



REF TEK Mobile VSAT Seismic Station for Rapid Deployment – an Advanced Real-Time Seismological Data Acquisition System

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REF TEK has designed a complete, mobile VSAT seismic station for rapid deployment. The mobile station consists of a REF TEK high resolution seismic recorder, model 130-01, along with a Hughes VSAT modem (Model DW6000) installed on a portable trailer. Two 75 watt solar panels are also included along with a pair of 104 AmpHr batteries. The power system provides enough power to the entire station, including the seismic recorder, sensor, and the VSAT system.

The system can be used for either rapid deployment during the aftershock studies or semi-permanent deployment. The data is transferred in real-time to a central PC, using REF TEK Protocol (RTP), which provides full error correction. The VSAT modem provides always on, bi-directional communication allowing the user full command/control at any time. The system was field tested in Albuquerque (at ASL) for one month and was proven as a reliable means for collecting and transmitting real-time data to a central PC. Test results show that > 99.99% of transmitted data was archived at central acquisition station.

The hardware configuration, installation procedure and transmission results are discussed in the poster.