R-NET OMNI
USER GUIDE

Raise Chair

ENGLISH

Contents

1 R-Net Omni Owner's Manual

This manual details the basic functions of the R-Net Omni. Please read it carefully as it contains important safety, care and maintenance information

This manual is a supplement to and should be read in conjunction with your Magic Mobility Power Wheelchair Owner's Manual

Magic Mobility endeavours to supply a wide variety of features and options to meet the needs of the user. However, final selection and specifications of the Omni and special input devices to be used by any individual rests solely with the user and his/her healthcare professional capable of making such a selection. When third party parts or assembly has taken place, we strongly advise you seek additional instructions for use

1.1 Intended Use

The R-Net Omni is intended to enable the use of alternative specialty input devices (SIDs) as a means of controlling your Power Wheelchair both indoors and outdoors

All SIDs are highly customisable and are programmed to suit individual requirements. Your healthcare professional or Magic Mobility Dealer can provide full instruction on your particular set up at the time of delivery

SIDs include, but are not limited to:
- Joysticks
- Head Arrays
- Button Arrays
- Sip and Puff
- Scanners
- Chin Controls

Magic Mobility is not liable for damage to property or personal injury arising out of unsafe use of a power chair. Magic Mobility is also not liable for any property damage or personal injury arising out of the failure of any person and/or user to following the instructions and recommendations set forth in this manual

If you experience any problems with your R-Net Omni that you are unable to solve, or if you do not feel capable of safely following any of the instructions and/or recommendations as contained in this manual, please contact your Magic Mobility dealer.

2 Controls and Connections

The Omni is an interface that takes inputs from a variety of Specialty Input Devices (SIDs) so that they are compatible with PG Drives Technology R-net control systems

Figure 1 - Hardware: Controls and Connections

3   LCD Screen

The backlit colour LCD screen shows Omni configuration details

On/Off Button
The On/Off button provides a complete power down of the Omni electronics

Mode Button

The Mode button toggles between the available Modes

Profile Button

The Profile button toggles between the available Drive Profiles

- / + Buttons

The - / + speed adjustment buttons allows incremental speed adjustments within each profile. This can also be achieved using Speed Adjust Mode. Holding both buttons down at the same time launches the Settings menu

Charger Socket

The 3 pin socket can be used to charge the wheelchair batteries and to lock the wheelchair. For battery charging, refer to your Magic Mobility Power Wheelchair Owner's Manual

Communications Connector

This connector links the Omni to the R-net system

Port 1 and Port 2: D-type Specialty Input Device (SID) Connectors

These provide connection/s to your SID/s

User Jack 1 and User Jack 2: User Switch Jacks

Two 3.5mm (⅛") jack sockets providing optional connection to User Switches

External On/Off Switch Input

A 3.5mm (⅛") jack socket providing optional connection to a user operated On/Off Switch

Sip and Puff Input

This input accepts an optional 3.5mm (⅛") pipe connected to a Sip and Puff mouthpiece

Navigation

Allows the on board programming screens to be navigated

4 Connections and User Switches

4.1 Connection

For single SID operation, the SID will always be connected to Port 1 (Figure 1) Port 1 comprises: A jack for the User Switch A D-Type (9-way input) connector A Sip and Puff input If your SID is disconnected, the Omni will display this screen	 Figure 2 - SID Detached Diagnostic Screen

4.2 Using the Omni with a User Switch

A User Switch provides three functions:

Emergency Stopping

A single press of the User Switch during any operation (driving, actuator use) will immediately cease the action

Menu Access

A single press of the user switch accesses the menu and then allows selection of the menu options. The SID is then used to select menu options; profile change, speed adjust, seating, lights etc.

Sleep Mode and Waking

A long press of the User Switch puts the Omni to sleep and a short press wakes it up.
Note: this is not the same as powering the Omni off

4.3 On/Off Switch (if applicable)

The On/Off switch is a User Switch configured to function identically to the On/Off button on the Omni

4.4 Using the Omni without a User Switch

This applies to you if you are using your Omni without a User Switch and are unable to use the buttons on the Omni Panel.

No Emergency Stopping

Without a User Switch there is no way of stopping any operation in an emergency. The decision not to fit a User Switch lies with the user and the healthcare professional who is commissioning the wheelchair. Magic Mobility accepts no liability for losses arising from not fitting of a User Switch

⚠️	WARNING! Because the User Switch provides a method of emergency stopping, YOU MAY HAVE NO MEANS OF EMERGENCY STOPPING without one.

Menu Access

The Omni will be programmed to automatically enter the User Menu after a period of SID inactivity so you can use your SID to select menu options.

Sleep Mode and Waking

In this scenario, the Omni can be put to sleep by selecting that option in the User Menu. To awake the Omni, the following SID sequence is required: Left, Right, Left, Right.

5   LCD Screen
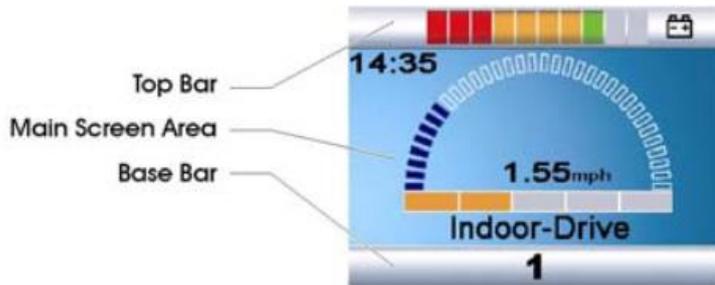
Figure 3 – Three LCD Screen Display Areas

5.1   Top Bar

	Battery Indicator: Displays the charge status of the battery
	Focus symbol: When multiple controllers are installed, the one currently in control of your Power Chair displays this symbol
1	Port Identifier: If the Omni has been configured to accept 2 input devices, The port number of the input device in control is displayed

5.2   Base Bar

1	Current Profile: The currently selected Profile
	Motor Temperature: The Omni has reduced power to the motors for protection against heat damage
	Control System Temperature: The Omni has reduced its own power to protect itself against heat damage
Off — On	Indicator Icons: These arrows flash when the respective indicators are active*
Off △ On △	Hazards Icon: This symbol and indicator icons will flash when the Hazard Warning lights have been activated*
Off On	Lights Icon: This symbol will light up when the lights have been activated*

*Requires an Intelligent Lighting/Seating Module

5.3   Main Screen Area

Drive Screen	
Indoor-Drive	Profile Name: The name of the currently selected profile
14:35	Clock: The current time. The clock is user adjustable
Forwards Reverse	Selected Direction Indicator: These are displayed when used with a Head Array or Switch type SID
	Speed Display: A proportional display of the wheelchairs speed
	Maximum Speed Indicator: Displays the current maximum speed setting
1.55mph	Digital Speed Display: Displays your Power Chairs actual speed
	Latched: To indicate the Omni is operating in a latched condition
	Scanner Symbols: When operating with a Single Switch Scanner Type SID, these symbols indicate the drive or actuator operation direction
	Inhibit: If the speed of the wheelchair is being limited, this orange symbol will be displayed If the wheelchair is being inhibited from driving, this red symbol will be flashing
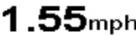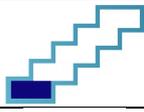
Mode Screen	
Backrest	Actuator Mode: Displays the sections of the chair currently selected for movement.
Environment	Environment Mode: Displayed when in Environmental Mode
Bluetooth	Bluetooth Mode: When Bluetooth Mode is entered the following screen will be displayed.
Speed Adjust	Speed Adjust: Displayed when in Speed Adjust Mode
	Message Window: The R-net displays warning icons and informational messages, in a dedicated message window.
	Restart: When the control system requires a reboot this symbol will flash.
	Timer: This symbol is displayed when the control system is changing between different states.
	Sleep: This symbol will be displayed for a short time before the R-net enters into a sleep state.

	Cross and Tick: Displayed during configuration procedures: Process completed correctly (Tick). Process not completed correctly (Cross).
	Limp: A user switch has become disconnected. The wheelchair will still drive, but at a reduced speed
	E-stop (emergency stop): If you have an External Profile Switch and activate it while driving your chair or an actuator, the action will stop and 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. If you don't return the joystick to the central position within 5 seconds, your chair will not move. Turn the control system off and on again to reset.
	Control System Locked: The Control System can be locked either by using a sequence of deflections with a Joystick or with a physical Key. Refer to 6.9.5 Locking the Control System for a detailed description of the Locking and Unlocking procedures.

Diagnostic Screen	
	Diagnostic Screen: When the control safety circuits have operated to prevent the wheelchair from moving, a diagnostic screen is displayed

6   Basic Programming and Set Up

Pressing and holding the + and - buttons at the same time will take you to the settings menu		
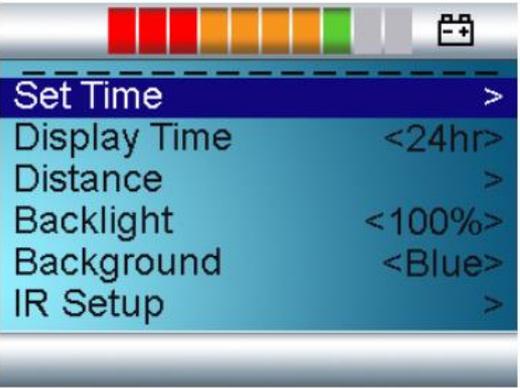
Set Time

Deflect the SID right once to enter clock adjustment. Use further SID deflections to set the time

Display Time

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

Distance

Total Distance	This displays the total distance driven using your current Power Module.	
Trip Distance	This displays the total distance driven since the last reset.	
Display Distance	Sets whether Total Distance or Trip Distance appears as the odometer display.	
Clear Trip Distance	A right SID deflection will clear (reset) the Trip Distance value.	
Exit	A right SID 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 colour of the screen background. Left and right SID deflections are used to change between the options. Choose 'Blue' or 'White' for a background of the specified colour with all Profiles. Choose 'Auto' for a background which is blue for slower indoor profiles and white for faster outdoor profiles

IR Set Up

This accesses Infra-red setup, allowing you to 'teach' the Omni IR Codes to control other devices

Exit

Exits the Settings Menu back to normal operation

7 Speed Adjust, Lighting Control and Environment Mode

7.1 Speed Adjust Mode

Once Speed Adjust Mode has been entered, the screen below will appear • Left and Right SID commands will adjust the maximum speed setting • The User Switch exits to the next available menu entry	Figure 4 – Speed Adjust Screen
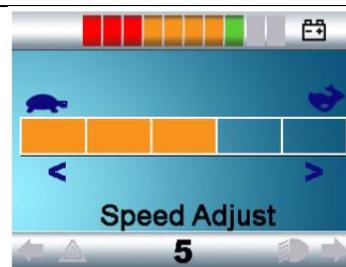
7.2 Lighting Control Mode (if applicable)

Once Lighting Mode has been, the screen below will appear • Forward and Reverse SID commands will select each lighting function • A Left or Right SID command will switch the function on or off • An operation of the User Switch or a Right SID command while Exit is highlighted returns to the next available menu entry	 Figure 5 – Lighting Control Screen

7.3 Environment Mode (if applicable)

Once Environment Mode has been entered, the screen below will appear This enables your SID to control other device/s within your environment. This is only applicable if your Omni has been configured to control specific external items. E.g. an Input / Output Module which enables the Omni to control a robotic arm	 Figure 7 – Input / Output Module	 Figure 8 – Environment Mode Screen

8 Accessing Wheelchair Functions

Your Omni will be set up in one of the following two ways:

8.1 Operation via User Menu

Your power wheelchair functions are accessed via the User Menu if either: • Your User Switch brings you to the screen below, or • A period of inactivity brings you to the screen below You can then make further selections using your SID	 Figure 6 – Menu Screen
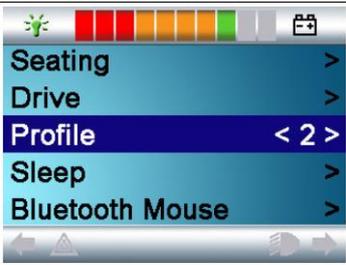
Forward and reverse activations of your SID will scroll up and down through the menu commands. The right hand side of the screen will display the required actions:

> use a right SID activation to enter this function
< X > ** use right and left SID activations to select through the options within this function

8.2 Operation via Sequence

Your power wheelchair functions are accessed via sequence if a press of your User Switch activates the next function in your menu. Each subsequent press of the User Switch enters each chair function sequentially. Once a chair function has been entered, use your SID to drive the function

9   Locking the Omni

The Omni can be locked by either using a button sequence on the keypad or with a physical key. This will be set up at the factory.

When the Omni is locked, the following screen appears

9.1   Keypad Locking

1. While the Omni is switched on, press and hold the On/Off button until the Omni beeps
2. Press the SID forwards until the Omni beeps
3. Press the SID in reverse until the Omni beeps
4. Release the SID, there will be a long beep

To unlock
1. If the Omni has switched off, press the On/Off button.
2. Press the SID forwards until the Omni beeps
3. Press the SID in reverse until the Omni beeps
4. Release the SID, there will be a long beep

9.2   Key Locking

A key to lock the Omni is ordered and supplied separately

1. With the Omni switched on, insert and remove the key into the Charger Socket on the Omni Module. A short beep will be heard

To unlock
1. If the Omni has switched off, press the On/Off button
2. Insert and remove the key into the charger socket on the Omni module. A short beep will be heard

10   Infra-Red (IR) Control

The Omni includes an IR transmitter and receiver that allows commonly used IR devices to be replicated. (Note: Not all IR devices are compatible with an Omni)

These devices include:

TV	AV System	Curtain Openers
DVD	Soundbar	Media Manager
VCR	Blu Ray	Aux
Set Top Box	Projector	Door Openers
CD	Receiver/Preamp	Air Conditioners
Home theatre System	Switcher	Lighting

For an enquiry about a specific device, please be ready with the device brand, device type and model E.g. Panasonic → Home Theatre System → SA-BT Blu Ray System.

Figure 7 – Infra Red Transmitter, Receiver and User Screen

10.1 IR Mode

R Mode is accessed via Mode selection. IR Mode will only be available if IR codes have been stored in the Omni

On entering IR Mode you will be presented with a list of available IR appliances and their associated IR commands.

Using the TV as an example; commands such as: On/Off, Channel Up, Channel Down, Volume Up and Volume Down may be displayed. When the Omni is transmitting the selected Command, it is highlighted with a red background

Figure 8 – Infra Red Transmission Screen

10.2 IR Setup

IR Setup is accessed through the Settings Menu. On entering the IR Setup menu, the default appliances will appear. By selecting an appliance, its commands will be shown.

Figure 9 – Infra Red Set Up Screens

If a Command is ticked ($\checkmark$), this means it has a stored IR Code. If there is no tick, then there is no stored IR Code for that Command

10.3 Learning an IR Code

To teach the Omni an IR Code, enter IR Setup and select an appliance
- Select the command to be learnt (e.g. TV > Channel Up)
- Select Learn Code, by using the Right button while the Command is highlighted

Figure 10 – Learn Infra Red Code Screens

- Point the TV remote control at the Omni's Receiver LED and press the 'Channel Up' button on your TV remote twice. A 'beep' will be heard after each press; after the first press, the '2x' on the LCD screen will change to '1x' to ask you to confirm the code by pressing the 'Channel Up' button once more
- A check denotes a successful learn operation; A cross denotes an unsuccessful learn operation (try again)
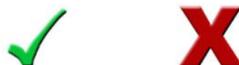
- Once the code is learnt, select 'Exit' to return to the TV commands menu.
- there is now a tick beside the newly learnt command, as it now has a stored IR Code

Note: The first time an IR Code has been learnt, turn the Omni off and on to ensure correct operation

10.4 Learning an IR Code sequence

An IR Code 'sequence' allows one Omni command to do many IR commands at once. E.g. simultaneously turning on a DVD player and a TV

To create a Sequence:
- Select the command to use as the sequence initiator. In this example, TV > On/Off.
- Select Learn Code, by using the right button while the command is highlighted.
- Point the TV remote control at the Omni's receiver LED and press the TV remote's On/Off button twice.
- After each successful learn operation a check momentarily appears on the screen, select Learn Code again.
- Point the DVD remote control at the Omni's Receiver LED and press the On/Off button twice.
- After each successful learn operation a check momentarily appears on the screen, select Learn Code again to add to the sequence or select exit if finished.

Now the On/Off command will have a tick and 3 dots beside it, showing a learnt sequence

Figure 11 – IR Learnt Sequence Screen

Use the same process to learn multi-digit channels. You can choose to store specific channels rather than digits in your 'Channel Selection' menu.

10.5 Enabling and Disabling IR Codes

IR codes can be enabled or disabled in the IR Set Up menu.
- To disable an IR Code, select the − key on the front panel of the Omni. Disabled IR codes appear with an X against the highlighted Command.
- To enable an IR Code, select the + key on the front panel of the Omni. An enabled code appears with a tick against the highlighted command.

Figure 12 – Disabled and Enabled IR Codes

10.6 Deleting IR Codes

To delete an IR Code for a command, highlight the specific command in the appliance menu and press the right button. Then select the Delete Code option (Figure 23)

To delete all IR Codes for an appliance, select Delete All Codes and turn the Omni off and on to ensure correct operation

Figure 13 – Deleting individual IR Codes (left) and sets of IR Codes for an Appliance (right)

11 Care and Maintenance

- Avoid knocking your Omni and SID/s
- When transporting your wheelchair ensure the Omni is well protected
- To prolong the life of the Omni, keep exposure to extreme conditions to a minimum. Always clean your Omni if it becomes contaminated with food or drink
- Use a damp cloth and mild detergent mixed with water. Do not use abrasive or spirit based cleaning agents

11.1 Daily Checks

SID: With the Omni switched off, check that the SID is not bent or damaged and that it returns to centre when you release it. If there is a problem do not use your wheelchair and contact your service agent.

11.2 Weekly Checks

Connectors: Check all connectors are secure, properly mated and free from damage.
Cables: Check condition of all cables for damage.
Mounting: Make sure the Omni and SID/s are securely fixed to your wheelchair. Do not over tighten any screws

11.3 Annual Checks

It is highly recommended to service your power chair annually. Take your power chair to your Magic Mobility Dealer to ensure it is functioning correctly

12 Important Warnings

12.1 SID power

If the power chair begins to move in an unexpected manner, immediately release the SID and turn the wheelchair off. Unless the SID is damaged, this should stop your power chair.

If the SID is not in the neutral (centre) position when you turn on the power, you may cause a fault in the system. Releasing the SID and turning the power off and on again will reset the system

⚠️	WARNING! Always turn the power off when you are stationary to prevent unexpected movement.

12.2 Rain and Water

The Omni, Buttons, switches and SID units ARE NOT WATERPROOF. If water penetrates into the device there may be permanently damaged (this damage is not covered under warranty)

We recommend carrying a plastic bag large enough to cover the electrical modules and the user's hand (where applicable), in case of rain

12.3 Omni lead

If for any reason, the Omni lead is disconnected take care when reconnecting, do not force the plug into the socket. The lead is polarised and should only be fitted one way

12.4 Latched Program - Cruise Control (if applicable)

Latched operation allows the chair or actuator/s to be driven continuously with a 'single press' of a button. It is recommended that a user switch is also prescribed with Latched Operation

⚠️	WARNING! When Latched Drive is engaged you will NOT be able to turn on the spot – your chair will continue to have forward travel as long as Latched Drive is engaged WARNING! Without a user switch YOU WILL HAVE NO MEANS OF STOPPING IN AN EMERGENCY

12.5 Performance adjustments

The controller program affects speed, acceleration, deceleration, and braking. The drive mode settings are pre-set at the factory. Your Magic Mobility Dealer can change these settings

Opening or making any unauthorized adjustments or modifications to the Omni or its components will invalidate any warranty and may result in hazards to the vehicle user, and is strictly forbidden. Performance adjustments to your power chair program should only be made by authorised service agents, or by persons fully conversant with both this process and the driver's capabilities.

13 Head Office and Operations

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