GRAS 12AA

2-Channel Power Module with gain, filters and SysCheck generator

Connection:Traditional 200 V
Channel(s): 2

The GRAS 12AA Power Module is a dual channel power supply for preamplifiers used with condenser microphones. It is for general use in acoustic measurements as well as for intensity measurements; both in the laboratory and in the field.

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GRAS Sound & Vibration

Typical applications and use

- Building-acoustics measurements
- Acoustic-transfer measurements
- Sound-intensity measurements

Design

It has the following signal-conditioning settings:

- Linear-response
- A-weighting
- High-pass filtering

Whichever one is selected is applied to both channels.

The GRAS 12AA can be powered either by internal standard batteries or an external DC supply (12 V-18 V), e.g. a mains/line adapter. It is built into a sturdy anodized aluminum cabinet. The polarization voltage for the microphone fitted to the preamplifier can be set to 0 V for prepolarized microphones or 200 V for externally polarized microphones. The voltage supply for the preamplifier can be set to 120 V for maximum dynamic range, or 28 V for minimum power consumption. The GRAS 12AA will run for up to 10 hours on fresh standard alkaline batteries. A Battery meter indicates the condition of the batteries.

The inputs are two 7-pin LEMO sockets (A and B) on the front panel which are wired up for GRAS microphone preamplifiers, e.g. 26AB, 26AC, 26AJ, and 26AK, but are also compatible with other available makes of similar microphone preamplifiers.

The outputs are two standard BNC connectors (A and B) on the rear panel. Both channels have an overload indicator. The gain in each channel can be set individually from – 20 dB to + 40 dB in steps of 20 dB.

The standard A-weighting filter in each channel complies with IEC Standard 60651: Sound level meters Type 0. The high-pass filter in each channel is a 3-pole Butterworth filter with a – 1 dB cut-off at a frequency of 20 Hz. These filters are for reducing unwanted low-frequency signals, e.g. caused by wind-induced noise on the microphone.

For intensity measurements, which require extremely good phase matching, the preamplifier signals can be coupled directly to the outputs of the 12AAby selecting direct output. This makes the output of each preamplifier available free of any signal conditioning.

A built-in precision 1 kHz oscillator enables a complete check of each measuring channel when used with GRAS preamplifiers 26AH, 26AJ or 26AL, which include SysCheck. The oscillator can be activated directly via a push-button on the front panel or remotely via a mini-jack connector on the rear panel. The output level of the oscillator can be individually adjusted in each channel using a small screwdriver on potentiometers accessible via holes in the front panel.

The cabinet of the 12AA is 1/12 of a standard 19-inch rack; up to 12 of these Power Modules can be mounted in a standard 19-inch rack using the AK0040 Rack-mounting System.

Warranty

All GRAS products are made of high-quality materials that will ensure life-long stability and robustness. The 12AA is delivered with a 2-year warranty. The warranty does not cover products that are damaged due to negligent use.

Service and Repairs

All repairs are made at GRAS International Support Center located in Denmark. Our Support Center is equipped with the newest test equipment and

staffed with dedicated and highly skilled engineers. Upon request, we make cost estimates based on fixed repair categories. If a product covered by warranty is sent for service, it is repaired free of charge, unless the damage is the result of negligent use or other violations of the warranty.

CONDITIONING		.
Frequency range (±1 dB)	Hz	3.5 to 200 k
Frequency range (±3 dB)	Hz	2 to 250 k
Output channel(s)		2
Output impedance	Ω	30
Direct coupling input to output		Yes
Inherent noise, LIN (20 Hz to 20 kHz), grounded input	µVrms	<1.6
Inherent noise, A-weighted, (20 Hz to 20 kHz), grounded input	µVrms	<1
Inherent noise, A-weighted with dummy preamplifier (20 Hz to 20 kHz),	µVrms	<3.2
Inherent noise, LIN with dummy micophone (20 Hz to 20 kHz)	µVrms	<5.7
Gain settings, 20 dB steps	dB	-20 to +40
Gain error	dB	< 0.2
A-weighting filter according to		IEC 60651 Type 0
High-pass filter		3-pole Butterworth, -1 dB @ 20 Hz
Linear mode		Yes
SysCheck level @ 1 kHz	Vrms	1
Type		Traditional power supply (LEMO)
Input channel(s), traditional power supply		2
Channel separation (20 Hz to 20 kHz)	dB	>65
Preamplifier supply	V	28 / 120
Polarization voltage	V	0 / 200
Overload indication		Yes
PC controlable		No
External filter option		No
Power amplifier overload detection		No
POWER SUPPLY		.

Power supply, battery		10 x LR6 (AA)
Power supply, external	Vdc	12 to 18
Power consumption	mA	160 to 190
Battery life, 28 V preamp. supply	h	10
Battery life, 120 V preamp. supply	h	8
Battery low indication		Yes
Fuse	mA	315
Temperature range, operation	°C / °F	-10 to +50 / 14 to 122
Weight	g / oz	810 / 28,572

GRAS Sound & Vibration reserves the right to change specifications and accessories without notice.

Included

GRAS EL0001	10 x LR6 (AA) alkaline cells
GRAS AB0002	DC mains/line adapter, Europe
GRAS AB0003	DC mains/line adapter, USA

Optional

GRAS AK0040	19-inch Rack-mounting System

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GRAS Worldwide

Subsidiaries and distributors in more than 40 countries

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ABOUT GRAS SOUND & VIBRATION

GRAS is a worldwide leader in the sound and vibration industry. We develop and manufacture state-of-the-art measurement microphones to industries where acoustic measuring accuracy and repeatability is of utmost importance in R&D, QA and production. This includes applications and solutions for customers within the fields of aerospace, automotive, audiology, and consumer electronics. GRAS microphones are designed to live up to the high quality, durability and accuracy that our customers have come to expect and trust.

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