![wireless SEISMIC logo]

The Line Interface Unit

The Line Interface Unit (LIU) is a critical component of the RT2 data communications infrastructure and fulfills several important functions as part of the system. The LIUs:
– Collect the real-time seismic data that passes along a line of Wireless Remote Units (WRUs) and forwards onto an Ethernet-based backhaul telemetry subsystem for transmission to the Central recording system.
– Provide clock discipline to each line segment of WRUs, which allows the WRU to switch off its GPS subsystem after the GPS has acquired the WRU's position, saving significant WRU battery power. Each LIU disciplines its clock to GPS and then provides synchronization via the radio to discipline the WRUs.
– Act as "traffic cops" for outbound commands from the Central, distributing these messages to the WRUs on each line segment, and for any inbound spread data and status information responding to requests from the Central.

The LIUs are physically located at strategic points along lines or line segments of WRUs and communicate with the WRUs on the same patented 2.4 GHz radio telemetry. The LIU would typically be located in the center of the line, but can be located anywhere on the line that supports good backhaul connectivity and crew logistics.

An LIU can support up to 2000 (1000 per side) single-channel stations in a near real-time data collection mode and/or several hundred WRUs on one line segment in continuous real-time data collection mode, depending on the recording sample rate and other factors.

The LIUs support both wireless and fiber backhaul systems. The preferred wireless solution is a 5.6-5.8 GHz system that can be connected in several network configurations. Four (4) Power-over-Ethernet (PoE) ports are available on the LIU to facilitate the connection of fiber cable(s) and backhaul radio units, which can be combined on the backhaul line. The LIU manages the power for all of the backhaul devices. The two battery ports on the LIU can be used for hot swapping "off-the-shelf" 12-volt batteries.
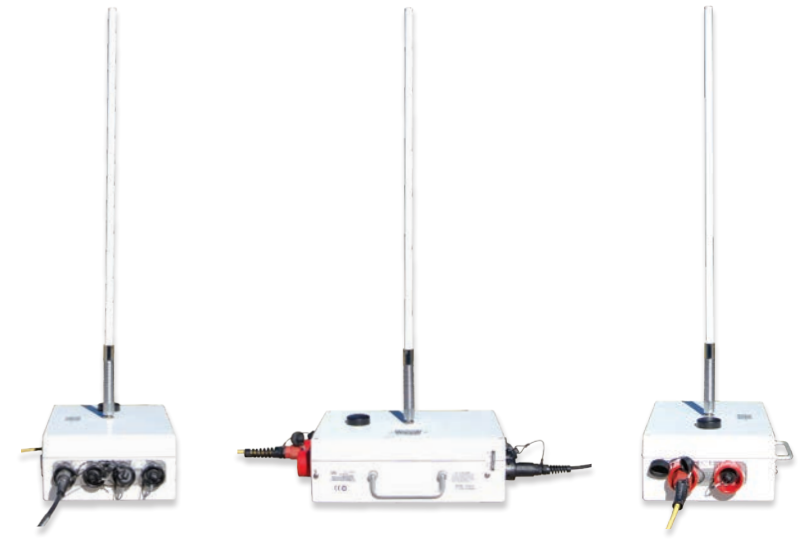
Features

- Built-in GPS for clock discipline and line synchronization
- Dual, hot-swappable battery support
- Four (4) Power-over-Ethernet (PoE) ports

- License-free, 2.4 GHz ISM band
- Autonomous deployment with LED status indicators
- Auto skip-healing telemetry

- Hybrid radio telemetry acquisition
- Auto line formation
- Rugged aluminum enclosure
- Mix and match backhaul technology

Specifications

- Maximum PoE output power: 40W
- 100 Mbps Ethernet, each port
- Power source: 11.9V-18V battery
- System timing accuracy better than +/- 10 µsec

- 400 channel real-time continuous data capacity at 2 ms sample rate (typical)
- Up to 2000 (1000 per side) single-channel stations in near real-time

- Operating temperature: -40° C to +75° C
- Humidity: 0 to 100%
- Rating: IP67

Accessories

- License-free, 5.6-5.8 GHz Ethernet backhaul
- Multi-mode fiber backhaul

Dimensions

- 24 W x 14 H x 36 L cm (5.42 W x 9.44 H x 14.21 L in.)

Weight

- 5.9 kg (13 lbs.)

Model Number

- 10-0016

All specifications are typical at 25°C.
All specifications are subject to change without prior notice.

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