



Operating Manual

A 4372 2 x 125 Watt Power Amplifier



OVERVIEW

The Redback 2 x 125W power amplifier is ideal for installations requiring high power zone amplifiers. Ideally suited for use in shopping centres, pedestrian precincts, public transport facilities and convention centres.

FEATURES

- Robust design incorporating latest Mosfet technology
- Very Low noise and distortion
- 100V outputs
- 240V AC or 24V DC operation
- Multi stage thermally cued fan cooling
- Output Peak Limited
- Thermal Overload protected
- Signal Presence Indicators
- Fault Indicators
- Power Status Indicators
- Rack Mountable (suits 19 inch racks)

POWER SUPPLY

The amplifier operates on 230V AC or 24V DC primarily for battery backup operation. Ensure power is switched OFF at the front panel before connecting either mains power to the IEC socket or 24V DC to the screw terminal input. As high currents may be drawn when operating from a 24V DC supply confirm the capacity of the DC power supply used.

AUDIO CONNECTIONS

Audio input is via 3 pin XLR sockets on the rear of the amplifier. These are 500mV line level balanced signal which are normally fed from a mixer panel. Pinout details are printed on the rear of the amplifier. Balanced Line Out XLR sockets are also provided on the rear of the amplifier for passing the audio signal on to more slave amplifiers if required. The amplifier output level controls are also rear mounted to prevent tampering or accidental adjustment.

Redback® A 4372 2 x 125 Watt Power Amplifier

SPEAKER CONNECTIONS

Speakers fitted with 100V line transformers may be connected to the corresponding terminals on the rear of the amplifier. Always ensure the total load of the fitted speakers does not exceed the rated output of the amplifier otherwise damage may result. When fitting speakers with line transformers the impedance of the load cannot be measured using a standard multimeter. An impedance meter is required such as the Redback Q 2004 Impedance Meter (shown below). Listed below are the impedance at certain loads of speakers fitted with 70V and 100V line transformers. The A 4372 Amplifier has two 125W 100V outputs. For a total load of 125 watts using 100V line transformer fitted speakers the impedance of the speaker load should be 80Ω.



About 70V & 100V Line Speaker Systems

Wiring speakers in parallel for 70/100V line: Where several speakers are to be used at one time, on one circuit, it becomes necessary to use speakers fitted with line-matching transformers. This is to overcome the effects of connecting speakers in parallel and cable losses. The amplifier generally has an output voltage of 100 volts (70 volts is typically used in North America, however operation is similar). In this configuration the total wattage load on the amplifier is derived from adding all the line transformer primary tap ratings together. For example, 70 one watt speakers will have a total speaker load of 70 watts. Or alternatively, it is conceivable to connect 100 one watt speakers to a 100 watt, 100 volt line amplifier.

Measuring 70/100V Line Speaker Impedance: To measure amplifier system load, you must use an impedance meter in order to measure the ac resistance of the connected speaker network. Impedance cannot be measured with a standard multimeter, as this measures the dc resistance.

Load	70V	100V
0.5W	9.4kΩ	20kΩ
0.66W	7.12kΩ	15kΩ
1W	4.7kΩ	10kΩ
1.25W	3.76kΩ	8kΩ
2W	2.35kΩ	5kΩ
2.5W	1.88kΩ	4kΩ
3W	1.56kΩ	3.3kΩ
5W	940Ω	2kΩ
7.5W	626Ω	1.3kΩ
10W	470Ω	1kΩ
15W	313Ω	666Ω
20W	235Ω	500Ω
30W	156Ω	333Ω
40W	117Ω	250Ω
60W	78Ω	166Ω
100W	47Ω	100Ω
125W	37Ω	80Ω
250W	19Ω	40Ω
500W	9.4Ω	20Ω

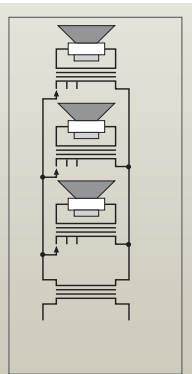
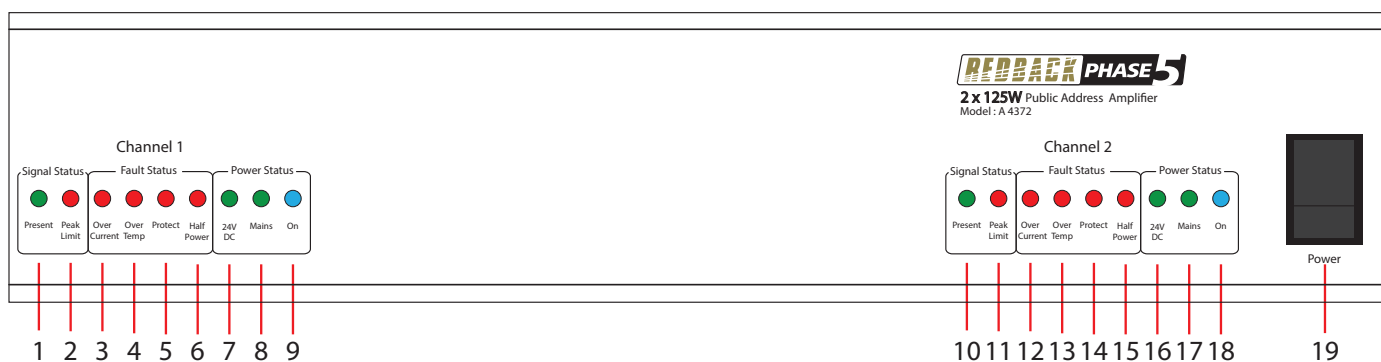


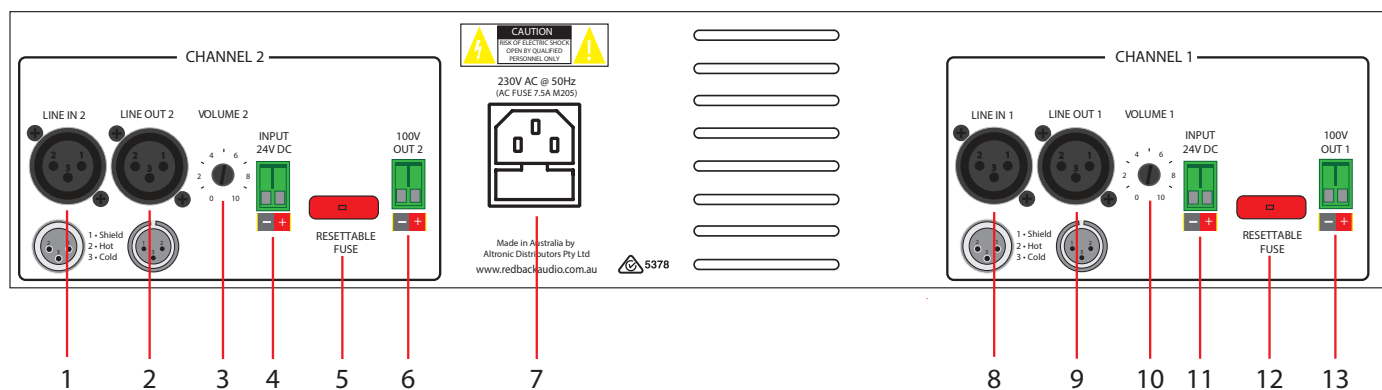
Fig 1. A 4372 front panel.



Channel 1 and 2 Indicators are identical in their functionality.

- 1,10 Signal Presence Indicator**
This LED indicates when an input signal is present to this channel.
- 2,11 Peak Limit Indicator**
This LED indicates when the input signal is clipping on this channel.
- 3,12 Over Current Limit Indicator**
This LED indicates when the output module is drawing too much current from the amplifier. The output module will be disconnected until the current draw is reduced.
- 4,13 Over Temp Indicator**
This LED indicates when the amplifier module is overheating. The output will be disconnected until the amplifier module is once again cool enough to operate.
- 5,14 Protect Indicator**
This LED indicates when the amplifier module has an internal circuitry fault.
- 6,15 Half Power Indicator**
This LED indicates when the amplifier module is in Half Power mode. This can be caused when the amplifier module is being over driven or overloaded. Half Power Mode lets the amplifier module continue to run without shutting down, but with a slightly reduced power output.
- 7,16 24V DC Indicator**
This LED indicates when the amplifier channel is being powered from the 24V input.
- 8,17 Mains Indicator**
This LED indicates when the amplifier is being powered from the mains (230V AC).
- 9,18 On Indicator**
This LED indicates the amplifier channel has power.
- 19 Power Switch**
Use this to turn the unit on.

Fig 2. A 4372 rear panel.



Channel 1 and 2 outputs are identical in their functionality.

1,8 Line Input

This is a balanced XLR input with an input sensitivity of 500mV.

2,9 Line Output

This is a balanced XLR output for passing the audio output on to slave amplifiers if required.

3,10 Channel volume control

Use this control to adjust the output volume of the channel.

4,11 24VDC IN

Battery Backup: Provision has been provided to run the amplifier from a suitably rated 24V battery system in the event of a mains failure. Using appropriately rated cable, connect the battery to the "24V DC In" terminals. Observe correct polarity when connecting.

NOTE: 24V DC needs to be connected to both of the 24V inputs. There is no internal connection between these terminals.

5,12 DC Resettable fuses

These fuses protect the internal power supply. If the fuses are tripped they are easily reset by pressing the small buttons on the fuses.

6,13 Output Connections

Speakers fitted with a 100V line transformer may be connected to these terminals. Always ensure that the total load of the speakers does not exceed the rated output of the amplifier i.e. 80Ω minimum at 100V for 125W. Otherwise either the DC or mains fuse could blow or the fault led activate and the amp will shut down. Always be careful to avoid short circuits and connection to the wrong terminals.

7 Mains Power Input

This is for connection to a 230VAC supply. The internal fuse is an M205 7.5Amp.

SPECIFICATIONS

POWER OUTPUTS

Power:2 x 125 watts RMS
 Distortion:.....< 0.5%, @ 1kHz
 Output line: 100V

FREQUENCY RESPONSE

Mic inputs :.....50Hz - 12kHz, -3dB

MIC SENSITIVITY (3 Pin XLR) 500mV

SIGNAL TO NOISE RATIO

Mic inputs: > 75dB below rated output

LINE OUTPUT 600Ω balanced, 0dB , 3 Pin XLR

OUTPUT CONNECTORS

Speakers:Screw terminals

INPUT CONNECTORS

Inputs:3 pin XLR balanced
 24V DC power:Screw terminals
 240V AC power:IEC power connector

CONTROLS

Mic inputs:Volume
 Power:On/off switch
 Indicators:.....Power, signal present, output peak limiting, overtemp ,current limit, Protect, Half Power, 24V DC, Mains

POWER SUPPLY:240V AC or 24V DC

FUSE PROTECTION:7.5A AC , 2x 10A DC

DIMENSIONS~483W x 410D x 88H

***Specifications subject to change without notice**

TROUBLE SHOOTING

If the REDBACK Phase 5 amplifier fails to deliver the rated performance, check the following:

No Power, No Lights

Make sure amplifier power switch is on. Make sure mains power switch is on at the wall. Check the mains and DC fuse. Replace with only the correct type and rating. Over rated fuses will invalidate warranty.

Distorted Output

Check that the speaker type is correct for the output that you are using (ie. 100V line). Check for any short circuits on the speaker line.

Very Low Output Volume

Make sure that the input is the correct level (check for shorted connectors). Check for any short circuits on the speaker line.

Check if signal LED on the front panel is lit to indicate there is signal. If it is not lit there is no signal present.

Continually Blows Fuses

Make sure that the speaker line is not shorted. Check speaker types, ratings and if on correct output.

Amplifier Keeps on Cutting In & Out

Make sure that there is adequate ventilation around the amplifier. Check the vent slots on the front, top and sides are not covered or blocked and the fan on the rear is functioning correctly. Check also speaker types, ratings and for any short circuits on the speaker line.

No Output From 24V DC

Make sure the the 24V DC Out connector is wired correctly.

You may be surprised to learn that Redback is still manufacturing hundreds of product lines right here in Australia. We have resisted the move offshore by offering our customers better quality products with innovations to save them time and money.

Our Balcatta production facility manufactures/assembles:

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

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

Redback Audio Products

100% developed, designed & assembled in Australia.

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

Local support & feedback.

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

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

Industry leading 10 year warranty.

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

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