

On-line Alerting of Structural Integrity and Safety for Post-Earthquake Building Occupancy Resumption Assessment

OASIS for pEQ BORA is a hardware and software system for real-time occupancy resumption assessment and an on-line structural monitoring for continuous integrity evaluation in response to earthquakes.



OASIS for pEQ BORA vital functions:

- ◆ In-situ and remote, real-time alerting using on-screen imaging, light and audible alarms
- ◆ Data acquisition as a high dynamic range accelerograph
- ◆ Remote control and display of system functions
- ◆ Long-term health monitoring

Key Benefits

- ◆ For critical structures, vital lifeline applications
- ◆ Highly flexible
- ◆ Expandable through networking
- ◆ High resolution
- ◆ Continuous data transmission and display

The OASIS for pEQ BORA consists of three subsystems: Sensor, Data Acquisition, and Software Monitoring. The subsystems can include any of the following:

Sensor Subsystem

- ◆ Acceleration
- ◆ Temperature
- ◆ Tilt/deflection
- ◆ Wind
- ◆ Strain
- ◆ Other

Data Acquisition Subsystem

- Granite - High Dynamic Range, IP Aware, Communication Centric Multi-channel Recorder with up to 24 channels at 130 dB dynamic range.
- Q330 - Low-Power High Resolution Network-Aware System in modules of 6 channels at 135 dB dynamic range to make up data acquisition blocks of up to 36 channels.

Monitoring Software Subsystem

- ◆ Data collection and computation of velocity, displacement, drift and response spectra from acceleration data
- ◆ Real-time monitoring, Display & Alerting based on user-selectable drift ratios, including the display of the structure with color-coded alarm/alert levels
- ◆ Remote command/control of sensor & data acquisition through TCP/IP
- ◆ Execution of user-supplied Windows executable (or batch file) for further analysis, and more...