

GUARDIAN²X

ACTIVE TWO CHANNEL LOUDSPEAKER PROTECTION DEVICE

DATASHEET V1.0 | 04-06-2024 | E&OE



AMINA
IMMERSIVE INVISIBLE SOUND

Product Description

The Guardian² is Amina's all-new two-channel active loudspeaker protection system for low impedance loudspeakers. The configurable 'X' variant can provide overdrive protection for any Amina Invisible loudspeaker, set by a series of internal dipswitches. Please see the 'Guardian² AGP^{3/5/7}' Datasheet for details on the fixed threshold variants of the Guardian².

The 2-stage active circuit design responds to RMS and peak audio events in an instant, preventing any opportunity for Amina invisible loudspeakers to be overloaded with excess power from audio system events or user error, in an appropriately configured audio system.

RMS or average voltage protection continually monitors the power delivery over a short time window to detect any potential for thermal overload.

Peak voltage protection continually monitors for excessively powerful short-duration peaks which may otherwise have the potential to cause the speaker to exceed its mechanical limits.

If and when the peak or RMS monitoring thresholds are exceeded, the signal to the speaker is immediately attenuated, returning to a normal state once safe to do so.

Application

The Guardian² is intended to be a last-line-of-defence against accidental overloading and should not be used as a volume limiter or for gain reduction. It is always best practice to configure the audio system in a way that prevents overdriving or 'trip' events which interrupt the user experience. Amplifiers must be appropriately specified and/or the channel power output must be appropriately configured to the speaker it is driving: The maximum amplifier channel power limit is 275W per channel of protection.

Specifications

Number of Channels	2
Signal Connection	Phoenix Connectors (2.5mm to 1mm core conductor / 10-18 AWG)
Power Connection	Female Micro-USB (1m [39 ³ / ₈ "]) USB-A > Micro-USB Cable Provided)
Power Requirement	5V / 1A
Product Weight	71g (1/2 oz)
Product Dimensions (Including Connectors)	100mm x 48mm x 24mm / (3 ¹⁵ / ₁₆ " x 1 ⁷ / ₈ " x 1 ⁵ / ₁₆ "
Compatible Loudspeaker Ranges	All Mobius and Edge Loudspeakers
Maximum Amplifier Channel Power	275W
Relevant Regulatory Standards	CE Low Voltage Directive (LVD)
Manufacturer Limited Warranty	3 Years



Flexible, Configurable Protection

The Guardian² X is a configurable protection solution with internal dipswitches used to set the protection threshold. Initially supplied set to the lowest (i.e. safest) power threshold (6.25W @ 4 ohms), integrators can configure the thresholds to match one of Amina's three power tiers by using the dipswitch key on the next page. Both channels are configured by a single dip switch bank, meaning both channels of any Guardian² will always be set to the same protection threshold.

Guardian²

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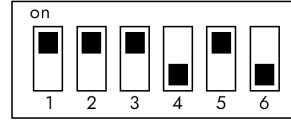


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Configuration

The Guardian²X will be supplied pre-configured to the lowest protection threshold (6.25W @ 4 ohms), and should always be configured to protect any current Amina invisible loudspeaker via a series of internal dipswitches, accessed by removing four phillips-head screws.

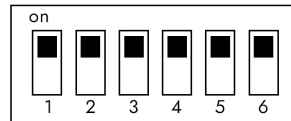
The Guardian² Flex can also be used to set custom power thresholds suitable for Amina speakers in series, parrallell and series parrallell cable configurations - In this case please contact Amina technical support for help calculating the appropriate protection threshold. Each speaker should ideally be individually cabled back to the rack, where any interconnects can be made.



30W RMS / 60W Peak for:
Edge3i, Mobius3i, MobiusDuali (x2)



50W RMS / 100W Peak for:
Edge5i, Mobius5i, Mobius5i/S200



75W RMS / 150W Peak for:
Edge7i, Mobius7i

Installation

The Guardian² is designed to connect between the amplifier and loudspeaker. It should be installed in an accessible location, usually behind the amplifier in the AV rack. (Note; the MobiusDuali stereo speaker panel requires two channels of Guardian protection.) The Guardian² should never be installed in wall or ceiling cavities.

Connection

Audio connections are made using the included industry-standard Phoenix connectors with both inputs on one side and both outputs on the other side for neat cable management.

Power is supplied via the included USB cable, connected to any 5V supply such as PoE (by using a 5VDC regulated PoE splitter), or any available powered USB ports.



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