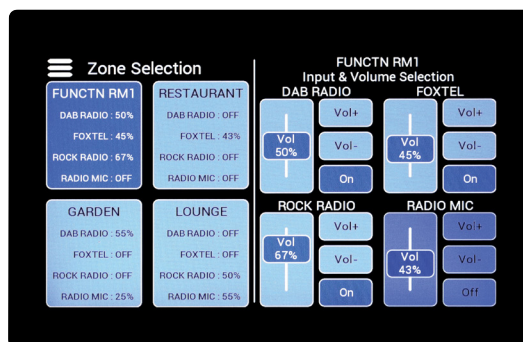
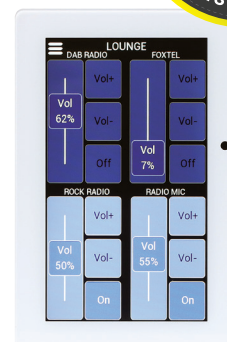




A 4461 Master Plate



A 4464 Zone Selector Plate



A 4450 Controller



A 4660 Paging Console

Operating Manual

A 4450 4 x 4 Audio Source Matrix/Switcher

Optional Accessories

- A 4461 7" Master Wall Plate Black
- A 4462 4.3" Zone Wall Plate Black
- A 4463 7" Master Wall Plate White
- A 4464 4.3" Zone Wall Plate White
- A 4660 Paging Microphone Console

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IMPORTANT NOTE:

Please read these instructions carefully from front to back prior to installation. They include important setup instructions. Failure to follow these instructions may prevent the unit from working as designed.



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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.

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1.0 INTRODUCTION

The A4450 master unit can be configured to operate as either a **4x4 Matrix**, allowing any combination of inputs to be selected to an output, or as a **Switcher**, enabling only one input to be selected to an output at any time. This is set by the installer via a DIP switch on the rear panel. Note: it cannot be configured to work as both. It is set as either a matrix, or switcher. Any connected wallplates will automatically be set to suit the master unit.

Feature packed yet simple to set up and use, this mixer pairs with easy to use wallplate controllers and paging consoles. With 4 inputs selectable to up to 4 zones it is ideally suited to gyms, cafes, restaurants, small clubs and function centres. Designed with end users in mind, this complete audio source controller provides source selection, and level control from remotely located wallplate controllers located up to 200m from the main unit. The controller offers a visual indication of which input is selected to which output on the front panel LCD and illuminated controls.

The A 4450 accepts both balanced mic (pluggable screw terminals) and line level signals (stereo RCA) for four audio sources, and switches them to matching individual output zones. Any or all inputs can be switched to any and all output zones.

For added convenience all inputs and output zones can be labelled for display on the LCD (Either by a Master Wallplate/paging console or by accessing the micro SD card located in the rear of the A 4450). This allows users to quickly see the source playing in each output zone.

When connected to the A 4450, the optional A 4461 and A 4463 master selector wallplates enable full control of the whole system, including selection of input sources, level control in each zone, level control of input sources and labelling of inputs and output zones. Multiple inputs can be selected/mixed to a zone and the volume level of each input can be adjusted up or down, independently of other inputs.

Smaller optional zone wallplates A4462 and A 4464 provide control of source selection, and level control within a single zone only. It is recommended that at least one master wallplate is used when zone wall plates are required, as the zone wallplates provide only limited functionality.

A total of 8 remote wall plates and 2 paging consoles can be used on the system. A maximum of 2 plates per cable run in parallel or chained via an extension connector on the rear of each plate (Each optional zone, master wallplate or paging console MUST have a unique ID). These plates and paging consoles can be wired back to the A 4450 using Cat5/6 UTP cabling.

The optional A 4460 paging console provides paging to any or all output zones, has pre and post chime functions, and can record announcements for quick recall and playback when required. It also includes master control functionality, so it could be used in lieu of a master wall plate.

If required, the system can be controlled using standard RS-232 control codes for third party control systems.

2.0 FEATURES

- 4 mic/line inputs to 4 zones
- Matrix or selector modes
- Touchscreen & iOS/Android app control
- Adjustable aux level 100mV/1V
- Adjustable balanced mic/line level 3mV/0.7V
- LCD provides indication of active sources and output levels
- System cabling via Cat5e UTP.
- Zone and input custom labelling
- Adjustable volume for each input to output selection
- Master & zone source selection wallplates (optional)
- Paging Console (optional)
- Serial control
- 24V DC operation

3.0 WHAT'S IN THE BOX

A 4450 4 x 4 Audio Matrix
24V 2A DC Plugpack
Instruction Booklet

4.0 FRONT PANEL GUIDE

Fig 1 shows the layout of the A 4450 front panel.

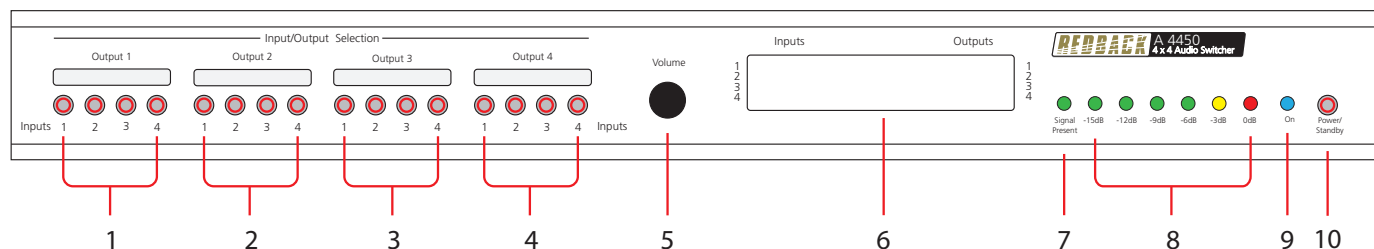


Fig 1

- 1 Output zone 1 inputs selector**
Use these switches to select which input source/s will be sent to output zone 1.
- 2 Output zone 2 inputs selector**
Use these switches to select which input source/s will be sent to output zone 2.
- 3 Output zone 3 inputs selector**
Use these switches to select which input source/s will be sent to output zone 3.
- 4 Output zone 4 inputs selector**
Use these switches to select which input source/s will be sent to output zone 4.
- 5 Volume**
Use this control to adjust the volume of the output zone.
- 6 LCD Display**
This displays the input and output labels and the volume levels.
- 7 Signal Presence Indicator**
This LED indicates when a signal is present at the current output zone.
- 8 LED VU Meter**
This LED bar graph provides a visual indication of the signal at the current output zone.
- 9 On Indicator**
This LED indicates when the unit has power.
- 10 Standby Switch**
When the unit is in standby mode this switch will illuminate red. Press this button to switch the unit ON. Once the unit is ON the On indicator will illuminate blue. Press this switch again to put the unit back in standby mode.

5.0 REAR PANEL GUIDE

Fig 2 shows the layout of the A 4450 rear panel.

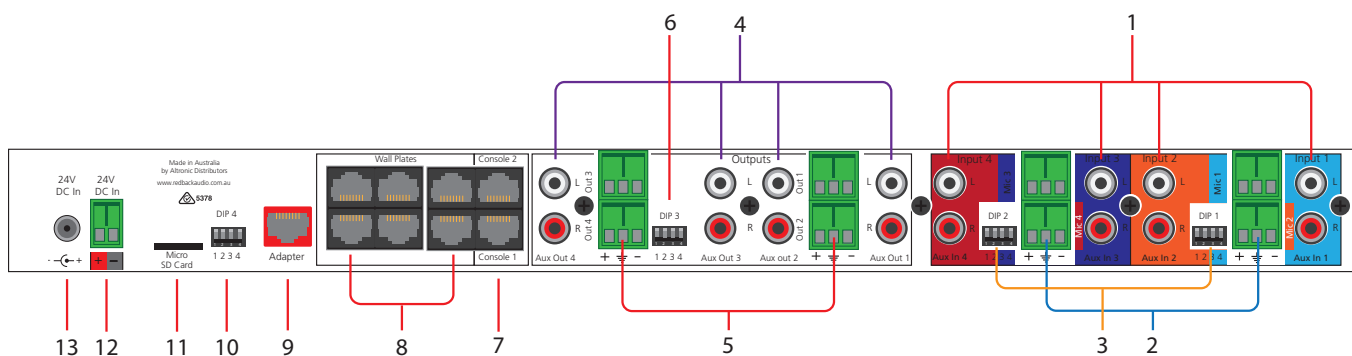


Fig 2

1 RCA Inputs

These line inputs are dual RCA connectors which are internally mixed to produce a mono input signal. The input sensitivity of these inputs can be adjusted to 100mV or 1V via the switches 2 & 3 of DIP1 & DIP2.

2 Microphone Inputs

There are four microphone inputs which all incorporate a 3 way euro connectors. The input sensitivity of these inputs can be adjusted to 3mV or 0.7V via the switches 1 & 4 of DIP1 & DIP2. Phantom power is available for electret type microphones.

3 DIP Switches DIP1 & DIP2

These are used to select the input sensitivities of the aux and mic inputs. Refer to DIP switch settings section (16.0).

4 RCA Outputs

These line outputs are dual RCA connectors which are internally separated from a mono signal. The sensitivity of these outputs can be adjusted to 100mV or 1V via the switches of DIP3.

5 Balanced Outputs

There are four balanced outputs which all incorporate a 3 way euro connector. The sensitivity of these outputs are tied to the sensitivities of the RCA outputs. These are set by DIP3.

6 DIP Switches DIP3

These are used to select the output sensitivities of the aux and balanced outputs. Refer to DIP switch settings.

7 Paging Console RJ45 Interface

These are used to connect optional paging consoles (A 4660). Maximum 2 consoles.

8 Wall Plate RJ45 interface

These RJ45 ports connect to the optional A 4461/63 Master and A 4462/64 Zone wall plates.

9 RJ45 Interface Port

For serial control. See section 18.0.

10 DIP 4

These switches provide various options (see DIP switch settings 14.0 for more details).

11 Micro SD Card Socket

This is used for input and output labelling and firmware updates. A micro SD card is supplied.

12 24V DC Input (Backup)

Connects to a 24V DC backup supply with at least 2A current capacity (please observe the polarity).

13 24V DC input

Connects to a 24V DC 2A plug pack with 2.1mm jack (centre tip positive).

6.0 FRONT PANEL OPERATION

The LCD lists the inputs on the left side, the output zones on the right side and displays the volume level in the centre. The labels for the inputs and outputs can be customised by the user (see section 7.0 for details).

When the A 4450 is in Matrix Mode (Refer to DIP switch settings) any or all of the four inputs can be mixed independently into any or all of the four output zones of the Matrix. The inputs are selected by the switches on the front panel, which are grouped together under each of the output zone labels. This is represented by numbers 1- 4 of figure 1.

When the A 4450 is in Switcher Mode (Refer to DIP switch settings) only one input can be selected per output.

To select an input, press the corresponding numbered button. Once selected the switch will flash and the LCD will display the status of this switch.

For example if Input 3 of the Output zone 2 group (i.e. button 3 from the input 2 group) is selected, the corresponding switch will flash and the Input 3 and Output zone 2 labels on the LCD will be highlighted as illustrated in figure 3. The switch will flash for about 10 seconds (unless another switch is activated) and the volume level of Input 3 for Output zone 2 will be displayed on the LCD. While the switch is flashing the volume can be adjusted using the volume control on the front of the unit.

Note: adjusting the volume adjusts only the volume for the input and output zone combination displayed on the LCD.

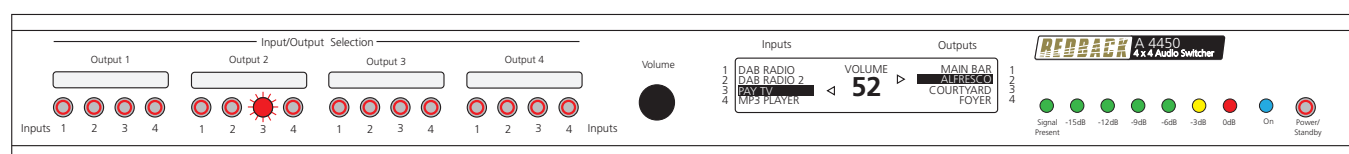


Fig 3

Once the switch stops flashing, the switch will stay illuminated to indicate this input is on. To deselect the input, press and hold the button until the switch light turns off.

If another input is required for output zone 2, then the corresponding input switch can be pressed and the process repeated.

If the unit is in Matrix Mode all four inputs can be switched on and mixed into output zone 2 if required. The same process can be repeated for the other input/output configurations.

7.0 INPUT & OUTPUT LABELS

The inputs and outputs which are displayed on the LCD, can be easily customised by making changes to the text files on the supplied Micro SD card or alternatively use the master wallplate control (see section 13.0). To change the labels via SD card follow the steps outlined below:

1. Disconnect power from the A 4450.
2. Remove the Micro SD card from the rear of the A 4450 by pushing it in until it clicks, and then releasing it.
3. Insert the Micro SD card into a PC or Laptop with a Micro SD slot. (If the computer doesn't have this, a compatible Micro SD card reader will be required).
4. Navigate to and select the Micro SD card.
5. Inside the card will be folders labelled "Inputs" and "Outputs".
6. To change the Input labels, select the Inputs folder and open the relevant text file. I.e. The "Label2.txt" file to change the Input 2 label. Once the file is opened with a text editor, change the label to something meaningful to a maximum of 10 characters (only standard keyboard characters are accepted).
7. Repeat step 6 for the output labels.
8. Once complete, follow windows safe removal procedures for ejecting the Micro SD card.
9. With power still disconnected from the A 4450, insert the Micro SD card. Push it in until it clicks.
10. Reconnect power to the A 4450 and press the "Power/Standby" switch to turn the unit on.
11. The new labels should now be displayed on the LCD.
12. Remove the Micro SD card from the rear of the A 4450 by pushing it in until it clicks, and then releasing it.

(Note: Do not leave the micro SD card inside the A 4450.)

8.0 MASTER WALLPLATE OPERATION (MATRIX MODE)

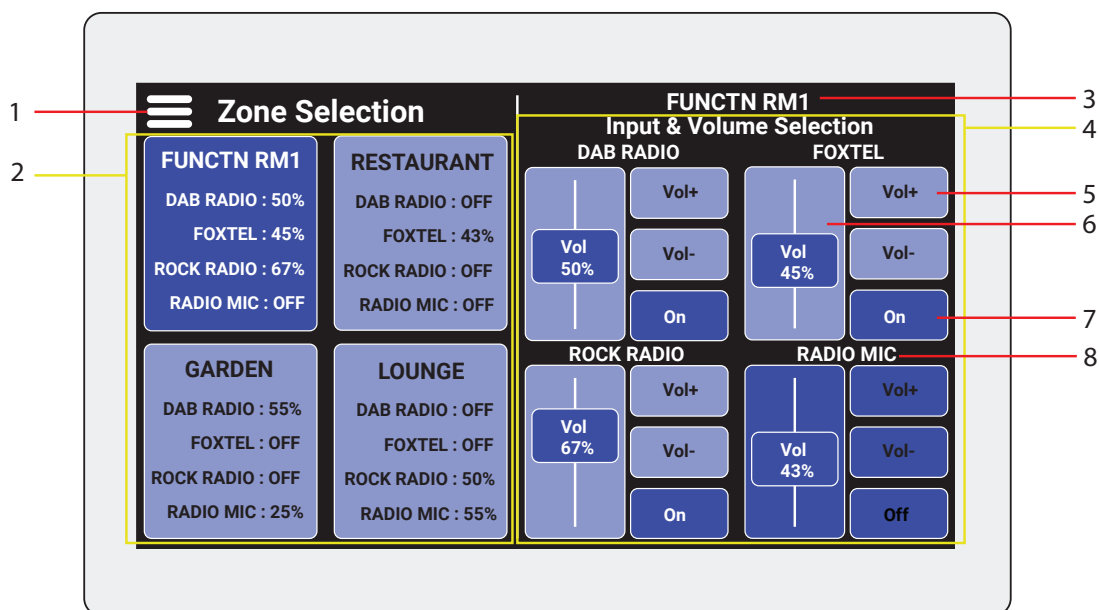


Fig 3

1 Settings Button

Tap this to access settings to adjust output zone / audio source names, colour themes and backlight settings.

2 Zone Selection Area

This area is used to toggle between the four output zones to adjust to source selection & level control.

3 Output Zone Name

The name of the output zone that sources are displayed for.

4 Input & Volume Selection Area

This area is used to adjust the four audio sources in the chosen output zone.

5 Volume +/- Buttons

Use these buttons to make fine adjustments to level control.

6 Volume Slider

Touch and slide the volume of a chosen audio source up and down as desired.

7 On/Off Selector

Switches an audio source on or off for the chosen output zone. Volume will display at last used setting.

8 Audio Source Name

The name of the audio source.

OPERATION

The master wallplate connects to the controller via Cat5e UTP or similar cabling and can be located up to 200m away. Up to two plates (master or zone) can be connected on a single cable run, with a maximum of 8 wallplates per system.

The master wallplate allows for audio source selection and level control for every output zone. The left side of the screen displays the output zones with the custom zone labels you have selected in section 7.0. Below the name, the status of each audio source and volume level is displayed.

To make changes, tap the output zone you desire on the left and use the volume slider, volume +/- buttons or on/off selector to make adjustments to the mixed audio output in that zone.

For example, if you wanted to turn the "radio mic" on in "Function RM1", you would tap the "Function RM1" output zone on the left, then press the "Off" button associated with the Radio Mic. The source will change colour and the enable button will display "ON" indicating it is switched on, and the volume will be set to the last used setting.

To adjust the colour theme, tap the menu icon on the top left of the screen. See section 13.0 for information on wallplate settings.

9.0 ZONE WALLPLATE OPERATION (MATRIX MODE)

1 Settings Button

Tap this to access zone wallplate settings ie: to adjust wall plate colour theme and backlight settings.

2 Volume Slider

Touch and slide the volume of a chosen audio source up and down as desired.

3 Volume +/- Buttons

Use these buttons to make fine adjustments to level control.

4 On/Off Selector

Switches an audio source on or off in the zone. Volume will display at last used setting.

5 Output Zone Name

The name of the output zone.

6 Audio Source Name

The name of the audio source.

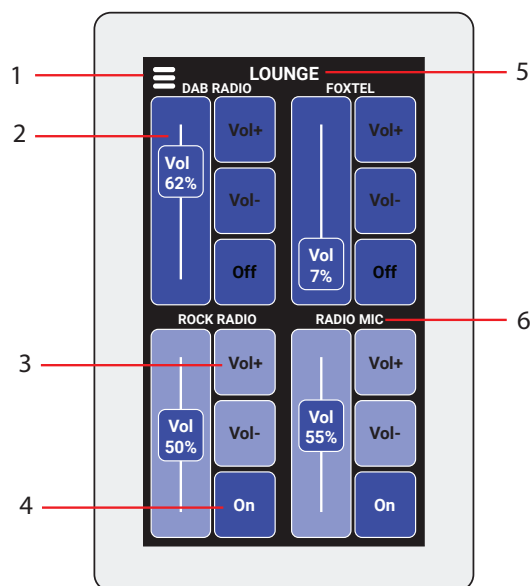


Fig 4

OPERATION

The zone wallplate or paging console connects to the controller via Cat5e UTP or similar cabling and can be located up to 200m away. Up to two plates (master or zone) can be connected on a single cable run, with a maximum of 8 wallplates per system.

The zone wallplate allows for audio source selection and level control for the zone in which its located. (Note: it cannot control more than one zone).

This wallplate displays the status of the four audio sources and their respective volume levels.

To make changes, simply tap the volume +/- buttons or switch an audio source on or off using the on/off selector. When an audio source is switched off, the controls will display in a darker colour.

To adjust the colour theme, tap the three lines icon on the top left of the screen. See section 13.0 for information on wallplate settings.

NOTE: Each optional zone, master wallplate or paging console MUST have a unique ID. Please see section 13.0. Wallplate setting menu "Set Unit Address".

10.0 MASTER WALLPLATE OPERATION (SELECTOR MODE)

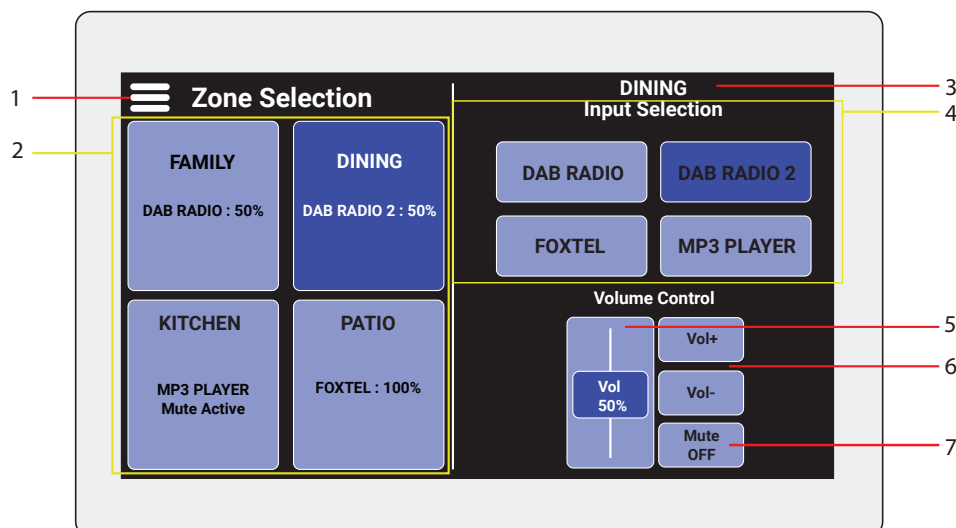


Fig 5

1 Settings Button

Tap this to access settings to adjust output zone / audio source names, colour themes and backlight settings.

2 Zone Selection Area

This area is used to toggle between the four output zones to adjust to source selection & level control.

3 Output Zone Name

The name of the output zone that sources are displayed for.

4 Input Selection Area

This area is used to select between the four audio sources in the chosen output zone.

5 Volume Slider

Touch and slide the volume of a chosen audio source up and down as desired.

6 Volume +/- Buttons

Use these buttons to make fine adjustments to level control.

7 Muting On/Off Selector

Switches an muting on or off for the chosen output zone. Volume will display at last used setting.

OPERATION

The master wallplate connects to the controller via Cat5e UTP or similar cabling and can be located up to 200m away. Up to two plates (master or zone) can be connected on a single cable run, with a maximum of 8 wallplates per system.

The master wallplate allows for audio source selection and level control for every output zone. The left side of the screen displays the output zones with the custom zone labels you have selected. Below the name, the status of the selected audio source and volume level is displayed.

Note: In selector mode only one audio source can be selected at a time.

To make changes, tap the output zone you desire on the left. Then select an audio source and adjust the level using the volume slider or volume +/- buttons. Muting can also be switched on and off.

11.0 ZONE WALLPLATE OPERATION (SELECTOR MODE)

1 Settings Button

Tap this to access zone wallplate settings ie: to adjust wall plate colour theme and backlight settings.

2 Audio Source Input Selection Buttons

Choose between the audio sources connected to the system.

3 Volume Slider

Touch and slide the volume of a chosen audio source up and down as desired.

4 Output Zone Name

The name of the output zone.

5 Volume +/- Buttons

Use these buttons to make fine adjustments to level control.

6 Mute On/Off Selector

Switches an muting or or off in the zone. Volume will display at last used setting.

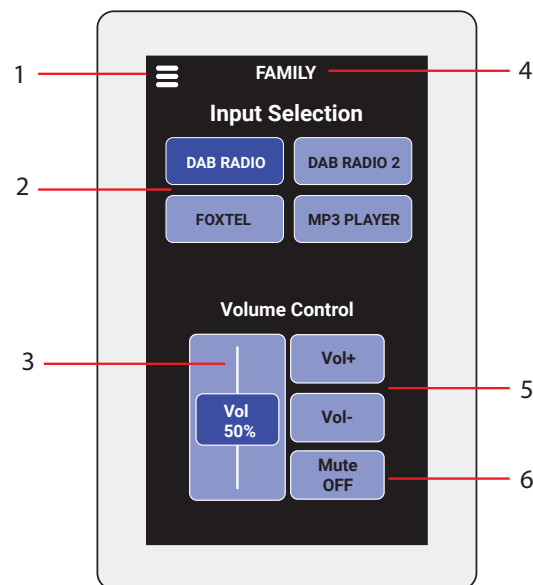


Fig 6

OPERATION

The zone wallplate or paging console connects to the controller via Cat5e UTP or similar cabling and can be located up to 200m away. Up to two plates (master or zone) can be connected on a single cable run, with a maximum of 8 wallplates per system.

The zone wallplate allows for audio source selection and level control for the zone in which its located. (Note: it cannot control more than one zone).

This wallplate displays the status of the chosen audio source and the current audio volume level.

To make changes, simply tap the volume +/- buttons, use the volume slider or activate muting using the mute On/Off selector.

To adjust the colour theme, tap the three lines icon on the top left of the screen. See section 13.0 for information on wallplate settings.

NOTE: Each optional zone, master wallplate or paging console MUST have a unique ID. Please see section 13.0. Wallplate setting menu "Set Unit Address".

12.0 APP OPERATION

iOS/Android app under development. The app will connect to the local zone wallplate via Bluetooth and allow adjustments of source and level control in that zone.

13.0 WALLPLATE SETTINGS MENU

Each wallplate has a settings menu which can be accessed using the icon on the top left of the screen (marked 1 in figure 3 & 4). Once in this menu the following screen will be displayed.

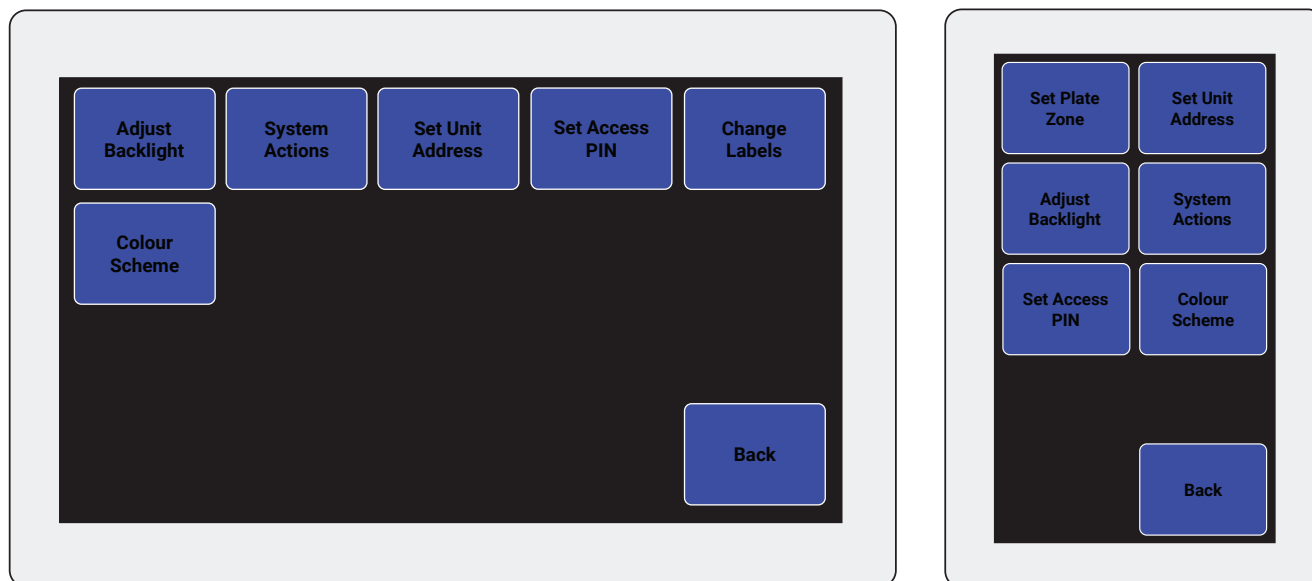


Fig 7 - Wallplate Settings. Master (left), Zone (right).

Adjust backlight - Allows you to select active brightness and dimmed brightness levels of the wallplate with the time out period selectable for each level before the wallplate switches the screen off.

System actions - Allows you to choose settings for audible feedback on touch (on/off), screen rotation and wallplate/factory reset functions.

Set unit address - Each wallplate and paging console in the system must have a unique address from 1 to 16. This setting allows you to enter the address for the plate you are using. Blanked out numbers are addresses already in use.

Set access PIN - Set an optional access PIN preventing unauthorised access to the wallplates settings. Type in a preferred PIN and press "E" to accept. Press "C" to delete pin digits or reset PIN.

Change labels (master wallplate only) - Allows you to set and change the custom labels for the output zones and audio sources.

Colour scheme - Set button colour scheme to preset red, blue or black/white. Note that other colour schemes can be provided via firmware update.

Set plate zone (Zone wallplate only) - Allows you to select which zone the wallplate is operating in (Note: it cannot control more than one zone).

14.0 A 4660 PAGING CONSOLE

The optional A 4660 acts both as a paging console and a master control wallplate.

The paging console connects to the A 4450 controller via Cat5e UTP or similar cabling and can be located up to 200m away. Connection is made to the rear of the A 4450 using either of the ports labelled "Console 1" and "Console 2". Refer to figure 13 for connection details.

Note: Do not connect the paging consoles to the ports labelled "Wall Plates"

PAGING OPERATION

Zone selection for paging is shown on the left hand side of the screen, whilst on the right hand side a "Page" button can be pressed to commence paging to your chosen zone (see figure 8). A chime will play prior to paging if enabled in "Microphone Settings".

To access Zone Selection functionality press the "Switch to Zone Control" button.

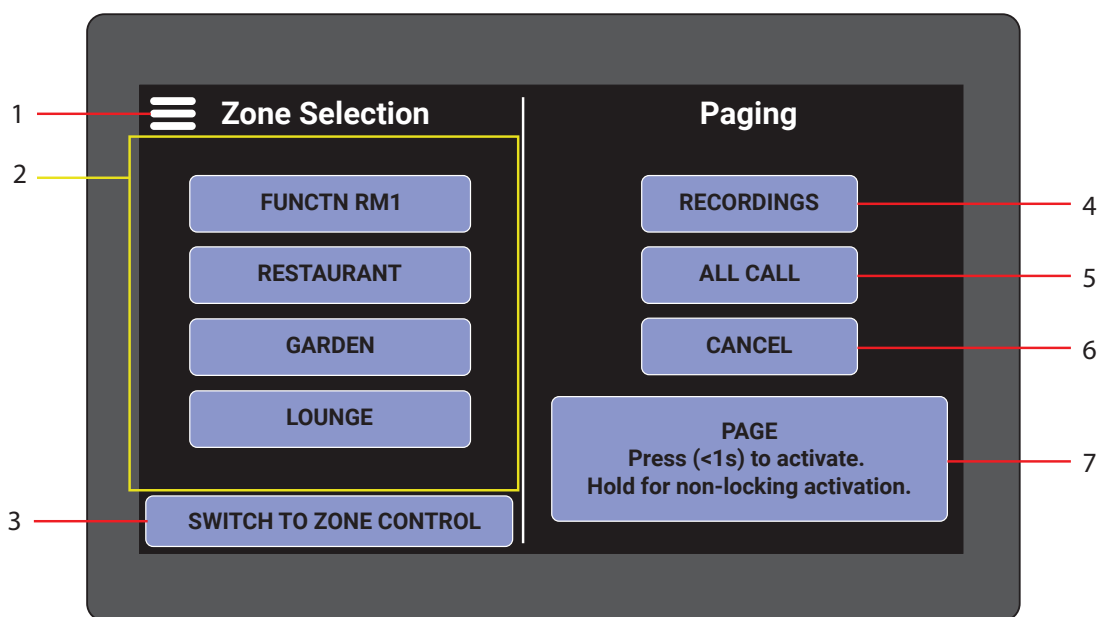


Fig 8. A 4660 Paging Screen

1 Settings Button

Tap this to access settings to adjust output zone / audio source names, colour themes, backlight settings and paging settings.

2 Zone Paging Selection

This area is used to select a zone to page.

3 Switch to zone control mode

Switches the screen to Zone Control Mode to make adjustments to audio sources / levels.

4 Recordings

Access pre-recorded announcements for paging (ie: closing time, fire alarm test announcement etc).

5 All Call

Select all zones with a single press. Press page button to commence paging.

6 Cancel

Cancel paging mode after completion of announcement or recording playback.

7 Page Announcement

Short press for less than 1 second to activate paging mode, this will activate the microphone until the paging button is short pressed again (on/off action). Tap and hold for non-locking activation for quick announcements.

RECORDINGS

Users can record announcements via the micro SD card for quick recall and playback when required. To record an announcement, press the "Recordings" button and the "Record" button. Instructions are provided on the screen to assist with recording quality. When ready, press "Start record", make your announcement into the microphone, and press "Stop record" when complete. Press "Save file" and give your recording a suitable name. This recorded announcement will now be available in the recording menu. To delete a recording tap the recording file name, tap and hold the "Delete" button for 5 seconds.

The recording system can also be used to playback files from external sources (*Note: The Micro SD card will need to be removed from the paging console and the music files added to the "recordings" folder via the use of a PC or laptop.*). Any suitable file (MP3, OGG, WAV format) located in the "recordings" folder on the SD card will be available for playback.

ZONE CONTROL OPERATION

When the paging console is in Master wallplate mode it allows for audio source selection and level control for every output zone. The functionality is exactly the same as a Master Wallplate in Matrix or Switcher modes (Refer to sections 8.0 and 10.0).

To access paging functionality press the "Switch to Paging" button.

1 Settings Button

Tap this to access settings to adjust output zone / audio source names, colour themes, backlight settings and paging settings. Refer to section 13.0 for details.

2 Zone Selection Area

This area is used to toggle between the four output zones to adjust to source selection & level control.

3 Switch to paging mode

Switches the screen to Paging Mode to make announcements.

4 Output Zone Name

The name of the output zone that sources are displayed for.

5 Input & Volume Selection Area

This area is used to adjust the audio sources in the chosen output zone.

6 Volume +/- Buttons

Use these buttons to make fine adjustments to level control.

7 Volume Slider

Touch and slide the volume of a chosen audio source up and down as desired.

8 Mute/On/Off Selector

Switches an audio source on or off for the chosen output zone. Volume will display at last used setting.

9 Audio Source Name

The name of the audio source.

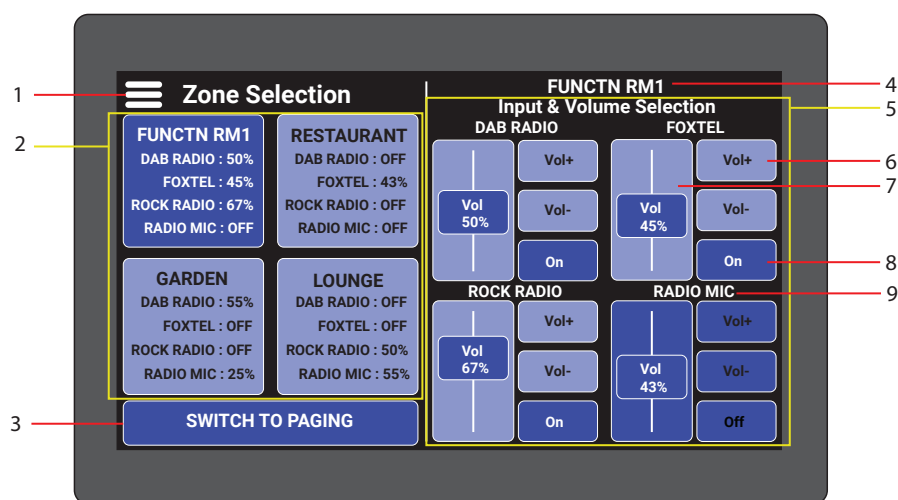


Fig 9. Console in Master Wallplate mode. A 4450 in Matrix Mode.

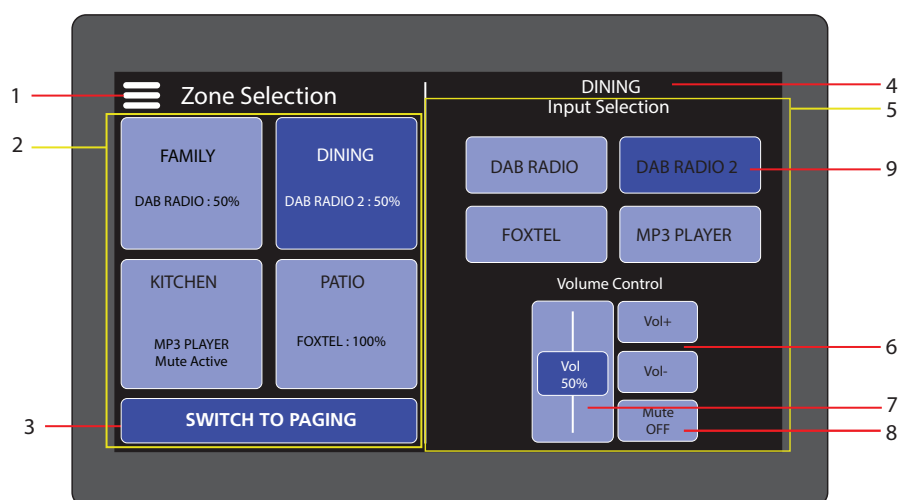


Fig 10. Console in Master Wallplate mode. A 4450 in Switcher Mode.

15.0 A 4660 PAGING CONSOLE SETTINGS MENU

Each paging console has a settings menu which can be accessed using the icon on the top left of the screen (marked 1 in figures 8, 9 & 10). The majority of settings on the paging console are identical to those outlined for the wallplate in section 13.0. The paging console also adds a button labelled “Microphone settings” as illustrated in figure 11.

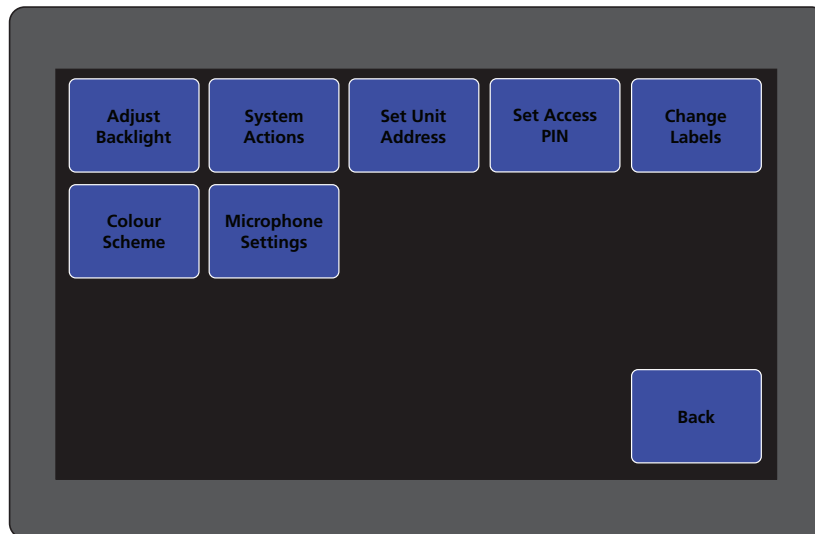


Fig 11. Microphone Settings Screen

Pressing the “Microphone settings” button will bring up the screen shown in figure 12.

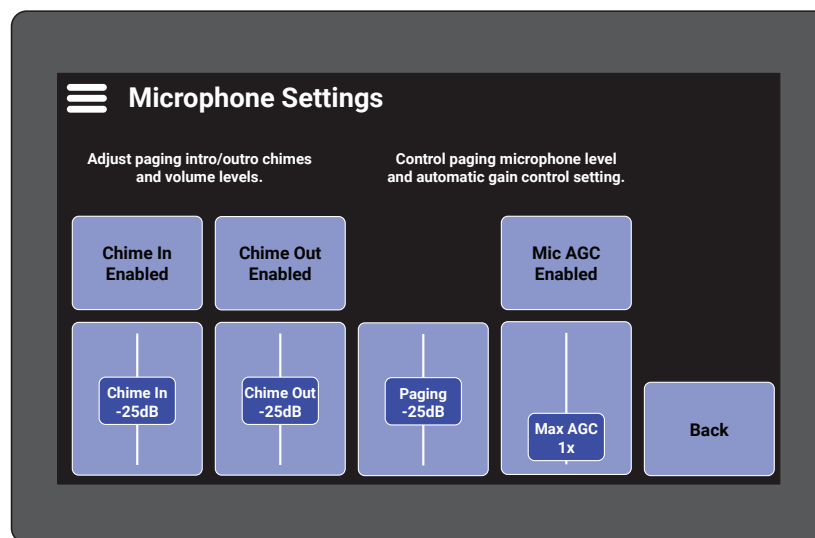


Fig 12. Microphone Settings Screen

Chime In - Button allows you to enable or disable the pre-announcement chime on the paging audio. The level can also be adjusted to suit the installation. For instance a user may require the pre-announcement chime be louder than the normal programming.

Chime Out - Button allows you to enable or disable the post-announcement chime on the paging audio. The level can also be adjusted to suit the installation. For instance a user may require the post-announcement chime be louder than the normal programming.

Paging Level - Adjust the paging level to suit the installation. This allows for paging to be adjusted to suit the level of programming from other sources connected to the system.

Mic AGC - Allows for the microphones automatic gain control (AGC) effect to be adjusted up or down according to installation requirements. AGC allows the signal to automatically adjust to compensate for variations in level of peoples voices when making paging announcements. Please note high levels of AGC will increase audible noise in the system while paging.

16.0 DIP SWITCH SETTINGS

The A 4450 has 4 sets of DIP switches, these are used to set input and output sensitivity.

DIP1 and DIP2 select the input level sensitivities for inputs 1 - 4.

DIP 1

Switch 1 - Sets Mic 2 input sensitivity to either OFF - 0.7V or ON - 3mV.

Switch 2 - Sets Aux 2 input sensitivity to either ON - 1V or OFF - 100mV.

Switch 3 - Sets Mic 1 input sensitivity to either OFF - 0.7V or ON - 3mV.

Switch 4 - Sets Aux 1 input sensitivity to either ON - 1V or OFF - 100mV.

DIP 2

Switch 1 - Sets Mic 4 input sensitivity to either OFF - 0.7V or ON - 3mV.

Switch 2 - Sets Aux 4 input sensitivity to either ON - 1V or OFF - 100mV.

Switch 3 - Sets Mic 3 input sensitivity to either OFF - 0.7V or ON - 3mV.

Switch 4 - Sets Aux 3 input sensitivity to either ON - 1V or OFF - 100mV.

DIP3 sets the output level sensitivities for outputs 1 - 4.

DIP 3

Switch 1 - Sets Output 4 sensitivity to either OFF - 1V or ON - 3mV.

Switch 2 - Sets Output 3 sensitivity to either OFF - 1V or ON - 3mV.

Switch 3 - Sets Output 2 sensitivity to either OFF - 1V or ON - 3mV.

Switch 4 - Sets Output 1 sensitivity to either OFF - 1V or ON - 3mV.

DIP 4

Switch 1 - Sets unit to either MATRIX mode - OFF or to SELECTOR mode - ON.

Switch 2 - Not used

Switch 3 - Not used

Switch 4 - Not used

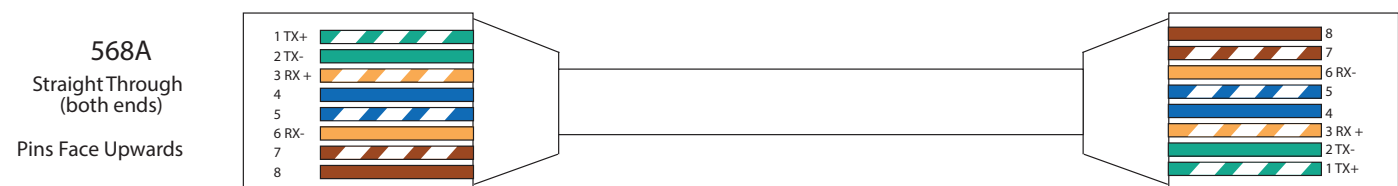
IMPORTANT NOTE:

Ensure power is switched off when adjusting DIP switches.
New settings will be effective when power is switched back on.

RJ45 cabling configuration for system components (568A 'Straight through')

System components are connected using "pin to pin" configuration RJ45 data cabling as shown below. 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.



17.0 WALLPLATE and PAGING CONSOLE CONNECTION DETAILS

A maximum of 8 wall plates can be connected to the A 4450 controller. These are connected to the output ports labelled "Wall Plates" via Cat5e UTP or similar cabling and can be located up to 200m away.

Note: Do not connect the wall plates to the ports labelled "Console 1 and Console 2".

Up to two plates (master or zone) can be connected on a single cable run, by using a splitter (such as Altronics P 7053), or by cascading the cable through the second connector on the back of the wall plate. The example in figure 13 illustrates various ways to connect the wall plates.

A maximum of 2 paging consoles can be connected to the A 4450 controller via Cat5e UTP or similar cabling and can be located up to 200m away. Connection is made to the rear of the A 4450 using either of the ports labelled "Console 1" and "Console 2". One paging console maximum per output port.

Note: Do not connect the paging consoles to the ports labelled "Wall Plates"

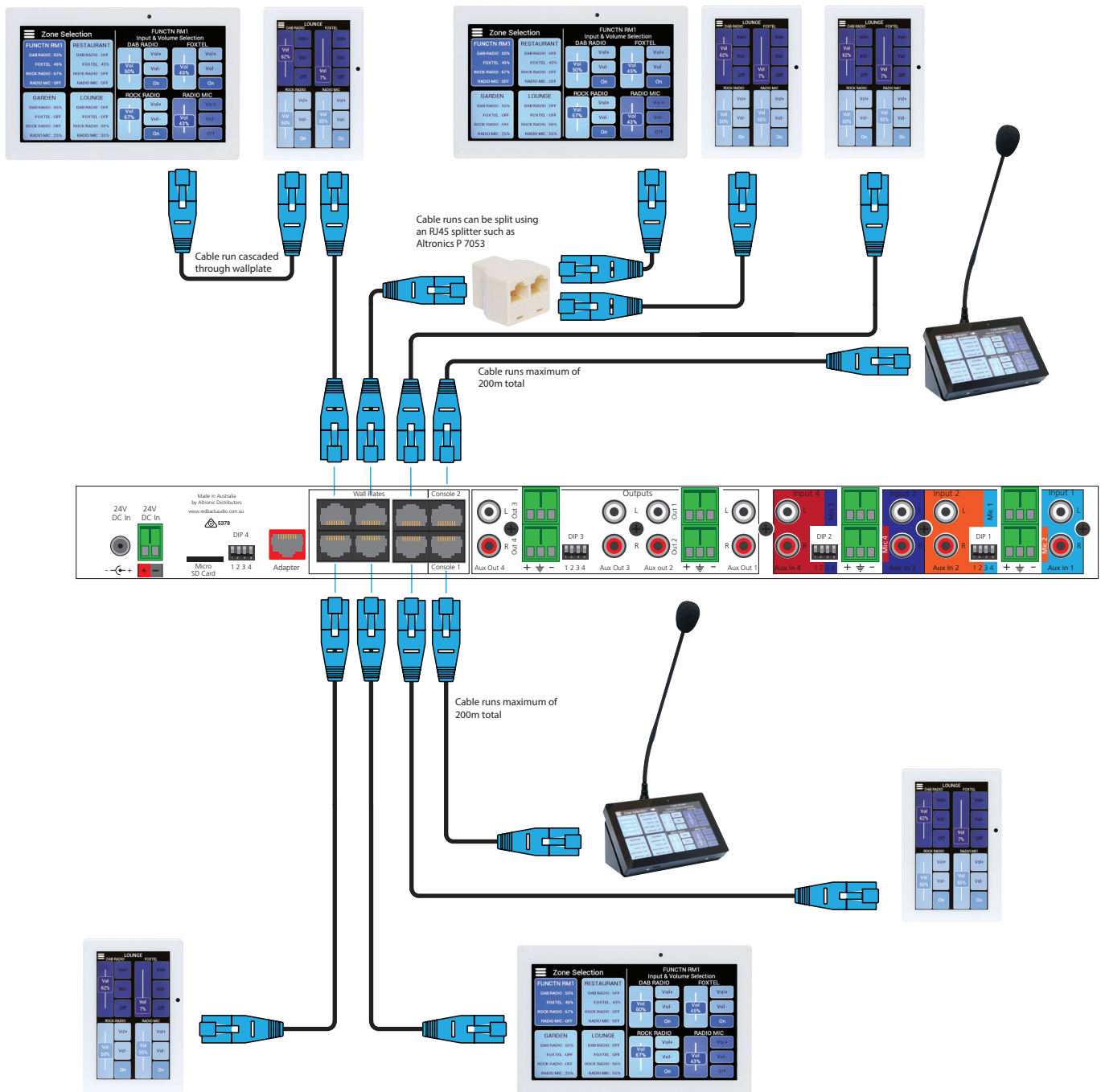


Fig 13. Wallplate and Paging Console connection example

18.0 SERIAL CONTROL PROTOCOL & CODES FOR THIRD PARTY CONTROL SYSTEMS

The A 4450 can be remotely controlled using standard RS232 command codes, transmitted from the likes of a PC or Laptop or other third party controller. The RS232 output will be required to be converted to RS-485 communication for connection to the A 4450.

Connection is made via Cat5e UTP or similar cabling with an RJ45 connector which is connected to the port on the rear of the A 4450 labelled "Adapter" (Refer to figure 2 for location).

Note: This is only available when the A 4450 is in Matrix Mode.

The RS232 transmission protocols are as follows:

Baud rate: 9600

Data bits: 8

Parity: None

Stop bits: 1

Flow control: none

Write command ASCII comma delimited.

Table 1 below outlines the control codes available.

Table 1 - Serial Control Codes

START	INPUT	OUTPUT	STATE	VOLUME	END
A4450	1 to 4	1 to 4	0 to 2	0 to 255	Carriage Return (CR)

START = A4450 in ASCII.

INPUT = Which INPUT to adjust.

OUTPUT = Which OUTPUT to adjust.

STATE = 0 / OFF, 1 / ON, 2 / Don't change state.

VOLUME = 0 / mute 1 to 79 / volume level, 80 / don't adjust volume, 254 / decrease volume by 1, 255 / Increase volume by 1.

Examples:

Turn ON INPUT 2 to OUTPUT 4 set VOLUME to 50 = send: A4450,2,4,1,50 CR

Turn OFF INPUT 3 to OUTPUT 2 Don't change VOLUME = send: A4450,3,2,0,80 CR

Don't change STATE of INPUT 2 to OUTPUT 4, INCREASE VOLUME = send: A4450,2,4,2,255 CR

Don't change STATE of INPUT 2 to OUTPUT 4, DECREASE VOLUME = send: A4450,2,4,2,254 CR

19.0 SERIAL CONNECTION DETAILS

RS232 command codes can be transmitted from a PC or Laptop by connecting a lead such as the Altronics S 9721 (USB To RS-485 Converter) to the USB port. The transmission from this lead is converted to RS485 which makes it compatible for input to the A 4450.

The output of the S 9721 can then be wired to the Adapter port on the rear of the A 4450. Pin 5 (RS485-A), pin 4 (RS485-B) and pin 8 (ground) of a standard Cat5 cable are the only connections requiring termination. Pin 5 connects to the (+) connection of the S 9721, pin 4 connects to the (-) connection and pin 8 connects to the centre ground connection (refer to figure 15).



Fig 14. Altronics S 9721 USB To RS-485 Converter

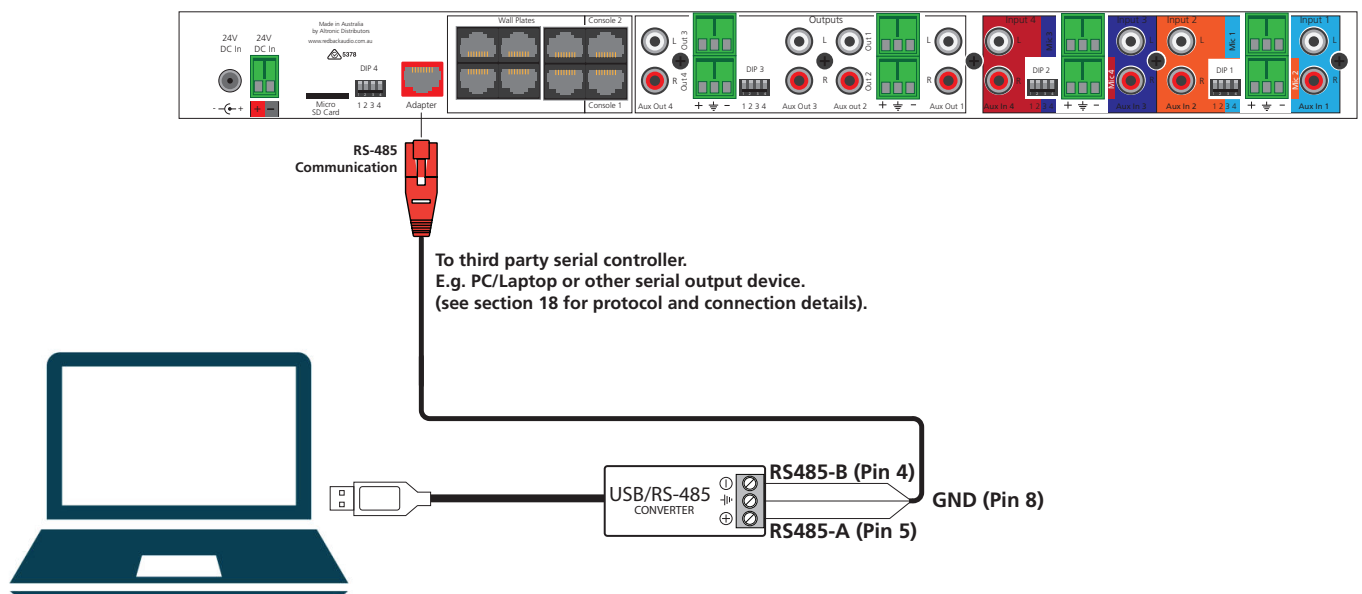


Fig 15. Serial connection from a PC to the A 4450.

20.0 FIRMWARE UPDATE

It is possible to update the A 4450 firmware by downloading updated versions from www.altronics.com.au or redbackaudio.com.au. To perform an update, follow these steps.

1. Download the Zip file from the website.
2. Remove the Micro SD card from the A 4450 and insert it into your PC.
3. Extract the contents of the Zip file to the root folder of the SD Card.
4. Rename the extracted .bin file to "update.bin" (without exclamation marks) .
5. Remove the SD card from the PC following windows safe card removal procedures.
6. With the power turned off, insert the SD card back into the A 4450.
7. Turn power on to the A 4450. The unit will check the SD card and if an update is required the A 4450 will perform the update automatically.

For updating firmware on the wallplates and paging console (A 4461, A 4462, A 4463, A 4464, A 4660), refer to the relevant instruction manual.

21.0 SPECIFICATIONS

DISTORTION:	0.01%	CONTROLS:	
FREQ. RESPONSE:	140Hz - 20kHz	Input Selectors:	Switch
INPUT SENSITIVITY		Power:	Power/Standby Switch
Mic inputs:	3mV - 0.7V balanced	Volume:	Front Panel Knob
Line inputs:	100mV-1V	WallPlates & Paging Console	
OUTPUT SENSITIVITY		Output Connection:	2 x RJ45 8P8C
Outputs:	3mV-1V	Data Transmission:	Cat5e cabling max 200m
OUTPUT CONNECTORS		INDICATORS:	Power on,Signal Present,VU Meter
Balanced out:	3 pin euro connectors	POWER SUPPLY:	24V DC 2A
AUX out:	2 x RCA	DIMENSIONS:	≈482W x 125D x 44H
INPUT CONNECTORS		WEIGHT:	≈2.1 kg
Inputs:	3 pin euro connectors or 2 x RCA	COLOUR:	Black
24V DC power:	Screw terminals		
24V DC Power:	2.1mm DC Jack		

* Specifications subject to change without notice