



REDBACK PATCH User Manual

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1 Redback Patch System

1.1 About this Manual

This manual describes the Redback Patch Bays and Test Modules manufactured by LSC Control Systems.

1.2 Redback Patch Bay Overview

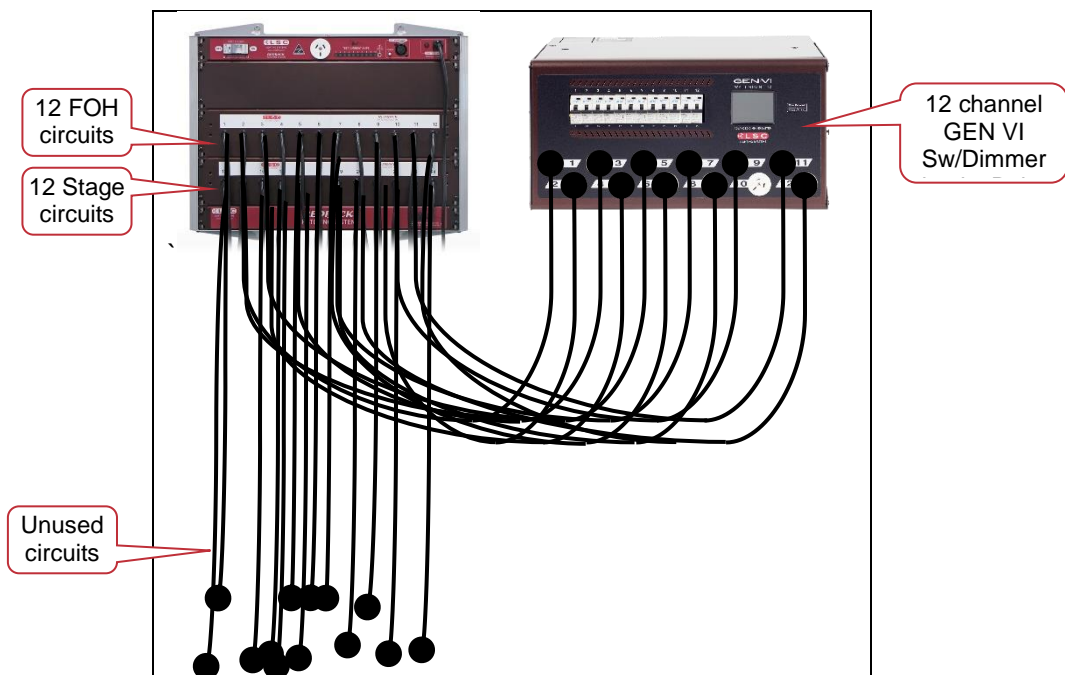
The Redback Patch Bay is the most compact patch panel system available on the market today. The unique and clever design does not compromise on usability. The slimline construction makes it ideal for mounting in small equipment rooms, on catwalks or backstage areas. When the cables are not in use, they are neatly arranged to avoid a potential trip hazard.

1.3 Patching

A typical theatrical lighting installation will consist of many lighting outlets located at different locations throughout the venue. Some shows might need a lot of FOH (Front Of House) lights and not many on stage. Another show might need lots of lights on stage and not many at FOH. The large number of outlets allow flexibility when lighting each show. In smaller installations where cost is a major factor, providing a dimmer or switch channel for each outlet in the venue is unlikely to be viable. Instead, each outlet is wired back to a Redback Patch Bay located next to the dimmer/switches. Therefore, depending on the show, the lights required can be chosen from the patch bay and plugged into the dimmers/switches offering a degree of flexibility that could not be achieved easily in any other way.

The piggy-back plugs also allow the paralleling of circuits. For example, a lighting bar might be rigged with 4 wash lights that are plugged into separate outlets. The 4 patch leads for these outlets can be piggy-backed into one dimmer circuit to control all 4 lights simultaneously, thus saving 3 dimmer circuits.

In the following simplified example, a 24 circuit Redback patch bay provides connections to 12 circuits on the stage and 12 circuits at the FOH. A 12 channel GEN VI Switch/Dimmer provides the controlled power. For this example, 4 FOH circuits are patched into Dim/Sw channels and 7 stage circuits are patched into Dim/Sw channels.



1.4 Frame and Module Sizes

Four frame sizes of Redback Patch Bay are available. Frames are fitted with 12 circuit patch modules allowing for systems up to 36, 72, 144 or 240 circuits.

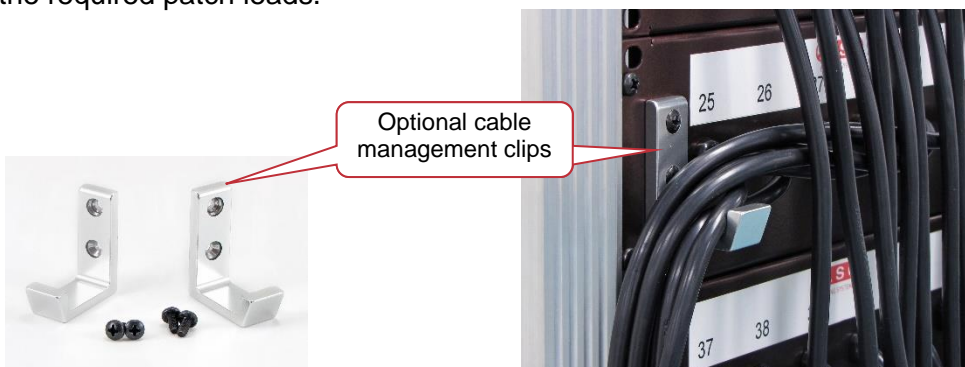
Frame Size	36	72	144	240
Quantity of Patch Modules	1-3	4-6	7-12	13-20
Quantity of Patch Circuits	12-36	48-72	84-144	156-240



A frame size larger than initially required may be used to allow for future expansion. The required number of 12-circuit patch modules are fitted with the empty locations filled with blank panels. Install what you need today then add extra circuits when your requirements expand.

1.5 Cable Management

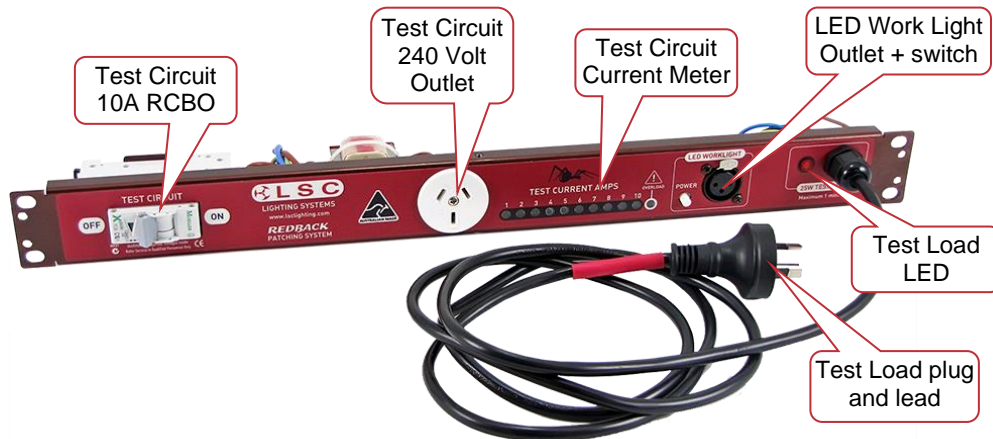
The optional cable management clips are available and help in arranging unused cables to aid in access to the required patch leads.



2 Test Module

The optional test module has 3 functions. It provides a “Test Circuit” 240 volt hot power outlet for testing circuits, a “Test Load” LED to show the presence of power and a LED work light outlet.

The test module can be included from the factory or it can be retrofitted to the patch panel after installation. The module requires a 10A power supply of nominal 220-240V AC, single phase 50-60Hz connected via 3-way terminal block on the rear.



1. Test Circuit.

The 3-pin test circuit outlet provides a source of 240 volt power (protected by a 10Amp RCBO circuit breaker) that can be used to identify or test any load circuit. Plug any patch bay cable into the test circuit 240 volt outlet to provide power to its connected load and to confirm that the connected lamps are in fact operating. A “Test Current Amps” indicator shows the current drawn by the load including an “Overload” warning LED. This can be used to prevent possible overloading of a dimmer circuit.

2. Test Load.

The Test Load 3-pin plug and lead is connected to a “Test Load LED” indicator and an internal test load of 25 Watts. The test lead can be plugged into the output of any dimmer or switch channel and the LED will indicate the presence of power. The LED can also be used to observe correct dimmer operation because its intensity will vary as the dimmer is dimmed up and down. The 25 Watt load is included because some types of dimmers require a minimum load to operate correctly. The load must only be connected for a duration of one minute or less. The test load is protected by an auto-resetting fuse.

3. LED work light outlet and switch.

The 3 pin XLR pinouts are:

Pin 1 - Do not use

Pin 2 - 0v

Pin 3 - +12v DC

This wiring is the same for all LSC products and many brands of LED work lights however some brands use a different wiring configuration and might need to be modified.

2.1 Self Test

To test both the “Test Circuit” and the “Test Load”, momentarily plug the Test Load plug into the Test Circuit outlet and ensure that the Test Circuit breaker is on. The “Test Load LED” will light, indicating that the Test Circuit is providing power. Unplug the Test Load plug.

3 Installation

Note: All electrical work must be carried out by suitably qualified persons.

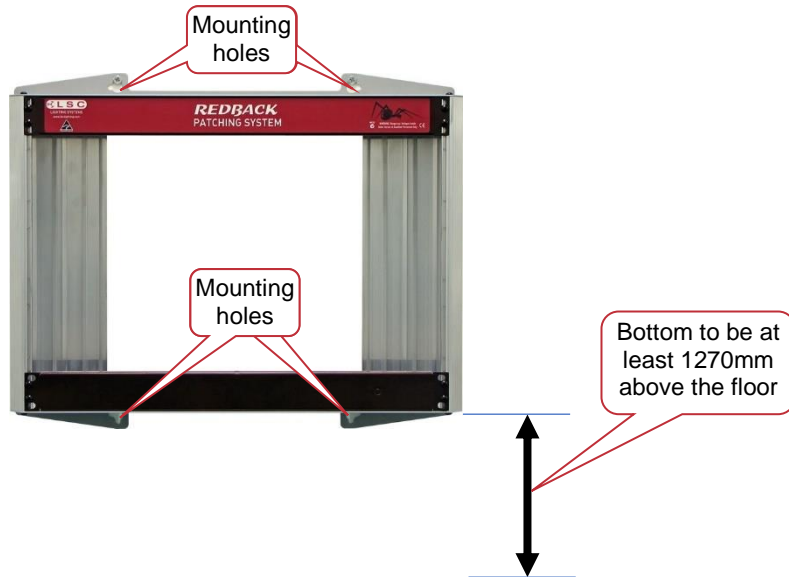


Typical Installation. 144 Patch Points and 24 Dim/Switch channels

3.1 Step 1

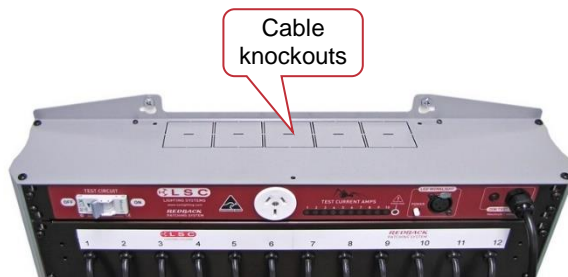
Install the empty Redback mounting frame onto the wall surface or Unistrut using 6mm or ¼ inch fasteners in all four mounting holes.

The bottom of the chassis should be a minimum of 1270mm above the floor to allow hanging clearance.



3.2 Step 2.

External wiring can enter the chassis either directly through the wall cavity or through the end panels by removing the required quantity of cable knockouts at the top and bottom of the frame.



3.3 Step 3

Starting at the bottom and working up, the patch modules can now be installed in the frame and load circuits terminated.

Each 12 circuit patch module has an interlocking lip that temporarily holds the module at an angle, exposing the terminating strip for easy access. Each tail circuit has an Active (A), Neutral (N) and Earth (E) screw termination.



An empty space above each circuit termination label allows custom patch numbers to be written.

3.4 Step 4

Ensure that each patch module has the earth terminated to the chassis using the provided spade terminal.



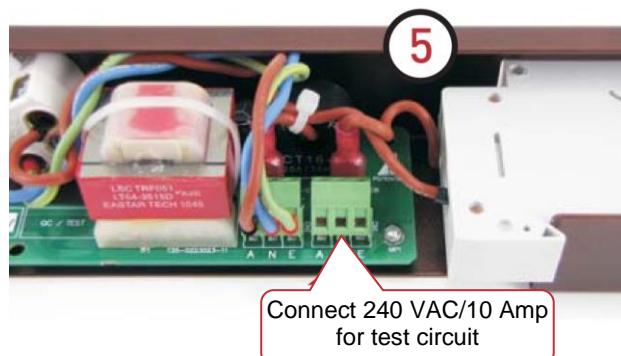
The patch module can now be positioned and screwed into the frame.

Repeat steps 3 and 4 for the remaining patch modules.

Extra spade terminals are provided internally for the termination of the installation building wiring earth to the Redback patch chassis.

3.5 Step 5

An optional test circuit panel can be installed at the top of the Redback patch chassis. This panel requires a 240VAC/10 Amp mains source which provides power to connected test loads. A three terminal screw header allows for Active (A), Neutral (N) and Earth (E) screw termination. The panel earth wire is terminated to the chassis using the spade terminal provided.



4 Specifications

4.1 Mounting Frame

Side aluminium extrusions and powder-coated metal end plates similar in construction to LSC's REDBACK wallmount dimmers.

Cable access via open rear entry or knock-out panels in top and bottom end plates.

Easy-access mounting holes for quick installation.

Blank panels provided for expansion modules.

12-36	48-72	84-144	156-240
Expandable from 12 circuits up to 36 circuits	Expandable from 48 circuits up to 72 circuits	Expandable from 84 circuits up to 144 circuits	Expandable from 156 circuits up to 240 circuits
515mm (w) x 120mm (d) x 284mm (h)	515mm (w) x 120mm (d) x 417mm (h)	515mm (w) x 120mm (d) x 684mm (h)	515mm (w) x 120mm (d) x 1040mm (h)
Weight: 8kg (12 circuits) up to 12kg (36 circuits)	Weight: 16kg (48 circuits) up to 21kg (72 circuits)	Weight: 26kg (84 circuits) up to 38kg (144 circuits)	Weight: 44kg (156 circuits) up to 61kg (240 circuits)

4.2 Patch Module

12 circuits per module in 1RU high 19" rackmount.

10A moulded piggy-back plug and 1300mm cable per circuit.

Individual Active-Neutral-Earth 4mm² pressure-pad terminals for each circuit.

484mm wide x 44mm high folded corrosion-resistant, powder-coated metal housing.

Supplied rear-printed mylar labels for circuit numbering.

Custom circuit numbering available on request.

Weight: 2kg.

4.3 Test Module

3-pin Australian GPO test outlet with 10A RCBO protection.

Test load of 25W max for a duration of one minute.

Flying test lead with 3-pin plug fitted with inbuilt, auto-resetting fuse.

LED indicator for circuit load output and overload indication.

Requires 10A power supply of nominal 220-240V AC, single phase 50-60Hz connected via 3-way terminal block.

484mm wide x 44mm high folded corrosion-resistant, powder-coated metal housing with rear screened polycarbonate front label.

5 Compliance Statements

The Redback Patch Bay range from LSC Control Systems Pty Ltd meets all required CE (European), RCM (Australian) and UKCA (United Kingdom) standards.

CENELEC (European Committee for Electrotechnical Standardization).



Australian RCM (Regulatory Compliance Mark).



WEEE (*Waste Electrical and Electronic Equipment*).



The WEEE symbol indicates that the product should not be discarded as unsorted waste but must be sent to separate collection facilities for recovery and recycling.



For more information about how to recycle your LSC product, contact the dealer where you purchased the product or contact LSC via email at info@lsccontrol.com.au

You can also take any old electrical equipment to participating civic amenity sites (often known as 'household waste recycling centres') run by local councils. You can locate your closest participating recycling centre using the following links.

- AUSTRALIA <http://www.dropzone.org.au>.
- NEW ZEALAND <http://ewaste.org.nz/welcome/main>
- NORTH AMERICA <http://1800recycling.com>
- UK www.recycle-more.co.uk.

- END -