

Public Address

125 & 250 Watt Power Amplifier

With thermally cued forced fan cooling



Congratulations on purchasing a REDBACK Phase 4 Public Address Amplifier.

Engineered and manufactured to high standards this unit will provide you with many trouble free years of use.

These instructions cover the following REDBACK Phase 4 power amplifier models.

A 4070B 125 Watt Power Amplifier

A 4080B 250 Watt Power Amplifier

Features:

- Latest design and technology
- Very low noise and distortion
- 70V, 100V and 4-16 Ohm outputs
- 240V AC or 24V DC operation
- Rack mountable
- Thermal overload protection
- Thermally cued forced fan cooling
- Output peak limiting
- Current limiting protection

Audio Connections

The audio Line Input is via the 3 pin XLR socket on the rear panel. This is a 320mV line level balanced signal which is normally fed from a mixer panel. Pin out details are printed on the rear of the amplifier.

A balanced, Line Out XLR plug is also available for passing the audio signal on to more amplifiers if required.

Speaker Connections

Speakers with a total impedance of 4 to 16 ohms, or speakers fitted with a line transformer may be connected.

Always ensure that the total load of the fitted speakers does not exceed the rated output of the amplifier, ie 125 watts for the A 4070B and 250 watts for the A 4080B. Otherwise damage may result.

Always be especially careful to avoid any short circuits and connections to the wrong terminals.

Power Supply

Ensure power is switched off at the front panel of the amplifier. Connect either mains power to the IEC socket with the supplied lead, or 24V DC to the terminal connections. As high currents may be drawn (8.5 amps for the A 4070B and 18 amps for the A 4080B) when operating from a 24V DC power supply, confirm the capacity of the DC power supply used.

Battery Charging Function

To operate the battery charging function a link must be made between the two terminals on the back of the unit (marked as "Charging resistor"). This activates the charging circuit and provides a nominal 24VDC 300mA trickle charge to the battery connected when 240V mains is present. When mains fails, the amplifier is seamlessly powered from the battery.

Operation

Confirm all connections are correct. Turn volume on the rear panel of amplifier down. Switch on the power at the front panel. Slowly increase the volume on the amplifier to a suitable audio level.

The **Overtemp LED** on the front panel indicates the amplifier has shutdown due to excessive heat build-up and/or excessive load on the speaker outputs.

The **Overload LED** indicates excessive load is connected to the amplifier. The **Peak LED** indicates when the peak limiting is in operation and the **Signal LED** is provided to indicate when an input signal is present.

Adequate ventilation is required for the amplifier to work within its rated limit. Ensure the vents and fans are free of obstructions at all times. For the 250W model we recommend that a 1U Vented panel (similar to Altronics, H 5154) be placed between amplifiers. This is to aid air flow.

Trouble Shooting

If the REDBACK Phase 4 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.

Distorted Output

Check that the speaker type is correct for the output that you are using (ie. 4-16Ω, 70V or 100V line). Check for any short circuits on the speaker line. Check speaker line impedance.

Note: you must use an impedance meter to measure this. See table for load details.

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.

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 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.

100V Line Legend

Load	Reading
0.5W	20kΩ
0.66W	15kΩ
1W	10kΩ
1.25W	8kΩ
2W	5kΩ
2.5W	4kΩ
5W	2kΩ
7.5W	1.3kΩ
10W	1kΩ
15W	666Ω
20W	500Ω
30W	333Ω
40W	250Ω
60W	166Ω
100W	100Ω
125W	80Ω
250W	40Ω
500W	20Ω

Specifications

POWER OUTPUT

A 4070B: 125 Watts RMS

A 4080B: 250 Watts RMS

Distortion: Typically < 0.3%, @ 1kHz

Frequency Response: 50Hz - 15kHz, -3dB

Speaker Outputs: 100V, 70V, or 4 - 16Ω

Sensitivity: 320mV balanced

S.N.R. (Peak Limiting By-Passed): > 90 dB

Line Output: looped out from input

OUTPUT CONNECTORS

Speakers: Screw Terminals

Line Out: 3 pin XLR

INPUT CONNECTORS

24V DC Power: Screw Terminals

240V AC Power: IEC Chassis Socket

CONTROLS

Master: Volume (on rear panel)

Power: On/Off Switch

INDICATORS

Power on LED

Fault LED

LED Bargraph VU Meter

Signal Present LED

Peak limiting LED

Overtemperature LED

Overload LED

POWER SUPPLY: 240V AC or 24V DC (nominal)

PROTECTION

A 4070B: 5A AC Fuse and 10A DC Fuse

A 4080B: 7.5A AC Fuse and 20A DC Fuse

DIMENSIONS

All Models: ≈ 485W x 395D x 88H

WEIGHT

A 4070B: ≈ 12kg

A 4080B: ≈ 18kg

COLOUR: Black

*Specifications Subject to Change Without Notice