



## Abstract Submittal

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Presenter: Bob Eitel  
Technical Sales  
[bob.eitel@highsierraelectronics.com](mailto:bob.eitel@highsierraelectronics.com)

Company/Agency: High Sierra Electronics, Inc.  
155 Spring Hill Drive, Suite 106  
Grass Valley, CA 95945  
530-273-2080

Title: Doubling-Down Your ALERT System

There have been significant advances in the use of the ALERT transmitters outside of the traditional flood warning community. This Abstract will present examples of technical innovations and how AUG members can increase the number of use cases and stakeholders for their ALERT system.

### 1. Road Weather Management

- a) Several municipalities collect and report data on road pavement conditions by integrating a road surface sensor with their ALERT Data Transmitter. Agencies such as the City of Grand Prairie in Texas, Mohave County in Arizona, the City of Overland Park in Kansas, Harris County, TX and TxDOT use ALERT data as the basis for initiating alarms, activating road closures, or deploying road crews.
- b) The use of ALERT as a two-way communication protocol has enabled users to implement a command and control system for monitoring flooded roadways. The technology integrates with existing ALERT/IFLOWS flood warning systems and gives Public Works Department's the ability to advise motorists of a weather impaired roadway by activating flashing beacons, message signs, or automatic road barrier gates.

### 2. Water Quality Monitoring

Most ALERT Transmitters now have a SDI-12 port for interfacing microprocessor-based, "multi-probe" sensors. The SDI-12 protocol allows users to expand the number of measurable parameters. A single multi-probe has the ability to measure up to sixteen parameters simultaneously utilizing a single input, while the ALERT Transmitter still

accepts data for rainfall, wind speed and direction, water level, etc. The user's choice can include water quality sensors for measuring water temperature, dissolved oxygen, conductivity, pH, turbidity, chlorophyll, ammonium, nitrate, and a dozen other data points critical to water-resources improvement and preservation.

### 3. Wind

The City of Fort Worth Emergency Management Department collaborated with the Transportation Department to add wind sensors at flooded roadway monitoring sites following a major wind storm. In the Houston area and other locations wind has been added to high bridges to monitor potential hazards to traffic.



HIGH SIERRA ELECTRONICS  
*environmental monitoring solutions*

155 Springhill Drive, Suite 106  
Grass Valley, California 95945  
530.273.2080  
Fax: 530.273.2089  
[www.highsierraelectronics.com](http://www.highsierraelectronics.com)

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## Bob Eitel, Technical Sales

Bob is responsible for assisting customers with the technical aspects of their project, which can include radio or site surveys, hardware recommendations, site placement, and preparation of bids and/or price quotes. He joined High Sierra Electronics, Inc. (HSE) in 2008 as Service Manager. His responsibilities at that time included pre-construction assistance, installation supervision, and maintenance of environmental monitoring systems, gauges, and road weather information systems (RWIS) environmental sensor stations. As Service Manager, Bob oversaw the work of three full-time HSE field technicians, two HSE technicians whose duties include occasional field work, and the work of subcontractors as required for specific projects. He was Superintendent and On-Site Safety Officer for a multi-year, large-scale project with the City of San Antonio and on Bexar County's High Water Detection System. He was the Project Manager and played a key role with the design and implementation for Vernon County, WI, and Fairfax County, VA, PL-566 High Hazard Dam Monitoring solutions.

Prior to joining HSE, Bob worked for Pacific Hydromet where he was the ALERT Operations Manager. During that time he was responsible for the design, installation, and maintenance of many types of environmental monitoring gauging sites throughout the western U.S. He also worked as a Hydrographic Instrument Technician for San Diego County where he was responsible for maintenance and expansion of their ALERT network. Prior to that he was instrumental in the installation of the Arizona Statewide Flood Warning Network, which consists of more than one-hundred complete HSE weather stations; and, Lycoming County's twenty-five site stream and rainfall gauging network.

He earned a Technical Bachelor's Degree from California Polytechnic State University, San Luis Obispo in 1996.