

GRAS 26AN

1/4" Insert Voltage
Preamplifier



Freq range: 2.5 Hz - 200 kHz

Noise: 1.8 μ V Gain: -0.29 dB

Special feature: For open-circuit sensitivity
calibration of 1/2" and 1/4" microphone
cartridges

The GRAS 26AN 1/4" Preamplifier is a small robust unit optimised for acoustic measurements using condenser microphones. It has a very low inherent noise level, a wide dynamic range and a frequency response from below 2 Hz to above 200 kHz. GRAS 26AN is configured to permit use of the insert voltage-technique for determining the open-circuit sensitivity of a microphone.

Design

All GRAS microphone preamplifiers are based on a small ceramic thick-film substrate with a very high input impedance. The ceramic substrate is shielded by a guard ring to minimise the influence of stray capacitance and microphonic interference. The casing is made of stainless steel for maximum strength and durability. The small dimensions of these preamplifiers ensure reliable operation under humid conditions owing to the heat generated by internal power dissipation.

These preamplifiers are compatible with 1/2" microphones as defined in international standard IEC 1094 Measurement Microphones, Part 4: Specifications for working standard microphones. The mounting thread (11.7 mm - 60 UNS-2) is compatible with other available makes of similar microphone preamplifiers.

Dynamic Range

GRAS 26AN can handle both single and dual-sided power supplies. The supply can vary between 28 VDC and 120 VDC single-sided or ± 14 VDC and ± 60 VDC dual-sided. When using the high supply voltage (120VDC or ± 60 VDC), the dynamic range exceeds 140 dB.

Noise

The electrical circuit in GRAS 26AN is built on a ceramic substrate using selected low-noise components to gain very low self-noise. The electrical self-noise is so low that system noise is mainly determined by the microphone capsule's thermal noise.

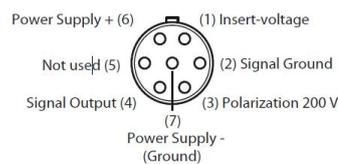
Frequency response

The low-frequency cut-off of the GRAS 26AN preamplifier is mainly determined by the input impedance of the preamplifier and the capacitance

of the microphone capsule. The capacities 20 pF, 6.5 pF and 3 pF equal the typical capacitances of 1/2", 1/4" and 1/8" microphone capsules respectively.

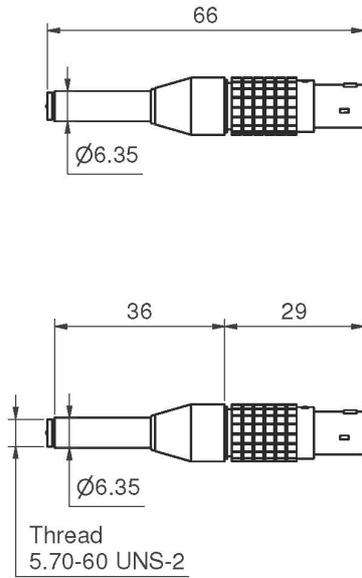
The high-frequency cut-off is determined by the preamplifier's ability to drive capacitive loads (slew rate), caused by the cable. For large-signals, the effects of these parameters must be accounted for when measurements are performed. The large-signal response for GRAS 26AN for various capacitive loads corresponding to different cable lengths is shown in the data sheet. The output level is in decibels relative to 1 Volt. Typical capacitance for the cable is 100pF/m (30pF/foot).

Connector



7-pin LEMO plug 1B male (ext. view)

Dimensions in mm



GS0808
26AN

Optional items

GRAS AA0008	3 m LEMO 7-pin - LEMO 7-pin Cable
GRAS AA0020- CL	Customized Length LEMO 7-pin - LEMO 7-pin Cable

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.gras.dk
gras@gras.dk

USA
GRAS SOUND & VIBRATION
5750 S.W. Arctic Drive
Beaverton, OR 97005
Tel: 503-627-0832
Toll Free: 800-231-7350
www.gras.us
sales@gras.us

CHINA
GRAS SOUND & VIBRATION
Room 303, Building T6
Hongqiaohui, 990, Shenchang Road
Minhang District, Shanghai
China, 201106
Tel: +86 21 64203370
www.gras.com.cn
cnsales@gras.dk



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.

GRAS Sound
& Vibration