

THE TITAN ADVANTAGE FOR SPECTRUM TECHNOLOGIES, INC

Spectrum Technologies is taking advantage of the TITAN data acquisition system's unique versatility as a workhorse for their demanding Noise, Vibration, and Harshness (NVH) testing tasks.

CUSTOMER CHALLENGE

Spectrum Technologies Inc. of Redford, MI, is an NVH test lab serving the automotive R&D market and is a heavy user of data acquisition (DAQ) equipment. For NVH work, Spectrum uses mostly ICP accelerometers, but also utilizes voltage and strain sensors for data collection. This meant that they needed a DAQ solution that allowed them to freely mix and match sensor types as their testing requirements changed without incurring costly sensor rewiring and reconfiguration time.

Test system power and equipment mobility was also a concern as one of the tests they had to conduct involved collecting data on a moving automobile assembly line where AC power was not available, and without disrupting the assembly process.

System portability was another highly desirable requirement, as Spectrum not only performs data acquisition in their fully-equipped Michigan laboratory, but also at customer facilities around the world.

UNIVERSAL SIGNAL CONDITIONING OPTIMIZES EFFICIENCY

One of the key advantages that Spectrum Technologies relies on is TITAN's universal signal conditioning circuitry, which supports a wide variety of analog sensor types on industry-standard D-sub connectors. Supported sensor types include Accelerometers (ICP, Full Bridge, and Solid State), Strain Gauges (Full/Half/Quarter bridge), Period/Frequency sensors, Thermocouples (types J, K, & T), Displacement sensors, Load Cells, and Pressure Transducers. This allows multiple sensor types to be freely mixed and matched for optimum test configuration flexibility. For Spectrum Technologies, this translated to efficiency in test configuration – they chose the desired sensor, added the correct D-sub connector adapter, and then completed the test configuration using the easy-to-use Titan Control Software (TCS).

POWER OPTIONS OPTIMIZE FLEXIBILITY

The next major advantage of the TITAN is its low power consumption. Requiring only 4 watts typical, the Titan system may be powered by a small external battery. This allows TITAN to be used without worrying about a power source

from the test car or location. Having the ability to jump into a car on the assembly line in stride without causing disruption in the assembly process is a must for data collection in the plants. One minute down time on the assembly line can cause substantial production losses which the engineering groups often are held responsible for. The other major advantage is having the TITAN able to run the test by toggle switch – not using a computer. Spectrum had to collect data during the installation of glass on the assembly line. With the TITAN, power was not an issue neither was the logistics of having to control the PC and the TITAN at the same time. Time was the issue – the assembly line could not be stopped. Holding the TITAN unit in one hand while the glass was getting installed was the key. Starting and stopping the datasets were easy with a flip of the switch.

COMPACT FORM FACTOR OPTIMIZES PORTABILITY

All TITAN equipment will easily fit into a bag designed for a small laptop. Sensors, cables, connectors, and power supply also fits in one small easy to carry bag with a small notebook. This makes carry on in the airports very easy – just one additional bag for a laptop – no issues with security or added cost. The Mars Labs TITAN is also used around the lab to collect temperature data on various parts in the chambers. The set-up is easy and the data is stored on convenient SD cards. TITAN takes all of the hassles out of test set-up. The transfer routines are great as well. We transfer Spectrum Data into nCode, while most of our customers get RPCIII data, one of the many standard output formats supported by the TCS software.

The **TITAN** family is a flexible, scalable line of data acquisition products that offer multi-sensor support, low power consumption, a 10k sample rate, SD card storage, and easy-to-use software. Titan products can be mixed or matched to provide up to 384 analog channels of data acquisition and storage, plus digital channels. Systems can be purchased as a complete test kit, including custom cables and accessories. For more information about Mars Labs and its available product offerings, please visit <http://www.marslabs.com>.