AUSTRALIAN MONITOR

INTEGRATION INTELLIGENCE

INSTALLATION AND OPERATION MANUAL

Z624

6 to 4 ROUTING MIXER

IMPORTANT SAFETY INFORMATION

1. READ these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. This appliance shall not be exposed to dripping or splashing water and that no object filled with liquid such as vases shall be placed on the apparatus.
16. Plug this apparatus to the proper wall outlet and make the plug to be disconnected readily operable.
17. Mains plug is used as disconnected device and it should remain readily operable during intended use. In order to disconnect the apparatus from the mains completely, the mains plug should be disconnected from the mains socket outlet completely.
18. WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
19. An appliance with a protective earth terminal should be connected to a mains outlet with a protective earth connection.
20. The apparatus should be disconnected from the mains completely before speaker wiring. The speaker output should be proper protected from direct contact and pay attention to speaker connections, terminals and speaker wiring during normal operation.

PRÉCAUTIONS DURANT UTILISATION

1. LISEZ ces instructions.
2. Tenez ces instructions.
3. Notez tous les avertissements.
4. Suivez toutes les avertissements.
5. N'utilisez pas ce produit près de l'eau (la piscine, la plage, le lac, etc.).
6. Nettoyez seulement avec une étoffe sèche.
7. Ne bloquez aucuns troux de ventilation. Installez en accord avec les instructions du manufacturier.
8. N'installez près aucunes sources de chaleur comme radiateurs, registres de chaleur, fours ou les autres équipements (y compris amplificateurs) qui produisent la chaleur.
9. Ne défaites pas le but de sécurité de la fiche polarisée ou base-type. Une fiche polarisée a deux tranchants avec un plus large que l'autre. Une fiche de base type a deux a deux tranchants et une troisième pointe de base, le tranchant large ou la troisième pointe est fourni pour votre sécurité. Si la fiche donnée ne conforme pas votre prise de contact, consultez un électricien pour remplacement de la prise de contact obsolète.
10. Protegez le cordon de secteur contre être marchée dessus ou pincez en particulier aux fiches, aux douilles de convenance, et au point où ils sort-ent de l'appareil.
11. Seulement utilisez attachements/accessoires spécifiés par le manufacturier.
12. Utilisez seulement avec un chariot, un stand, un trépied, un support ou une table indiquée par le manufacturier, ou vendue avec l'appareil. Quand un chariot est utilisé, faites attention en déplaçant la combinaison d'appareil/chariot pour éviter de se déséquilibrer.
13. Arrachez la fiche du dispositif durant éclair et orage ou quand pas utilisé pour longues périodes de temps.
14. Référez au personnel qualifié de service pour toutes réparations. La réparation est donnée quand le système a été endommagé à n'importe façon, par exemple un fil ou une fiche endommagé(e) de la source d'alimentation. Avoir été exposé à pluie ou humidité, n'opère pas normalement, ou avoir été tombé.
15. L'appareil ne doit pas être exposé aux écoulements ou aux éclaboussures et aucun objet ne contenant de liquide, tel qu'un vase, ne doit être placé sur l'objet.
16. Branchez l'appareil à une source appropriée et faire que la prise à débrancher soit facilement accessible.
17. La prise du secteur ne doit pas être obstruée ou doit être facilement accessible pendant son utilisation. Pour être complètement déconnecté de l'alimentation d'entrée, la prise doit être débranchée du secteur.
18. AVERTISSEMENT: Pour éviter le risque d'incendie ou de chocs électriques, ne pas exposer cet appareil à la pluie ou à l'humidité.
19. Un appareil avec la borne de terre de protection doit être connecté au secteur avec la connexiion de terre de protection.
20. Assurez-vous que l'appareil est hors tension avant de connecter les hauts parleurs. Verifiez que la sortie des enceintes soit protégées contre un contact physique. Respecter les polarités des terminaux ainsi que le câblage des enceintes pendant le fonctionnement afin d'assurer une utilisation sécurisee.

INTRODUCTION & CONTENTS

Z624

The Z624 system provides a 4 zone mixing and paging solution featuring intuitive console style routing. Optional wall panel accessories include 3 controller models, a Bluetooth receiver, and a mic/line level input. A Z624PS paging station can also be included to provide zone or all call paging. A PC application allows for advanced setup and configuration of the Z624 and wall panels.

Revision 1.0: May 2025

WARNING

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT USE THE PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

TO PREVENT ELECTRICAL SHOCK, MATCH WIDE BLADE PLUG TO WIDE SLOT & FULLY INSERT.

CAUTION

TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT PERFORM ANY SERVICING OTHER THAN THAT CONTAINED IN THE OPERATING INSTRUCTIONS UNLESS YOU ARE QUALIFIED TO DO SO.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

WARNING

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

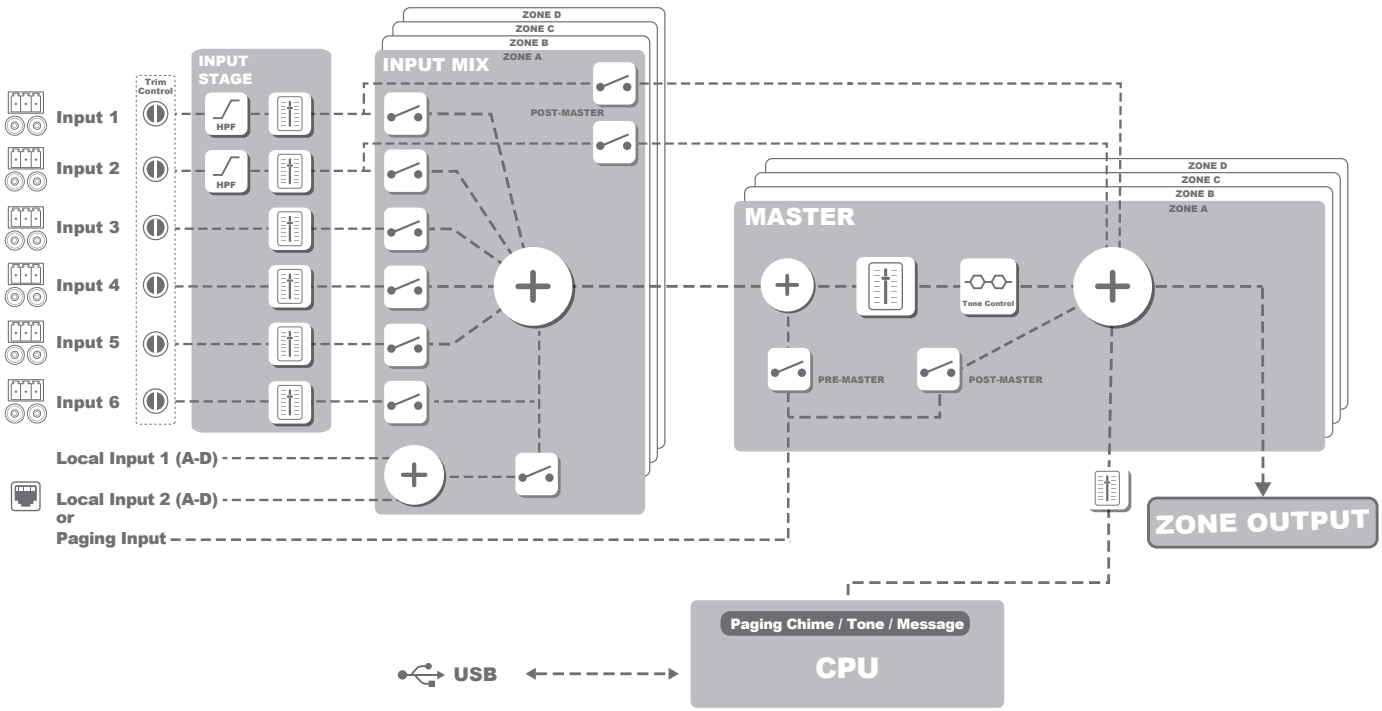
For European Union countries: This symbol on the product or its packaging indicates that this product must not be disposed of with other waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment.
Please contact your local authority for further details of your nearest designated collection point.

Rating plate and caution marking are marked on the back enclosure of the apparatus

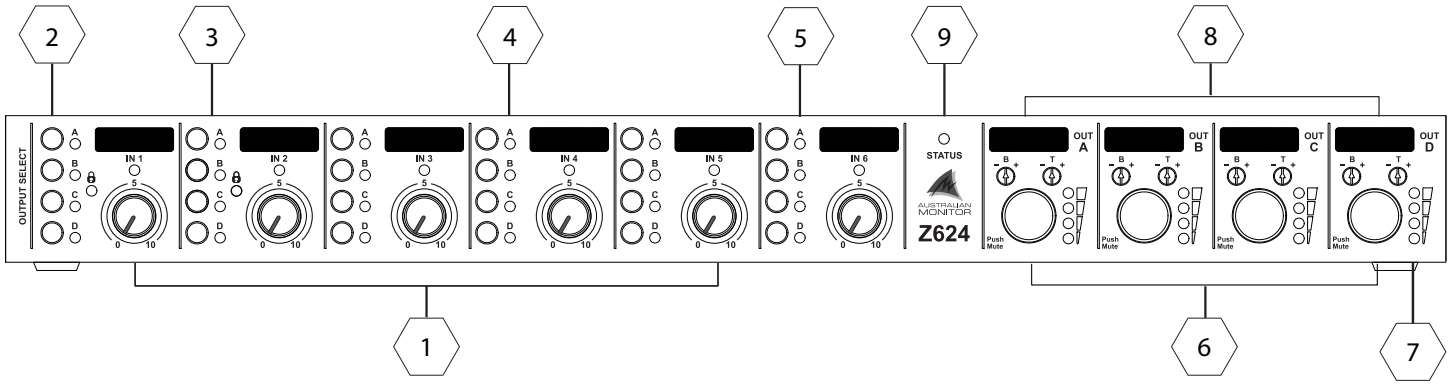
FEATURES

- Inputs
  - 6 mic or line inputs. Balanced euroblock and unbalanced RCA
  - Individual input channel volume control
  - Zone output selection buttons
  - Input trim control
  - Switchable phantom power
  - Priority setting for Inputs 1 and 2
  - High Pass Filter for Inputs 1 and 2
- Outputs
  - 4 mono balanced line level outputs
  - Output zone level control & indicators
  - Output zone bass/treble control
- Tone Generator
  - Built in evac, alert, intruder, bell and chime tones
  - Customisable via micro sd card slot
- External Mute Contact closure
- Accessory ports
  - Supports one Z624PS paging station
  - Supports two wall controllers per zone
  - Supports two audio panel wall panel inputs per zone (mixed together)
- PC configuration software (optional)
  - Advanced audio configuration setup
  - Advanced wall panel configuration
  - USB-C input port

BLOCK DIAGRAM



FRONT PANEL



1 INPUT VOLUME CONTROL

Turn the knob clockwise to increase the level of the corresponding channel.

2 ZONE SELECTION

Push buttons to route the input to the respective output zone.

3 INPUT 1 & 2 LOCK STATUS

Indicator showing if input 1 or 2 has been locked via the back panel.

4 INPUT 1-5 STATUS LEDS

The LED indicates the status of the input
Green = Signal present
Red = Input signal clipped

5 INPUT 6 LEDS

The LED will indicate green if the input 6 is routed to the zone output.
The LED will indicate yellow if the local audio input is routed to the zone output instead of Input 6.

6 OUTPUT VOLUME ADJUSTMENT

Turn the knob to adjust the output volume for each zone.
Push knob to mute the zone.

7 OUTPUT LEVEL INDICATORS

These LEDs indicate the output volume level.
Bottom LED will flash when the zone is muted.
Top LED will turn red when output clipped.

☛ **Note: If WP4R or WP10 wall controllers are used their LED indicators with track the output level indicators**

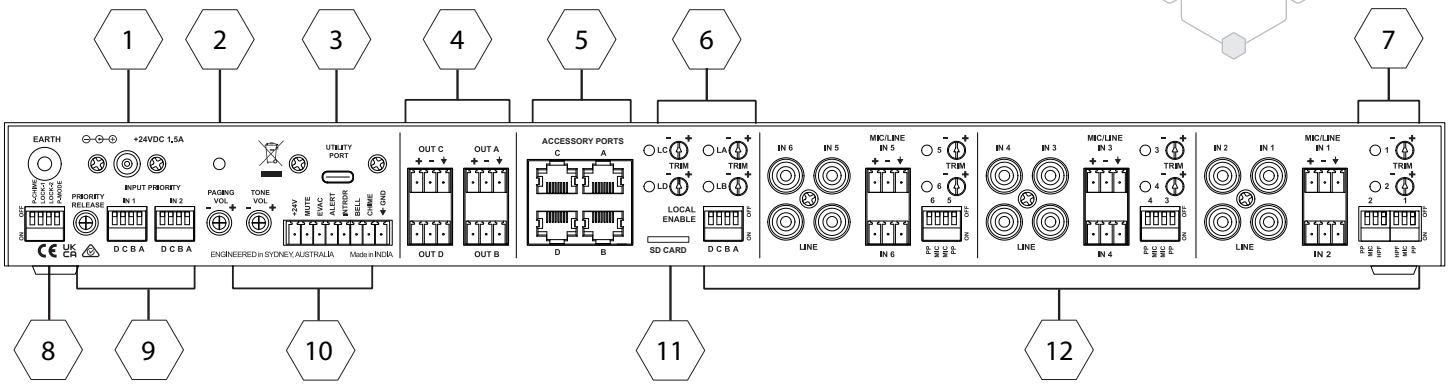
8 TONE CONTROL

Use to adjust the Bass and Treble for each zone.
Bass 100Hz ±12dB
Treble 10kHz ±12dB

9 SYSTEM STATUS LED

This LED will illuminate indicating that the Z624 is on and receiving power.

REAR PANEL



1 POWER INPUT CONNECTOR

The Z624 is powered via a 24VDC 1.5A universal power adaptor. The power adaptor is included with your Z624 mixer. The DC input accepts a 5.5/2.1mm plug with tip positive and ring negative connection.

2 PAGING VOLUME

Turn the knob to adjust the global paging volume from the optional Z624PS paging station.

☛ **Note: Offsets for each zone can be set using the configuration software.**

3 USB-C CONFIG PORT

Connect to a PC using a USB-C cable to perform advanced setup of the Z624 via the configuration software.
Firmware updates can also be performed using this port.

4 ZONE OUTPUTS

The Z624 has 4 mono balanced line level outputs.
Balanced male 3-pin (3.81mm) euroblock connector.
Post-Master volume.

5 ACCESSORY PORTS

Allows connection of up to 2 wall panel controllers and 2 audio wall panels per port.
One Z624PS paging station can also be connected to any accessory port instead of 1 audio wall panel.
See accessory wiring guide section for more information.

6 LOCAL INPUT ADJUSTMENT

Accessory port audio input which replaces Input 6 for the corresponding zone when enabled.
The level can be adjusted using the TRIM pots and an LED indicates signal presence.

☛ **Note: Local inputs are locked to the corresponding output zone. See Local Audio Inputs section for more information.**

7 MIC/LINE INPUT SETTINGS

Each of the 6 MIC/LINE inputs has a trim pot that allows the level to be adjusted from -15dB to +13dB.
DIP switches allow setting of the balanced euroblock inputs

MIC or LINE level
ON = MIC level
OFF = Line level

24V Phantom Power
ON = enabled
OFF = disabled

High Pass Filter
(HPF) (Input 1 & 2 only)
ON = Filter enabled (75Hz, 12dB/oct)
OFF = Filter disabled

8 CHIME, LOCK AND PRIORITY MODE

4 DIP switches. DOWN is ON and UP is OFF
P-CHIME: Enables the pre-chime when making paging announcements from the Z624PS paging station.
LOCK-1: Locks Input 1 volume and source selection controls
LOCK-2: Locks Input 2 volume and source selection controls
P-MODE: Modifies how the priority mode functions.
OFF = Input 1 then Input 2
ON = Input 1 AND Input 2 (mix)

9 INPUT 1 and 2 PRIORITY

Turn ON to enable the input as a priority to the corresponding zone output.
e.g When Input1 priority is selected on Zone A and B, if a signal is detected on Input1, it will mute inputs 2 to 6 in Zone A and B.

10 TONE GENERATOR AND MUTING

Connect any of the EVAC, ALERT, INTRUDER, BELL, CHIME inputs to the GND input to play the tone. Put this after the note as it is a different function to separate it from the tone generator function.
The TONE VOLUME knob allows the audio level to be adjusted.

☛ **Note: Offset levels for each tone can be set using the configuration software.**

11 SD CARD

Input connector for a micro-SD CARD which can override the built in tones and play custom tones/messages from wall control panels.
Maximum density 2TB. Maximum File Size 4GB, FAT32 file system.
WAV format only: PCM, 16-bit, 44.1kHz sample rate.
See SD CARD section of this manual for more information.

12 MIC/LINE INPUTS 1 – 6

Euroblock MIC/Line Balanced Input, A balanced male 3-pin (3.81mm) connector is provided on each input.
A standard stereo RCA female socket is also provided for each input.
The RCA is summed to mono inside the Z624.

BASIC SETUP AND OPERATION

POWER REQUIREMENTS

The Z624 operates at 24V with a maximum 0.8A current draw (dependant on number of accessories and paging stations connected).
The DC input accepts a 5.5/2.1mm plug with tip positive and ring negative connection.

MOUNTING

The Z624 is a one rack unit high (1RU) and will fit a standard EIA 19" rack.

BALANCED INPUT WIRING

WARNING: Input signal ground should NOT be used as a safety ground (earth).
The balanced input to the Z624 is 3-pin configuration and requires all three pins to be connected.
Only high quality twin-core shielded cable should be used.

- \+ = Hot (non-inverting or in phase)
- − = Cold (inverting or reverse phase)
- ⏚ = Signal Ground

When wiring from an unbalanced source you must ensure that pin 2 is connected to pin 1 (input ground), either by linking the pins in the input connector or by the source equipment's output wiring.
When wiring for an unbalanced source:

- \+ = Hot (non-inverting or in phase)
- ⏚ = Signal Ground
- ⏚ = Signal Ground

SENSITIVITY

Each channel of the Z624 has a nominal balanced input impedance of 30kOhms (@1kHz) and should not present a difficult load for any signal source.
Your signal source (i.e. the equipment feeding signal to the mixer) should have an output impedance of 600 Ohms or lower to avoid unwanted high frequency loss in the cabling.

BASIC SETUP AND OPERATION CONT.

INSTALLATION AND BASIC SETUP & OPERATION

The inputs of the Z624 can accommodate a wide range of sources including microphones, DVD and CD players.
Each installation will require setting the appropriate relative mix of levels between microphones and program sources.
Due to the variation in levels between the possible sources, the Z624 offers a number of gain stage adjustments in order to set the correct levels for your application.
Setting up the correct gain structure through the whole system is important to achieve optimal results. The following step by step setup has been devised to assist during the setup process.

INITIAL SETTINGS (FACTORY DEFAULT)

- Input
    - Set to minimum
- Zone output and Equaliser controls
    - Set to 0dB
- Euroblock Phantom power
    - OFF

STEP BY STEP SETUP

1 CONNECT THE SOURCES

First connect all the required sources to the appropriate input connectors.
If the source is an electret or condenser microphone, turn on the phantom power via the rear panel DIP switches.

2 TEST THE INPUT LEVELS

For each source, try to achieve the highest signal level possible. i.e. for a CD player, radio or other music source, put on the loudest anticipated program music.
During this signal condition, the input signal LED on the front and rear of the product should light green and may occasionally turn red for a short period.
If the signal LED stays red (more than 10% of the time), you should reduce the audio source level or alternatively reduce the rear “TRIM’ control.
If the signal LED never shows RED the you should increase the “TRIM” control to increase the input level.

3 SET THE FRONT PANEL VOLUME CONTROLS

Turn the channel input volume controls up to 5 on each channel being used.
Turn up the master volume control until it is at an appropriate level for the listening environment.
Now adjust the relative levels of each of the input channels to achieve a good balance.
The aim of these adjustments is to have all level controls between 3 and 7.

4 TURN DOWN UNUSED CHANNELS

All input channels add noise into the system.
To maximise the performance of your system turn down any unused channel volume controls.

5 PAGING / TONE GENERATOR

The paging and tone generator have independent volume controls that bypass the zone master and directly feed to the zone output. Adjust the volume controls to the appropriate level required.

6 PAGING STATION

Perform a loud page by speaking closely to the paging station microphone.
Increase the Z624PS rear panel level control until slight distortion is heard and then reduce the level slightly.
Next, set the paging volume level control on the Z624 rear panel to the required listening level.

TONE GENERATOR

The Z624 includes 5 factory programmed default tones. Tones can be played by shorting the appropriate contact to GND on the back panel euroblock connector.

- ☛ The tone volume is set by adjusting the Tone Volume control on the rear
- ☛ The internal tones can be optionally overridden by placing files on an SD card
- ☛ IMPORTANT: Do NOT drive external voltages into the pins or damage to the unit will occur

TONES

1. 'EVAC': a long continuous repeating tone with a ramped frequency.
   Triggered by shorting EVAC to GND, the sound will continue to repeat until the short is released.
2. 'ALERT': a short tone burst tone repeated every 0.5s.
   Triggered by shorting ALERT to GND, the sound will continue to repeat until the short is released.
3. 'INTRUDER': a two tone 'low' 'high' alert repeating every 0.4s.
   Triggered by shorting INTRUDER to GND, the sound will continue to repeat until the short is released.
4. 'BELL': a short repeating tone burst with decay and reverb.
   Triggered by shorting BELL to GND, the sound will continue to repeat until the short is released.
5. 'CHIME': a four note increasing tone suitable for paging preannounce.
   Triggered by shorting CHIME to GND, it will sound only once each time the trigger is activated. Please note: 'CHIME' tone must play to completion before it may be retriggered.

- To activate a tone trigger input, short the relevant input to GND. The selection must be stable for longer than 150ms.
- Each tone is played to completion even if the trigger selection is removed during playback.
- A higher priority tone trigger will interrupt a lower priority tone being played.
- After deselection and completion of playing a higher priority tone, any selected lower priority tone will be played. Exceptions are BELL and CHIME tones which will not be played and must be re-triggered.

DURING TONE PLAYBACK:

> Tone playback will mute all input channels.

MUTE INPUT

The MUTE contact closure input on the rear euroblock connector mutes all outputs when shorted to the GND. This would typically be used when integrating the system with a fire panel to disable the Z624 for evacuation purposes. Additionally, wall panel controllers and the paging station will be locked when the mute input is triggered.

PRIORITY INPUTS

The Z624 features a 2 channel priority mode which mutes lower priority audio inputs when audio is detected on Inputs 1 and/or 2.
This can be used for applications like paging where background music is muted while the announcement occurs.

PRIORITY SETUP

1. Set the priority order for Input 1 and 2 using the P-MODE rear panel switch
P-MODE
OFF = Input 1 then Input 2
- If Input 1 audio is present, Input 2 to 6 are muted
- If no audio is present on Input 1 but present on input 2 then mute Inputs 3 to 6

ON = Ch1 AND CH2 (mix)
- If Input 1 or Input 2 audio present, mute Inputs 3 to 6

2. Set the INPUT PRIORITY 1+ 2 rear panel switches
Turn ON to enable the input as a priority to the corresponding zone output. e.g When Input 1 priority is selected on Zone A and B, if a signal is detected on Input 1, it will mute outputs 2 to 6 in Zone A and B.

3. Set the PRIORITY RELEASE time using the rear panel pot, this sets the time before lower priority channels are re-enabled. (100ms to 25 seconds)

LOCK INPUTS

Input 1 and Input 2 can be optionally locked via the rear panel switches. This disables the front panel volume and source controls to the current setting when the LOCK is enabled, any further changes to the inputs are then ignored. A front panel LOCK LED will turn on to indicate to users these controls are locked/disabled.

Turning off the LOCK switch will re-enable the front panel controls. As a safety feature you must turn the input volume knob to zero before setting a new volume level.

PAGING STATION

The Z624 supports one paging station which can be connected to any one of the accessory ports. See the wiring guide to connect the paging station to the system.

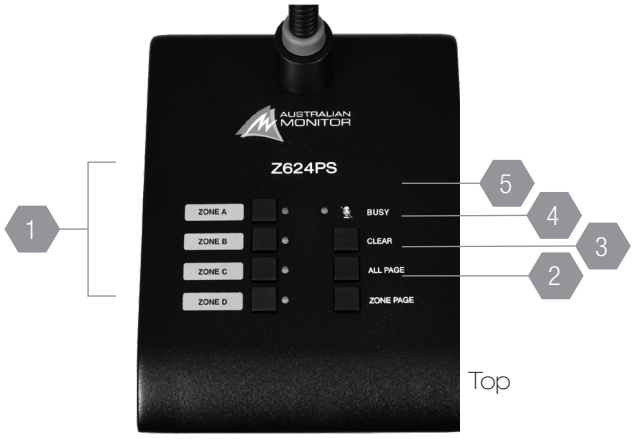
AUDIO SETUP

Set the paging level using the Z624 rear panel Paging Volume knob. If the audio is still too low increase the LEVEL on the Z624PS paging station using the rear LEVEL control. If the paging audio is distorted, lower the paging station LEVEL knob.

PAGING CHIME

A pre-announcement paging chime can be activated via the P-CHIME rear panel DIP switch, this will play a chime whenever a page is activated.
The Z624PS chime can be optionally overridden by placing an alternative file on the root of a customer supplied micro SD card.

Format: pagingchime.wav
(Only WAV files are supported. Do NOT use MP3 or other audio formats)



Top

Rear

1 ZONE SELECTION BUTTONS
Select the required zone/s using these buttons and it's associated LED with turn on. Finally, press the 'ZONE PAGE' button to make a page to the selected zones.

2 ZONE PAGE
This button pages to the currently selected zone/s as indicated by the respective LEDs. The zones being paged have their program sources muted and the microphone becomes active.

3 ALL PAGE
This button pages to all zones. It is momentary so must be held while talking into the microphone. It activates the microphone and mutes the program sources (depending on configuration). It does NOT clear the current zone selection configuration so the paging station will return to its previous state (selected zones) once the ALL PAGE button is released.

4 CLEAR
This button clears all selected zones

5 BUSY
The BUSY LED will turn on to indicate the system is currently busy and the paging microphone is disabled.

- **The BUSY LED will turn on when,**
  - *** The pre-announce chime is playing**
  - *** The EVAC, ALERT or INTRUDER signals are active**
  - *** The priority inputs are overriding the paging**

6 GAIN
To accommodate different speech levels there is a gain control on rear of the Z624PS. Adjust the level to provide clear paging audio.

7 ACCESSORY PORT
Connect the Z624PS to one of the Z624 accessory port using Cat5, Cat5e or Cat6 cable.

8 PORT TERMINATION SWITCHES
Turn both switches ON (Up) if the Z624PS is the **last** device on an accessory cable run.

⚠ NOTE: Turn off the Z624 when making wiring or termination changes.

LOCAL AUDIO INPUTS

Each accessory port contains two audio input channels, Local Audio Input 1 & 2. This allows remote audio wall panels to route audio back to the Z624. The inputs are **internally mixed** in the Z624 which can then then be routed to replace Input 6 for the Zone output.

Compatible wall panels include,
WPBT – Bluetooth audio receiver
WPML – MIC/Line active audio input
WPXLR – passive XLR audio input
or any other balanced audio input

Notes:

- **The Local Inputs are LOCKED to their respective output zone. For example, Accessory port A audio goes to Zone Output A. If you want a wall panel to be an audio source for all zones then connect it's audio output to Input 1 to 5 of the Z624 instead of using the accessory port audio input.**
- **When a paging station is connected to an accessory port only Local Audio Input 1 is available (Local audio Input 2 is used for the paging station audio)**

SETUP

1. Wire the audio wall panel to the required accessory port.
2. Set the LOCAL ENABLE rear panel switch to the ON position. (This will disconnect Input 6 and replace it with the accessory audio input.)
3. Turn on the Input 6 source for the zone using the front panel control. (The source selection LED will turn yellow to indicate it is using the local audio input instead of green for Input 6)
4. Put on the loudest anticipated source level from the remote audio input

Note: Remote sources should have their own volume control, ensure it is set to an appropriate level.

5. Adjust the rear LOCAL TRIM pot to get the desired input mix level.

Note: The Input 6 volume control does not effect the local audio input. The volume of the remote audio input should be used to adjust the input level

WPML

Ensure the WPML has been set to MONO mode using the wall panels configuration switches.

WPBT

Ensure you pair the WPBT to the Z624. This is required to configure the WPBT to mono audio output mode.

SD CARD

SD CARD FILE FORMAT

The file format must use 44.1kHz, 16bit WAV audio files.
Do NOT used other sample rates or audio formats such as MP3.
File size limit is 4GB
Card size limit is 2TB

OVERRIDING DEFAULT TONE GENERATOR SOUNDS

The default tones of the Z624 can be overridden by adding tones to a user supplied SD card.
Simply place the tone WAV file on the root of the SD card and it will be played instead of the inbuilt tone.

Format: evac.wav, alert.wav, intruder.wav, bell.wav, chime.wav

- ☛ **Only WAV files are supported. Do NOT use MP3 or other audio formats**

NOTE: If the tone on the SD card is unplayable, e.g due to being the wrong format, a fault code will flash on the STATUS LED and the default tone will be played instead.

MESSAGE PLAYBACK FROM WALL PANEL CONTROLLERS

Message/Audio file playback can be triggered from wall panel controllers by assigning wall panel buttons to messages using the Z624 configuration software.
Place the audio WAV files on the root of the SD card.
The audio files can then be selected using the Z624 control software file explorer menu.

Format: filename.wav
(Only WAV 44.1kHz, 16bit files are supported. Do NOT use MP3 or other audio formats
Consult the configuration software section of this manual for more information.

CUSTOM PAGING CHIME

The ZMPS paging station chime can be optionally overridden by placing an alternative audio file on the root of the SD card.

Format: pagingchime.wav

- ☛ **(Only WAV 44.1kHz, 16bit files are supported. Do NOT use MP3 or other audio formats)**

SUPPORT OF SD CARDS LARGER THAN 32GB

The Z624 supports the FAT32 file format which is limited to a maximum of 2TB.
However, SD cards larger than 32GB are shipped with the exFAT format. These must be reformatted to the FAT32 format.

- ☛ **Note: Windows does NOT natively support formatting of SD cards larger than 32GB to FAT32.**
- ☛ **You must use third party applications to format SD cards larger than 32GB to the required FAT32 format.**

ACCESSORY PORT SETUP

PAIRING THE WALL PANELS TO THE Z624

Each wall panel must be individually paired with the Z624 to function.
Follow these steps to pair the wall panels,

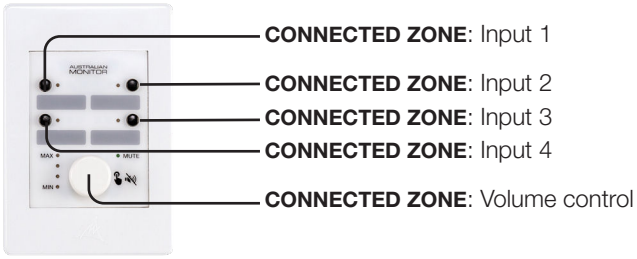
Only have one wall panel or Z624PS in pairing mode at a time.

1. To enter pairing mode:
   - WP10, WPBT and Z624PS,
     Press and hold the TOP LEFT and BOTTOM RIGHT buttons until all the LED's start flashing every 0.2s.
   - WP4R and WPVOL,
     Press and hold the rotary encoder button for 5 seconds until all the LED's start flashing every 0.2s.
     (Press any button on the wall panel during pairing to cancel the pairing mode)
   - WPXLR,
     The WPXLR does not need to be paired to the system
2. If necessary, the wall panel will download it's firmware from the Z624. This is indicated by an anti-clockwise LED pattern on the wall panel.
   This step will only happen when using a new wall panel or the system needs to update the wall panel firmware.
3. The wall panel will then reboot and retrieve it's configuration from the Z624, this is indicated by a rotating clockwise LED pattern.
4. The wall panel should now be operational

HOLD FOR 5 SECONDS

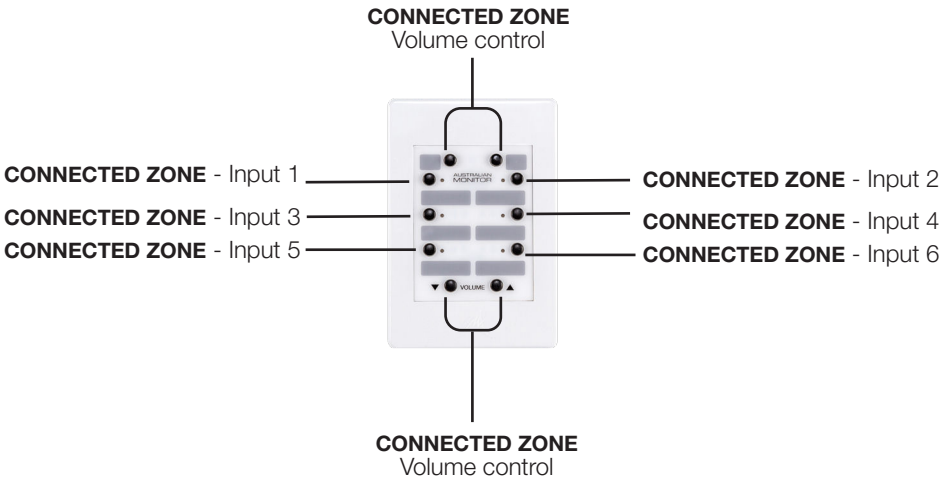
WALL CONTROLLERS

The wall panel controllers, once paired, will be assigned the default settings shown below.
If required, use the Z624 configuration software to customise the button operation.

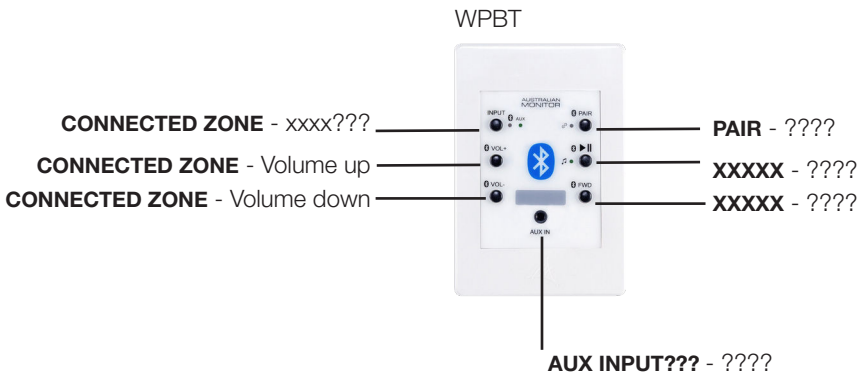


WP4R

WPVOL



WPBT



REPLACING AN ACCESSORY

If a wall panel needs replaced,
1. Power off the system and remove the wall panel
2. Connect the new wall panel to the system
3. Power on the Z624
4. Pair the new wall panel to the system.
5. The wall panel will be assigned the default configuration, use the configuration software to re-assign button functions if necessary

PC CONFIGURATION SOFTWARE

The Z624 comes with a free PC application to allow advanced configuration and control of the system. The software can be downloaded from www.australianmonitor.com.au and can be accessed via the USB connection.

USB CONNECTION

1. Connect a USB-C cable from your PC to the Z624 front panel connector.
2. Open the Z624 Control Software.
3. Select the device from the USB port dropdown list and select CONNECT.

   ☛ **Note: If the Z624 does not show in the list press the DISCOVER button to perform a re-scan**

The configuration software can be used in offline and online mode. This allows for system setup to be performed prior to commissioning the system.

REAR PANEL PANE

The rear panel can be configured in software instead of using the physical rear panel controls. This can be easier especially if the system is already installed in a rack.

Note: The audio input settings must be set via the rear panel.

1. Enable the “Override Back Panel Settings” toggle switch if you want to configure the back panel via the software.
2. Set the controls as required.

WALL PANELS PANE

The default button configuration of the wall panels can be overridden in this section of the configuration software.

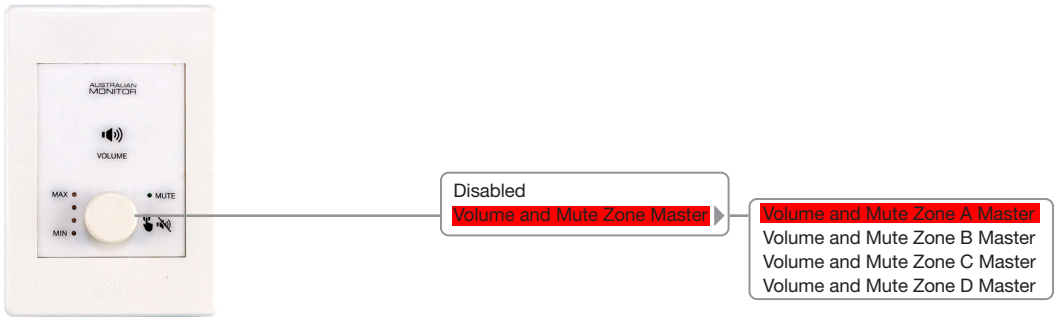
OFFLINE MODE

1. Add the required wall panels to each output zone required.
2. Press the configure button on each wall panel and assign required button functions.
3. When online with Z624, send configuration.

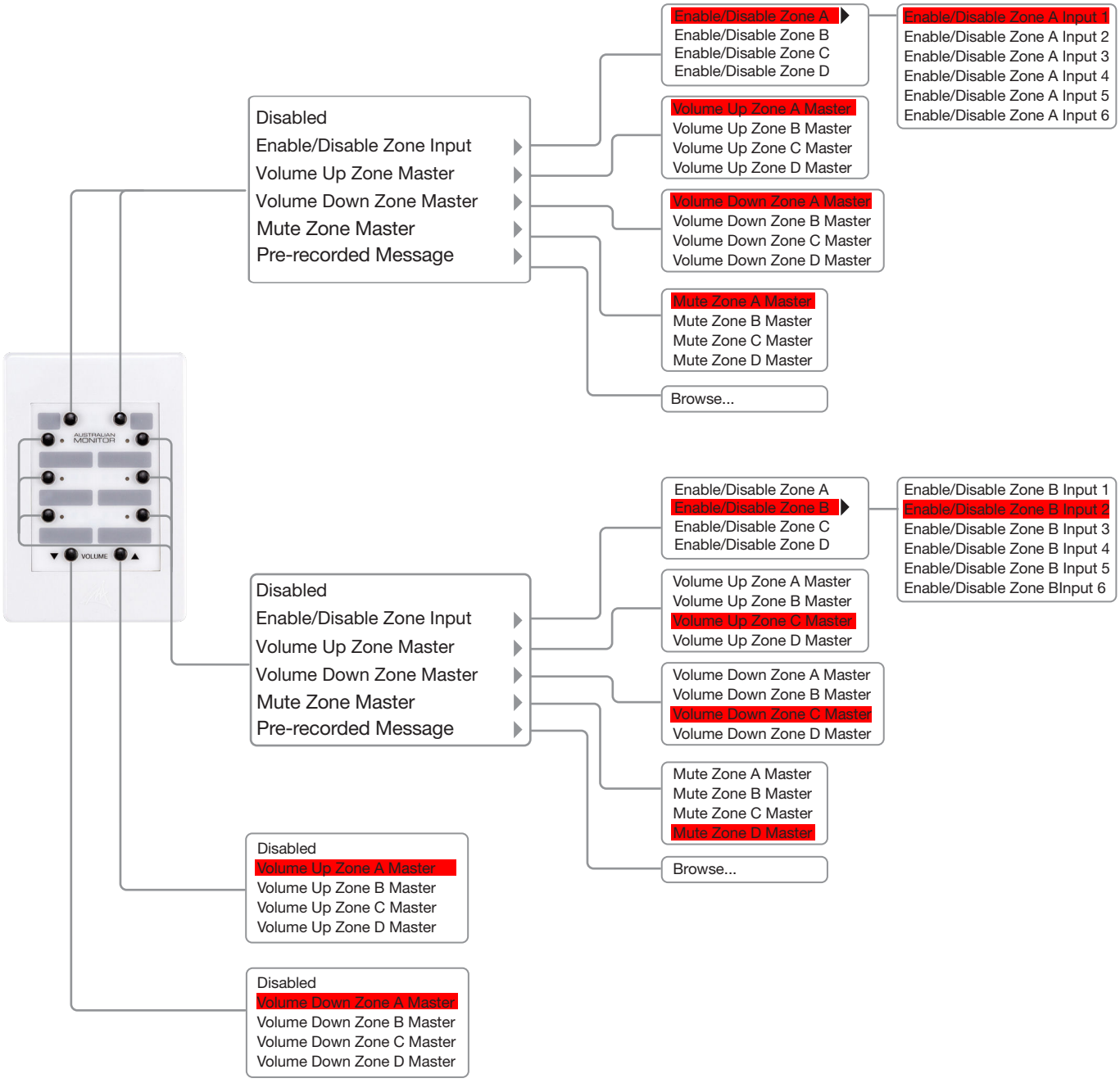
ONLINE MODE

1. Retrieve the configuration from the Z624.
2. Press the configure button on each wall panel & assign required button functions.
3. Send the configuration to Z624.

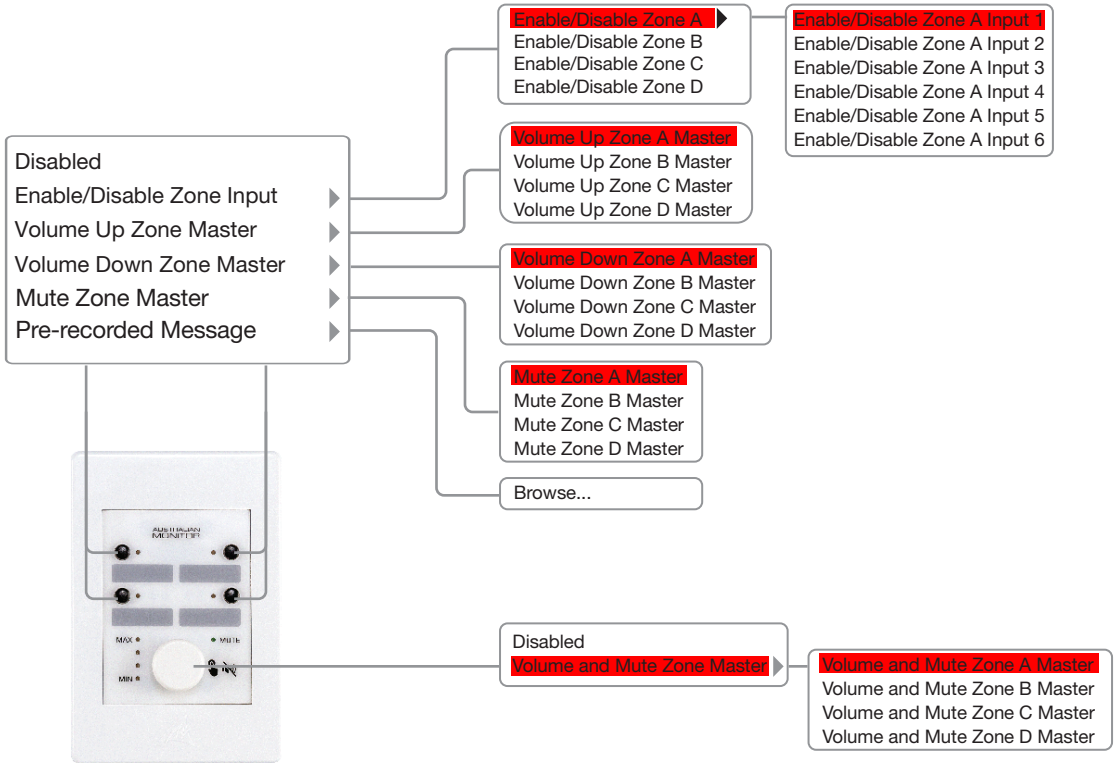
WPVOL



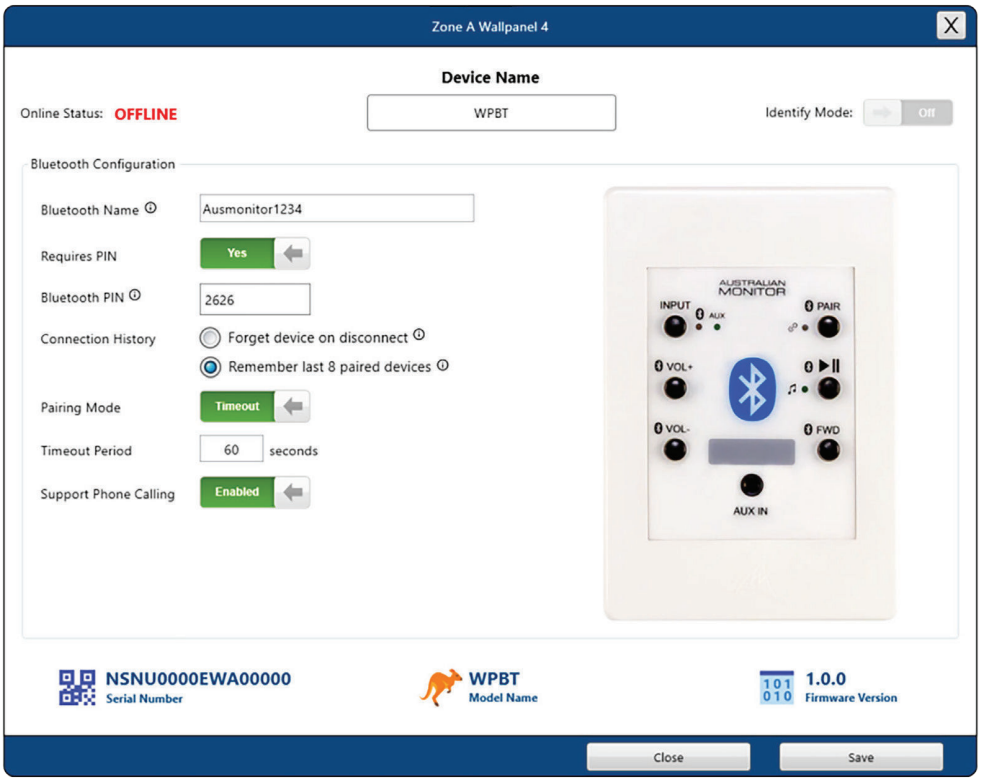
WP10 PROGRAMMING OPTIONS



WP4R PROGRAMMING OPTIONS



WPBT PROGRAMMING OPTIONS



PC CONFIGURATION SOFTWARE CONT.

ADVANCED MODE

Input Route during Priority....etc

INPUT ROUTE DURING PRIORITY

- Post-master volume
- Pre-master volume

This control defines where Input 1 and 2 are routed if priority is enabled.
Post-Master: After the Zone Master Volume control
Pre-Master: Before the Zone Master Volume control
Note: This only applies if channel 1 and/or 2 are set to priority mode.

PAGING AND PRIORITY

- Priority over paging
- Paging over priority

Paging over priority: Paging mutes all input channels
Priority over paging: Inputs 1 and/or 2 will override paging and lower priority inputs.

PAGING AUDIO

- Post-master volume
- Pre-master volume

Post-Master Volume: The paging audio bypasses the Zone Master volume
Pre-Master Volume: The paging audio level will be changed using the Zone Master Volume control
Warning: Pre-Master Volume allows users to lower the level or mute the paging audio using the Zone Master volume.

SOURCE SELECTION MODE

- Mixer Mode
- Matrix Mode

Sets the source selection mode for the front panel and wall controllers.
Mixer Mode allows multiple sources to be simultaneously selected.
Matrix Mode only allows one source to be selected.

TONE GENERATOR OFFSET

Use these controls to apply individual volume offsets to tone relative to the global tone volume.
The rear panel knob sets the global tone generator output volume and is a POST-MASTER volume control.

PAGING OFFSET

Use these controls to apply individual volume offsets to zone paging volume relative to the global paging volume.
The rear panel knob sets the global paging output volume.

PAGING CHIME

Sets the paging chime level if active

LOCK OUTPUTS

Set to lock the output level so that it cannot be adjusted from the front panel

ALLOW PAGING IN EVAC/ALERT/INTRUDER MODE

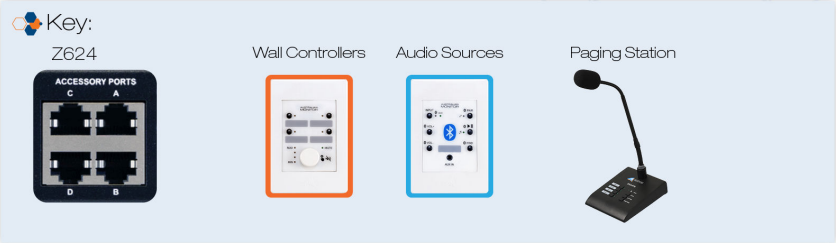
Set to allow paging when the system is in Evac, Alert or Intruder mode.

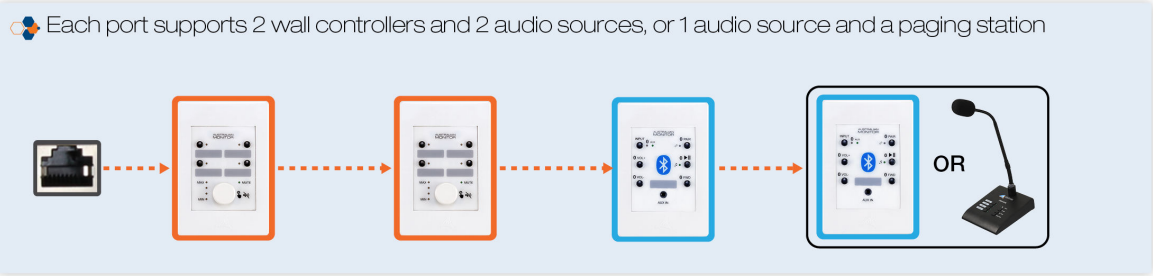
ACCESSORY PORT WIRING

Z624 WIRING GUIDE

INTRODUCTION

The Z624 accessory ports allow for the connection of wall panels, a paging station and audio input sources. Please follow the guide below to set up your system.





Each accessory port supports:

TWO WALL CONTROLLERS
In default mode, the wall controllers will only control the sources and levels for the corresponding zone. e.g. Accessory Port A controls ZONE A, Accessory Port D controls ZONE D
Advanced Mode: Use the configuration software to customise the wall panel functions.

AND

TWO AUDIO SOURCES
The two audio sources SUM together in the Z624 and replace INPUT 6 for that zone. (Local input DIP switch setting must be ON)

Note: The audio sources are locked to the zone.
If the audio source is required in other zones, the audio source should be connected to one of the shared inputs 1-5 instead of using the accessory port audio input.

OR

ONE Z624PS PAGING STATION AND ONE AUDIO SOURCE
Only one paging station is supported in the system and can be connected to any accessory port. When a paging station is used the remaining local audio input is used for the audio input source.

STEP 1: CONFIRM YOU DO NOT EXCEED THE FOLLOWING LIMITS

Maximum cable length per port	Accessories per port	Maximum Accessories in system
250m	4	16
350m	3	
500m	2	

The maximum distances quoted in the table above are due to DC current limitations. The paging station and wall panels can be locally powered to increase the cable length to a maximum of 500m.

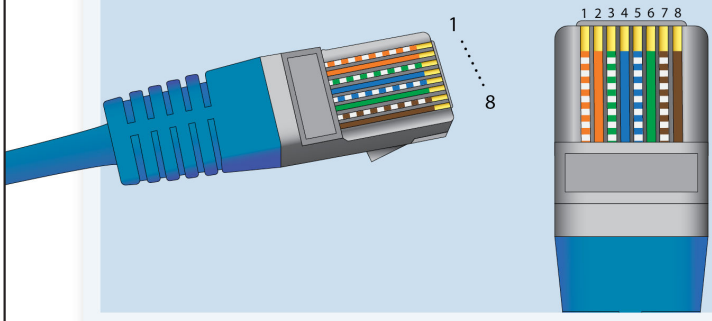
STEP 2: ACCESSORY PORT WIRING

There are two wiring standards which can be used, T-568B and T-568A.
The difference between the two standards are the orange and green wiring pairs are different.

- T-568B (orange pair are on pins 1+2, green pair are on pins 3+6)
- T-568A (orange pair are on pins 3+6, green pair are on pins 1+2)
- We recommend using T-568B but either standard is supported.
- **Pick one standard only and use it for all connections.**

Z624 AND Z624PS WIRING STANDARDS

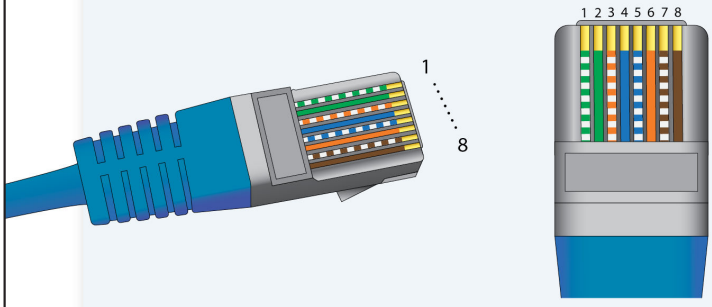
T-568B STANDARD (RECOMMENDED)



Pin	Colour	Signal
1	Orange/White	Paging Audio + or Remote Input 2 +
2	Orange	Paging Audio - or Remote Input 2 -
3	Green/White	RS485 B
4	Blue	+24V DC
5	Blue/White	GND
6	Green	RS485 A
7	Brown/White	Remote Input 1 +
8	Brown	Remote Input 1 -

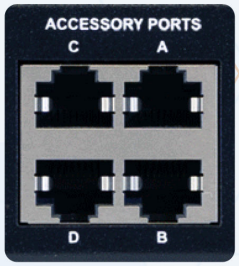
*T-568B wiring standard recommended

T-568A STANDARD



Pin	Colour	Signal
1	Green/White	Paging Audio + or Remote Input 2 +
2	Green	Paging Audio - or Remote Input 2 -
3	Orange/White	RS485 B
4	Blue	+24V DC
5	Blue/White	GND
6	Orange	RS485 A
7	Brown/White	Remote Input 1 +
8	Brown	Remote Input 1 -

Z624



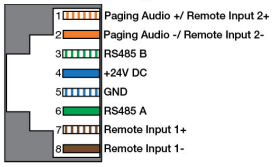
Z624PS

STEP 2: ACCESSORY PORT WIRING (CONT.)

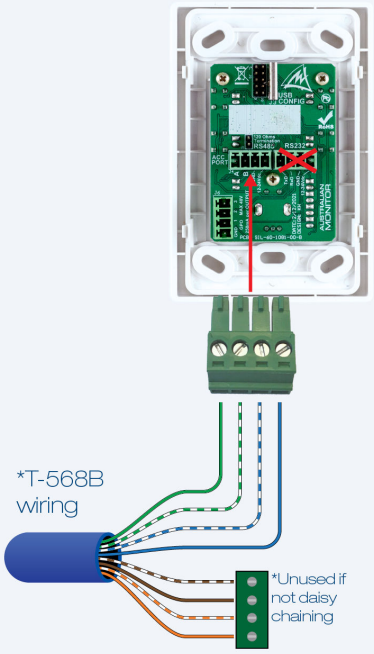
Wire the wall panels as per the images below.

- Category 5, 5e and 6 cabling supported.
- T-568B wiring recommended. However, T-568A also supported.

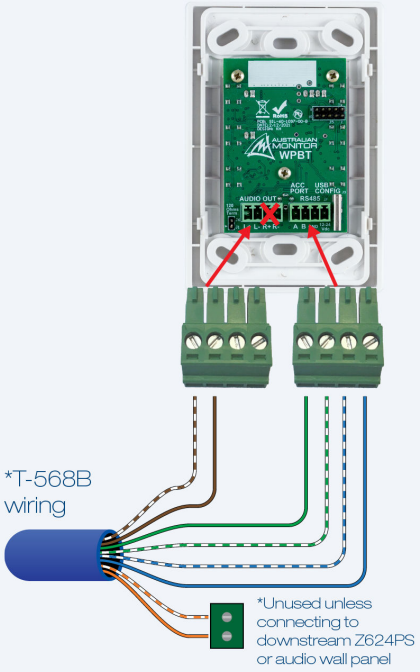
T-568B wiring



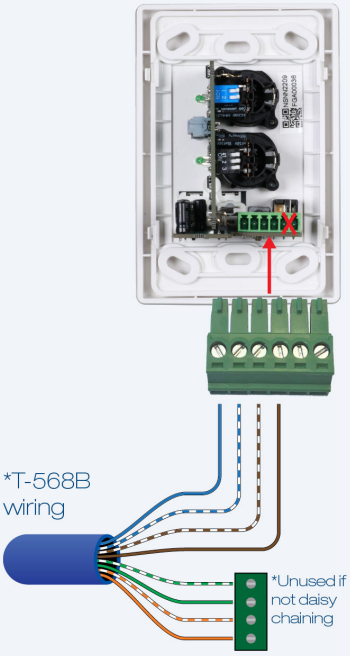
WP4R, WP10, WPVOL WIRING



WPBT WIRING

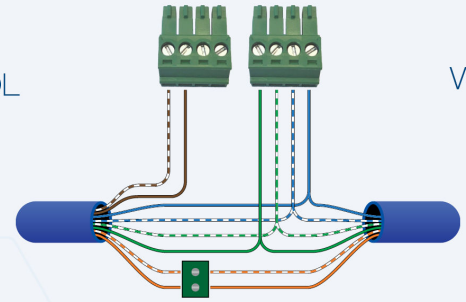


WPML WIRING

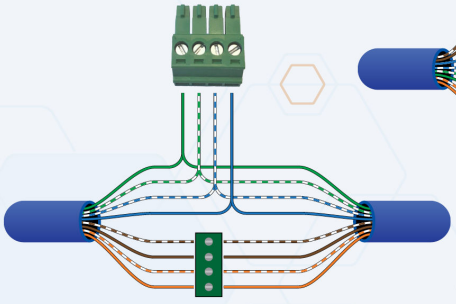


*Set the WPML DIP switches to output MONO mode

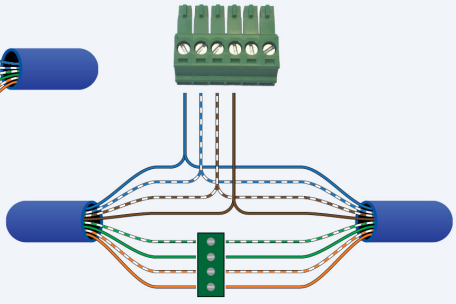
WPBT daisy chain wiring



WP4R, WP10, WPVOL daisy chain wiring



WPML daisy chain wiring



STEP 2: ACCESSORY PORT WIRING (CONT.)

Wire the Z624PS as per the image below.

- Category 5, 5e and 6 cabling supported.
- T-568B wiring recommended. However, T-568A also supported.

Z624PS WIRING

The Z624PS can be attached to any ONE of the accessory ports

STEP 3: PORT TERMINATION – DO NOT SKIP THIS STEP

The Z624 uses the RS485 standard to communicate to wall panels and paging stations. RS485 requires that the end of the cable run is terminated to prevent signal corruption due to signal reflections in the cable.

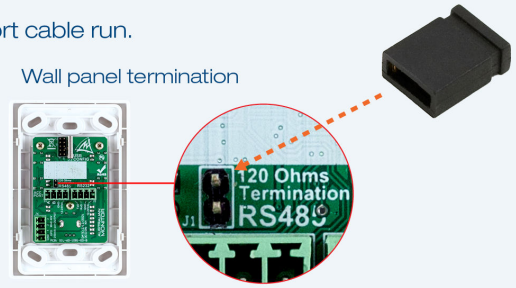
- If the paging station is the last device, turn on it's PORT TERM switches as shown below.
- If a wall panel is the last device, add the jumper to the connector as shown below.

1. Terminate the LAST RS485 accessory on the port cable run.

Paging station termination

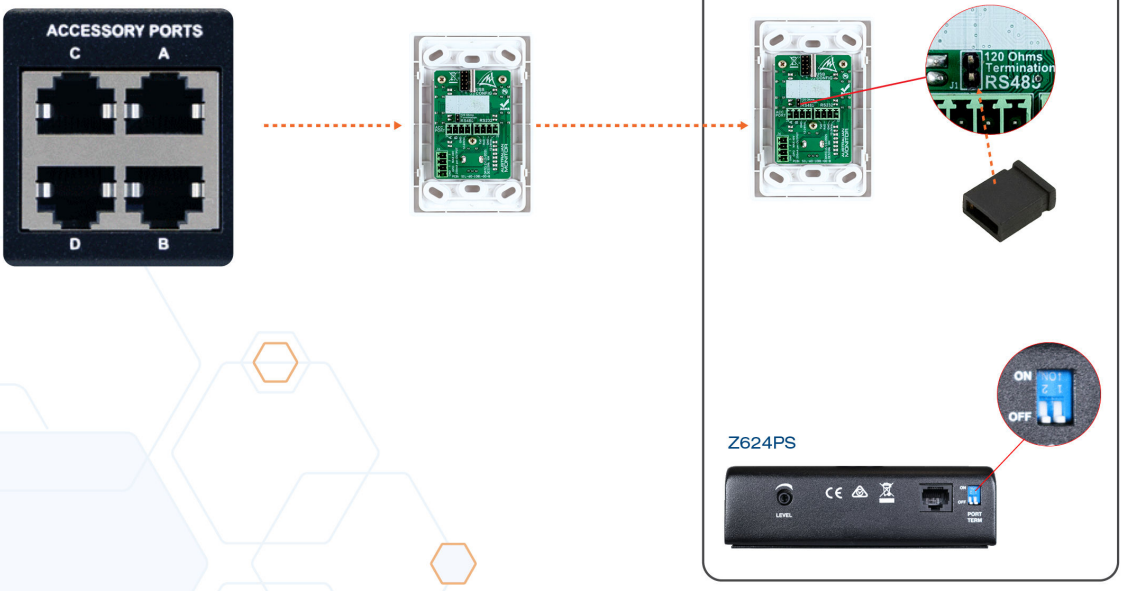
Z624PS

Wall panel termination



Note: WPML and WPXLR wall panels do not require termination

Example:

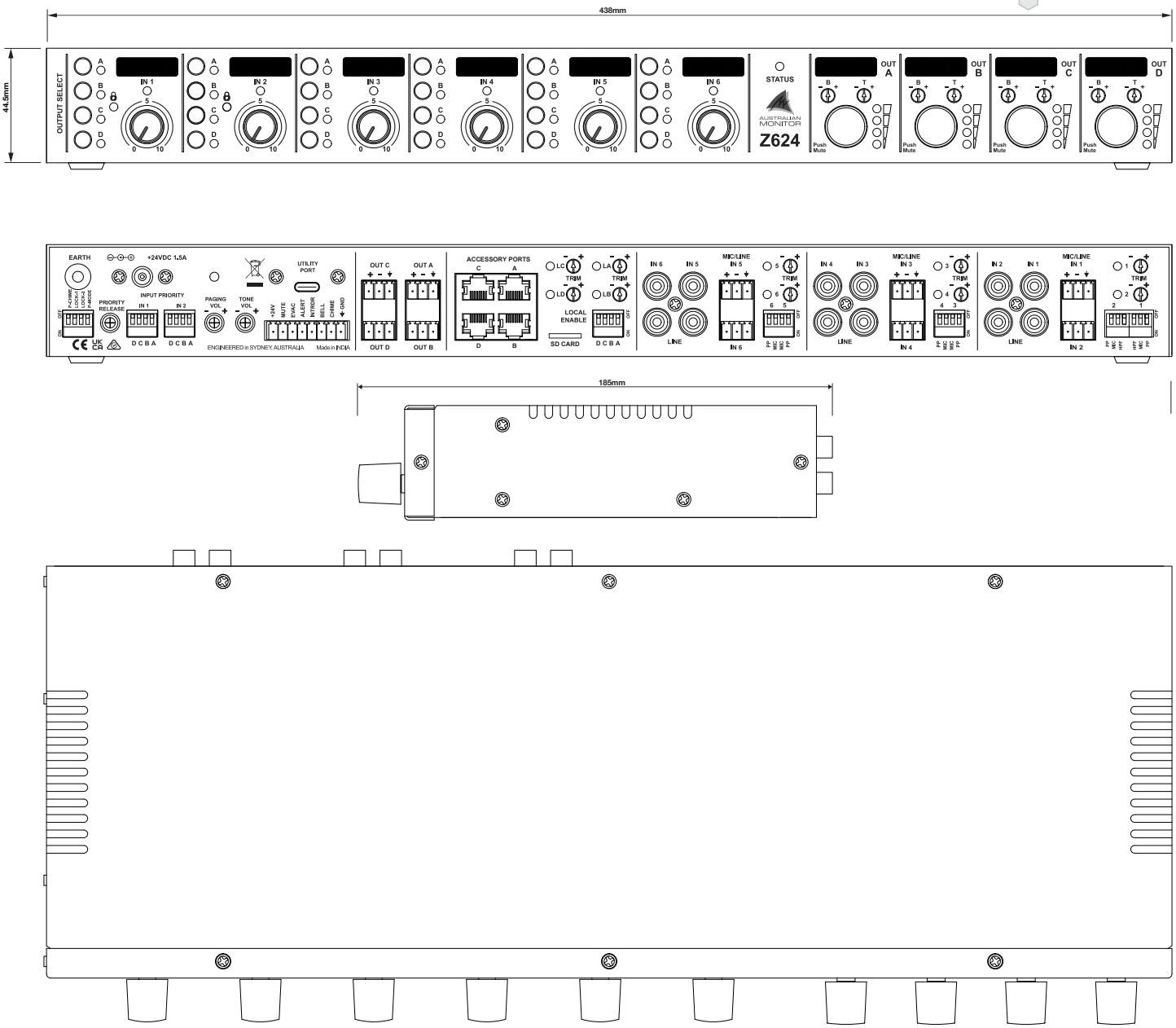


LED STATUS INFORMATION

Accessory LED States

LED Status	Meaning	Resolution
All LEDs on, once a second	Not Paired	Put accessory into pairing mode
All LEDs on every 0.2 seconds	Pairing Mode	Pair accessory with Z624 using the PC control software
LED chase anti clockwise, one led on at a time (led changes every 0.5 seconds)	Erasing firmware to prepare for new firmware	Wait until the accessory has finished erasing
LED chase clockwise, one led on at a time (led changes every 0.5 seconds)	Writing new firmware	Wair until the Z624 has finished writing firmware to the accessory
Alternate left, right LEDs every 500ms	Identify Mode	Press any button to cancel identify mode
Top left LED on once a second	Needs firmware download	Download new firmware to the accessory by pairing it to the system
All RED LEDs on	Master Override, Evac, Alert, Intruder Active (Wall panel disabled)	Wait until the master override has finished
Top left LED on (led change state every 2 seconds)	Fault	Return to service

DIMENSIONS


438mm
44.5mm
185mm
OUTPUT SELECT
IN 1
IN 2
IN 3
IN 4
IN 5
IN 6
STATUS
AUSTRALIAN MONITOR
Z624
OUT A
OUT B
OUT C
OUT D
Push Mute
EARTH
+24VDC 1.5A
UTILITY PORT
OUT C
OUT A
ACCESSORY PORTS
PRIORITY RELEASE
INPUT PRIORITY
PAGING VOL
TONE VOL
MUTE
EVAC
ALERT
INTRUDR
PAGE
CHIME
GND
TRIM
LOCAL ENABLE
SD CARD
MIC/LINE
LINE
ENGINEERED in SYDNEY, AUSTRALIA
Made in INDIA
OUT D
OUT B

SPECIFICATIONS

	Z624	COMMENTS
INPUTS/OUTPUTS		
ZONE OUTPUTS	4	
OUTPUT MODE	Mono	
MIC/LINE INPUTS	6	Balanced Euro block and RCA
PHANTOM POWER	24V, 10mA	
LOCAL AUDIO INPUTS	4	
PAGING STATIONS	1	Z624PS supported
WALL PANELS	8 controllers and 8 audio input panels	
CONTROL		
USER CONTROLS	Front panel. Wall panels	
COMMS INTERFACE	USB-C	PC GUI
TONE GENERATOR	5 Tones (MUTE, EVAC, ALERT, INTRUDER, BELL, CHIME)	Customisable from micro SD Card
MICRO SD CARD FORMAT	FAT32 file format. 4GB maximum file size. 2TB maximum card size	
SD CARD FILE FORMAT	WAV: PCM, 16-bit, 44.1kHz sample rate	
AUDIO PERFORMANCE		
EUROBLOCK SENSITIVITY	LINE Setting: 1V RMS MIC Setting: 6mV RMS	Trim in centre position
RCA SENSITIVITY	-12dBu (200mV)	Trim in centre position
MAXIMUM ZONE OUTPUT LEVEL	6Vrms	
FREQUENCY RESPONSE	LINE 20Hz - 20kHz MIC 50Hz - 20KHz	±0.5dB
THD	< 0.05%	20Hz-20kHz, 20kHz BW, Unity Gain
SNR	> 95dBA	Max Output, 1kHz, 20kHz BW, A-Weighted
CHANNEL SEPARATION (CHANNEL-TO-CHANNEL)	-60dB -55dB"	Max Output, one channel driven 20Hz - 1kHz 1kHz - 20kHz
POWER REQUIREMENTS		
INPUT VOLTAGE/CURRENT	24V DC 0.8A	100-240Vac 36W plug pack supplied
INPUT CONNECTOR	5.5/2.1mm DC Barrel Jack	Outer/Inner Dimension, Tip positive
POWER CONSUMPTION	8W / 19W	Total 24V 450mA (Z624 40mA, 8 WP4R (8*25mA), 7 WPBT (7*30mA))

	Z624	COMMENTS
MECHANICAL		
SHIPPING DIMENSIONS	541 x 281 x 104mm(21.3”W x 11.1”D x 4.1”H)	
PRODUCT DIMENSIONS (with rack ears)	485mm x 185mm x 44.5mm (19.1”W x 7.3”D x 1.75”H)	Includes Knobs and Rear Connectors
PRODUCT DIMENSIONS (without rack ears)	438mm x 185mm x 44.5mm (17.3”W x 6.9”D x 1.75”H)	Includes Knobs and Rear Connectors
NET WEIGHT	2.2 Kg (4.85 lbs)	
SHIPPING WEIGHT	3 Kg (6.6 lbs)	
MOUNTING	1 RU	
FINISH	Powder coated steel	
COLOUR	Black	
OPERATING TEMPERATURE	0°C to 40°C (95% RH)	
APPROVALS		
	CB, CE, IEC, RCM	

AUSTRALIAN MONITOR
INTEGRATION INTELLIGENCE

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