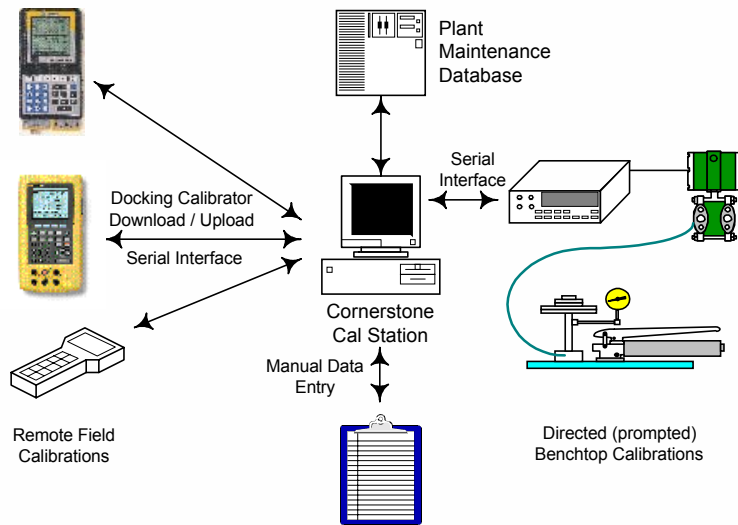




- Management of All Types of Process Instruments
- Works with All Calibration Equipment
- User Defined Test and Calibration Practices
- Calibration Schedules
- Calibration and Maintenance Histories
- Documents Manual Calibrations
- Optional Interfaces to Many Smart Calibrators
- Instrument Database and Reports
- Data Exchange with Plant Maintenance Databases
- Supports ISO 9000 and OSHA 1910 Standards
- Microsoft® Windows™ Compatible

# Cal Station Software



## Overview

Use **Cornerstone Cal Station** software to create and maintain a comprehensive instrument database with itemized, individual history records of each configuration, test, calibration, and maintenance activity performed. **Cal Station** support for a variety of calibration modes allows you to work the way you choose, using the test equipment of your choice, regardless of which type or brand. With optional calibrator interface libraries, you directly download calibration procedures to many popular intelligent calibrators for work in the field. Then upload field test results, with **Cal Station** automatically creating the history records.

Organize and schedule your work to meet operational and quality milestones. **Cal Station** helps to ensure compliance with regulatory requirements to document and follow standardized maintenance and record keeping practices. Accomplish all of these objectives with dramatically **improved accuracy** and at a greatly **reduced labor cost**. With **Cal Station** software keeping track of your records, your technicians will be able to maintain more instruments in less time, with automated retention of historical data and easy generation of the printed records your procedures require.

**Cornerstone**<sup>TM</sup>  
*The Open Platform for Instrument Management*

# Test and Calibration

You can choose the Test and Calibration method or methods that work best for your process and quality requirements. Regardless of the method used, the end result is a complete historical record of your calibration activity. From this database you can display, graph, and print calibration records and reports.

## Docking Calibration

In the Docking window, you assemble instrument calibration “routes” that are collections of instruments you wish to be calibrated by a single calibrator. You build the Route according to your selection criteria. Route definitions remain in the database for as long as you wish. With a click of your mouse, routes are directly downloaded to an intelligent calibrator via a serial cable. The download data includes instrument ID’s, test points, accuracies, and setup and wrapup advisory prompts.

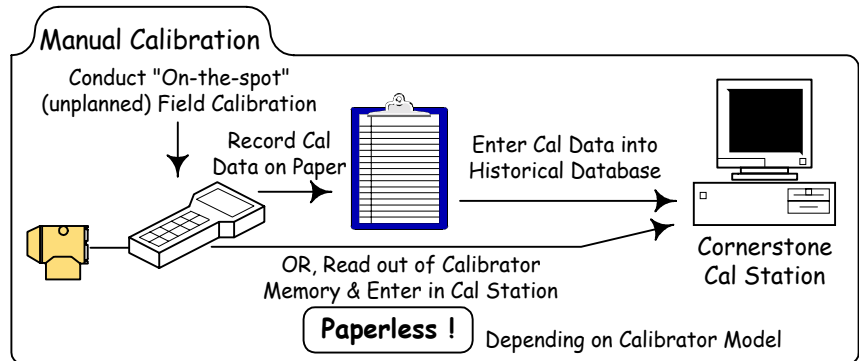
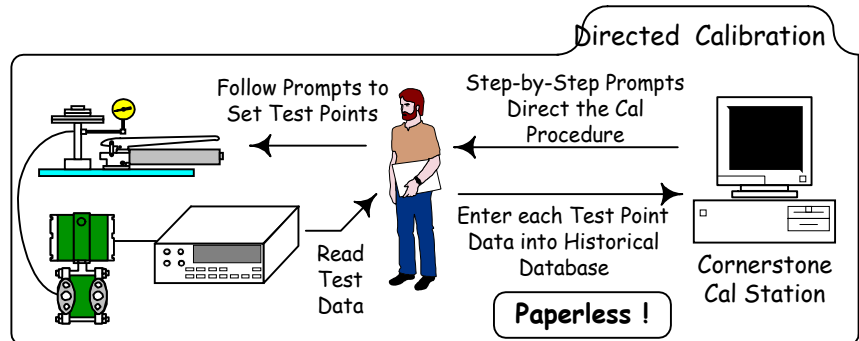
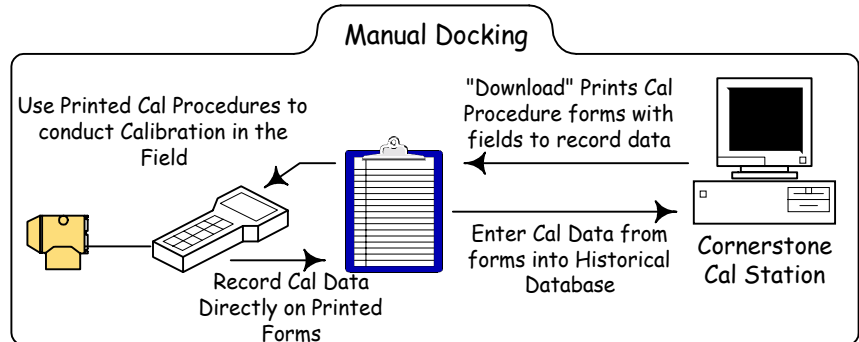
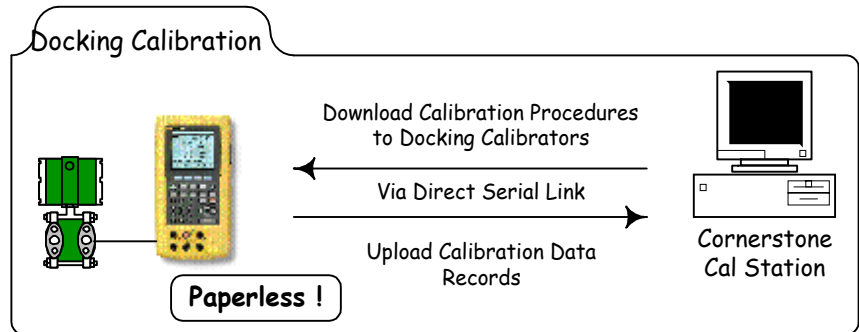
Bring the calibrator back to the Cal Station as often as you like, to upload the test results collected to date. Route status displays show you the status of all instruments downloaded to the calibrator so that you can track the progress of the route. Docking requires optional Docking CalLib software tailored for the types of docking calibrators that you choose.

## Manual Docking

This method allows you to employ all of the calibration management features of the Docking window with any process calibrator. Rather than directly connecting to a calibrator, a route is “downloaded” to a printed report. For each instrument, the report includes key instrument parameters, calibration set-up and wrap-up advisory text, and test point values for the pre-assigned cal scheme. You record field test results in the fill-in-the-blanks spaces provided in the test point table. A manual upload function steps you through the entry of the recorded data into Cal Station. Route status displays help you track progress of the route.

## Directed Calibration

This method can be used when your Cal Station computer is in close proximity to your calibration activity. When you select an instrument for Directed



Calibration, Cal Station steps you through the calibration procedure with instructions displayed on the monitor. You enter test data for each test point, as requested by the computer. Error calculations and test results are displayed immediately.

## Manual Calibration

Even if you had not scheduled a calibration using a Route or had not performed a Directed Calibration, Cal Station can still record data from any

manual calibration you may perform. Depending on the calibration equipment you choose, you may need to record field calibration data on paper for transport to the Cal Station. If your calibrator can store test results in memory and display them on demand, then no paper is necessary. Cal Station provides a special manual calibration data entry feature that takes you step by step through the entry of your field generated test data.

# Instrument Data Base

- Integral instrument database holds records for industrial instruments, calibrators, and test equipment
- Stores instrument information including identity, usage, operation, key dates, and calibration procedures and parameters
- Instrument capacity is limited only by disk space
- Data fields are tailored to instrument type. Switch instruments have specialized database records.
- Instrument records include your calibration setup & wrapup advisory text blocks
- Several data fields can be custom named for your specific usage
- Define and assign instruments to your own customized "Groups"
- Define new instrument and equipment types
- Define new engineering units if not available in the standard set
- A special Tag Note feature lets you attach customized data files to instrument records

## Database Management Functions

- Select instruments by tag, ID, or from a list based upon your search criteria - Type, Vendor, Model, Group, Description, etc.
- Add, Edit, Delete instruments
- Copy specifications of an existing instrument into a new instrument
- Import instrument configuration data in standard .CSV files
- Export configuration and test/cal history data in standard .CSV files
- Database changes automatically generate history records with as found and as left data values. You specify service reason and service notes for database edits.

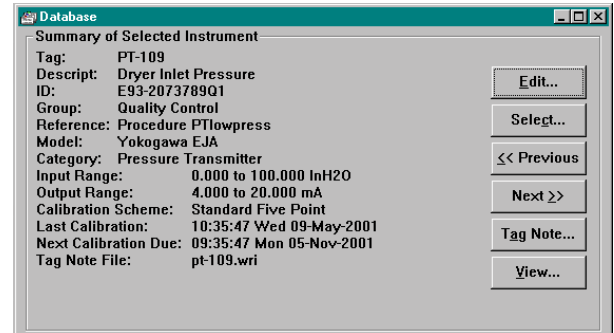
## Calibration Schemes

Each instrument is assigned a named Cal Scheme that defines:

- Up to 21 test points
- Error tolerance
- Calibration interval
- Which of 5 error types will determine overall pass/fail result

## Reporting Functions

- Individual or multiple instrument configuration reports
- Tabular Instrument database summary reports
- Make your own named summary reports by choosing a report style, instrument selection criteria, and sort criteria
- Print instrument Calibration Worksheets with a choice of size
- One button access to lists of instruments due for calibration or maintenance



# Historical Records

## History Record Types

- Zero & Span Cal
- Switch Test
- Configuration Change
- Service Notes (text)

## Historical Calibration Data

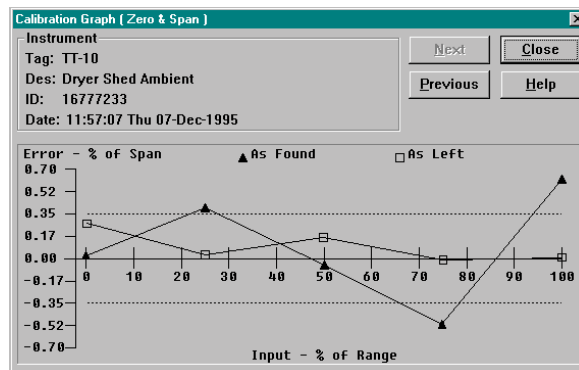
- Date/time
- Service Reason
- Technician
- Review Status & Reviewer
- Equipment Used
- Actions Taken
- Results - Error Calculations
- As Found / As Left Data

## Calibration Review

- By Supervisor
- Records Name of Reviewer
- Approve or Disapprove

## Historical Summary Data

- View by error type, e.g. history of max. error, linearity error, etc.



- Tabular list of error values & pass/fail on each test date
- Graph of error values over time
- Print summary data in tabular or graphic form

## Detail Data Display/Print

- View complete history record for single service event

- As Found & As Left data, error calcs, pass/fail result in tabular form
- View test data in graphic form
- Configuration change history shows as found & as left values
- Next & Previous buttons step through history for a selected instrument

## Other History Features

- Service Notes are text notes about a service event
- History records can be deleted with sufficient security level
- Manually record pass/fail results for non-process instrument tests or inspections
- Summary lists show all services performed for each instrument. Select individual service records from the list
- Import test history records

# Intelligent Calibrator Support

Optional docking calibrator interface libraries (CalLibs) may be added to your Cal Station to provide a direct serial link between your Cal Station computer and specific intelligent Calibrator models. Through these CalLibs, Cal Station can directly send your calibration routes to the calibrator and upload complete records of your field tests, automatically creating Cal Station history records.

The following optional CalLibs are available for use with Cal Station.

- ◆ Rochester Instruments AccuPro Diamond™ Plus: 9002, 9004, 9005
- ◆ Fluke® Documenting Process Calibrators: 702, 743, 744
- ◆ Hathaway/Beta: 135, 235, 922
- ◆ Hathaway BetaGauge II, BetaFLEX
- ◆ Druck MCX and DPI 605
- ◆ Transmation: 160, 180, 195, 196, 1292, 1294
- ◆ Altek 895, 896

The screenshot shows the 'Cal Station' software interface. The main window is titled 'Docking' and contains a 'Route List' table. The table has columns for Tag, Description, Instrument ID, Type, NextCal, and Instrument Category. Below the table, there is a 'Route Status' dialog box for the 'Cogen Plant' route. This dialog shows details such as the route name, description ('Auto cal instruments in cogen'), technician ('John Paul Jones'), status ('InUse'), and dates for creation, update, and download. It also includes a section for 'Calibrator' with fields for Type, Read Output, Read Input, and Set Input, and a 'Dates' section with 'Created', 'Updated', 'Downloaded', and 'Last Upload' fields. At the bottom right of the dialog, there is a summary of 'Instruments' with counts for 'Total in Route', 'Uploaded', 'Downloaded', and 'Download Rejects'.

To track work-in-progress, the Cal Station Docking window shows you a list of all of your calibration routes and the calibration status of the instruments in each route. List equipment due for calibration or maintenance at the push of a button.

## Other Features

- Protects your data with user password sign-on and 4 security levels
- Prints calibration documents with your own customized "Calibration Certificate" signature/note block
- Traces back to instruments calibrated with particular calibrator
- Documents the NIST traceable certification of your calibrators
- Validates (on download) proper match of instruments to calibrator
- Alerts you to any test that measures an error exceeding the instrument's "Notify Limit"
- Documents significant Cal Station and user activity in the event log
- Attaches custom text and graphic data files to each instrument record using Tag Notes feature
- Provides extensive on-line Help including complete User's Manual

## Computer Platform

### Hardware and Software Requirements

PC compatible computer with:

- 90 MHz Pentium processor, or better
- RAM memory - as required for good Windows performance
- Floppy disk drive - 1.44 MB
- 10 MB hard disk space. User data base sizing affects the total hard disk space required
- SVGA or better graphics system and display
- Serial port for calibrator interface
- Optional: Windows compatible pointing device and interface port, Windows compatible printer, and suitable printer port
- Microsoft Windows 98, Windows NT, Windows 2000, Windows ME, or Windows XP
- Optional Multi-user Kits support networked operation using a single shared instrument database. Note Multi-user Cal Station is not yet available for Windows XP.

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