GRAS 26AN

1/4'' Insert Voltage Preamplifier



Freq range: 2.5 Hz - 200 kHz
Noise: 1.8 µV 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.

GRAS Sound & Vibration
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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 ±14VDC and ±60 VDC dual-sided. When using the high supply voltage (120VDC or ±60VDC), the dynamic range exceeds 140 dB.

Noise

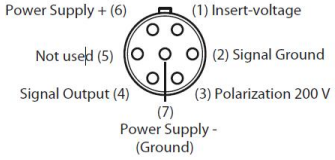
The electrical circuit in GRAS 26AN is built on a ceramic substrate using selected low-noise components to gain very low self-noise. The electrical self-noise is so low that system noise is mainly determined by the microphone capsule's thermal noise.

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 loadscorresponding 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).

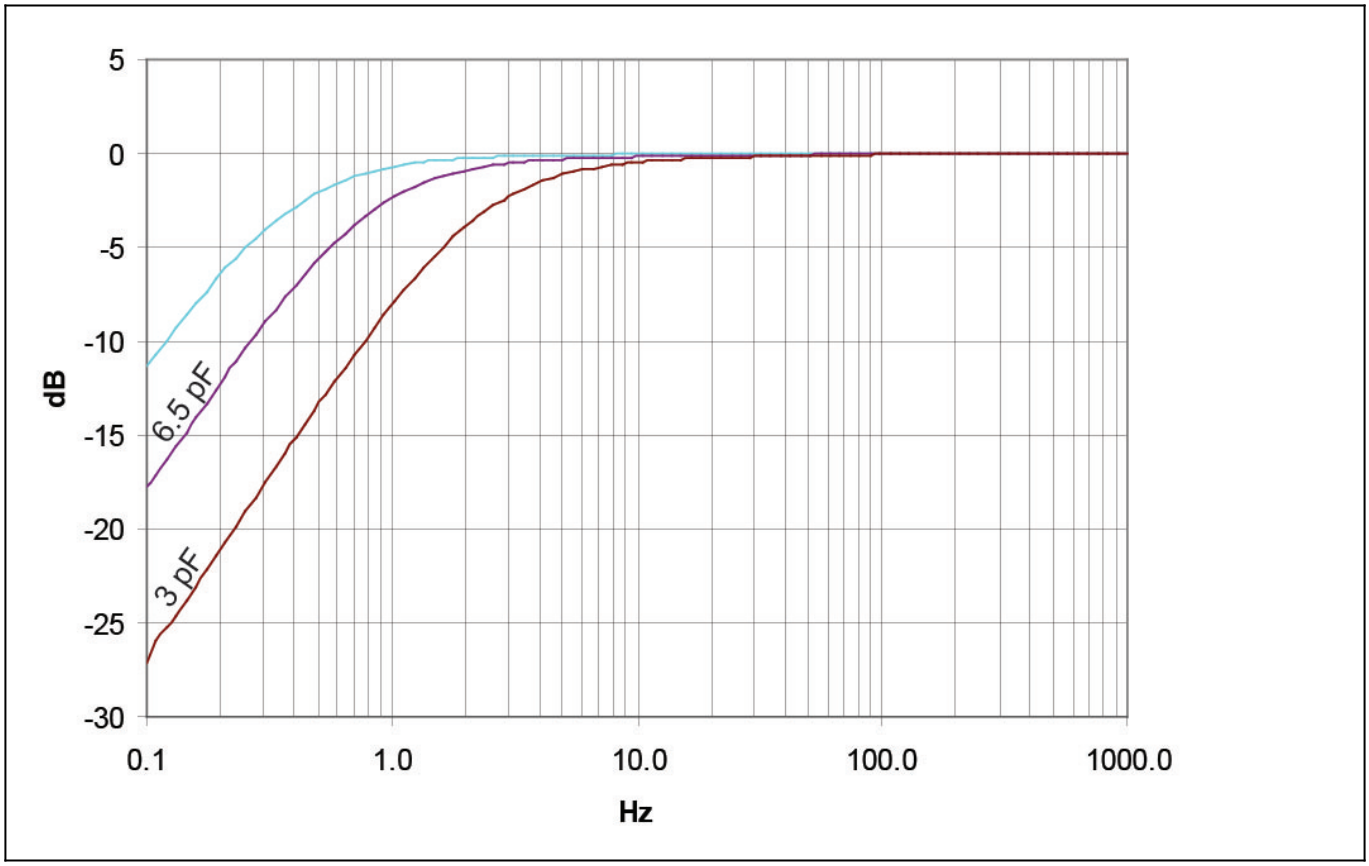
Connector



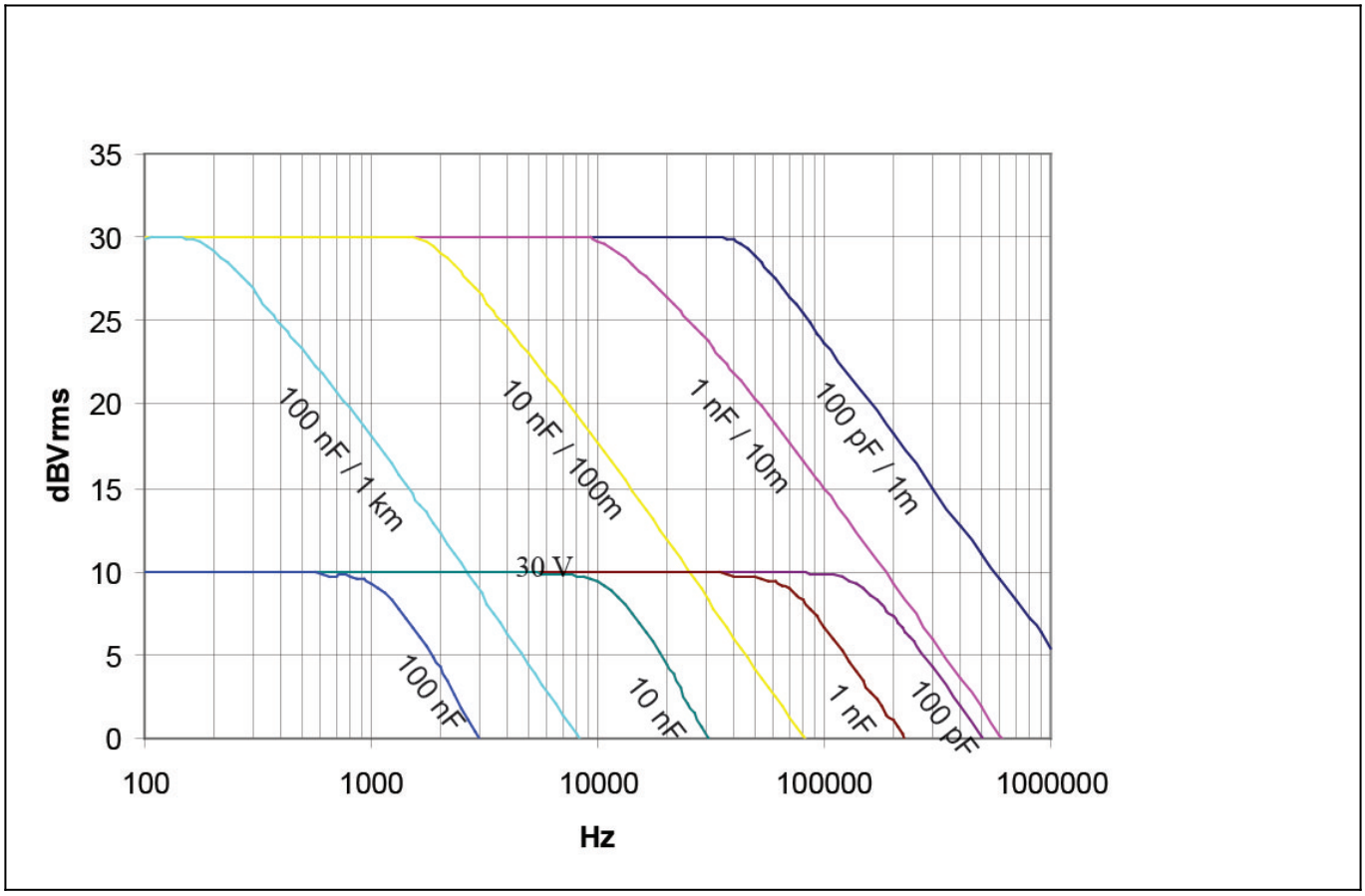
7-pin LEMO plug 1B male (ext. view)

Frequency range (±0.2 dB) with 18 pF microphone dummy	Hz	2.5 to 200 k
Slew rate	V/µs	20
Input impedance	GΩ // pF	20 // 0.4
Output impedance	Ω	75
Output Voltage Swing, max. @ ±14V/+28V power supply	Vp	12
Output Voltage Swing, max. @ ±60V/+120V power supply	Vp	50
Noise (A-Weighted) max.	µV	2.5
Noise (A-Weighted) typ.	µV	1.8
Noise (Linear 20 Hz – 20 kHz) max.	µV	6
Noise (Linear 20 Hz – 20 kHz) typ.	µV	3.5
High-pass filter @3dB cut-off	Hz	TBD
Gain	dB	-0.29
Power supply, single	V	28 to 120
Power supply, balanced	V	±14 to ±60
DC-offset, min., single suppy	V	0.5 x Vs - 1
DC-offset, max., single suppy	V	0.5 x Vs + 4
DC-offset, balanced supply	V	-1 to 4
Temperature range, operation	°C / °F	-30 to 70 / -22 to 158
Temperature range, storage	°C / °F	-40 to 85 / -40 to 185
Humidity range non condensing	% RH	0 to 95
Connector type		7-pin LEMO (FGG.1B.307)
CE/RoHS compliant/WEEE registered		Yes / Yes, Yes
Weight	g / oz	22.0 / 0.78

Conditions: 23 °C Ambient temperature, ±60V/+120V power supply, 18 pF dummy microphone, 3 m output cable.



Typical low-frequency response for ½ (20 pF), ¼ (6.5 pF) and ⅛ (3 pF) microphones

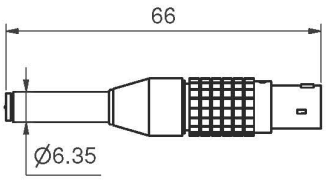


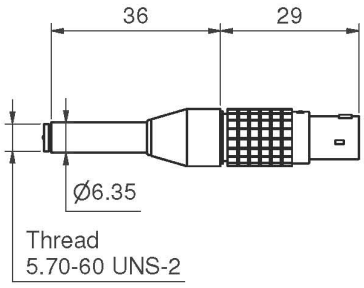
Typical max. rms output signal with 120 V and 30 V supply

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

Dimensions

Dimensions in mm





GS0808
26AN

Optional items

GRAS AA0008	3 m LEMO 7-pin - LEMO 7-pin Cable

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GRAS Worldwide

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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 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

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