

**REDBACK** 

## Wallmount Dimmer



# INSTALLATION and OPERATION

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**LSC Lighting Systems (Aust) Pty. Ltd.**

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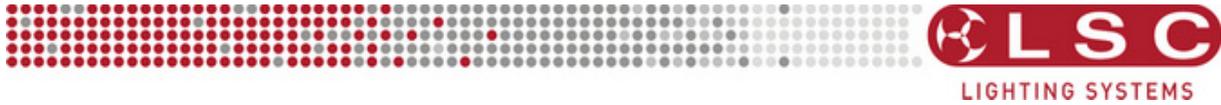
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### ***Conventions Used in this Manual***

Throughout this manual, certain conventions have been used to make the meaning clearer.

- A word in [**Bold**] text represents a button
- Emphasis is indicated by underlining.
- *Notes or Hints are displayed in italic font*

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## 1 Product Description

### 1.1 ABOUT THIS MANUAL

This manual describes the installation, configuration and operation of the Redback Wallmount range of slimline installation digital dimmers and wall plate stations manufactured by LSC Lighting Systems.

There are four different colour themes that you can select on the LCD screen. This screen images in this manual use the default "Redback" colour theme.

### 1.2 REDBACK OVERVIEW

The Redback Wallmount dimmers can be controlled by any DMX512 lighting controller or by optional remote wall plate stations. Dimmer configuration, patching and local control is achieved via a backlit colour touch screen on the front panel. A lock code can be used to prevent unauthorised tampering. Most control functions, configuration options and front panel operations can also be remotely controlled using the RDM (Remote Device Management) protocol.

#### 1.2.1 Features

- DMX512 (1990), DMX512-A (E1-11) and RDM (E1-20) compliant control. If DMX is lost, the Redback can either hold the last values or fade to a "DMX Loss" memory after a programmable delay.
- Optional switched power channel outputs provide direct power by utilising relays guaranteeing there is absolutely no electronics in the circuit to interfere with connected loads.
- Six internal memories with wall plate control.
- Panic mode for evacuation lighting.
- Individual channel settings for:
  - DMX address patching.
  - Minimum and maximum output levels.
  - Fade curve.
- 10 Amp MCB (Miniature Circuit Breaker) protection per channel.
- 100% duty cycle operation across all channels simultaneously.
- Variable speed fan cooling. The fan only operates when required.
- CE and C tick approved.

#### 1.2.2 Redback Control Philosophy

The Redback Wallmount dimmer is known as an "ARCHI-TAINMENT" dimmer.

- Architectural control of Redback memories is by remote "wall plates".
- Entertainment control is by DMX from your lighting controller.

The Redback Wallmount's dimmer channels can be *individually configured* to be controlled by either:

1. DMX Only
2. Memory Only
3. Auto Switch
4. Auto Power

**1. DMX Only.** When configured for "DMX Only", a channel is controlled from a DMX lighting controller. If DMX fails, the channels can either hold their last state or after a programmable delay time, fade to a "DMX Loss Memory" previously stored in the Redback.

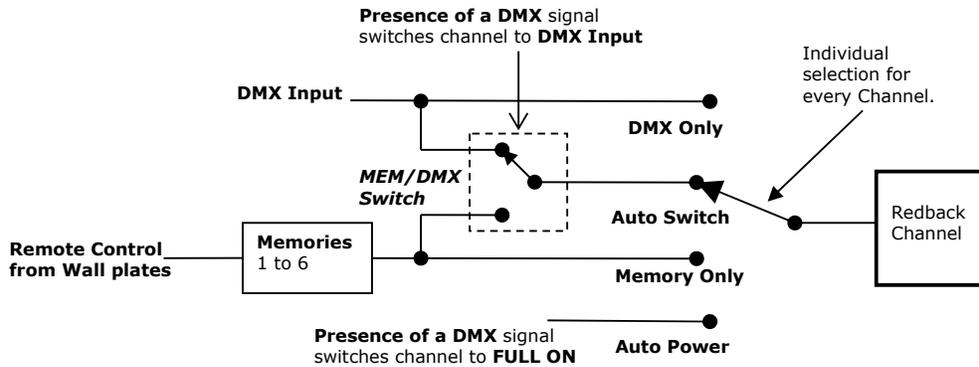
**2. Memory Only.** When configured for "Memory Only", a channel is controlled from wall plates that are used to recall memories (6) stored in the Redback dimmer. These memories can also be recalled from the LCD touch screen.

**3. Auto Switch.** When configured for "Auto Switch" a channel will be *automatically* switched from Memory to DMX control whenever the lighting controller is switched on (and hence a DMX signal is detected on the input to the Redback).

**4. Auto Power.** Channels configured for "Auto Power" are used to provide power to non-dimmable fixtures whenever the lighting controller is switched on and hence a DMX signal is detected on the input to the Redback. When "Auto Power" is enabled, channels configured for "Auto Power" will be *automatically* switched ON at full level whenever any valid DMX signal is detected. These channels will remain on for a programmable "hold time" when DMX is no longer detected.

LSC recommends that fixtures requiring non-dimmed power should always be connected to Redback channels fitted with the "Switch" output option. See section 1.4.2 for details.

The following diagram shows a simplified version of the control sources that can be chosen for every channel.



### 1.3 MODELS

The Redback Wallmount range of dimmers is designed for permanent installation and is available in either 6, 12 or 24 channels.



6 channels  
Internal terminal output option shown



12 channels  
UK output socket option shown



24 channels  
GST18 output socket option shown

### 1.4 FACTORY FITTED OPTIONS

The Redback Wallmount dimmers can be supplied with the following factory fitted options:

#### 1.4.1 Input RCD Protection

Redback's can be supplied with an input RCD (Residual Current Device) breaker.

- The 6 channel and 12 channel models are fitted with a single 3 phase 4 pole RCD.
- The 24 channel models are fitted with a three 2 Pole RCD's, one for each phase.

### 1.4.2 Dimming or Switching Outputs

Redbacks are constructed using internal modules that contain 6 channels each. Two types of modules are available:

- Dimmer modules.
- Switch modules.

Redback's can be therefore be ordered with combinations of dimming modules and switching modules to provide a system with dimmed channels for conventional lighting and non-dimmed (switched) channels for control of devices that require switched "non-dimmed" power such as LED fixtures or moving lights.

For example, a Redback Wallmount 24 can be ordered with 18 channels of dimming and 6 channels of switched power.

To see the type of modules that are fitted to your Redback press the large status button at the bottom of the LCD screen home page:



then from the Status menu that appears press [**About**].

The "About" screen shows the type modules that have been fitted to each group of 6 channels. They will be either an "Opto Dim Module" (dimmer) or a "Switch Module"



In this example, a 24 channel Redback is fitted as follows:

- Channels 1 to 6 are Dimming outputs (Opto Dim Module).
- Channels 7 to 12 are Dimming outputs (Opto Dim Module).
- Channels 13 to 18 are Dimming outputs (Opto Dim Module).
- Channels 19 to 24 are Switched outputs (Switch Module).

### 1.4.3 Output Connections

Redback's can be supplied with either internal load connectors or front mounted load sockets.

The following types of front mounted load socket are available:

- Australian sockets.
- U.K. 15A sockets.
- Shuko sockets.
- GST 18 sockets (Two x GST18 dimmed outputs and one GST18 non-dimmed output per channel).

### 1.4.4 Neutral Disconnect Output MCB

Redback's can be supplied with a "Neutral Disconnect" MCB for each output channel. This is a MCB with a 2nd set of contacts to break the Neutral circuit (as well as the Active) when an overload on the active causes the MCB to trip. It is not a two pole MCB, as these trip with an overload on Active or Neutral.

### 1.4.5 Inverted Controls

The 12 and 24 channel Redback can be ordered with reversed labels and LCD screen for mounting the opposite way up. This places the load connectors on the left of the dimmer which allows it to be located to the right of a cable patch panel without the cables from the patch panel running in front of the circuit breakers. A normal Redback 24 can be mounted on the other side of the patch panel thus providing 24 channels on each side of the patch panel without any patch cables hanging in front of the circuit breakers. See section 2.5.

### 1.4.6 100-120VAC Input Power

Redback's can be supplied for 100-120VAC input power operation. Factory set option.

### 1.4.73 Phase Delta Input Power

Redback's can be supplied wired for 3 phase Delta input power operation. Factory set option.

## 1.5 OPTIONAL CONTROL PANELS

### 1.5.1 Wallplates

Wall plates are optional remote control switch plates that can be used to control any of the 6 internal memories that are stored in the Redback. Wall plates are available with either 1, 2 or 6 buttons.

### 1.5.2 Panic Button

Panic buttons are available to control the "Panic/Evacuation" lighting memory in the Redback. They use a push button to activate and a key switch to de-activate.

## 1.6 FRONT PANEL

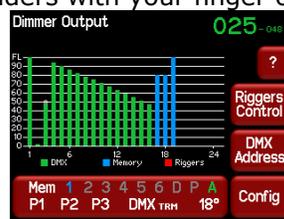
The front panel contains the input RCD (Residual Current Device) breaker (optional), load MCB (Miniature Circuit Breakers), and LCD touch screen. Depending upon your model of Redback, load circuits are either plugged into the output connectors or hard wired to the internal load connectors.



12 channel Redback fitted with UK output sockets

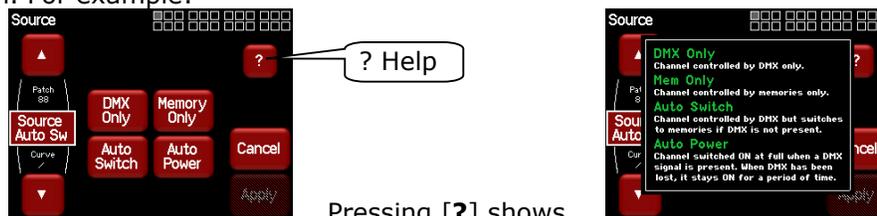
## 1.7 TOUCH SCREEN CONTROL PANEL

The Redback Wallmount dimmer uses a colour LCD touch screen which is operated by touching the virtual buttons and faders with your finger or a stylus.



The "Dimmer Output" home page shows the channel levels.

Many menus have Help screens available. Press the [?] button (when available) to see the help screen. For example:



Pressing [?] shows.....

Press anywhere within the help screen to cancel.

## 2 Installation

### 2.1 SAFETY

All electrical work must be carried out by suitably qualified persons. The Redback Wallmount dimmer is primarily designed for mounting on a solid flat vertical surface.

The dimmer is heavy. Use the correct lifting procedures when handling the dimmer.

### 2.2 UNPACKING

The Redback Wallmount dimmer is fully tested and inspected before leaving the factory. Upon delivery, inspect the dimmer for signs of damage or mishandling. In the event of any damage, contact your LSC agent.

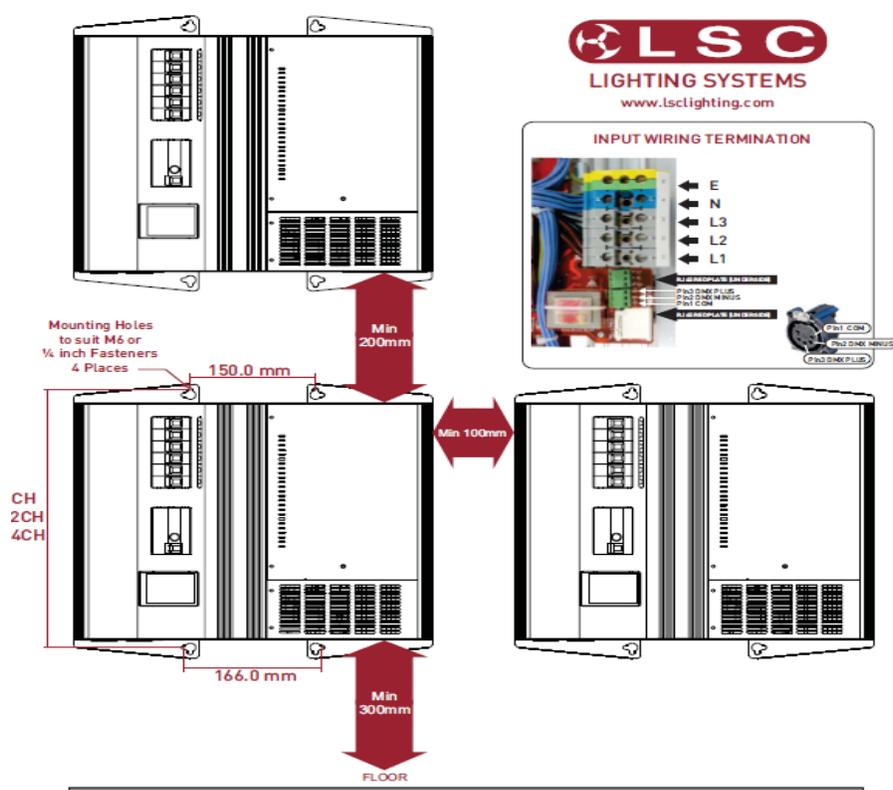
### 2.3 MOUNTING THE REDBACK

The Redback Wallmount dimmer is designed for wall mounting and is provided with keyhole cut-outs in 4 locations, two at the top and two at the bottom. A mounting template is provided with unit.



Ensure that the mounting can support the weight. Refer to the specifications at the end of this manual for the weight of your model.

The ventilation holes at the top, bottom and front of the unit must be kept clear. When mounting multiple dimmers, allow a minimum space of 100mm between dimmers and 200mm above and below each dimmer. Refer to the diagram below for recommended spacing between dimmers and fixed obstacles.



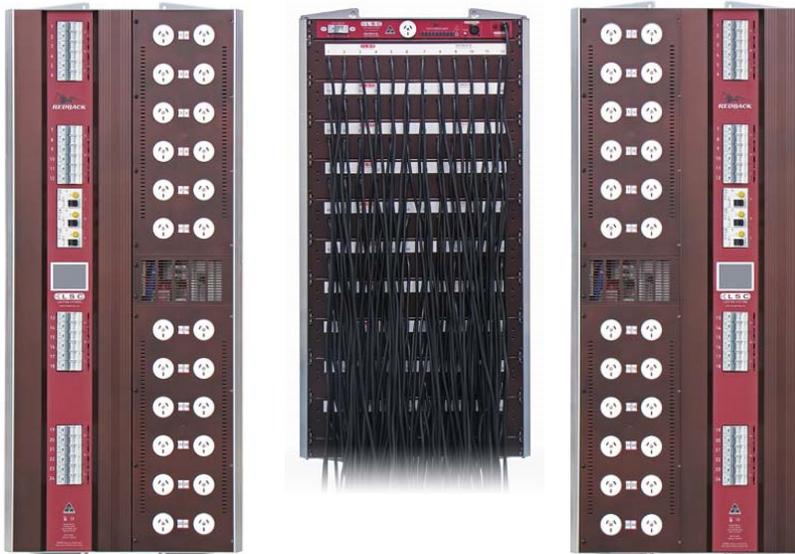
### 2.4 PATCH PANELS

Optional LSC Patch Panels may be mounted beside the dimmers allowing flexibility in load connection. The Patch Panels are usually mounted to the right of the dimmer so that the patch leads do not hang in front of the circuit breakers and LCD screen.



### 2.5 INVERTED 24 CHANNEL REDBACK

The 12 & 24 channel Redback Wallmount can be ordered with the load connectors on the left of the dimmer which allows it to be located to the right of a cable patch panel. A normal Redback 24 can be mounted on the left of the patch panel thus providing 48 channels of dimming without any patch cables hanging in front of the circuit breakers or control panels.



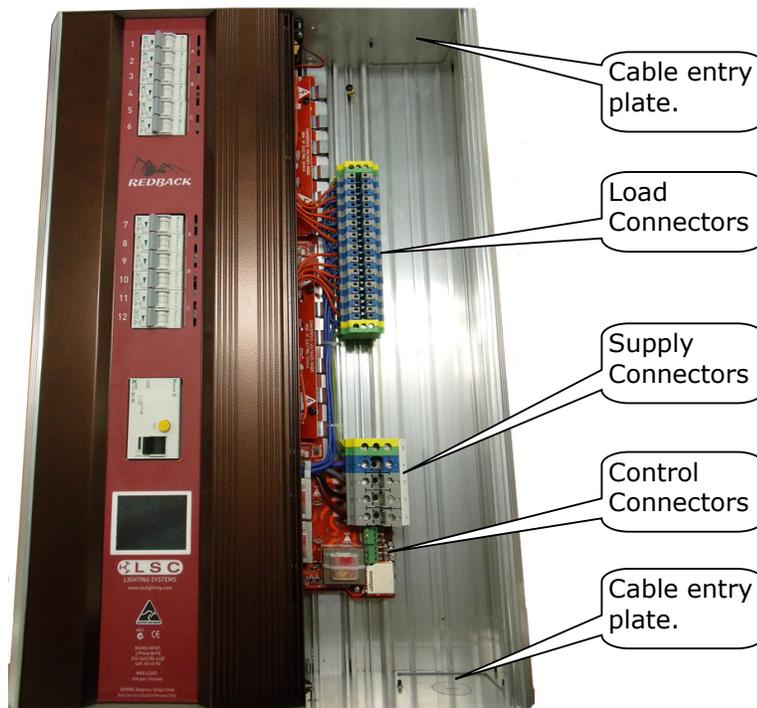
Normal 24 channel Redback

Patch Panel

Reversed 24 channel Redback

## 2.6 CONNECTIONS

Connections are provided behind the front covers for power input, DMX control, Wallplate control, Panic control and load power. All control circuit wiring should be isolated from the power cabling by a metal conduit run up to the control circuit connectors.



12 channel Redback with front covers removed.

### 2.6.1 Input Power Supply

The **Redback Wallmount** dimmer system must be fed from a suitable external circuit breaker. The optional RCD input breaker provides Residual Current Protection only. It does not protect the input circuit from current overloads. The current ratings of the supply for each model are listed below.

**Note:** The rating of the Neutral conductor feeding the dimmer must be at least 1.25 times that of rated limit of any of the Active phase conductors.

This is because various combinations of dimmer drive will result in a Neutral current higher than the line current due to the phase control characteristics of these type of dimmers. For example, a 40Amp 3 phase supply must have a neutral rated at 50Amps.

The input power connection utilizes five 35mm<sup>2</sup> terminals (3 phases, neutral and earth). The nominal input voltage is 220-240 Volts. 3-phase Star (380-415V). 50-60Hz. 3 phase Delta is also available as a factory option.

#### 2.6.1.1 6 Channel Redbacks

6 Channel Redbacks can be powered from:

- Three phase supply of nominal 220-240VAC\* at 50 - 60Hz of up to 20 Amps per phase. See Neutral rating note above.
- Single phase supply of nominal or 220-240VAC\* at 50 - 60Hz of up to 60 Amps

#### 2.6.1.2 12 channel Redbacks

12 channel Redback can be powered from:

- Three phase supply of nominal or 220-240VAC\* at 50 - 60Hz of up to 40 Amps per phase. See Neutral rating note above.
- Single phase supply of nominal or 220-240VAC\* at 50 - 60Hz of up to 120 Amps.

### 2.6.1.3 24 channel Redbacks

24 channel Redback can be powered from:

- Three phase supply of nominal or 220-240VACv at 50 - 60Hz of up to 80 Amps per phase. See Neutral rating note above.
- Single phase supply of nominal or 220-240VAC\* at 50 - 60Hz of up to 120 Amps. The input power connectors are limited to 120 Amps so it is imperative that the single phase supply is current is also limited to 120 Amps.

\*100-120VAC versions are available by special order from the factory.

**Safety Note:** Conversion between three phase and single phase operation should only be undertaken by a suitably trained and qualified electrical technician.

### 2.6.2 Cable Entry

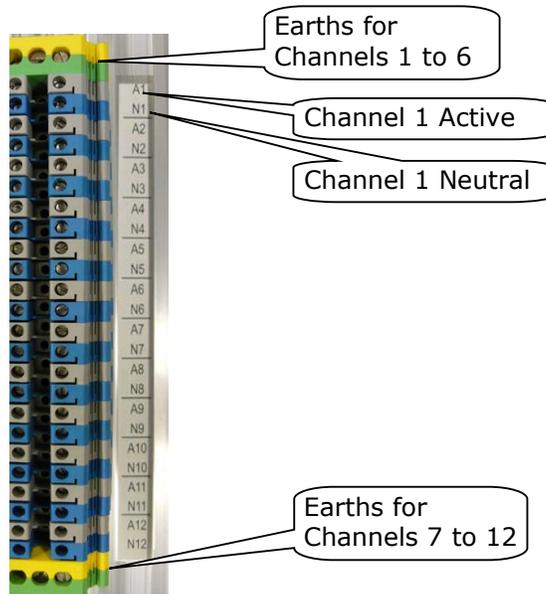
Redback Wallmount dimmers are fitted with removable cable duct plates on the top right and bottom right of the unit.



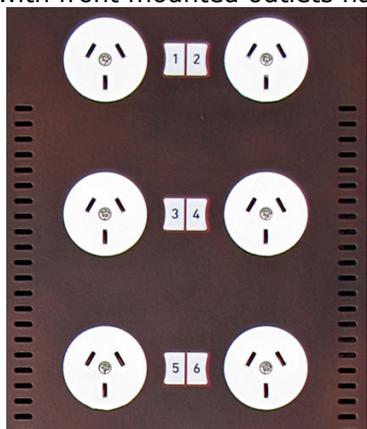
The bottom plate is provided with a cable knock-out entry. To remove the knock-out insert a flat blade screwdriver in the slot provided and twist out the metal disk and fit a M32 cable gland.

### 2.6.3 Connecting the Load Circuits

Models with internally connected load circuits are provided with numbered 6mm terminals for Active (A) and Neutral (N) for each load circuit. One 16mm Earth (E) terminal is provided for every 6 load connections. These connections are wired directly to the outlets at the required locations in the building.



Models with front mounted outlets have numbers indicating their channel.



Australian Outlets



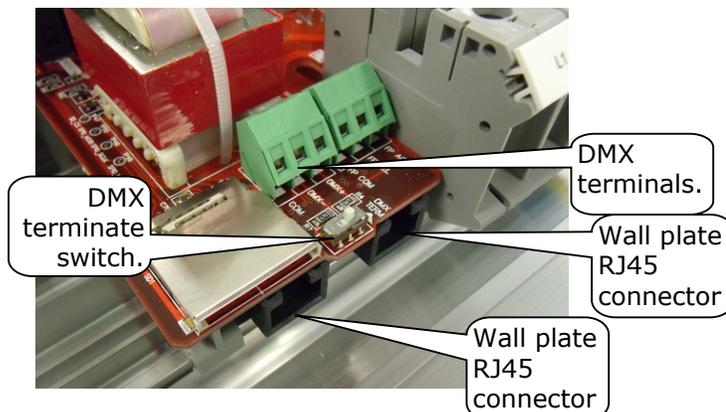
GST Outlets

Redbacks fitted with GST outlets have 2 DIMMING (or optionally switched) outlets and one HOT POWER outlet per channel. The dimming and hot power outlets of each channel are all connected to the channels load circuit breaker. The total load per channel must not exceed 10 amps.

### 2.6.4 Connecting DMX512

DMX512 is the industry standard for the transmission of digital control signals between lighting equipment. DMX is usually "looped" from one piece of equipment to the next. See "DMX Explained and Typical Installations" for more information.

DMX512 is connected to the Redback Wallmount dimmer by using the screw terminals inside the unit. The DMX512 connection is high impedance. This allows the DMX512 to be wired in parallel to other dimmers. If the DMX line ends at this dimmer (is not looped to other dimmers or devices) then the DMX TERM switch must be set to TERM.



LSC recommends the use of RS485 data cable or shielded CAT5 cable for the DMX connections. Audio or Microphone cables must not be used.

Connections:

- COM (common) = Pin 1 of a 5 Pin XLR connector.
- DMX- (Data negative) = Pin 2 of a 5 Pin XLR connector.
- DMX+ (Data Positive) = Pin 3 of a 5 Pin XLR connector.

**2.6.5 Wall Plate Connection**

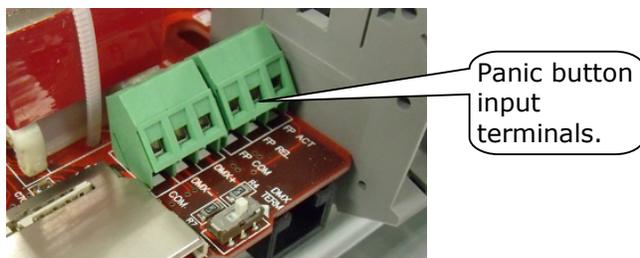
Wall plates are the remote wall switches for the Redback Wallmount dimmers. The wall plates allow you to recall any of the 6 internal memories from the Redback for replay at a pre-programmed level and fade time. Wall plates are available with either 1, 2 or 6 buttons. Wall plates are connected to the Redback via RJ45 connectors and cat5 cable. Wall plates require all 8 wires in the CAT5 cable to be connected. Two parallel connectors are provided to simplify cable runs to different locations.

See section 5 for details on Wallplate installation and configuration.

**2.6.6 Panic Memory Connection**

The "Panic" function provides emergency evacuation lighting that can be easily recalled by either a simple "Panic" or "Evacuate" button or it can be connected to a BMS (Building Management System) so that it is automatically operated when a fire alarm is activated. The "Panic" connection recalls a "Panic Memory" that you have created in the Redback. This memory will typically contain channel levels that will provide suitable lighting for evacuation purposes.

The Panic (Fire Panel) button function uses two connections, one to activate panic and one for release. Both connections use screw terminals and share the common connection.



The Panic button terminals are labelled:

- FP ACT (Fire Panel Activate)
- FP REL (Fire Panel Release)
- FP COM (Fire Panel Common)

A momentary contact closure between FP ACT and FP COM will activate the Panic memory. A momentary contact closure between FP REL and FP COM will release the Panic memory. Specialised "FIRE/Panic" panels are available from LSC or your LSC agent. These use a press button to activate the panic memory and a keys-switch to de-activate the memory. See section 4.10 for details on how to program the "Panic" memory.

### 2.6.7 DMX Connector Plate - Option

The Optional Redback wall mount dimmer DMX input plate is designed to fit all Redback wall mount series dimmers. The Redback Wall-mount Dimmer has four blanking or cable access plates to suit different installation requirements—one access opening in each corner of the dimmer on the upper or lower end plate. The DMX input plate may be fitted to any access opening as long as there is sufficient room and clearance from high voltage mains cabling within the dimmer.

The DMX input plate provides DMX In and Thru connectivity with no buffering between the connectors. The DMX Input plate does not terminate the DMX cable in any way. Termination should be provided by setting the internal "DMX Term" switch.

This kit is supplied with:

- 1.. DMX connectors on circuit board and mounted on a metal cover plate.
- 2.. Connection cable—with 6 way connector at one end and 3 stripped wires at the other.

#### **Installation**

1.. Remove the existing blanking plate and fit the DMX input plate using the two black screws as shown. Note that the picture below show the left hand cover panel removed—this is for illustration purposes only to show cable routing. LSC recommends this left hand cover panel is not removed.



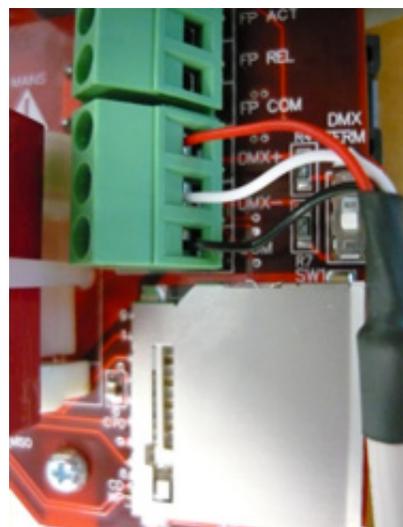
2.. Ensure cabling inside the dimmer is clear of the internal electronics and other HV cabling. Secure cabling to the chassis using cable ties or cable tie blocks.

3.. Wire the stripped ends of the cable into the DMX connector block as shown. Ensure the cabling is connected as follows:

- DMX+ (XLR Pin 3) >> Red wire
- DMX- (XLR Pin 2) >> White Wire
- COM (XLR Pin 1) >> Black Wire



Internal wiring and cable routing. Left hand cover panel removed to show cable routing. Leave in place to avoid damage to static sensitive control electronics.



DMX cable connection detail

## 3 Configuring the Redback Wallmount Dimmer

When a Redback Wallmount dimmer is installed, it needs to be configured to suit its particular installation and application. This involves the following operations which are achieved via the touch screen menus. The menu system is fully described in the next section.

### 3.1 CONTROL SOURCE

Each channel needs to be configured for the "Control Source" that will control it. This could be either "DMX Only", "Memory Only", "Auto SWITCH" (switch from Memory to DMX control whenever the lighting controller is switched on and hence a DMX signal is detected on the input to the Redback) or "Auto Power" (switch to full ON whenever the lighting controller is switched on and hence a DMX signal is detected on the input to the Redback). See section 1.2.2 for more information on these choices.

The default setting is for channels to "Auto Switch".  
See Control Source in section 4.9.

### 3.2 PATCHING

Channels set to DMX or Auto Switch Mode, may need to be patched to the DMX slot number that is to control them.

See DMX Patching in section 4.8.

### 3.3 RECORDING MEMORIES

Channels set to Memory Only or Auto Switch are controlled by the (6) memories in each Redback. These memories must be created and saved in the Redback. You can create memories by setting channel levels on the touch screen or by taking a snapshot of the DMX input or current output of the Redback.

See Recording Memories in section 4.7.

The Wall plates must also be connected and configured to control the required memories.  
See section 2.6.5 and section 5.

### 3.4 OPTIONAL SETTINGS

In addition to these settings you can also set the following *optional* parameters;

- Create a DMX memory that can be automatically recalled when the DMX signal is lost. See section 4.8.2
- Create a "Panic" memory that will be recalled when the remote "Panic" button is pressed. See section 4.10
- Set minimum and maximum levels for each channel.  
See section 4.9
- Set each dimmer to either "S Curve" (dimmer) or "Non Dim" (switch between OFF or fully ON). See section 4.9.3
- Set a "lock code" to prevent unauthorised access to the menu system. See section 4.13

## 4 Menu System

### 4.1 OVERVIEW

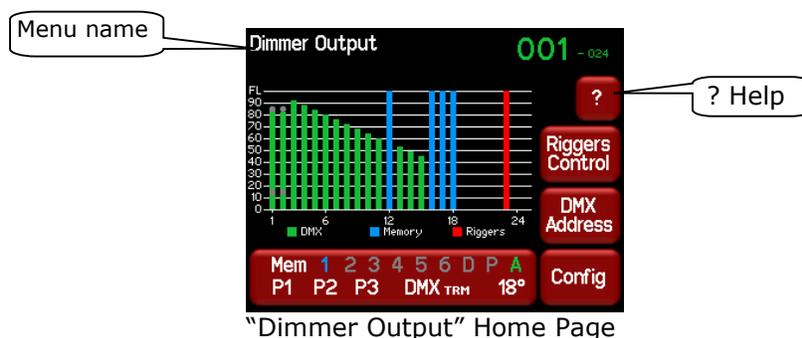
The Redback Wallmount dimmer uses a colour LCD touch screen which is operated by touching the virtual buttons or faders with your finger or a stylus. The menus on the screen provide the functions to configure and operate the dimmer.

### 4.2 HELP SCREENS

Many menus have Help screens available. Press the [?] button to see the help screen. Touch anywhere within the help screen to cancel.

### 4.3 HOME PAGES

There are two possible “home” pages that you can select to suit your individual requirements. The “Dimmer Output” home page shows the current output of the Redback and the “DMX Address” home page has a large DMX address display.



Pressing [**DMX Address**] changes the display to show the “DMX Address” home page. Pressing [**View Output**] on the “DMX Address” home page changes back to the “Dimmer Output” home page.

Both home pages are described in detail later in this section.

Both home pages have two common buttons at the bottom of the screen, the large [**Status**] button and the [**Config**] button beside it.

#### 4.3.1 Config

Pressing [**Config**] allows you to access a range of functions and setups via sub-menus. Each sub-menu screen has its name in the top left corner. The menus are fully described later in this section. If the Redback has been “locked”, the [**Config**] button is replaced by the [**Padlock**] button. Touching the [**Padlock**] button and entering your code number unlocks the Redback and reveals the [**Config**] button.

#### 4.3.2 Status

The information on the large [**Status**] button  shows the status of the Redback memories, input power, DMX and temperature.

The top line indicates which memories are active on the output.

- **1 to 6** are the six internal (wall plate) memories.
- **D** is the “**DMX loss**” memory.
- **P** is the “**Panic button**” memory.

**Blue** is active. **Grey** is not active.

- **A** shows the status of the “**Auto on**” (when DMX is present) function.
- Green** is active. **Grey** is not active (DMX not present) and the “**A**” is not shown when “Auto on” has been disabled.

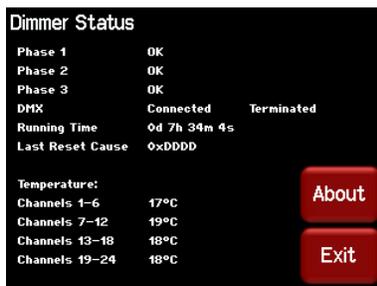


The bottom line indicates:

- **P1, P2, P3** show the presence of the input power phases. Flashing **Red** is not present.
- **DMX** shows the presence of a DMX control signal. Flashing **Red** is not present.
- **TRM** indicates that the DMX line is terminated by the internal "DMX TERM" switch.
- The internal temperature of the Redback is shown in degrees Celsius.

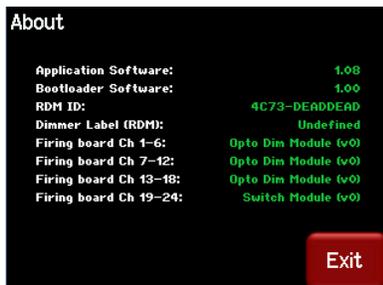


Pressing the status button reveals the detailed "Dimmer Status".



It shows the presence of the input power phases, DMX presence, position of the DMX termination switch, dimmer running time, last cause of a reset and the individual temperatures of the internal modules of the Redback.

Pressing [**About**] shows the software versions and the type of power modules (Firing boards).



Redbacks are constructed using internal power modules that contain 6 channels each. Two types of power modules are available:

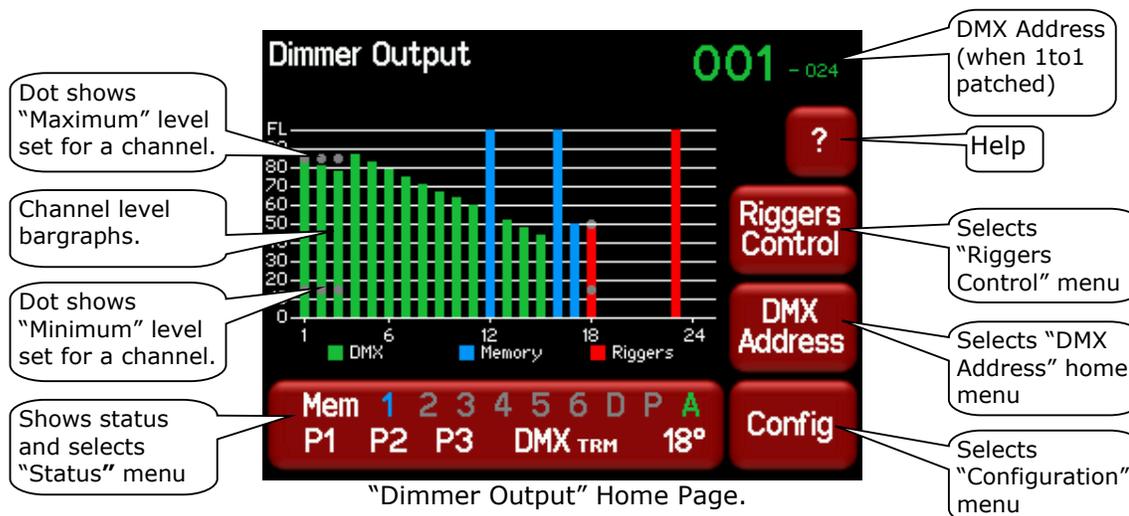
- Dimmer modules.
- Switch modules.

Redback's can be therefore be ordered with combinations of dimming modules and switching modules to provide a system with dimmed channels for conventional lighting and non-dimmed (switched) channels for control of devices that require "non-dimmed" power such as LED fixtures or moving lights.

For example, in the menu above, there are 18 channels of dimming and 6 channels of switched power.

#### 4.4 DIMMER OUTPUT HOME PAGE

The "Dimmer Output" home page shows current level of each channel in a bar graph display which is colour coded to show the current **control source** for each channel.



The bargraph shows the output level of every channel. Channels can be controlled from multiple sources and the colour code of the bargraph indicates the source of the control signal.

- **Green** = controlled by DMX
- **Blue** = controlled by a Memory.
- **Red** = controlled locally by either the Riggers Control or a "minimum level" channel setting if DMX is not present.

In the above example, channels 12, 16 and 17 are controlled by a Memory and the large status button shows you that it is Memory 1 (it is blue).

Channels are controlled on a HTP (highest Takes Precedence) basis. If multiple sources are controlling a channel (such as DMX and Riggers control) then the highest level will be output and will hence determine the colour of the bargraph. If a minimum or maximum level has been set for a channel they are indicated by dots on the channels bargraph.

The top right corner of the screen shows the DMX address information.

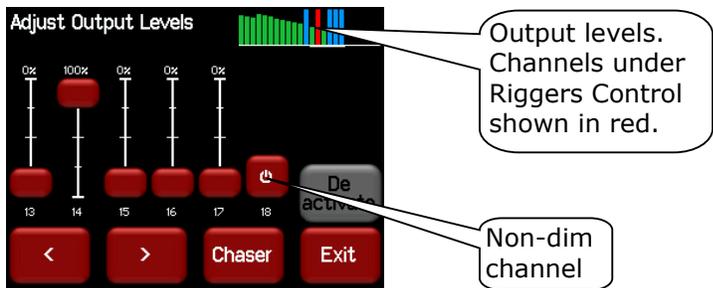
- If a 1 to 1 patch is implemented it shows the DMX addresses of the first and last channels of the dimmer rack.
- If channels are individually patched it shows the word "Patched".

Pressing [**Riggers Control**] allows you to control Redback channels directly from the touch screen as described below.

Pressing [**DMX Address**] selects the "DMX Address" home page as described below.

##### 4.4.1 Riggers Control

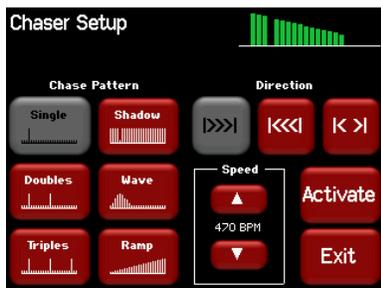
To set the level of a channel(s) (or run a chaser) from the touch screen, select the "Dimmer Output" home page (above) then press [**Riggers Control**].



The output of the Riggers Controls can be turned off or on by pressing [**De activate**]/[**Activate**].  
 To set the level of a channel(s), use the virtual faders. “Non-dim” channels have an On/Off push button switch instead of a fader. The button turns green when it is on.  
 Press [←] or [→] to select more channels (if fitted).  
 When finished press [**Exit**].

**4.4.2 Chaser**

To activate the chaser, from the “Rigger Control” (above), press [**Chaser**].

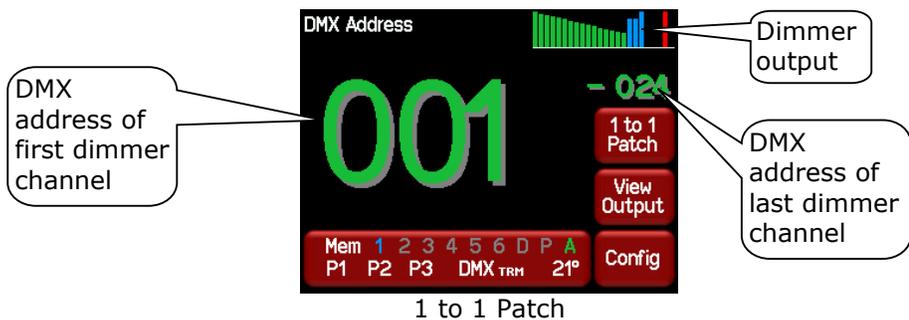


To enable the Chaser press [**Activate**].  
 Select a pattern” using the 6 “Chase Pattern” buttons.  
 Set the speed in BPM (Beats Per Minute) by pressing the [▲] or [▼] buttons.  
 Use the “Direction” buttons to select [I>>>I] (forward), [I<<<I] (reverse) or [I<>I] (bounce from end to end).  
 To disable the Chaser press [**De-Activate**].  
 When finished press [**Exit**].

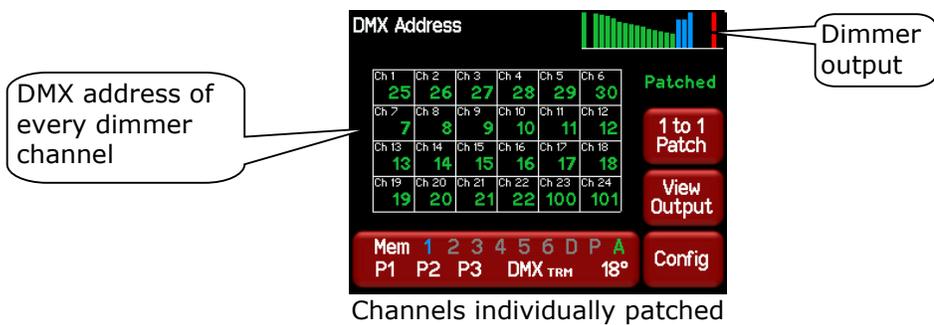
**4.5 DMX ADDRESS HOME PAGES**

The “DMX Address” home page has two formats:

If a 1 to 1 patch is implemented it shows the DMX addresses of the first and last channels of the dimmer (in a large and small font respectively).



If channels are individually patched it shows the word “Patched” and the DMX addresses of all channels in the dimmer.



Both displays also show a colour coded mini bar-graph of the dimmer output at the top of the screen. See the "Dimmer Output" home page above for the colour code.

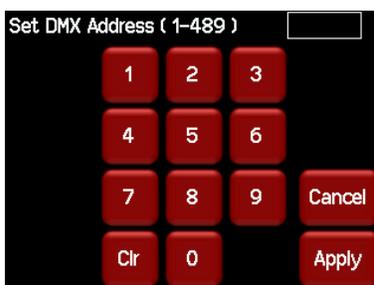
Pressing [**1 to 1 Patch**] allows you to easily patch all of the channels to sequential DMX slots as described below.

Pressing [**View Output**] selects the "Dimmer Output" home page.

#### 4.5.11 to 1 Patch

Patches are often performed in contiguous blocks of addresses. The 1 to 1 patch function provides a rapid method of patching all of the dimmers in one Redback rack to sequential DMX slots, starting from a DMX address that you enter.

To perform a 1 to 1 patch, select the "DMX Address" home page (above) then press [**1 to 1 Patch**].

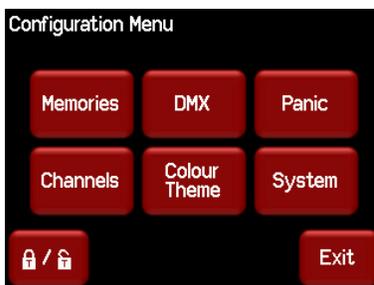


Enter the DMX address for the first channel in this Redback then press [**Apply**].

Individual channel patching is performed in the DMX menu as described below.

#### 4.6 CONFIG MENU

From any of the "Home Pages", pressing [**Config**] reveals the "Configuration Menu".



The buttons on the "Configuration Menu" provide access to the Sub-Menus and functions which are described in detail on the following pages. Each sub menu has its name at the top of its screen.

The following table shows the functions that can be performed in each sub menu.

<b>Memories</b>	<b>DMX</b>	<b>Panic</b>
Edit Wallplate Memories 1-6	Patch	Edit Panic Memory
Fade In/Out selected memory	View DMX Input levels	Fade In/Out Panic memory
	Edit DMX Loss Memory & Delay Time	
	Fade In/Out DMX Loss memory	
	Enable Auto Power	
	Auto Power Hold Time	
<b>Channels</b>	<b>Colour Theme</b>	<b>System</b>
Min Level	Antarctic	Wallplate Setup
Max Level	Dawn	Code Upgrade
Curve	Redback	Reset
Source	Gothic	

Config Menu Structure

### 4.7 MEMORIES MENU

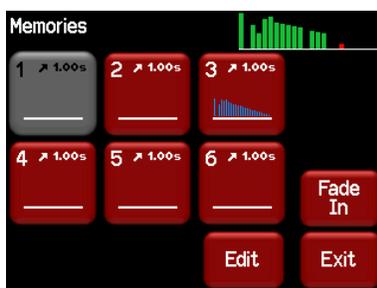
Selecting [**Config**] [**Memories**] provides menus for editing and activating the dimmer’s 6 memories. You can create memories by setting channel levels on the touch screen or by taking a snapshot of the DMX input or current output of the Redback. The memories are saved in the Redback and are recalled using the buttons on external wallplates or directly from the Redback touch screen.

- When a channels “source” is set to “Memory Only”, it is always controlled by the Redback memories.
- When a channels “source” is set to “Auto Switch”, it is controlled by the Redback memories only when there is no DMX signal present at the Redback.

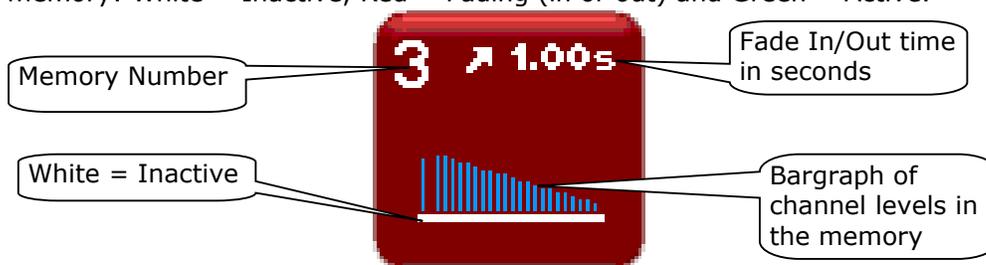
See section 4.9 for details on how to set a channels “control source”.

#### 4.7.1 Create or Edit Memories

To Create or edit a memory, from either home screen press [**Config**], [**Memories**].



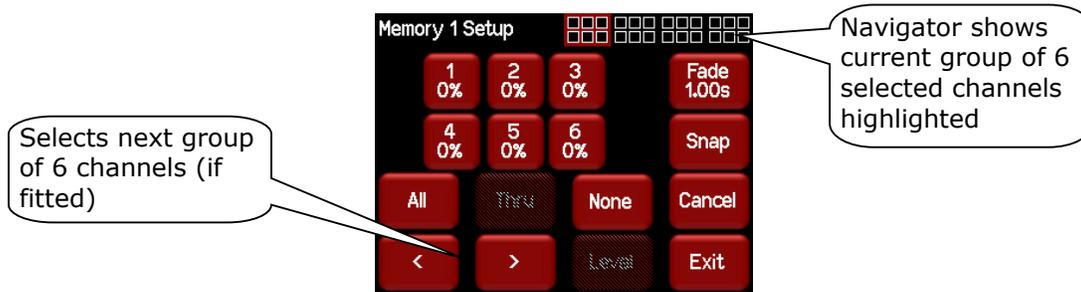
Each memory button shows a bargraph display of the contents of that memory and also its fade time in seconds. The colour of the bar at the bottom of the bargraph shows the status of the memory: White = Inactive, Red = Fading (in or out) and Green = Active.



### Memory Button

Touch a memory to select it. The currently selected memory is highlighted.

- Press **[Fade In]/[Fade Out]** to see the selected memory on the output of the Redback.
- Press **[Edit]** to edit the selected memory. You can either take a **[Snap]** (snapshot) of the current DMX input signal or the current state of the Redback's Outputs or select a channel(s) and manually set their levels using the controls on the screen.

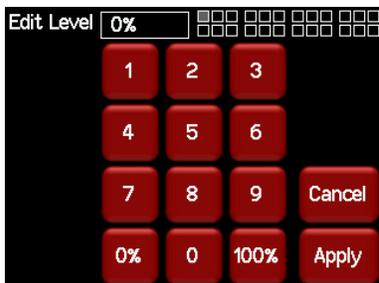


#### 4.7.1.1 Manually Setting Channel Levels

The "Memory Setup" menu (above) shows the first 6 channels. Use the [**<**] or [**>**] buttons to see the other groups of 6 channels (if fitted). The navigator at the top right of the screen shows current group of 6 selected channels highlighted.

Touch a channel to select it. You can select multiple channels. To select a range of channels select your first channel then press [**Thru**] then your last channel. Use [**All**] to select all channels. Press [**None**] to de-select all channels.

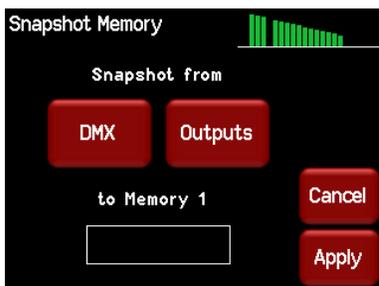
When you have selected your channel(s) press [**Level**].



Use the keypad to set the level then press [**Apply**].

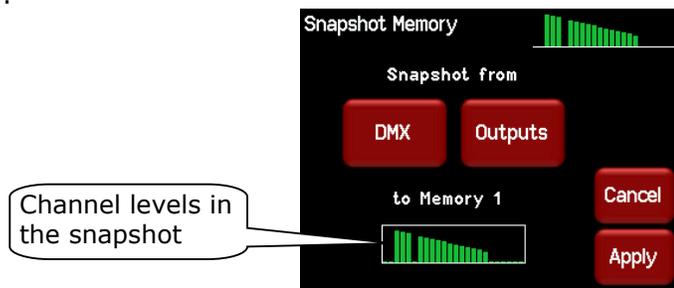
#### 4.7.1.2 Taking a Snapshot

To create a memory by taking a snapshot, press [**Snap**] from the "Memory Setup" menu above.



Pressing [**DMX**] will take a snapshot of the current DMX input signal. Pressing [**Outputs**] will take a snapshot of the current output of the Redback. These channel levels could be coming from DMX, Memories, Riggers Control or a combination of all three.

When you take the snap, the channels levels will be displayed in the box below the memory number.



To save the snapshot to the memory press [**Apply**].

The channels levels that were captured in the snapshot can be edited by manually setting channel levels as described above.

#### 4.7.1.3 Fade Time

When editing a memory (above), you can set a fade time for the memory by pressing [**Fade**].



Enter a time in seconds (0 to 99.99) then press [**Apply**].

When all of the channel levels and the fade time of the memory are correct, press [**Exit**].

#### 4.7.2 Playback Memories

To playback a memory either;

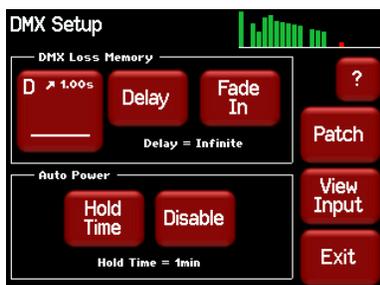
- Press [**Config**] [**Memories**]. Select a memory by touching it, then press [**Fade In**]/[**Fade Out**].
- Use a Wallplate button that has been programmed to control that memory number.

See section 4.12.1 Wallplate Setup for details on how to program Wallplate buttons.

### 4.8 DMX MENU

Selecting [**Config**] [**DMX**] provides menus for:

- Patching DMX.
- Editing and activating the DMX Loss (D) memory.
- Enabling and time setting the Auto Power function.
- Viewing the Input DMX signal.



#### 4.8.1 DMX Patching

The patch allows you to patch (connect) DMX slots (addresses) from your DMX lighting controller to Redback channel numbers. Each Redback dimmer unit numbers its channels

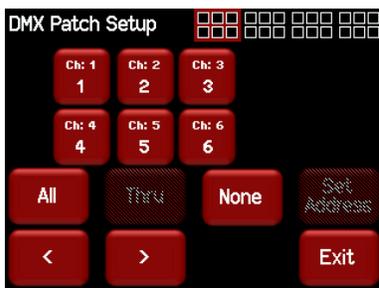
from channel 1 through to channel 6 or 12 or 24, depending upon the quantity of channels in the model of Redback.

Patches are required when;

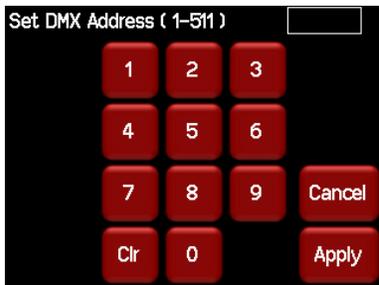
- A particular *DMX slot number* from the lighting controller is to control an Redback dimmer with a different *channel number*.
- A single DMX slot number is to control multiple Redback channel numbers.

Patches are often performed in contiguous blocks of addresses. The 1 to 1 patch function provides a rapid method of patching all of the dimmers in one Redback frame to sequential DMX slots, starting from a DMX address that you select.

To individually patch dimmers channels to DMX addresses press [**Config**] [**DMX**] [**Patch**].



The menu shows the first 6 channels. Use the [**<**] or [**>**] buttons to see the other groups of 6 channels (if fitted). Touch a channel to select it. You can select multiple channels. To select a range of channels select your first channel then press [**Thru**] then your last channel. Use [**All**] to select all channels. Press [**None**] to de-select all channels. When you have selected your channel(s) press [**Set Address**].



Enter the required DMX address then press [**Apply**].

If more than one channel is selected, then the lowest channel number will be patched to the selected DMX slot and the following dimmers will be patched to the sequential DMX slot numbers.

For example, if channels 1,2, 3 and 10 are selected and DMX slot number 24 is applied the result will be .....

Channel	DMX Slot
1	24
2	25
3	26
10	27

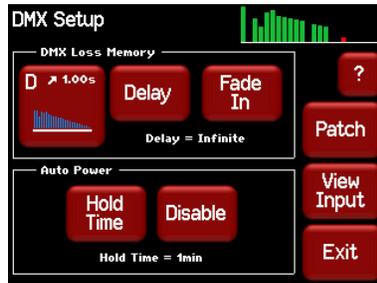
To patch multiple channels to the same DMX slot patch them one at a time. When finished patching press [**Exit**].

To perform a 1 to 1 patch, from the "DMX Address" home page press [**1 to 1 Patch**], enter the starting address for the Redback then press [**Apply**].

### 4.8.2 DMX Loss Memory

The Redback has a “DMX Loss Memory” that you can program. In the event that the DMX input signal is lost, channels set to DMX control will hold their last DMX level for a programmable “Delay” time. The default setting for this time is “Infinite”. If you set a delay time other than “Infinite”, the channels will fade to the “DMX Loss Memory” when the delay time expires (up to 1 hour). When DMX is restored, the Redback will fade back to the DMX signal.

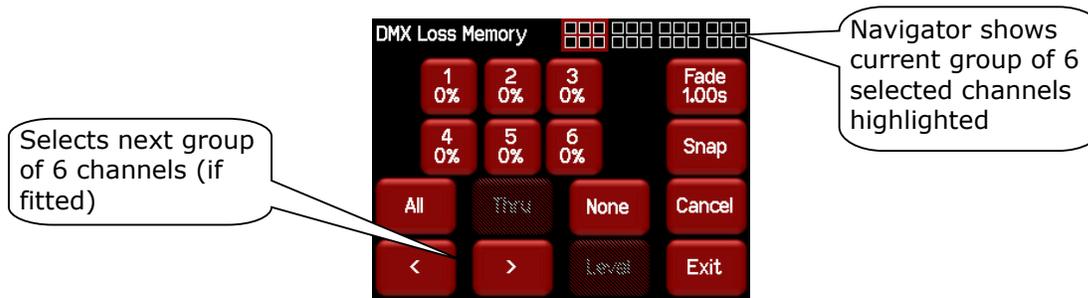
To create or edit a “DMX Loss” memory press [**Config**] [**DMX**].



The “DMX Loss Memory” box has 3 buttons:

- Press [**Delay**] to set the “Delay” time as described above.
- Press [**D**] to create or edit the memory as described below.
- Press [**Fade In**]/[**Fade Out**] to see the DMX Loss memory on the output.

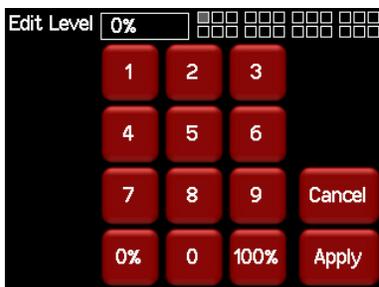
The “D” button shows a bargraph display of the current DMX Loss memory and also its fade time in seconds. When you press [**D**], you can either take a [**Snap**] (snapshot) of the current DMX input signal or the current state of the Redback’s Outputs or select a channel(s) and manually set their levels using the controls on the screen.



#### 4.8.2.1 Manually Setting Channel Levels

The “DMX Loss Memory” menu (above) shows the first 6 channels. Use the [**<**] or [**>**] buttons to see the other groups of 6 channels (if fitted). The navigator at the top right of the screen shows current group of 6 selected channels highlighted.

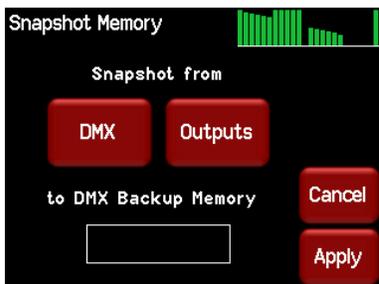
Touch a channel to select it. You can select multiple channels. To select a range of channels select your first channel then press [**Thru**] then your last channel. Use [**All**] to select all channels. Press [**None**] to de-select all channels. When you have selected your channel(s) press [**Level**].



Use the keypad to set the level then press [**Apply**].

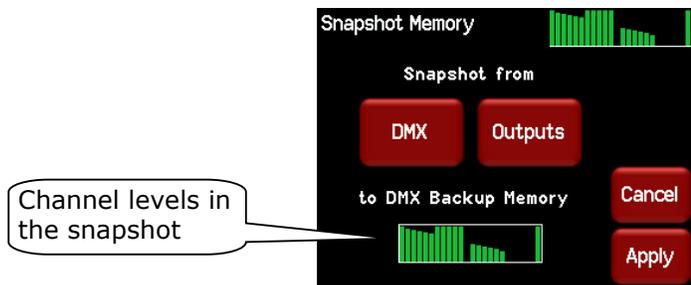
#### 4.8.2.2 Taking a Snapshot

To create a memory by taking a snapshot, press [**Snap**] from the “DMX Loss Memory” menu above.



Pressing [**DMX**] will take a snapshot of the current DMX input signal. Pressing [**Outputs**] will take a snapshot of the current output of the Redback. These channel levels could be coming from DMX, Memories, Riggers Control or a combination of all three.

When you take the snap, the channels levels will be displayed in the box.

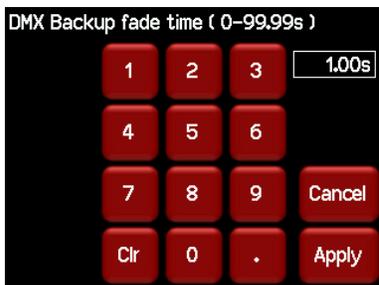


To save the snapshot to the memory press [**Apply**].

The channels levels that were captured in the snapshot can be edited by manually setting channel levels as described above.

#### 4.8.2.3 Fade Time

When editing the DMX Loss memory (above), you can set a fade time for the memory by pressing [**Fade**].



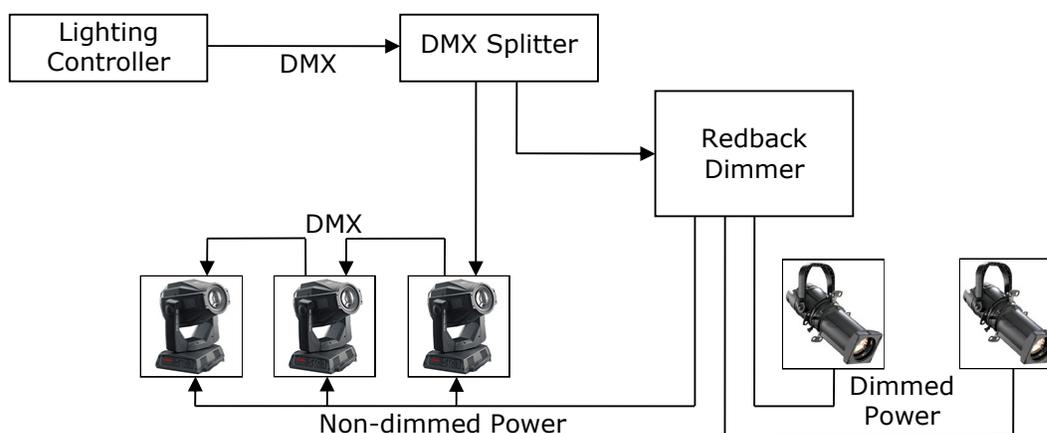
Enter a time in seconds (0 to 99.99) then press [**Apply**].

### 4.8.3 Auto Power

Many lighting fixtures such as LED's and moving fixtures require a constant source of non dimmed power when they are operating. Normally you would manually switch on the power to these devices prior to a show and manually switch them off at the conclusion. Auto Power is a feature that automatically switches selected Redback channels to full ON whenever there is a DMX signal present on the input to the Redback and switches them OFF when the lighting controller is turned off.

A "Hold Time" can be set to prevent fixtures being turned off if there is a short interruption to the DMX signal and also to allow for a cool down period for the fixtures.

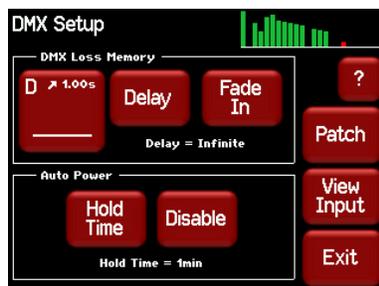
In the following example, the 3 moving fixtures require non-dimmed power plus DMX for control. They are connected to a Redback "Switch" channel that is configured for "Auto Power". The 2 conventional fixtures are connected to Redback dimmer outputs. When the lighting controller is switched on, the Redback detects the DMX signal and automatically switches on the moving fixtures.



LSC recommends that fixtures requiring non-dimmed power should always be connected to Redback channels fitted with the "Switch" output option. See section 1.4.2 for details.

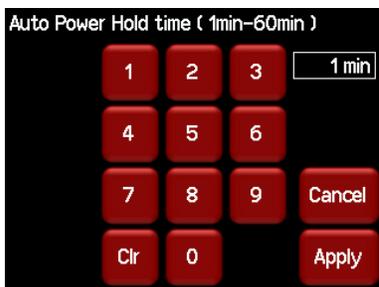
Note: To make a channel switch On when DMX is present you must "Enable" Auto Power as described below and also select "Auto Power" as the channel's "Control Source". This is selected in the "Control Source" section of the "Channels" menu. See the "Channels Menu" below for details.

To select the DMX Setup menu, press [**Config**] [**DMX**].



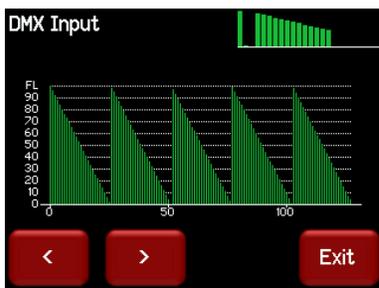
The "Auto Power" box has 2 buttons:

- Press [**Disable**] to disable the Auto Power function. The button then changes to [**Enable**]. This is a global setting for all channels that have their control source set to "Auto Power"
- Press [**Hold Time**] and enter a time from 1 to 60 minutes. This is the time that the "Auto Power" channels will stay ON when the DMX signal is lost.



#### 4.8.4 View Input

The "DMX Setup" menu allows you to view the channel levels on the DMX input. Press **[View Input]**

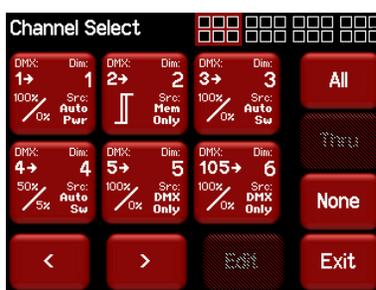


Press either [**>**] or [**>**] to scroll through all slots in the DMX Universe.

#### 4.9 CHANNELS MENU

Selecting [**Config**] [**Channels**] provides menus for configuring the following parameters for each channel:

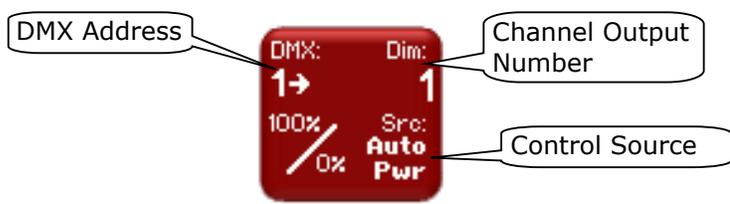
- Min. Minimum Level
- Max. Maximum Level
- Curve. Diming or Non Diming.
- Source. The control source for the channel. The choices are: DMX only, Memory only, Auto Switch (between Memory and DMX whenever DMX is present) and Auto Power (On at full whenever DMX is present).

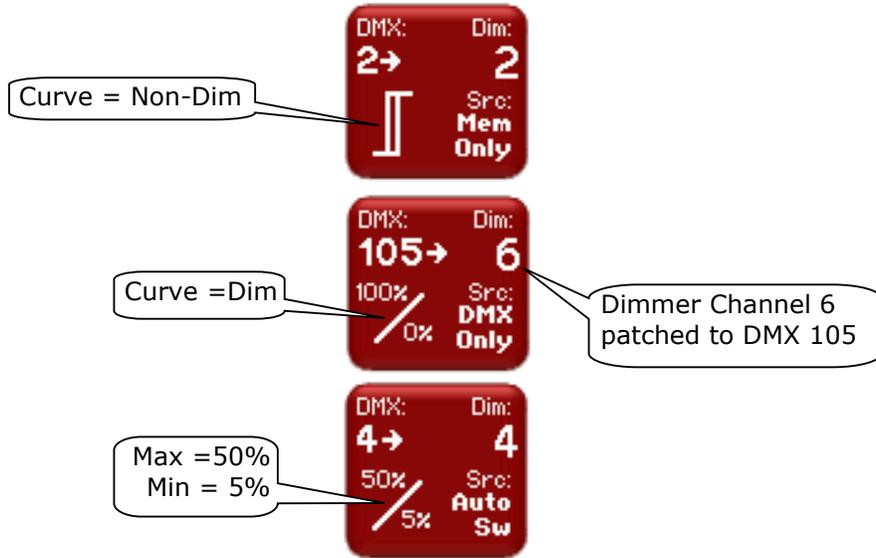


Navigator shows current group of 6 selected channels highlighted

The screen shows the settings for the first 6 channels. Use the [**<**] or [**>**] buttons to see the other groups of 6 channels (if fitted). The navigator in the top right of the screen shows the selected group highlighted.

Each channel button shows the settings for that channel.





To change the settings of a channel(s), select the channel(s) by touching. You can select multiple channels. To select a range of channels select your first channel then press [**Thru**] then your last channel. Use the [**<**] or [**>**] buttons to see the other groups of 6 channels (if fitted). Use [**All**] to select all channels. Press [**None**] to de-select all channels.

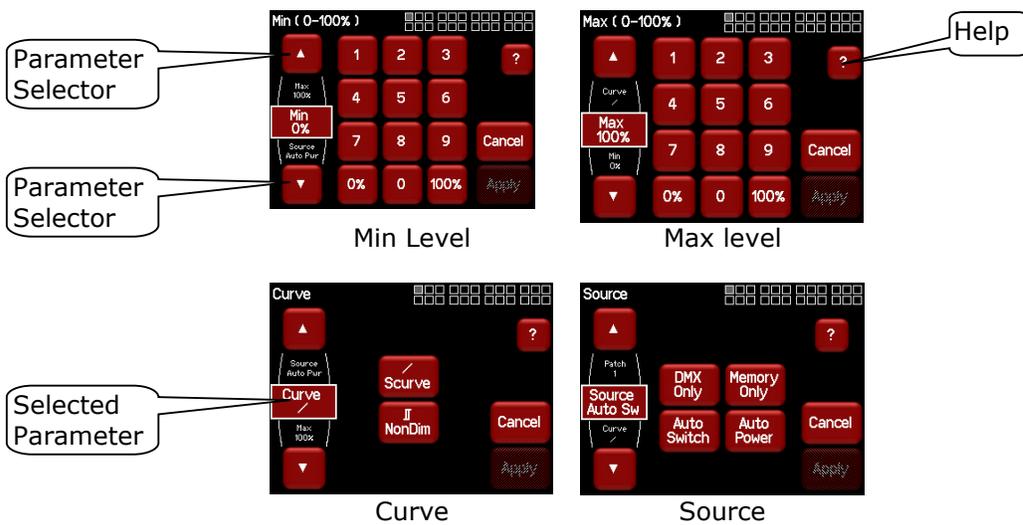
The selected channels are highlighted in the navigator:



In this example channels 1 through 6 plus channel 20 are selected.

When you have selected your channel(s) press [**Edit**].

There are 4 possible parameter menus: Min Level, Max level, Curve and Source. Use the [**▲**] and [**▼**] "Parameter Selector" buttons to scroll through the parameter settings for the selected channel(s).



Channels fitted with "Switch Modules" only have the "NonDim" curve available.

If a channel is set to "NonDim" then the Min and Max settings are not available and any Min or Max settings that may have been made are ignored.

Each parameter setting is described below and on screen "Help" also explains each parameter.

#### 4.9.1 Min Level

"Min" sets the level of the channel output when the control signal is set to minimum. For example, setting this value slightly above zero is useful to "Pre-Heat" lamp filaments.

#### 4.9.2 Max Level

"Max" sets the level of the dimmer output when its control signal is set to maximum. For example, setting this value to 90% will extend the life of a lamp as it never operates on full voltage or setting it to 50% provides 115volt output

#### 4.9.3 Curve

Fade Curve is the curve or "transfer characteristic" between input control signal and dimmer output. The following curves are available;

- S Law
- Non Dim

When a channel is set to "Non Dim", the channel will switch from OFF to full ON when the control signal is raised above 60% and when the level drops below 40%, the channel will switch OFF. "Non Dim" is used for devices that do not fade, but need to be switched OFF or ON such as motors or discharge lamps. Min and Max level are not available when Non Dim is selected.

#### 4.9.4 Source

The Redback channels can be *individually configured* to be controlled by either:

- **DMX only.** When configured for "DMX Only" a channel is controlled from a DMX lighting controller.
- **Memory only.** When configured for "Memory Only" a channel is controlled from wall plates that are used to recall memories (6) stored in the Redback dimmer. These memories can also be recalled from the LCD touch screen.
- **Auto Switch.** Whenever a valid DMX signal is connected to the Redback, channels set to "Auto Switch" will be *automatically* switched from Memory control to DMX control. When the DMX signal is lost, they will automatically revert to Memory control.
- **Auto Power.** Channels configured for "Auto Power" are used to provide power to non-dimmable fixtures whenever the lighting controller is switched on (and hence a DMX signal is detected on the input to the Redback). When "Auto Power" is enabled, channels configured for "Auto Power" will be *automatically* switched ON at full level whenever any valid DMX signal is detected. These channels will remain on for a programmable "hold time" when DMX is no longer detected.  
LSC recommends that fixtures requiring non-dimmed power should always be connected to Redback channels fitted with the "Switch" output option. See section 1.4.2 for details.

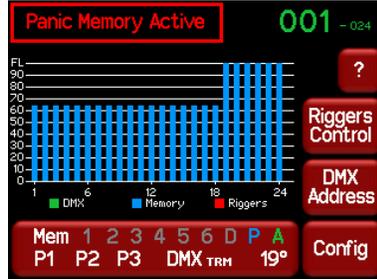
#### 4.9.5 Default Channel Settings

The default settings for channel parameters are;

ATTRIBUTE	DEFAULT SETTING
Min Level	0%
Max Level	100%
Fade Curve	S Curve
Control Source	Auto Switch

### 4.10 PANIC MENU

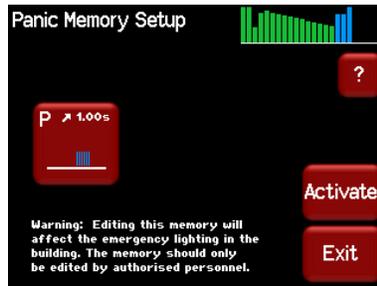
The "Panic" function provides emergency evacuation lighting that can be easily recalled by either a simple "Panic" or "Evacuate" button or it can be connected to a BMS (Building Management System) so that it is automatically operated when a fire alarm is activated. The "Panic" input is a dry contact closure that stops all current output and replaces it with a "Panic Memory" that you have created in the Redback. This memory will typically contain channel levels that will provide suitable lighting for evacuation purposes. A separate contact closure is required to release the panic memory. When Panic has been activated, "Panic Memory Active" flashes on the screen.



See the "Installation" section for details on how to connect the Panic and Release buttons.

Selecting [**Config**] [**Panic**] provides menus for:

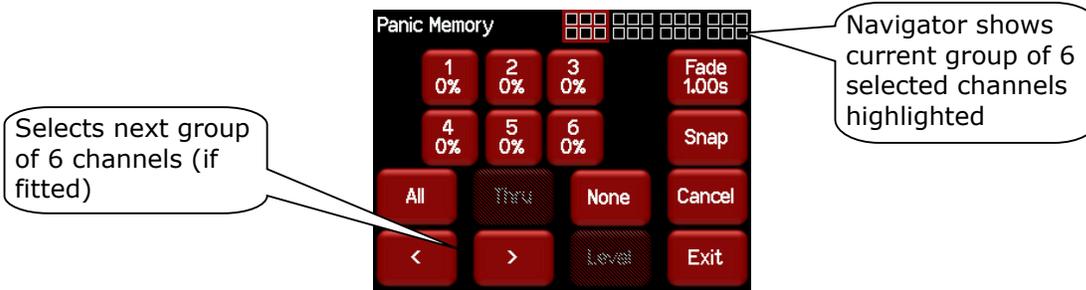
- Creating, editing the Panic Memory (P).
- Activating the Panic Memory for testing purposes.



The "P" button shows a bargraph display of the current Panic memory and also its fade time in seconds.

Pressing the [**P**] button allows you to create or edit the memory.

You can either take a [**Snap**] (snapshot) of the current DMX input signal or the current state of the Redback's Outputs or select a channel(s) and manually set their levels using the controls on the screen.

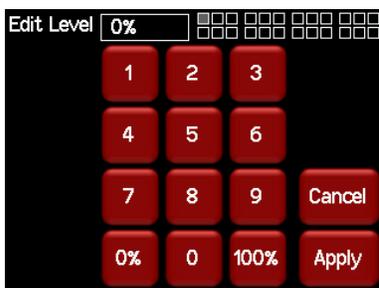


#### 4.10.1 Manually Setting Channel Levels

The "Panic Memory Setup" menu (above) shows the first 6 channels. Use the [<] or [>] buttons to see the other groups of 6 channels (if fitted). The navigator at the top right of the screen shows current group of 6 selected channels highlighted.

The default setting for the Panic memory is for all dimmer channels at an intensity of 65% and all non-dim channels set to ON.

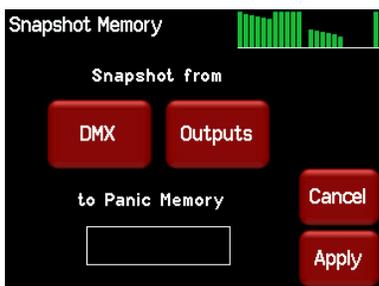
Touch a channel to select it. You can select multiple channels. To select a range of channels select your first channel then press [**Thru**] then your last channel. Use [**All**] to select all channels. Press [**None**] to de-select all channels.  
When you have selected your channel(s) press [**Level**].



Use the keypad to set the level then press [**Apply**].

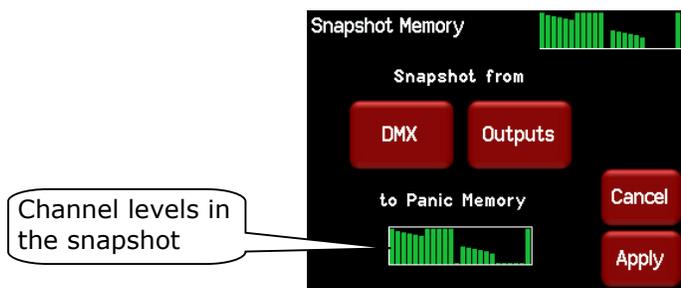
#### 4.10.2 Taking a Snapshot

To create a "Panic" memory by taking a snapshot, press [**Snap**] from the "Panic Memory" menu above.



Pressing [**DMX**] will take a snapshot of the current DMX input signal. Pressing [**Outputs**] will take a snapshot of the current output of the Redback. These channel levels could be coming from DMX, Memories, Riggers Control or a combination of all three.

When you take the snap, the channels levels will be displayed in the box below the memory name.

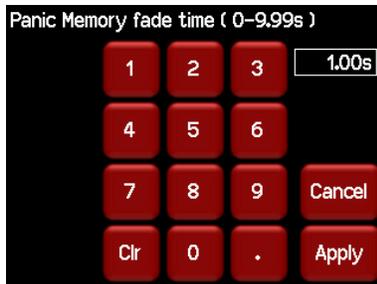


To save the snapshot to the memory press [**Apply**].

The channels levels that were captured in the snapshot can be edited by manually setting channel levels as described above.

#### 4.10.3 Fade Time

When editing the Panic memory (above), you can set a fade time for the memory by pressing [**Fade**].



Enter a time in seconds (0 to 9.99) then press [**Apply**].

See the "Installation" section for details on how to connect a "Panic" button.

### 4.11 COLOUR THEME MENU

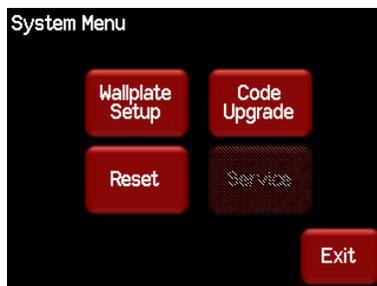
Selecting [**Config**] [**Colour Theme**] provides menus for changing the colour of the display. The choices are:



### 4.12 SYSTEM MENU

Selecting [**Config**] [**System**] provides menus for the following functions:

- Wall plate Setup.
- Reset.
- Code Upgrade.
- Service. (Factory use only).



#### 4.12.1 Wall Plate Setup

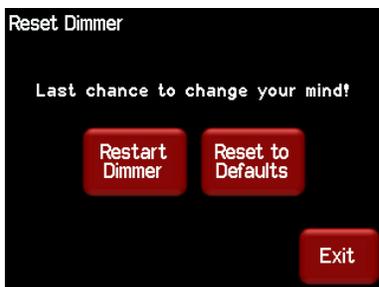
The "Wall plate Setup" menu provides functions for configuring the operation of wall plate switches connected to the Redback dimmer. Wall plates are used to control any of the 6 lighting memories that you have stored in the Redback. Jumpers inside each wall plate allow you to configure them so that any of the buttons can control any of the 6 memories.

See the "Installation" section for details on how to connect wall plates to the Redback.

See section 5 "Wall Plates" for details on how to configure wall plate operation.

#### 4.12.2 Reset

The Redback provides two different types of reset function.



#### 4.12.2.1 Restart Dimmer

In the unlikely event that the Redback fails to respond, the operating system may be restarted so that the software may initialise and recommence normal operation. Performing a restart will not affect any of the settings or memory.

#### 4.12.2.2 RESET To Defaults

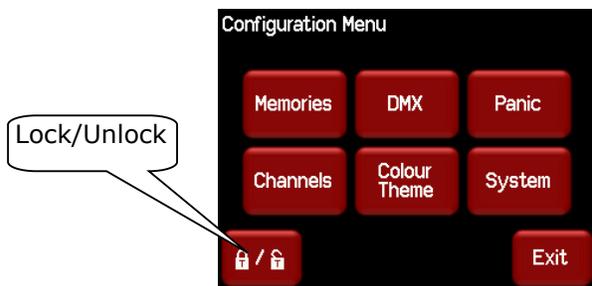
This will ERASE all memory from the Redback and reset to defaults.

#### 4.12.3 Code Upgrade

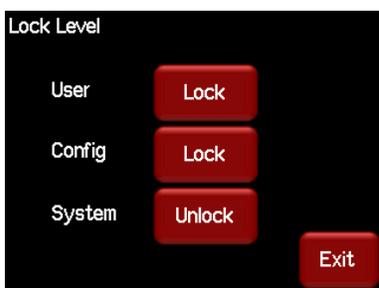
See section 10 for details.

### 4.13 LOCK / UNLOCK

To **lock** the touch screen of the Redback and prevent unauthorised access press [**Config**].



Pressing the "Padlock" symbol provides 3 levels of lock.



- User. Locks out the "Config", "Riggers Control" and "1 to 1 Patch" menus.
- Config. Locks out the "Config" menus.
- System. Locks out the "System" menu.

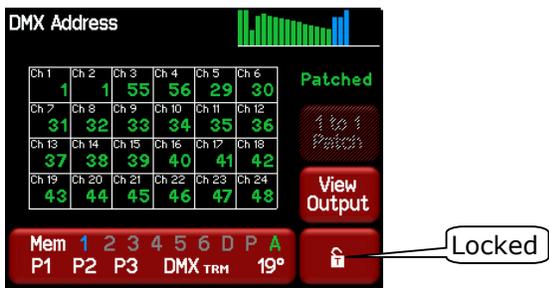
Note: The "System" menu is used for factory setup and has no user functions. It is always locked.

Pressing a [**Lock**] button reveals a "Lock" keypad. Enter a four digit code and the [**Lock**] button appears.



Press [**Lock**] to lock the selected level.

If "User" or "Config" are locked, the [Config] button is replaced by a [Padlock] symbol.



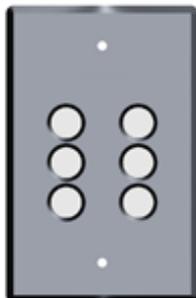
To unlock, press the [**Padlock**] symbol and enter your 4 digit code.

## 5 Wall Plates

### 5.1 OVERVIEW

Wall plates are optional remote control switch plates that can be used to control any of the 6 internal memories that are stored in the Redback. Memories are recorded (or edited) from the Redback's LCD touch screen. Memories are recalled from wall plates or from the LCD touch screen.

Wall plates are available with either 1, 2 or 6 buttons. Each button has a LED indicator which always glows dimly. The LED will flash when its memory is fading up or down and is bright when its memory is active. The colour of the LED can be selected by jumpers inside the wallplate.



6 Button Australian Format

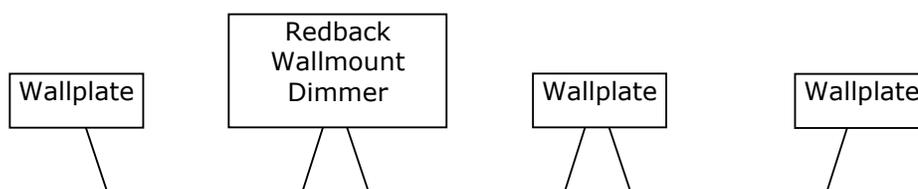


UK Format Wall Plates

### 5.2 INSTALLATION

Wall plates are connected to the Redback Wallmount dimmer using CAT5 cable. All connections are via industry standard RJ45 connectors. Wall plates require all 8 wires in the CAT5 cable to be connected. Two wires are used for power and 6 wires for the control signals. The Redback and the wallplates have 2 RJ45 connectors allowing the cable to be daisy chained from plate to plate.

Momentarily connecting a control line to Ground will activate the memory. The control line will then be controlled by the dimmer to flash the wall plate LED to indicate if a memory is off, fading or active. Note that the control input is designed to be a momentary activation and held low indefinitely.



#### 5.2.1 RJ45 Connections

Pin Number	Function
1	Control Line 1
2	Control Line 2
3	Control Line 3
4	+ V Power
5	Control Line 5
6	Control Line 6
7	Control Line 7
8	Ground

### 5.3 WALL PLATE INSTALLATION:

Up to 5 Wall plates may be connected to a Redback wallmount dimmer. Additionally the connecting Cat x cable length should not exceed 150 metres. The category of cable used (Cat5, Cat6 or Cat7) is not relevant in this type of installation.

#### 5.3.1 Configuration

There are four steps required for correct configuration of the Redback Wall plates.

##### 1.. **Labelling:**

Each button may be labelled. Included with the Redback Wall plate is a sheet of pre-printed labels numbered 1 thru 6. Cut out the required labels. Carefully unscrew the circuit board from the front panel and snap off the clear button caps. Place the labels inside the caps and refit the caps. Ensure the labels are oriented correctly.

If you require custom labels, please visit the LSC website or the Redback Wallmount Dimmer Operator Manual CD to download a template that allows custom labels to be created and printed onto transparency medium.

##### 2.. **Colour:**

Set the desired colour for the buttons. Refer to the LED colour table below. Note that there must be a colour selected or there will be no indication on the Redback Wall plate at all. When a memory is not active there will be a very dull glow of the buttons, this may not be visible under daylight conditions. When a memory is active the button glows at a higher intensity to show a memory is active. The button LED will flash while a memory is fading.

##### 3.. **Mode:**

Set the mode of the Redback Wall plate buttons using the information over the page.

##### 4.. **Memory Setup:**

Configure the Redback Wall plate memories in the memories setup menu in the Redback Wallmount Dimmer. Refer section 6.3.2 of the Redback Wallmount Operator Manual for more information.

#### 5.3.2 Wallplate LED Colour Jumper Settings

The colour of the LEDs within the Button Indicators may be changed to Blue, Green or Red by setting one pin jumper.

Any combination of these colours may be made by combining two or even all three colours with the extra pin jumpers.

The Red Bar shows a connected jumper.



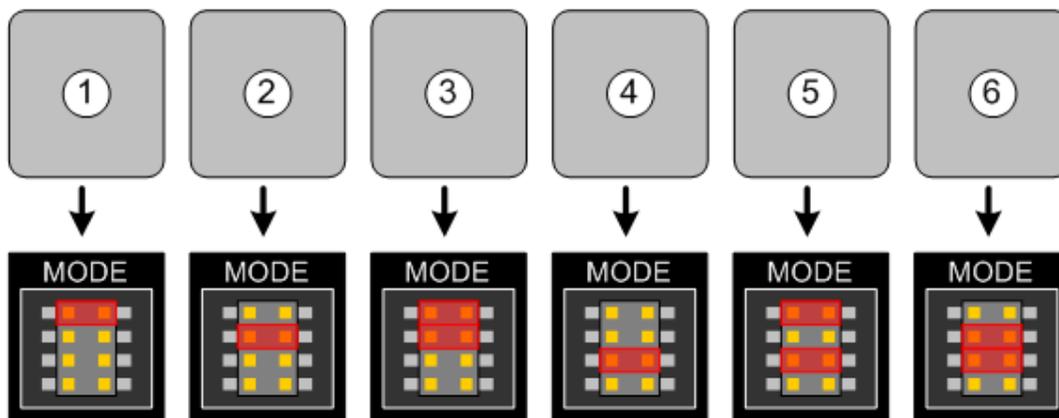
### 5.3.3 Wallplate Mode Jumper Settings

Mode setting connects the Redback Wall plate buttons to the Redback Wallmount dimmer memories. The diagrams below depict the Redback Wall plate options with the control memory number shown inside the circle. From the diagrams below, locate the drawing which shows the required memory / button configuration and set the Mode jumpers accordingly.

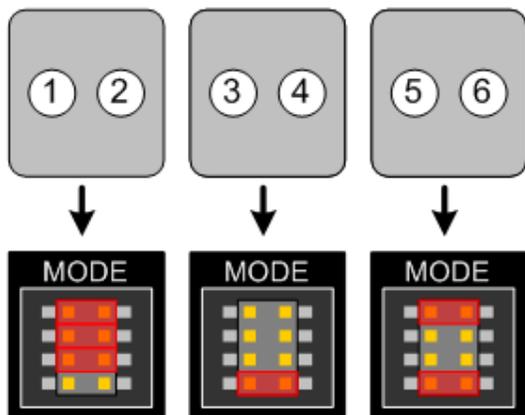
Note the settings below are the only valid configurations.

A mode must be set for the plate to operate correctly.

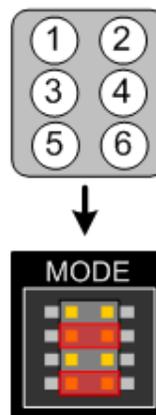
#### ONE BUTTON PLATES



#### TWO BUTTON PLATES



#### SIX BUTTON PLATE



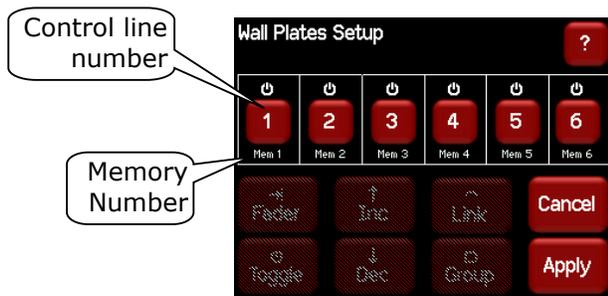
Buttons on different wall plates may be connected to the same control line so that the same memory can be controlled from several locations.

### 5.3.4 Wall Plates Setup Menu

The default configuration of the “Wall Plates Setup” menu is for buttons 1 to 6 to “Toggle” memories 1 to 6 ON or OFF. Therefore, press a button to fade up its memory. Press it again to fade it down.

For example, pressing button 1 on a wall plate (with default button jumpers) would fade up memory 1. Pressing it again would fade it down.

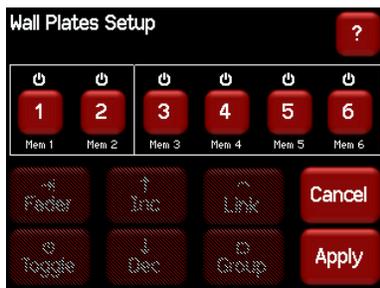
Selecting [**Config**] [**System**] [**Wall plate Setup**] reveals the “Wall Plates Setup” menu:



This menu allows you to group and link buttons and then change their functions as described below.

### 5.3.5 Group

Adjacent buttons can be grouped (or un-grouped) by selecting them and clicking [**Group**]. For example, a 2 button group and a 4 button group could be configured as follows:



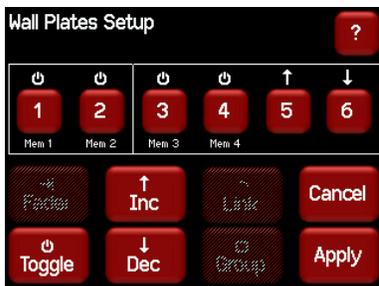
Buttons in a group can be configured as either “Toggle”, “↑ Inc” or “↓ Dec”.

“↑ Inc” or “↓ Dec” buttons are usually configured in groups that contain 3 or more buttons. One or more buttons in the group are set as “Toggle” and they control their relevant memory(s). The “↑ Inc” or “↓ Dec” buttons in the group then allow you to control (raise or lower) all the active (faded up) memories in the same group.

- Each press of a ↓ Dec button on a wall plate will decrease the intensities of the ACTIVE memory(s) in the group by 5%.
- Each press of a ↑ Inc button on a wall plate will increase the intensities of the ACTIVE memory(s) in the group by 5%.

To configure a button as “↑ Inc” or “↓ Dec”, there must be a “Toggle” button in the same group. Select a button in the group then press either [↑ Inc] or [↓ Dec].

For example, buttons 5 and 6 have been configured as ↑ Inc and ↓ Dec:



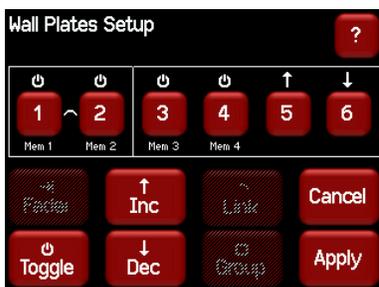
Therefore, in the example above, pressing the button for control line 3 will fade up memory 3. Pressing the button for 6 will decrease all of the channel levels in memory 3 by 5%. Press it again for another 5% decrease. Presses of the button for 5 will fade memory 3 back up.  
Note: With this configuration, memories 5 and 6 are no longer available.

### 5.3.6 Link

Adjacent "toggle" buttons within a group can be linked (or un-linked) by selecting them and clicking [**Link**].

A Linked button ACTIVATES its memory and DEACTIVATES all other memories to which it has been linked.

For example, buttons 1 and 2 have been linked.

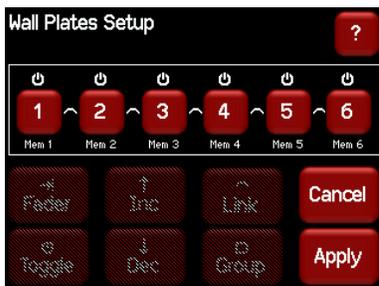


Pressing control line 1 will fade up memory 1.

Pressing control line 2 will fade up memory 2 AND fade down memory 1.

Pressing control line 1 again will fade up memory 1 AND fade down memory 2.

In the following example, a 6 button wall plate controls 6 memories and only the latest memory to be pressed will be active.



## 6 Alarms and Troubleshooting

**Warning.** No user controls or user serviceable parts are located inside the Redback Wallmount Dimmer. Refer all servicing to suitably qualified personnel.

### 6.1 MAINTENANCE

Ensure that the air vents at the top, bottom and front of the frame are free from dust. Check that all connector screw terminal are tight. This must be performed by a suitably qualified person.

Check that the Redback contains the latest software release.

Ensure the fan is free to spin.

Blow out all dust and debris periodically.

### 6.2 ALARMS

The [Status] button at the bottom of the LCD "Home Screens" indicates the following:



- **P1, P2, P3** show the presence of the input power phases. Flashing **Red** is not present.
- **DMX** shows the presence of a DMX control signal. Flashing **Red** is not present.
- **Temperature.** There is a separate temperature sensor for each bank of 6 dimmers. The display shows the highest temperature from all of the sensors. If the temperature of the Redback Wallmount is too high, the temperature display on the LCD will flash **Red** and ALL OUTPUT from the Redback is automatically switched OFF. Either reduce the load or increase the cooling to reduce the temperature. When the temperature returns to normal, the Redback automatically returns to normal operation.

### 6.3 TROUBLE SHOOTING

If a channel is not working check the MCB (Miniature Circuit Breaker) for that channel.

If the MCB has tripped (OFF), firstly try to determine the cause of the breaker tripping. It could be a blown lamp or a circuit overload. Rectify to problem (replace the lamp or reduce the load) then restore the MCB. If the MCB continues to trip, refer the problem to a suitably qualified person.

#### 6.3.1 Rigger Test

You can test the operation of a dimmer channel from the "Riggers Control" on the LCD touch screen. See section 4.4.1.

#### 6.3.2 DMX Control

If the dimmer is working from the Riggers Control but not via DMX, check that the dimmer is patched to the correct DMX slot and correctly configured for DMX control. See sections 4.8 and 4.9.4

#### 6.3.3 Wallplate Control

If the dimmer is working from the Riggers Control but not via Wallplate memories:

- Check that the dimmer is correctly configured for Memory control. See section 4.9.4
- Test the memory by fading it in using the LCD touch screen. See section 4.7.2.
- Check that the Wallplate is connected and correctly configured. See section 5.

## 7 DMX Explained

DMX512/1990-A is the industry standard for the transmission of digital control signals between lighting equipment. It utilises just a single pair of wires on which is transmitted the level information for the control of up to 512 DMX slots (addresses or channels).

The information for each slot is sent sequentially. The level of slot 1 is transmitted, then the level of slot 2, then 3, etc. up to a maximum of 512 slots. This stream of data containing the levels for all 512 DMX slots is repeated a minimum (generally) of 44 times per second. This provides sufficient updates of channel information for smooth fade transitions.

As the DMX512-A signal contains the level information for all slots, each piece of equipment needs to be able to read the level(s) of the slots(s) that apply only to that piece of equipment. To enable this, the Redback dimmer has a "DMX Patch" menu that allows you to patch (connect) each DMX slot (address) from your lighting controller to a Redback channel number or to multiple channel numbers.

When good quality data cables are used, DMX512 cable runs may be up to 1,000 metres in length. When several DMX feeds are required (to feed different locations), DMX512 splitters must be used. These provides multiple isolated DMX512 feeds.

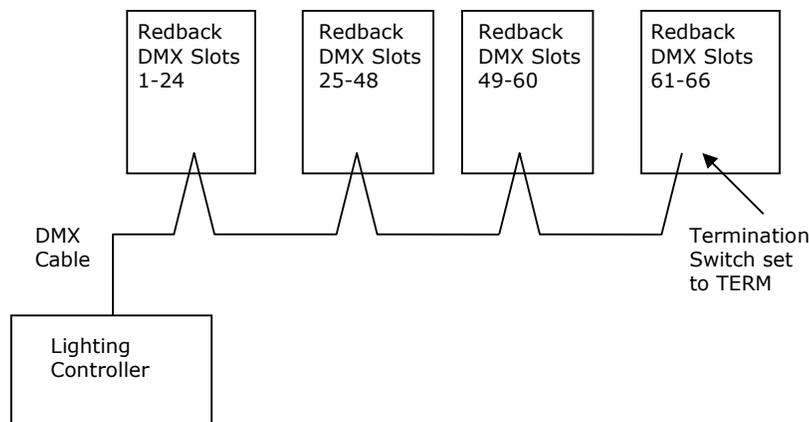
The Redback uses a high impedance DMX input circuit allowing you to loop the DMX signal from one Redback to the next. The last Redback in the chain must have the "DMX Terminate switch" set to TERM to terminate the line.

**Note:** Do not use unscreened microphone or low speed data cables for DMX. This can cause problems in the DMX network. Make sure the cable conforms to the EIA485 cable requirements by providing the following specifications:

- Low capacitance
- One or more twisted pairs
- Foil and braid shielded
- Impedance of 85 -150 Ohms, nominally 120 Ohms
- 22AWG gauge for continuous lengths over 300 metres

### 7.1 TYPICAL DMX INSTALLATIONS

In the following example, the DMX output signal from the lighting control desk is fed to the DMX connector of the first Redback dimmer. The DMX cable is then looped to the following Redback dimmers. The order of the daisy chaining is not important as each Redback channel can be patched to any DMX slot number. The end of the DMX line is terminated to prevent the signal reflecting back up the line and causing possible errors.



## 8 RDM Explained

RDM stands for Remote Device Management. It is an "extension" to DMX.

Since the inception of DMX it has always been a 'one way' control system. Data only ever flows in one direction, from the lighting controller outwards to whatever it may be connected to. The controller has no idea what it is connected to, or even if what it's connected to is working, switched on, or even there at all!

RDM changes all that allowing the equipment to answer back!

An RDM enabled moving light, for example, can tell you many useful things about its operation - the DMX address it is set to, the operating mode it is in, whether its pan or tilt is inverted and how many hours since the lamp was last changed.

But RDM can do more than that. It isn't limited to just reporting back, it can change things as well. As its name suggests, it can remotely manage your device.

LSC's Redback Dimmer range are RDM enabled products. This allows you to use RDM to interrogate the dimmer to find out its status and also to set its DMX address, soft patch it, and a host of other functions.

RDM has been designed to work with existing DMX systems. It does this by interleaving its messages with the regular DMX signal over the same wires. There is no need to change any of your cables but because RDM messages now go in two directions, any in-line DMX processing you have needs to be changed for new RDM hardware. This will most commonly mean that DMX splitters and buffers will need to be upgraded to RDM capable devices.

To utilise RDM you will also need an RDM controller. Presently these are devices that plug in to the DMX line and talk the RDM language. They put the messages on to the DMX line, listen for any replies and display the results via an attached computer. The latest lighting consoles now also come with RDM controllers built in.

RDM also has the ability to read and report operating statistics and error conditions from any enabled equipment that supports it. This opens up the possibility of remotely monitoring the condition of your lighting rig and getting notice of failed equipment or even advanced notice of things that may be cause for concern. For example, a moving light that reports a very high bulkhead temperature may be suffering from a failed fan or clogged filter or a scroller that reports a high motor current may have a jammed scroll.

## 9 Specifications

Power Input	Nominal: 220-240 Volts. 3-phase star (380-415V). 50-60Hz (Single phase operation possible. See section 2.6.1) Operating range : Typically 190-260V, 45-65Hz 3-phase delta connection is available as a factory fitted option.	
Power Connection	Five 35mm <sup>2</sup> terminals.	
Control Inputs	DMX512 (1990) or DMX512-A (E1-11) and RDM (E1-20) via 3-pin screw terminals. Wall plate control via RJ45 connections. (Wall plates available separately) Panic input via 3-pin screw terminals.	
Power Modules	Two standard types of power modules are available: 6-channels of dimming or 6 channels of relay control. These modules may be mixed and matched to provide a system with dimmed channels for conventional lighting and non-dimmed (relay) channels for control of LED fixtures or moving lights.	
Outputs	Standard screw terminals provided. One 4mm <sup>2</sup> for each output circuit plus one 16mm <sup>2</sup> neutral terminal and one 16mm <sup>2</sup> earth terminal for each group of 6 circuits.  Several types of output panels can be ordered: <ul style="list-style-type: none"> <li>• 6 x 3 pin Australian sockets.</li> <li>• 6 x 3 pin UK 15A sockets.</li> <li>• 6 x channels of GST18 3-pin socket patch providing 2 x GST18 dimmed outputs and one GST18 Hot Power (non-dimmed) per channel.</li> </ul>	
Load Output per Channel	10A <u>maximum</u> load per channel, protected by 6kA rated thermal magnetic miniature circuit breaker (MCB). 25 watts <u>minimum</u> load per channel to provide reliable dimming operation.  LSC's proprietary Current Control Technology © (CCT) protects all MCBs from nuisance tripping due to cold lamp inrush currents.	
Optional RCD protection	Three single breakers for 24-channel model and one 3-phase unit for 6 and 12-channel models.	
Duty Cycle	Rated at 100% across all channels simultaneously at 25°C ambient.	
Construction	Aluminium housing and zinc steel panels and polycarbonate labels.	
Mounting	The unit is wall mounted utilising keyhole cut-outs in 4 locations. A mounting template is provided with the unit.	
Dimensions and weights	6 channel dimmer	Dimensions: 47 x 43 x 12cm Box dimensions: 48 x 45 x 15cm Packed weight: 9kgs
	12 channel dimmer	Dimensions: 69 x 43 x 12cm Box dimensions: 70 x 45 x 15cm Packed weight: 15kgs
	24 channel dimmer	Dimensions: 104 x 43 x 12cm Box dimensions: 105 x 45 x 15cm Packed weight: 28kgs

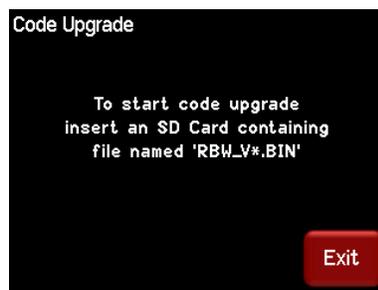
## 10 Software Upgrade

LSC Lighting Systems has a corporate policy of continuous improvement to its products. The **Redback Wallmount** dimmer software (firmware) is subject to this policy as new features are added and existing features improved.

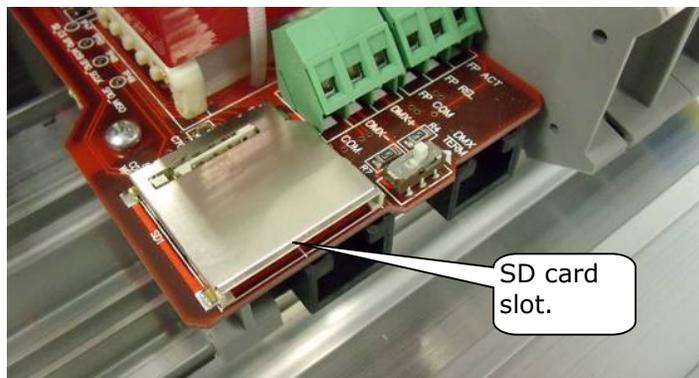
The software version of your **Redback Wallmount** dimmer can be checked by pressing **[Menu]** **[Options]** **[About]**.

To upgrade your **Redback Wallmount** software, download the latest version from the LSC web site, [www.lscighting.com](http://www.lscighting.com), unzip it and save the new software to an **SD Card**. Both HC and low density format cards are supported. The file will be called "RBW\_V\*.bin" where \* is the version number.

Press **[Menu]**, **[Setup]**, **[Code Upgrade]**.



Remove the front connector or blanking panel and insert the SD card.



Follow the onscreen instructions.

## **11 Compliance Statements**

### ***11.1 CE COMPLIANCE STATEMENT***

The **Redback** Dimmer from LSC Lighting Systems (Aust) Pty. Ltd. has been designed and tested to the European Committee for Electrotechnical Standardization (CENELEC) standard-EN55022 (Information Technology Equipment).

### ***11.2 C TICK COMPLIANCE STATEMENT***

All LSC products with CE Compliance automatically comply with C-Tick requirements as per Section 182 of the Radio-communications Act 1992. LSC Company Registration number is N921.

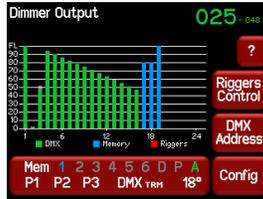
### ***11.3 PRODUCT OF AUSTRALIA***

The **Redback Wallmount** dimmer meets the requirement status "Product of Australia" as defined by the Australian Governments Trade Practise Act 1974, Section 65AC and administered by the Australian Made Campaign Limited (AMCL). All LSC manufactured products have virtually all of their design, production and manufacture processes occur in Australia, thus qualifying for the highest status by the AMCL.

# 12 Quick Reference

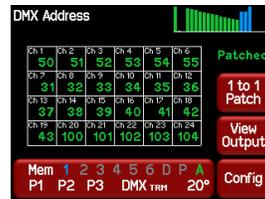
## 12.1 HOME PAGES

The "Dimmer Output" home page shows the channel levels.



This home page accesses the [**Riggers Control**] and the [**Config**] menus. Press [**DMX Address**] to change to the home "DMX Address" home page.

The "DMX Address" home page shows the DMX patch numbers and has two possible formats depending upon the DMX patch:



"DMX Address" with 1 to 1 Patch. "DMX Address" with Individual Patches.

This home page accesses the [**1 to 1 Patch**] and the [**Config**] menus. Press [**View Output**] to change to the "Dimmer Output" home page.

## 12.2 STATUS

The large [Status] button shows the status of the Memories, input power phases, DMX and temperature of the Redback.



Press the [?] button on the "Dimmer Output" home page to see legend for the [Status] button.



Touch anywhere within the help screen to cancel.

## 12.3 DMX CONTROL

To set a channel(s) to "DMX Only" control press; [**Config**] [**Channels**]. Select the required channel(s) then press [**Edit**]. Repeatedly press ▼ or ▲ to select the "Source" parameter. Press [**DMX Only**] [**Apply**] [**Exit**].

### 12.3.1 DMX Patching

1 to 1 patch. From the "DMX Address" home page press [**1 to 1 Patch**]. Enter the DMX start slot number then press [**Apply**].

To individually patch channels to DMX slots press [**Config**] [**DMX**] [**Patch**]. Select a channel number(s) then press [**Set Address**]. Enter the DMX slot number and press [**Apply**].

### 12.3.2 DMX LOSS Memory

If the DMX input signal is lost, the Redback will hold the last DMX level indefinitely. If you set a delay time other than "Infinite", the Redback will fade to the "DMX Loss" memory when the delay time expires.

To set a DMX delay time press [**Config**] [**DMX**] [**Delay**]. Enter a time and press [**Apply**].  
To create or edit a "DMX Loss" memory press [**Config**] [**DMX**] [**D**].

Either:

- Press [**Snap**] to take a copy of either the current [**DMX**] input signal or the current state of the Redback's [**Outputs**] then press [**Apply**]
- Select a channel(s) then press [**Level**]. Enter a level and press [**Apply**].

When finished press [**Exit**].

## 12.4 MEMORY CONTROL

To set a channel(s) to "Memory Only" control press; [**Config**] [**Channels**].

Select the required channel(s) then press [**Edit**].

Repeatedly press [**▼**] or [**▲**] to select the "Source" parameter.

Press [**Memory Only**] [**Apply**] [**Exit**].

### 12.4.1 Create or Edit Memories

To Create or edit a memory press;

[**Config**] [**Memories**]. Select a memory then press [**Edit**] either:

- Press [**Snap**] to take a copy of either the current [**DMX**] input signal or the current state of the Redback's [**Outputs**] then press [**Apply**]
- Select a channel(s) then press [**Level**]. Enter a level and press [**Apply**].

When finished press [**Exit**].

### 12.4.2 Playback Memories

To playback a memory either;

- Use a Wallplate button that has been programmed to control that memory number.
- Press [**Config**] [**Memories**]. Select a memory then press [**Fade In**]/[**Fade Out**].

## 12.5 AUTO SWITCH

Channels set to "Auto Switch" will be *automatically* switched from Memory (Wallplate) control to DMX control whenever the DMX lighting controller is on (and hence DMX is present).

To set a channel(s) to "Auto Switch", press; [**Config**] [**Channels**].

Select the required channel(s) then press [**Edit**].

Repeatedly press [**▼**] or [**▲**] to select the "Source" parameter.

Press [**Auto Switch**] [**Apply**] [**Exit**].

## 12.6 AUTO POWER

**4. Auto Power.** When "Auto Power" is activated, channels set to "Auto Power" are switched ON at full level whenever any DMX signal is present. "Auto Power" is used to provide constant "non-dimmed" power to fixtures whenever the DMX lighting controller is on (and hence DMX is present).

To set channel(s) to "Auto Power", press; [**Config**] [**Channels**].

Select the required channel(s) then press [**Edit**].

Repeatedly press [**▼**] or [**▲**] to select the "Source" parameter.

Press [**Auto Power**] [**Apply**] [**Exit**].

## 12.7 RIGGERS CONTROL

From the "Dimmer Output" home page press [**Riggers Control**].

The output of the Riggers Controls can be turned off or on by pressing [**De activate**]/[**Activate**].

To set the level of a channel(s), use the virtual faders or switches.

To disable the levels set on the faders press [**De-Activate**].

When finished press [**Exit**].

### 12.7.1 Chaser

To activate the chaser, from the "Rigger Control" (above), press [**Chaser**].

To enable the Chaser press [**Activate**].

Use the buttons to select a pattern for the chaser.

Set the direction with [**I>>>I**] (forward), [**I<<<I**] (reverse) or [**I<>I**] (bounce from end to end).

Set the speed in BPM (Beats Per Minute).