

Actuator Supply Type 14AA

Product Data and Specifications

Typical applications

- *Microphone measurements*
- *Driving microphone sound sources*
- *Electrostatic-actuator calibrations*
- *IEC 61094-6 Compliance*

The G.R.A.S. Actuator Supply Type 14AA (Fig. 1) is a high-gain, high-voltage amplifier. The Type 14AA together with the available G.R.A.S. electrostatic actuators (Fig. 2) comply with IEC 61094 -6 "Measurement microphones - Part 6: Electrostatic actuators for determination of frequency responses."

The input to the Type 14AA is via a standard BNC socket on the front panel and any input signal up to 3 V peak-to-peak can be applied. This is then amplified by 40 dB to produce an AC output signal of up to 300 V peak-to-peak maximum. This AC output signal is also made available superimposed on +200 VDC and +800 VDC.

This amounts to three parallel signal outputs available via sockets on the front panel marked as follows:

- AC Output (BNC socket)
- AC Output +200 VDC (BNC socket)
- AC Output +800 VDC (banana socket)

Driving microphone sound sources: With the AC Output superimposed on +200 VDC and used as a modulated polarization voltage on a standard measurement microphone such as the G.R.A.S. Type 40BP, the microphone becomes a precision sound source for generating high frequency acoustic signals.

Alternatively, the AC Output alone can be similarly used with a prepolarized microphone such as the G.R.A.S. Type 40AD.

Fig. 3 shows an example of a set up using this technique for calibrating a G.R.A.S. IEC 711 Coupler RA0045.



Fig. 1 Actuator Supply Type 14AA

Electrostatic actuator calibrations: With the AC Output superimposed on +800 VDC, it can be used as a modulated polarization voltage for electrostatic actuators, e.g. the G.R.A.S. RA0014 or



Fig. 2 Available G.R.A.S. Electrostatic Actuators for 1/2-inch (left) and 1-inch microphones

G.R.A.S.
Sound & Vibration

Skovlytoften 33
2840 Holte, Denmark
Tel +45 45 66 40 46 Fax +45 45 66 40 47
e-mail: gras@gras.dk www.gras.dk

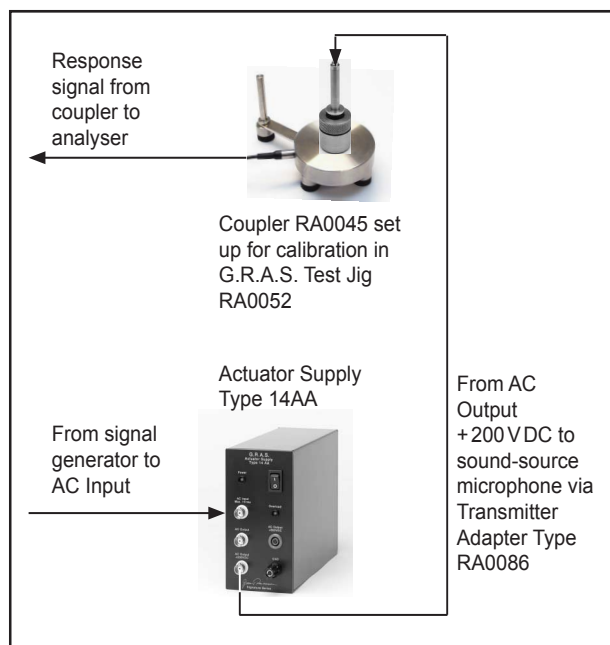


Fig. 3 Example of the AC + 200 VDC output of the Type 14AA used in a set up for calibrating a G.R.A.S. IEC 711 Coupler RA0045

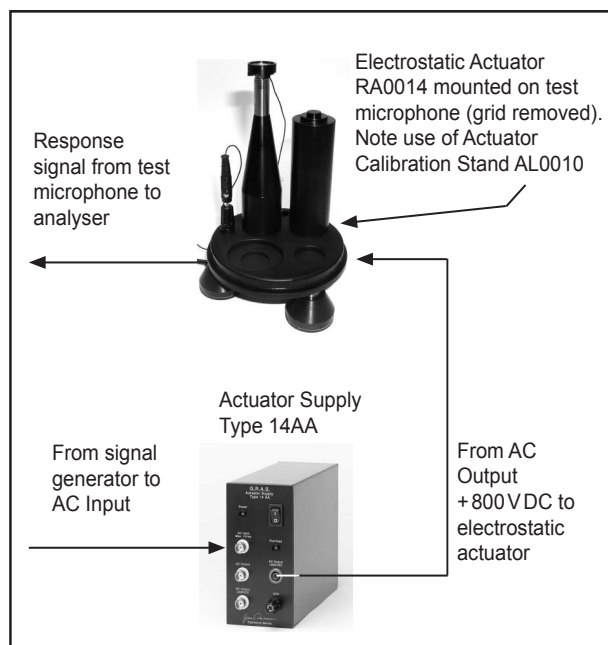


Fig. 4 Example of the AC + 800 VDC output of the Type 14AA used in a set up (with an AL0010) for measuring the pressure frequency response of a condenser microphone

RA0015 (Fig. 2), for measuring the pressure frequency response of condenser microphones.

Fig. 4 shows an example of a set up using this technique for accurately measuring the pressure frequency response of a condenser microphone in the range 100 Hz to 200 kHz.

Care should be taken when calibrating below 200 Hz because of the influence of pressure equalisation in the rear volume of the microphone.

Specifications

AC Input:		Power supply:	
Peak-to-peak	..... 3 V (max.)	110 -130 VAC or 220 - 240 VAC	
RMS	..... 1 V (max.)	Weight:	
Gain:		1400 gm	
40 dB		Dimensions:	
AC Output:		Height:	137 mm
Peak-to-peak	..... 300 V (max.)	Width:	70 mm
Polarized outputs:		Length:	200 mm
Electrostatic actuators	AC Output + 800 VDC	Accessories available:	
Condenser microphones	AC Output + 200 VDC	Actuator Calibration Stand	AL0010
Frequency response		1/2-inch Electrostatic Actuator	RA0014
(AC Output, AC Output + 200 VDC):		1-inch Electrostatic Actuator	RA0015
1 Hz - 200 kHz	..... ± 1 dB	1/2-inch Transmitter Adapter	RA0067
Output impedance:		1/4-inch Transmitter Adapter	RA0086
1 kΩ			

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