

QC-CALC

S P C S O F T W A R E S I N C E 1 9 8 3

Automatic Data Collection
So Simple The Graphs Just Appear



ProLink

DATA COLLECTION / ANALYSIS SOFTWARE

QC-CALC

QC-CALC is a fully automatic data collection and Statistical Process Control (SPC) software interface for all inspection coordinate measuring machines (CMM). The automatic database creation, data collection, and data display have been fine tuned to make the interface so automatic that the graphs just appear. Not one keystroke is needed! When data collection and analysis has to be as simple as possible, QC-CALC is the only logical choice.

QC-CALC is divided into 2 parts that can be purchased together or separately:

QC-CALC Real-Time Data Collection

QC-CALC Real-Time is used to collect and display measurement results from all CMMs and Video CMMs without operator intervention. You can create reports and export the data to spreadsheets, databases, and other SPC Programs all automatically. This means you transfer data from all of your measurement machines to any SPC package just by using a single program!

This is the first software program to provide one interface for all machines and one interface for all outputs. Our goal is to make your data collection seamless no matter what equipment you purchase or what SPC program your company uses as a standard. Use QC-CALC's Real-Time Data Collection to print the reports you want and/or save your data in any format.

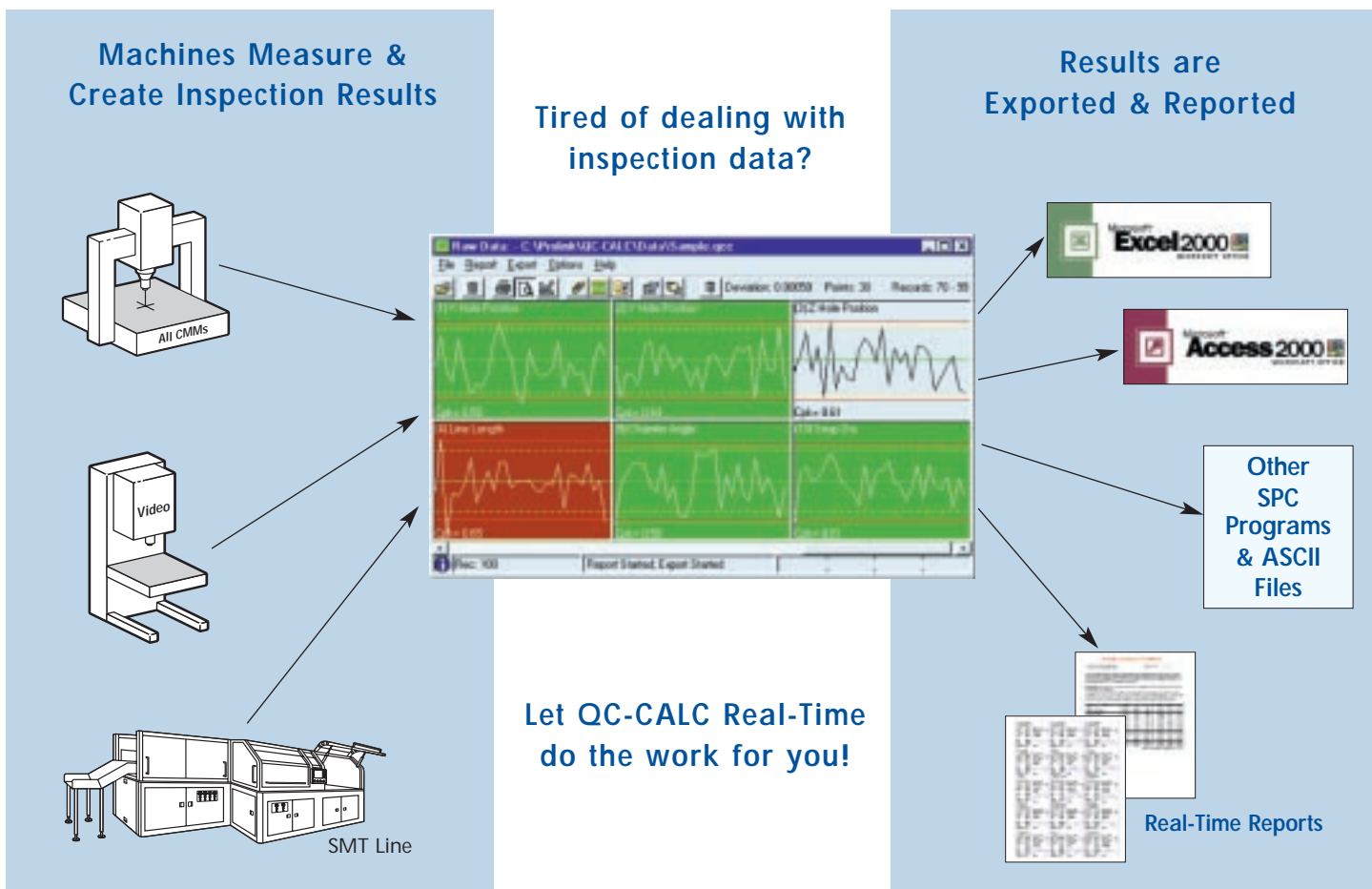
QC-CALC Historical SPC Analysis

What state is your process in? Is it in an ideal state or on the brink of chaos? QC-CALC Historical SPC Analysis can help you answer these questions. This is a complete SPC package that analyzes the data QC-CALC Real-Time collects. Use QC-CALC SPC's charts and reports to constantly monitor your process to keep it in control.

With QC-CALC SPC you are able to work with all of the stored inspection data or with a selected subset by using filters on items like Lot Number, Operator, Inspection Date, Machine Number, etc. Reports can be printed, previewed, or sent to files (PDF, HTML, XML, EMF, MHTML, RTF, JPG, and BMP are supported).

QC-CALC Real-Time and QC-CALC SPC combine to give you a full-featured data collection and SPC package.

QC-CALC Real-Time is One Common Interface for All



Historical SPC Analysis

Control & Process Charts

QC-CALC offers a wide variety of functions to aid your analysis. Clear graphics and informative screens give you the power to make on-the-spot decisions. QC-CALC gives you a precise picture of how your production line is performing with easy-to-use menus.

Miscellaneous Reports

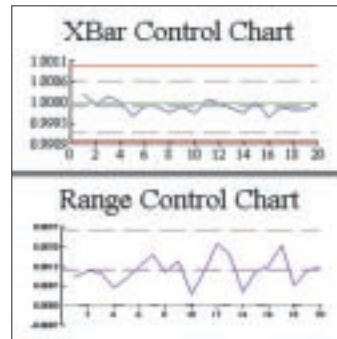
- Statistical Summary
- First Article
- Non-Conformance
- Raw Data
- Multi-Piece First Article

Built-In Gage R & R

QC-CALC includes a full AIAG Gage Repeatability & Reproducibility (GR&R) report. You can perform accurate gage studies using this detailed report or use a special Real-Time Gage Repeat designed specifically for automated inspection equipment. Our goal is to make machine studies as simple and easy as possible.

Control Charts

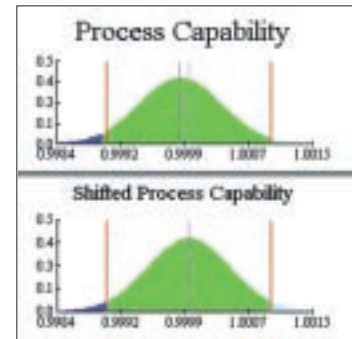
- XBar & Range
- XBar & Sigma
- Median & Range
- Moving Avg. & Range
- Individual & Range
- Individual & Moving Range
- Bivariate Analysis



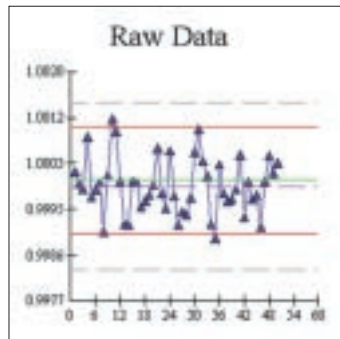
XBar & Range Control Chart

Process Charts

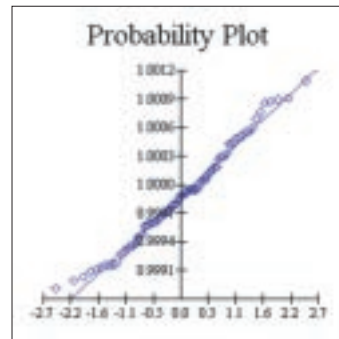
- Process Capability (Cpk)
- Histogram Analysis
- Probability Plots
- Correlation & Regression
- Pareto Analysis
- Raw Data w/Outlier Detection



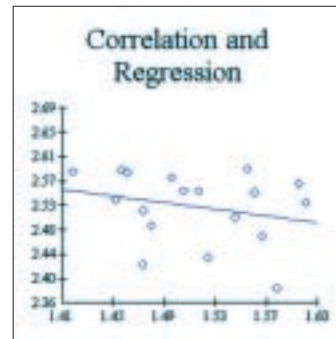
(Cpk) Process Capability Chart



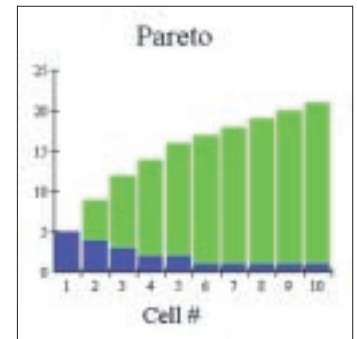
Raw Data Chart



Probability Plot



Correlation & Regression Chart



Pareto Analysis Chart

Data Filtering

Filtering allows you to choose the data that is pertinent to your reporting needs and eliminate unwanted data. You can establish filters for the corporate business and shop levels. This makes it possible to standardize the filters company-wide in order to standardize all reports.

QC-CALC can filter on:

Filter Items

- Actual Data Values
- Factor Values
- Number Of Fails
- Record Numbers
- Date & Time Values

Date Filter Items

- Today / Yesterday
- This Week / Last Week
- This Month / Last Month
- This Year / Last Year

Edit Data as a Spreadsheet

QC-CALC uses a spreadsheet format to display the stored data. You can add inspection results manually, or view or change previously stored data values.



Real-Time D

Real-Time Plots

QC-CALC's Real-Time Plots offers an advanced view of your process. Users can easily view a variety of graphic pictures to quickly analyze a part or feature, or view all the features at once. From the Real-Time Plots you can quickly print reports, save data in other formats, and perform many data analysis functions. QC-CALC automatically collects the data while performing these functions.

Reporting – Real-Time Reporting allows you to **manually** or **automatically** print the following reports without operator intervention:

- First Article - 1 Piece
- First Article - 5 Piece
- Stat Summary
- Raw Data
- Plot Report
- Single-Part Gage Report (P/T Ratio)
- Multi-Part Gage Report (P/T Ratio)

Report Formats – The Real-Time and Historical Reports can be printed to the following file formats:

- PDF
- HTML
- XML (Extensible Markup Language)
- EMF (Enhanced Metafile)
- MHTML (MIME HTML)
- RTF (Rich Text Format)
- JPG (JPEG File)
- BMP (Bitmap)

E-Mail Reports – **Manually** or **automatically** attach your reports to an e-mail message. This is useful when you want to be notified via e-mail when a process goes out of control or tolerance.

Exporting – Real-Time Exporting allows you to **manually** or **automatically** export data without operator intervention to the following formats:

- Access (all ver. including 2000)
- Excel (ver. 3, 4, 5, 7, 8, 97/2000)
- Lotus 1-2-3 (.wk1, .wk3)
- ASCII Text File
- Q-DAS
- Continually Adding SPC Output Formats

Password Protection – The flexible options that make data collection so easy to use can be password protected to eliminate accidental changes.

Language Support – Currently, QC-CALC is configurable to English, French, German, Italian, Spanish, and Swedish.

Display Details about each Point

Display Calculations for each Plot

Data Collection

Record range of points displayed

Background color indicates point condition

Up to 100 points displayed per plot

Up to 100 plots (features) displayed

Up to 1250 features per part program

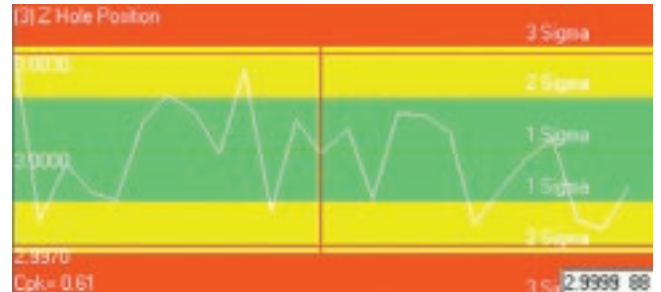
Print Report Menu

- Calculate Nominal
- Calculate Control Limits
- Calculate Tolerance Limits
- All Calculations Above Use Signed Limits
- Reverse Engineer Limits from Data
- Prevent Tolerance Update from Machine
- Remove Statistic or Hide PLO
- Assign Cause
- Assign Corrective Action
- Change Plot Value
- Delete Data Point
- Undelete Data Points
- Print Properties
- Plot Properties

Double click any plot to zoom in for detail

Right click any plot and a popup menu of options appears

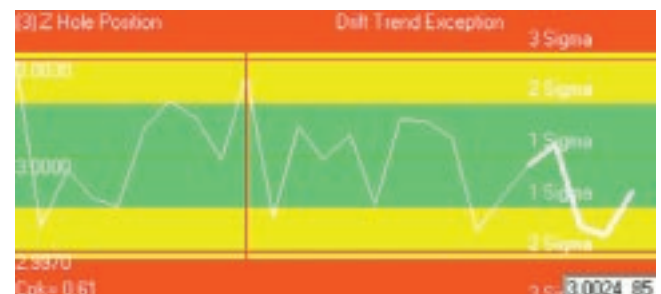
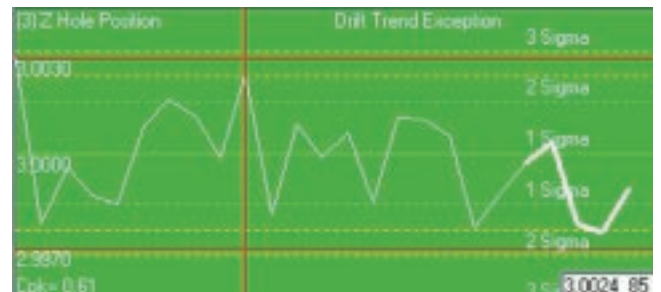
Sigma Lines on Plots – 1, 2, and 3 Sigma zones can be represented on the Plots by either lines or colored areas. Colored bands depict the Sigma zones.



Trend Analysis – Use any of the Trend Analysis tests below to monitor your process and have 1 or more actions trigger automatically (report, log file, assign Cause or Corrective Action, or display the trend on the plot):

- Point Outside 3 Sigma
- Instability Tests
- Cp, Cpk Exceptions
- Drift Trend
- Stratification
- Mixtures

Trends are depicted as thick lines superimposed on the plots as shown below.



File Maintenance Utility – Add, remove, and reorder Features, Factors, Assignable Causes, and Corrective Actions in existing files.

Technical Support Wizard – An automatic utility to troubleshoot any data collection problems for the specific machine you are using.

Machine Specific Help – Interface notes for the specific inspection machine type installed are available by pressing Shift + F1.

Metafiles – Create Metafiles of each plot manually or automatically to use in reports or other software applications such as Word or Excel.

On-Screen Editing of Data Values

- Allows re-inspection of features
- Allows deletion of records

Assignable Cause – Assignable Causes and Corrective Actions are added by right-clicking the plots.

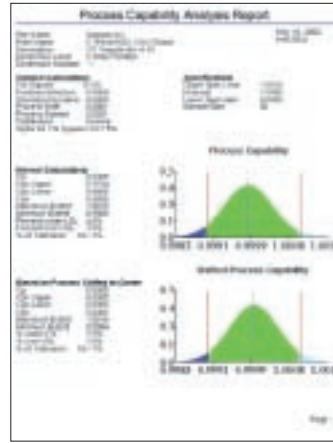
Trace Fields – Extra non-measurement data (we call Factors) can be automatically added from the Real-Time Plots screen.

Custom Report Generation & Output

- First Article
- Statistical Summary
- Raw Data
- Control Charts
- Gage Repeatability (GR&R)
- Non-Conformance
- Multi-Piece First Article
- Process Charts

QC-CALC's flexibility in data acquisition and charting carries through to its report generation and output capabilities. A complete WYSIWYG report designer lets you create and edit your own report templates to satisfy the most difficult reporting needs. For example, you can:

- Define the types and contents of the reports to be generated
- Generate reports with single or multiple graphs per page
- Print reports in color for presentation quality analysis and information



One Feature Per Page



Multiple Graphs On A Single Page

Live Professional Technical Support

- No answering services or machines – We are dedicated to providing live expert technical support to our customers. Prolink has refused to follow the trend in today's software industry of automated technical support services.
- No extra charge for technical support services – Prolink does not charge for tech support calls. The purchase of a software program includes **FREE** technical support for our products.
- On-line technical support resources available – Now customers with questions or problems can access our website to use troubleshooting links, download on-line manuals, and get up-to-date information concerning QC-CALC software updates.

Visit www.ProlinkSoftware.com

Point your browser to our website for:

- Product Information
- Technical Support
- Software Updates
- Product Downloads
- Troubleshooting
- FAQ
- Quick Setup Pages
- On-line Manuals

Prolink Corporation

Prolink is a growing company that offers easy to use data collection and analysis software. Our goal is to increase your awareness of process problems to save you time and money. The key is to obtain the data without adding cost and reporting the analysis in a timely manner.

Many other SPC packages perform the same analysis functions as QC-CALC but none offer the automatic database creation that has been our cornerstone. We have listened to your needs and tailored the software based on what we heard. Since 1983 we have been committed to providing you with quality software programs, no-hassle technical support, and business partnerships that last.

Serviced By:

B.C. MacDonald & Co.

800-875-4243

sales@bcmac.com

www.bcmac.com