ATI has assembled a comprehensive data acquisition solution that includes software and hardware to eliminate any compromise when choosing the proper tools. Designed for automotive ECU development, ATI offers rugged data acquisition solutions for a wide range of applications that provide flawless, reliable performance under all conditions and environments, from the lab bench to the most challenging vehicle conditions.

Software Solution

ATI’s VISION software is the foundation of the data acquisition solution that easily adapts the interface and data management to each unique application. It is a comprehensive solution that includes real-time and post-data analysis.

Essential elements of any data analysis tool include the ability to manipulate and view data in a way that highlights results, differences, or specific events. VISION enables comparisons, highlighting or auto detecting of data or events, overlaying, and even partial exporting to save time and minimize throughput. VISION offers still another level of convenience by allowing analysis and changes to analysis while still on-line. There is no need to start or stop the application to make changes.

Analysis is strongly tied to the acquisition process and can be an essential part of calibration. VISION combines the functions of calibration, data acquisition, and post analysis into one application. Share, use, and manipulate data throughout the process in a single application.
Hardware Solutions

ATI offers competitive, rugged data acquisition solutions for a wide range of applications that provide flawless, reliable performance under all conditions and environments, from the lab bench to the most challenging vehicle conditions. This may include signal input devices for analog or thermocouple, power management, communication management, data display, or signal output. In designing a system, performance and cost are core decision factors, but other special features may also be needed, such as more channels, higher bandwidths, or faster data rates. Signal filtering for noise isolation or ruggedization of hardware for use in the harshest environments is also important.

And while all these elements are listed in the specification on a data sheet, ATI hardware provides one other key feature - time synchronization. This means that the hardware helps manage time alignment within the software from a variety of sources.

Depending on the availability of space, the number of channels needed, sensor locations, and other requirements, ATI’s data acquisition hardware configurations can be configured for either centralized or distributed layouts.

Centralized
- Installed in one location
- Enables the use of lower cost, high channel-count modules
- Simplifies servicing the equipment in the field
- Can be placed in a well-protected area; reduces the need for ruggedness
- Longer wire lengths must be laid throughout; increasing weight, higher labor and material costs

Distributed
- Installed throughout the vehicle
- Typically smaller data collection modules
- Placed closer to the actual signal source
  improving signal integrity and reducing noise affects
- Smaller bundles of wire; less weight, lower cost of installation and material
Data Acquisition Options

ATI data acquisition modules are environmentally sealed, robust-packaged devices with high-end performance that can be mounted virtually anywhere. The **EMX Data Acquisition Series** features include extended filtering and accurate data at fast rates. They are configured with a series of functional modules: High Speed Analog Input, Thermocouple, and Sensor Power Supply. The **EDAQ Series Data Acquisition Modules** have provided steady results for many years supporting Analog, Temperature, and Pulse EDAQ units each with 16 input channels.

Additional Devices

To design a complete solution with the DAQ modules, there are a series of devices that include communication management, analog and digital output, power boosting, and display. The **CANary Interface Module** and the **VISION Network Hub** provide essential time alignment of the ATI hardware data. Both devices can also interface to CCP, XCP, or other CAN devices.

For output, the **Voltage Output Module (VOM)** provides analog and digital output data to any external control system or device in the format needed. While the **Vehicle Information Display (VID)** is an easily configured heads-up display.
EMX Data Acquisition

EDAQ Data Acquisition

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