Analyzer Control System (ACS) – A Software Package for Mass Spectrometer System Operation, Trouble Shooting and Prototyping

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Software Development Activities
- Evaluate & Certify Computer Control Hardware
- Develop Control Logic
- Develop Hardware Interface Drivers & Algorithms
- Control System Certification

Applications
- Mass Spectrometer Systems
- Pressure and Flow Control Systems
- Leak Integrity Testing
- Instrument Internal Calibration Routine
- NIST Traceable Data
- 1 Sample Line
- Station Development
- Rapid Prototyping
- Field Applications

Current Capabilities
- Portable
- 16 Gases or Full Scan Mode
- Autonomous Control
- GPS Enabled
- Internal Calibration Routine
- Traceable Data
- 3 Calibration Lines
- 1 Sample Line

Hardware Support
- Mass Analyzers
  - SRS RGA 100, 200, 300
  - MKS µVision (near term)
- Turbo Pumps
  - Alcatel (30+, 31+)
  - Pfeiffer (HiPace 10 & 80)
- System Controllers
  - MKS 146
  - Granville-Phillips
- Data Acquisition
  - LabJack (UE9)

Data Monitor Page
- System status readily available on all windows.
- Calibration for Nitrogen background or Helium background is accomplished using the "Automatic Calibration" page. Calibration calculations and conversion of signal to concentration is performed automatically.
- Manual control of system available for troubleshooting or other non-routine needs.
- Data from all systems components is displayed on the "System" page.

Data from a nominal hydrogen leak during process monitoring.

Scripting increases the operational capabilities of the system, while improving operational consistency, and reducing complexity.

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