

PERTRONIC INDUSTRIES LTD

DATASHEET

50 W 24 Vdc 100 Vrms Line Amplifier (NZ version)



Overview

The Pertronic 50W Amplifier (EVAC50W24V) is an amplifier with integral evacuation tone and message generator. The EVAC50W24V is designed for use in fire alarm systems with supervised 100V-Line audio distribution. The amplifier delivers up to 50 Watts of audio power to the 100V-Line.

The EVAC50W24V is able to generate up to three pre-configured tones. An optional pre-amplifier provides local microphone and remote audio inputs.

Each of the amplifier's three tones can be selected from 47 available options. The default tones are: NZS 4512:2010 evacuation signal, with verbal message; NZS 4512:2010 alert signal with verbal message; and a simulated bell tone. The third tone provides for non-emergency applications such as school bells.

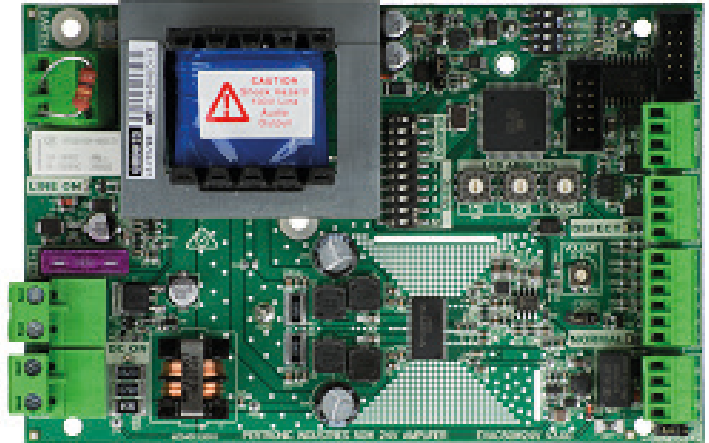
There are three methods of controlling tone output from the amplifier:

1. The external RS-485 bus from any Pertronic analogue addressable fire alarm panel activates any one of the three pre-configured tones
2. Switch or relay contacts connected to the amplifier's TONE CONTROL inputs are able to activate any one of the three pre-configured tones
3. A positive dc voltage applied to the amplifier's BELL input activates one selected tone

An optional microphone pre-amplifier provides a local microphone input (MIC) and press to talk (PTT) control.

Features

- » Default Alert and Evacuation tones with verbal messages as in NZS 4512:2010
- » Each of the amplifier's 3 tones may be chosen from 47 available options, configurable using on-board rotary and DIP switches
- » Verbal message duration up to 20 seconds
- » Custom tones and/or messages available on special order
- » Delivers up to 50 W to connected speakers
- » Optional pre-amplifier suitable for public address microphone or fire microphone
- » Operates from 24 Volt (nominal) DC power
- » Controllable by panel RS-485 bus, TONE CONTROL inputs, or BELL input
- » Overload and short-circuit output protection
- » Fault (DEFECT) LED displays a pattern of short and long flashes to identify any faults that have been detected
- » When not broadcasting, the supervisory system operates and can detect:
 - » Short and open-circuits on the 100V-Line
 - » Power supply faults
 - » Overload conditions
 - » Low power output
 - » RS-485 communication faults
 - » Missing pre-amp (if appropriate)



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The PTT may be configured to silence the integral tone generator. Alternatively, the tone generator may be configured to over-ride the MIC and PTT inputs. The pre-amplifier also has a line level input for connecting to an external audio source.

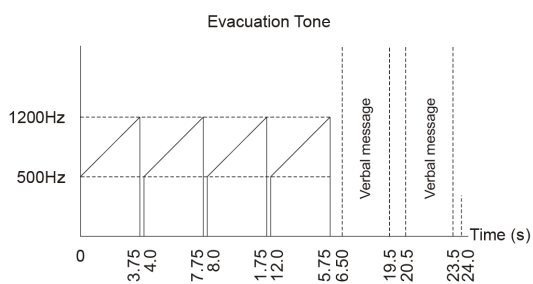
When not broadcasting audio, the amplifier continuously checks for faults on the 100 Vrms line. The 100 Vrms line is checked by driving a small DC current through the output wiring, which must be correctly terminated with an end of line resistor.

Every speaker connected to the supervised 100 V-Line must incorporate a DC-blocking capacitor.

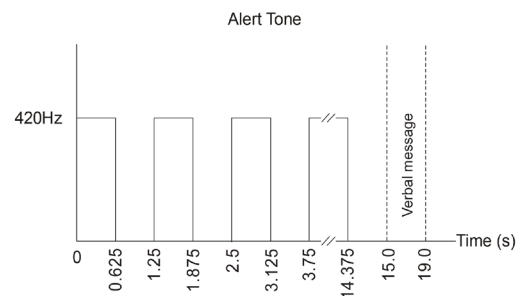
Specification

Dimensions		151 x 98 x 50 mm (L x W x D)
Mounting Hole Spacing		130 x 89 mm (L x W)
Operating Voltage		19.2 Vdc to 28.8 Vdc (reference 27.4 Vdc)
Quiescent Current	Basic	40 mA @ 27.4 Vdc
	RS-485	Additional 12 mA @ 27.4 Vdc if controlled via RS-485
Operating Current		2.5 A @ 27.4 Vdc with 50 Watt rms load
Power Output		50 W @ 100 Vrms line (27.4 Vdc supply)
100 Vrms Output Supervision		Supervised for open-circuit, short-circuit or overload (10 kΩ, 2 W EOL resistor)
Available Tones		47 tones, including verbal messages and NZS 4512 Evacuation and Alert tones
Verbal Message Duration		20 seconds (maximum)
Operating Environment		Temperature 0 °C to +40 °C, Humidity ≤ 95 % RH, non-condensing

Default Evacuation and Alert Tone Characteristics

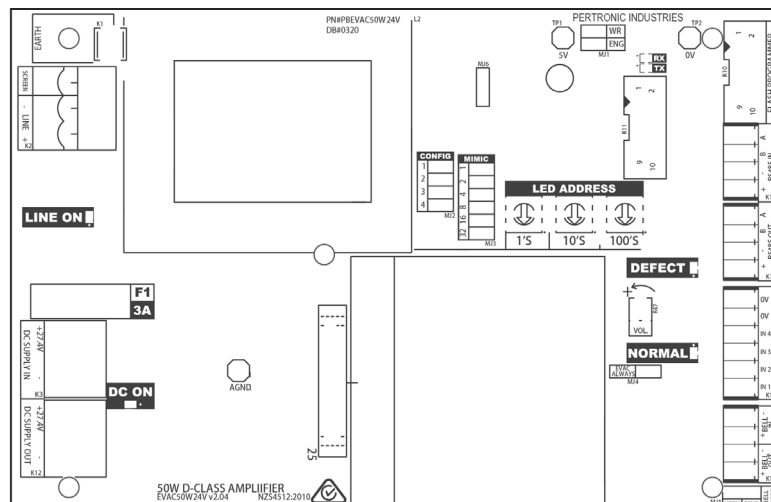


Evacuation Tone, NZS 4512:2010, Appendix F



Alert Tone, NZS 4512:2010, Appendix F

Default Evacuation and Alert Tone Characteristics



Ordering Information & Notes

Product Code	Description
EVAC50W24V	Evac Amplifier 50W 24V
EVAC50PREA	Pre-Amp (MIC I/P) for EVAC50W24V Amplifier
ADM-2	Audio Distribution Module, 2 way
ADM-4	Audio Distribution Module, 4 way

The information in this document must not be treated as partial or complete instructions for the design, construction, installation, commissioning, or maintenance of fire detection, fire alarm, or building evacuation systems. Fire and evacuation systems must be designed and installed by properly qualified persons, in accordance with all regulatory requirements.

Unless explicitly stated otherwise, this document provides typical specifications and nominal dimensions. Actual product performance and dimensions may vary.

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