



# CALIBRATION MANAGEMENT & TEST SYSTEM



**Introduction** The production rise in the manufacture and process industries being highly competitive, the focus on delivering quality product plays a key role. Hence establishing a calibration testing and maintenance laboratory or workshop within any industry is required to periodically test & maintain the equipments which are required for the industrial process.

Measurement was once a localized process. The object to be quantified was compared to a standard and the results were written down for future reference. Today, this model is no longer applicable. Data that was once shared between dozens of people within an office must now be instantly accessible to hundreds of people. Although standards may be used from anywhere, traceability must be instant and dependability must be absolute.

**Need for automated calibration system** Routine verification of field instrumentation is a common practice in many ISO 9000 manufacturing facilities. Additionally, in industries such as pharmaceuticals and biopharmaceuticals, manufacturers are mandated by FDA regulations to demonstrate process consistency by routinely verifying their field instrumentation.

- An increasing and more complex workload to handle manual calibration
- Requirement of skilled technicians
- A growing list of quality standards.
- To ensure safety and reliability of instruments to get the accurate test results required
- Complex calibration activities.
- To save on turn around time for calibration.
- To calibrate at a faster speed and obtain consistent repeatable calibration results
- Documented procedures ensure that operators complete all tests and collect appropriate test data the same way every time the procedure is performed

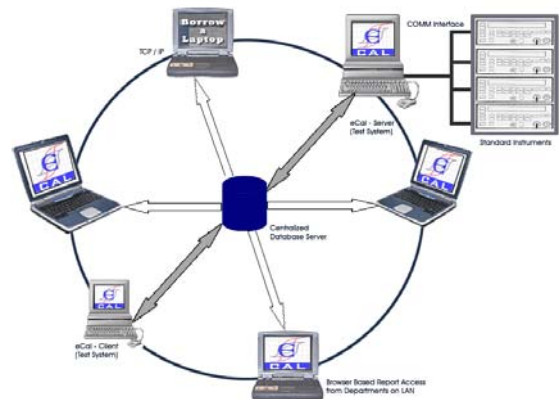
**eCal** – Calibration Management & Test System is the solution for organizations that need to standardize their calibration management & test activity. Whether the company would like to maintain a centralized server for all plants or department wise system, eCal adds value to your data processing, quality & maintenance organizations.

The Calibration System must serve as a central hub between management, corporate labs. Just being connected is not enough. Interconnectivity must be seamless and security controls must be precise enough to allow access to only the exact bits of data necessary, whether you are connecting to the system via LAN, WAN, VPN or the Internet, and regardless of your choice of platform.

The system offers latest state-of-the-art technology with highly user friendly & flexible interface to track the information needed to maintain quality calibrations apart from supporting the traceability and record-keeping requirement based on the quality and accreditation standard of ISO 9000. It automates the operation and management of the calibration procedures and provides all the tools needed for calibration, data management and variety of

communication protocols like TCP/IP, GPIB, RS232 ports. It is a powerful tool to carry the calibration of any type of process instruments such as Differential Pressure Transmitters, Pressure Transmitters, Pressure switches, Differential Temperature Transmitters, conductivity transmitters, pH transmitters, Beetles, RTDs, Thermocouples, Recorders, Indicators, power supply units, fire detectors and Test & Measuring Instruments like digital multimeters etc. eCal enables large corporations to host the application centrally and allow separate departments and facilitates access from anywhere in the world. In a typical installation, eCal is hosted on a centralized IT server and used by working groups throughout the entire enterprise. The software enables each working group to have its own dataset configured to its specific needs.

**eCal Architecture** eCal is an integration of base module and the communication module. The BASE module handles all the data storage, data analysis and reporting. The COMM module holds a bunch of test procedures or schemes. Schemes are the systematic description of the test process, which defines the use of master source/measure instruments, calibration functions and range. The COMM module automatically detects the standard instruments connectivity with the computer and continues with the automatic sourcing and measurement of parameter values as per the pre-configured test procedure and finally generates a test report. Any authorized person of the organization can access the calibration report over the local LAN.



## Features

**Automatic Calibration Alerts:** Alert settings based on, for instance, calibration due date are assigned to devices and calibration equipment. When the criteria for the settings are met, the associated device is reported to an Alerts Log for easy access and disposition.

Automated Calibration Procedures Calibration Procedure details, such as methods for error calculation, number of test points and pass/fail criteria can be developed and applied to devices individually or in groups. These procedures are maintained in a library for calibration. The calibration procedures are user definable by using special keywords.



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**21 CFR Part 11 Compliance** eCal is dedicated in providing feature-rich system that fits perfectly between multiple compliance requirement such as 21 CFR PART 11 and ISO 9000.

**Reports** eCal provides generation of various customized calibration report, device history report, preventive maintenance report, and reminder note for departments.

**Email Automation** eCal offer the enhancement of communications through connectivity with the organization's internal SMTP for sending automatic reminders and calibration status updating to various departments within the organization through automatic email.

**Backup & Restore** eCal with encrypted backup utility adds more security for the backed up data. The user also has an option to select a part of the information for backup and restore.

**Ms Office Integration** eCal provides the facility to import/export data from Ms Excel. The calibration report and certificate can also be directly exported.

**Preventive Maintenance** Utilization of the action lists and scheduling features enable the development of a preventive maintenance plan based on manufacturer's recommended cycles.

**Browser based reporting** eCal has dynamic web pages integrated for data access over the local intranet. Managers of different departments can keep track of the calibration status of devices. Organization heads can browse through the calibration activities, historical data, status, schedules and other statistical information.

**Standards Compatibility**  
eCal, over the years has a vast list of instrument drivers of different make, models and various types from electrical, pneumatic, temperature, humidity chambers and other related products.



**eCal Workstation** eCal Calibration workstations are modular and customizable in design to accommodate a wide range of test & measuring instruments & calibrators. eCal workstations have all the I/O points terminated at the front of the panel for easy access. The wiring, tubing, power supplies, mounting of instruments are done from the rear of the workstation.



## System Requirements

Hardware	Software
Pentium III processor or better 256 MB of RAM 100 MB of available hard drive space VGA monitor capable of 1024 x 800 resolution, 256 colors Communication interface cards	Windows 2000/XP/ 9X

## Ordering Information

CAL-9000-001	<ul style="list-style-type: none"> <li>Full Featured version.</li> <li>Supports multiple simultaneous* calibration</li> <li>Supports additional communication and base software client</li> <li>2 client user license</li> <li>Compatible with SQL Server / MYSQL / Ms Access database</li> </ul>
CAL-9000-002	<ul style="list-style-type: none"> <li>Full Featured version.</li> <li>Supports additional base software client</li> <li>Single user license</li> <li>Compatible with MsAccess database</li> </ul>
CAL-9000-003	<ul style="list-style-type: none"> <li>Basic version with limited features</li> <li>Single user license</li> <li>Compatible with MsAccess database</li> </ul>

## Related Products

**Ucal** – is a software system with advanced features for procedure-based calibration of high end instruments

**Connect Plus** – Interface software for monitoring and control of instruments with data storage and report generation

## Other Products

**SATMON** – Satellite channel monitoring system, useful for satellite service providers to monitor the strength of various satellite channels. Automation of Testing of RF Component using Programmable Network Analyzer

**About us** Access Automation Pvt. Ltd., headquartered in Bangalore, India is involved in the business of providing high quality solutions to industry verticals: energy, healthcare, manufacturing and education. Our highly qualified and experienced team of professionals has a mission of bringing in automation to your business. Through state-of-the-art technology and development methodology, we have introduced frameworks and solutions for the automation market.

Our area of expertise include Test and Measuring Instrumentation, Man-Machine Interface, Calibration Work Bench, PC based Instrumentation, Automation of information flow from plant floor to management, Functional Test Solutions, Data Acquisition Systems and Web based Solutions.