



# Acoustic Camera Array Sphere120 AC Pro

120 Channel System for 3D Measurements



The spherical 120 channel microphone array is primarily designed for 360° sound source localization. The light carbon fiber structure ensures easy handling as well as fast and precise array positioning. The omnidirectional microphone positioning of the Sphere120 is particularly well-suited for sound source localization in enclosed spaces. Due to its acoustically transparent design, accurate measurements are carried out without influencing the sound field.

In combination with the NoiseImage software, sound sources can be isolated, localized, and analyzed with respect to both frequency and time response. Additionally, this acoustic measurement system enables the determination of a three-dimensional acoustic map. Because of the high number of microphone channels, the low noise suppression starts at 8 dB (acoustic mapping).

The array comes with an integrated Intel® RealSense™ Depth Camera which features Full HD resolution and the ability to record depth information.

## BENEFITS

- Easy handling and accurate microphone positioning
- Three-dimensional acoustic analysis
- Sound source localization in all directions
- Acoustically transparent array design
- Highest spatial resolution while providing high depth of field
- Mapping onto 3D model ensures accurate focus distance for complex structures

## APPLICATIONS

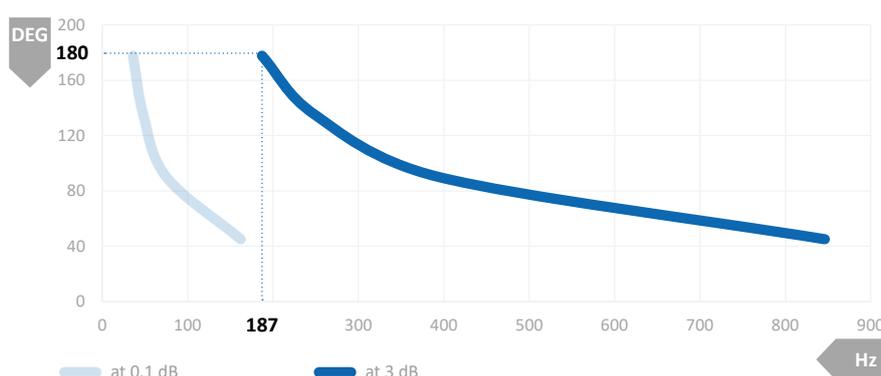
- Room & building acoustics
- Performance venue measurements
- Sound design
- Leakage detection
- Low noise applications



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SIZE AND WEIGHT	
Array-body diameter	60 cm
Weight	2.1 kg
FEATURES	
Video camera	Intel® RealSense™ Depth Camera D435
Resolution	1920 x 1080 (Full HD)
OPERATING CONDITIONS	
Ingress protection code	IP20
Cable length to data recorder	up to 20 m (on request: 50 m)
Operating environment	0 °C – 35°C, up to 80 % RH

MICROPHONE DATA	
Microphones	Electret condenser capsule + special designed preamplifier
Frequency response	20 kHz – 60 kHz (< 15 dB) 100 Hz – 15 kHz (< 0.5 dB) 20 Hz – 20 kHz (< 3 dB)
Max. sound pressure level	130 dB peak at 3 % THD
Noise level	27 dB(A)
Sensitivity	20 mV/Pa
ARRAY DATA	
Channels	120
Recommended measurement distance	> 0.5 m
Acoustic mapping range	8 dB – 130 dB
Backward attenuation	> -21 dB
Recommended mapping frequencies	187 Hz – 20 kHz
Dynamic range*	15 dB – 18 dB, up to 50 dB with advanced algorithms



Calculation of the lowest frequency (Hz) at 180° opening angle (DEG)

\* Distance to the source: 1 m; calculation points: 90.000

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