Manuals+ — User Manuals Simplified.

A 6531   A 6541

REDBACK A6530 Programmable Touchscreen Wallplate User Manual

Contents

REDBACK A6530 Programmable Touchscreen Wallplate User Manual

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Programmable Touchscreen Wallplate
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A 6505A 3 Relay, 2 Serial, IR Output Hub
A 6507 Serial Controlled 100V Line Attenuator
A 6510 Distribution Box – 12 Relay Output
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You may be surprised to learn that Redback is still manufacturing hundreds of product lines right here in Australia. We have resisted the move offshore by offering our customers better quality products with innovations to save them time and money.

Our Balcatta production facility manufactures/assembles:

Redback public address products
One-shot speaker & grill combinations
Zip-Rack 19 inch rack frame products

We strive to support local suppliers wherever possible in our supply chain, helping to support Australia's manufacturing industry.

Redback Audio Products

100% developed, designed & assembled in Australia.

Since 1976 we have been manufacturing Redback amplifiers in Perth, Western Australia. With over 40 years experience in the commercial audio industry, we offer consultants, installers and end users reliable products of high build quality with local product support. We believe there is significant added value for customers when purchasing an Australian made Redback amplifier or PA product.

Local support & feedback.
Our best product features come as a direct result of feedback from our customers, and when you call us, you speak to a real person – no recorded messages, call centres or automated push button options.

It's not only the assembly team at Redback who are employed as a direct result of your purchase, but hundreds more at local companies used in the supply chain.

Industry leading 10 year warranty.
There's a reason we have the industry leading DECADE warranty. It's because of a long tried and tested history of bulletproof reliability. We've heard PA contractors tell us they still see the original Redford amplifier still in service in schools.

We offer this comprehensive parts & labour warranty on almost every Australian Made Redback public address product.
This offers both installers and end users peace of mind that they will receive prompt local servicing in the rare event of any problems.

1.0 OVERVIEW

1.1 INTRODUCTION

This universal touchscreen wallplate is the perfect control system for commercial and domestic automation. Its stylish low profile design lends itself to installation in new modern homes, classrooms, lecture theatres or corporate boardrooms. The LCD panel can be configured from 1 to 12 buttons, which can be individually labelled. Configuration is performed using the supplied software, which is then transferred to the plate via SD card. A library of button icons is included. Icons can be customised by the user if required. Each button can be programmed for either serial with hex code commands, IR, or relay control. For IR applications the plate can learn and capture IR strings from any remote control. User generated macros can be created consisting of multiple commands in a single button press. This is ideal for performing multiple tasks at once ie: turn on projector, turn on amplifier, turn off lights, drop down projector screen etc.

For IR applications the plate can learn and capture IR strings from almost any remote control.
User generated macros can be created consisting of multiple commands in a single button press. This is ideal for performing multiple tasks at once ie: turn on projector, turn on amplifier, turn off lights, drop down projector screen etc. Wall plate fits into a standard electrical wallbox for ease of installation.

1.2 FEATURES
Redback Programmable Wallplate

- User programmable buttons with customisable icons
- Multiple screen pages (12 max)
- Tandem operation
- Event splash screens

- Inbuilt icon library for commonly used buttons

- Multi-command macros

- IR learning facility

- SD card configuration upload

- Dual cover wallplate to suit existing decor

- Single U/UTP Cat5 cable connection

- Haptic and audible feedback of button presses

- Easy to program

- 10 Year Warranty (Cracked or broken screen excluded)

- Australian Designed and Manufactured

A 6505A Serial Hub (Not Supplied)

- Dual RS-232 or RS-485 serial outputs

- Infra-red control output

- PIR (or closing contact) trigger

- 3 output relays (voltage free N/C & N/O contacts) 2A max (Note: Only 2 relay outputs available with the PIR option)

- U/UTP Cat5 cable connection to A 6530 or A 6540 series wallplate wallplate

- 24V DC Input

- 10 Year Warranty

- Australian Designed and Manufactured

1.3 WHAT'S IN THE BOX
Controller Wall Plate
Micro SD Card
Mounting Bracket
Screws to suit Standard Australian Wall Box
M2.5mm countersunk screws to fit mounting bracket
OTG Micro USB – USB socket lead
Cat6 patch lead
Operating Manual
Software Programming Guide

2.0 CONNECTION GUIDE

2.1 WALL PLATE CONNECTION GUIDE
Figures 2.1a and 2.1b show the connection details of the A 6530 and A 6540 series wall plates.
The location of the RJ45 Connector, P1 jumper terminals, Micro USB Connector, Micro SD, IR sensor and DIP switches are shown.
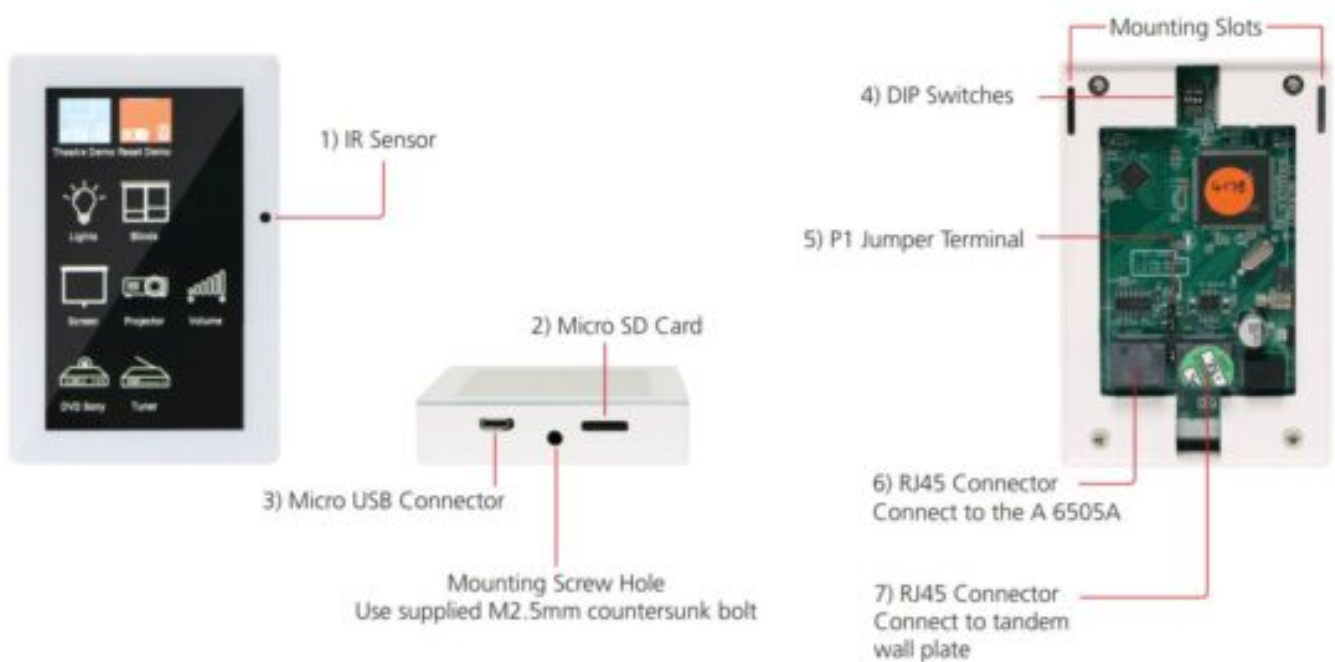
Fig 2.1a A6530 and A 6531 connections

Fig 2.1b A6540 and A 6541 connections

1. **IR Sensor**

   This sensor is used to learn IR codes.

2. **Micro SD Card**

   The SD card is use to store all the icon and button configuration information. (Note: The Micro SD Card is inserted with the contacts facing the rear of the wall plate).

3. **Micro USB Connector**

   This connector is for the connection of a USB keyboard for inputting text when learning IR codes. An OTG (On The Go) lead may be required for connection between the USB keyboard and the micro USB socket. A lead is

supplied with the wall plate.

4. **DIP Switches**

The A 6530 or A 6540 series wallplate wall plate has optional haptic and audible feedback of button presses. These can be set by the DIP switches located on the rear of the wall plate as shown in figure 2.1b.

Switch 1: ON – Haptic Feedback active, OFF – Haptic Feedback disabled.

Switch 2: ON – Buzzer active, OFF – Buzzer disabled.

5. **P1 Jumper Terminal**

The A 6505A Serial Hub has three relay outputs and a PIR Trigger Input. The third relay output and the PIR trigger use the same connection from the microcontroller inside the unit. This P1 jumper is used to configure the A 6505A for use with the PIR trigger or with the relay 3 output. Using the shunt header supplied, fit the shunt on pins 1 and 2 for relay 3 operation. For PIR operation fit the shunt to pins 2 and 3.

6. **RJ45 Connector**

This is used for the connection between the wallplate and Serial Hub or Distribution boxes. Connection is made using Cat5/6 cable to a maximum distance of 50m.

7. **RJ45 Connector**

This is used when connecting two plates together for Tandem operation. (Note: Both plates need to be connected to this socket).

2.2 WALL PLATE MOUNTING BRACKET

Figures 2.2a and 2.2b show the mounting brackets to suit the two different size wall plates.
The holes shown have the correct spacing for Australian standard wall boxes.
To mount the wall plate to a wall box use the supplied screws. If not using a wall box then mount the bracket using screws suitable for the mounting surface (not supplied).

To fit the wall plate to the mounting bracket, first insert the hooks at the top of the bracket into the mouting slots on the back of the wall plate. Then push the bottom of the wall plate against the wall making sure the bottom of the bracket fits into the cutout on the rear of the wall plate. Using the supplied countersunk M2.5mm bolt/s, secure the plate to the bracket (Note: the bolt/s will pull the plate upwards so that the hooks at the top of the bracket fit tightly into the wall plate).

Fig 2.2a   Fig 2.2b

2.3 A 6505A SERIAL HUB CONNECTION GUIDE

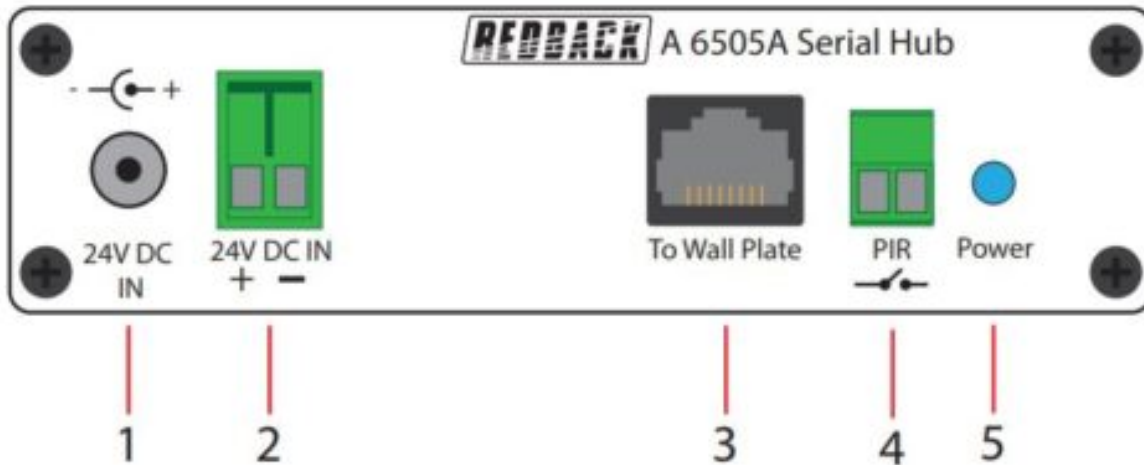Fig 2.3a shows the layout of the front of the A 6505A Serial Hub.

Fig 2.3a

1. **24V DC input**

   Connects to a 24V DC Plugpack with a 2.1mm Jack (Please observe the polarity, centre positive).

2. **24V DC Input**

   Connects to a 24V DC source via a euro block (Please observe the polarity).

3. **RJ45 interface**

   This RJ45 port is for connection to the A 6530 or A 6540 series wallplate wall plate.

4. **PIR Trigger**

   This is used for connection to a PIR or other closing contact. (Note: When using the PIR trigger connection, the jumper terminal (P1) on the A 6530 or A 6540 series wallplate has to be set to the PIR input (see section 2.1).

5. **Power LED**

   Indicates the unit has power.

Fig 2.3b shows the layout of the rear of the A 6505A Serial Hub.
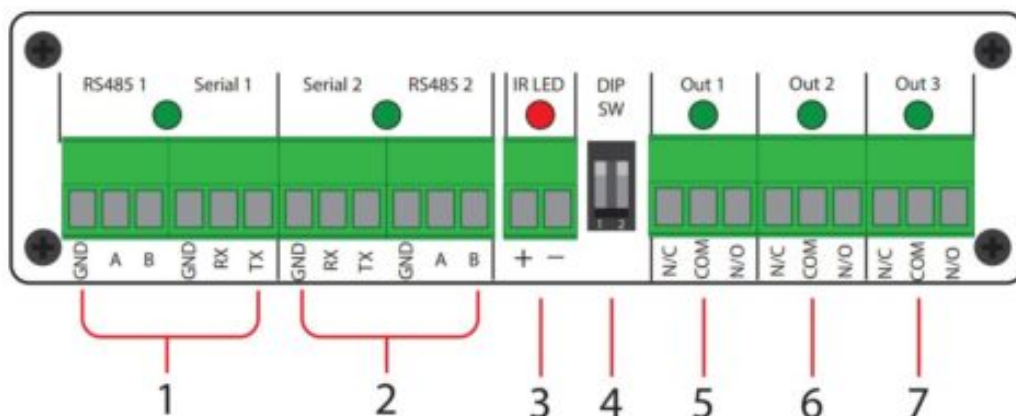

Fig 2.3b

1. **Serial Output 1**

   This output is configurable via the software as either an RS232 or RS485 output. The LED will illuminate while data is being transmitted. Follow standard RS232 or RS485 wiring when connecting these terminals.

2. **Serial Output 2**

   This output is configurable via the software as either an RS232 or RS485 output. The LED will illuminate while data is being transmitted. Follow standard RS232 or RS485 wiring when connecting these terminals.

3. **IR Output**

These terminals are provided for connection to IR repeaters. The LED above the terminals illuminate while the output is active.

4. **DIP Switches**

DIP 1 changes the IR LED voltage output, ON = 5V Direct, OFF = 5V @20mA to standard IR LED. DIP 2 is not used.

5. **Output 1**

This output provides a voltage free output with a normally open and normally closed contact. This is configured via the software as the relay 1 output. (The maximum current rating of these contacts is 2A.) The LED above the terminals illuminate while the output is active.

6. **Output 2**

This output provides a voltage free output with a normally open and normally closed contact. This is configured via the software as the relay 2 output. (The maximum current rating of these contacts is 2A.) The LED above the terminals illuminate while the output is active.

7. **Output 3**

This output provides a voltage free output with a normally open and normally closed contact. This is configured via the software as the relay 3 output. (The maximum current rating of these contacts is 2A.) The LED above the terminals illuminate while the output is active. (Note: the jumper terminal (P1) on the A 6530 or A 6540 series wallplate has to be set to the Relay 3 input (see section 2.1).

2.4 A 6510 12 RELAY DISTRIBUTION BOX CONNECTION GUIDE

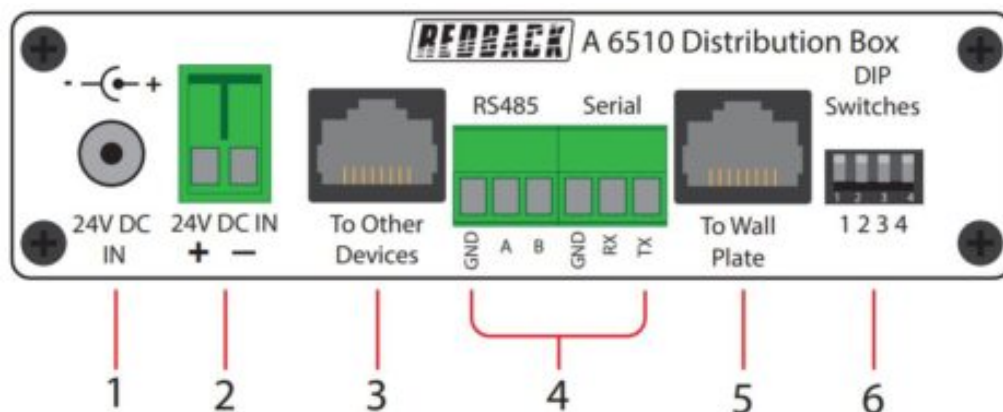Fig 2.4a shows the layout of the front of the A 6510 12 Relay Distribution Box.

Fig 2.4a

1. 24V DC input

Connects to a 24V DC Plugpack with a 2.1mm Jack (Please observe the polarity, centre positive).

2. 24V DC Input

Connects to a 24V DC source via a euro block (Please observe the polarity).

3. RJ45 interface

This RJ45 port is for connection to other Redback® compatible devices.

4. Serial Input

This input takes either an RS232 or RS485 signal. This can be connected to one of the serial outputs of the A 6505A or to a third party system. Follow standard RS232 or RS485 wiring when connecting these terminals.

5. RJ45 interface

This RJ45 port is for connection to the A 6530 or A 6540 series wallplate.

6. DIP Switches

    1 ON: Accept serial codes through RS485 input.

    2 ON: Accept serial codes through RS232 input.

    3 ON: Accept serial codes from wall plate.

    4: Not Used

    NOTE: Only one of the DIP switches 1-3 can be on at any time.

Fig 2.4b shows the layout of the rear of the A 6510 12 Relay Distribution Box.

1. Outputs 1-12
These outputs provide a voltage free output with a set of normally open contacts. They are configured via the software as the relay 1-12 outputs (The maximum current rating of these contacts is 1A). The LED's above the terminals illuminate while the corresponding output is active.

2.5 A 6515 TWO RELAY DISTRIBUTION BOX (HIGH CURRENT) CONNECTION GUIDE
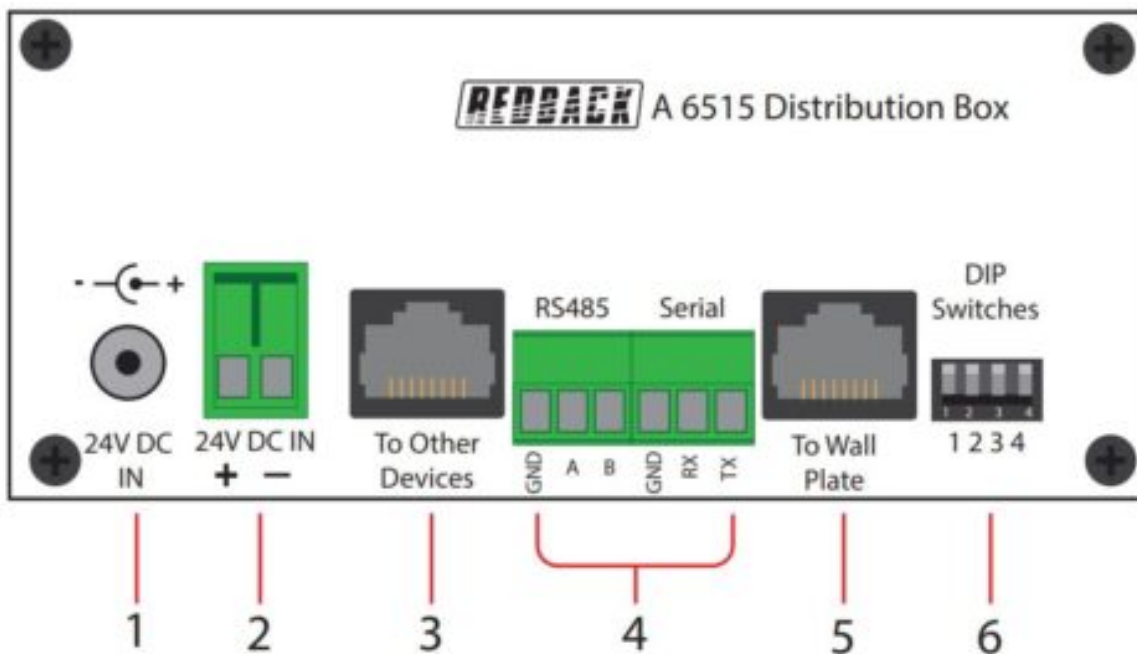Fig 2.5a shows the layout of the front of the A 6515 Relay Distribution Box.

Fig 2.5a

1. **24V DC input**

    Connects to a 24V DC Plugpack with a 2.1mm Jack (Please observe the polarity, centre positive).

2. **24V DC Input**

    Connects to a 24V DC source via a euro block (Please observe the polarity).

3. **RJ45 interface**

    This RJ45 port is for connection to other Redback® compatible devices.

4. **Serial Input**

    This input takes either an RS232 or RS485 signal. This can be connected to one of the serial outputs of the A

    6505A or to a third party system. Follow standard RS232 or RS485 wiring when connecting these terminals.

5. **RJ45 interface**

    This RJ45 port is for connection to the A 6530 or A 6540 series wall plate.

6. **DIP Switches**

    1 ON: Accept serial codes through RS485 input.

2 ON: Accept serial codes through RS232 input.

3 ON: Accept serial codes from wall plate.

4: Not Used

NOTE: Only one of the DIP switches 1-3 can be on at any time.

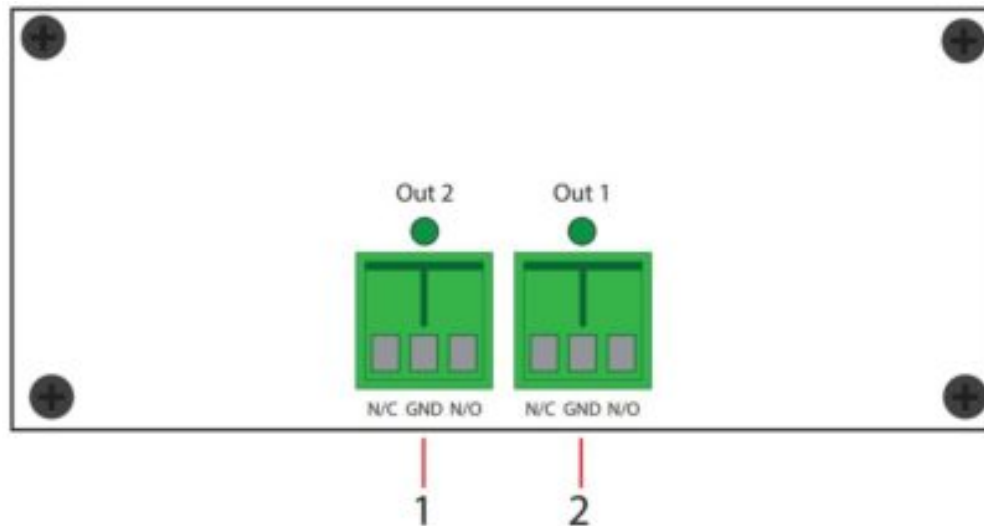Fig 2.5b shows the layout of the rear of the A 6515 Relay Distribution Box.

Fig 2.5b

1. **Output 1**

   This output provides a voltage free output with a normally open and normally closed contact. This is configured via the software as the relay 13 output. (The maximum current rating of these contacts is 16A.) The LED above the terminals illuminate while the output is active.

2. **Output 2**

   This output provides a voltage free output with a normally open and normally closed contact. This is configured via the software as the relay 14 output. (The maximum current rating of these contacts is 16A.) The LED above the terminals illuminate while the output is active.

2.6 A 6507 SERIAL CONTROLLED 100V LINE ATTENUATOR CONNECTION GUIDE
Fig 2.6 shows the layout of the front of the A 6507 serial controlled 100V line attenuator.
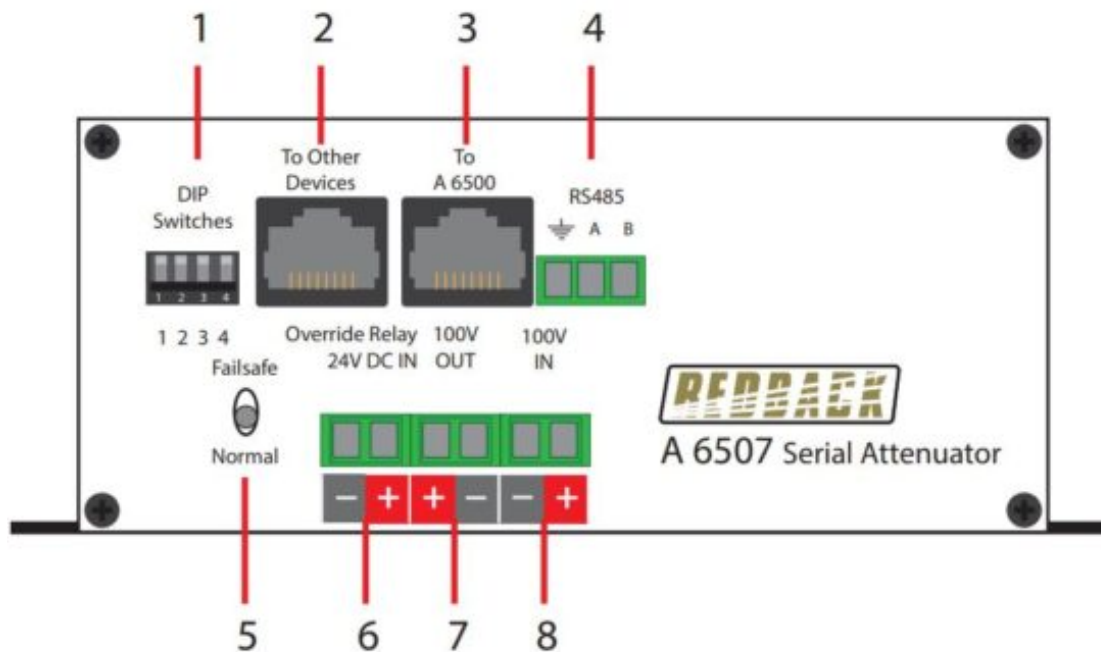
Fig 2.6

1. **DIP Switches**

   1 ON: Accept serial codes through RS485 input.

   2 ON: Accept serial codes from Redback® A 6530 or A 6540 series wall plates.

   3: Not Used

   4: Must be set to OFF.

   NOTE: Only one of the DIP switches 1-2 can be on at any time.

2. **RJ45 interface**

   This RJ45 port is for connection to other Redback® compatible devices.

3. **RJ45 interface**

   This RJ45 port is for connection to the Redback® A 6530 or A 6540 series wall plates.

4. **Serial Input**

   This input takes an RS485 input signal. This can be connected to the RS485 serial output of the Redback® A 6505 or to a third party system. Follow standard RS485 wiring when connecting these terminals.

5. **Failsafe/Normal Switch**

   This changes the function of the override in the attenuator circuit. When in "Normal" mode the output of the attenuator will switch to full volume when 24V DC is applied to the Override Relay contacts. When in "Failsafe" mode, the output is at full volume when 24V DC is removed from the Override relay contacts.

6. **Override Relay Contacts**

   Apply 24V DC to these contacts when emergency/paging override is required. The output volume will be set to maximum when the failsafe/normal switch is in "Normal" mode.

7. **100V Out**

   These terminals connect to the output speaker load up to a maximum of 50 watts.

8. **100V In**

   These terminals connect to the output of the 100V amplifier.

2.7 A 6512 SINGLE INPUT SERIAL VOLUME CONTROLLER CONNECTION GUIDE

Fig 2.7a shows the layout of the front of the A 6512 single input serial volume controller.
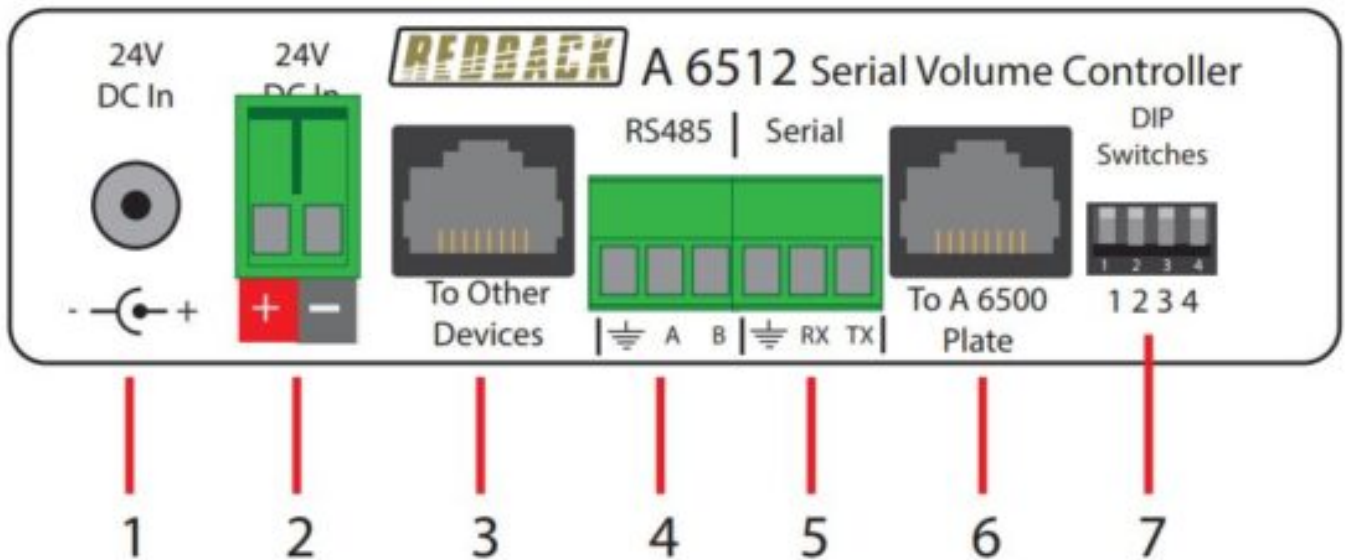

Fig 2.7a

1. **24V DC input**

   Connects to a 24V DC Plugpack with a 2.1mm Jack (Please observe the polarity, centre positive).

2. **24V DC Input**

   Connects to a 24V DC source via a euro block (Please observe the polarity).

3. **RJ45 interface**

   This RJ45 port is for connection to other Redback® compatible devices.

4. **RS485 Serial Input**

   This input takes an RS485 input signal. This can be connected to the RS485 serial output of the Redback® A 6505 or to a third party system. Follow standard RS485 wiring when connecting these terminals.

5. **RS232 Serial Input**

   This input takes an RS232 input signal. This can be connected to the RS232 serial output of the Redback® A 6505 or to a third party system. Follow standard RS232 wiring when connecting these terminals.

6. **RJ45 interface**

   This RJ45 port is for connection to the Redback® A 6530 or A 6540 series wall plates.

7. **DIP Switches**

   1 ON: Accept serial codes through RS485 input.

   2 ON: Accept serial codes through RS232 input.

   3 ON: Accept serial codes from Redback® A 6530 or A 6540 series wall plate.

   4: Not Used

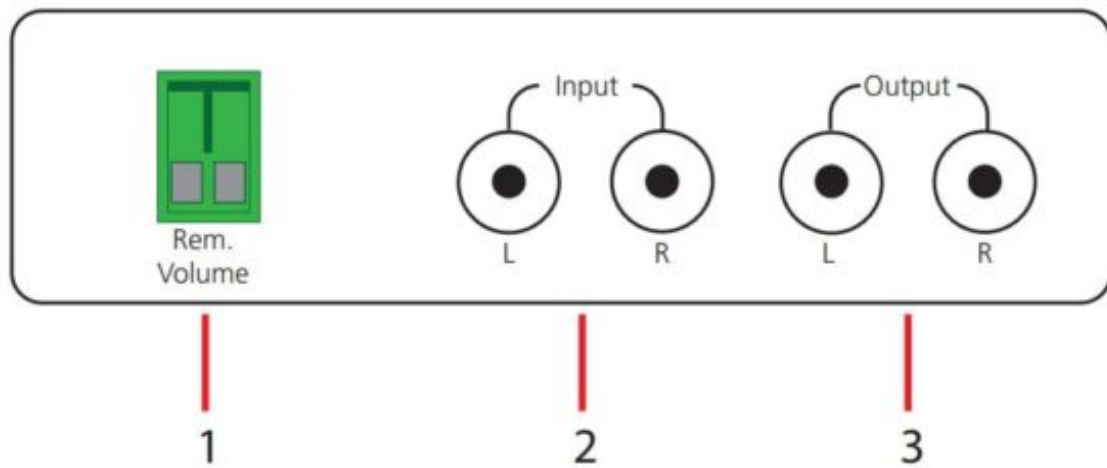**Fig 2.7b shows the layout of the rear of the A 6512.**

Fig 2.7b

1. **Remote Volume**

   The output volume can be adjusted by connecting a 1kΩ potentiometer across these connections.

2. **Input**

   This input accepts an RCA low level line input.

3. **Output**

   This is the RCA line level output.

2.8 A 6514 TWO INPUT SERIAL VOLUME CONTROLLER CONNECTION GUIDE
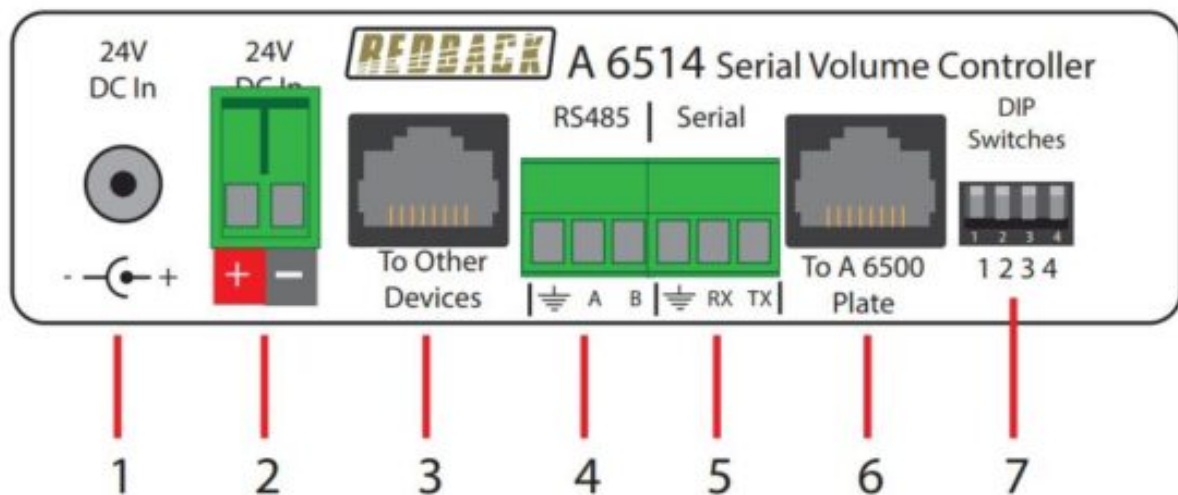Fig 2.8a shows the layout of the front of the A 6514.

Fig 2.8a.

1. **24V DC input**

   Connects to a 24V DC Plugpack with a 2.1mm Jack (Please observe the polarity, centre positive).

2. **24V DC Input**

   Connects to a 24V DC source via a euro block (Please observe the polarity).

3. **RJ45 interface**

   This RJ45 port is for connection to other Redback® compatible devices.

4. **RS485 Serial Input**

This input takes an RS485 input signal. This can be connected to the RS485 serial output of the Redback® A 6505 or to a third party system. Follow standard RS485 wiring when connecting these terminals.

5. **RS232 Serial Input**

This input takes an RS232 input signal. This can be connected to the RS232 serial output of the Redback® A 6505 or to a third party system. Follow standard RS232 wiring when connecting these terminals.

6. **RJ45 interface**

This RJ45 port is for connection to the Redback® A 6530 or A 6540 series wall plate.

7. **DIP Switches**

1 ON: Accept serial codes through RS485 input.

2 ON: Accept serial codes through RS232 input.

3 ON: Accept serial codes from Redback® A 6530 or A 6540 series wall plate.

4: Not Used

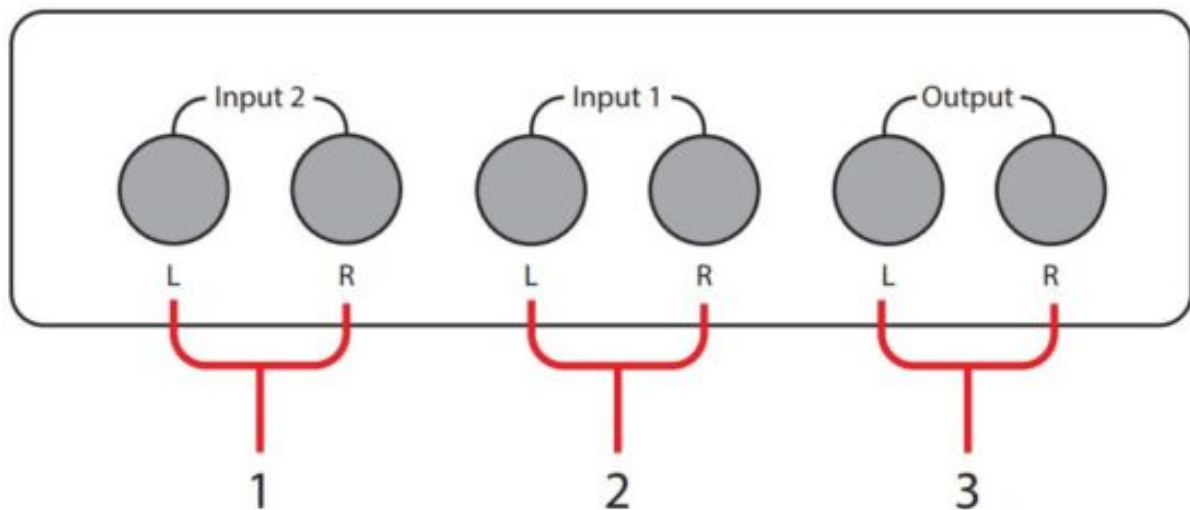Fig 2.8b shows the layout of the rear of the A 6512.

Fig 2.8b

1. **Input 2**

This input accepts an RCA low level line input.

2. **Input 1**

This input accepts an RCA low level line input.

3. **Output**

This is the RCA line level output.

3.0 SYSTEM WIRING CONFIGURATIONS

The A 6530 or A 6540 series wallplate can be configured to operate with either the A 6505A, A 6507, A 6510, A 6512, A 6514 or A 6515 or a combination of these.

3.1 STANDARD SERIAL, IR and RELAY SETUP
Shown below is the standard setup with the A 6530 or A 6540 series wallplate Wall Plate connected to the A

6505A Serial Hub via a CAT5e/6 cable. 24V DC power is connected to the A 6505A by a plugpack with a 2.1mm jack or through the euro block terminals. The

A 6505A in turn powers the A 6530 or A 6540 series wallplate Wall Plate through the Cat5e/6 cable.
The A 6505A Serial Hub can then be connected to up to two RS232 or RS485 controlled devices. IR control of multiple devices is available through the IR repeater output and a total of three relay outputs enable control of devices with a closing contact. The relay contacts are rated at 2A maximum and a set of normally open and normally closed contacts are available for each relay.
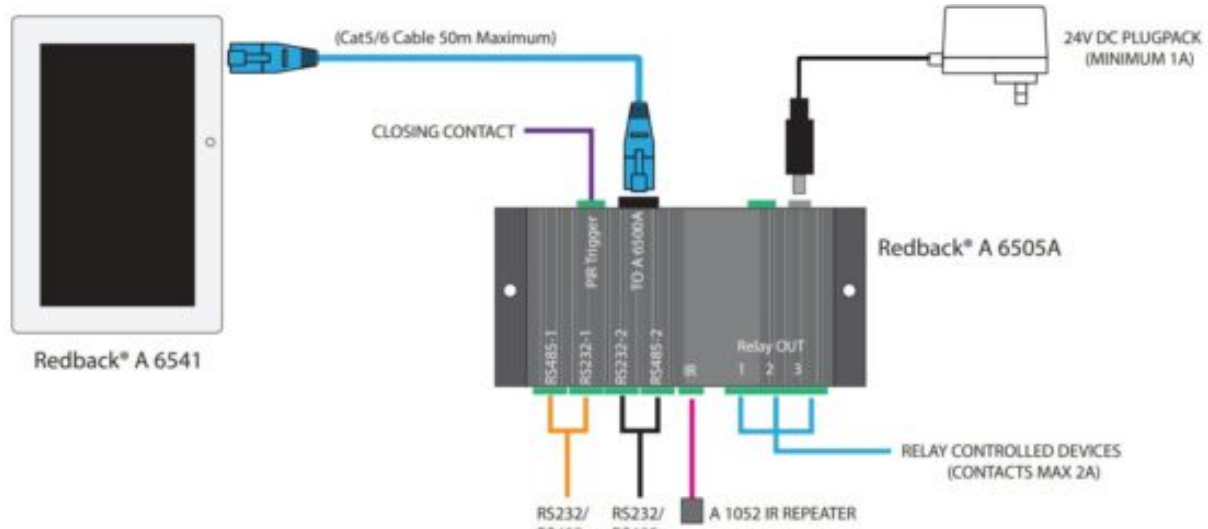

Fig 3.1

3.2 TWELVE RELAY SETUP (NO SERIAL or IR)

This simple setup provides up to twelve output relays for switching, with no serial or IR outputs. The A 6530 or A 6540 series wallplate is connected to the A 6510 via a CAT5e/6 cable. 24V DC power is connected to the A 6505A by a plugpack with a 2.1mm jack or through the euro block terminals. The A 6510 in turn powers the A 6530 or A 6540 series wallplate through the Cat5e/6 cable. The relay contacts are rated at a maximum of 1A with a set of normally open contacts only.
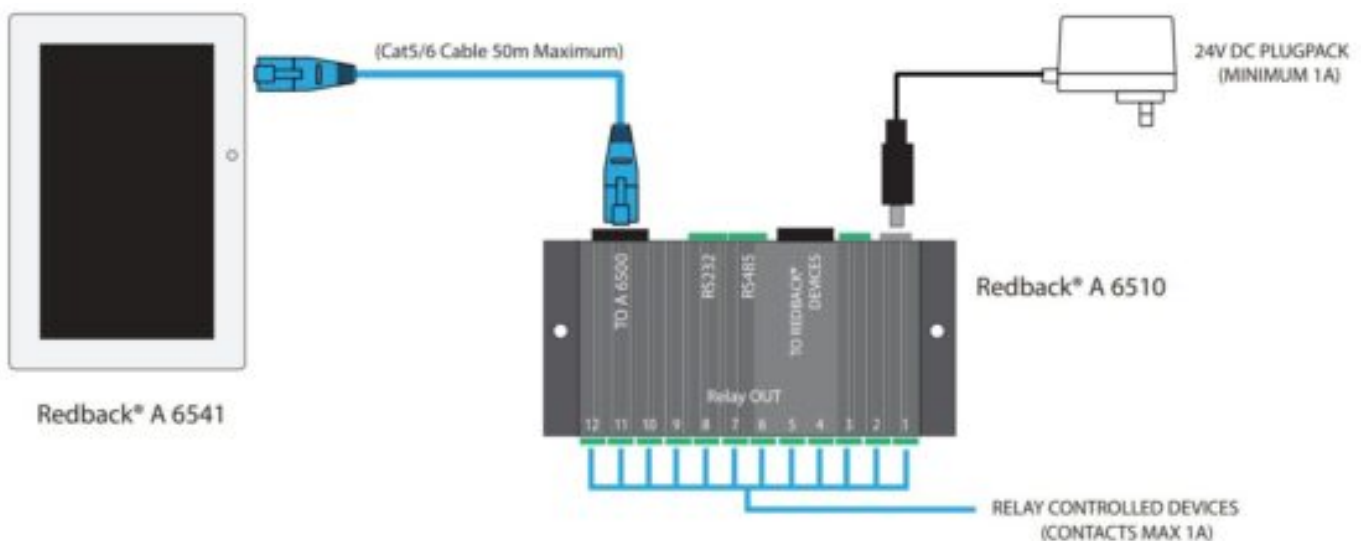

Fig 3.2

3.3 TWO RELAY SETUP (HIGH CURRENT, NO SERIAL or IR)

The high power setup provides up to two output relays for switching, with no serial or IR outputs. The relays are high current outputs rated at 16A maximum and a set of normally open and normally closed contacts are available

for each relay.

The A 6530 or A 6540 series wallplate is connected to the A 6515 via a CAT5e/6 cable. 24V DC power is connected to the A 6505A by a plugpack with a 2.1mm jack or through the euro block terminals. The A 6515 in turn powers the A 6530 or A 6540 series wallplate through the Cat5e/6 cable.
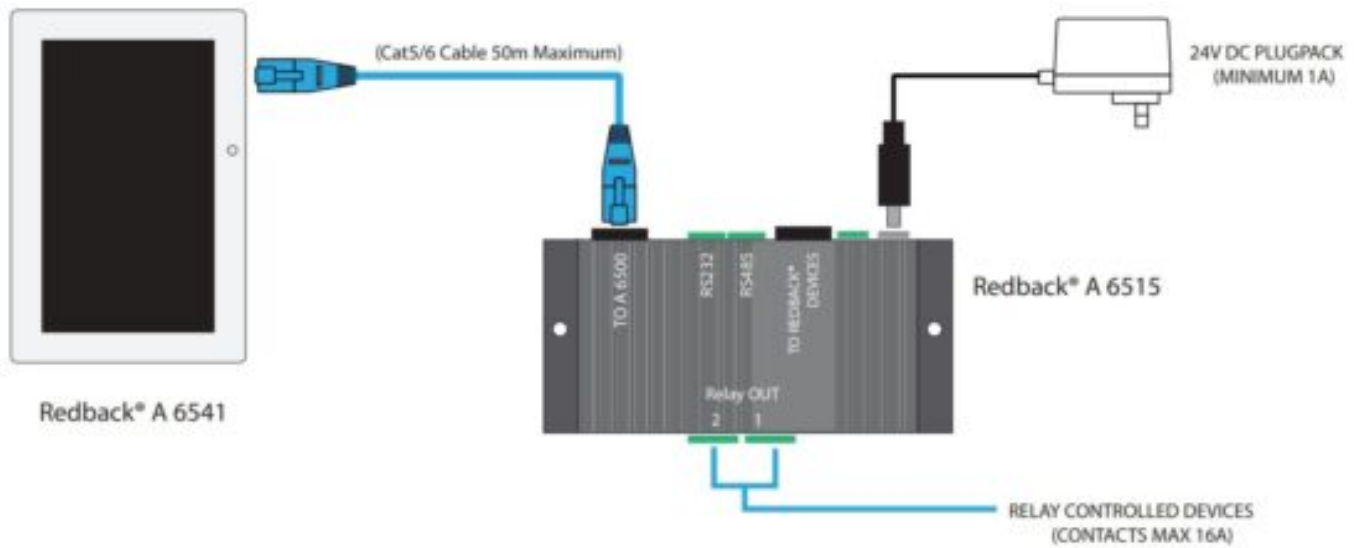
Fig 3.3

3.4 THIRD PARTY RELAY CONTROL
The A 6510 and A 6515 relay distribution boxes can both be controlled by a third party device with either an RS232 or RS485 output, via serial commands which are described in the supplied programming manual.

NOTE: The A 6510 and A 6515 will receive serial only. They do not transmit any serial data. See section 5.2 for serial wiring details.

Fig 3.4

3.5 SERIAL and IR CONTROL with FIFTEEN OUTPUT RELAYS

This configuration expands the standard setup to provide serial and IR control with up to 15 output relays. The A 6530 or A 6540 series wallplate is connected to the A 6505A Serial Hub via a CAT5e/6 cable. 24V DC power is connected to the A 6505A by a plugpack with a 2.1mm jack or through the euro block terminals. The A 6505A in turn powers the A 6530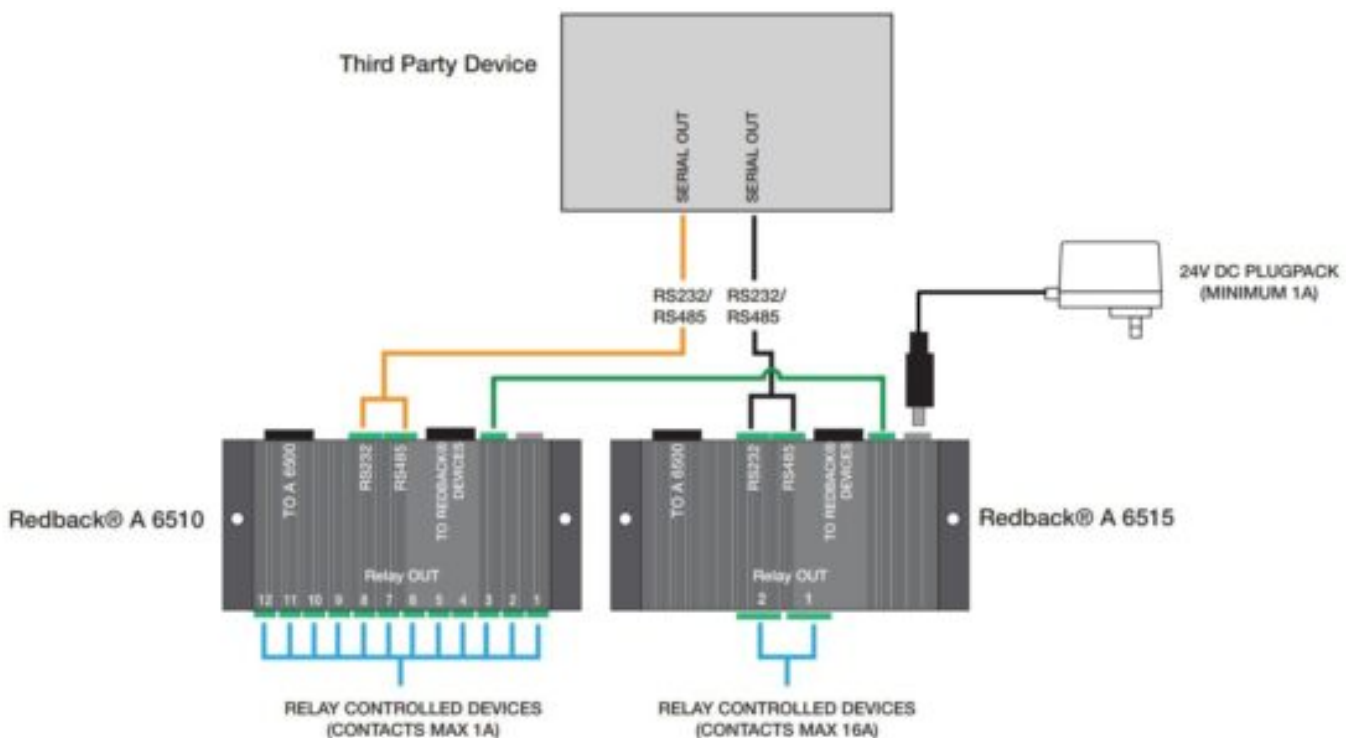 or A 6540 series wallplate through the Cat5e/6 cable and powers the A 6510 by running a cable from the 24DC In terminals of the A 6505A to the A 6510 24V In terminals.

The A 6505A Serial Hub can then be connected to up to two RS232 or RS485 controlled devices. IR control of multiple devices is available through the IR repeater output and a total of fifteen relay outputs enable control of devices with a closing contact. The relay contacts on the A 6505A are rated at 2A maximum and a set of normally open and normally closed contacts are available for each relay. The relay contacts on the A 6510 are rated at 1A maximum with normally open contacts only.
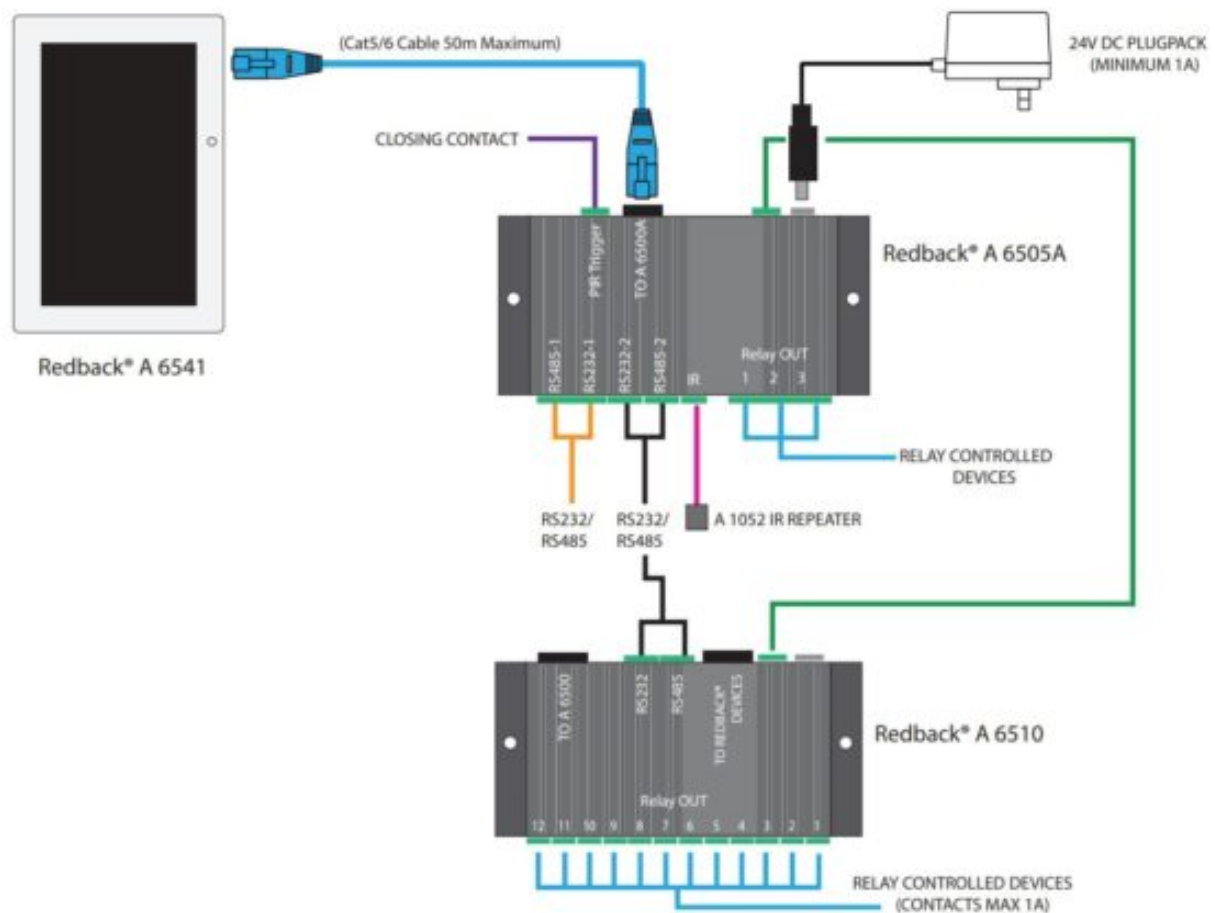

Fig 3.5

3.6 SERIAL and IR CONTROL with THREE LOW POWER and TWO HIGH CURRENT RELAYS
This configuration expands the standard setup to provide serial and IR control with 3 low power output relays and two high current output relays.

The A 6530 or A 6540 series wallplate is connected to the A 6505A Serial Hub via a CAT5e/6 cable. 24V DC power is connected to the A6505 by a plugpack with a 2.1mm jack or through the euro block terminals. The A 6505A in turn powers the A 6530 or A 6540 series wallplate through the Cat5e/6 cable and powers the A 6515 by running a cable from the 24DC In terminals of the A 6505A to the A 6515 24V In terminals.

The A 6505A Serial Hub can then be connected to up to two RS232 or RS485 controlled devices. IR control of multiple devices is available through the IR repeater output and a total of five relay outputs enable control of devices with a closing contact. The relay contacts on the A 6505A are rated at 2A maximum and a set of normally open and normally closed contacts are available for each relay. The relay contacts on the A 6515 are rated at 16A

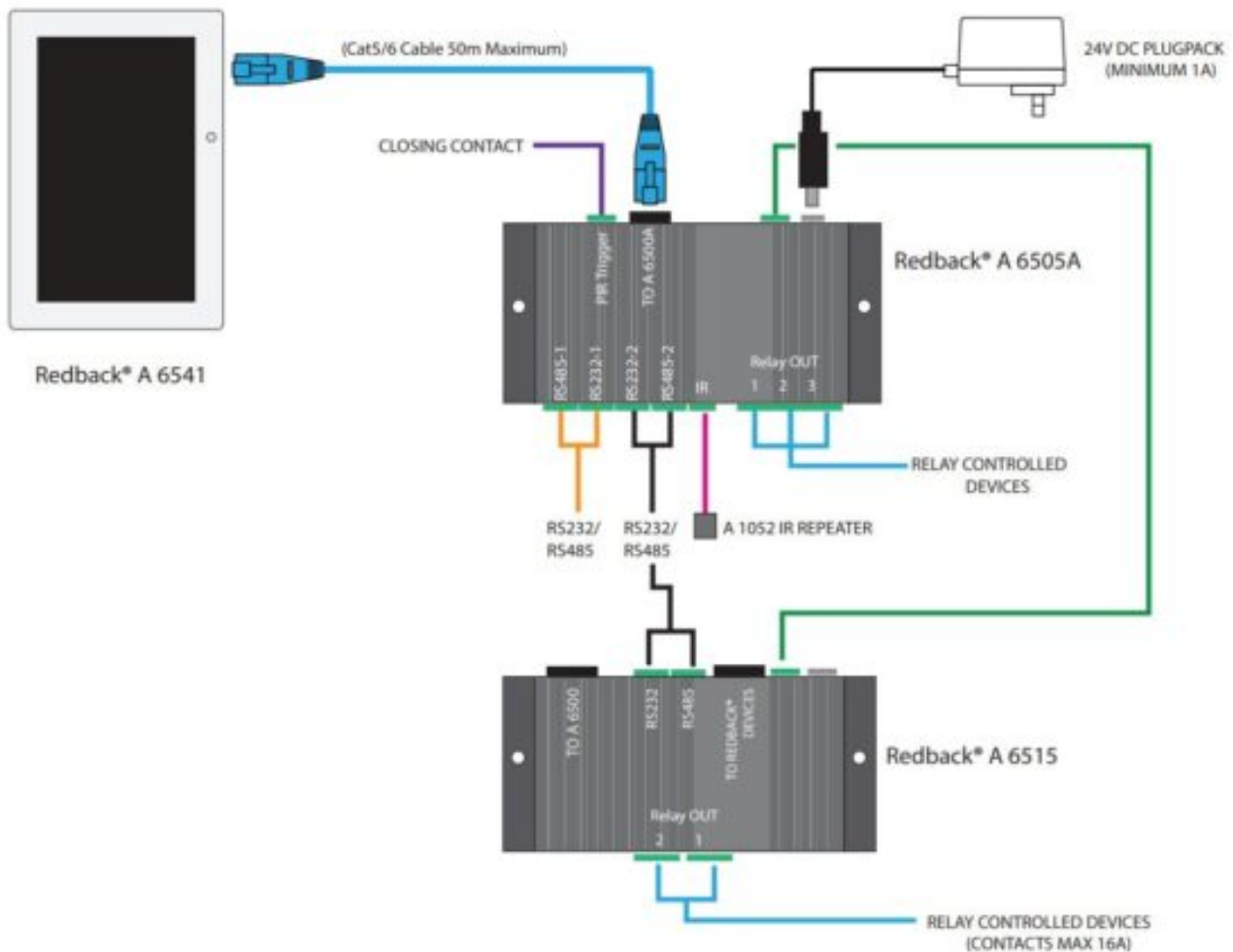maximum with a set of normally open and normally closed contacts for each relay.

Fig 3.6

3.7 SERIAL and IR CONTROL with FIFTEEN LOW POWER and TWO HIGH CURRENT RELAYS
This configuration expands the standard setup to provide serial and IR control with 15 low power output relays and two high current output relays.

The A 6530 or A 6540 series wallplate is connected to the A 6505A Serial Hub via a CAT5e/6 cable. 24V DC power is connected to the A 6505A by a plugpack with a 2.1mm jack or through the euro block terminals. The A 6505A in turn powers the A 6530 or A 6540 series wallplate through the Cat5e/6 cable and powers the A 6510 and A 6515 by running a cable from the 24DC In terminals of the A 6505A to the 24V In terminals of the A 6510 and A 6515.

The A 6505A Serial Hub can then be connected to up to two RS232 or RS485 controlled devices. IR control of multiple devices is available through the IR repeater output and a total of seventeen relay outputs enable control of devices with a closing contact. The relay contacts on the A 6505A are rated at 2A maximum and a set of normally open and normally closed contacts are available for each relay. The relay contacts on the A 6510 are rated at 1A maximum with normally open contacts only. The relay contacts on the A 6515 are rated at 16A maximum with a set of normally open and normally closed contacts for each relay.
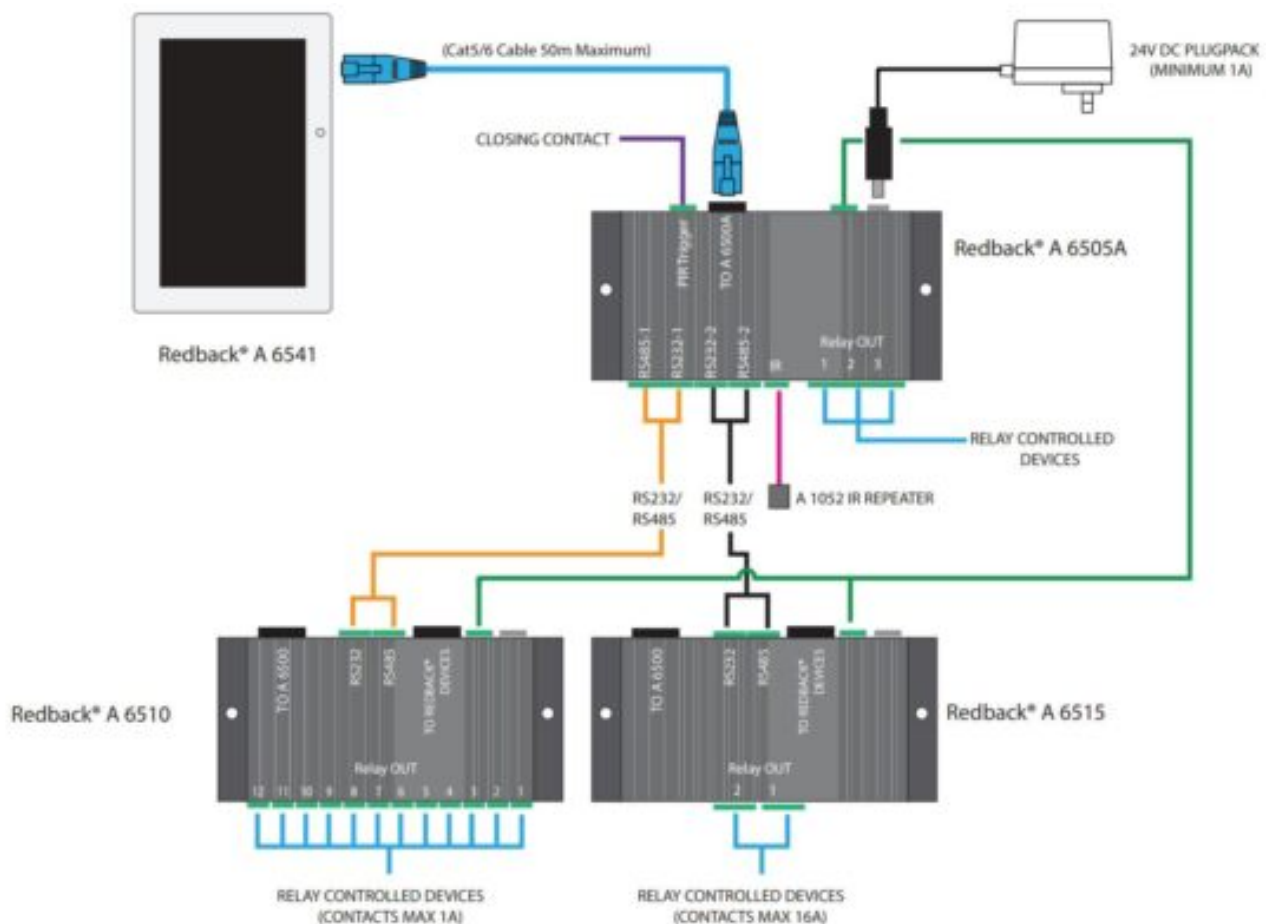
Fig 3.7

3.8 SERIAL CONTROLLED 100V LINE ATTENUATOR

This setup utilises a Redback® A 6507 seven step 100V 50 Watt line speaker attenuator/volume control which can be remotely adjusted via RS485 serial control. A 24V DC override relay is included for emergency paging applications, ensuring the volume is switched to maximum regardless of the volume setting.

The unit is suitable for all 100V line amplifiers and connects between the amplifier output and the speakers to be controlled.

The Redback® A 6507 will interface directly to the Redback® A 6530 or A 6540 series wallplate or any other third party control system which utlises RS485 serial codes. The attenuator circuit includes a 22uF BP capacitor for line monitoring applications. The figure below illustrates a typical connection diagram when using the Redback® A 6530 or A 6540 series wallplate wallplate to control the

Redback® A 6507 Attenuator. The Redback® A 6530 or A 6540 series wallplate connects via a Cat5e/6 lead into the "To A 6500" RJ45 connection port. 24V DC power is supplied to the Redback® A 6507 via a 24V DC plugpack or other 24V DC source (minimum24V DC 1A).

Serial control of the attenuator circuit is provided by the A 6530 or A 6540 series wallplate which is programmed with the serial codes using the PC software supplied with the wallplate.

The audio into the attenuator is provided by an amplifer with a 100V line output. The attenuated signal is then output out of the attenuator into the speaker load up to a maximum of 50 watts of load.

Emergency or paging override of the audio can be achieved by applying 24V DC to the Override Relay terminals. Once activated the output volume will switch to maximum regardless of the volume setting.

For more information refer to the Redback® A 6507 Instructions or the Redback website –
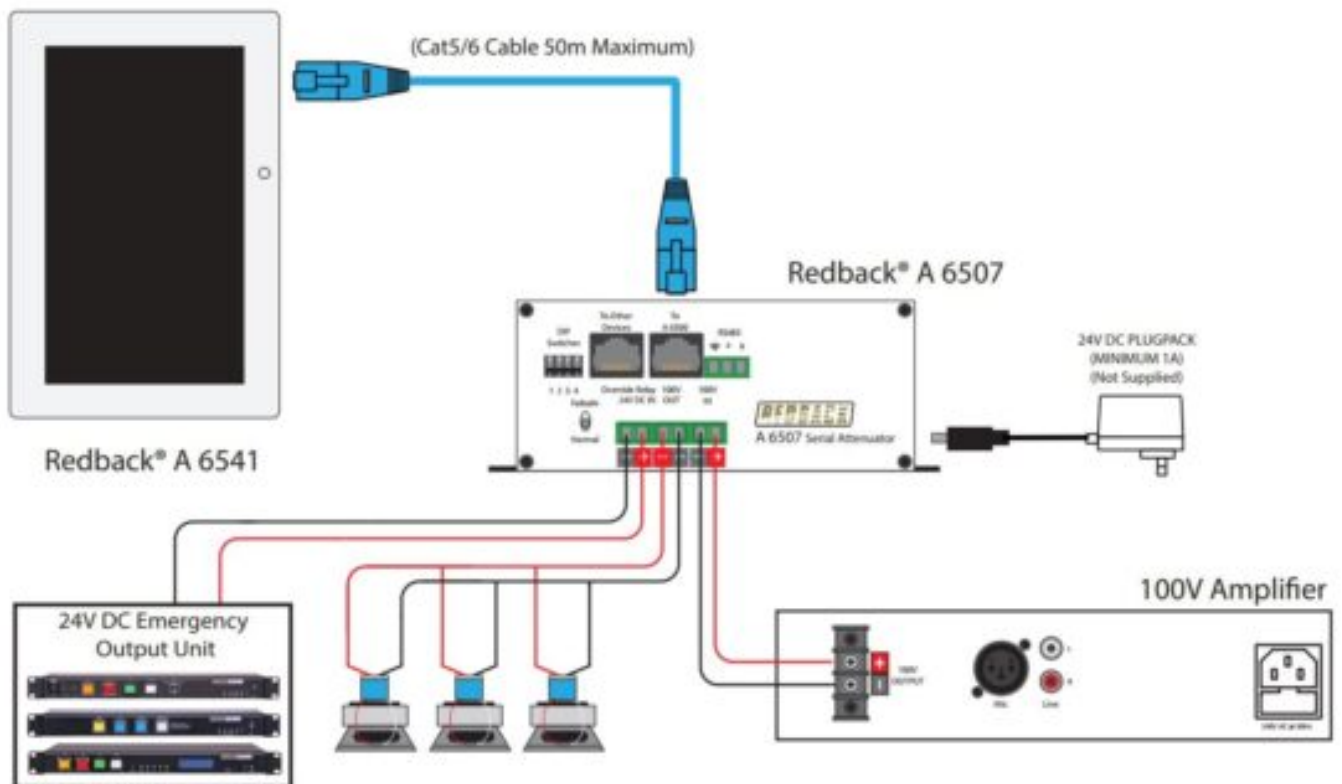**www.redbackaudio.com.au**

Fig 3.8

3.9 SINGLE LINE LEVEL INPUT SERIAL VOLUME CONTROLLER

This setup utilises a Redback® A 6512 Serial Volume Controller which has been designed to alter the volume of any low level signal source feeding any amplifier or mixer remotely, via RS 232 or RS 485, or via the Redback® A 2280B remote volume wallplate.

The Redback® A 6512 will interface directly to the Redback® A 6530 or A 6540 series wallplate or any other third party control system which utilises RS232 or RS485 serial codes.

The figure below illustrates a typical connection diagram when using the Redback® A 6530 or A 6540 series wallplate or a third party controller to control the Redback® A 6512 Serial Volume Controller.

The Redback® A 6530 or A 6540 series wallplate connects via a Cat5e/6 lead into the "To A 6500" RJ45 connection port of the Redback® A 6512. 24V DC power is supplied to the Redback® A 6512 via a 24V DC plugpack or other 24V DC source (minimum24V DC 1A).

Serial control of the volume circuit is provided by the A 6530 or A 6540 series wallplate which is programmed with the serial codes using the PC software supplied with the wallplate.

The third party controller sends RS232 or RS485 codes directly to the corresponding RS232 or RS485 input connector of the Redback® A 6512.
The output volume of the Redback® A 6512 is set by the serial codes sent to the unit.

For more information refer to the Redback® A 6512 Instructions or the Redback website –
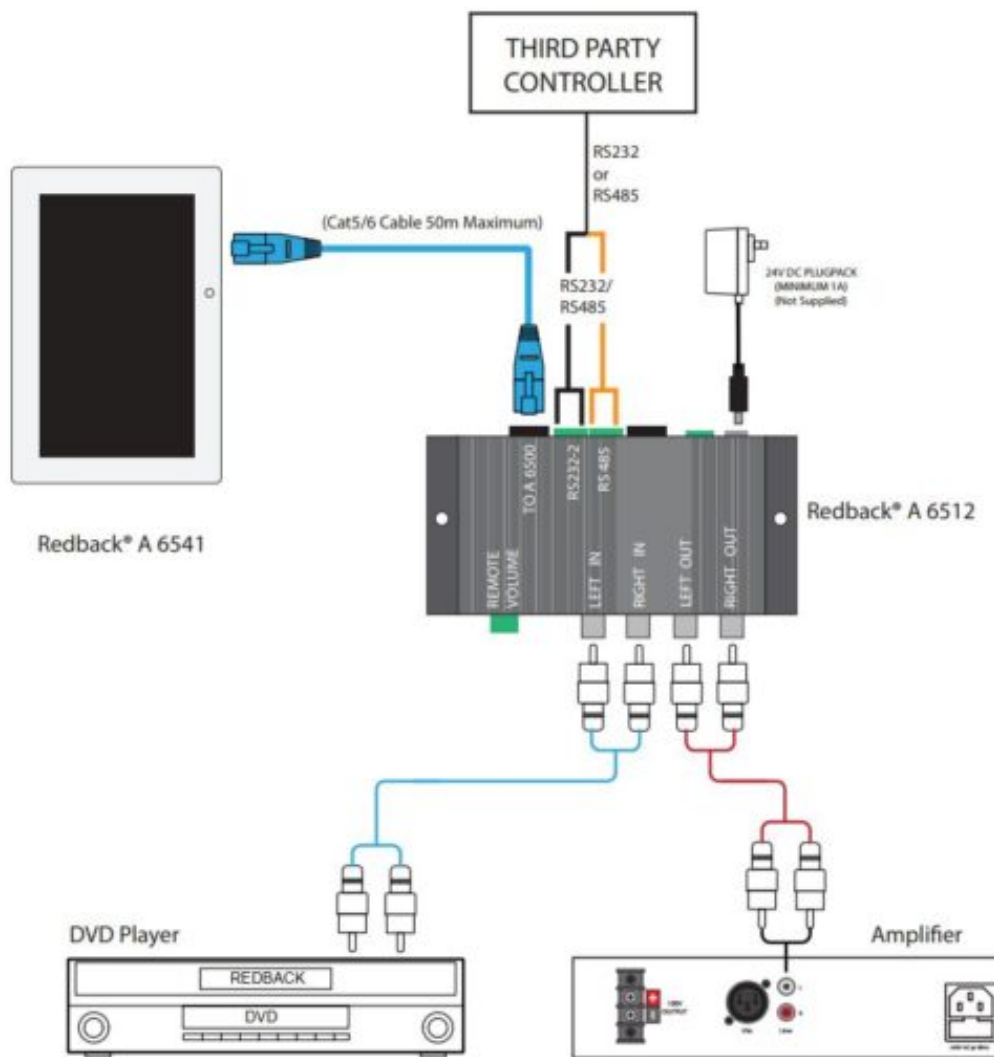**www.redbackaudio.com.au**

Fig 3.9

3.10 DUAL LINE LEVEL INPUT SERIAL VOLUME CONTROLLER

This setup utilises a Redback® A 6514 Serial Volume Controller which has been designed to alter the volume of any low level signal source feeding any amplifier or mixer remotely, via RS 232 or RS 485. The unit includes two RCA inputs which are selectable by serial control and remote volume which is also serial controlled.

The Redback® A 6514 will interface directly to the Redback® A 6530 or A 6540 series wallplate or any other third party control system which utilises RS232 or RS485 serial codes.

The figure below illustrates a typical connection diagram when using the Redback® A 6530 or A 6540 series wallplate or a third party controller to control the Redback® A 6514 Serial Volume Controller.

The Redback® A 6530 or A 6540 series wallplate connects via a Cat5e/6 lead into the "To A 6500" RJ45 connection port of the Redback® A 6514. 24V DC power is supplied to the Redback® A 6514 via a 24V DC plugpack or other 24V DC source (minimum24V DC 1A).

Serial control of the volume circuit is provided by the A 6530 or A 6540 series wallplate which is programmed with the serial codes using the PC software supplied with the wallplate.

The third party controller sends RS232 or RS485 codes directly to the corresponding RS232 or RS485 input connector of the Redback® A 6514.

Either Input 1 or Input 2 can be selected by serial control and the output volume of the Redback® A 6514 can also

be set by the serial codes.

For more information refer to the Redback® A 6514 Instructions or the Redback website –
www.redbackaudio.com.au
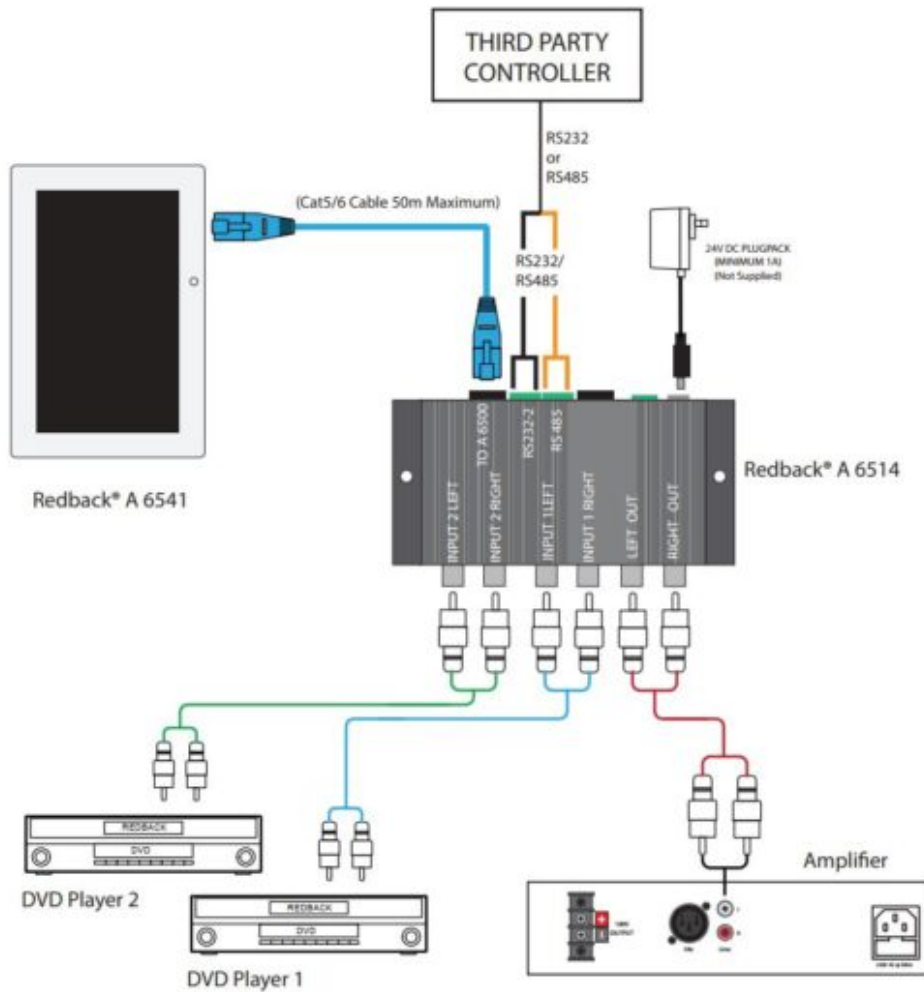
Fig 3.10

4.0 INITIAL POWER UP

THe A 6530 or A 6540 series wallplate is connected to the A 6505A as shown in figure 4.0. Once power is applied to the A 6505A Serial Hub, the A 6530 or A 6540 series wallplate will power up a couple of seconds later. The screen will briefly display the software revision and some dignostic information, before displaying the default testing screen which displays six smiley face icons. These icons represent buttons and are labelled "SERIAL 1", "SERIAL 2", "IR LG POW", "RELAY 1", "RELAY 2" and "RELAY 3".
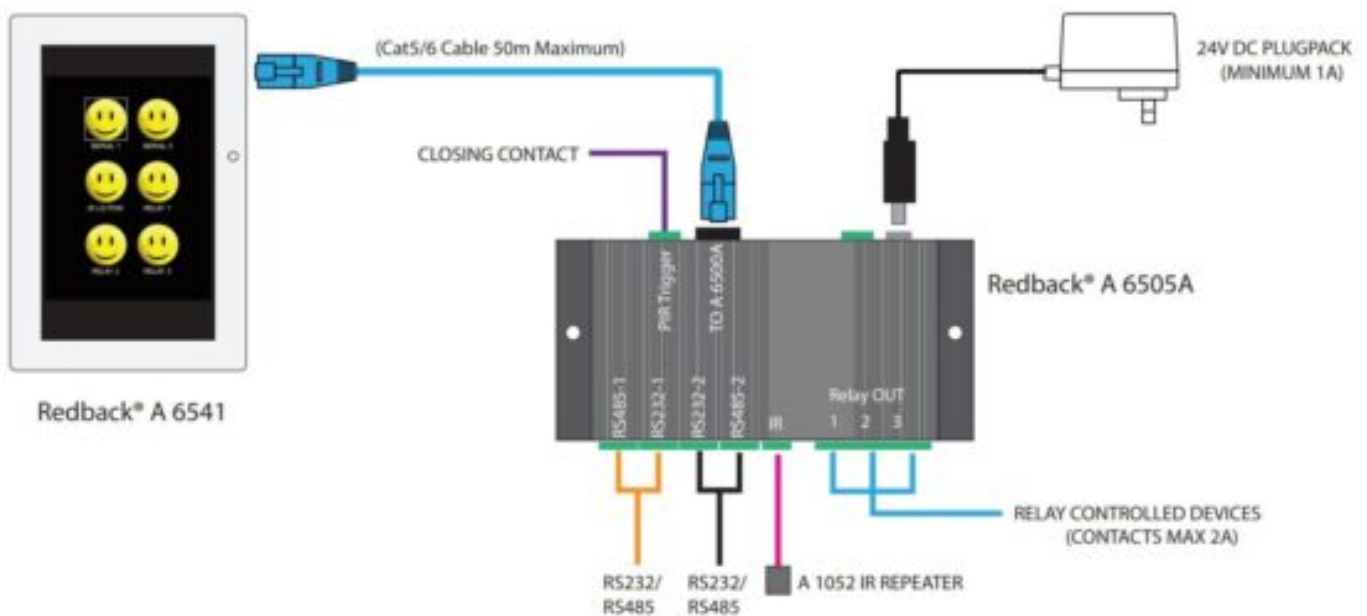
Fig 4.0

These buttons relate to the outputs of the A 6505A Serial Hub. When these buttons are pressed the corresponding output's LED will illuminate as shown in the A 6505A rear panel diagram of figure .

NOTE: The Serial 1, Serial 2 and IR LED's will flash sparodically.
This Default configuration is useful for testing purposes.
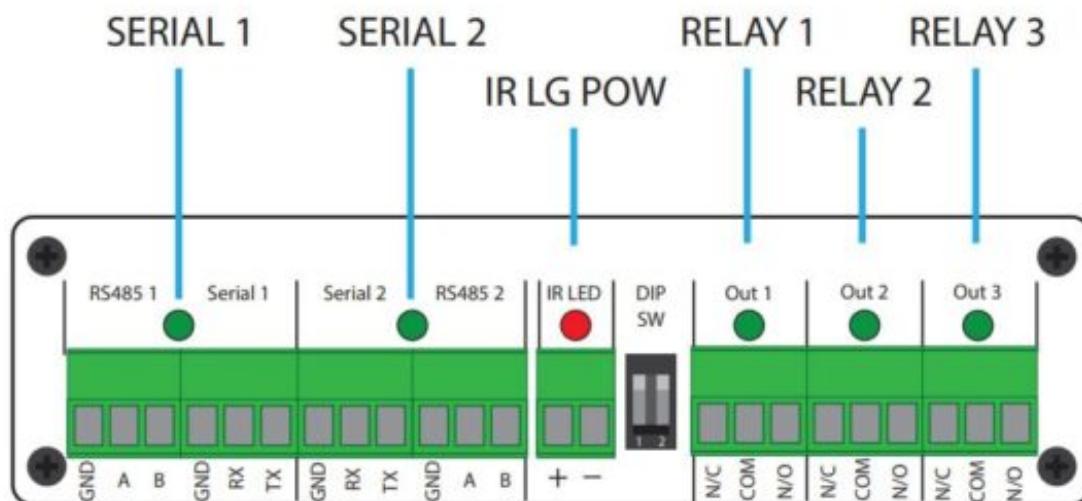
Fig 3.9

This screen setup is not going to be applicable to any real world application. In the following section a Lecture Theatre Setup is outlined.

5.0 LECTURE THEATRE SETUP

Fig 5.0 Illustrates a simple configuration which may be used in a Lecture Theatre using a projector, powered projector screen, DVD player, laptop computer and the A 6541 wallplate and A 6505A relay hub.

Fig 5.0

Power and A/V Wiring: In this example the A 6541 wall plate is located at the lecturn and the A 6505A Relay Hub is situated in the ceiling space where power for the realy hub, projector and projector screen are located. The A 6541 Wall Plate is powered through the single Cat5/6 cable connected back to the A 6505A. The laptop and DVD player are situated and powered at the lecturn and their corresponding VGA and HDMI output cabling is connected back to the projector.

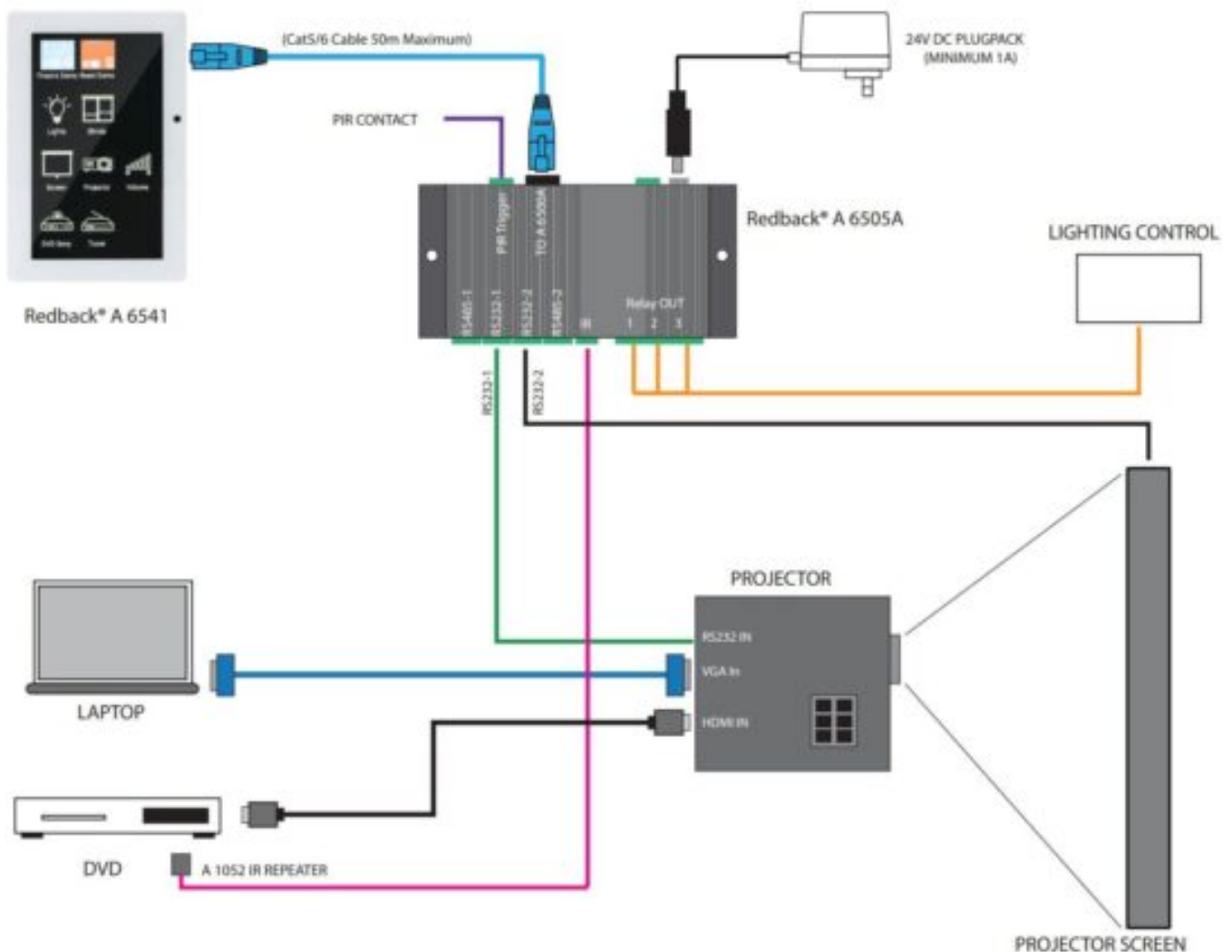**Control Wiring:** The projector is controlled by RS232 commands from the A 6505A serial output 1, the projector screen is controlled by RS232 commands from the A 6505A serial output 2. The RS232 control cabling requires only the TX and GND connection from the A 6505A and the RX and GND connection at the projector and projector screen. The DVD player is controlled by IR codes sent from the A 6505A to an IR repeater (such as Redback A 1052). The lighting is controlled by the relay outputs of the A 6505A which are voltage free closing contacts. Figure 8 cable would be sufficient for all of these connec tions.

PIR Trigger: This input can be triggered by either a PIR (passive infrared sensor), door beam trigger, floor sensor or a simple reed switch on a door. Any form of closing contact can be used to trigger this input. The A 6541 wallplate can be programmed to perform commands which are activated once this contact is triggered. This makes it ideal for any number of applications, including in the case of the Lecture Theatre example being used to configure the theatre when someone enters the room.

6.0 SYSTEM WIRING

6.1 RJ45 cabling configuration for connection between the A 6530 or A 6540 series wallplate Wall Plate and the

A 6505A Serial Hub (586A 'Straight through')

Components are connected using "pin to pin" configuration RJ45 data cabling as shown in fig 6.1. When installing ensure all connections are verified with a LAN cable tester before switching any system component on.

Failure to follow the correct wiring configuration may result in damage to system components.
Fig 6.1

6.2 Serial wiring
RS232 Serial wiring from the Redback® A 6505A Serial Hub to the Redback® A 6510 or the Redback® A 6515
The RS232 control cabling requires only two connections from the output of the A 6505A Serial Hub to the input connector of the A 6510 or A 6515. The TX pin of the A 6505A is connected to the RX connection of the A 6510 or A 6515, and the GND terminals are connected together.

RS232 Serial wiring from Third Party Device to Redback® A 6510 or the Redback® A 6515
The RS232 control cabling requires only two connections from the output of the third party device to the input connector of the A 6510 or A 6515. The TX pin of the output device is connected to the RX connection of the A 6510 or A 6515, and the GND terminals are connected together.

RS485 Serial wiring from the Redback® A 6505A Serial Hub to the Redback® A 6510 or the Redback® A 6515
The RS485 control cabling requires three connections from the output of the A 6505A Serial Hub to the input connector of the A 6510 or A 6515. The "A" connection of the A 6505A is connected to the "A" connection of the A 6510 or A 6515, the "B" connection of the A 6505A is connected to the "B" connection of the A 6510 or A 6515 and the GND terminals are connected together.

RS485 Serial wiring from Third Party Device to Redback® A 6510 or the Redback® A 6515
The RS485 control cabling requires three connections from the output of the third party device to the input connector of the A 6510 or A 6515. The "A" pin of the output device is connected to the "A" connection of the A 6510 or A 6515, the "B" pin of the output device is connected to the "B" connection of the A 6510 or A 6515, and the GND terminals are connected together.

7.0 TROUBLE SHOOTING

SYMPTOMS	REMEDIES
A 6530 or A 6540 series wallplate wall plate not powering up	Check Cat5e connection to A 6505A/07/10/12/14/15
A 6507/6510/A 6512/A 6514 or A 6515 not accepting serial codes	Check DIP switches 1-3 on these units are set correctly and/or check wiring
IR transmission not working	Check IR led wiring/check DIP switch 1 on A 6505A

8.0 SPECIFICATIONS

A 6530 or A 6540 series wallplate

Input connection: .... Micro USB (USB Keyboard)
Output connection: RJ45 8P8C
Data transmission: .... cat5e cabling max 50m
Dimensions: .... 72W x 116D x 13H
Power: .... Powered by A 6505A/07/10/12/14/15 over Cat5e cable
Current Draw: ....

A 6530/31 .... ????mA
A 6540/41 .... ????mA

Weight: ....

A 6530/31 .... ????kg
A 6540/41 .... ????kg

A 6505A Serial Hub

INPUT CONNECTORS:
Power connection (24V DC): .... 2.1mm DC socket
.................Euroblock terminal
Data: RJ45 8P8C
OUTPUT CONNECTORS:
Relay (1-3) Switched Out: .... Screw Terminals
NOTE: Relays rated for low power, typical 24V DC switching
IR Out: .... Screw Terminals
Serial Out (RS232 & RS485): ....Screw Terminals
PIR Trigger: ....Screw Terminals

Dimensions: .... 90W x 131D x 30H
Current Draw: .... 50mA (idle)
.... 150mA (Max)
Weight: 0.18kg

A 6510 Distribution Box (12 Relay)

INPUT CONNECTORS:
Power connection (24V DC): .... 2.1mm DC socket
.................Euroblock terminal
Data: RJ45 8P8C
Serial In (RS232 & RS485): ....Screw Terminals
OUTPUT CONNECTORS:
Relay (1-12) Switched Out: .... Screw Terminals
NOTE: Relays rated for low power, typical 24V DC switching
Dimensions: .... 90W x 131D x 30H
Current Draw: .... 30mA (idle)
.... 250mA (Max)
Weight: 0.18kg

A 6515 Distribution Box (2 Relay)

INPUT CONNECTORS:
Power connection (24V DC): .... 2.1mm DC socket
.................Euroblock terminal
Data: RJ45 8P8C
Serial In (RS232 & RS485): ....Screw Terminals
OUTPUT CONNECTORS:
Relay (1-2) Switched Out: .... Screw Terminals
NOTE: Relays rated for low power, typical 24V DC switching
Dimensions: .... 75W x 133D x 47H
Current Draw: .... 30mA (idle)
.... 80mA (Max)
Weight: 0.19kg

* Specifications subject to change without notice

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	REDBACK A6530 Programmable Touchscreen Wallplate [pdf] User Manual A6530 Programmable Touchscreen Wallplate, A6530, Programmable Touchscreen Wallplate, Touchscreen Wallplate

References

- 🌐 **redbackaudio.com - Crazy Domains**

- 🌐 **redbackaudio.com - Crazy Domains**