

Power Module Type 12AQ

Product Data

Typical Applications and Features

- General-purpose dual-channel precision measurements
- Intensity measurements
- Standard and custom signal conditioning
- Manual and digital control
- CCP and traditional power supplies
- 0V or 200V polarization

Introduction

The G.R.A.S. Power Module Type 12AQ (Fig. 1) is a dual-channel power supply for preamplifiers (CCP as well as traditional) used with measurement, condenser microphones.

It has facilities for both manual control and remote control. Manual control is via its front-panel switches and push buttons. Remote control is via its RS232 interface.

The Type 12AQ is for general use in acoustic measurements as well as for intensity measurements; both in the laboratory and in the field.

Traditional Preamplifiers

For traditional preamplifiers such as Type 26AL (1/4") or Types 26AJ and 26AH (1/2"), Type 12AQ provides:

- Voltage supply ($\pm 15V$ or $\pm 60V$) for powering up to two microphone preamplifiers.
- Polarization voltage (200V or 0V) for two condenser microphones.
- SysCheck * signal (1000Hz) for calibration checks.

CCP Preamplifiers

For CCP (constant-current power) preamplifiers such as Types 26CB and 26CC (1/4") or Types 26CA and 26CF (1/2"), the Type 12AQ provides a constant current supply (4mA) sourced at 28V DC for two CCP microphone preamplifiers.



Fig. 1 Power Module Type 12AQ

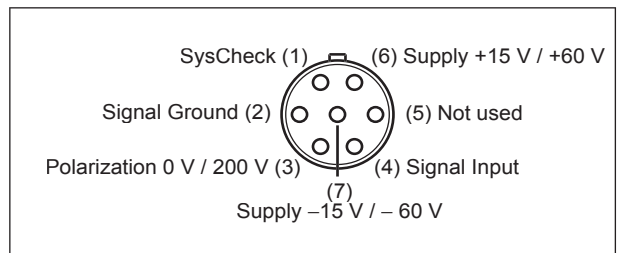


Fig. 2 7-pin LEMO female socket 1B (external view)

Signal Conditioning

Each channel can be set-up independently in terms of gain, filter, input, output and polarization voltage.

Gain

The gain can be set from -20 dB to 70 dB in discrete steps of 10 dB .

A series of front-panel LEDs follows and indicates the current gain setting.

* SysCheck: provides a simple means of checking the system's performance by applying a 1000Hz signal (via pin 1, see Fig. 2) which simulates a response to a sound level of 94dB and detecting if any drift in sensitivity has occurred.

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Filter

The filter characteristics can be selected from one of the following:

- **Lin** for linear response with a high-pass filter of 0.2Hz.
- **HP** for linear response with a high-pass filter of 20Hz.
- **AW** for an A-weighted response.
- **Ext** for an optional, customised signal-response network (contact G.R.A.S. for further details).

Input

The microphone signal can enter the Type 12AQ via either of the following input sockets on the rear panel.

- BNC sockets for microphones used with CCP preamplifiers
- 7-LEMO sockets for microphones used with traditional preamplifiers.

Output

The conditioned output signals, via the BNC output sockets on the rear panel, can be made available as either floating or non-floating.

Polarization voltage

Applicable to 7-pin LEMO preamplifier inputs on the rear panel. Can be set to either 0V or 200V

Preamplifier supply voltage

This can be set to either $\pm 15V$ or $\pm 60V$. The chosen value will apply to both 7-pin LEMO preamplifier inputs.

Syscheck

This can be set to either SysCheck signal (1000 Hz) on or off. The chosen condition will apply to both 7-pin LEMO preamplifier inputs.

Power Supply

The Type 12AQ can be powered either by internal standard alkaline cells (6 x LR14 {C}) or from the included mains/line Adapter for either 115V AC or 230V AC.

Specifications

Traditional premp. inputs

Connectors: 7-pin LEMO female
Power supply: $\pm 15V$ or $\pm 60V$
Polarization: 0V or 200V
Input impedance: 100 k Ω

CCP preamp. inputs

Connectors: BNC coaxial
Power supply: 4 mA sourced at 28V DC
Input impedance: 100 k Ω

Signal outputs

Connectors: BNC coaxial
Impedance: 100 Ω
Output: Floating or non-floating
Overload level: 9V peak

Gain

Adjusted in steps of 10 dB from -20 dB to +70 dB

Frequency response

For gain -20dB to 50dB: 10 Hz to 100 kHz ± 0.1 dB
2 Hz to 200 kHz ± 0.2 dB
For gain 60 and 70 dB 10 Hz to 20 kHz ± 0.1 dB

Filters

Lin: HP filter 0.56 Hz, -1 dB (2nd order)
HP: HP filter 20 Hz, -3 dB (butterworth 3rd order)
AW: A-weighting, IEC 61651 type 0
Ext: Optional, customised signal-response network

SysCheck:

Output: Sinusoidal
Frequency: 1000 Hz
Level adjustable: 0 - 5.6 V RMS

Control interface:

Interface to host: Smart RS232, MSG line

Power supplies:

Internal batteries: 6 x LR14 (C) alk. cells
External power: 8 - 18V DC

Dimensions:

Height: 132.6 mm (5 $\frac{1}{4}$ in)
Width: 69.5 mm (2.7 in)
Depth: 237.0 mm (9.3 in)

Weight:

Without batteries: 1.35 kg (3 lbs)
With batteries: 1.75 kg (3.85 lbs)

Optional Accessories

RP0001-XX: Customised Signal-response Network

G.R.A.S. Sound & Vibration reserves the right to change specifications and accessories without notice.