

High-sensitivity Array Microphone Type 40PH

Product Data

Features and Applications

- Multi-channel measurements
- Sound-field analyses
- Sound-power measurements
- Concurrent spatial and transient measurements

The G.R.A.S. Array Microphone Type 40PH (Fig. 1) is a low-cost microphone for general purpose measurements in arrays and matrices. It has a wide useful frequency range reaching up to 20 kHz (Fig. 2) and a large dynamic range topping at around 135 dB.

It has an integrated CCP¹ preamplifier and is delivered with a built-in TEDS² chip which enables it to be programmed as a complete unit. The Type 40PH requires a constant-current power supply, e.g. the G.R.A.S. CCP Supply Type 12AL, or any other CCP compatible power supply.

Close manufacturing tolerances together with the advantages of the TEDS chip, provide the Type 40PH with a high degree of interchangeability; a



Fig. 1 Array Microphone Type 40PH with integrated CCP preamplifier

major advantage when used in multiples forming arrays and matrices.

The low cost of the Type 40PH is a key consideration when setting up measurements requiring a multiplicity of concurrent transient and spatial data.

Calibrating the Type 40PH with a G.R.A.S. piston-phone, e.g. the Type 42AA, is as straight forward as calibrating any other G.R.A.S. ¼-inch microphone.

All G.R.A.S. microphones are individually checked and calibrated before leaving the factory. An individual calibration chart is supplied with each microphone.

- 1 Constant Current Power.
- 2 Transducer Electronic Data Sheet - as proposed by IEEE-P1451.4

Specifications

Nominal Sensitivity: at 250Hz 50 mV/Pa (±2 dB)	Temperature Range: -10 °C to +50 °C
Frequency Response (re. 250 Hz): ±3dB 10 Hz - 100 Hz ±1 dB 100 Hz - 3 kHz ±2 dB 3 kHz - 10 kHz ±3 dB 10 kHz - 20 kHz	Output impedance: < 50 Ω
Upper Limit of Dynamic Range: Max. output 135 dB re. 20 µPa	Output connector: SMB coaxial socket
Lower Limit of Dynamic Range: Thermal noise < 32 dBA re. 20 µPa	Length: 60.0 mm (2.36 inches)
Phase Match: 100 Hz - 3 kHz ±3° 3 kHz - 5 kHz ±5°	Diameter: 7.0 mm (0.28 inches)
Influence of axial vibration: for 1 m/s ² 50 dB re. 20 µPa	Weight: 5.5 g (0.2 oz.)
	Power supply: 2 mA to 20 mA (typically 4 mA)

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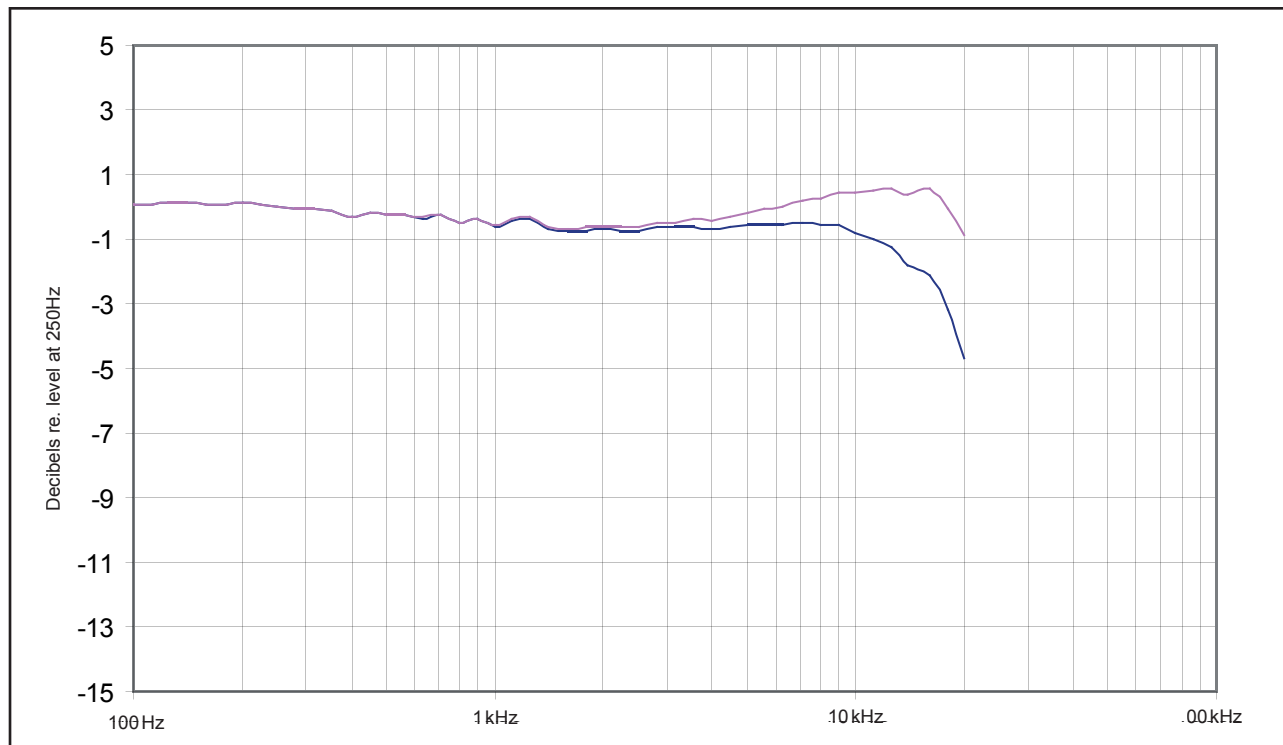


Fig. 2 Typical frequency response for Type 40PH. Upper curve shows free-field response at 0°, lower curve shows pressure response.

Accessories

CCP supply Type 12AL
Windscreens (set of 6) AM0364
Rain-protection cap RA0092
Array Module PR0001
Array Module PR0002
Cables (SMB to BNC):
3 m AA0027
10 m AA0028
30 m AA0029
also available for customer-specified lengths

Pistonphones/Calibrator:
Pistonphone Type 42AA
Pistonphone Type 42AD
Sound Calibrator Type 42AB

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