OMNI2 USER GUIDE

ENGLISH

Contents

1 R-Net OMNI2 introduction

1.1 Introduction

The OMNI2 is a universal specialty controls interface that accepts signals from many different types of Specialty Input Devices, (SIDs) and translates them into commands compatible with the R-net control system.

1.2 Controls and connections

The OMNI2 comprises of two sections – a display section and an input section. The following diagrams show the controls and connections for each, (Figure 1, 2).

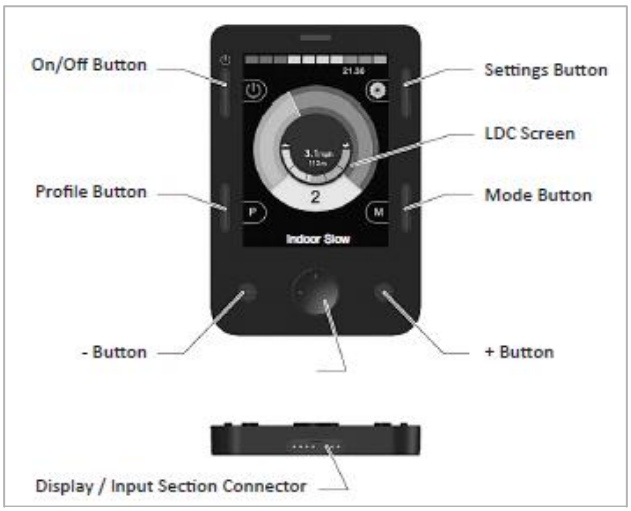


Figure 1

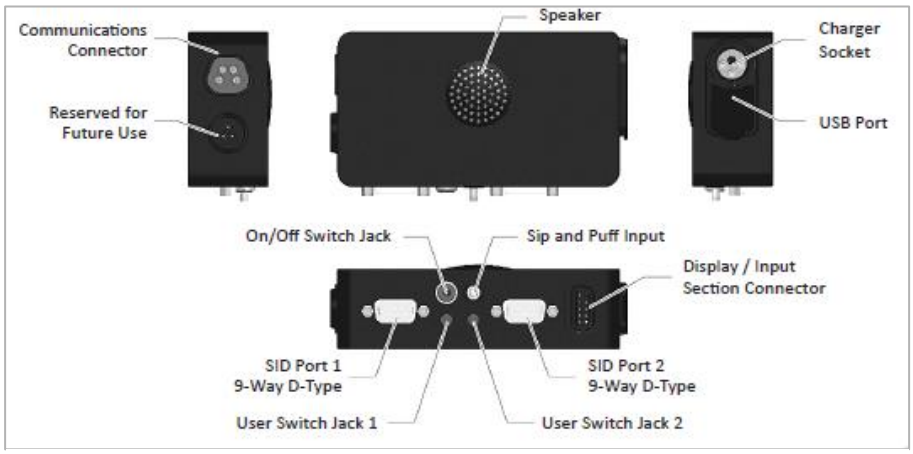


Figure 2

⚠	WARNING! Programming and diagnostics should only be conducted by health care professionals with in-depth knowledge of R-net electronic control systems. Incorrect programming could result in an unsafe setup of a vehicle for a user. Magic Mobility accept no liability for any losses of any kind if the programming of the control system is altered from the factory preset values.

LCD SCREEN (Figure 1)

A full colour, backlit LCD screen that can show OMNI2 configuration details and operating information. More details of actual displays are given in the LCD screen details section and throughout this manual.

ON/OFF BUTTON (Figure 1)

The on/off button provides a complete power-down of the control system electronics. In addition to the button mounted on the display section, there is facility for an optional, externally - mounted switch on the input section, which can be operated by the user, see section 'External On/Off Switch Input'.

PROFILE BUTTON (Figure 1)

The profile button allows you to change between the available drive profiles.

SETTINGS BUTTON (Figure. 1)

The settings button launches the settings menu screen.

MODE BUTTON (Figure 1)

The mode button allows you to change between the available modes.

NAVIGATION BUTTONS (Figure 1)

The array of four navigation buttons allows the function screens to be navigated.

- / + BUTTONS (Figure 1)

These buttons make adjustments to speed and highlighted parameters.

DISPLAY/INPUT SECTION CONNECTORS (Figures 1 & 2)

These connectors are used to link the two OMNI2 sections together

	WARNING! Use only the authorised Magic Mobility cables.

COMMUNICATIONS CONNECTOR (Figure 2)

This connector is used to link the OMNI2 to the R-net system.

CHARGER SOCKET (Figure 2)

This 3-pin socket can be used to charge the wheelchair batteries and, dependent on system programming, to lock the wheelchair. For details of battery charging, refer to Chapter 9 & to the wheelchair owner's manual or user instructions.

USB CHARGING PORT (Figure 2)

This 'Type A' USB socket can be used to charge devices such as mobile phones.

9-WAY D-TYPE SPECIALTY INPUT DEVICE (SID) CONNECTORS (Figure 2)

These provide connections to analogue or digital SIDs. There is a facility to detect if a mating connector is in place; and provision of a low current 12V supply.

USER SWITCH JACKS (Figure 2)

There are two stereo 3.5mm/1/8" jack sockets which provide connection to the user switches. Full details of user switches can be found in the Connection of SIDs section.

There is also facility to detect if the mating user switch jack plug is in place.

EXTERNAL ON/OFF SWITCH JACK (Figure 2)

This is a stereo 3.5mm/1/8" jack socket which provides connection to a user operated on/off button. This connection is optional and the OMNI2 will function normally without it.

SIP AND PUFF INPUT (Figure 2)

This input will accept a 3.5mm/1/8" pipe connected to a sip and puff mouthpiece.

ASSIGNABLE BUTTONS

Via programming, it is possible to change the function of most of the buttons. This includes assigning the function of another button or making the button act as a shortcut to a particular action, such as moving a seating function. Additionally, a button can be assigned a second function, which is accessed by depressing the button for a length of time.

For more information on changing the function of a button and assigning a second function, please contact your servicing agent.

2 Speciality input devices (SIDS)

2.1 Installing the SID onto a powerchair

Because of the wide variety of SIDs available and the constantly changing specifications, it is not practical to provide a definitive list of SID classifications in this manual.

You, your health care professional and wheelchair provider will determine the exact classification of the chosen type of SID. Further details on each SID type are given in the following sections.

In addition to the SID for controlling the powerchair functions, the OMNI2 has facility for the connection of an optional, user operated on/off switch. The function of this switch is identical to the on/off button on the OMNI2's front panel.

2.2 Connection of SID (Figure 3)

For single SID operation, always connect the SID to Port 1.

Port 1 comprises:

- A stereo 3.5mm / 1/8" jack for the user switch.
- A 9-way input connector with a TRACE standard pin-out.
- A sip and puff input.

Make sure that all SID connections to the OMNI2 are securely mated.

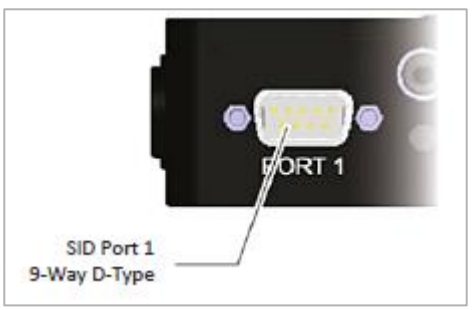


Figure 3

2.3 User switch

For a truly fail-safe system a normally-closed user switch is fitted. This ensures that if the switch becomes accidentally disconnected the powerchair will default to a stop condition.

As a further level of safety, the OMNI2 can also detect if the user switch jack is not properly located. If it is detected that the jack is not secure, then drive will be prevented.

⚠	WARNING! Magic Mobility recommend that, whenever possible, a normally-open switch should be used. If a normally-open switch is used, the responsibility for that decision lies with the health care professional. Magic Mobility accept no liability for any losses resulting from the use of a non-normally-closed user switch.

Because a disconnected user switch means there is no emergency-stop function, Magic Mobility recommend that switch detect is always set to **off**. Magic Mobility will accept no liability for any losses resulting from any other setting of this parameter.

2.4 D-type connector

Ensure the connector is correctly inserted and if there are locking screws ensure they are fully tightened.

Some SIDs will have a 'detect-link' fitted. This link enables the OMNI2 to detect if the D-type connector has become disconnected.

To enhance the system safety and to ease diagnostics, it is recommended that this feature be used if the SID has such a link. If this feature is used and the OMNI2 detects the SID is disconnected, a screen as in figure 4 below will appear.

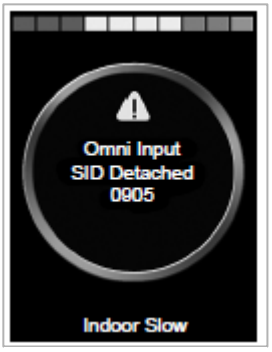


Figure 4

2.5 Sip and puff input

Ensure the tube from the sip and puff device is of the correct diameter and that it is securely routed.

2.6 Examples of types of SIDs used with OMNI2

The OMNI2 is compatible with the following types of SID.

- Joystick and user switch
- Five switch and user switch
- Three-axis proportional and user switch
- Three-axis switch and user switch
- Sip and puff device and user switch
- Single switch scanner

The user switch provides a means of changing profiles and modes, an emergency-stop function and a means of putting the OMNI2 to sleep. It is also possible to use most of the SID types without a user switch.

⚠	WARNING! Magic Mobility recommend that, whenever possible, a normally-open switch should be used. If a normally-open switch is used, the responsibility for that decision lies with the health care professional. Magic Mobility accept no liability for any losses resulting from the use of a nonnormally-closed User Switch.

2.7 Joystick and user switch (Figure 5)

Typical applications are chin control, foot control or heavy/light operating-force joysticks.

The device comprises of a PG Drives Technology or Flightlink type inductive joystick connected to the OMNI2 via the 9-way D-type connector. In addition, a user switch is required and connects to the OMNI2 via the 3.5mm/1/8" jack socket.

Figure 5

2.8 Five switch and user switch (Figure 6)

Typical applications are Tash Penta switches, Buddy Buttons, or products from ASL and Switch-It.

The device comprises of 4 direction switches and one user switch, connected to the OMNI2 via the 9-way D-type connector. In addition, a normally-closed user switch should be connected to the OMNI2 via the 3.5mm/1/8" jack socket. This switch, although functionally identical to the fifth switch input on the 9-way D-type connector, is required to provide a fail-safe emergency-stop system.

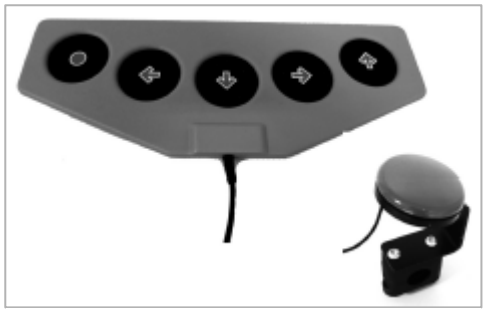


Figure 6

2.9 Three-axis proportional and user switch (Figure 7)

Typical applications are head control mechanisms fitted with a joystick.

The device comprises of 4 direction switches and one user switch, connected to the OMNI2 via the 9-way D-type connector. In addition, a normally-closed User Switch should be connected to the OMNI2 via the 3.5mm/1/8" jack socket.

This switch, although functionally identical to the fifth switch input on the 9-way D-type connector, is required to provide a fail-safe emergency-stop system.

Figure 7

The device comprises of a PG Drives Technology or Flightlink type inductive joystick connected to the OMNI2 via the 9-way D-type connector. In addition, a user switch is required and connects to the OMNI2 via the 3.5mm/1/8" jack socket.

2.10 Three-axis switch and user switch (Figure 8)

Typical applications are head control systems.

The device comprises of three or four direction switches and a user switch connected to the OMNI2 via the 9-way D-type connector. In addition, a normally-closed user switch should be connected to the OMNI2 via the 3.5mm/1/8" jack socket. This switch, although functionally identical to the switch input on the 9-way D-type connector, is required to provide a failsafe emergency-stop system.

Figure 8

2.11 Sip and puff device and user switch (Figure 9)

A sip and puff mouthpiece is connected to the OMNI2 via the pneumatic input. In addition, a normally-closed user switch should be connected to the OMNI2 via the 3.5mm/1/8" jack socket. This switch is required to provide a fail-safe emergency-stop system.

Figure 9

2.12 Sip and puff calibration

If a new sip and puff SID is fitted, or re-calibration is required then your health care professional or servicing agent will perform the following calibration procedure to match the OMNI2 to your operating capabilities.

SOFT SIP (Figure 10)

Soft Sip will be highlighted first. You must now make a series of soft sips. After each sip, a live readout of the current pressure will be displayed on the screen in the form of a line within the 0 - 100 scale. Repeated soft sips will produce a 'band' of values. During this process it may be beneficial for you to look away from the screen. This prevents 'false' values where you may be trying to attain earlier levels. Once you are satisfied that you can produce a soft sip consistently within this band, your health care professional or servicing agent will save that range and move on to highlight hard sip.

Figure 10

HARD SIP (Figure 11)

You must now make a series of hard sips to produce a new hard sip band. Ideally there should be as much difference as possible between the soft sip and hard sip values. To aid the OMNI2's differentiation between these pressures, your health care professional or servicing agent should move the threshold marker (shown in figure 12), to the middle of the gap between the hardest soft command and the softest hard command. Once a suitable threshold is set, your health care professional or servicing agent will save that range and highlight soft puff.

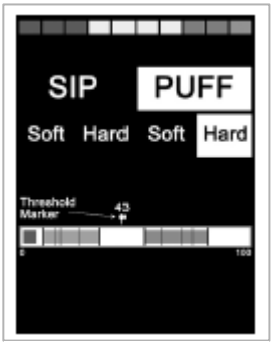


Figure 11

SOFT & HARD PUFFS

Now repeat the sequence of instructions for both soft and hard puffs including the threshold setting. Once calibration has been performed, your health care professional or servicing agent will save your settings.

Please note that all values must be greater than the deadband setting, for calibration to be performed successfully.

2.13 Single switch scanner

A single user switch is connected to the OMNI2 via one of the 3.5mm/1/8" jack sockets.

If the Omni is configured to operate with a Single Switch Scanner Type SID, the scan rate can be programmed to suit.

Refer to your health care professional or servicing agent for programming this parameter.

2.14 User switch

With the exception of scanner operation the user switch provides the following functionality.

A short operation while not driving will select the different wheelchair functions. See section 2.15.

A short operation while driving or making a seating adjustment will stop all movement, i.e. an emergency-stop function.

A long operation while not driving will put the OMNI2 to sleep. To wake the OMNI2, a short operation of the user switch is required.

The time of a long operation is preset to 1 second, but it is programmable from 0.25 to 5.0 Seconds. Refer to your health care professional or servicing agent for programming this parameter.

2.15 Accessing wheelchair functions

The OMNI2 can be programmed to access all the available powerchair functions in two ways – by Menu or by Sequence. Your OMNI2 control is programmed to "Menu" by default.

The Menu method is whereby an activation of the User Switch while in drive mode will bring up an on-screen user menu as shown in figure 12. SID direction commands are then used to navigate the menu and select functions.

Should you wish to change this function to "Sequence", please consult your health care professional or servicing agent.

The Sequence method is where successive activations of the user switch will sequentially access all the wheelchair functions.

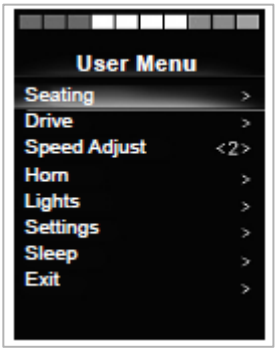


Figure 12

⚠	WARNING! It is not advisable to programme the menu options, 'speed adjust' or 'profile select' if the Sequence method is being used with scanning operation. Refer to your health care professional or servicing agent.

3 OMNI2 operating principles

3.1 OMNI2 driving characteristics

The OMNI2 has been programmed to suit the SID, the powerchair's drive performance has been programmed to suit your needs. The powerchair's speeds, acceleration rates and braking rates can be adjusted to meet exact requirements. Refer to your health care professional or servicing agent.

Before test driving the system ensure there is sufficient space in which to drive the wheelchair, and that you understand how to stop the wheelchair quickly.

Firstly, refer to the operating instructions for the type of SID in use. Ensure that you fully understand each SID command.

It is advisable to initially select the lowest speed setting and allow yourself to become familiar with the controls before increasing the setting.

The OMNI2 also contains a training function, whereby any of the SID's directional commands can be disabled. For example, the left and right commands could be disabled, in order to allow you to become familiar with

driving forwards. Refer to your health care professional or servicing agent to ensure these values are comfortable and safe.

⚠	WARNING! Magic Mobility accepts no liability for any losses resulting from unsuitable values

3.2 General operating principles

When the OMNI2 is powered-up or awoken, then a screen such as in figure 13 will appear.

Power-up can be via the on/off button on the display section or via a switch connected into the external on/off switch jack; while wake-up can be via the user switch.

This is a typical screen. Depending on SID type, programming or system configuration and status, there may be additional icons.

The wheelchair can now be driven with the SID. While driving, the speed of the wheelchair will be indicated by the numeric display and the graphical display.

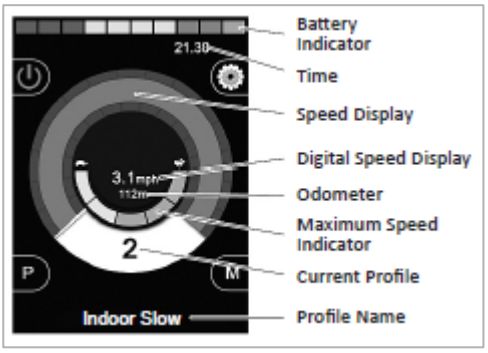


Figure 13

3.3 User menu

With the Menu method of control, an operation of the user switch will initiate the User Menu. A typical User Menu is shown below (figure 14).

Forward and reverse SID commands will change the highlighted line on the menu. It is also possible to program an automatic scanning sequence, which will highlight each line in turn. Refer to your health care professional or servicing agent.

At the right-hand end of each line, there will be either a > or a number surrounded by < >, i.e. < 3 >.

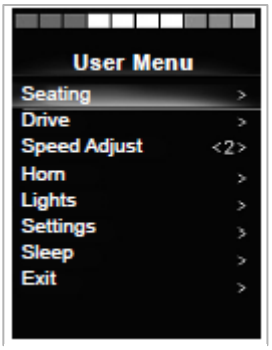


Figure 14

A > symbol indicates that a right SID command, (or a user switch operation when using a Single Switch Scanner-type SID), will enter that function.

A <3> display indicates that left and right SID commands, (or a user switch operation when using a Single Switch Scanner- type SID), will change the selection for that function.

The user menu can provide the following functions. Please see below (figure 15).

FUNCTION	OPERATION	
Drive*	>	Will enter Drive Mode in the currently selected Profile
x Profile x**	>	Will enter Drive Mode in the indicated Profile
Profile	<X>	Sets the Profile that is used the next time Drive Mode is entered
Seating*	>	Will enter Seating Mode
Seating* 2	>	Will enter a second Seating Profile. Eg. If non-latched and latched operation is required
Seating*	<X>	Sets the Seating Profile that is used the next time Seating Mode is entered
Speed Adjust	<X>	Adjusts the maximum speed settings
Mode x to y*	>	Displays modes x to y in turn, Eg. PC Mouse, Environmental etc.etc.
Sleep	>	Will put the Omni into Sleep Mode
Lights	>	Will enter Lighting Control Mode
Exit	>	Will exit the Menu and enter the Drive Mode in the presently selected Profile
Settings	>	Allows access to user settings such as backlight, background colour and clock adjustment
*		The text will reflect the setting of the standard R-net parameter Mode Name
**		The text will reflect the setting of the standard R-net parameter Profile Name

Figure 15

3.4 Operation with joystick-type SIDs

Driving is via the SID's joystick and the User Switch is used to enter the user menu.

These include Joystick Throw, Joystick Orientation and Joystick Deadband. Refer to your health care professional or servicing agent.

Standard control of seating movement is via forward and reverse commands, and left and right commands will select a different seat axis for movement.

If required, it is possible to re-program the OMNI2 to control the seating movement in alternative ways. Refer to your health care professional or servicing agent.

For latched operation using this SID type, refer to section Latched operation.

3.5 Operation with switch-type SIDs

Driving is via the SID's forward, reverse, left and right switches, and the fifth switch or user switch is used to enter the user menu.

There are several standard R-net programming features that may be useful when using this SID type. These include joystick orientation. Refer to your health care professional or servicing agent.

Standard control of seating movement is via forward and reverse commands and left and right commands will select a different seat axis for movement.

If required, it is possible to re-program the OMNI2 to control the seating movement in alternative ways. Refer to your health care professional or servicing agent.

For latched operation using this SID type, refer to section Latched Operation

3.6 Operation with 3-axis proportional and switch- type SIDs (Head arrays)

These types of SID contain a forward/reverse command, left and right commands, as well as a User Switch(es)*. Driving is via the forward/reverse, left and right commands

* Depending on the installation, as well as a normally-closed user switch, there may be a user switch integrated into the head array. This switch would connect to the OMNI2 via the fifth switch pin on the D-type connector.

User switch commands are then used to change drive direction and to enter the user menu.

There are 3 ways to program the OMNI2 to provide this functionality.

3.6.1 DOUBLE CLICK CHANGE

A single user switch operation toggles the direction, while a double operation of the user switch will enter the user menu or sequence the other functions.

This method is selected by setting forward/reverse auto toggle to off.

There is programmability associated with the timing of the double operations.

Refer to your health care professional or servicing agent.

3.6.2 AUTO TOGGLE CHANGE

A direction change will occur if a forward/reverse command is operated and released. A further operation of the forward/reverse command will result in drive in the newly-selected direction.

This sequence must be completed within a given time period, typically 2 seconds. However, the parameter auto toggle time, can be adjusted to give a different time period. Refer to your health care professional or servicing agent.

If the sequence is not completed within the time period, the selected direction will automatically revert to its previous state.

The user switch is used to enter the user menu.

This method is selected by setting forward/reverse auto toggle to on.

Refer to your health care professional or servicing agent.

3.6.3 SWITCH MEDIUM CHANGE

A direction change occurs at the instant the user switch is operated, provided the parameter double click has been set to 0. If the user switch is released and a Forward/Reverse command is entered, then drive will commence in the newly-selected direction.

If the user switch is not released and is held for a time period set by the programmable parameter, switch medium, then this is interpreted as a conventional user switch operation, i.e. the user menu will be entered. There will be no direction toggle in this instance.

As with the other two methods, if the user switch is operated for a period greater than the time set by the programmable parameter, switch long, then the OMNI2 will go to sleep.

3.6.4 SEATING CONTROL

Standard control of seating movement is via the forward/reverse command, while left and right commands will select a different seat axis for movement. The direction of movement is selected in the same way as that for changing drive direction.

As is often required in head array situations, it is possible to re-program the OMNI2 to control the seating movement in alternative ways.

Refer to your health care professional or servicing agent.

3.6.5 ASSOCIATED PROGRAMMING

There are several standard R-net programming features that may be useful when using this SID type. These include Joystick Throw, Joystick Orientation and Joystick Deadband.

Refer to your health care professional or servicing agent.

For latched operation using this SID type, refer to section Latched operation.

It is possible to set up the OMNI2 so that the functions can be navigated audibly. This can be useful if the user cannot easily always see the OMNI2's screen. Refer to section Using the Omni by sound in the advanced section of this manual.

3.7 Operation with sip & puff-type SIDs (Figure 16)

Driving is via a tube connected to the OMNI2's pneumatic input and the user switch is used to enter the user menu.

For this type of SID, as well as a standard user switch, there is the option of a pneumatic user switch.

Contact your servicing agent.

There are four sip and puff commands, each of which relates to a drive direction. The table (figure 16), shows the relationships.

SIP & PUFF COMMAND	DIRECTION
Hard Puff	Forward
Hard Sip	Reverse
Soft Sip	Left
Soft Puff	Right

Figure 16

In addition, the OMNI2 can be programmed so that two pneumatic operations, made within the period set by the parameter double click time, will mimic a short operation of the user switch in standby.

Refer to your health care professional or servicing agent.

The standard R-net programming parameter Joystick Orientation may also be useful when using this type of SID. Refer to your health care professional or servicing agent.

Standard control of seating movements is via a hard puff or sip and a soft puff or sip will select a different seat axis for movement.

If required, it is possible to re-program the OMNI2 to control the seating movement in alternative ways.

Refer to your health care professional or servicing agent.

For latched operation using this SID type, refer to Latched operation.

3.8 Operation with Single Switch Scanner-type SIDs (Figure 17)

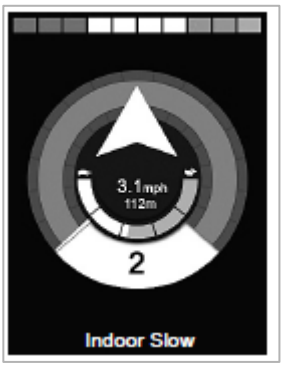


Figure 17

All functions, including drive, can be accessed via a single switch connected to one of the OMNI2's user switch jack sockets. For details of installation and connections, please refer to section 2.0.

3.8.1 DRIVE

The scanning rate in drive mode can be programmed to suit the user. Refer to your health care professional or servicing agent. When the OMNI2 is switched on, a screen like the one shown in figure 17 will appear:

The OMNI2 will scan through the following icons:

The method of driving is dependent on whether the R-net system is configured for 'momentary' or 'latched' operation.

3.8.2 MOMENTARY OPERATION

In momentary operation, continuously depressing the user switch whilst one of the 'arrow' icons is shown will cause the powerchair to drive in that direction until the switch is released. If the User Switch is depressed when the 'M' icon is shown, the OMNI2 will enter the user menu.

3.8.3 LATCHED OPERATION

In latched operation, a single depression of the user switch whilst one of the 'arrow' icons is shown will cause the powerchair to drive in that direction for a period of time set by the program. Refer to your health care professional or servicing agent.

To simplify control of the chair while driving in latched forwards, the scan sequence will display:

Forward, Right, Reverse, Left, Reverse, Right, Reverse, Left, Reverse, Right, Forward.

Depress the user switch to select the new direction displayed.

3.8.4 SEATING CONTROL

Seating mode can be entered from the user menu via an operation of the user switch (figure 18).

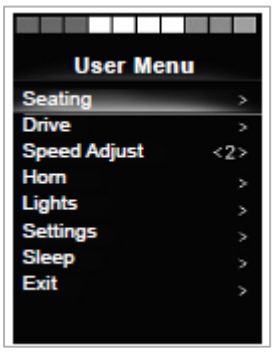


Figure 18

The OMNI2 will sequentially scan though each available actuator 'axis', and then finish with an 'Exit' option, (figure. 19), to return to drive, the user menu or the next sequential function.

Figure 19

If the user switch is operated when one of the actuator axes are shown, a new scanning sequence will begin.

The OMNI2 will step through, 'up', 'down' and 'exit', (figure 20) choices. Each option can then be selected with an operation of the user switch.

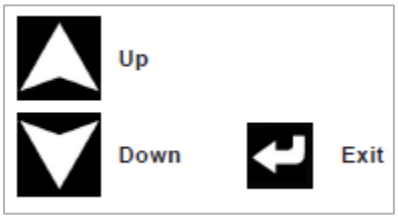


Figure 20

The scanning rate of the actuator axes is set to approximately 1 second and cannot be altered through programming.

3.8.5 SPEED ADJUST MODE

A speed adjust mode screen as shown in figure 21, will appear if the user control parameter has been set to sequence (refer to section 2.15).

Figure 21

3.8.6 LIGHTING CONTROL MODE

While in lighting control mode, a screen will appear. forward and reverse SID commands will select each lighting function. A left or right SID command will switch on the function, (figure 22). Another left or right SID command will switch the function off.

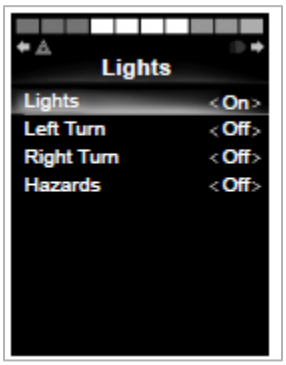


Figure 22

An operation of the user switch or a right SID command while Exit is highlighted, exits to the user menu.

If user control is set to sequence, then selecting the Exit option will sequence to the next available menu entry refer to section 2.15).

3.8.7 LATCHED OPERATION

Latched operation is available with the OMNI2 or a standard JSM.

Within the standard R-net programming, the relevant parameters are: Latched Drive, Latched Actuators, Latched Timeout and Latched Timeout Beep. Please refer to your health care professional or servicing agent.

4 OMNI2 LCD Screen

4.1 LCD screen details

The screen is split into four areas of information: Battery Indicator, Information Bar, Main Area and Text Bar. Each area is detailed separately in the following sections.

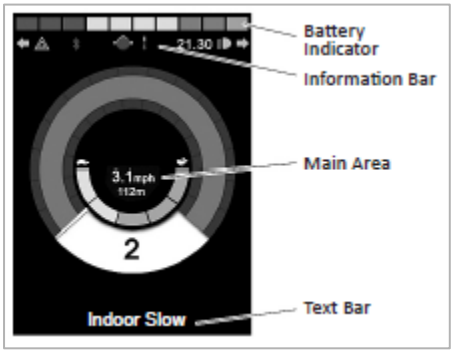


Figure 23

BATTERY INDICATOR

This displays the charge available in the battery and can be used to alert you 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 powerchair batteries are being charged. You will not be able to drive the powerchair until the charger is disconnected and you have switched the control system off and on again.

INFORMATION BAR

This area contains information and warning symbols, as well as a clock.

FOCUS

When the control system contains more than one method of direct control, such as a secondary SID, joystick module or a dual attendant module, then the module that has control of the powerchair will display the Focus symbol.

BLUETOOTH SIGNAL ICON

This symbol appears when Bluetooth is enabled. If the symbol is white, the system is not paired to an external Bluetooth device. If the symbol is blue, the system is paired to an external Bluetooth device. When the system has been placed into Discovery Mode, the icon will flash blue.

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.

CLOCK

This displays the current time in a numeric format.

The clock is user adjustable. Adjustable options are:

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

Please refer to your health care professional or servicing agent.

PORT IDENTIFIER

1

If the OMNI2 has been configured to accept 2 input devices the input device in command will be identified by either:

1 – Port 1

2 – Port 2

INDICATOR ICONS

The indicator icons will flash when the respective indicators are active.

The indicator icons will only be visible when a module supporting lighting, e.g. ISM-L, is connected to the system.

HAZARD ICONS

The hazard and indicator icons will flash when the 'Hazards' option is activated.

The hazard and indicator icons will only be visible when a module supporting lighting, e.g. ISM-L, is connected to the system.

LIGHTS ICONS

The lights icon will be switched on when the lights have been activated.

The lights icon will only be visible when a module supporting lighting, e.g. ISM-L, is connected to the system.

TEXT BAR

This area of the screen displays text relevant to the operating condition of the control system. Example text strings would be Profile Name, Mode Name or Axis Name. These text strings are programmable.

Please refer to your health care professional or servicing agent.

MAIN SCREEN AREA

This area will contain different information dependent on the current operating mode of the control system. The area is also used to display general system information, when necessary

DRIVE MODE SCREEN

Displays symbols relevant to the drive control of the powerchair.

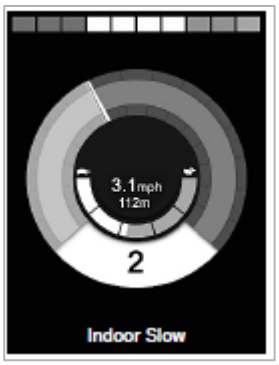


Figure 24

CURRENT PROFILE

This denotes the currently selected profile, shown in numeric form.

2

SPEED INDICATOR

This gives a graphical display of the powerchair's speed. As the speed increases, the needle will move around the arc, covering the background with the white highlight.

The display is scaled between zero speed and the speed corresponding to the programmable parameter Maximum Displayed Speed.

Please refer to your health care professional or servicing agent.

DIGITAL SPEED DISPLAY

This displays the actual speed of the powerchair in digital form.

The display can be set to mph or km/h, or can be turned off. These options are set by the programmable parameter, Display Speed.

Please refer to your health care professional or servicing agent.

MAX SPEED INDICATOR

This displays the current maximum speed setting.

When the left-hand segment is illuminated, then the speed setting corresponds to the programmed minimum forward, reverse and turning speeds. The indicator will never show a lower setting, i.e. the left-hand segment will always be fully illuminated.

When all segments are fully illuminated, then the speed setting corresponds to the programmed maximum forward, reverse and turning speeds.

ODOMETER

This displays the total distance the powerchair has travelled or the trip distance since the last reset. This selection is made in the settings menu.

Please refer to your health care professional or servicing agent.

INHIBIT

If the powerchair is being inhibited from driving, then this red symbol will be flashing:

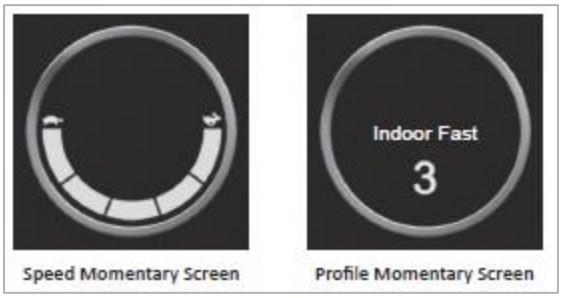
If the speed of the powerchair is being limited, for example, by a raised seat, then this orange symbol will be displayed:

LATCHED DRIVE

This symbol will be displayed if the control system is set for latched drive operation.

MOMENTARY SCREENS

If the momentary screens are programmed to be displayed then pressing the speed or profile buttons will display screens such as below.



SELECTED DIRECTION ACTUATORS

These symbols are only displayed if the OMNI2 has been configured to use a 3-Axis SID. Refer to the Operation with 3-axis proportional and switch-type SIDs (section 3.6).

For further details on LCD graphics please refer to the full Rnet manual - section 4.0.

4.2 General information symbols

	**Limp** This message is displayed if a user switch has become disconnected and the OMNI2 is programmed to still allow drive, at a reduced rate.
	**Timer** This symbol is displayed when the OMNI2 is changing between different states. An example would be entering into module re-configuration.
	**Restart** When the OMNI2 requires a reboot; for example, after a module re-configuration, this symbol will be flashed.
	**Sleep** This symbol will be displayed for a short time before the OMNI2 enters into a sleep state.
	**Cross & tick** ✓ Process completed correctly. × Process not completed correctly

	**E-Stop** If the user switch is activated during drive, or actuator operation, this symbol will be displayed.
	**SID displaced** If the SID is operated before or just after you switch the control system on, the screen will flash the joystick displaced screen. You must release and center (where applicable) the SID to resume normal operation. If you do not release the SID within five seconds the powerchair will not be able to move, even if you release the SID and operate it again. The screen will display a diagnostic screen at this time. You can reset this condition by switching the OMNI2 off and on again.

5 Settings menu

The settings menu allows access to user-related adjustments. It can be accessed from the user menu or by pressing the top right-hand soft-key on the display section after the OMNI2 has been switched on. A typical settings menu display is shown in figure 25.

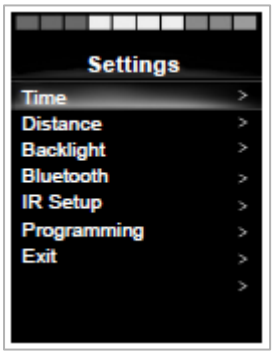


Figure 25

SID forward and reverse movements are used to navigate up and down the screen.

SET TIME

A right SID deflection will enter a sub-menu with the following time-related function options:

Set Time: allows you to set the current time and date.

Display Time: this sets the format of the time display or turns it off. The options are 12hr, 24hr or Off.

DISTANCE

A right SID deflection will enter a sub-menu with the following odometer data and function options:

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 OMNI2 and relates to the total distance driven since the last reset.

Display Distance: this sets whether Total Distance or Trip Distance appears as the odometer display on the OMNI2.

Clear Trip Distance: a right SID deflection will clear the Trip Distance value.

BACKLIGHT

A right SID deflection will enter a sub-menu with the following backlight-related function options:

Backlight: this sets the intensity of the LCD backlight. The adjustable range is 0% to 100%.

Auto Backlight: the OMNI2 display section contains an ambient light sensor to automatically adjust screen brightness. The programmable options are On or Off. If set to On, the display adjusts the screen brightness based on the light sensor reading. If set to Off, the screen brightness will not change with changes in light intensity.

Backlight Timeout: this adjusts the period of time the backlight will remain active once no further instructions are received from a SID. The adjustable range is 0 to 240 seconds.

BLUETOOTH

A right SID deflection will enter a sub-menu to configure the Bluetooth mode screen.

IR SET-UP

A right SID deflection will enter a sub-menu for learning and deleting IR codes.

PROGRAMMING (Figure 26)

A right SID deflection will enter a sub-menu for programming with access to two further sub-menus, Controls and System.

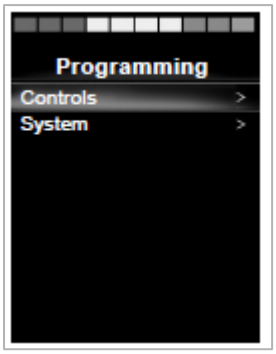


Figure 26

CONTROLS (Figure 27)

A right SID deflection will enter a sub-menu for programming user experience functions as follows:

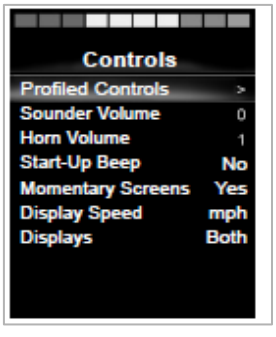


Figure 27

Profiled Controls>Sleep: this sets the time after which the control system will go to sleep if a SID command is not received, in the selected profile.

Sounder Volume: this sets the volume of the sounder used to indicate button presses.

Horn Volume: this sets the volume of the horn when used.

Start-Up Beep: this sets whether a short beep occurs when the OMNI2 is turned on.

Momentary Screens: this sets whether programmed Momentary Screens are displayed.

Display Speed: this sets how the powerchair's speed is displayed. Options are mph, km/h or Off.

Displays: this sets the format of the digital drive display. Options are odometer, speed or both.

SYSTEM (Figure 28)

A right SID deflection will enter a sub-menu displaying system information.

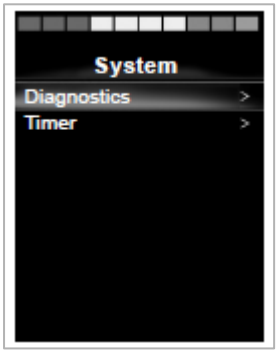


Figure 28

DIAGNOSTICS (Figure 29)

Diagnostics – this allows you to read diagnostic information from the control system.

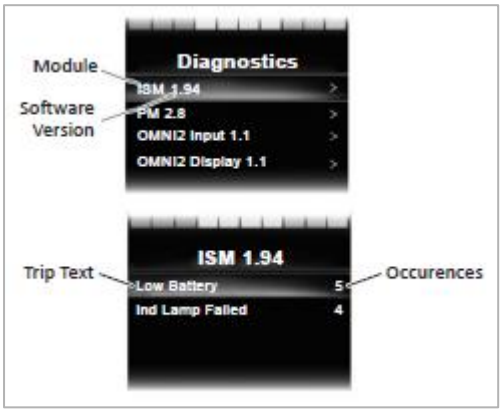


Figure 29

TIMERS

Timers: this enables you to view how many hours the powerchair has been driven for.

EXIT

A right SID deflection will exit the settings menu and return to the user menu.

5.1 Mode screens

SEATING MODE (Figure 30)

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

Figure 30

BLUETOOTH MODE (Figure 31)

The initial Bluetooth mode screen will be dependent on whether the OMNI2 has been set-up to control one or more devices. If set-up to control just one device, a screen such as below will appear.

Figure 31

If set-up to control more than one device, a screen such as below will appear (figure 32).

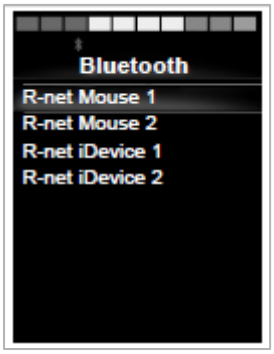


Figure 32

LOCKING THE OMNI2 (Figure 33)

To lock the wheelchair:

- This involves a series of either joystick movements, or if the SID is a switch type device, button presses.
- While the control system is switched on, depress and hold the On/Off button on the OMNI2 display section or the on/ off button connected to the external on/off switch jack.
- After 1 second the control system will beep & the screen will go blank. Now release the on/off button.
- Deflect the SID joystick forwards or depress the forwards switch on the SID, until the control system beeps.
- Deflect the SID joystick backwards or depress the reverse switch on the SID, until the control system beeps.
- Release the joystick/button, there will be a long beep.
- The wheelchair is now locked.
- The following icon will be displayed (figure 33), the next time the control system is switched on:

Figure 33

- If an LED joystick module is also fitted the speed indicator LEDs will ripple from left to right.

TO UNLOCK THE WHEELCHAIR:

- If the control system has switched off, press the on/off button on the OMNI2 display section or the on/off button connected to the external on/off switch jack. The "locked " symbol is displayed.
- Deflect the SID joystick forwards or depress the forwards switch on the SID, until the control system beeps.
- Deflect the SID joystick backwards or depress the reverse switch on the SID, until the control system beeps.
- Release the joystick/button, there will be a long beep and the screen will illuminate (figure 34).
- The wheelchair is now unlocked.

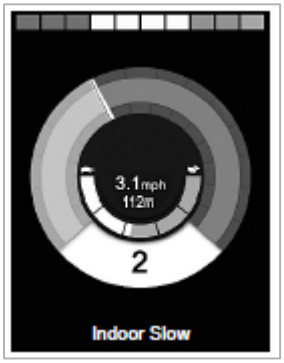


Figure 34

	WARNING! It is not possible to lock the control system using the sequence method if a Single Switch Scanner-type SID is being used.

MAIN SCREEN AREA: DIAGNOSTICS (Figure 35)

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

This indicates a system trip, i.e. the R-net has detected a problem somewhere in the powerchair's electrical system. If the error is in a non-active module, for example in the Intelligent Seating Module but drive mode is selected, then drive will still be possible, however, the diagnostic screen will appear intermittently.

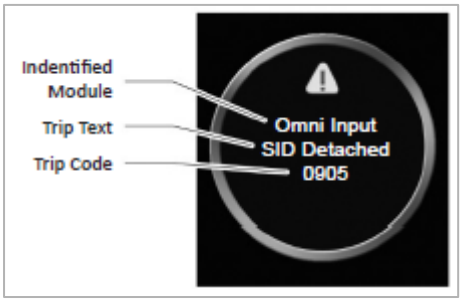


Figure 35

IDENTIFIED MODULE

This identifies which module of the control system has registered the problem.

PM	Power Module
JSM	Joystick Module
ISM	Intelligent Seating/Lighting Module
Omni Display	Omni Display Section
Omni Input	Omni Input Section

TRIP TEXT

The Trip Text gives a brief description of the trip type.

TRIP CODE

The 4-digit code displayed gives the exact trip that has been recorded.

DIAGNOSTIC PROCEDURE

Please follow this procedure:

- Read and note the Trip Text displayed, the identified module and the trip code.
- Switch off the control system.
- Make sure that all connectors on the listed module and the wheelchair are mated securely.
- Check the condition of the battery.
- Note the Trip Text description.
- 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.

OMNI2 Infra-red control (Figure 36)

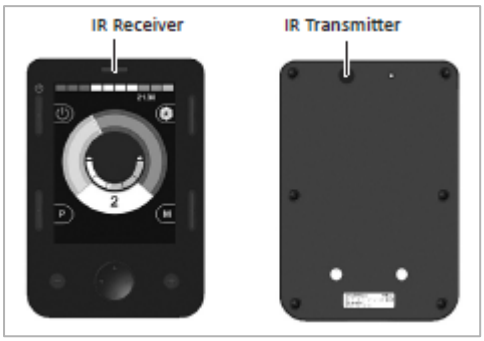


Figure 36

Infra red control (IR)

The OMNI2 display section includes an IR transmitter and receiver (figure 36) that allows it to replicate commonly used IR devices, such as remote controls for TVs, DVDs, cable/satellite or environmental controls such as automatic door openers.

Once an OMNI2 with IR control is connected to an R-net system, then IR control can be from a conventional joystick module (or other input device) or from a specialty input device that is connected to the OMNI2.

User menu

IR mode is accessed via the user menu.

There are two ways to store IR codes in the OMNI2 – by 'learning' codes from IR handsets or by programming from the PC-based IR configuration tool.

Refer to your health care professional or servicing agent for programming.

On entering IR mode, the user will be presented with a list of available IR appliances.

⚠	When an OMNI2 is dispatched from Magic Mobility, it will contain a default menu. If required, the IR configuration tool can be used to change this default menu. Refer to your health care professional or servicing agent for programming.

To navigate the IR mode, using a joystick as an example of an input device:

1. Reverse joystick deflections will highlight the appliance below the one currently displayed.
2. Forward joystick deflections will highlight the appliance above the one currently displayed.
3. Left or right joystick deflections will enter the highlighted appliance's sub-menu, which will contain all the IR commands for that appliance.
4. Forward joystick deflections will highlight the option above the one currently displayed.
5. Reverse joystick deflections will highlight the appliance below the one currently displayed.
6. Left or right joystick deflections will then activate the highlighted IR command (figure 37).

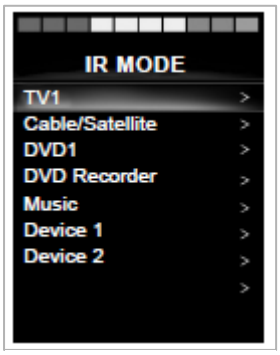


Figure 37

For each appliance there is a list of associated IR commands. Using the TV example, commands such as: on/off, channel up, channel down, volume up and volume down may be displayed. When the OMNI2 is transmitting the selected command, it is highlighted with a red background (figure 38).

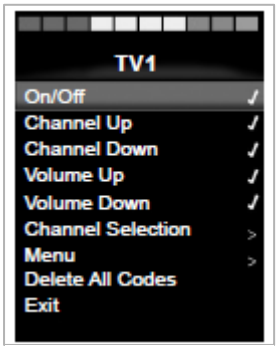


Figure 38

ACCESSING THE IR SET UP MENU

To access the IR set up on the OMNI2:

Press the top right-hand soft-key on the display section, after the OMNI2 has been switched on. This will display the settings menu screen (figure 39).

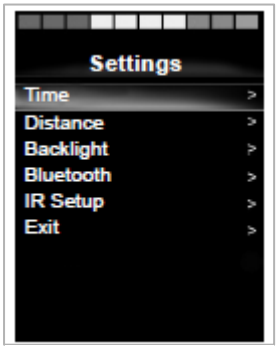


Figure 39

Use the four (4) navigation keys on the display section of the OMNI2. The up/down navigation keys on the front of the display section scroll up and down the menu. The left/right keys select the highlighted option.

LEARNING AN IR CODE

IR codes can be stored or deleted as detailed in the following section.

1. Enter the IR set-up menu.
2. Select an appliance, e.g. TV (figure 40).

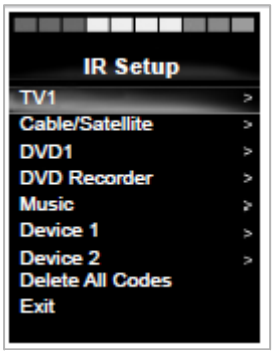


Figure 40

3. The commands for the appliance will appear on the screen. If a command is checked, this means it has a stored IR code. If there is not a check, then there is no stored IR code for that command (figure 41).

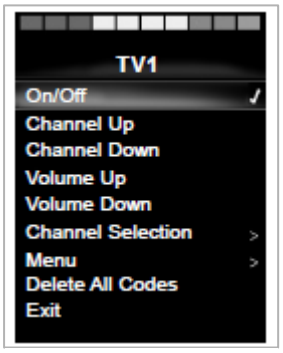


Figure 41

4. Select the command to be learnt. In this example, TV > Channel Up.
5. Select Learn Code, by using the right button on the Omni while the command is highlighted (figure 42).

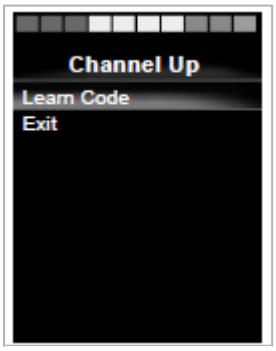


Figure 42

6. Point the TV remote control at the OMNI2's receiver LED and press the TV remote Channel Up button twice (figure 42).

Figure 43

7. A check denotes a successful learn operation (figure 43).

Figure 44

8. A cross denotes an unsuccessful learn operation, please re-try (figure 45).

Figure 45

9. When the first code has been successfully loaded, press the on/off button to turn the OMNI2 off then on.

10. The successfully learnt code will now have a check mark next to it.

11. Follow steps 4 to 8 for the remaining codes for that appliance. There is no need to switch on & off for the rest of the codes for that appliance.

⚠	If you choose another appliance, after the first code you load, switch on and off, then carry on loading the codes for the new appliance without interrupting the power.

ENABLING AND DISABLING IR CODES

IR codes can be enabled or disabled in the IR set-up menu. If a code is disabled it will not transmit and will not appear in the user menu.

1. To disable an IR code, select the – key on the front panel of the OMNI2.
2. Disabled IR codes appear with an 'X' against the highlighted command.
3. To enable an IR code, select the + key on the front panel of the OMNI2.
4. An enabled code appears with a check against the highlighted command (Figure 46).

Figure 46

DELETING IR CODES

To delete an IR code for a specific command:

1. Highlight the specific command in the appliance menu.
2. Press the right button.
3. Select the Delete Code option (figure 47).

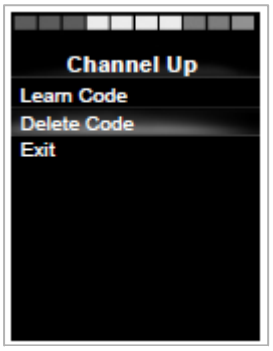


Figure 47

To delete all IR codes for an appliance:

Select Delete All Codes from within that appliance's sub-menu (figure 48).

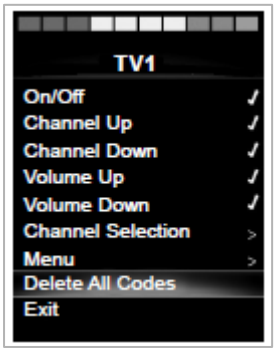


Figure 48

⚠	When deleting all learnt codes for a specific appliance, the OMNI2 must be power-cycled, (switch off then on), to actually delete the codes.

To delete all IR codes stored in the OMNI2, select Delete All Codes within the IR set-up menu (figure 49).

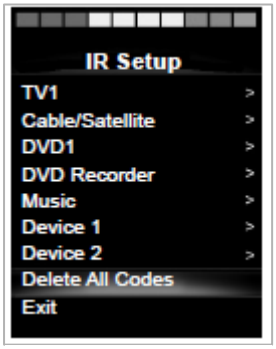


Figure 49

⚠	If the Delete All Codes Command is selected, the OMNI2 must be power-cycled to actually delete the codes.

Contact Magic Mobility if you require further information

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