

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. pistonphone, e.g. the Type 42AA, is as straight forward as calibrating any other G.R.A.S. 1/4-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)	Influence of axial vibration: for 1 m/s ² 50 dB re. 20 µPa
Frequency Response (re. 250 Hz): ±3 dB 10 Hz - 50 Hz ±1 dB 50 Hz - 5 kHz ±2 dB 5 kHz - 20 kHz	Temperature Range: -10 °C to +50 °C
Upper Limit of Dynamic Range: Max. output 135 dB re. 20 µPa	Output impedance: < 50 Ω
Lower Limit of Dynamic Range: Thermal noise < 32 dBA re. 20 µPa	Output connector: SMB coaxial socket
Phase Match: 50 Hz - 100 Hz ±5° 100 Hz - 3 kHz ±3° 3 kHz - 5 kHz ±5° 5 kHz - 10 kHz ±10°	Length: 59.1 mm (2.33 inches)
	Diameter: 7.0 mm (0.28 inches)
	Weight: 5.5 g (0.2 oz.)
	Power supply: 2 mA to 20 mA (typically 4 mA)

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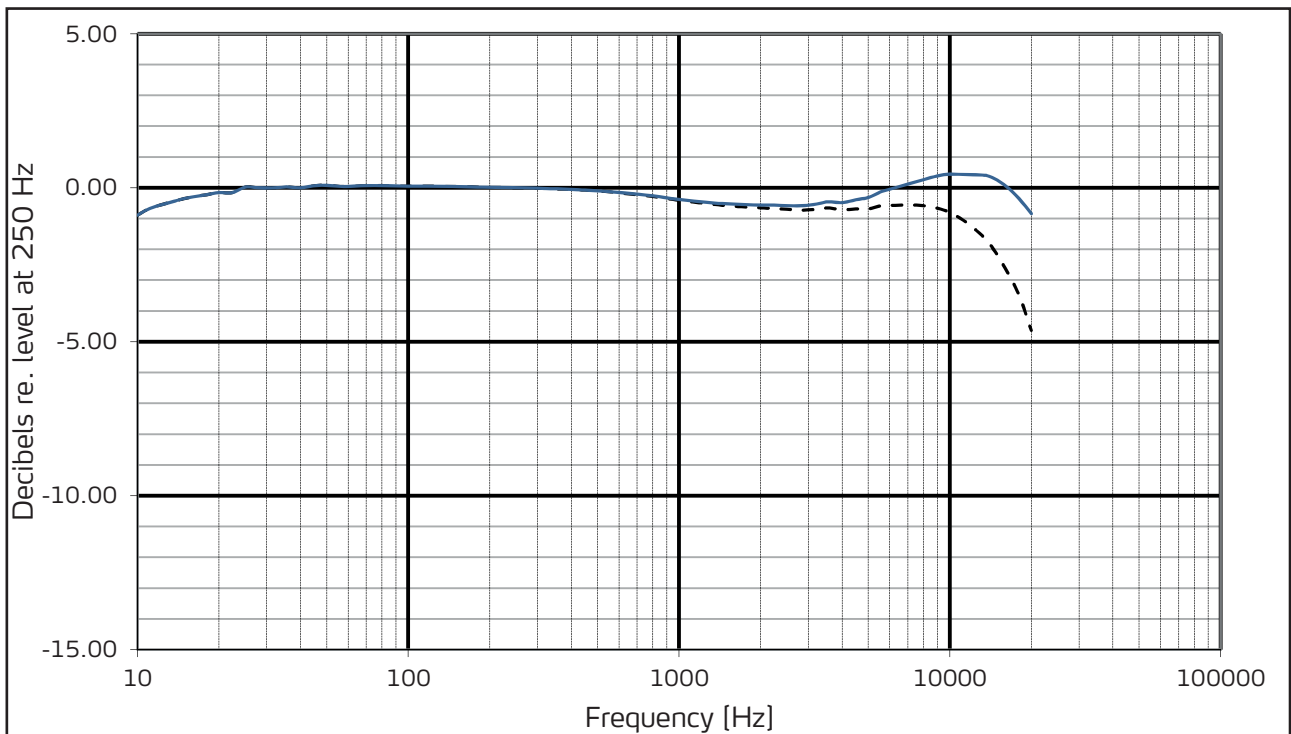


Fig. 2 Typical frequency response for Type 40PH. Upper curve shows free-field response at 0°, lower curve (dotted line) shows pressure response.

Accessories

CCP supply	Type 12AL	Pistonphones/Calibrator:	
Windscreens (set of 6)	AM0364	Pistonphone	Type 42AA
Rain-protection cap	RA0092	Pistonphone	Type 42AD
Array Module	PR0001	Sound Calibrator	Type 42AB
Array Module	PR0002		
Cables (SMB to BNC):			
3 m	AA0027		
10 m	AA0028		
30 m	AA0029		
	also available for customer-specified lengths		

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