

Owner's Manual



VR2



R-NET LED



R-NET LCD

▶ Controller System Operation

Table of Contents

1.VR2 Controller Operation

1.1 Controls/JSM	1
1.2 Button/Indicator	1
1.3 Control System Status indication	4
1.4 Module Wiring	7
1.5 VR2 Locking / Unlocking The Wheelchair	9

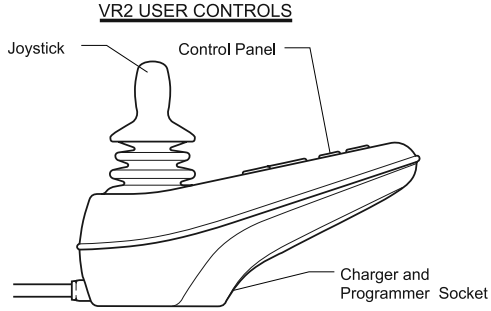
2.R-NET Controller Operation

2.1 Controls/JSM-LED	10
2.1.1 Button/Indicator	10
2.1.2 Control System Status indication	13
2.1.3 R-net Locking / Unlocking The Wheelchair	15
2.2 Controls/Color JSM	16
2.2.1 Button/Screen	17
2.2.2 Settings Menu	21
2.3 Module Wiring	23
2.4 ISM Actuators Channels	25

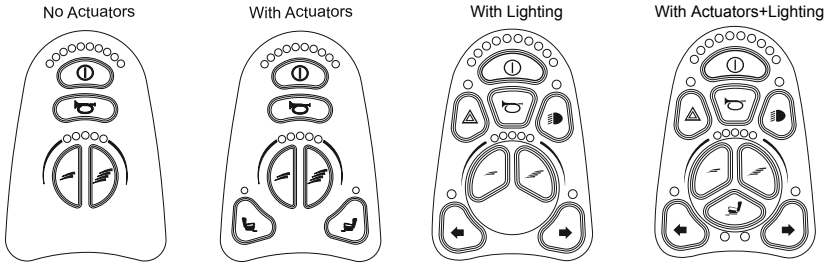
3.Charger Connector	29
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1.VR2 Controller Operation

1.1 Controls/JSM

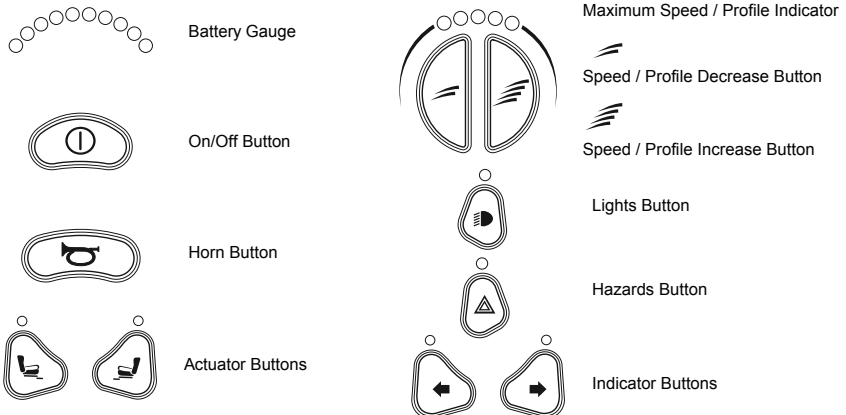


Front Control Panel Details



1.2 Button/Indicator

VR2 CONTROL BUTTONS



ON/OFF BUTTON AND BATTERY GAUGE

The on/off button applies power to the control system electronics, which in turn supply power to the wheelchair's motors. Do not use the on/off button to stop the wheelchair unless there is an emergency. (If you do, you may shorten the life of the wheelchair drive components).

The battery gauge shows you that the wheelchair is switched on. It also indicates the operating status of the wheelchair. Details are given in section

MAXIMUM SPEED / PROFILE INDICATOR

This is a gauge which shows the maximum speed setting for the wheelchair or, if the control system is programmed for drive profile operation, the selected drive profile.

This gauge also indicates if the speed of the wheelchair is being limited or if the control system is locked.

1. MAXIMUM SPEED INDICATOR

This is a gauge that shows the maximum speed setting of the wheelchair. There are five speed settings – step 1 is the lowest speed and step 5 is the highest speed. For details of how to change the maximum speed setting.

2. PROFILE INDICATOR

This is an indicator that shows the selected drive profile. There may be up to 5 drive profiles available, this depends on the programming of the control system .

HORN BUTTON

The horn will sound while this button is depressed.

SPEED / PROFILE DECREASE BUTTON

This button decreases the maximum speed setting or, if the control system is programmed for drive profile operation, selects a lower drive profile.

It is possible to program the control system so this button has no effect while the wheelchair is being driven.

SPEED / PROFILE INCREASE BUTTON

This button increases the maximum speed setting or, if the control system is programmed for drive profile operation, selects a higher drive profile.

It is possible to program the control system so this button has no effect while the wheelchair is being driven.

ACTUATOR BUTTONS AND LEDS

Depending on whether the wheelchair is fitted with one or two actuators, the operation of these buttons will differ. Refer to the relevant section below.

LIGHT BUTTON INDICATOR

To turn on the wheelchair's lights operate this button, the associated LED will illuminate continuously. If the LED flashes a short circuit in the lighting circuit has been detected.

Depress the light button to turn off the lights and associated LED.

LEFT TURN INDICATOR BUTTON AND LED

To turn on the wheelchair's left turn indicator operate this button, the associated LED will flash at the same rate, synchronously with the indicator.

If the LED flashes rapidly either a total short circuit, a single lamp open circuit or a total open circuit in the left side indicator circuit has been detected.

Depress the left indicator button to turn off the indicators and associated LED.

RIGHT TURN INDICATOR BUTTON AND LED

To turn on the wheelchair's right turn indicator operate this button, the associated LED will flash at the same rate, synchronously with the indicator.

If the LED flashes rapidly either a short circuit, a single lamp open circuit or an open circuit in the right side indicator circuit has been detected.

Depress the right indicator button to turn off the indicators and associated LED.

HAZARD WARNING BUTTON AND LED

To turn on the wheelchair's hazard warning lamps operate this button, the associated LED will flash at the same rate. The left and right turn indicator LEDs will also flash

If the LED's flash rapidly either a short circuit, a single lamp open circuit or an open circuit in the entire indicator circuit has been detected.

Depress the hazard warning button to turn off the lights and associated LED.

1. WHEELCHAIRS WITH ONE ACTUATOR

Depressing either actuator button will enter actuator adjustment mode. This will be indicated by the illumination of both actuator LEDs. Actuator adjustment can then be made by deflecting the joystick. To re-enter drive mode, depress either actuator button.

2. WHEELCHAIRS WITH TWO ACTUATORS

Depressing either actuator button will enter actuator adjustment mode. If the left button was depressed the associated LED will be illuminated, and deflection of the joystick will adjust the actuator motor connected to that channel. If the right button was depressed the associated LED will be illuminated and deflection of the joystick will adjust the actuator connected to the other channel.

To re-enter drive mode depress the selected actuator button, as indicated by the associated LED.

To select the other actuator, depress the opposite actuator button. It is also possible to select the other actuator by left or right movements of the joystick. This alternative selection method is dependent on the programming of the control system.

1.3 Control System Status indication

The battery gauge and maximum speed / profile indicator show the status of the control system.

A number of supposedly defective control systems returned to us are subsequently found to operate correctly. This indicates that many reported faults are due to wheelchair problems rather than the control system.

1.3.1 Battery Gauge is Steady

This indicates that all is well.

1.3.2 Battery Gauge Flashes Slowly

The control system is functioning correctly, but you should charge the battery as soon as possible.

1.3.3 Battery Gauge steps Up

The wheelchair batteries are being charged. You will not be able to drive the wheelchair until the charger is disconnected and you have switched the control system off and on again.

1.3.4 Battery Gauge Flashes Rapidly (even with the joystick released)

The control system safety circuits have operated and the control system has been prevented from moving the wheelchair.

This indicates a system trip, i.e. the VR2 has detected a problem somewhere in the wheelchair's electrical system. Please follow this procedure.

- Switch off the control system.
- Make sure that all connectors on the wheelchair and the control system are mated securely.
- Check the condition of the battery.
- If you can't find the problem, try using the self-help guide given in section 1.5.
- Switch on the control system again and try to drive the wheelchair. If the safety circuits operate again, switch off and do not try to use the wheelchair.

Contact your service agent.













1.3.5 Self-Help Guide

If a system trip occurs, you can find out what has happened by counting the number of bars on the battery gauge that are flashing.

Below is a list of self-help actions. Try to use this list before you contact your service agent. Go to the number in the list which matches the number of flashing bars and follow the instructions.

If the problem persists after you made the checks described below contact your service agent.

* If the programmable parameter, Motor Swap has been enabled, then left and right hand references in this table will need transposing.

- | | |
|---|--|
| 1 Bar
 | The battery needs charging or there is a bad connection to the battery. Check the connections to the battery. If the connections are good, try charging the battery. |
| 2 Bar
 | The left hand motor* has a bad connection. Check the connections to the left hand motor. |
| 3 Bar
 | The left hand motor* has a short circuit to a battery connection. Contact your service agent. |
| 4 Bar
 | The right hand motor* has a bad connection. Check the connections to the right hand module. |
| 5 Bar
 | The right hand motor* has a short circuit to a battery connection. Contact your service agent. |
| 6 Bar
 | The wheelchair is being prevented from driving by an external signal. The exact cause will depend on the type of wheelchair you have, one possibility is the battery charger is connected. |
| 7 Bar
 | A joystick fault is indicated. Make sure that the joystick is in the center position before switching on the control system. |
| 8 Bar
 | A control system fault is indicated. Make sure that all connections are secure. |
| 9 Bar
 | The parking brakes have a bad connection. Check the parking brake and motor connections. Make sure the control system connections are secure. |
| 10 Bar
 | An excessive voltage has been applied to the control system. This is usually caused by a poor battery connection. Check the battery connections. |
| 7 Bar + S
 | A communication fault is indicated. Make sure that joystick cable is securely connected and not damaged. |
| 8 Bar + A
 | An Actuator trip is indicated. If more than one actuator is fitted, check which actuator is not working correctly. Check the actuator wiring. |

1.3.6 Slow or sluggish movement

If the wheelchair does not travel at full speed or does not respond quickly enough, and the battery condition is good, check the maximum speed setting. If adjusting the speed setting does not remedy the problem then there may be a non-hazardous fault. Contact your service agent.

1.3.7 Maximum Speed / Profile Indicator is Steady

The display will vary slightly depending on whether the control system is programmed to operate with drive profiles.

(1) Maximum Speed Indication

The number of LEDs illuminated shows the maximum speed setting. For example, if the setting is speed level 4, then the four left hand LEDs will be illuminated.

(2) Profile Indication

The LED illuminated shows the selected drive profile. For example, if drive profile 4 is selected, then the fourth LED from the left will be illuminated.

1.3.8 Maximum Speed / Profile Indicator Ripples Up and Down

This indicates the control system is locked.

1.3.9 Maximum Speed / Profile Indicator Flashes

This indicates the speed of the wheelchair is being limited for safety reasons. The exact reason will depend on the type of wheelchair, however, the most common cause is that the seat is in the elevated position.

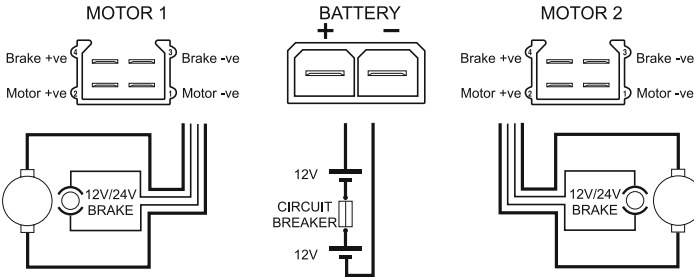
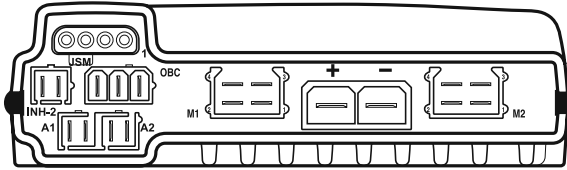
1.3.10 Actuator Led Flashes

This indicates that the Actuator(s) may be inhibited in one or both directions.

1.4 Module Wiring

1.4.1 Power Module Wiring

VR2 POWER MODULE CONNECTIONS



INHIBIT 2



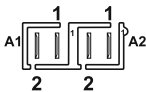
INH-2	Function
1	0V
2	Inhibit 2

ON-BOARD CHARGER



OBC	Function
1	Battery +ve
2	Inhibit 3
3	0V

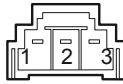
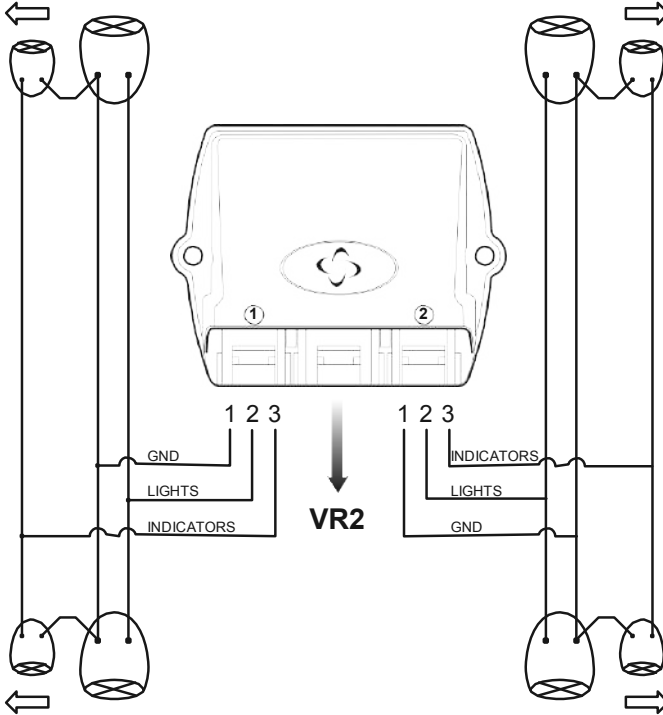
ACTUATORS



Joystick Movement	Pin 1	Pin 2	Actuator Movement
Forward	+ve	-ve	Channel Up
Backward	-ve	+ve	Channel Down

1.4.2 Lighting Module Wiring

LIGHTING MODULE WIRING DETAIL



LOOKING AT LIGHTING MODULE

Connection	Function
Pin1	Ground
Pin2	Lights
Pin3	Indicators

1.5 VR2 Locking / Unlocking The Wheelchair

The VR2 control system can be locked to prevent unauthorized use. The locking method is via a sequence of key presses and joystick movements, as detailed below.

To lock the wheelchair:

- While the control system is switched on, depress and hold the on/off button.
- After 1 second the control system will beep. Now release the on/off button.
- Deflect the joystick forwards until the control system beeps.
- Deflect the joystick in reverse until the control system beeps.
- Release the joystick, there will be a long beep.
- The wheelchair is now locked.

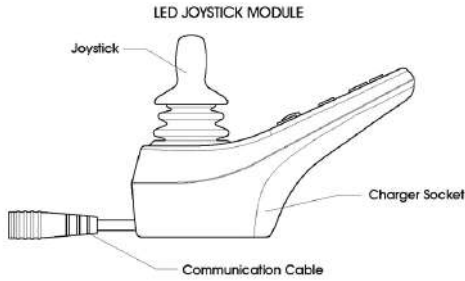
To unlock the wheelchair:

Use the on/off button to switch the control system on. The maximum speed / profile indicator will be rippling up and down.

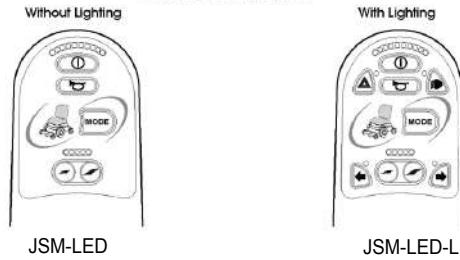
- Deflect the joystick forwards until the control system beeps.
- Deflect the joystick in reverse until the control system beeps.
- Release the joystick, there will be a long beep.
- The wheelchair is now unlocked.

2.R-NET Controller Operation

2.1 Controls/JSM-LED

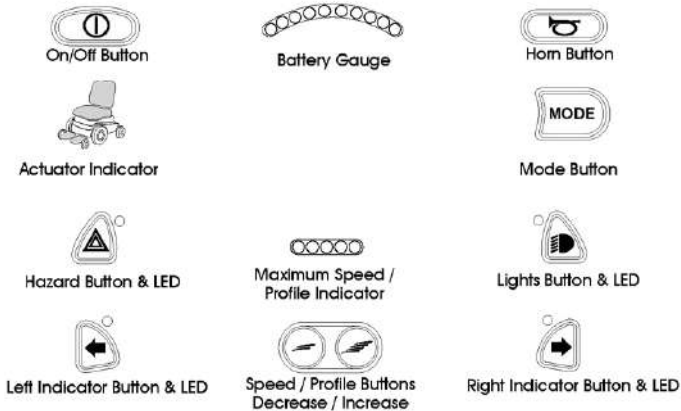


CONTROL PANEL VARIANTS



2.1.1 Buttons/Indicator

BUTTONS



Battery Gauge

The battery gauge shows you that the wheelchair is switched on. It also indicates the operating status of the wheelchair. Details are given in section 3.

If the battery gauge shows red, yellow and green, the batteries are charged. (LEDs 1 – 10)

If the battery gauge shows just red and yellow, then you should charge the batteries as soon as you can. (LEDs 1 – 7)

If the battery gauge shows just red, either steady or flashing slowly, then you should charge the batteries immediately. (LEDs 1 – 3)

On/Off Button

The On/Off button applies power to the control system electronics, which in turn supply power to the wheelchair's motors. Do not use the On/Off button to stop the wheelchair unless there is an emergency. (If you do, you may shorten the life of the wheelchair drive components).

Horn Button

The Horn will sound while this button is depressed.

Maximum Speed / Profile Indicator

This is a gauge which shows the maximum speed setting for the wheelchair or, if the control system is programmed for drive profile operation, the selected drive profile.

This gauge also indicates if the speed of the wheelchair is being limited or if the control system is locked.

Maximum Speed Indicator

This is a gauge that shows the maximum speed setting of the wheelchair. There are five speed settings – step 1 is the lowest speed and step 5 is the highest speed.

Profile Indicator

This is an indicator that shows the selected drive profile. There may be up to 5 drive profiles available, this depends on the programming of the control system.

Speed / Profile Decrease Button

This button decreases the maximum speed setting or, if the control system is programmed for drive profile operation, selects a lower drive profile. It is possible to program the control system so this button has no effect while the wheelchair is being driven.

Speed / Profile Increase Button

This button increases the maximum speed setting or, if the control system is programmed for drive profile operation, selects a higher drive profile. It is possible to program the control system so this button has no effect while the wheelchair is being driven.

Mode Button

The Mode button allows the user to navigate through the available operating Modes for the control system. The available modes are dependent on programming and the range of auxiliary output devices connected to the control system.

Actuator Indicator

This LED set displays which Actuator channel is currently being controlled when the Control System is in Actuator Mode. The actuators can be programmed to work in multiple ways.

Actuator selection and operation is achieved using the Joystick.

- Motions to the Left or Right select different actuator channels. Motions
- Forward and Backwards move the actuator(s) selected.

Hazard Warning Button and LED

This button activates and de-activates the wheelchair's hazard lights. Depress the button to turn the hazards on and depress the button again to turn them off. When activated the hazard LED and the indicator LEDs will flash in sync with the wheelchair's indicators.

Lights Button and LED

This button activates and de-activates the wheelchair's lights. Depress the button to turn the lights on and depress the button again to turn them off. When activated the lights LED will illuminate.

Left Indicator Button and LED

This button activates and de-activates the wheelchair's left indicator. Depress the button to turn the indicator on and depress the button again to turn it off. When activated the left indicator LED will flash in sync with the wheelchair's indicator(s).

Right Indicator Button and LED

This button activates and de-activates the wheelchair's right indicator. Depress the button to turn the indicator on and depress the button again to turn it off. When activated the right indicator LED will flash in sync with the wheelchair's indicator(s).

2.1.2 Control System Status indication

The battery gauge and maximum speed /profile indicator show the status of the control system.

A number of supposedly defective control systems returned to us are subsequently found to operate correctly. This indicates that many reported faults are due to wheelchair problems rather than the control system.

Battery Gauge is Steady

This indicates that all is well.

Battery Gauge Flashes Slowly

The control system is functioning correctly, but you should charge the battery as soon as possible.

Battery Gauge Steps Up

The wheelchair batteries are being charged. You will not be able to drive the wheelchair until the charger is disconnected and you have switched the control system off and on again.

Battery Gauge Flashes Rapidly (even with the joystick released)

The control system safety circuits have operated and the control system has been prevented from moving the wheelchair.

This indicates a system trip, i.e. the R-net has detected a problem somewhere in the wheelchair's electrical system. Please follow this procedure:

- Switch off the control system.
- Make sure that all connectors on the wheelchair and the control system are mated securely.
- Check the condition of the battery.
- If you can't find the problem, try using the self-help guide given in section 3.7.
- Switch on the control system again and try to drive the wheelchair. If the safety circuits operate again, switch off and do not try to use the wheelchair.

Contact your service agent.

Speed Indicator Ripples Outwards

In this instance the LEDs make a ripple motion starting with the middle LED and then stepping outwards on both sides. The Control System has detected that a new module has been added and is reconfiguring.

Speed Indicator LEDs 2 & 4 Flash

Speed 2 + 4 When the control system requires a reboot; for example, after a module re-configuration, the second and fourth speed indicator LEDs will flash.















Self-Help Guide

If a system trip occurs, you can find out what has happened by counting the number of LEDs on the battery gauge that are flashing.

Below is a list of self-help actions. Try to use this list before you contact your service agent. Go to the number in the list which matches the number of flashing LEDs and follow the instructions.

If the problem persists after you have made the checks described below contact your service agent.

1 LED 	The battery needs charging or there is a bad connection to the battery. Check the connections to the battery. If the connections are good, try charging the battery.
2 LED 	The left hand motor* has a bad connection. Check the connections to the left hand motor.
3 LED 	The left hand motor* has a short circuit to a battery connection. Contact your service agent.
4 LED 	The right hand motor* has a bad connection. Check the connections to the right hand motor.
5 LED 	The right hand motor* has a short circuit to a battery connection. Contact your service agent.
6 LED 	The wheelchair is being prevented from driving by an external signal. The exact cause will depend on the type of wheelchair you have.
7 LED 	A joystick fault is indicated. Make sure that the joystick is in the center position before switching on the control system.
8 LED 	A possible control system fault is indicated. Make sure that all connections are secure.
9 LED 	The parking brakes have a bad connection. Check the parking brake and motor connections. Make sure the control system connections are secure.
10 LED 	An excessive voltage has been applied to the control system. This is usually caused by a poor battery connection. Check the battery connections.
7 LED + S 	A communication fault is indicated. Make sure that the joystick cable is securely connected and not damaged.
Actuator Flash 	An Actuator trip is indicated. If more than one actuator is fitted, check which actuator is not working correctly. Check the actuator wiring.

* If the programmable parameter, Motor Swap has been enabled, then left and right hand references in this table will need transposing.

Slow or Sluggish Movement

If the wheelchair does not travel at full speed or does not respond quickly enough, and the battery condition is good, check the maximum speed setting. If adjusting the speed setting does not remedy the problem then there may be a non-hazardous fault.

Contact your service agent.

Maximum Speed / Profile Indicator is Steady

The display will vary slightly depending on whether the control system is programmed to operate with drive profiles.

Speed Indication

The number of LEDs illuminated shows the maximum speed setting. For example, if the setting is speed level 4, then the four left hand LEDs will be illuminated.

Profile Indication

The LED illuminated shows the selected drive profile. For example, if drive profile 4 is selected, then the fourth LEDs from the left will be illuminated.

Maximum Speed / Profile Indicator Ripples Up and Down

This indicates the control system is locked.

Maximum Speed / Profile Indicator Flashes

This indicates the speed of the wheelchair is being limited for safety reasons. The exact reason will depend on the type of wheelchair, however, the most common cause is that the seat is in the elevated position.

2.1.3 R-NET Locking / Unlocking The Wheelchair

To lock the wheelchair using the keypad;

- While the control system is switched on, depress and hold the On/Off button.
- After 1 second the control system will beep. Now release the On/Off button
- Deflect the joystick forwards until the control system beeps.
- Deflect the joystick in reverse until the control system beeps.
- Release the joystick, there will be a long beep.
- The wheelchair is now locked.

The following screen will be displayed, the next time the Control System is switched on.

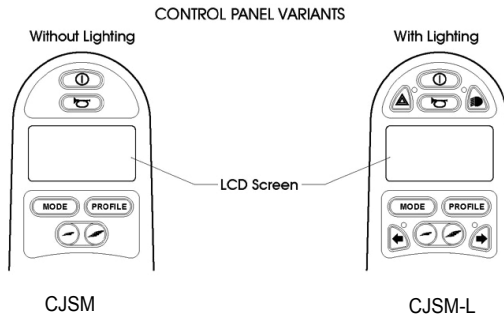
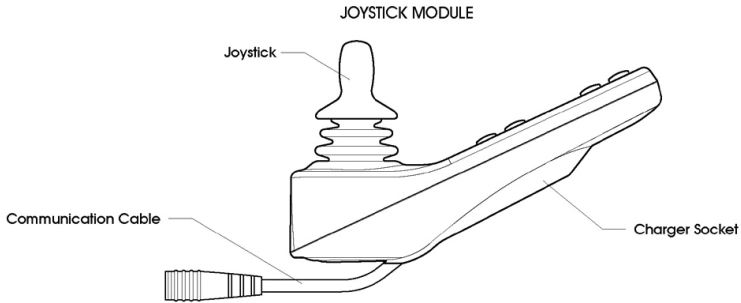


If an LED Joystick Module is fitted the Speed Indicator LEDs will ripple from left to right. Refer

To unlock the wheelchair:

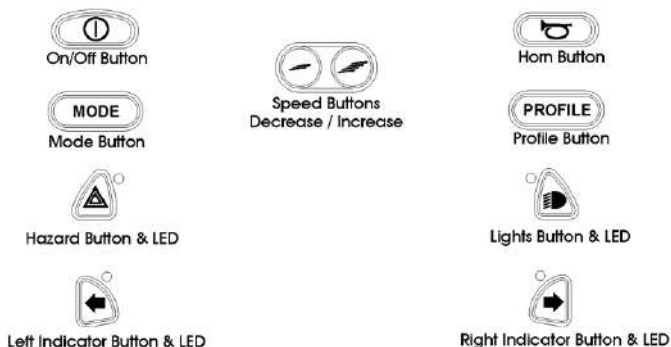
- If the control system has switched off, press the On/Off button.
- Deflect the joystick forwards until the control system beeps.
- Deflect the joystick in reverse until the control system beeps.
- Release the joystick, there will be a long beep.
- The wheelchair is now unlocked.

2.2 Color Joystick Modules



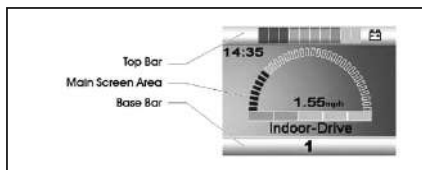
2.2.1 Buttons/Screen

BUTTONS



LCD Screen - Color

This section covers those Joystick Modules that are fitted with a color LCD screen. The color LCD screen is split into 3 areas of information. The Top Bar, the Base Bar and the Main Screen Area.



Each area is covered separately within this section.

Top Bar

Battery Indicator



This displays the charge available in the battery and can be used to alert the user to the status of the battery.

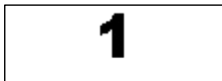
Steady: This indicates that all is well.

Flashing Slowly: The control system is functioning correctly, but you should charge the battery as soon as possible.

Stepping Up: The wheelchair batteries are being charged. You will not be able to drive the wheelchair until the charger is disconnected and you have switched the control system off and on again.

Focus

When the control system contains more than one method of direct control, such as a secondary Joystick Module or a Dual Attendant Module, then the Module that has control of the wheelchair will display the In Focus symbol.

**Base Bar
Current Profile**

The currently selected Profile is shown in numeric form.

Motor Temperature

This symbol is displayed when the control system has intentionally reduced the power to the motors, in order to protect them against heat damage.

Control System Temperature

This symbol is displayed when the control system has intentionally reduced its own power, in order to protect itself against heat damage.

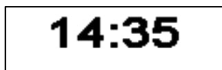
Main Screen Area

:: Drive Screen ::

Profile Name



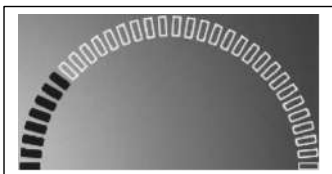
This is a text string that displays the name of the currently selected Profile. The name is programmable. Refer to the programming section for details.

Clock

This displays the current time in a numeric format. The clock is user adjustable. Adjustable options are:

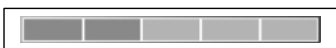
- Visibility, whether the clock is displayed on screen.
- The display format, 12 or 24 hour.
- The time, the user can adjust the time.

Speed Display



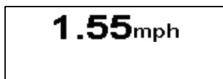
This gives a proportional display of the wheelchairs speed. The Arc begins at 0% and has a programmable maximum.

Maximum Speed Indicator



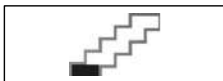
This displays the current maximum speed setting.

Digital Speed Display



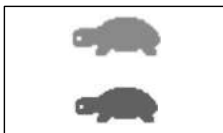
This displays the actual speed of the wheelchair derived from the motors. The display can be set to mph or km/h.

Latched



When the control system is operating in a latched condition this symbol will be displayed.

Inhibit



If the speed of the wheelchair is being limited; for example, by a raised seat, then this orange symbol will be displayed.

If the wheelchair is being inhibited from driving, then this red symbol will be flashing.

:: Mode Screen ::

Actuator Mode



Displays the sections of the chair currently selected for movement, the name given to the selection and a direction arrow showing what sort of movement is available.

Message Window



The R-net displays warning icons and informational messages, in a dedicated message window.

Restart



When the control system requires a reboot; for example, after a module re-configuration, this symbol will be flashed.

Timer



This symbol is displayed when the control system is changing between different states. An example would be entering into Programming Mode. The symbol is animated to show the sands falling.

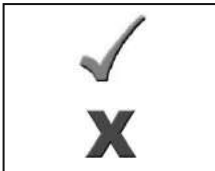
Sleep



This symbol will be displayed for a short time before the R-net enters into a sleep state.

Cross & Tick

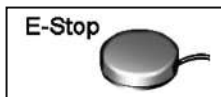
These symbols will be displayed during configuration procedures.



Process completed correctly.

Process not completed correctly.

E-stop



If the External Profile Switch is activated during drive, or actuator operation, this symbol will be displayed.

Joystick Displaced



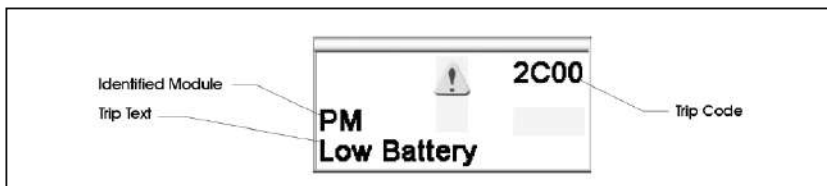
If you operate the Joystick before or just after you switch the control system on, the screen will flash the joystick displaced screen. You must release and center the Joystick to resume normal operation. If you do not release the Joystick within five seconds the wheelchair will not be able to move, even if you release the Joystick and operate it again. The screen will display a diagnostic screen at this time. You can reset this condition by switching the control system off and on again.

Control System Locked



The Control System can be locked in one of two ways. Either using a sequence of deflections and presses with a Joystick or with a physical Key. How the Control System is locked depends on how the wheelchair manufacturer has programmed it.

Diagnostic Screen



When the control system safety circuits have operated and the control system has been prevented from moving the wheelchair a diagnostics screen will be displayed.

This indicates a system trip, i.e. the R-net has detected a problem somewhere in the wheelchair's electrical system.

2.2.2 Settings Menu



The Settings Menu allows the user to adjust the CJSM display in terms of clock adjustment and display format, the brightness of the backlight, the background color and the behavior of the odometer. The menu is accessed by depressing the Speed Down and Speed Up buttons simultaneously. A typical Settings Menu display would be as below.

Each of the menu items are described in the following sections.

Set Time

A right joystick deflection will enter a clock adjustment screen in which further joystick deflections are used to set the time.

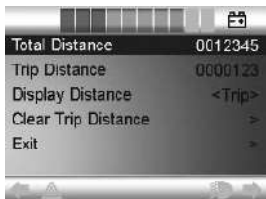
Display Time

This sets the format of the time display or turns it off.

The options are 12hr, 24hr or Off. Left and right joystick deflections are used to change between the options.

Distance

This sets the functionality of the odometer and a screen as below will appear.



Total Distance	This is a value held in the Power Module and relates to the total distance driven using that Power Module.
Trip Distance	This is a value held in the CJSM and relates to the total distance driven since the last reset.
Display Distance	Sets whether Total Distance or Trip Distance appears as the odometer display on the CJSM.
Clear Trip Distance	A right joystick deflection will clear the Trip Distance value.
Exit	A right joystick deflection will return to the Settings Menu.

Backlight

This sets the intensity of the LCD backlight.

The adjustable range is 0% to 100% in steps of 10%. Adjustments are made with left and right joystick deflections.

Background

This sets the color of the screen background. Blue is the standard, but in very bright sunlight then a white background will make the display more visible.

The options are Blue, White and Auto. Left and right joystick deflections are used to change between the options.

Blue means the background will be blue in all Profiles.

White means the background will be white in all Profiles.

Auto means the color will be set by the programmable parameter, Background, which can be set to be different across the Profiles. For example, blue for the slower Profiles that are for indoor use and white for the faster Profiles intended for outdoor use. For more details of the parameter, Background, refer to the relevant section in the Programming chapter.

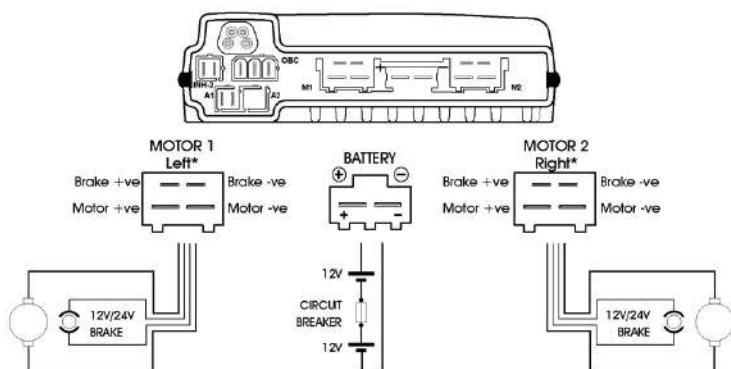
Exit

Exits the Settings Menu back to normal operation.

2.3 Module Wiring

2.3.1 Power Module Wiring

The following diagram gives details of the LED Power Module connections



* Assumes no Motor Swap programming has been undertaken

Joystick Movement	M1		M 2		Actual Movement	
	Motor +ve	Motor -ve	Motor +ve	Motor -ve		
Forward	+ve	-ve	+ve	-ve	Forward	**
Backward	-ve	+ve	-ve	+ve	Backward	**

** Assumes no Joystick Orientation, Invert M1 Direction or Invert M2 Direction programming has been undertaken

INH-2	Function
1	0V
2	Inhibit 2

Joystick Movement	Pin 1	Pin 2	Actuator Movement
Forward	-ve	+ve	Channel Up
Backward	+ve	-ve	Channel Down

* Assumes no Joystick Orientation programming has been undertaken

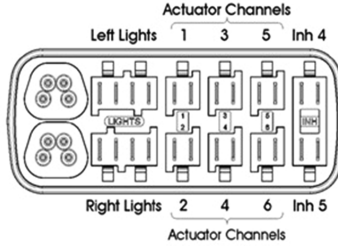
ON-BOARD CHARGER	OBC	Function
3	1	Battery +ve
2	2	Inhibit 3
1	3	0V

The Power Module is shipped with rubber bungs inserted into some of the connectors. The A2 connector is blank and covered with a rubber bung. This should not be removed. Only remove the rubber bung from the required connectors.

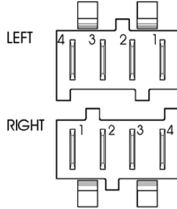
2.3.2 ISM Wiring

The following diagram gives details o the ISM connections

Model: ISM-X-L
X=4 , Actuator channels 1~4 Axis
6 , Actuator channels 1~6 Axis
L=Lights Function

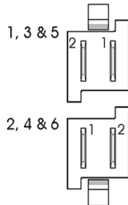


LIGHTS



Lights	Function
1	Gnd
2	Lights
3	Indicator
4	Brake/Horn

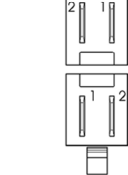
ACTUATORS



Joystick Movement	Pin 1	Pin 2	Actuator Movement
Forward	-ve	+ve	Channel Up *
Backward	+ve	-ve	Channel Down *

* Assumes no Joystick Orientation or Invert Axis Direction programming has been undertaken

INHIBITS

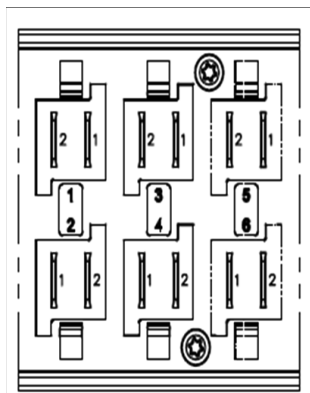


INHIBIT - 4	Function
1	0V
2	Inhibit 4

INHIBIT - 5	Function
1	0V
2	Inhibit 5

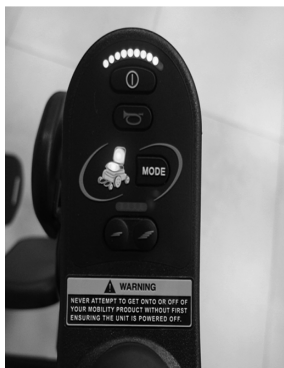
The ISM is shipped with rubber bungs inserted into some of the connectors.
 Only remove the rubber bung from the required connectors.

2.4 ISM Actuators Channels



- Channel 1 : Tilt
- Channel 2 : Recline
- Channel 3 : L-ELR
- Channel 4 : R-ELR
- Channel 5 : Seat Elevator
- Channel 6 : Footplate

JSM-LED Actuators Display



Tilt



Recline



L-ELR



R-ELR



L/R-ELR
or
Footplate

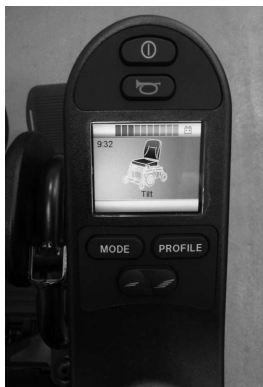


Recline+L/R-ELR
or
Recline+ Footplate

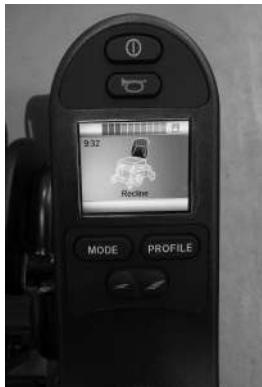


Seat Elevator

JSM-LCD Actuators Display



Tilt



Recline



L-ELR



R-ELR



L/R-ELR



Footplate



Recline+L/R-ELR



Recline+Footplate



Seat Elevator

3. Charger Connector

An Off-Board Charger can be connected to the Joystick Module's charger connector. The charger connector is Neutrik 3 pin type NC3FPP or equivalent, and the maximum charging current is 12A rms. Only chargers fitted with Neutrik NC3MX plugs should be connected into the Joystick Module. The pin connections of the charging socket are as below.

Pin	Connection
1	Battery Positive
2	Battery Negative
3	Inhibit

