUTO mode, the Portable Traffic Lights will operate in cyclic order according to the pre-set times. AUTO mode allows plant vehicles to regularly cross over the road, or to turn onto the road. This would suit sites with heavy plant traffic.

## PLANT CROSSING: DEMAND MODE


You can use Vehicle sensors fitted with swivel adaptors to detect traffic from the side roads to allow for DEMAND activated operation. When a demand is detected both lights will cycle to RED and then return back to GREEN after the RED Programmed time interval.



## PAUSE – HOLD ALL-RED / RESUME

While in AUTO Mode, the operator can Pause and (hold) on All-Red.







Press the **STOP** button to hold All-Red for as long as required. The display will show 'PAUSING'. To resume the AUTO mode, press the **GO** button.

## ■ YELLOW FLASH mode

The Flashing Yellow mode operates in response to specific fault conditions or it is active when the PROGRAM MODE SELECT  button is pressed and changes are being made.

If flashing yellow is required as the operation mode, press the  button again and then the select  button.

*Note: As part of standards requirements, the Lights will go through the START-UP sequence which includes lights going to ALL-Red prior to the FLASH mode starting.*

To exit the FLASH Mode, press the  button, select End OPERATION, then you must select either    before finally selecting either  or .



# ■ Setting All-Red, Yellow & Green Times

Normally the RED and GREEN TIMES ARE automatically calculated DURING QUICK START

## RED TIME SET

### ALL-RED INTERVAL TIME

*Default time: 20 seconds. Range: 1 to 300 seconds.*

The All-Red interval is the period of time that the lights on both the Master and Slave units remain on the Red phase simultaneously. This allows for the clearance of traffic within the controlled area.


*See Appendix 2 for detailed diagram.*

## YELLOW TIME SET

### YELLOW TIME SET

*Default: 5 seconds. Range: 4 to 9 seconds.*

The Yellow time is the duration at which the light on the Master or Slave units is held on the Yellow signal when moving from Green to Red phase.

Enter 4 to 9 seconds and then press the  button. The Australian Standard allows for 4 to 5 seconds.

## GREEN TIME SET

### GREEN TIME SET

This button displays a MENU allowing either Minimum Green Time, Green Extension Time or Maximum Green Time to be set.

### GREEN TIME - MINIMUM Green Time

*Default: 10 seconds. Range: 1 to 99 seconds.*

The Minimum Green time is the minimum time that the Green signal phase is on.

The Australian Standard allows for a range of 5 to 99 seconds for the minimum green time.

### DEMAND Triggered Green Extension Time

*Default: 5 seconds. Range: 1 to 99 seconds.*

The Green Extension time is the interval of Green phase that will be extended (up to the MAXIMUM Green time) on each occurrence of vehicle detection while the Green phase is active.

For example: Units are running in Shuttle Control, DEMAND mode. The Slave is currently on the Red signal phase. A vehicle is detected on the Slave. The Slave will then change to the Green signal phase. The Green extension time applies if additional vehicles are detected on the Slave while it is on the Green signal phase.

*Note: Once the MAXIMUM green time is reached but additional DEMANDS are received, the Lights will cycle to Red but a DEMAND will be registered as indicated by the Demand light. See Appendix 1 for illustration.*

*You can set the Green Extension time for ALL the units currently being used, or you can select to set the Green Extension time for a specific unit.*

### MAXIMUM Green Time

*Default: 15 seconds. Range: 10 to 300 seconds.*

The Maximum Green time is the maximum time-period at which an light on the Master or the Slave units can be held on the Green signal phase.

## ■ Auto-Return Functions

Auto-Return is a function that allows for the lights to **return-back** to a specified signal state after they have processed a demand. Auto-Return applies to DEMAND and MANUAL modes.

Options available for Auto-Return:

- **OFF:** Select this option to turn Auto-Return off. *Default setting.*
- **RED:** The Master PTL Auto-Returns to RED after the GREEN signal Phase. For PLANT CROSSING both the Master and Slave Auto-Return to RED.
- **GREEN:** The Master PTL returns to GREEN after the RED signal phase. For PLANT CROSSING both the Master and Slave Auto-Return to GREEN.


Auto return options can be selected by pressing the DEMAND and MANUAL buttons.

The Auto-Return function is shown on the LCD display as:

A R : O F F

A R : R E D

A R : G R N

Select SUB-MENU: OPERATING SETTING and press  to select the AUTO RETURN menu.

### UNIT SETTINGS:

#### SUB-MENU: COMMUNICATION INTERNET

##### DS-Live™ INTERNET Mode:

*(Good Mobile Internet service is required for this to work)*

This allows control for your lights from the DS-Live platform.



Currently up to 8 units can be controlled with full programmable timing control.

It allows use of the PTL units when line of sight limitations or conditions that prevent normal operation of the lights. For example; in hilly area or distances greater than what the RF link will provide.

Note: All PTL controlled from DS-Live must be fitted with a Data Signs SIM card and be subscribed the the DS-Live platform.

For use and instruction manual for this mode of operation refer to the DS-Live Platform.

## ■ Other Menu Items for Basic PTL Operation

While the Controller is in PROGRAM SELECT, use the  or  buttons to navigate forward and back through the MENU's to select all other programming functions.

Press the  button to exit the selected MENU and return to the main screen.

**Note: for more comprehensive information see the PTL Advanced Features Manual.**

### MENU: VIEW PTL STATUS

When this menu item is selected, all the current settings and status of the PTL controller are shown. This is very useful to diagnose and check the current setup.

### MENU: QUICK START

This menu item is used to get your PTL set up in a few simple steps: *As per page 7.*

### MENU: UNIT SETTINGS

Use this menu to set the Communications, ID (Master or Slave) and Vehicle Detector settings.

### MENU: LID OPEN

Used to enable the LID Open Alarm function.

### MENU: PING INTERVAL

See PTL Advanced Features Manual for more information.

### MENU: OPERATING SETTINGS **FOR CONTROLLER SET AS MASTER ONLY**

#### SUB-MENU: OPERATING SETTINGS



##### DEMAND CYCLE [Default: 3 minutes]

In DEMAND mode, if there are no vehicles detected, you can set period of time that an automatic demand cycle is introduced. If the DEMAND CYCLE value is set to 0, no automatic demand cycle will be introduced. Otherwise specify the minutes to wait where no vehicles are detected before introducing an automatic demand cycle.

##### CONTACT TIME OUT [Default: 5 Seconds]

Increase this time if RF link fails often (or change RF Channel)

**For more menu items under the 'Operating settings Menu', see the Advanced Features Manual. This document is not intended to cover all the possible Operating Settings.**

Selecting the  or  button will EXIT the Program mode and resume SHUTTLE or PLANT modes.

## ■ The SD Card

The PTL Controller is fitted with a SD card.

This is used for Software upgrades and to store Fault Logs.

## ■ Wireless Link Explained

Each Traffic Light is fitted with an aerial located on the top of the lights. This will provide Wireless Radio communication between the PTL units; however, the units still need to be positioned in line-of-sight to each other.

The maximum distance between the Master and Slave PTL's is about 500m, depending on surrounding environment.

The radio link module fitted to the PTL unit communicates on one of eight channels. This must be set to the same channel on each unit to maintain wireless communication. This applies to the Master, Slave, and the Remote Control.

### Radio Link Operation

If the radio link between the Master and a Slave unit is disrupted for a continuous 2 second period (the default time) all units will revert to red lights and the system will restart, however if the radio link is lost for more than 1 minute the, system will restart in Startup Mode and all lights will be blank.

### Signal Strength

The Remote Control will display the signal strength of the Master Controller to the PTL Remote as a Graphic symbol in the top right corner on the display. The Master and Slave Controllers display the Signal Strength and the Battery Level on the display. The RF Signal Strength is a value out of 5, where 5 is the strongest value.

See also, *MENU: RF RANGE TEST* on page 30.




# Fault Conditions

If any fault conditions occur as discussed throughout this document, the Portable Traffic Lights will go to Red.

All critical faults are logged to a file on the SD card fitted to the Master Controller.

The faults logged are outlined below. Reference back to the Australian Standard is provided in the table.

Fault ID	Description
0	Yellow
1	Red
2	Green
3	Beacon
6	Excessive Link
7	Conflicting Link
8	Link Timeout
10	Low Battery
11	Tilt

To view the current fault log file, select **FAULT LOG → VIEW LOGS** from the  PROGRAM MENU. Use the  and  arrow buttons to move through the fault log entries.

The last fault logged is shown first.

A sample fault log entry may be:

F	A	U	L	T		L	O	G		(	1	/	1	)					
X	X	/	X	X	/	X	X	X	X		0	0	:	0	0	:	1	4	
0	0		-			M	A	S	T	E	R								
Y	e	l	l	o	w		(	O	p	e	n	)							

The time shown with each fault log entry is the time that this fault occurred since the Master Controller was powered up. The second part is the Portable Traffic Light unit affected (i.e. Slave#2 or Master). The last part of the entry is the fault description.

You can also use an SD card reader on a laptop/PC to read the fault log files from the SD card. The file will be in the LOGS directory on the SD card.

Turn the Controller OFF via switch and remove the SD card from its slot, leave the power OFF while re-inserting the SD card.

## ■ Troubleshooting Guide

This section contains some tips on handling some of the issues that may arise when using the Traffic Lights. If you cannot resolve the issue you are experiencing using the information below, please contact Data Signs on the Help Desk Via [datasigns.com.au](https://datasigns.com.au). As discussed above, the Fault Log stored on the SD card in the Master Controller may assist in issue diagnosis.

### Turning the Controller On

If the POWER light does not come on when the switch is turned to **ON**:

- Check that the controller connector is inserted properly.
- Check the fuse inside the keypad controller (next to the 16 pin connector) and on the battery fuse board.
- Check that the battery voltage is above 10.5 Volts.

### Radio Wireless Link failure

If the radio wireless link fails regularly, try changing the Channel set on all Controllers, as some interference may be occurring on the operating channel. Power-cycle each unit after the Channel has been set correctly

### SD Card Failure

**Never insert or remove the SD-Card with the power on, switch OFF first.**

In the case of SD card failure, you will be notified on the display. Default values will be used if the SD card fails. All parameters can be changed, however they will not be saved, so you will need to enter your desired parameters each time the Master Controller is turned on, until the SD card is replaced.

*Note: the SD card must only be 2GB Max. To replace the SD Card purchase this from Data Signs, Parts online.*

### Lights Not Working

Check the connections on the controller or the lights.  
See also Aspect Test Menu item on *pages 30*.

## ■ Maintenance

1. **Battery level.** Always ensure unit is fully charged for a full days work. Charge overnight, including the PTL-Remote.
2. **Keep Clean.** Always keep the light lenses clean.
3. **Cables.** Ensure cable are secured and not frayed or loose from the connectors.
4. **Test and Tag Battery Charger.** Use an authorised service provider to regularly test and tag the battery charger.



# ■ Glossary of Terms and Abbreviations

## **Advanced Manual**

Manual to assist with higher level set up and configuration, test processes.

## **Aspects**

The actual lights or housing that contains the Lights.

## **Beacon**

The orange indicator on the BACK of the Traffic lights.

This is to indicate (from the back) when the RED Aspect is ON.

## **CHN**

Channel Number used for the Radio Link.

## **HRC**

Hand-Held Radio Controller.

This term is interchangeable with PTL Remote.

## **ID**

Identification Number

0 = Master. 1 or Higher = Slave.

## **Lights**

Actual Traffic signal Lamps.

Red, Yellow and Green.

## **PTL**

Portable Traffic Light.

## **PTL-Compact**

A Type-2 PTL Controller

## **PTL-Stop-N-Go**

A simplified version of the PTL series of products. Can 'only' operate PTL-Type-1.

## **PTL-Trailer**

A fully autonomous solar powered Traffic Light consisting of a Master and Slave set.

## **PTSU**

Portable Traffic Signal Unit.

This term is interchangeable with PTL.

## **PTL Remote**

This term is interchangeable with HRC.

This is the Hand Held Remote that is used to exclusively control all the PTL Signal changes, control the Lights ON/OFF function as well as other functionality as described in this Manual.

## **RF**

Radio Frequency used for the Radio Link.

## **SD**

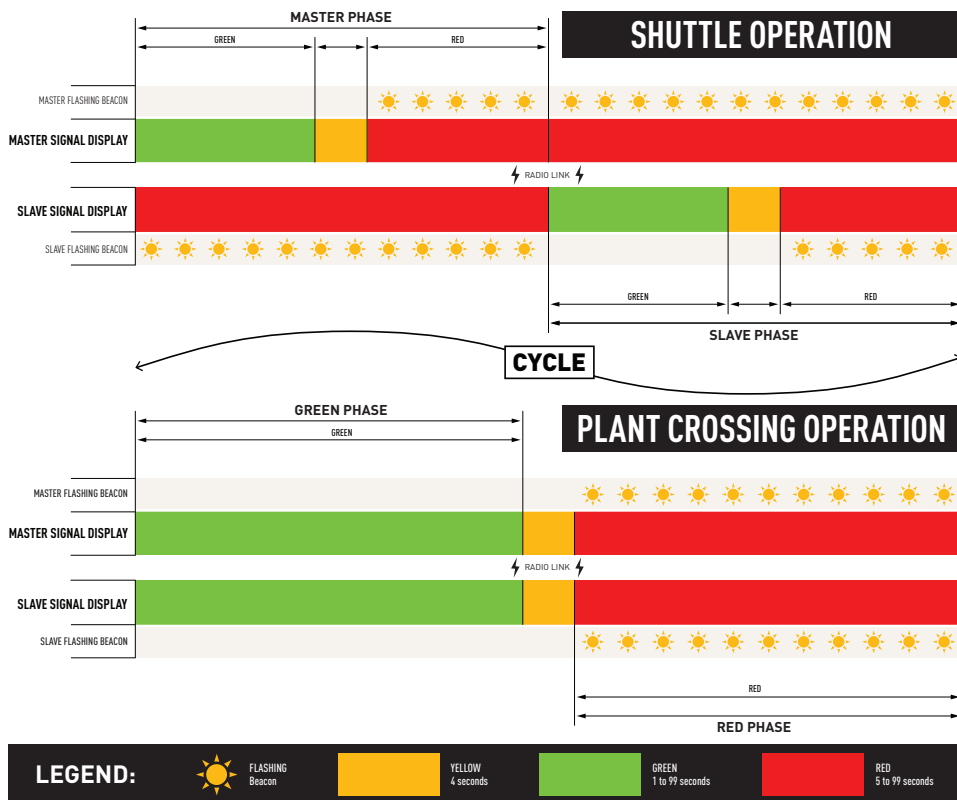
Storage Device Memory Card. Used for setup, fault logs, firmware upgrade, Bluetooth PIN.

## **SIG**

Signal Strength used for the Radio Link.

## APPENDIX A

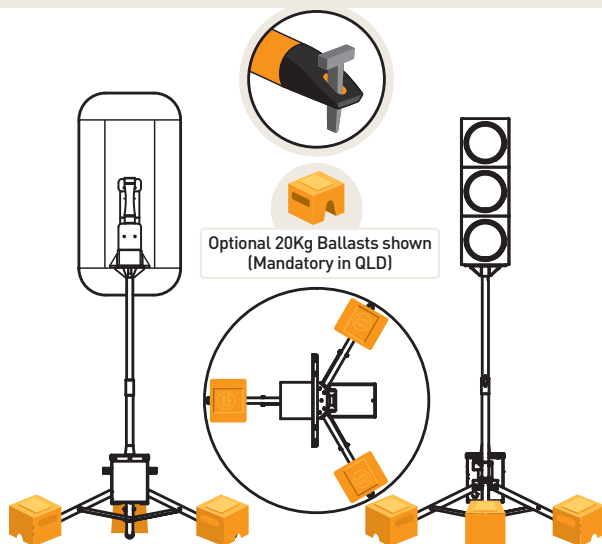
# Cycle and Phase Intervals for Shuttle and Plant Crossing Modes



# WIND LOADING

RATING FOR 20M/SECOND (72 Kph)

The PTL is fitted with Peg Feet.  
Where suitable you can secure it with pegs instead of weights.



Note: Your PTL has a TILT sensor which will indicate on the PTL-Remote if the unit is tilted by more than 20 degrees (*i.e. It has fallen over*).

This manual complies with the Specification *MRTS264 Type-1 Portable Traffic Signals* and *TSI-SP-062,049* and 50 where relevant *AS4191-2015 Portable Traffic Signals*.

## Suggestions & Improvements

Data Signs develops its products with the end users in mind. As such, we are always open to suggestions for product improvement. Contact Data Signs, Head Office in Australia at: [datasigns.com.au/help](https://datasigns.com.au/help)

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