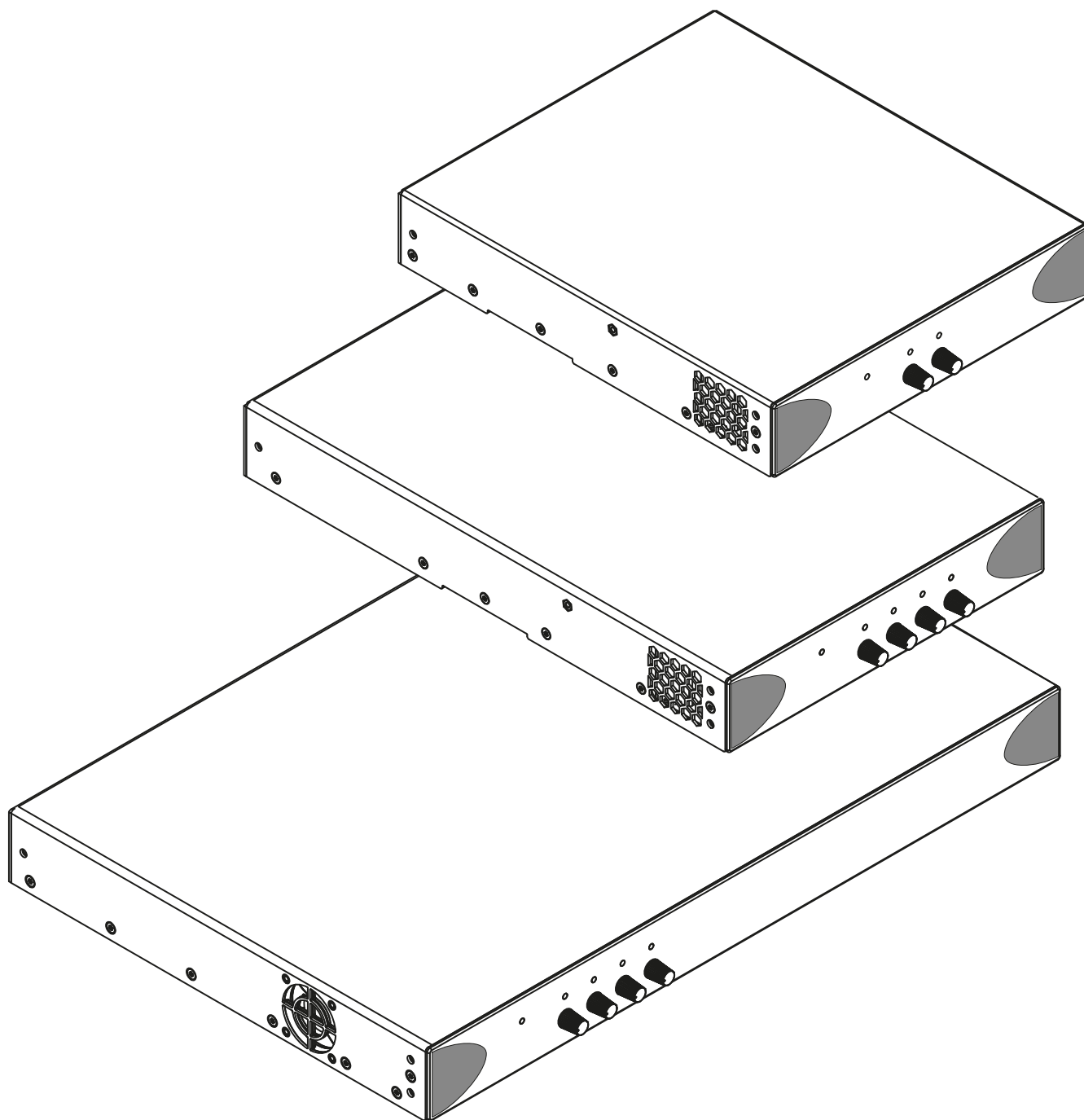


# BLAZE



## USER MANUAL

PowerZone 252 • PowerZone 504 • PowerZone 1004

# Technical and Safety Notices

Please read the following important technical, safety and environmental notices before installing and using your amplifier.

## Technical Notices

All reasonable design and engineering steps have been taken to ensure that these amplifiers always perform satisfactorily in their intended application and environment and will provide appropriate levels of support to ensure that all reasonable customer needs and expectations are met. Such support however is contingent on the following provisions.

1. These amplifiers are Class-I products and should be installed with a mains cable including the required earth connection to comply with the Safety Class-I.
2. These amplifiers are intended for professional audio applications and should always be installed and operated by competent and qualified personnel. Amplifier damage or failure caused by installation or operational errors may invalidate support, warranty or guarantees of performance.
3. These amplifiers are intended for professional use only and are not suitable for use in locations where they may be accessible to minors.
4. These amplifiers are intended to be used specifically for the amplification of audio signals and for connection to conventional moving-coil loudspeaker systems. Use of these amplifiers for amplification of signals outside the audio band (20Hz to 20kHz) or to drive transducers other than conventional moving-coil loudspeakers may invalidate support, warranty or guarantees of performance.
5. These amplifiers should only be used within professionally installed and configured audio systems comprising input and output ancillary equipments that is known to be of an appropriate level of performance and in good operating condition. Any damage to, or unsatisfactory performance from, these amplifiers caused by inadequate or failed input or output ancillaries may invalidate support, warranty or guarantees of performance.
6. These amplifiers are intended to be installed and operated indoor in a controlled environment (pollution degree, PD2) within an ambient temperature range of 0°C to 40°C. These amplifiers are not intended for use above 2000 meters above sea level. Amplifiers installation or operated in environments outside these limits may invalidate support, warranty or guarantees of performance.
7. Specific warranty terms are the responsibility of the amplifier re-seller.

## Safety and Environmental Notices

*Note: The intent of the lightning flash with arrowhead symbol in a triangle is 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 humans.*

*Note: The intent of the exclamation point within an equilateral triangle is to alert the user to the presence of important safety, and operating and maintenance instructions in this manual.*

**WARNING! TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.**



**Ambient Temperature Note: If this equipment is operated in a confined or multiple rack installation, the internal ambient operating temperature may exceed the external ambient temperature. It is important to ensure in these circumstances that the published maximum operating temperature for the equipment is not exceeded.**



**Reduced Air Flow: Ensure that rack or other closed installation does not restrict the cooling airflow required for safe and reliable operation of the equipment.**

# Technical and Safety Notices

## Important Safety Instructions

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. Do not submerge the equipment in water or liquids.
7. Do not use any aerosol spray, cleaner, disinfectant or fumigant on, near or into the equipment.
8. Clean only with a dry cloth.
9. Do not block any ventilation opening. Install in accordance with the manufacturer's instructions.
10. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
11. To reduce the risk of electrical shock, the power cord shall be connected to a mains socket outlet with a protective earthing connection.
12. 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.
13. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
14. Do not unplug the unit by pulling on the cord, use the plug.
15. Only use attachments/accessories specified by the manufacturer.
16. Unplug this apparatus during lightning storms or when unused for long periods of time.
17. 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.
18. The appliance coupler, or the AC Mains plug, is the AC mains disconnect device and shall remain readily accessible after installation.
19. Adhere to all applicable, local codes.
20. Consult a licensed, professional engineer when any doubt or questions arise regarding a physical equipment installation.

## Environmental Statement



This product complies with international directives, including but not limited to the Restriction of Hazardous Substances (RoHS) in electrical and electronic equipment, the Registration, Evaluation, Authorization and restriction of Chemicals (REACH) and the disposal of Waste Electrical and Electronic Equipment (WEEE). Consult your local waste disposal authority for guidance on how properly to recycle or dispose of this product.

# Introduction and Overview

## 1. Introduction

**The amplifiers described in this user manual have been designed to provide configurable, consistent and reliable high performance audio power amplification for commercial and entertainment applications. Please read this installation and operation manual fully before installing and using an amplifier. If you have any questions regarding amplifier configuration, installation or operation please contact the appropriate customer support portal.**

Following this introduction, the manual is divided into sections covering the following topics:

- Overview
- Carton Contents
- Configuration
- Installation
- Connections
- Operation
- Specifications

## 2. Amplifier Overview

The **PowerZone 252** amplifier is a half width 1U rack format, two channel audio power amplifier that can drive both conventional low impedance ( $4\Omega$  to  $16\Omega$  - Low-Z) loudspeaker loads and constant voltage (70V/100V - Hi-Z) transformer coupled loudspeaker loads. Each output channel can be independently configured to drive either Low-Z or Hi-Z loads. The PowerZone 252 amplifier is capable of a maximum simultaneous output of 125 Watts per channel into both Low-Z or 70V/100V Hi-Z loads but also incorporates automatic power sharing technology that enables 250 Watts to be shared proportionately across the output channels.

The **PowerZone 504** amplifier is a half width 1U rack format, four channel audio power amplifier that can drive both conventional low impedance ( $4\Omega$  to  $16\Omega$  - Low-Z) loudspeaker loads and constant voltage (70V/100V - Hi-Z) transformer coupled loudspeaker loads. Each output channel can be independently configured to drive either Low-Z or Hi-Z loads. The PowerZone 504 amplifier is capable of a maximum continuous simultaneous output of 125 Watts per channel into both Low-Z or Hi-Z loads but also incorporates automatic power sharing technology that enables 250 Watts to be shared proportionately across each pair of output channels.

The **PowerZone 1004** amplifier is a 1U rack format, four channel audio power amplifier that can drive both conventional low impedance ( $4\Omega$  to  $16\Omega$  - Low-Z) loudspeaker loads and constant voltage (70V/100V - Hi-Z) transformer coupled loudspeaker loads. Each output channel can be independently configured to drive either Low-Z or Hi-Z loads. The PowerZone 1004 amplifier is capable of a maximum output of 250 Watts per channel into both Low-Z or Hi-Z loads.

Channel gain control knobs and status indicators are located on the front panel. Signal input and output connections are accomplished via 'Euro Block' connectors and operational configurations are set up through a DIP switch module located on the amplifier rear panel. A rear panel GPIO (General Purpose In/Out) connector is also provided that enables some amplifier functions to be controlled or monitored remotely. The amplifiers have no mains power switch and are operational as soon as mains power is connected. The amplifiers should be connected to switched mains sockets.

PowerZone amplifier dimensions and features are illustrated in **Diagrams 1a, 1b and 1c**. The amplifiers are primarily intended for installation in an equipment rack but can also be under-desk or wall mounted, or used free standing. They are fan-cooled and must be installed such that ventilation apertures are not obstructed.

## 3. Carton Contents

**PowerZone amplifiers are shipped in a cardboard carton containing the amplifier unit, a mains cable appropriate for the sales territory, an accessory pack, and a document pack. The full contents is listed below.**

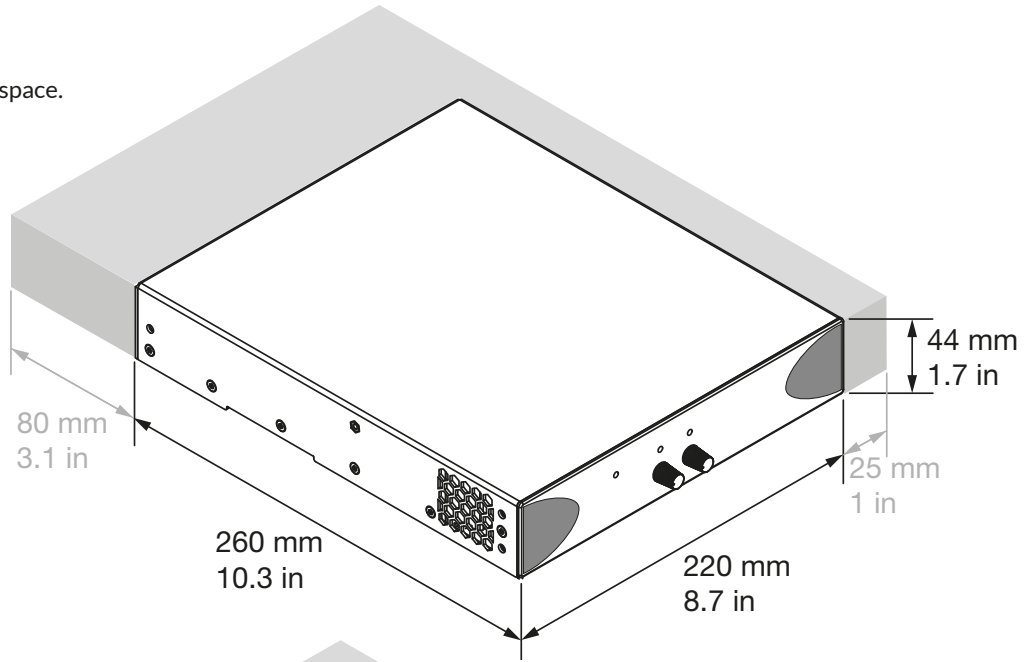
- Amplifier unit
- Mains power cable
- Input connector x 1 or 2
- GPIO socket connector
- Output connector x 1 or 2
- Adhesive rubber feet x 4
- Document pack

# Overview

## Diagram 1a

PowerZone 252 dimensions.

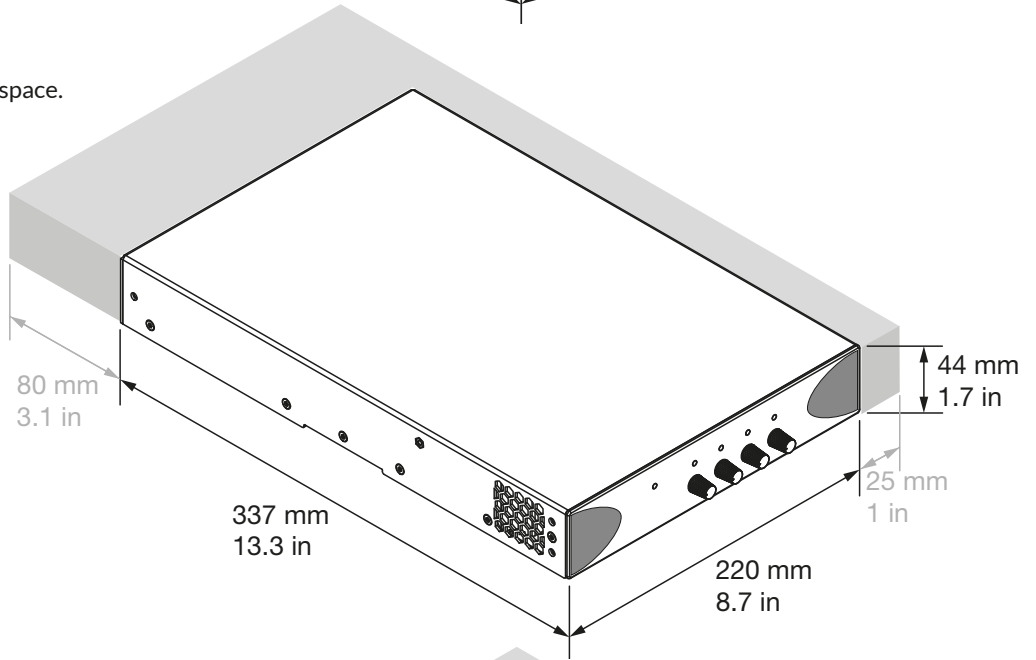
Shaded area defines ventilation space.



## Diagram 1b

PowerZone 504 dimensions.

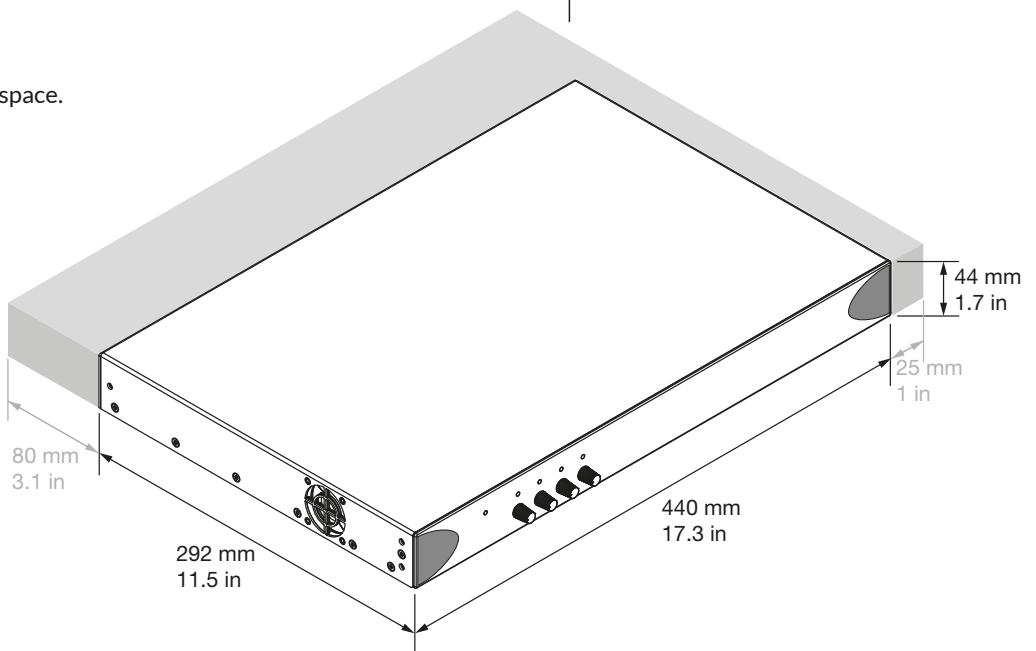
Shaded area defines ventilation space.



## Diagram 1c

PowerZone 1004 dimensions.

Shaded area defines ventilation space.



# Configuration

## 4. Configuration

Amplifier operational configuration is set up through selections made on a rear mounted DIP switch module.

A GPIO (General Purpose In/Out) connector is also provided that enables access to a variety of amplifier control and monitoring functions.

### 4.1 DIP Switch Configuration

The DIP switch module is illustrated and its functions described for two and four channel amplifiers in the adjacent matrices. DIP switch options are selected (ON) when the switch is in the UP position.



*Note: When input ganging is ON, each input channel is connected to its equivalent output. When input ganging is OFF, all outputs are connected to input 1.*



*Note: When the front panel control lock is ON, the last volume setting will be frozen and further front panel volume adjustment will have no effect. External volume and standby control via GPIO will remain operational.*



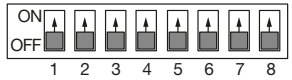
*If the front panel volume controls are turned up while the controls are locked, the amplifier volume will not increase to match the new volume level when the controls are unlocked. To increase the volume, the controls must first be turned down to below their previous level.*



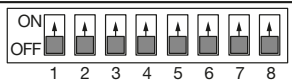
*Note: An 80Hz second order (12dB/octave) high-pass filter is automatically applied to the signal path of channels operating in Hi-Z mode in order to prevent speaker transformer core saturation.*

*Note: Use a small flat blade screwdriver blade to operate the DIP switches.*

PowerZone 252 DIP switch functions

	OFF↓	ON↑
<b>SWITCH 1</b>	Channel 1 in Low-Z mode	Channel 1 in Hi-Z mode
<b>SWITCH 2</b>	Channel 2 in Low-Z mode	Channel 2 in Hi-Z mode
<b>SWITCH 3</b>	Not Used	Not Used
<b>SWITCH 4</b>	Not Used	Not Used
<b>SWITCH 5</b>	70V Hi-Z mode (for channels in Hi-Z mode)	100V Hi-Z mode (for channels in Hi-Z mode)
<b>SWITCH 6</b>	Input ganging 1: All	Input ganging 1:1
<b>SWITCH 7</b>	GPIO standby polarity NO (Normally Open)	GPIO standby polarity NC (Normally Closed)
<b>SWITCH 8</b>	Front panel control locked.	Front panel control unlocked.

PowerZone 1004 and 504 DIP switch functions

	OFF↓	ON↑
<b>SWITCH 1</b>	Channel 1 in Low-Z mode	Channel 1 in Hi-Z mode
<b>SWITCH 2</b>	Channel 2 in Low-Z mode	Channel 2 in Hi-Z mode
<b>SWITCH 3</b>	Channel 3 in Low-Z mode	Channel 3 in Hi-Z mode
<b>SWITCH 4</b>	Channel 4 in Low-Z mode	Channel 4 in Hi-Z mode
<b>SWITCH 5</b>	70V Hi-Z mode (for channels in Hi-Z mode)	100V Hi-Z mode (for channels in Hi-Z mode)
<b>SWITCH 6</b>	Input ganging 1: All	Input ganging 1:1
<b>SWITCH 7</b>	GPIO standby polarity NO (Normally Open)	GPIO standby polarity NC (Normally Closed)
<b>SWITCH 8</b>	Front panel control locked.	Front panel control unlocked.

# Configuration

## 4.2 GPIO Functions

The GPIO connector is illustrated and its functions described in the adjacent matrix.



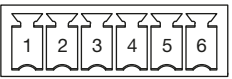
Note: The GPIO connector must not be used for any unintended purpose. Amplifier damage may result from incorrect use of GPIO.



Note: In order to conform to EMC specifications, shielded cable must be used when connecting external volume control potentiometers via GPIO.



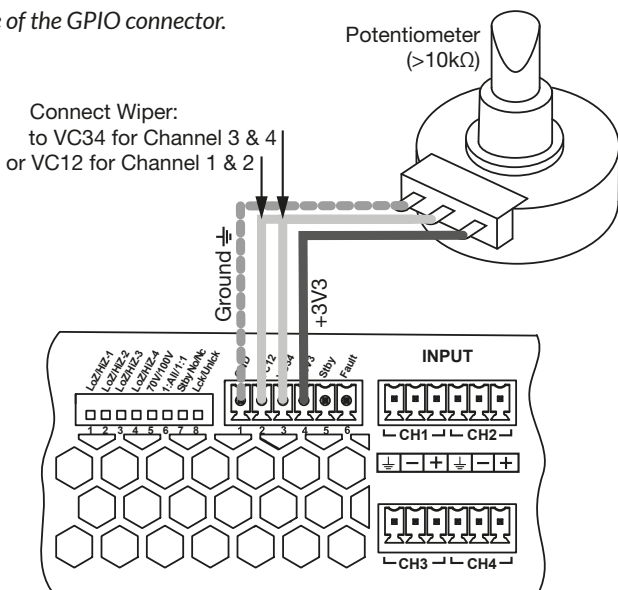
Note: The GPIO GPO connection has an output impedance of 1kΩ. Connected devices must be able to sink 3.3mA.

	FUNCTION	NOTES
 <b>GPIO GND (1)</b>	Ground reference for all GPIO pins	
<b>GPIO V12 (2)</b>	Channel 1 & 2 additional gain control.	Connect to a potentiometer (>10kΩ) wiper between the VCC and GND pins. <b>Diagram 2a</b> below illustrates these potentiometer connections. The maximum level available when using GPIO control is defined by the front panel gain control setting.
<b>GPIO V34 (3)</b>	Channel 3 & 4 additional gain control (four channel amplifiers only).	Connect to a potentiometer (>10kΩ) wiper between the VCC and GND pins. <b>Diagram 2b</b> below illustrates these potentiometer connections. The maximum level available when using GPIO control is defined by the front panel gain control setting.
<b>GPIO VCC (4)</b>	Control voltage output.	Provides a 3.3Vdc control output (100Ω output impedance) for up to two volume control potentiometers (>10kΩ).
<b>GPIO STB (5)</b>	Remote standby control.	Pull to GND to engage or disengage standby mode depending on DIP Switch 7 setting.
<b>GPIO GPO (6)</b>	System status indication.	+3.3Vdc indicates normal status, 0Vdc indicates one or more channels in protection mode.

### Diagram 2a

Potentiometer connections for remote volume control via GPIO.

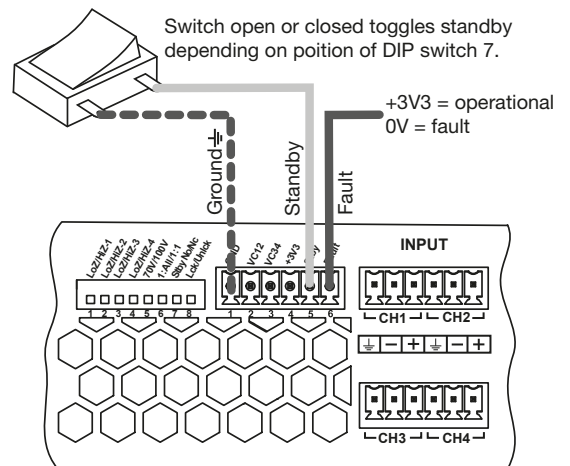
Note: Diagram 7d illustrates use of the GPIO connector.



### Diagram 2b

Connections for remote standby switch and status indication via GPIO.

Note: Diagram 7d illustrates use of the GPIO connector.





# Installation

## 5. Installation

*Note: It is important in all installations that the amplifier mains supply switch is easily accessible.*

*Note: The rack mounting and desk/wall mounting components described and illustrated in Sections 5.1 to 5.3 are not supplied with PowerZone amplifiers but are available to purchase as accessories. Contact your amplifier re-seller for more information.*

### 5.1 PowerZone 252 Mounting

The **PowerZone 252** amplifier is shipped without rack mount hardware attached but can be configured for rack installation using one standard rack 'ear' and one half-rack extension piece as illustrated in **Diagram 3a**. The installation and equipment rack should be configured to provide appropriate ventilation airflow space around the sides and rear of the amplifier as illustrated in **Diagram 1a**. Ventilation airflow space of at least 25 mm (1 in) should be maintained along at least one side of the amplifier at all times. Ventilation apertures are also located on the rear panel of the amplifier and must not be obstructed. It is important to retain at least 80 mm (3.1 in) free space for airflow behind the amplifier rear panel.

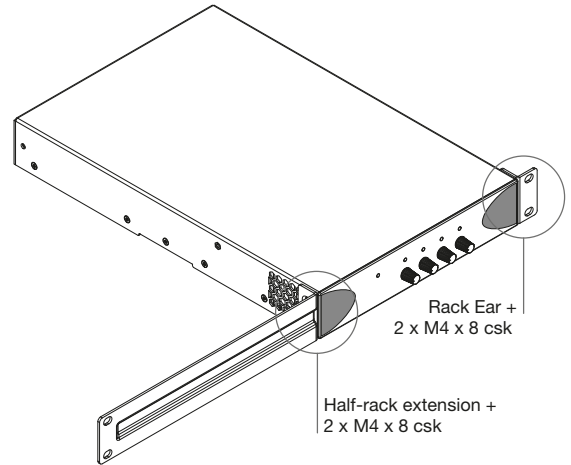
In addition to rack mount ears, optional rack mount rear support hardware is available and can be attached to the amplifier. Rear support hardware may be appropriate if the amplifier is to be used in a mobile rack or potentially be subject to significant movement. **Diagram 3b** illustrates the use of rack mount rear support hardware.

Multiple **PowerZone 252** amplifiers can also be mechanically connected using accessory connecting plates. **Diagram 3c** illustrates the use of connecting plates.

### 5.1 PowerZone 504 Mounting

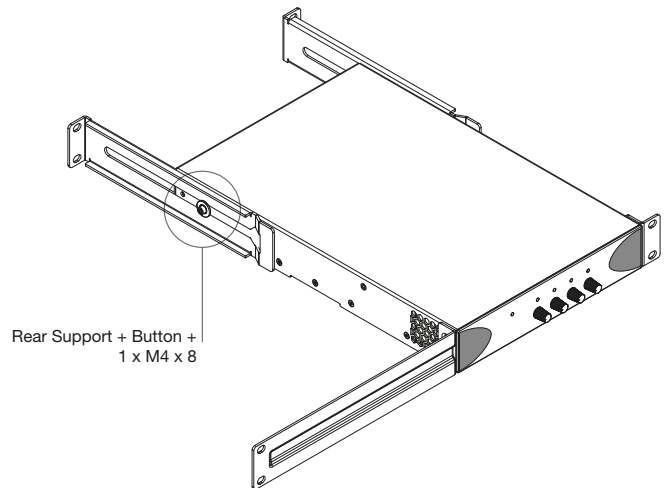
The **PowerZone 504** amplifier is shipped without rack mount hardware attached but can be configured for rack installation using one standard rack 'ear' and one half-rack extension piece as illustrated in **Diagram 3a**. The installation and equipment rack should be configured to provide appropriate ventilation airflow space around the sides and rear of the amplifier as illustrated in **Diagram 1b**. Ventilation airflow space of at least 25 mm (1 in) should be maintained along at least one side of the amplifier at all times. Ventilation apertures are also located on the rear panel of the amplifier and must not be obstructed. It is important to retain at least 80 mm (3.1 in) free space for airflow behind the amplifier rear panel.

In addition to rack mount ears, optional rack mount rear support hardware is available and can be attached to the amplifier. Rear support hardware may be appropriate if the amplifier is to be used in a mobile rack or potentially be subject



**Diagram 3a**

PowerZone 252/504 rack ear + half-rack extension.



**Diagram 3b**

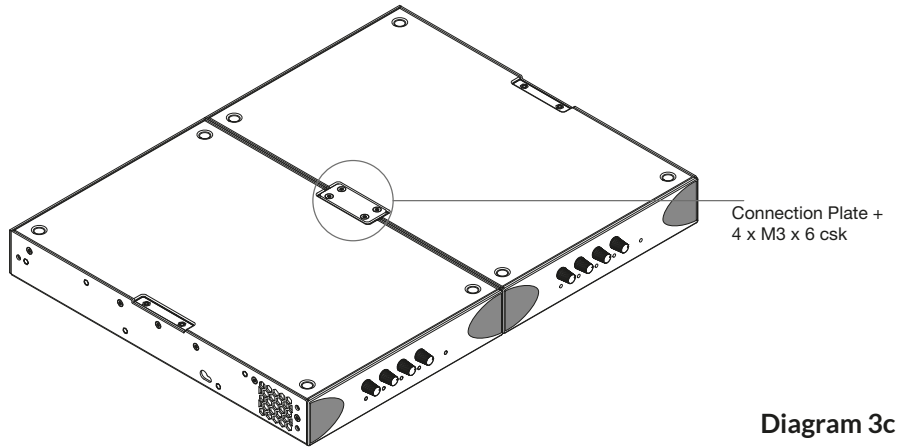
PowerZone 252/504 rack support hardware.

2 positions.



# Installation

to significant movement. Multiple **PowerZone 504** amplifiers can also be mechanically connected using accessory connecting plates. **Diagrams 3b and 3c** illustrate the use of rack mount rear support hardware and connecting plates.

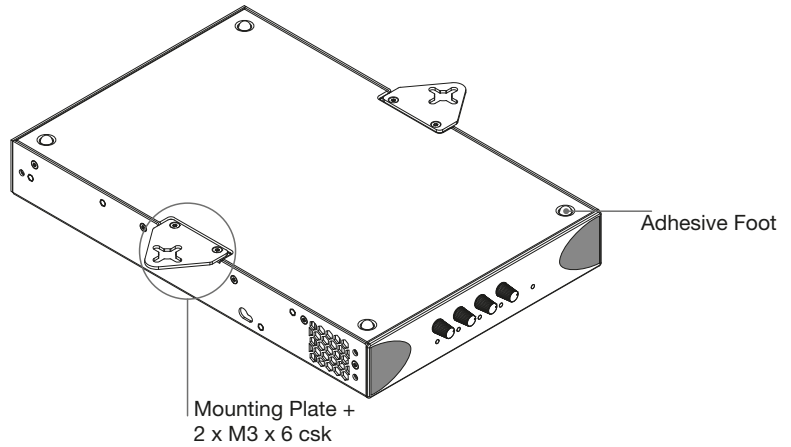


**Diagram 3c**  
2 x PowerZone 504 with connection plate.

## 5.3 Free-standing

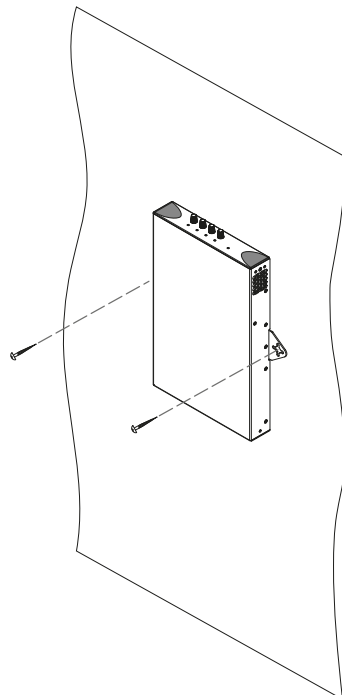
If not to be installed in an equipment rack, PowerZone amplifiers can be placed free-standing on a flat surface. Adhesive rubber feet are supplied for this purpose.

**PowerZone 504** and **PowerZone 252** amplifiers can also be attached to the underside of desks or wall mounted using connecting plate hardware. The adhesive rubber feet should also be used in these circumstances to minimise the possibility of vibration between the amplifier and mounting surface. Wall and desk mounting is illustrated in **Diagrams 4a and 4b**.

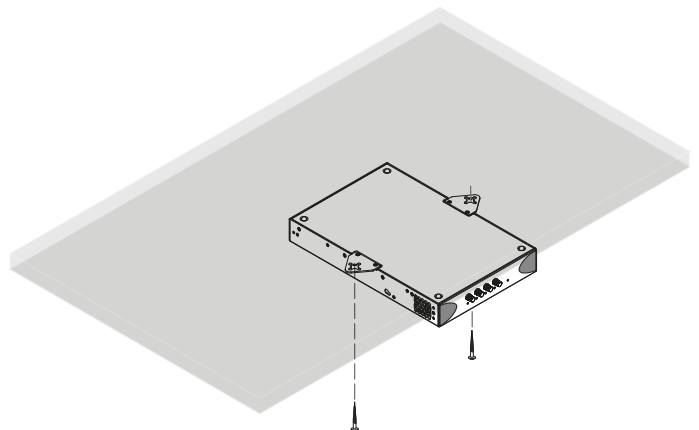


**Diagram 4a**  
PowerZone 252/504 with desk/wall mounting plate and adhesive feet. 2 positions and 4 positions.

It is important in any free standing installation that airflow through the amplifier's side panel mounted fans and rear panel ventilation apertures is not compromised by adjacent items. At least 80mm of free space behind the amplifier and 25mm along at least one side should be retained at all times.



**Diagram 4b**  
PowerZone 252/504 under-desk and wall mounted.



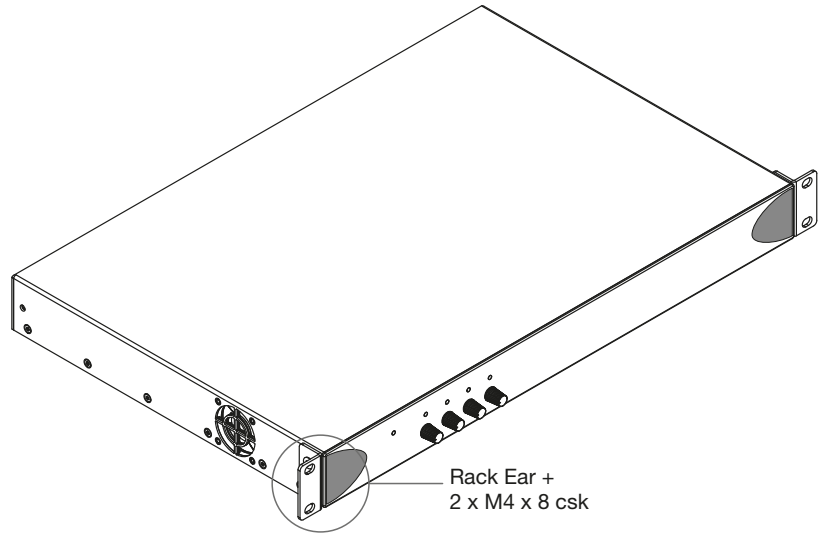
# Installation

## 5.4 PowerZone 1004 Mounting

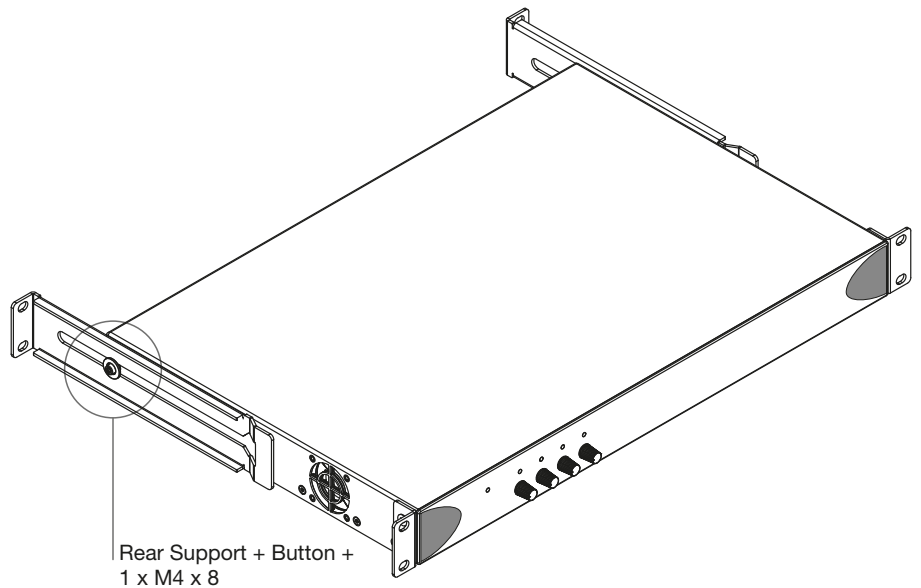
*Note: The rear support components described and illustrated in Sections 5.4 are not supplied with PowerZone amplifiers but are available to purchase as accessories. Contact your amplifier re-seller for more information.*

The **PowerZone 1004** amplifier is shipped with rack mount 'ears' attached as illustrated in **Diagram 5a** and is primarily intended to be installed in an equipment rack. The installation and equipment rack should be configured to provide appropriate ventilation airflow space around the sides and rear of the amplifier as illustrated in **Diagram 1c**. Ventilation airflow space of at least 25 mm (1 in) should be maintained along at least one side of the amplifier at all times. Ventilation apertures are also located on the rear panel of the amplifier and must not be obstructed. It is important to retain at least 80 mm (3.1 in) free space for airflow behind the amplifier rear panel.

In addition to rack mount ears, optional rack mount rear support hardware is available and can be attached to the amplifier. Rear support hardware may be appropriate if the amplifier is to be used in a mobile rack or potentially be subject to significant movement. **Diagram 5b** illustrates the use of rack mount rear support hardware.



**Diagram 5a**  
PowerZone 1004 rack ears. 2 positions.



**Diagram 5b**  
PowerZone 1004 rear support hardware.  
2 positions.

# Connections

## 6. Connections

Note: The micro USB socket located on amplifier rear panels is present for service and diagnostic purposes only.

The amplifier rear panel connection sockets are illustrated in Diagrams 6a and 6b.

### 6.1 Mains Power Connection

PowerZone amplifiers incorporate a power factor corrected universal power supply and can be used with mains input voltage from 100V AC to 240V AC, 50/60Hz. Use the mains cable supplied with the amplifier and connect it to a switched mains supply. The power consumption of the amplifiers is 300W, 150W and 75W for the PowerZone 1004, PowerZone 504 and PowerZone 252, respectively.

The amplifiers have no mains power switch and are operational as soon as mains power is connected. Ensure that all signal, GPIO and output connections are made and that all DIP switch options are selected appropriately before connecting the amplifier to mains power.

### 6.2 Input Connections

PowerZone amplifier inputs are of balanced, line level format with a input sensitivity of +4dBu (full output voltage swing/ sensitivity) in all modes. Input signal levels up to +24dBu can be handled without input clipping.

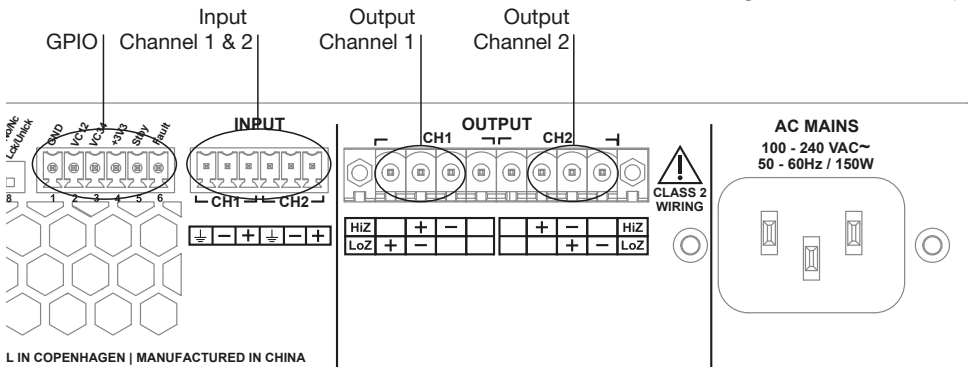
Input connections to the amplifiers are achieved via male 'Euro Block' connectors. Connecting cables to the supplied female input connectors is illustrated in Diagram 7a.

Note: If unbalanced audio sources are used, their negative and conductor should be connected to both the negative and earth input terminals.

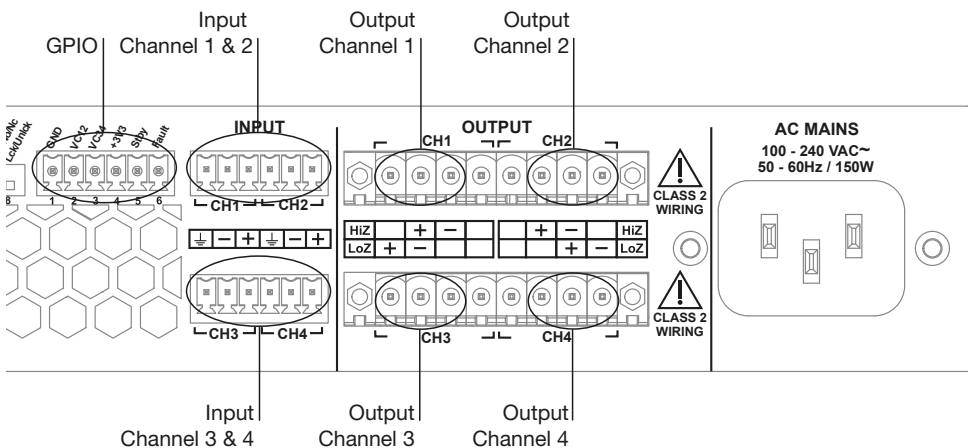
### 6.3 Output Connections

Output connections from the amplifiers are achieved via male 'Euro Block' connectors. Ensure that speaker connection polarity is correct throughout the installation: positive (+) amplifier terminals should always be connected to positive speaker terminals and negative (-) amplifier terminals always connected to negative speaker terminals.

Together with DIP switch configuration, the output connector blocks provide connection options that enable channel independent selection of Hi-Z or Low-Z mode. Connecting cables to the supplied female output connector, and the selection of Hi-Z or Low-Z connection options, are illustrated in Diagrams 7b and 7c respectively.



**Diagram 6a**  
PowerZone 252 connection sockets.



**Diagram 6b**  
PowerZone 1004 & PowerZone 504 connection sockets.

# Connections

## 6.4 Speaker Cable Gauge

Speaker connection cable gauge should be chosen appropriately to reflect the type of installation. The adjacent tables specify the appropriate cable gauge for less than 0.5dB cable loss with different installation types and cable lengths.

## 6.5 GPIO Connections

If any GPIO functionality is required, cables will need to be connected to the supplied GPIO connector. Connecting cables to the supplied female GPIO connector is illustrated in **Diagrams 7d**.

*Note: The maximum recommended GPIO cable length is 10m (32ft 10in)*

*Note: The GPIO GPO connection has an output impedance of 1kΩ. Connected devices must be able to sink 3.3mA.*

**Cable Gauge Table**

Low-Z installations. 4Ω & 8Ω loads

Cable Cross Section (mm <sup>2</sup> )	Cable Gauge (US)	Max Cable Length (metres, 4Ω load)	Max Cable Length (metres, 8Ω load)
0.5	≈20	2	5
0.75	≈18	4	8
1.5	≈16	6	12
2.0	≈14	9	19
4.0	≈12	14	30

**Cable Gauge Table**

70V Hi-Z installations. 125W & 250W power

Cable Cross Section (mm <sup>2</sup> )	Cable Gauge (US)	Max Cable Length (metres, (125W/channel))	Max Cable Length (metres, (250W/channel))
0.5	≈20	84	42
0.75	≈18	132	66
1.5	≈16	210	105
2.0	≈14	334	166
4.0	≈12	532	265

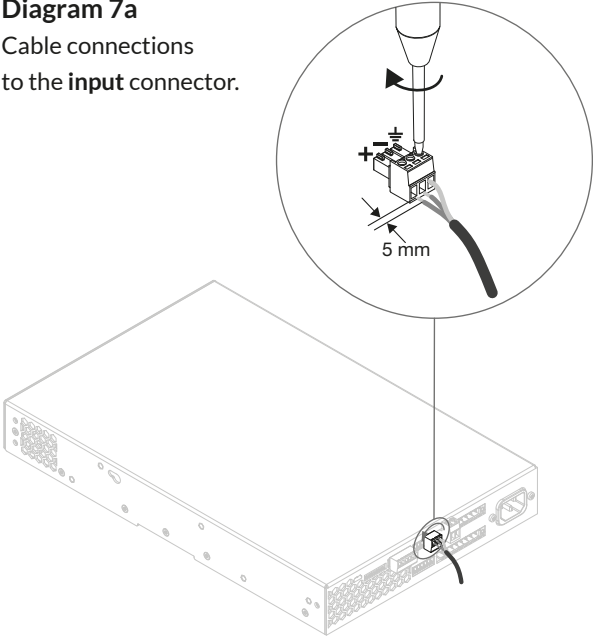
**Cable Gauge Table**

100V Hi-Z installations. 125W & 250W power

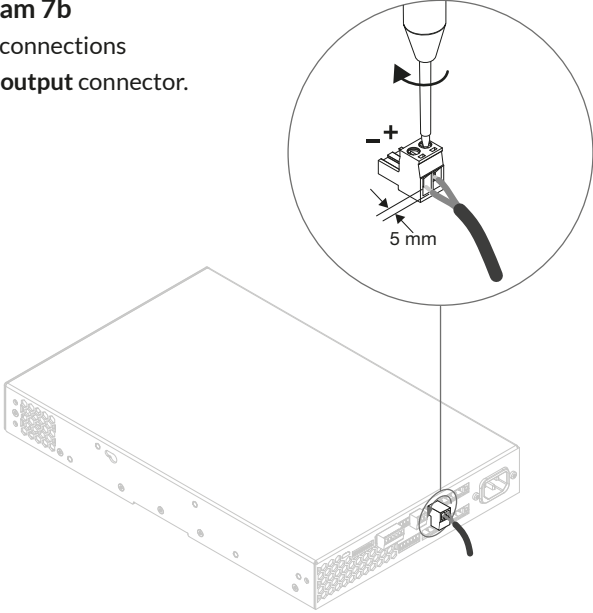
Cable Cross Section (mm <sup>2</sup> )	Cable Gauge (US)	Max Cable Length (metres, (125W/channel))	Max Cable Length (metres, (250W/channel))
0.5	≈20	171	85
0.75	≈18	269	134
1.5	≈16	430	215
2.0	≈14	683	341
4.0	≈12	1087	542

# Connections

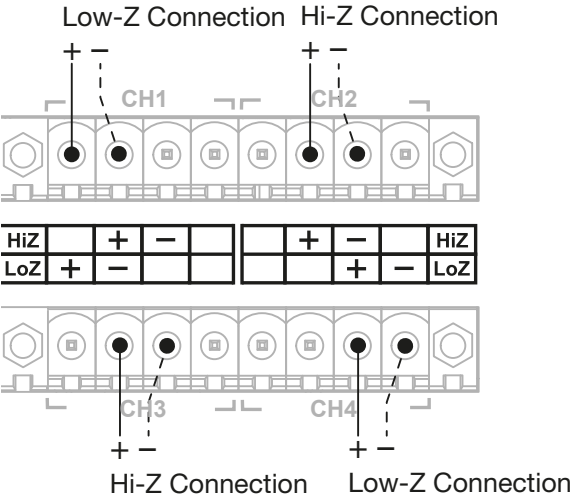
**Diagram 7a**  
Cable connections to the **input** connector.



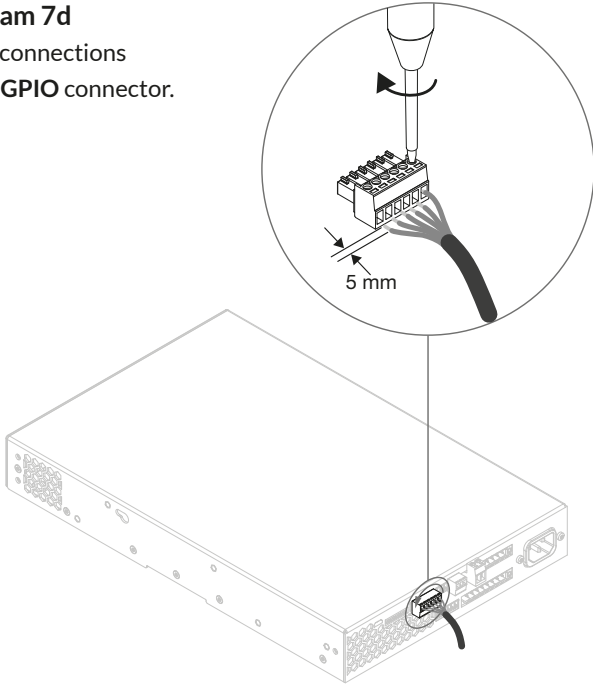
**Diagram 7b**  
Cable connections to the **output** connector.



**Diagram 7c**  
Example **output** connections.



**Diagram 7d**  
Cable connections to the **GPIO** connector.



Channel 1: Low-Z connection illustrated  
 Channel 2: Hi-Z connection illustrated  
 Channel 3: Hi-Z connection illustrated  
 Channel 4: Low-Z connection illustrated

*Note: DIP switch options must be set appropriately.*



The exclamation point printed next to the output terminals of the amplifiers is, in addition to the **CLASS 2 WIRING** text, intended to alert users to the risk of hazardous voltages. Output connectors that could pose a risk are marked with the exclamation point. Do not touch the output terminals while the amplifier is switched on. Make all connections with the amplifier switched off.

# Operation

## 7. Operation

Once all connections have been made and DIP switches set, the amplifier can be connected to mains power. After a short delay, and if an input signal above -55dB is present on any input, the front panel standby indicator will illuminate green to indicate normal amplifier operation.

*Note: The amplifiers will not switch on from standby mode unless an input signal is present or the standby switch is toggled.*

Set the channel gain controls appropriately in respect of the input signal level and required speaker volume. **Diagrams 8a, 8b and 8c** illustrate the front panel controls and indicators.

Amplifier outputs will mute if no input signal is present for 10 minutes, and the amplifier will switch automatically to standby mode if no signal is present on any input for more than 25 minutes. Standby mode can also be triggered remotely via a switch connected between the STB and GND GPIO connector pins.

Amplifier cooling fan speed is temperature controlled. The fan will switch off when the amplifier enters standby mode.

### 7.1 Standby Indicator

The Standby Indicator changes colour to indicate operational states:

- Green: The amplifier is in normal operation mode.
- Red: The amplifier is in sleep mode following no input present for more than 10 minutes, or in standby mode following a GPIO trigger.

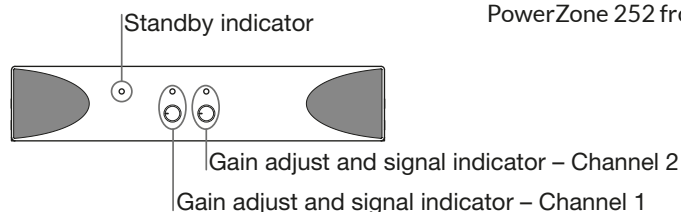
### 7.2 Signal Indicators

The Signal Indicators adjacent to each channel gain control knob illuminate in different colours to indicate input states:

- Green: Signal present (> -55dB)
- Orange: Output limiter active (0dB)
- Red: Input overload, output protection operational or amplifier fault.

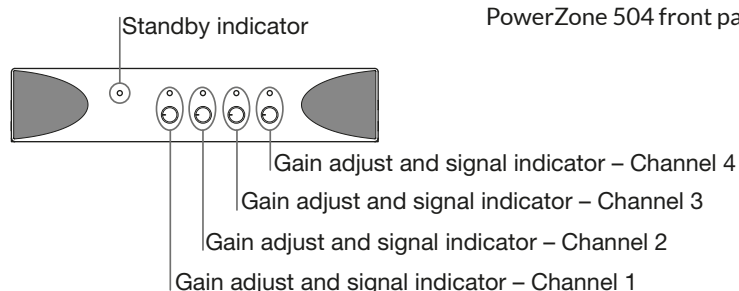
**Diagram 8a**

PowerZone 252 front panel.



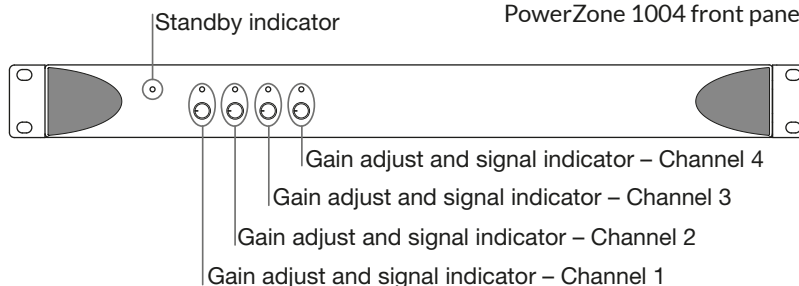
**Diagram 8b**

PowerZone 504 front panel.



**Diagram 8c**

PowerZone 1004 front panel.



### 7.3 Automatic Power Sharing

The PowerZone 252 and PowerZone 504 incorporate a power sharing feature.

PowerZone power sharing automatically shares the total power available from the amplifier's internal power supply across each pair of output channels. If one channel temporarily demands more than the amplifier's continuous power rating while other channel is demanding less, the excess power available from the internal power supply is automatically made available to the over-power channel. Power sharing optimises the amplifier's ability to deliver maximum power into dynamic loudspeaker loads when playing music programme material.

# Specifications

Model	PowerZone 252	PowerZone 504	PowerZone 1004
Channels	2	4	4
Output power @ 4Ω/8Ω/70V/100V* All channels driven	125 W	125 W	250 W
Output power @ 4Ω/8Ω/70V/100V* Single channel driven	250 W**	250 W**	250 W
Output power @ 16Ω*** All channels driven	125 W	125 W	125 W
Total Maximum Output Power per Amplifier****	250W	500W	1000W
Power Consumption	75 W	150 W	300 W
Dimensions	44.5 x 220 x 262 mm (1.75 x 8.66 x 10.31 in)	44.5 x 220 x 337 mm (1.75 x 8.66 x 13.27 in)	44.5 x 440 x 292 mm (1.75 x 17.32 x 11.50 in)
Weight	1.9 kg (4.2 lbs)	2.4 kg (5.3 lbs)	3.6 kg (7.9 lbs)
Output Circuitry	UMAC™ Class D - full bandwidth PWM modulator with ultra-low distortion		
Output Voltage	70 Vp / 140 Vpp (unloaded) / Bridged 140 Vp / 280 Vpp (unloaded)		
Signal To Noise-Ratio	> 100 dB (A-weighted, 20 Hz - 20 kHz, 8 Ω load)		
THD+N (typical)	< 0.05 % (20 Hz - 20 kHz, 8 Ω load, 3 dB below rated power)		
Frequency Response	20 Hz - 20 kHz (+0/-0.25 dB (8 Ω load, 3 dB below rated power)		
Protection Circuits	Short circuit protection, DC protection, under voltage protection, temperature protection, overload protection		
Power Supply	UREC™ universal mains switch mode power supply with Power Factor Correction (PFC) and integral standby converter		
Operating Voltage/Frequency.	Universal Mains, 100-240V, 50-60Hz		
Standby Consumption	< 0.5 W (Energy Star & ErP 1275/2008/EC compliant)		
Accessories	2x Rack ears (supplied with PowerZone 1004) 1x 1/2 rack plate extension 2x 1/2 rack mounting 2x Rear supports		
Power Ratings	1% THD @ 120VAC and 230VAC		

\* 100V line mode operates at 90V (≈-1dB).

\*\* Power sharing operational.

\*\*\* 16 Ohm power output is limited by the maximum voltage swing available in low impedance mode.

\*\*\*\* Power sharing on Model 252 and Model 504. Model 252 - 250W between output 1/2. Model 504 - 250W between output 1/2 and 250W between 3/4

# BLAZE