

GRAS 12AK

1-Channel Power Module with gain and filters



Connection: Traditional 200 V
Channel(s): 1

The GRAS 12AK is a single-channel power module with a 7-pin LEMO 1B connector for power and polarization of an externally polarized microphone set. It features instantaneous and latched overload indication, adjustable gain settings, A-weighting, and Lin and HP filters. These features make the 12AK the ideal choice for a wide range of applications such as monitoring, laboratory use, and sound level meter measurements.

Typical applications and use

- General-purpose measurements
- Precision measurements
- Acoustic monitoring
- Microphone calibration

Design

It has the following signal-conditioning settings:

- linear-response
- A-weighting
- high-pass filtering

The 12AK 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 aluminium 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 12AK will run for approximately 11 hours on fresh standard alkaline batteries. A Low Batt LED indicates the condition of the batteries.

The input is a 7-pin LEMO socket on the front panel which is wired up for GRAS microphone preamplifiers, e.g. 26AB, 26AC, 26AJ and 26AK, but is also compatible with other available makes of similar microphone preamplifiers.

The output is a standard BNC connector also on the front panel.

There are two overload indicators; one

instantaneous, and one latched which can be reset. The gain can be set from 0 dB to + 50 dB in steps of 10 dB.

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

The preamplifier signal can be coupled directly to the output of the 12AK by selecting direct output. This makes the output of the preamplifier available free of any signal conditioning.

The cabinet of the 12AK is 1/12 of a standard 19-inch rack; meaning that 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 12AK 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.

Frequency response (± 1.0 dB) @ Gain ≤ 40 dB	Hz	2 to 200 k
Frequency response (± 1.0 dB) @ Gain 50 dB	Hz	2 to 100 k
Output channel(s)		1
Output impedance	Ω	30
Direct coupling input to output		Yes
Inherent noise, LIN (20 Hz to 20 kHz), grounded input	μV_{rms}	< 4
Inherent noise, A-weighted, (20 Hz to 20 kHz), grounded input	μV_{rms}	< 2.8
Inherent noise, A-weighted with dummy preamplifier (20 Hz to 20 kHz),	μV_{rms}	< 4
Inherent noise, LIN with dummy microphone (20 Hz to 20 kHz)	μV_{rms}	< 5.6
Gain settings, 10 dB steps	dB	0 to + 50
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	V _{rms}	1
Type		Traditional power supply (LEMO)
Input channel(s), traditional power supply		1
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, battery		10 x LR6 (AA)
Power supply, external	V _{dc}	12 to 18
Power consumption	mA	180 to 210

Battery life, 28 V preamp. supply	h	11
Battery life, 120 V preamp. supply	h	9
Battery low indication		Yes
Fuse	mA	250 (slow)
Temperature range, operation	°C / °F	-10 to +50 / 14 to 122
Weight	g / oz	770 / 27.16

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" Rack mounting System
-------------	--------------------------

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

GRAS Worldwide

Subsidiaries and distributors in more
than 40 countries

HEAD OFFICE, DENMARK
GRAS SOUND & VIBRATION
Skovlytoften 33
2840 Holte
Denmark
Tel: +45 4566 4046
www.GRASacoustics.com
gras@grasacoustics.com

USA
GRAS SOUND & VIBRATION
9290 SW Nimbus Avenue
Beaverton, OR 97008
Tel: 503-627-0832
Toll Free: 800-231-7350
www.GRASacoustics.com
sales-usa@grasacoustics.com

UK
GRAS SOUND & VIBRATION
Unit 115, Gibson House,
Ermine Business Park, Huntingdon,
Cambridgeshire, PE29 6XU
Tel: +44 (0) 7762 584 202
www.GRASacoustics.com
sales-uk@grasacoustics.com

CHINA
GRAS SOUND & VIBRATION
Room 315, RuiBo Center(T1)
Lane683, Shenhong Rd,
Minhang District,
Shanghai, China, 201107
Tel: +86 21 64203370
www.GRASacoustics.cn
cnsales@grasacoustics.com



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 and related equipment for industries where acoustic measuring accuracy and repeatability are of the utmost importance. This includes applications and solutions for customers within the fields of aerospace, automotive, audiology, consumer electronics and other highly demanding industries. GRAS microphones are designed to live up to the high quality, durability and accuracy that our customers have come to expect, trust and require.

GRAS Sound & Vibration is represented through subsidiaries and distributors in more than 40 countries and is part of Axiometrix Solutions, a leading test solutions provider comprised of globally recognized measurement brands. Read more at www.grasacoustics.com

grasacoustics.com

GRAS
An Axiometrix Solutions Brand