REDBACK

Wallmount
dimmer

INSTALLATION and OPERATION
Version V 1.0

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Contents

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 <u>underlining</u>.
- *Notes or Hints are displayed in italic fon*t

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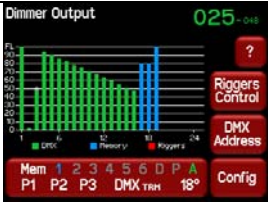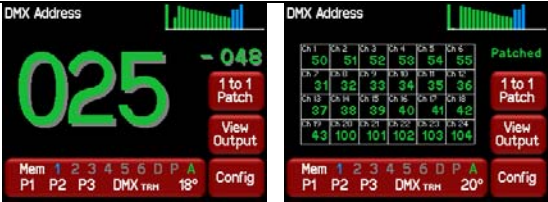
1   Quick Reference

1.1   OVERVIEW

There are two home pages for the menu system, "Dimmer Output" and "DMX Address":


"Dimmer Output" Home Page	"DMX Address" Home Pages
A large bargraph shows dimmer levels and control sources. This home page provides access to the [**Riggers Control**] menu.	If the dimmer is patched "1 to 1" the screen shows a large DMX Address display. If channels are individually patched it provides a grid showing all patches. This home page provides access to the [**1 to 1 Patch**] menu.
Pressing [**DMX Address**] swaps home pages.	Pressing [**View Output**] swaps home pages.

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

1. DMX only.

3. Memory only.

3. Auto Switch. Channels set to "Auto Switch" will be *automatically* switched from MEM to DMX control whenever a valid DMX signal is present.

4. Auto Power. When "Auto Power" is activated, selected channels in the "Auto Power Setup" are switched ON at full level whenever a DMX signal is present. "Auto Power" is used to provide "hot power" to fixtures whenever a DMX signal is present.

In addition, a "**Riggers Control**" screen allows channels to be controlled from the LCD touch screen and an external "Panic" button can recall evacuation lighting.

The "Dimmer Output" home screen is colour coded to show the current **control source** for each channel.
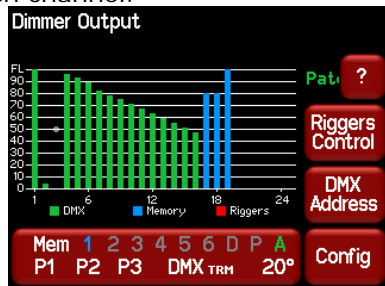
- **Red** = under Riggers Control.
- **Green** = controlled by DMX

- **Blue** = controlled by a Memory.

Active memories are shown in blue at the bottom of the screen. They might be:
  o **1** to **6** (any of the Wall plate controlled Memories).
  o **D** (the "DMX loss" memory)
  o **P** (the "Panic button" memory)

A = "Auto Power on" when DMX present.

Green is active. **Grey** is not active (DMX not present). "A" is not shown when "Auto on" is disabled.

1.2   DMX CONTROL

To set the "Control Source" of a channel(s) to "DMX Only", from either home page press; [**Config**] [**Channels**].

Scroll through the available channels by pressing [◀] or [▶]. Select the required channel(s) then press [**Edit**]. Repeatedly press ▼ or ▲ to select the "Source" parameter.

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

1.2.1   DMX Patching

To patch all of the dimmers in one Redback frame to sequential DMX slots, starting from a DMX slot that you select, from the "DMX Address" home page press [**1 to 1 Patch**] then type in the DMX start slot number for channel 1 in this Redback frame, then press [**Apply**].

To individually patch channels to DMX slots press [**Config**] [**DMX**] [**Patch**]. Select a channel number(s). Press [◀] or [▶] to select

more channels. To patch the selected channel(s) to a DMX slot press [**Set Address**] then type in the DMX slot number and press [**Apply**].

1.2.1.1 DMX LOSS MEMORY

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.

To set a DMX delay time press [**Config**] [**DMX**] [**Delay**]. Enter a time to hold the DMX before fading to the "DMX Loss" memory 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**]

or

- Select a channel(s) then press [**Level**]. Key in the level and press [**Apply**]. Press [◄] or [►] to select more channels and set their levels.

When finished press [**Exit**].

When DMX is restored, the Redback will fade back to the DMX signal.

1.3 MEMORY CONTROL

To set the "Control Source" of a channel(s) to "Memory Only", from either home page press; [**Config**] [**Channels**].

Scroll through the available channels by pressing [◄] or [►]. Select the required channel(s) then press [**Edit**].

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

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

1.3.1 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**]. Key in the level and press [**Apply**]. Press [◄] or [►] to select more channels and set their levels.

When finished press [**Exit**].

1.3.2 Playback Memories

To playback a memory either;

- Use a wall plate button that has been programmed to control that memory number.
- Press [**Config**] [**Memories**]. Select a memory by touching it, then press [**Activate**].

1.4 AUTO SWITCH

Channels set to "Auto Switch" will be *automatically* switched from Memory to DMX control whenever a valid DMX signal is connected

To set the "Control Source" of a channel(s) to "Auto Switch", from either home page press; [**Config**] [**Channels**].

Scroll through the available channels by pressing [◄] or [►]. Select the required channel(s) then press [**Edit**].

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

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

1.5 AUTO POWER

Channels set to "Auto Switch" will be *automatically* switched ON at full level whenever a DMX signal is present on the input to the Redback.

To set the "Control Source" of a channel(s) to "Auto Power", from either home page press; [**Config**] [**Channels**].

Scroll through the available channels by pressing [◄] or [►]. Select the required channel(s) then press [**Edit**].

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

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

1.6 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**].

To enable the levels set on the faders press [**Activate**].

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

Press [◄] or [►] to select more channels.

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

When finished press [**Exit**].

1.6.1 Chaser

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

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

Use the buttons to control the chaser.

2   Product Description

2.1   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.

2.2   REDBACK OVERVIEW

The Redback Wallmount dimmers can be controlled by any DMX512 or RDM 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.

Advanced capabilities include individual channel settings for fade curve, minimum and maximum output levels, DMX or Memory operation, DMX address patching and auto "switch on" when DMX is present. All configuration options and front panel operations can also be remotely controlled using the RDM (Remote Device Management) protocol. The dimmers are designed for 100% duty cycle operation across all channels simultaneously. The Redback Wallmount features variable speed fan cooling to minimise noise. The fan only operates when required.

The Redback Wallmount dimmers are CE and C tick approved.

2.3   FEATURES

- Slim line design (<160mm) to take advantage of narrow spaces such as catwalks.
- Each channel output is rated to 10 Amps.
- 10 amp MCB (Miniature Circuit Breaker) protection per channel.
- Factory fitted output panels (either sockets or internal terminals).
- DMX512 (1990), DMX512-A (E1-11) and RDM (E1-20) compliant control.
- Six internal memories with wall plate control.
- Panic mode for evacuation lighting.

2.4   MODELS

The Redback Wallmount range of dimmers is designed for permanent installation and is available 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

The Redback Wallmount can be supplied with either internal load connectors or front mounted load sockets.

The following types of load socket are available:
- Australian sockets.
- U.K. 15A sockets.
- Shuko sockets.
- GST 18 sockets (Two x GST18 dimmed outputs and one GST18 Hot Power (non-dimmed) output per channel.

2.5 OPTIONS

The Redback Wallmount dimmers can be supplied with the following *factory fitted* options:
- Redback Wallmount dimmers are constructed using internal power modules that contain 6 channels each. Two types of module are available:
  o Dimming modules.
  o Relay (switch) modules.

Redback's can be supplied in various combinations of dimming and switching modules to provide a system with dimmed channels for conventional lighting and non-dimmed (relay) channels for control of LED fixtures or moving lights.

For example, a Redback Wallmount 24 may have 18 channels of dimming and 6 channels of relay (switched) power. The dimmer modules are always fitted at the top and the relays on the bottom.

To see the configuration of a Redback wall mount press the large status button at the bottom of the LCD screen home page then press [**About**].

- Three phase "Input RCD" (Residual Current Device) protection.
  o The 6 channel and 12 channel models are fitted with a single 4 pole RCD.
  o The 24 channel models are fitted with a three 2 Pole RCD's, one for each phase.

- "Neutral Disconnect" 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.

Wall plates with 1, 2, 4 or 6 buttons are available to remotely control the 6 internal memories of the Redback.

2.6 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.

2.7 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 a valid DMX signal is connected to the Redback.

4. Auto Power. When "Auto Power" is activated, channels configured for "Auto Power" will be *automatically* switched ON at full level whenever a valid DMX signal is connected to the Redback. Use these channels to provide "hot power" for lighting fixtures whenever the lighting controller is on and therefore DMX is present.

In addition, the **Riggers Control** can be used at any time to control channels from the LCD touch screen and a "Panic" button can recall any channels when activated by a remote switch.
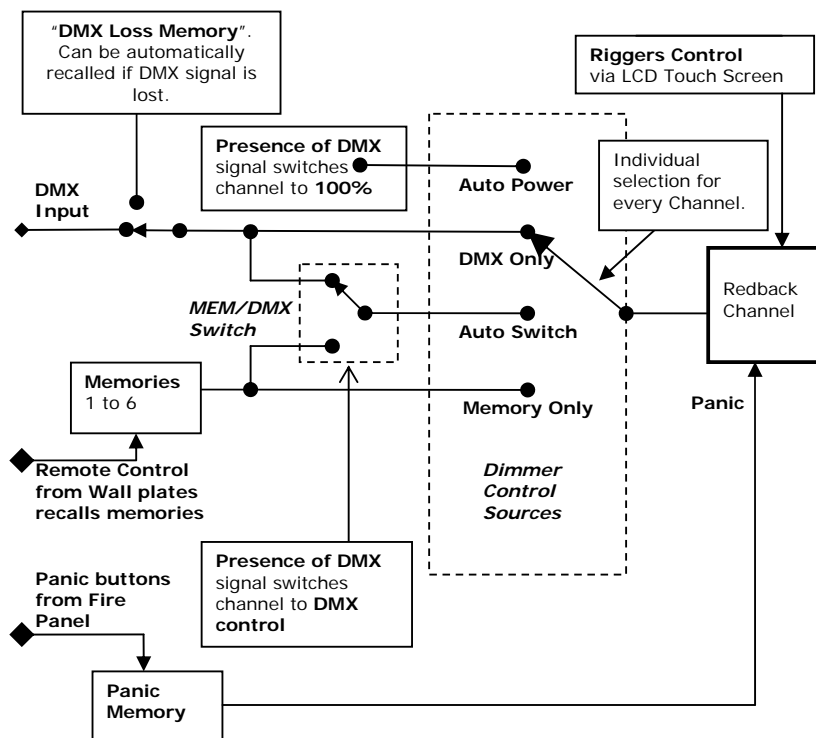
Redback Wallmount **Dimmer Channel Control Options**

2.8 CONTROL PANEL

The Redback Wallmount dimmer uses a colour LCD touch screen which is operated by touching the virtual buttons with your finger. There are three possible "home" pages to suit your individual requirements:
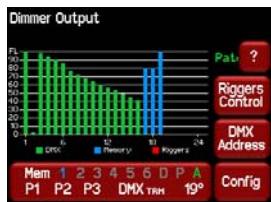
"Dimmer Output" Home Page

"DMX Address" Home Page

A large bargraph shows dimmer levels and control sources as described below.

This home page provides access to the [**Riggers Control**] menu.

Pressing [**DMX Address**] swaps home pages.

If the dimmer is patched 1 to 1, the first dimmer channel's address is shown. The last dimmer channel's address is in a small font.

If channels are individually patched the screen provides a grid showing all patches.

This home page provides access to the [**1 to 1 Patch**] menu.

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

"Dimmer Output" Home Page.
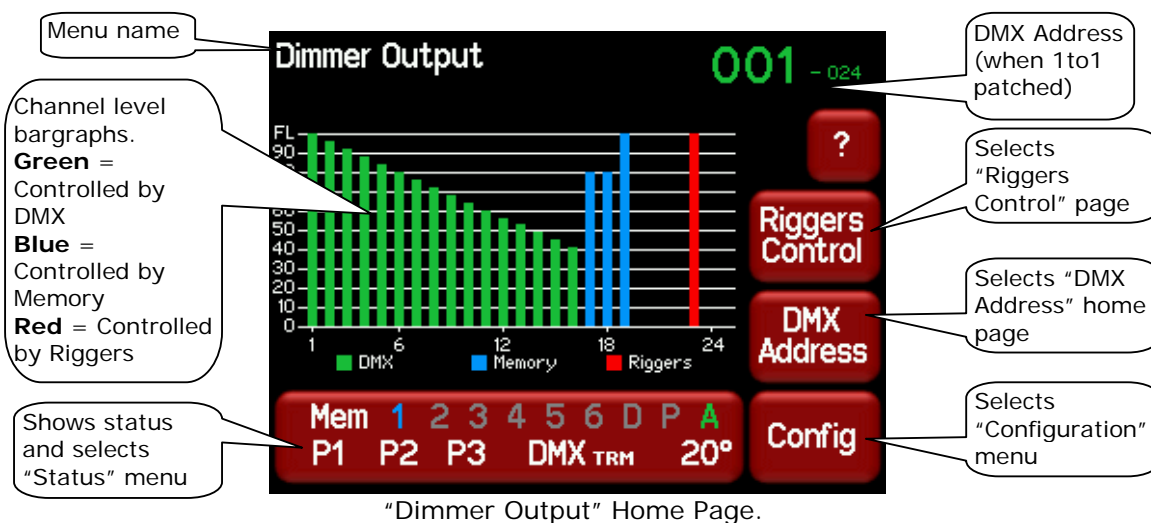
All home pages have two common buttons at the bottom of the screen, [Status] and [Config].

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

Pressing [**Config**] allows you to access a range of functions and setups via sub-menus. Each sub-menu screen has it name in the top left corner. The menus are fully described in the "Menu System" Section.

The large [Status] button

Mem **1** 2 3 4 5 6 D P **A**
P1 P2 P3 DMX TRM 20°

shows:

- The status of the **Mem**ories:
  - **1 to 6** are the six internal (wall plate) memories.
  - **D** is the "**D**MX loss" memory
  - **P** is the "**P**anic button" memory

  Blue is active. **Grey** is not active.
- "**A**" shows the status of the "**A**uto on" when DMX is present function. **Green** is active. **Grey** is not active (DMX not present). "A" is not shown when "Auto on" is disabled.
- **P1**, **P2**, **P3** show the presence of the input power phases. White is present and flashing **Red** is not present.
- **DMX** shows the presence of a DMX control signal. White is present and 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.

3 Installation

3.1 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.

3.2 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.

3.3 MOUNTING THE REDBACK

The Redback Wallmount dimmer is designed for wall mounting and is provided with keyhole cut-outs in 4 locations, <u>two at the top</u> and <u>two at the bottom</u>. 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 250mm above and below each dimmer.

3.4 PATCH PANELS

Optional LSC Patch Panels may be mounted beside the dimmers allowing flexibility in load connection.

The 24 channel Redback Wallmount 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.

3.5 INPUT POWER SUPPLY

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

The input power connection utilizes five 35mm^2 terminals (3 phases, neutral and earth).

The nominal input voltage is 220-240 Volts. 3-phase star (380-415V). 50-60Hz.

3.5.1 6 Channel Redbacks

6 Channel Redbacks can be powered from:

- Three phase supply of nominal 100-120 or 220-240VAC at 50 - 60Hz of up to 20 Amps per phase.
- Single phase supply of nominal 100-120 or 220-240VAC at 50 - 60Hz of up to 60 Amps

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3.5.2   12 channel Redbacks

12 channel Redback can be powered from:
- Three phase supply of nominal 100-120* or 220-240VAC at 50 - 60Hz of up to 40 Amps per phase.
- Single phase supply of nominal 100-120 or 220-240VAC at 50 - 60Hz of up to 60 Amps.

3.5.3   24 channel Redbacks

24 channel Redback can be powered from:
- Three phase supply of nominal 100-120* or 220-240VAC at 50 - 60Hz of up to 80 Amps per phase.
- Single phase supply of nominal 100-120* or 220-240VAC at 50 - 60Hz of up to 120 Amps. The input power connectors are limited to 120 Amps so it is <u>imperative that the supply is current is also limited to 120 Amps</u>.

* Note: 100-120VAC versions must be specially ordered and supplied direct 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.

3.6   CONNECTIONS

Connections are provided behind the front covers for power input, DMX control, Wall plate control, and Panic control. All control circuit wiring should be isolated from the power cabling by metal conduit, right run up to the control circuit connectors.
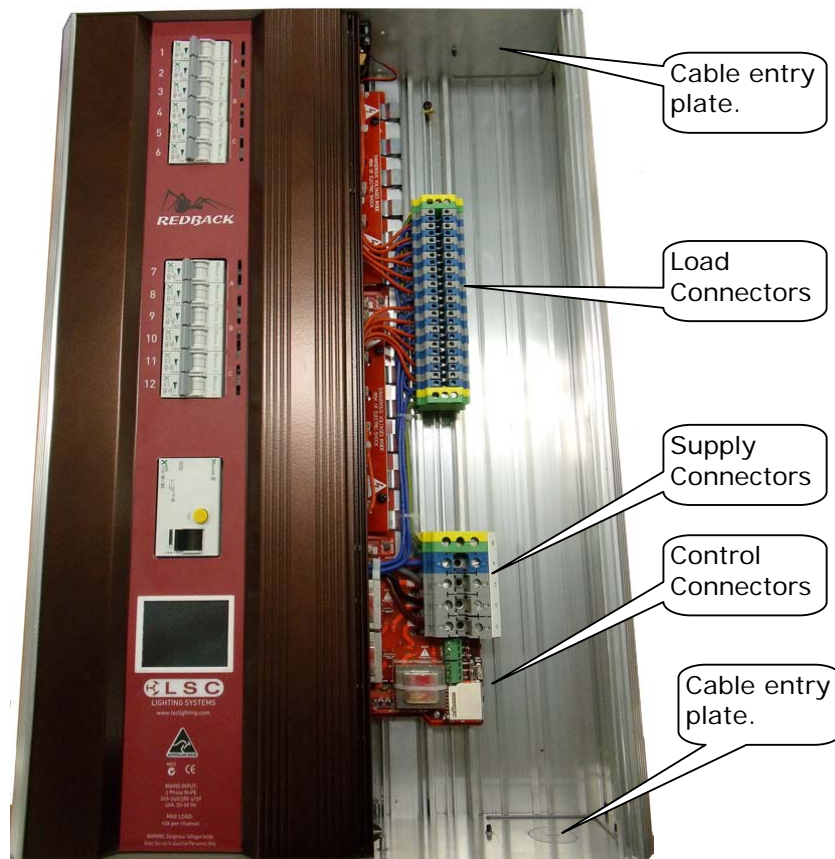
12 channel Redback with front covers removed.

3.6.1 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.

3.6.2 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 12mm Earth (E) terminal is provided for every 6 load connections.

3.6.3 Connecting DMX512

DMX 512 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.

If the RDM (ANSI E1.20 Remote Device Management) extensions to DMX 512 are to be used to configure or control the Redback, all distribution devices (such as DMX splitters) between the controller and the Redback must support bidirectional RDM data.
See "RDM Explained" for more information.

DMX 512 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.
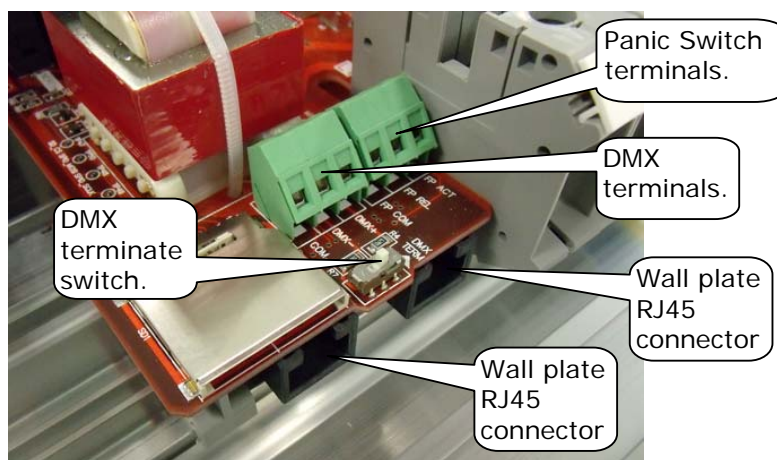
LSC recommends the use of RS485 data cable or shielded CAT5 cable for the DMX connections.
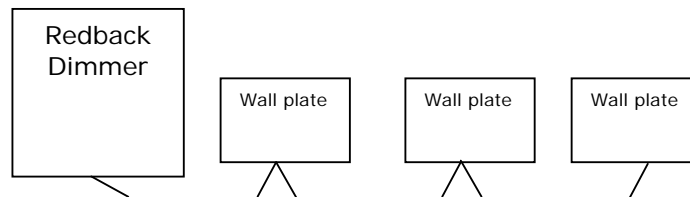
3.6.4   Wall Plate Connection

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, 4 or 6 buttons. Wall plate are connected to the Redback via RJ45 connectors and cat5 cable. Two parallel connectors are provided to simplify cable runs to different locations.

Jumpers inside each wall plate allow you to configure them so that any of the buttons can control any of the 6 memories. Buttons on different plates may be paralleled so that the same memory can be controlled from several locations.

3.6.5   Wall Plate Cabling

Wall plates are connected to the Redback Wallmount dimmer using CAT5 cable. All connections are via industry standard RJ45 connectors. Each wall plate has 2 RJ45 connectors allowing the cable to be daisy chained from plate to plate. 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.


See section 5.4 for details on how to program the 6 memories.
See also section 5.9.1 "Wall plate Configuration".

3.7   PANIC BUTTON CONNECTION

The "Panic" function provides emergency evacuation lighting that can be easily recalled by a simple "Panic" or "Evacuate" button that is connected to the Redback Wallmount Dimmer.
The "Panic" button 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 (or 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.
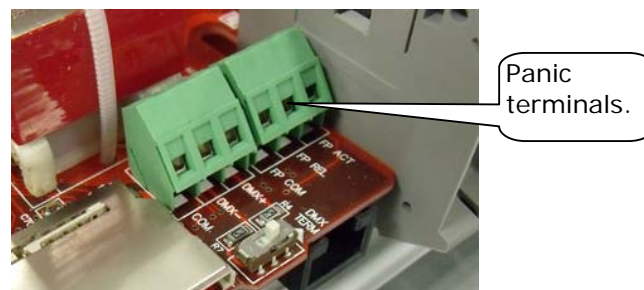
The Panic button terminals are labelled:
* FP ACT (Fire Panel Activate)
* FP REL (Fire Panel Release)
* FP COM (Fire Panel Common)

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.

See section 5.7 for details on how to program the "Panic" memory.

<div style="border:1px solid">

4 Configuring the Redback Wallmount Dimmer

</div>

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.

4.1 CONTROL SOURCE
Each channel needs to 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 when DMX is present) or "Auto Power" (switch to full on whenever DMX is present).
See Control Source in section 5.6.

4.2 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 5.5.

4.3 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 5.4.

The Wall plates must also be connected and configured to control the required memories.
See sections 3.6.4 and 6.

4.4 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 lost
  See section 5.5.2

- Create a "Panic" memory that will be recalled when the remote "Panic" button is pressed. See section 5.7

- Set minimum and maximum levels for each channel.
  See section 5.6

- Set each dimmer to either "S Curve" (dimmer) or "Non Dim" (switch between OFF or fully ON). See section 5.6.3

- Set a "lock code" to prevent unauthorised access to the menu system. See section 5.10

5 MENU SYSTEM

5.1 HELP SCREENS

The Redback Wallmount dimmer uses a colour LCD touch screen which is operated by touching the virtual buttons or faders with your finger.
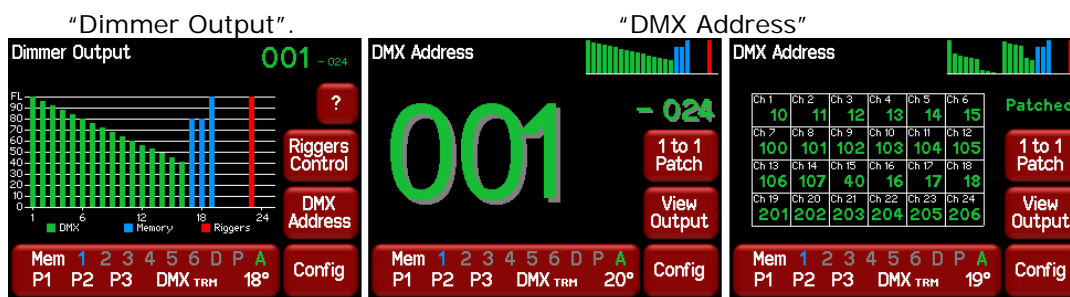
Many menus have Help screens available. Select the [**?**] button to see the help.
For example:
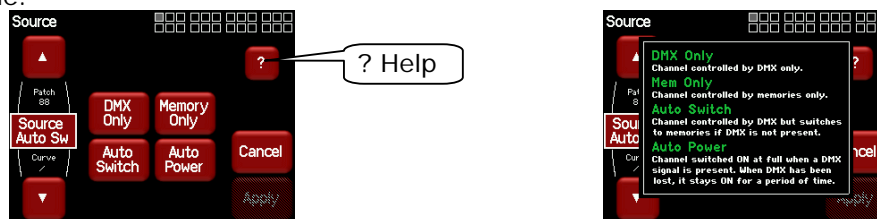
Touch anywhere within the help screen to cancel.

5.2 HOME PAGES

There are two possible "home" pages:

"Dimmer Output".   "DMX Address"

The "DMX Address" home page has two possible formats. If the Redback channels are patched 1 to 1, it shows its first channel's address (and the last channel's address in small font). If multiple patches have been made it shows a grid with the patching for every channel.
Press either [**DMX Address**] or [**View Output**] to change home pages.

All home pages have two common buttons at the bottom of the screen, a large "Status"

button and a [Config] button.
The "Status" button shows the following information:
- The status of the **Mem**ories:
  - **1 to 6** are the six internal (wall plate) memories.
  - **D** is the "**D**MX loss" memory
  - **P** is the "**P**anic button" memory
  Blue is active. **Grey** is not active.
- "**A**" shows the status of the "**A**uto on" when DMX is present function.
  Green is active. **Grey** is not active (DMX not present). "A" is not shown when "Auto on" is disabled.
- **P1**, **P2**, **P3** show the presence of the 3 input power phases. White is present and flashing **Red** is not present.
- **DMX** shows the presence of a DMX control signal. White is present and 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 this [**Status**] button reveals the detailed "Status" of the dimmer as described below.

Pressing [**Config**] reveals the "Configuration Menu" as described below.

5.2.1   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.

DMX address range if patched 1 to1
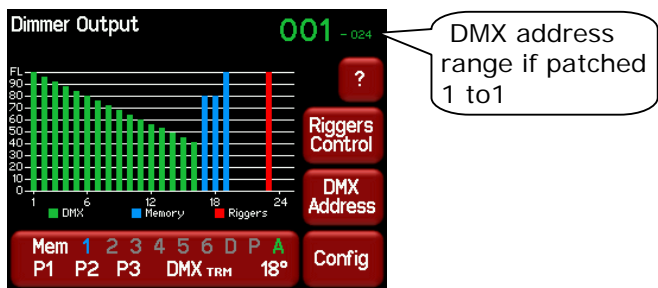
- **Green** = controlled by DMX
- **Blue** = controlled by a Memory.
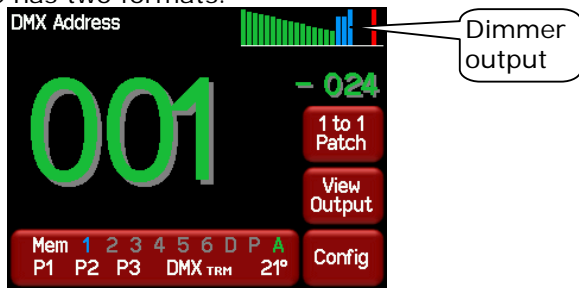- **Red** = controlled by the Riggers Control.

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

Pressing [**Riggers Control**] allows you to control Redback channels directly from the touch screen. See below for more details.
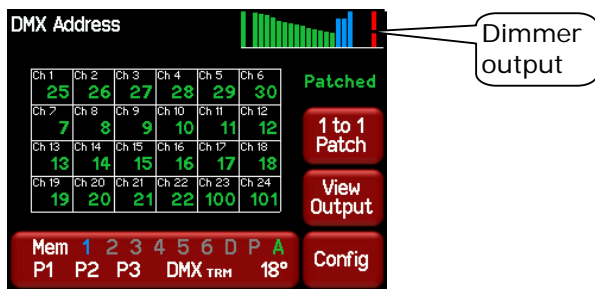
Pressing [**DMX Address**] selects the "DMX Address" home page.

5.2.2   DMX Address Home Pages

The "DMX Address" home page has two formats.

Dimmer output

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).


Dimmer output

If channels are individually patched it shows the word "Patched" and the DMX addresses of <u>all channels</u> 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 for the colour code.

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

5.2.3   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**].

Riggers control shown in red
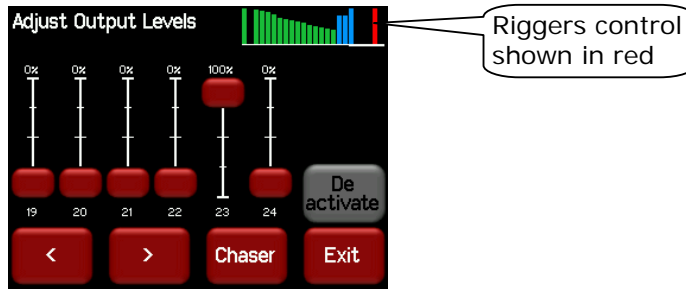
To enable the levels set on the faders press [**Activate**].
To set the level of a channel(s), use the virtual faders.
Press [‹] or [›] to select more channels (if fitted).
To disable the levels set on the faders press [**De-Activate**].
When finished press [**Exit**].

5.2.4   Chaser

To activate the chaser, from the "Rigger Control" (above), press [**Chaser**].
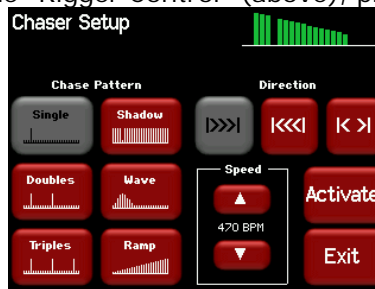
To enable the Chaser press [**Activate**].
Select a pattern" using the 6 "Chase Pattern" buttons.
Set the speed by pressing the [▲] or [▼] buttons.
Use the "Direction" buttons to select [I▶▶I] (forward), [I◀◀I] (reverse) or [I◀ ▶I] (bounce from end to end).
To disable the Chaser press [**De-Activate**].
When finished press [**Exit**].

5.2.5   1 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 frame to sequential DMX slots, starting from a DMX address that you select.
To perform a 1 to 1 patch, select the "DMX Address" home page (above) then press [**1 to 1 Patch**].
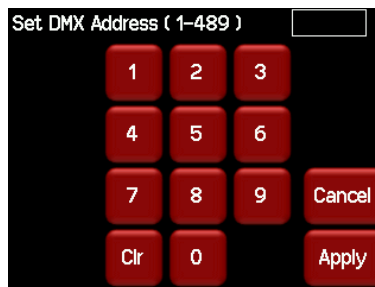
Enter the DMX address for the first channel in this Redback then press [**Apply**].

5.2.6   Status

Pressing the large button at the bottom of any of the home pages reveals the detailed "Dimmer Status".

It shows the presence of the input power phases, DMX presence, 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 power modules (Firing boards). Redback Wallmount dimmers are constructed using internal power modules that contain 6 channels each. Two types of module are available:
- Dimming modules.
- Relay (switch) modules.

Redback's can be supplied in various combinations of dimming and switching modules to provide a system with dimmed channels for conventional lighting and non-dimmed (relay) channels for control of LED fixtures or moving lights.
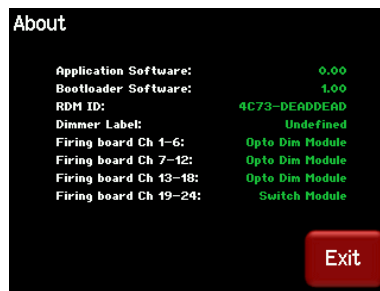
For example, the Redback above has 18 channels of dimming (Opto Dim Module) and 6 channels of relay (Switch Module).

5.3   CONFIG MENU

From any of the "Home Pages", pressing [**Config**] reveals the "Configuration Menu".
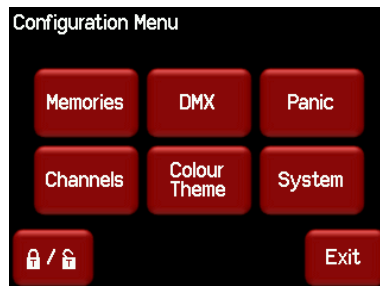
The buttons on the "Configuration Menu" provide access to the Sub-Menus and functions which are described in detail on the following pages. Each sub menu has its name at the top of its screen.

5.4   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 wall plate 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 whenever there is <u>no</u> DMX signal present at the Redback.

See Section 5.6 for details on how to set a channels "control source".
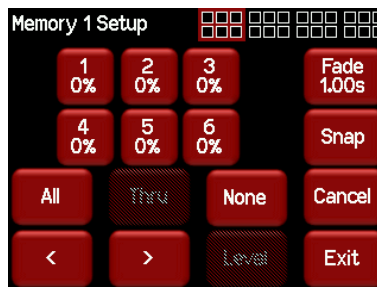
5.4.1   Create or Edit Memories

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

Each memory button shows a bargarph display of the contents of that memory and also its fade time in seconds.

Select one of the 6 memories by touching it then press [**Edit**].

You can manually set the channel levels in the memory using the controls on the screen or press [**Snap**] to take a copy of either the current DMX input signal or the current state of the Redback's output.

5.4.2   Manually Setting Memory 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). Touch a channel to select it. You can select multiple channels. Use [<] or [>] to see other 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.
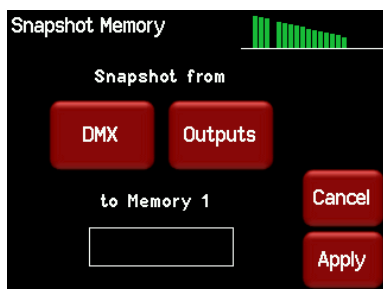
When you have selected your channel(s) press [**Level**].
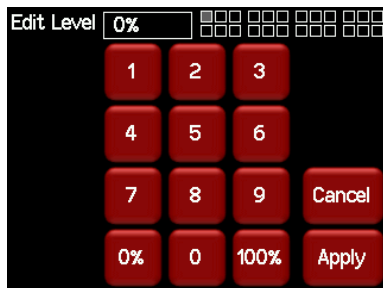
Use the keypad to set the level then press [**Apply**].
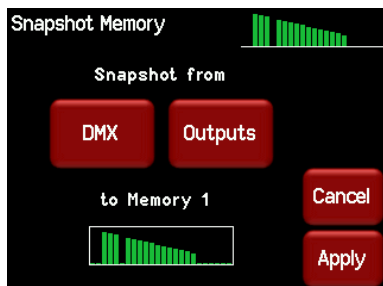
5.4.3 Taking a Snapshot

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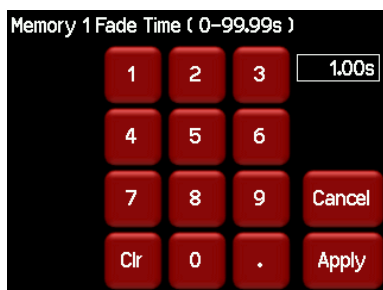When you take the snap, the channels levels will be displayed in the box below the memory number.

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.

5.4.4 Fade Time

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

Enter a time in seconds then press [**Apply**].

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

5.4.5   Playback Memories

To playback a memory either;
- Use a wall plate button that has been programmed to control that memory number.
- Press [**Config**] [**Memories**]. Select a memory by touching it, then press [**Activate**].

5.5   DMX MENU

Selecting [**Config**] [**DMX**] provides menus for:
- DMX Patching.
- Editing and activating the <u>DMX Loss</u> (D) memory.
- Enabling and time setting the <u>Auto Power</u> function.
- Viewing the DMX input signal.
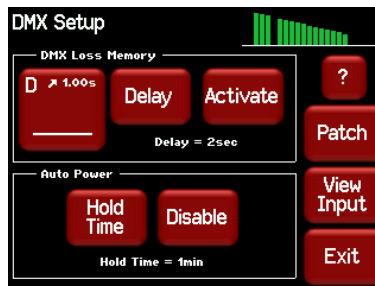
5.5.1   DMX Patching

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 <u>all of the dimmers</u> in one Redback frame to <u>sequential DMX slots</u>, starting from a DMX address that you select.
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**].

To individually patch dimmers channels to DMX addresses press [**Config**] [**DMX**] [**Patch**].
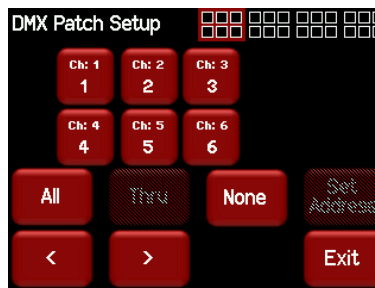
The menu shows the first 6 channels. Use the [<] or [>] buttons to see the other groups of 6 channels (if fitted). Touch a channel to select it. Use [<] or [>] to see other channels. You can select multiple channels. To select a range of channels select your first channel then

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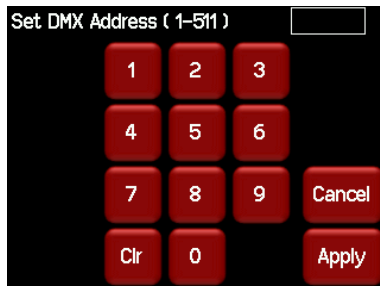
Enter the required DMX address then press [**Apply**].

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**].
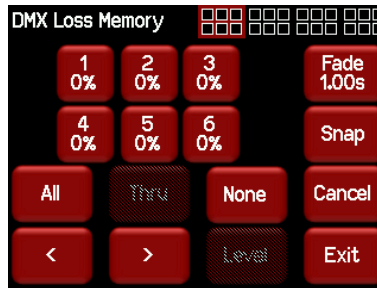
5.5.2 DMX Loss Memory

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. When DMX is restored, the Redback will fade back to the DMX signal.

To create or edit a "DMX Loss" memory press [**Config**] [**DMX**].
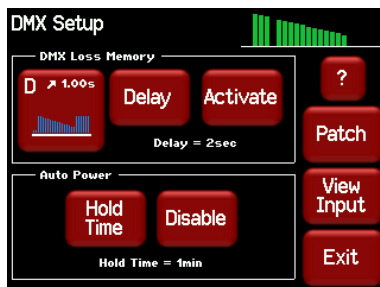
The "DMX Loss Memory" box has 3 buttons, "D", "Delay" and "Activate".
The "D" button shows a bargarph display of the current DMX Loss memory and also its fade time in seconds. Pressing the [**D**] button allows you to create or edit the memory.

You can either take a 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.

5.5.3 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). 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**].
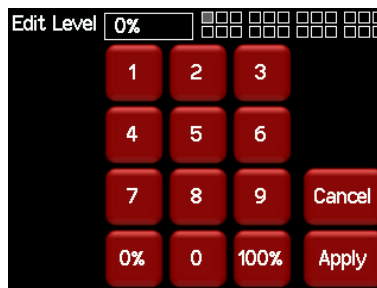
Use the keypad to set the level then press [**Apply**].

5.5.4 Taking a Snapshot
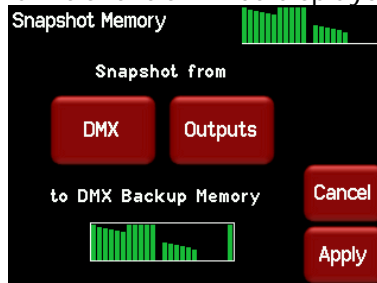
To create a memory by taking a snapshot, press [**Snap**] from the "DMX Loss Memory" menu above.
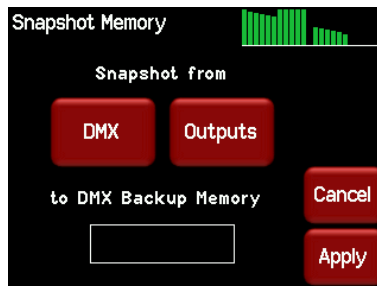
Pressing [**DMX**] will take a snapshot of the current DMX input signal.
Pressing [**Outputs**] will take a snapshot of the current output of the Redback.

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.

5.5.5 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 then press [**Apply**].

5.5.6 Auto Power

Many lighting fixtures such as LED's and moving fixtures require a constant source of power (hot 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 <u>automatically</u> switches selected Redback channels to full ON whenever there is a DMX signal present on the input. Therefore, if a fixture is connected to a Redback channel that is configured for Auto Power, it will be automatically switched on whenever the lighting controller is on and sending a DMX signal. A time delay 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.

Fixtures that require "un-dimmed" power should be connected to Redback switched (relay) outputs (optional).

To select the DMX Setup menu, press [**Config**] [**DMX**].
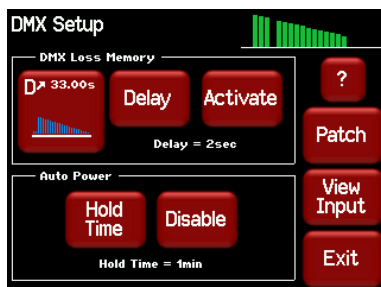
The "Auto Power" box allows you to enable or disable the Auto Power function and also to set the "Hold Time". This is the time that the selected channels will stay ON when the DMX signal is lost.

To configure a channel to switch On when DMX is present you must select "Auto Power" as its "Control Source". This is selected in the "Control Source" section of the "Channels" menu. See the "Channels Menu" below for details.

5.5.7 View Input

The "DMX Setup" menu allows you to view the channel levels on the DMX input. Press [**View Input**]
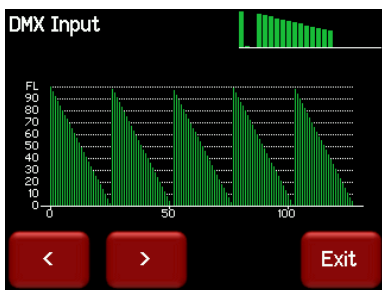
Pressing either [>] or [>] to scroll through all slots in the DMX Universe.

5.6   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).

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 top right of the screen shows the selected group highlighted.
Each channel button shows the settings for that channel.
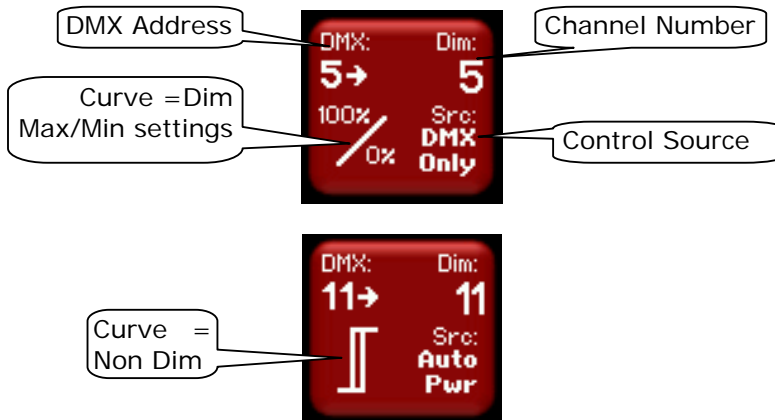
To change the settings of a channel(s), select that channel(s) by touching it then press [**Edit**]. The following screen appears with the selected channel(s) highlighted at the top right of the screen. Use the [▲] and [▼] buttons to scroll through the settings for the selected channel(s).
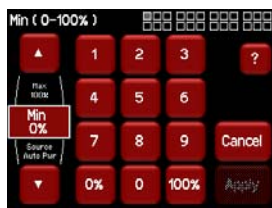
Min Level

Max level

Curve

Source

Each setting is described below.

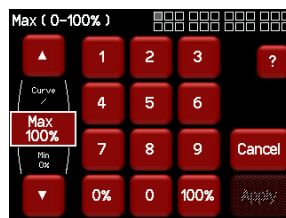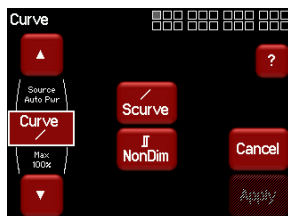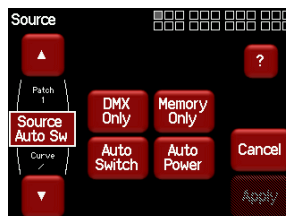### 5.6.1   Min Level

"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.

5.6.2   Max Level

"Max" sets the level of the dimmer output when its control signal is set to maximum. For example, setting this value to 50% provides 115volt output.

5.6.3   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

 "Non Dim" is used for devices that do not fade, but need to be switched OFF or ON such as motors or discharge lamps.

When set to "Non Dim", when the control signal is raised above 60%, the channel will switch from OFF to full ON and when the level drops below 40%, the channel will switch OFF. Min and Max level are not available when Non Dim is selected.

5.6.4   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**" 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**. Channels set to "Auto Switch" will be *automatically* switched from MEM to DMX control whenever a valid DMX signal is connected to the Redback.

- **Auto Power**. When "Auto Power" is activated, channels set to "Auto Power" are switched ON at full level whenever a valid DMX signal is connected to the Redback. Use these channels to provide "hot power" for lighting fixtures whenever DMX is present.

5.6.5   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

5.7   PANIC MENU

The "Panic" function provides emergency evacuation lighting that can be easily recalled by a simple "Panic" or "Evacuate" button that is connected to the Redback Wallmount Dimmer. The "Panic" button is a dry contact closure that 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. A separate contact closure is required to release the panic memory. 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.
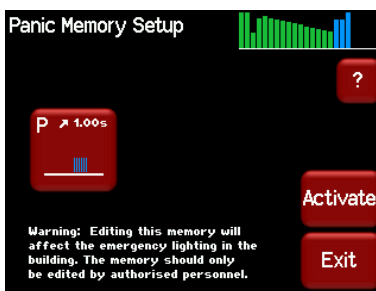
The "P" button shows a bargarph display of the current DMX Loss memory and also its fade time in seconds. Pressing the [**P**] button allows you to create or edit the memory.
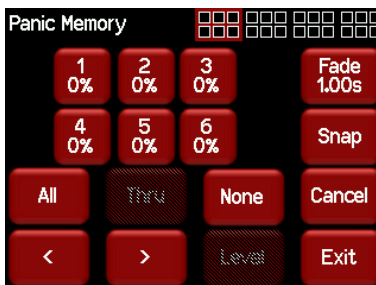
You can either take a snapshot of the current [**DMX**] input signal or the current state of the Redback's [**Outputs**] or select a channel(s) and manually set their levels.

5.7.1   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). 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**].

Edit Level 0%

1	2	3
4	5	6
7	8	9	Cancel
0%	0	100%	Apply
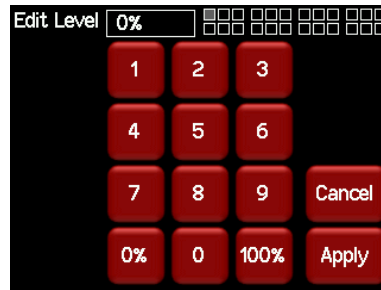
Use the keypad to set the level then press [**Apply**].

5.7.2   Taking a Snapshot

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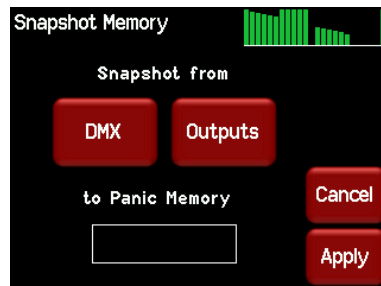menu above.

Snapshot Memory

Snapshot from

| DMX | Outputs |

to Panic Memory

Cancel

Apply

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.

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

Snapshot Memory

Snapshot from

| DMX | Outputs |

to Panic Memory

Cancel
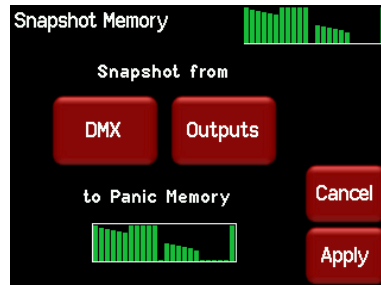
Apply

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.

5.7.3   Fade Time

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

Panic Memory fade time (0–9.99s)

1	2	3	1.00s
4	5	6	
7	8	9	Cancel
Clr	0	.	Apply

Enter a time in seconds then press [**Apply**].
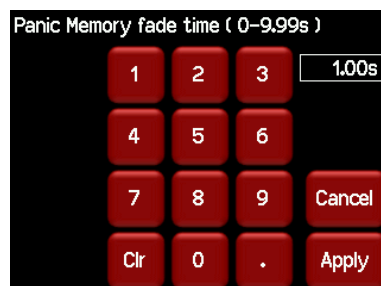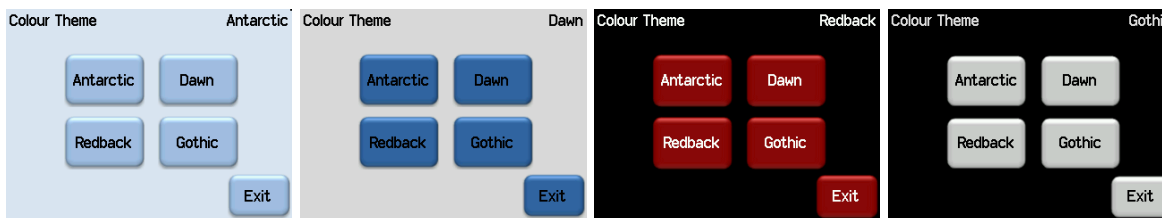
See the "Installation" section for details on how to connect a "Panic" button.

5.8   COLOUR THEME MENU

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

5.9   SYSTEM MENU

Selecting [**Config**] [**System**] provides menus for the following functions:
- Wall plate Setup.
- Reset.
- Code Upgrade.
- Service.
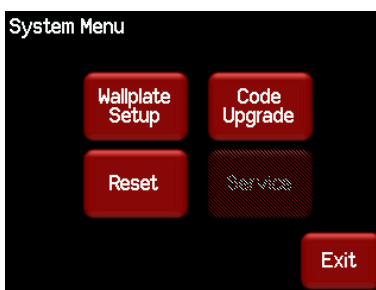
5.9.1 Wall Plate Setup

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 6 "Wall Plates" for details on how to configure wall plate operation.

5.9.2 Reset

The Redback provides two different types of reset function.
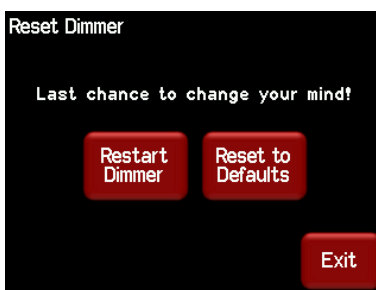
5.9.2.1   RESTART DIMMER

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.

5.9.2.2   RESET TO DEFAULTS

This will <u>ERASE</u> all memory from the Redback and reset to defaults.

5.10 LOCK / UNLOCK

To **lock** the touch screen of the Redback and prevent unauthorised access press [**Config**].
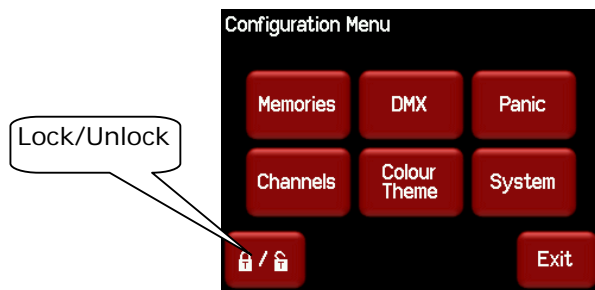
Pressing the "Padlock" symbol allows you to set 3 levels of lock.
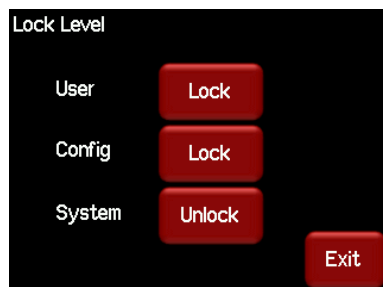
- User. Locks out the "Config", "Riggers Control" and "1 to 1 Patch" menus.
- Config. Locks out the "Config" menus.
- System. Locks out the "System" menu.

<u>Note</u>: 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.
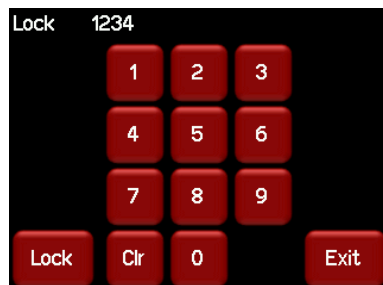
Press [**Lock**] to lock the selected level.

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

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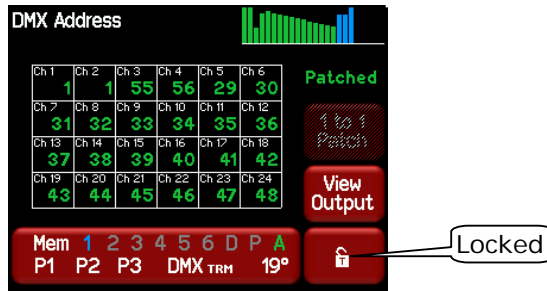
To unlock, press the [**Padlock**] symbol and enter your 4 digit code.

6   Wall Plates

6.1 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, 4 or 6 buttons and are connected to the Redback via RJ45 connectors and cat5 cable. Six lines in the cat5 cable are used for the control signals. Memories 1 to 6 are controlled by lines 1 to 6 respectively. Jumpers inside each wall plate allow you to configure them so that any of the buttons can control any of the 6 lines. Wall Plates are shipped with their jumpers set so that buttons 1 to 6 control lines 1 to 6 respectively.

The default configuration is that control lines 1 to 6 "Toggle" memories 1 to 6 respectively. Therefore, press a button to fade up it's memory. Press it again to fade it down.

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

Each button has a LED indicator which always glows dimly. The LED will flash when it's memory is fading up or down and is bright when it's memory is active.

6.2 CONFIGURATION

Wall plate configuration requires the following steps:
- Set the internal jumpers on the wall plate switch(s) for the desired control line (memory number). See section 3.6.4 for more details.
- In the "Wall Plate Setup" menu, configure the required function for each button as described below.
- In the "Memories" menu, create the memories that will be controlled by the buttons. See section 5.4 for more details.

6.2.1   Wall Plates Setup

Selecting [**Config**] [**System**] [**Wall plate Setup**] reveals the "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.
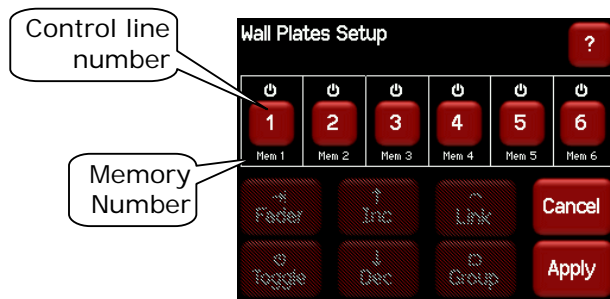
For example, pressing button 2 on a wall plate (with default button jumpers) would fade up memory 2. Pressing it again would fade it down.

6.2.2   Group

Adjacent buttons can be grouped (or un-grouped) by selecting them and clicking [**Group**]. Typically all of the buttons on a wall plate would be grouped together.

For example, a 2 button plate and a 4 button plate could be configured with two groups as follows:

Buttons in a group can be configured as either "Toggle", "↑ Inc" or "↓ Dec". When a button is set to either "↑ Inc" or "↓ Dec" it controls all the <u>active</u> memories in its group.
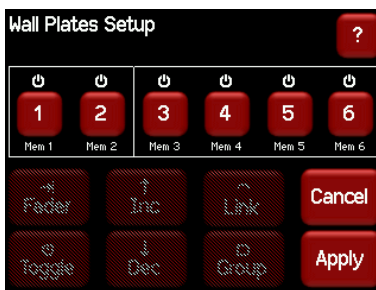- Each press of a ↓ Dec button on a wall plate will decrease the intensities of the ACTIVE memory(s) in the group by 5%.
- Each press of a ↑ Inc button on a wall plate will increase the intensities of the ACTIVE memory(s) in the group by 5%.

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.

<u>Note</u>: With this configuration, memories 5 and 6 are no longer available.

6.2.3   Link

<u>Adjacent</u> "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.
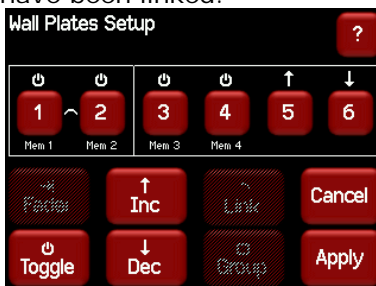
Pressing control line 1 will fade up memory 1.
Pressing control line 2 will fade up memory 2 AND fade down memory 1.
Pressing control line 1 again will fade up memory 1 AND fade down memory 2.

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

7 Alarms and Troubleshooting

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

7.1 MAINTENANCE

The only routine maintenance for the Redback Wallmount Dimmer is to periodically ensure that the air vents at the top, bottom and front of the frame are free from dust.

7.2 ALARMS

The bottom of the LCD "Home Screen" indicates the following:

- **P1**, **P2**, **P3** show the presence of the input power phases. White is present and flashing **Red** is not present.
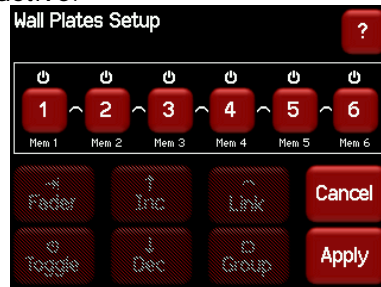- **DMX** shows the presence of a DMX control signal. White is present and flashing **Red** is not present.
- **Temperature.** There is a separate temperature sensor for each bank of 6 dimmers. The display shows the highest temperature from all of the sensors. If the temperature of the Redback Wallmount 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.

7.3 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.
If the MCB has not tripped, you can test the operation of the dimmer from the "Riggers Control" on the LCD touch screen. See section 5.2.3 "Riggers Control for details.
If the dimmer is working from the touch screen but not via DMX (remote), check that the dimmer is patched to the correct DMX slot and correctly configured.

LSC

8   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

8.1   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.
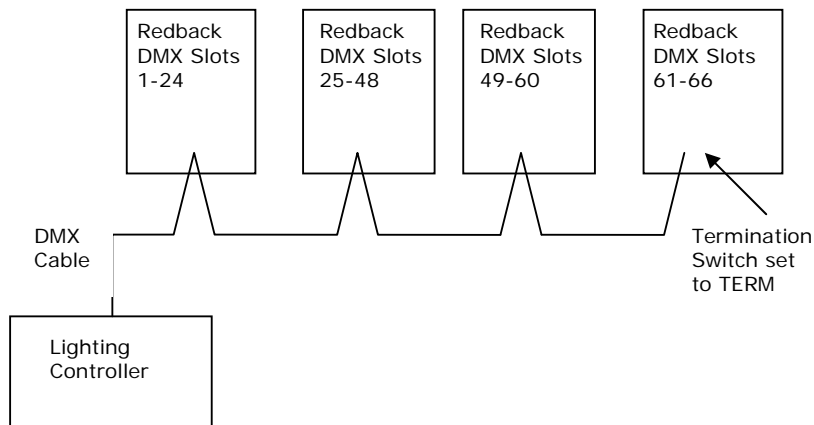
9   RDM Explained

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.

10 Specifications

| Power Input	Nominal: 220-240 Volts. 3-phase star (380-415V). 50-60Hz (Single phase operation possible) Operating range : Typically 190-260V, 45-65Hz
Power Connection	Five 35mm2 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 and 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 4mm2 for each output circuit plus one 16mm2 neutral terminal and one 16mm2 earth terminal for each group of 6 circuits. Several types of output panels can be ordered: • 6 x 3 pin Australian sockets. • 6 x 3 pin UK 15A sockets. • 6 x Shuko sockets. • 6 x channels of GST18 3-pin socket patch providing 2 x GST18 dimmed outputs and one GST18 Hot Power (non-dimmed) per channel.
Output per Channel	10A maximum per channel, protected by 6kA rated thermal magnetic miniature circuit breaker (MCB). 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

11 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 is momentarily displayed on the LCD touch screen when the **EKO** is switched on or at any time by pressing [**Menu**] [**Options**] [**About**].

To upgrade your **Redback Wallmount** software, download the latest version from the LSC web site, www.lsclighting.com.au and save the new software to an **SD Card**. The file will be called "RBW_V*.bin" where # is the version number.
Press [Menu], [Setup], [Code Upgrade].
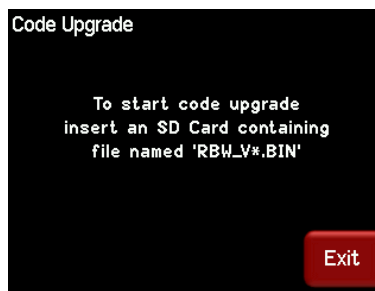
Remove the front panel and insert the SD card.
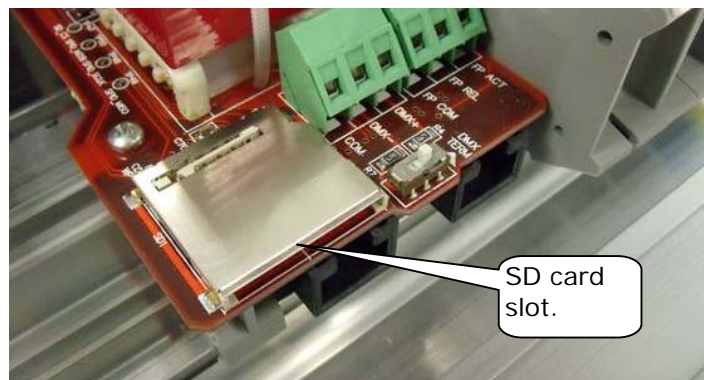
Follow the onscreen instructions.

12 COMPLIANCE STATEMENTS

12.1 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).

12.2 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.

12.3 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.

- END -