



100 East Road
 New Mexico Tech
 Socorro, NM 87801
 (505) 835-5070
 www.passcal.nmt.edu

Program for Array Seismic Studies of the Continental Lithosphere

The PASSCAL Dataloggers

The Incorporated Research Institutions for Seismology (IRIS) Program for Array Seismic Studies of the Continental Lithosphere (PASSCAL) Instrument Center and EarthScope USArray Array Operations Facility (AOF) at New Mexico Tech support cutting-edge seismological research into the Earth's fundamental geological structure and processes. To support this research, PASSCAL maintains a pool of 24-bit Data Acquisition Systems (DAS), provides training on the installation and operation of the DAS, as well on site and remote technical support.

Used with a variety of sensors for both active source and passive source experiments, the three-channel DAS is the most versatile in our pool. These DAS synchronize their internal oscillators to an on-site GPS receiver. They can store as much as 20 Gbytes locally or telemeter data to a central site via Ethernet or serial ports. The three-channel DAS can record sample rates ranging from 1 to 1000 samples per second (sps) continuously or in programmed recording windows.



Designed as small, light weight, and easily deployed instruments, the single-channel DAS are primarily used for active source reflection and refraction surveys. Once deployed, the units can run for 7 to 10 days on a single pair of "D" cell batteries. Data are stored in internal flash ram, ranging in size from 32 Mbytes to 256 Mbytes, at sample rates up to 1000 sps. An internal oscillator is synchronized to GPS time before and after deployment.

DAS Inventory

Sensor Type	PASSCAL	Flexible Array
Three Channel	850	250
Single Channel	1000	1200
Multi-Channel x 60	4	
Multi-Channel x 24	6	

The multi-channel units are capable of recording up to 50,000 sps. The multi-channel recorders can be connected together to provide more channels than a single unit alone. These recorders are cable systems normally used with single component geophones for refraction or reflection surveys.

