

STRYDE HALO

NODE SPECIFICATIONS



INTRODUCING

HALO

STRYDE's Halo family of nodes represents the next leap forward in land seismic recording, combining an evolution of the piezoelectric sensor with enhanced electronics and next-generation firmware, to deliver the lowest-noise accelerometer for onshore seismic acquisition without compromising on node size, cost or autonomy.



Classic

Connect

Chrono+

The Halo family includes three types of seismic node, each designed for a specific role while working seamlessly together, and all engineered to deliver consistent data quality, enhanced reliability, and an extended bandwidth (0.5-200 Hz) for high-fidelity acquisition in any onshore environment.

Fully autonomous
Ultra low-cost



A fully autonomous node designed for efficient deployment across surveys of any size, delivering dependable, high-quality data at the lowest possible cost.

In-field wireless
node QC

50+ days continuous
recording with QC
enabled



Features integrated radio communications for in-field health QC, range-finding to nodes during retrieval, and optional data streaming, while retaining STRYDE's industry-leading 50+ day battery life - even with continuous QC broadcasting.

Ideal for
GNSS-challenged
environments

In-field wireless
node QC



Equipped with high-precision dual clock technology and integrated radio communications for wireless QC, this node delivers enhanced timing accuracy when working in GNSS-challenged environments such as dense canopy and swamps, ensuring data integrity even in the most demanding conditions.

NODE

Specifications



Autonomy
50+ days

Noise
15 ng/ $\sqrt{\text{Hz}}$

Bandwidth
0.5–200 Hz

Wireless QC
Connect & Chrono+

General	
Weight	183 g
Dimensions	Ø 41 mm x L 129 mm
Battery	Internal rechargeable Li-ion
Charging & download time	1 hour per 10 days of data
Data download	Optical data interface
Connectivity <small>• Connect & Chrono+ only</small>	Bluetooth Low Energy
Memory	8 GB, 16 GB
Autonomy	50+ days continuous recording with QC enabled
Self test	Internal Noise, Internal THD, Internal Gain Accuracy, Internal Cross-Feed, Sensor Test, Tilt
Tiltmeter	3 component

SENSOR

Specifications

Seismic sensor and electronics

Sensor type	1C Piezoelectric Accelerometer
Bandwidth (-3dB)	0.5–200 Hz
Low-cut filter	Configurable - 0.5 Hz default
High-cut filter	Configurable - 200 Hz linear phase default
Sampling interval	Configurable - 0.5 ms, 1 ms, 2 ms, 4 ms
Sensitivity	4.2 V/g
Preamplifier gain	Configurable (0 to 16 dB)
Average noise density (1–200 Hz)	15 ng/ $\sqrt{\text{Hz}}$
ADC resolution	24-bit sigma delta

Full scale	0.6 g
Instantaneous dynamic range	122 dB
System dynamic range	125 dB (RMS); 128 dB (peak-to-RMS)
Harmonic distortion (instrument)	-90 dB (< 0.003%)
Harmonic distortion (sensor)	-70 dB (0.03%)
Gain accuracy	Each node is individually calibrated during manufacturing
Clocking method	TCXO resampled against GNSS time events
Timing accuracy with GNSS	15 μs
Holdover duration without GNSS to 1-sample error	1 week
	<ul style="list-style-type: none"> • (Chrono+ only)

SENSOR

Specifications

Radio Communications Connect & Chrono+ only	
Technology	Bluetooth Low Energy
Range	50 m line-of-sight (nominal)
Functions	<ul style="list-style-type: none"> • Real-time node health QC status transmission • Range-finding to node for retrieval • Optional seismic data streaming

GNSS	
Supported constellations	GPS, GLONASS, Galileo, BeiDou, QZSS, Navic
Acquisition sensitivity	<ul style="list-style-type: none"> • -149 dB cold start • -163 dB hot start (used in normal operation)
Functions	<ul style="list-style-type: none"> • Seismic data time synchronisation • Node self-positioning

Environmental	
Operating temperature	-30 °C to +70 °C
Storage temperature	-40 °C to +45 °C
Charging	Controlled automatically <ul style="list-style-type: none"> • +10 °C to +45 °C (full speed) • 0 °C to +10 °C; +45 °C to +60 °C (half speed)
Ingress protection	IP68
Air transportation	<ul style="list-style-type: none"> • Cell tested to UN 38.3 (lithium battery transport) • Class 9 dangerous goods exemption under IATA Special Provision 188 (small Li-ion battery contained in equipment, UN 3481) • Firmware-controlled discharge to 30% SoC for air transport preparation

BUILT FOR

Impact



Still the world's smallest seismic node

129x41 mm, 183g. Easily buried for optimal coupling, improved data quality, discretion, and unrestricted source operations.



Wireless node QC & communications

Halo Connect and Chrono+ include radio communications for wireless real-time node health QC, range-finding to nodes during retrieval, and optional data streaming.



Broader sensor bandwidth

Evolved piezoelectric accelerometer and electronics deliver extended bandwidth (0.5–200 Hz), higher sensitivity and lower noise.



Industry-leading autonomy

50+ days of continuous recording with wireless QC enabled.



Rapid charge & data download

Connectorless and scalable. One hour of simultaneous charging and harvesting per ten days of recording.



Same trusted STRYDE ecosystem

Backward compatible with existing charging and harvesting system. No change to field and camp procedures or peripheral equipment.

HALO

READY FOR DEPLOYMENT.



STRYDE HALO

The complete solution for land seismic acquisition



www.stryde.io

Version one