

Construction of Mobile Dense Seismic Observation System using High-performance Low-power Data Loggers

Yoshikatsu Haryu[1]; Kazushige Obara[2]; Tetsuya Takeda[2]; Youichi Asano[2]

[1] NIED/ADEP; [2] NIED

We have developed a mobile dense seismic observation system using high-performance low-power data loggers. Our new data logger has a low power consumption of 0.6W average in a typical system configuration and sigma-delta A/D converter providing 24 bits of resolution, a dynamic range of 120dB. Sampling is simultaneous on all channels and synchronized to UTC using the GPS receiver. When operated in sleep-mode to reduce power consumption, time is accurate within 1 millisecond.

Features

Timing: UTC time synchronized using GPS

Data storage: Compact Flash Card Type1/2

Storage Format: WIN1 and WIN32

File system: FAT32

Filter type: Minimum or Linear Phase FIR

Instrument State of Health: Temperature, DC Voltage, GPS status, etc

Power : 0.6w average 12VDC