

U•Node 2 --- Seismic Nodal Recorder

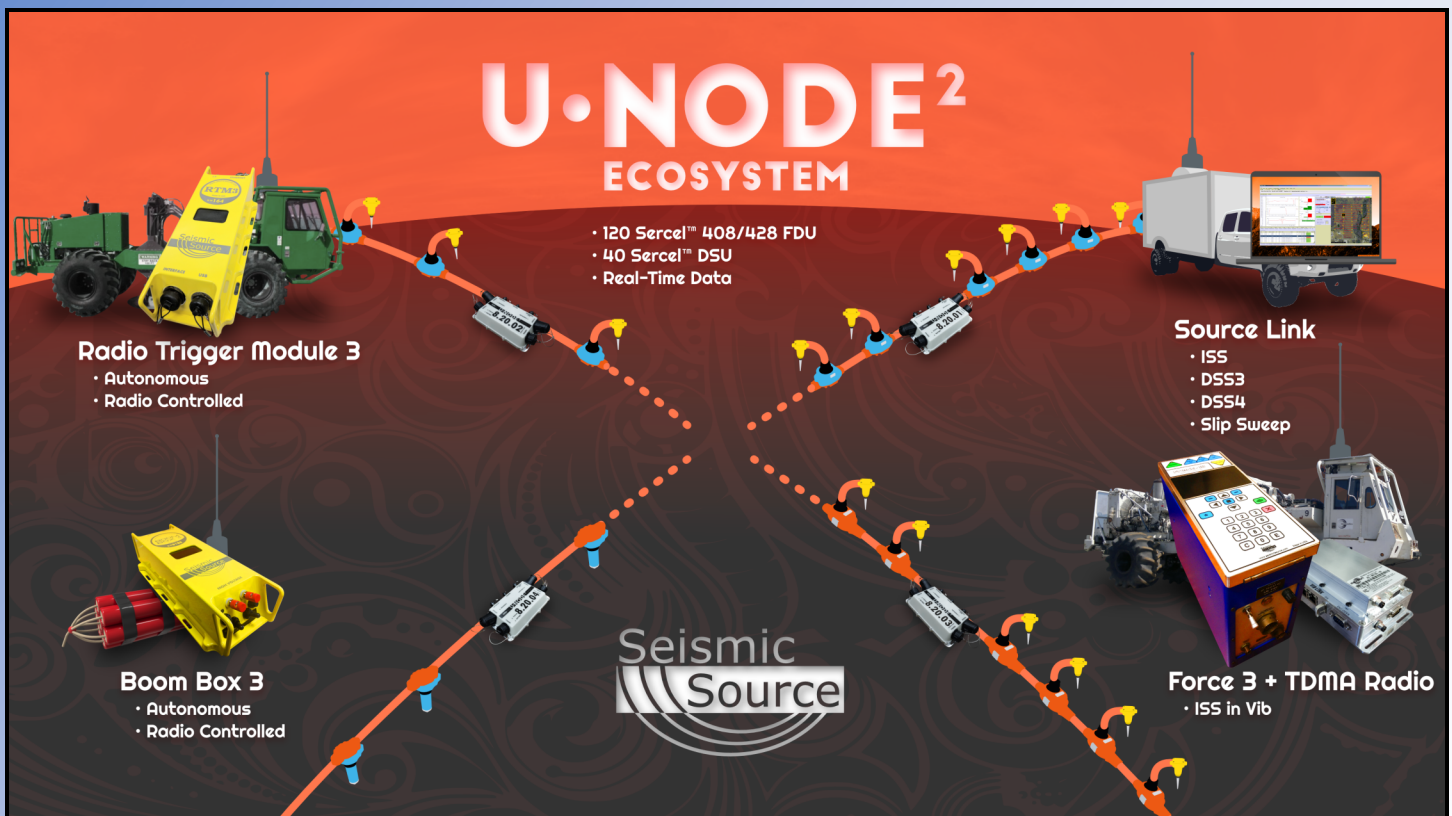
120 Channels per U•Node & Multiple U-Nodes per Crew

Modernize Your Sercel

- Give new life to old equipment by transforming it into a nodal system
- 100% compatible with 408/428XL FDU and DSUs
- Add features and flexibility with GPS timing, removable memory, plus Wi-Fi and Cellular networking
- Record data using a managed, autonomous, or hybrid operation
- No annual license fee required
- Compatible with SSC source control

U•Node 2 Benefits

- Two sets of 60 FDUs or two sets of 20 DSUs per U•Node 2
- Unlimited U•Node 2s per spread
- Reuse legacy cables for large spreads, or build shorter cables with tighter spacings for engineering applications
- No central computer required, system uses off the shelf inexpensive PCs
- Real time data monitoring for fast analysis of noise conditions and shot record quality



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U•Node 2 --- Seismic Nodal Recorder

U•Node System Features

Acquisition Features

- Supports two 60 channel receiver spreads, one high and one low
- No limit on U•Node 2s quantity per crew or project
- Use legacy Sercel cables or updated FDU cables with custom receiver intervals
- U•Nodes can supplement existing Sercel equipment, or record stand-alone projects
- Two operating modes: "Continuous Mode" for recording passive data or event monitoring, plus "Triggered Mode" for acquiring individual shot records
- U•Node 2 is a general-purpose seismograph system: Use on engineering crews, large projects, also 3D-VSPs and passive monitoring, anywhere lots of channels are required.

Hardware Features

- Standard 16 GB internal CF card for data backup and Optional 256 GB external memory plug for bulk data storage and fast collection
- Standard internal GPS module for precision timing and recording unit location.
- Two battery ports for hot-swapping batteries
- Two high-speed network ports, one POE-equipped port for Wi-Fi modules and one non-POE for connecting to computers and other network hardware
- Hammer switch compatible trigger port standard.

Software Features

- Real-time noise monitoring, data retrieval and shot record displays
- System supports Sercel instrument and sensor tests
- Full software suite included with each system sold, no maintenance fees required
- System compatible with Seismic Source's Universal Encoder/SourceLink system for control and operation of all land sources (Vibroseis, Dynamite, Weight Drop, etc.)



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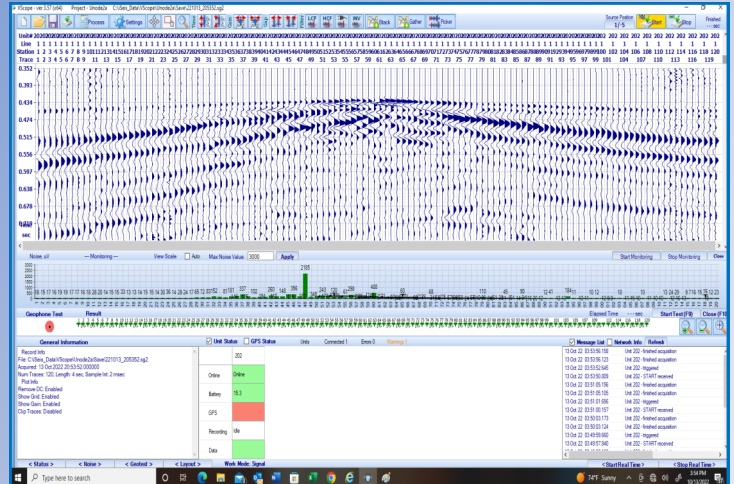
U•Node 2 --- Seismic Nodal Recorder

Using U•Node 2 for Engineering Projects

The U•Node 2 supports Refraction, Reflection, and Surface Wave (MASW, ReMi, SPAC) projects.

U•Node Benefits for Small Crews

- Simple equipment layout and pickup
- Real-time streaming noise, status, and data collection
- Connect to spread via cables or Wi-Fi network
- Trigger system using Wi-Fi, VHF radio, or direct wiring
- Quality seismic data from any number of channels

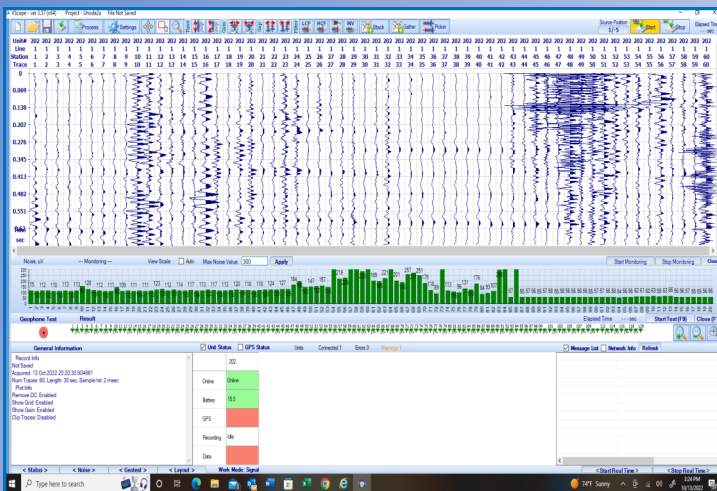


Vscope 3 includes Real-Time Data Display

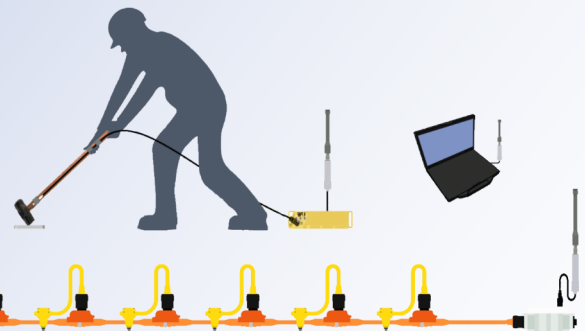
Acquisition Features

Vscope 3 acquisition software provides:

- Real-time noise and shot monitoring
- Simple geometry assignment
- Vibroseis correlation
- Vertical stacking
- Trace spectra display for QC
- Streamer mode for land and marine acquisition, includes near-trace display
- Gather mode for extracting active spread from deployed stations



Vscope 3 features Real-Time Noise Monitor



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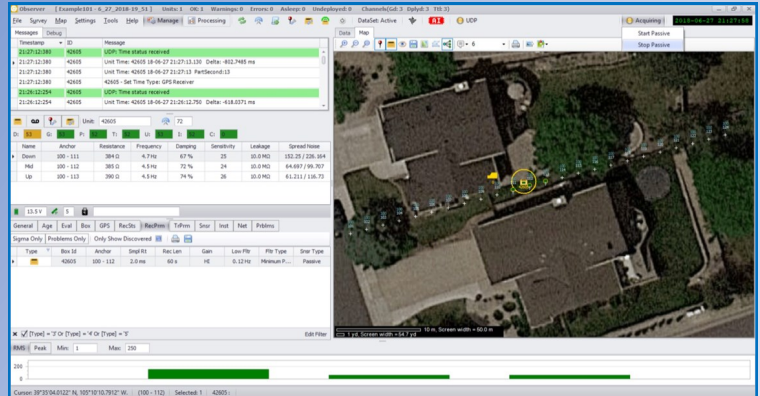
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U•Node 2 for Large Exploration & Monitoring Projects

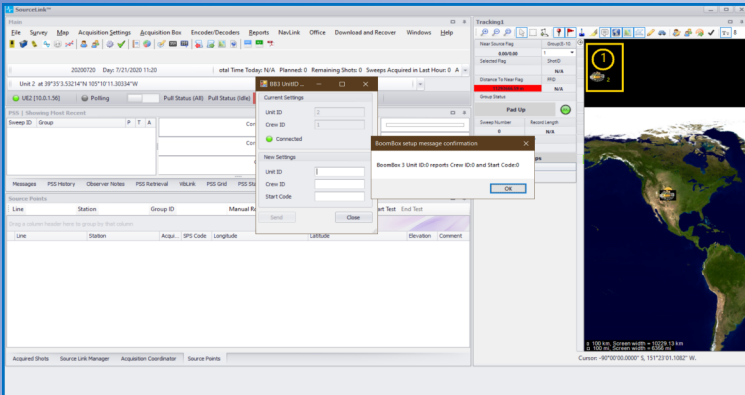
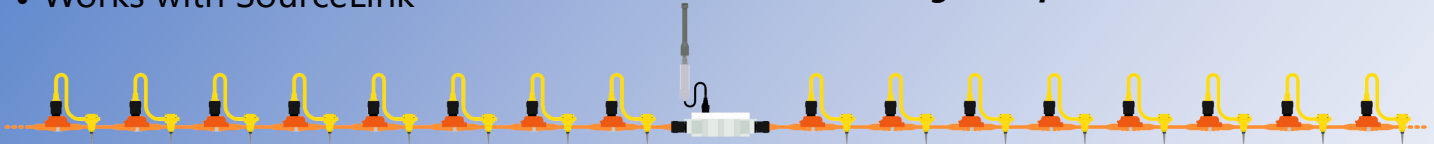
The U•Node 2 supports active source acquisition and passive monitoring projects.

U•Node 2 Operation

- Observer software configures, monitors, and collects seismic data from one or more U•Node 2s
- For crews running multiple U•Node 2s and/or multiple lines
- Use cables or Wi-Fi networks for real-time QC and data
- Builds and archives shot records
- Works with SourceLink



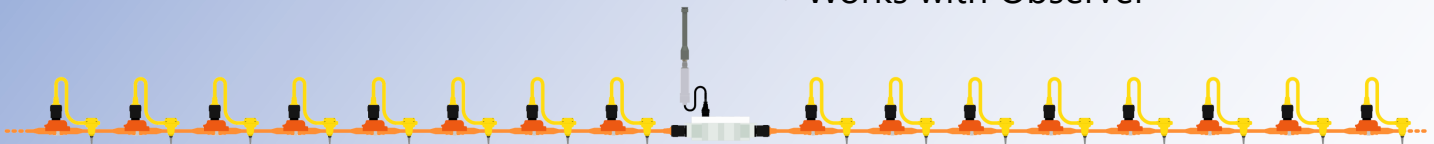
Observer software monitoring and controlling multiple U•Node 2 Nodes



SourceLink software controls the U•Node 2 data acquisition process

Acquisition with U•Node 2

- SourceLink software provides overall project management
- Features high-productivity operation
- Supports Vibroseis, dynamite, and mechanical impulse sources
- Generate daily production reports
- Use for crews running multiple sources and/or shooters
- Fully compatible with Sercel sources and recording systems
- Works with Observer



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U•Node 2 Options and Specifications

Optional Integrated Sensor and FDU:

- Integrated option adds geophone elements into FDU electronics pod on spread cable
- Utilize either single or twin-elements (Ultra High Sensitivity Geophone option) sensors inside the integrated pod
- Cables configured with 1 to 12 geophone and FDU pods available
- Custom cable length and/or group intervals available upon request
- Integrated sensor and FDU reduces the equipment required
- Simplified system reduces deployment errors
- Ultra High Sensitivity Geophone - Great for single-sensor systems
- Streamlined Cabling - Perfect for land streamers



U•Node 2 Hardware

U•Node 2 Specifications	
Sercel Spread Connectors	Two FM4 Panel Mount Connectors
Internal GPS Module	High-accuracy internal GPS
Internal Storage	16 GB CF internal standard
External Storage	256 GB removable memory plug optional
Network (Wi-Fi & cable)	100base-T (one POE & one non-POE)
Trigger Port	Standard 3-pin (hammer switch compatible)
Battery	10-30 volts, Sercel compatible, hot-swappable
U-Node 2 Power Requirement	1.2 watts @ 12 volts per U-Node
Weight (Metric / Imperial)	3.0 kilograms / 6.5 pounds
Size (Metric / Imperial)	330 x 200 x 75 mm / 13 x 8 x 3 inches



120 Channel U•Node 2 in the field, with attached battery and WTB 4.

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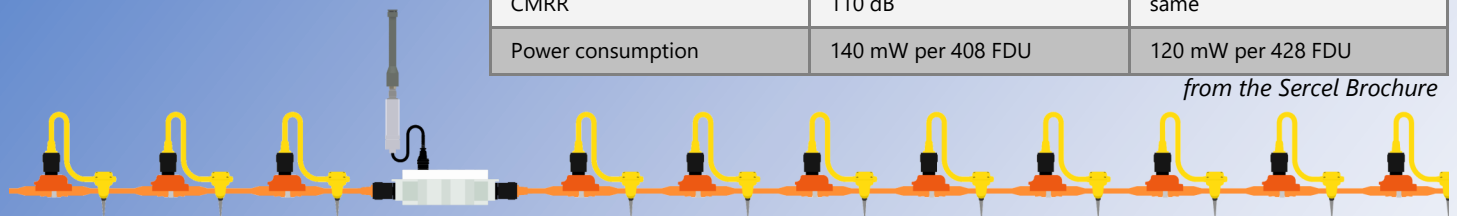
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Update Sercel-Equipped Crews with the U•Node 2

Each U•Node 2 supports
120 single channel FDU
modules

FDU Specifications	@ G400	@G1600
Supported Sample Rates	500, 1000, 2000 & 4000 SPS	
Diff mode impedance	20kOhms	same
Full scale input	1.6 V RMS	400 mV RMS
Crosstalk	> 130 dB	same
Noise	450 nV RMS	145 nV RMS
Instant dynamic range	130 dB	same
System dynamic range	140 dB	same
Distortion	-110 dB	same
Gain accuracy	< 0.1%	same
Phase accuracy	20 µSec	same
CMRR	110 dB	same
Power consumption	140 mW per 408 FDU	120 mW per 428 FDU

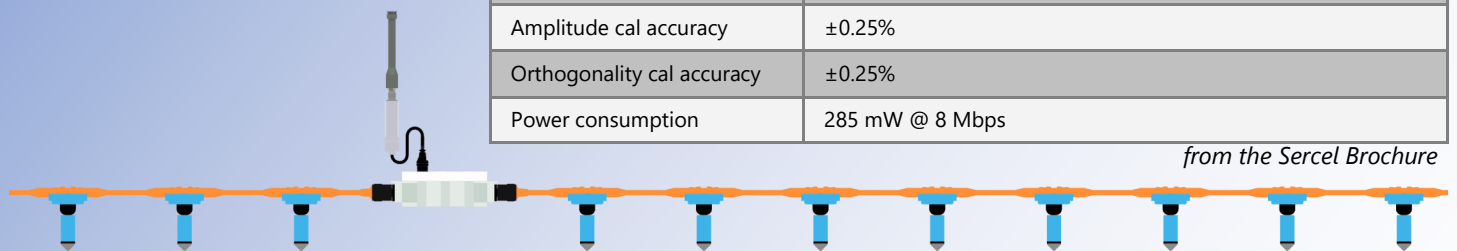
from the Sercel Brochure



Each U•Node 2 supports
40 three-channel DSUs
modules

DSU Specifications	
Supported Sample Rates	500, 1000, 2000 & 4000 SPS
Function	Acceleration Measurement
Full scale	5 m/s ²
Tile max value	± 180°
Noise (10-200 Hz)	0.4 µm/s ² /√Hz
System dynamic range	129 dB @ 4 ms
Bandwidth	0-800 Hz (up to 1,600 Hz with degraded specs)
Distortion	-90 dB
Amplitude cal accuracy	±0.25%
Orthogonality cal accuracy	±0.25%
Power consumption	285 mW @ 8 Mbps

from the Sercel Brochure



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