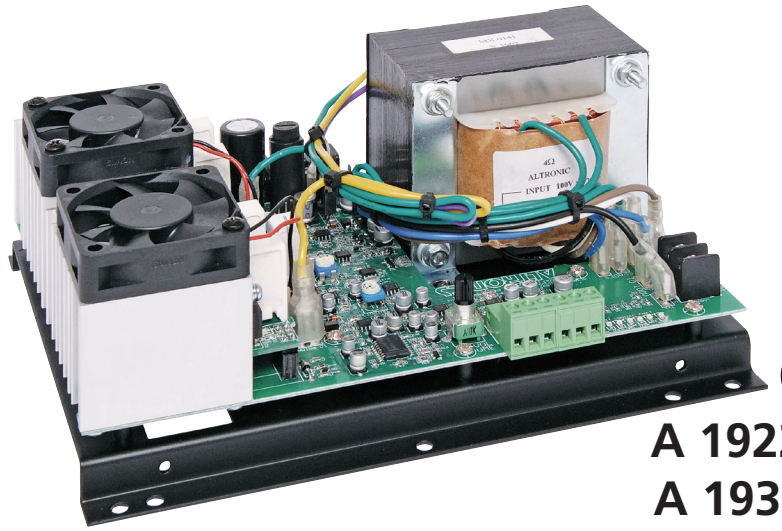

Operating Manual

A 1922A **60W** 100V Amplifier Module

A 1932A **120W** 100V Amplifier Module

This module is designed for use in emergency evacuation systems and is powered by an external 24V DC source. It accepts a line level audio input and produces a 100V line output via a transformer. It also features short circuit, overload and thermal cutout protection, and is constructed on a steel chassis. Designed with reliability and robust performance in mind, it is the ideal audio power source for evacuation systems, or any application which requires a DC powered 100V line amplifier.

FEATURES

- Powered by nominal 24V DC
- 100V line audio output
- Line level audio input - 600mV
- Short circuit, overload, and thermal cutout protection
- Bolt-in chassis construction
- Australian designed and assembled

INSTALLATION

Connecting the Audio Source

The input connector for the audio source is the 3 way screw terminal block labelled "AUDIO IN ", (see figure 1 for the PCB location and pinouts). This input may be used with balanced (3 wire) or unbalanced (2 wire) audio sources. When connecting an unbalanced (2 wire) source, jumper the GND and -ve connections on the terminal connector (See fig 1 inset).

The amp module's input is suitable for impedances between 600Ω and 10kΩ. The high impedance of 10kΩ enables multiple amplifier units to be paralleled together when driven from a low impedance source ie 600Ω.
An output connector (LOOP OUT), feeds the input audio directly out and has been provided for easy connection of multiple modules feeding off the same input source.

Connecting Power

Connect 24-28V DC to the power supply input (24V DC IN) terminal as per fig.1.
Ensure that the power supply is capable of providing the necessary current (see specifications).
A 24V DC output has been provided with a maximum current draw of 1 amp to provide power to external devices.

Connecting the speaker load

Connect the output load to the (TO LOAD) terminals shown in fig.1. Speakers fitted with 100V line transformers may be connected. 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. Fig 2 lists the impedance at certain loads of speakers fitted with 100V line transformers. So for a total load of 120 watts using 100V line transformer fitted speakers the impedance of the speaker load should be 80Ω.

LED INDICATORS

Power
This indicates that the unit has power.
Signal Present
This indicates that an audio signal has been detected at the audio input terminals.
Fault
The Fault LED indicates the unit has a fault condition. Check the other indicators for further diagnosis.
Temp
The Temp LED will illuminate when the unit shuts down due to excessive temperature rise.
Overload
The overload LED will illuminate when the unit's output is limited due to excessive load on the speaker outputs.
Limit
This LED indicates that the amplifier has reached it's maximum output level.
Protect
This LED indicates that the unit has gone into protection mode due to internal failure

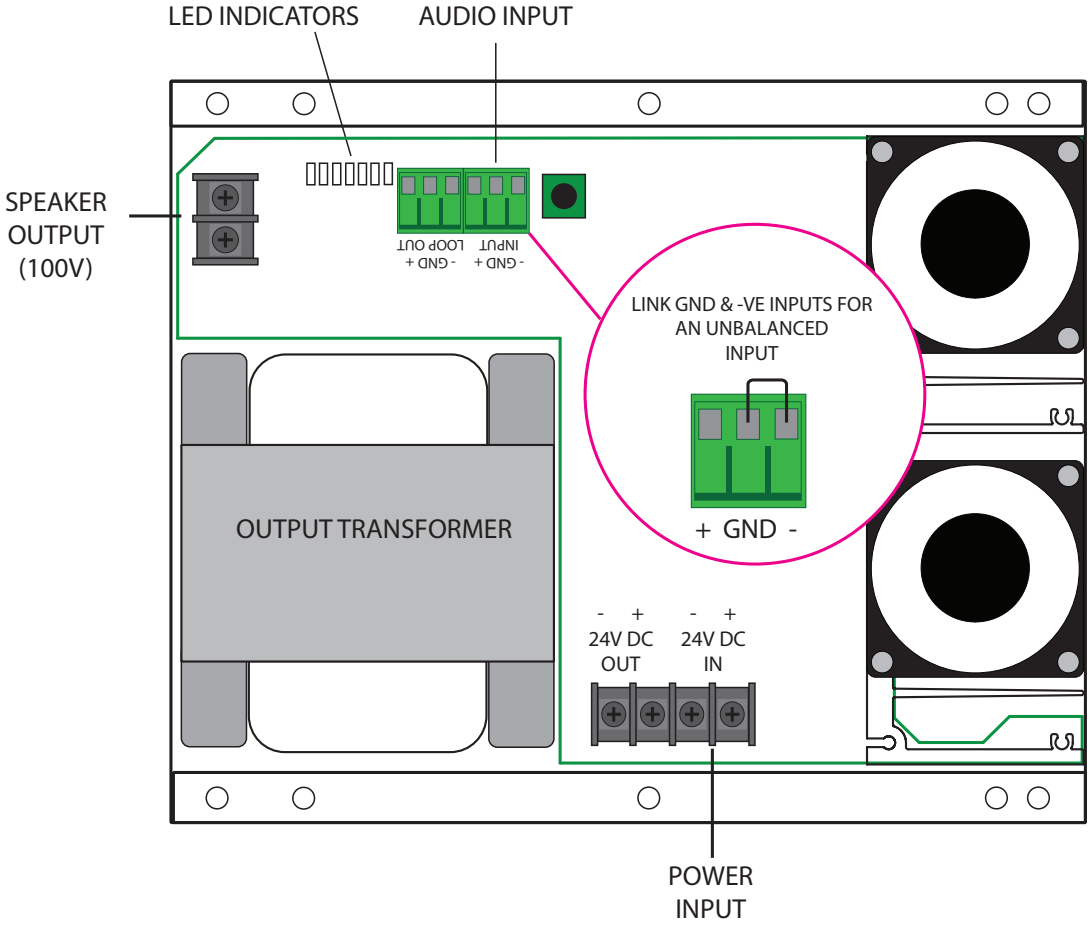

Fig 1

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. Use the Altronics Q 2007 or similar impedance meter.

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

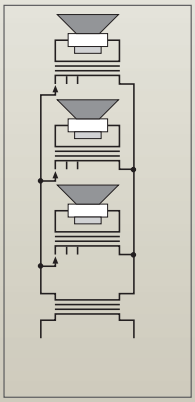

Fig 2

SPECIFICATIONS

Output Power: A 1922A: .....60W RMS
A 1932A: .....120W RMS
Current Draw: A 1922A: 4A at full load, 220mA Quiescent
A 1932A: 8A at full load, 220mA Quiescent
Freq. Response: .....50Hz - 12kHz
Distortion: .....< 0.6%
Signal to Noise Ratio:..... -91dB
Sensitivity: .....600mV RMS
Fuse Rating and Type: A 1922A:.....4A M205
A 1932A:.....7.5A M205

Dimensions (mm): A 1922A: .....210W x 170D x 80H
A 1932A: .....210W x 170D x 87H

TROUBLESHOOTING

Fuse blows: Check speaker loads and replace fuse with 20 Amp blade fuse.
Fuse continually blows: Disconnect load, apply power. If fuse blows again, refer unit to authorised service centre.
Overload LED illuminates: Check speaker types and ratings to ensure the amplifier is not overloaded, and that there are no shorts on the speaker line.
Temp LED illuminates: In this condition check the unit for adequate ventilation. Check also speaker types and ratings to ensure the amplifier is not overloaded, and that there are no shorts on the speaker line.

* Specifications subject to change without notice.

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