



Silicon Audio integrated the mechanics of conventional geophones with innovative optical technologies to create a scientific-grade seismic sensor with unparalleled characteristics and performance for resource exploration and scientific discovery. The sensor delivers superior signal-to-noise ratio and broadband response in a rugged, easy-to-deploy form factor. Developed originally for ocean-bottom exploration, the sensor has been deployed around the world in a wide variety of seismic applications and is available in various packaging configurations.

Performance Attributes:

- Ultra-low noise and low frequency.
- High shock tolerance.
- Wide bandwidth and dynamic range.
- Bridges weak- and strong-motion applications.
- Low cross-axis sensitivity.
- Low power design.
- Very large tilt tolerance.
- High clip levels and low distortion levels.
- Customizable packaging/configuration.
- Small, lightweight, rugged form factor.
- High linearity across full bandwidth.
- High vector fidelity.

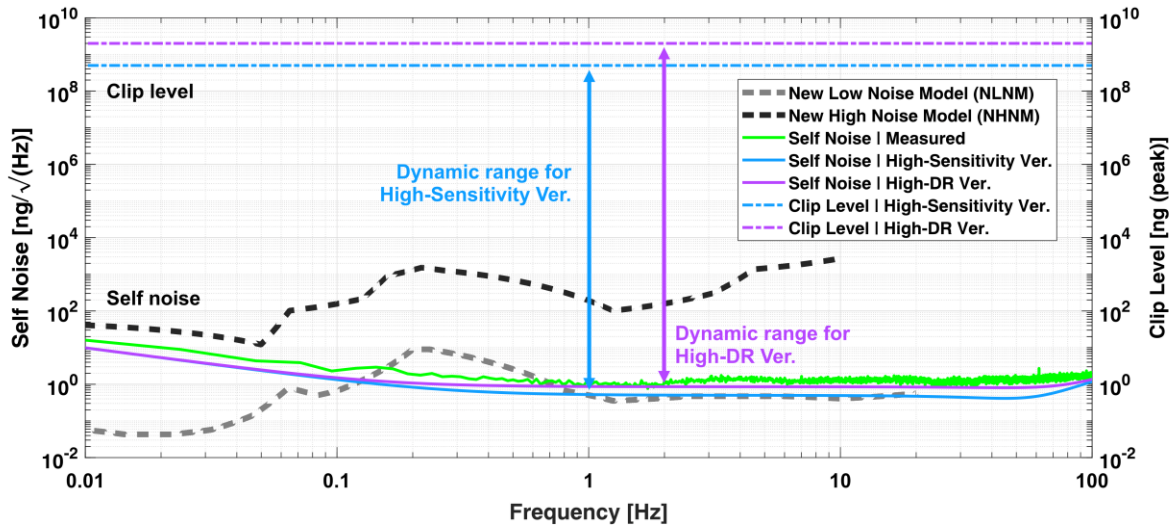
Posthole package



Vault package



With the largest dynamic range available among seismic sensors, the Silicon Audio sensor eliminates the need for multiple sensors to maximize the signal capture in terms of seismic amplitude and bandwidth. For example, applications which once required a broad-band seismometer paired with a strong-motion accelerometer can be addressed with a single Silicon Audio sensor.



SENSOR PERFORMANCE	203-60 High Sensitivity	203-15 High Dynamic Range	213-40 Velocity
Passband	0.005 – 1500Hz	0.004 – 800Hz	0.025 – 90Hz
Noise	0.5ng/√Hz [@ 10Hz]	0.8ng/√Hz [@ 10Hz]	0.5ng/√Hz [@ 10Hz]
	0.8ng/√Hz [@ 1Hz]	1ng/√Hz [@ 1Hz]	0.8ng/√Hz [@ 1Hz]
	3ng/√Hz [@ 0.1Hz]	3ng/√Hz [@ 0.1Hz]	3ng/√Hz [@ 0.1Hz]
	10ng/√Hz [@ 0.01Hz]	10ng/√Hz [@ 0.01Hz]	10ng/√Hz [@ 0.01Hz]
Clip Level	±0.5g peak	±2.0g peak	±40mm/s
Dynamic Range (@1Hz over 1Hz BW)	172dB	183dB	154dB
Sensitivity (custom settings available)	60V/g	15V/g	750V/m/s
Max V_{out}	60V pk-pk		
Spurious Resonance	> 600Hz		
Tilt Tolerance	±15°		
Distortion	< 0.03% @12Hz and 0.7in/s pk-pk		
POWER			
Power	150mW for 3 axis (as low as 80mW with reduced clip level)		
Supply Voltage	6-25V DC		
HANDLING			
Transport	No mass lock required for transport		
Shock Tolerance	> 1500g (0.5ms ½ sine)		
Operating Temperature	-35°C to 75°C (polar-rated sensors available)		
GENERAL			
Dimensions	Posthole package: 3.25" Diameter × 4.7" Length (83mm D × 120mm L) Vault package: 4.5" L × 4.5" W × 2.7" H (115mm L × 115mm W × 68mm H)		
Configuration	3-axis (single axis available)		
Sensing Method	Force balance with interferometric transducer		
Mass Centering	Automatic		