

GUARDIAN¹⁶

ACTIVE 16 CHANNEL RACK-MOUNT LOUDSPEAKER PROTECTION DEVICE

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



AMINA
IMMERSIVE INVISIBLE SOUND

Product Description

The Guardian¹⁶ is Amina's all-new 16 channel active loudspeaker protection system for low impedance loudspeakers. Configurable to protect all current models of Amina loudspeakers, the Guardian¹⁶ combines a fully analogue signal path with lightning-fast digital sensing technology, maintaining audio purity and ensuring loudspeaker longevity.

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, automatically returning to a normal state once safe to do so.



Application

The Guardian¹⁶ 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 over-driving or 'trip' events which interrupt the user experience. Amplifiers must be appropriately specified and 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.

Flexible, Configurable Protection

The Guardian¹⁶ is a configurable protection solution with a bank of internal dip-switches for each channel 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 dip-switch key on the next page.

Specifications

Number of Channels	16
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	2.5Kg (5lbs 8oz)
Product Dimensions (Including Connectors)	205mm x 481mm x 44mm / (8 1/16" x 19" x 1 3/4")
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

Guardian¹⁶

Amina Technologies Limited

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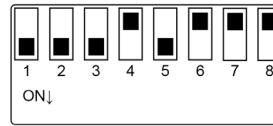
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Configuration

The Guardian¹⁶ will be supplied pre-configured to the lowest protection threshold (6.25W @ 4 ohms). Each channel must be configured to the speaker it is protecting. Removing the four Phillips-head screws indicated on the diagram below allows the top cover of the case to be removed, revealing a series of internal dip-switches on each channel. The adjacent key shows the correct settings for each Amina power tier.

Each channel of the Guardian¹⁶ can be used to set custom power thresholds suitable for Amina speakers connected in series, parallel and series parallel cable configurations, and even to protect loudspeakers from other manufacturers - in either case please contact Amina technical support for help calculating the appropriate protection threshold.

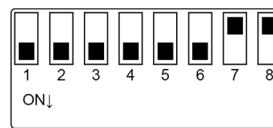
Dip-switch Key



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 Guardian¹⁶ is designed to connect between the amplifier and loudspeaker. It should be installed in an accessible location, ideally in the AV rack, taking a single 1U space. The Guardian¹⁶ should never be installed in wall or ceiling cavities. Rack ears are supplied loose in the accessory box. If the Guardian⁸ will be rackmounted, the rack ears will slot into the sides of the case while the top cover is removed for configuration.

Connection

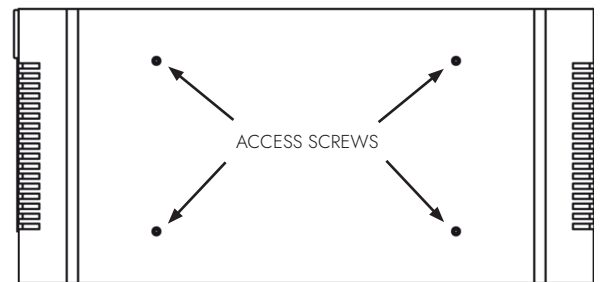
Audio connections are made using the included industry-standard Phoenix connectors on the back of the unit. The Phoenix connectors can only be inserted in one mechanical orientation with the 'in' (from the amplifier) and 'out' (to the speaker) terminals are clearly labelled along with the polarity of each pole, on the connector blocks.

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. If the power supply to the Guardian¹⁶ is interrupted for any reason, every channel will enter a protection state until the power is restored.

TOP



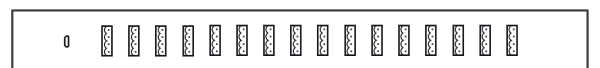
BOTTOM



FRONT



BACK



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