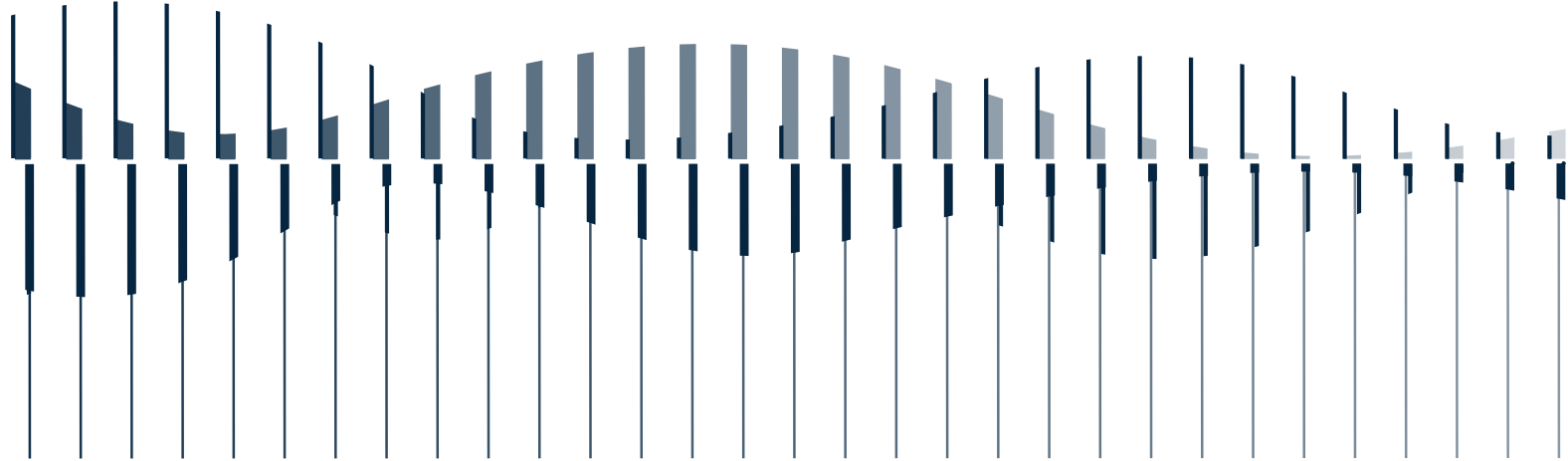




Instruction Manual

12AD Power Module



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1. Introduction and Description

The G.R.A.S. Power Module Type 12AD (Fig. 1) is a portable, single-channel power supply for use with microphone preamplifiers and condenser microphones. It provides:

- a polarization voltage for condenser microphones
- a voltage supply of $\pm 15\text{V}$ DC for powering microphone preamplifiers

1.1 Polarization Voltage

The polarization voltage can be set to either 0V or 200V via a switch on the rear panel (see Fig. 2.3). This switch is latched to avoid inadvertently changing its setting. Just pull the latch on the switch before changing the setting. Use:

- 0V for prepolarized microphones, and
- 200V for externally-polarized microphones

1.2 Power Supplies

The Type 12AD can run on batteries with a battery life of approximately 50 hours using G.R.A.S. preamplifiers, or from an external power supply of 4.5 - 24V DC (see section 3).

1.3 Input/Output

The Type 12AD has a 7-pin LEMO input connector for microphone preamplifiers such as the G.R.A.S. Preamplifiers Types 26AM, 26AC and 26AK. This input connector is also compatible with a range of microphone preamplifiers from other suppliers such as Norsonic, L&D and Brüel & Kjær. The output signal of the microphone preamplifier is available via a standard BNC socket for direct use with analyzers, voltmeters, oscilloscopes etc. This output signal from the LEMO input connector (pin 4 - see Fig. 2.2) is AC coupled to the BNC output connector.



Fig. 1.1 Power Module Type 12AD

2. External Features

2.1 Front Panel

The front panel has the following features (see also Fig. 2.1):

- 7-pin LEMO input connector for the microphone preamplifier. Wiring diagram shown in Fig. 2.2.
- BNC output socket for output signal of microphone preamplifier.
- Power switch with two LEDs: green “OK”, red “Batt. Low”.

2.2 Rear Panel

The rear panel has the following features (see also Fig. 2.3):

- Input socket for an external voltage supply of 4.5 - 24 V DC ;centre pin +terminal.
- Twist/release holder for 160 mA low-impedance, slow-blow fuse.
- Latched switch for selecting a polarization voltage of either 0V (for prepolarized microphones) or 200 V (for externally-polarized microphones).
- Detachable battery drawer for housing 4 alkaline cells LR 6 /AA. The use of an external voltage supply automatically disables power from the batteries.



Fig. 2.1 Front panel of the Power Supply Type 12AD

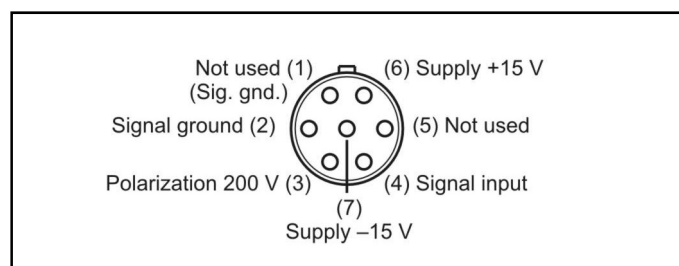


Fig. 2.2 7-pin LEMO female socket 1B (external view)



Fig. 2.3 Rear panel of Power Supply Type 12AD

3. Batteries and External Power

The Power Supply Type 12AD can be powered either by internal batteries or from an external power supply. If an external DC power supply is connected via the **Ext. Supply** socket on the rear panel; any batteries inside the unit will automatically be disconnected.

The external power supply should be a mains/line adapter regulated to supply 4.5 - 24 V DC with the centre pin as the + terminal. When the Type 12AD is switched on via the **I-O** switch on the front panel, the green **Power** LED will light up, and the red **Low Batt.** indicator should remain extinguished to ensure correct operation of the unit. If the **Low Batt.** LED lights up, either the external power supply voltage is too low, or the batteries need changing. To ensure valid measurements, we recommend that you change batteries whenever the **Low Batt.** LED is lit; there will be at least one hour's use left after it first warns of low batteries.

To change the batteries, squeeze and pull out the battery drawer from the battery compartment on the rear panel (see Fig. 3.1). Remove all 4 batteries and replace them with fresh ones,

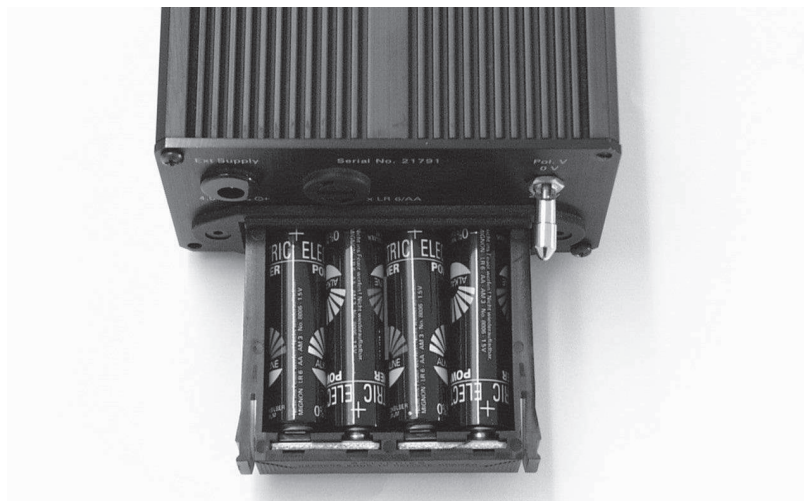


Fig. 3.1 Battery drawer open: note polarity of batteries

making sure to observe the correct polarity as indicated in the battery drawer. Use alkaline batteries size AA or LR6. Replace the battery drawer in the battery compartment.

If the fuse blows, first rectify the cause then replace it with a new low-impedance slow-blow fuse rated at 160 mA.

4. Operation

1. Make sure that power is available to the Type 12AD (see section 3) but don't switch it on yet.
2. Select which polarization to use (200 V for an externally polarized microphone or 0 V for a prepolarized microphone).
3. Mount the microphone on to the preamplifier
Note: the microphone must be compatible with the polarization voltage selected in step 2.
4. Insert the LEMO plug of the preamplifier into the **Input** socket of the Type 12AD.
5. Using a suitable lead, connect the **Output** socket of the Type 12AD to an analyzer, voltmeter, oscilloscope etc., and switch it on.
6. Switch on the Type 12AD.
7. Adjust the analyzer, voltmeter, oscilloscope etc. to gauge correctly the signal from the Type 12AD.

5. Service and Repair

Repairs should be carried out only by qualified personal. The Power Module Type 12AD should not be dismantled with power on because of high-voltage circuits.

6. Specifications

Input/Output:

Input: 7-pin LEMO 1B female connector for microphone preamplifier
Output: BNC coaxial socket for output signal of microphone preamplifier

Output impedance:

30 Ω

Frequency response:

± 0.2 dB: 0.05 Hz - 200 kHz

Preamplifier supply voltages:

Preamplifier: ± 15 V
Polarization: 200 V (can be switched to 0 V when using prepolarized microphones)

Power supplies:

4 x LR6 (AA) standard alkaline cells or
Mains/line adapter supply regulated to 4.5 - 24 V DC

Power consumption:

35 mA with a G.R.A.S. preamplifier

Battery life:

Approximately 50 hours using alkaline batteries
(Valid at 23 °C)

Fuse:

160 mA (Slow), 250 V
(Low-impedance fuse)

Operating temperature range:

-10 °C to +50 °C

Dimensions:

Height: 60 mm
Width: 105 mm
Depth: 130 mm

Weight:

520 g without batteries.

Accessories included:

EL0001: 4 x LR6 (AA) batteries

Manufactured to conform with:

CE marking directive:
93/68/EEC



WEEE directive:
2002/96/EC



RoHS directive:
2002/95/EC



G.R.A.S. Sound & Vibration continually strives to improve the quality of our products for our customers; therefore, the specifications and accessories are subject to change.