QC-CALC

Prolink Software

QC-CALC™
Quick Start Guide

Versions 3.4+
4/25/2013

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ABOUT QC-CALC

QC-CALC® is a comprehensive data collection and statistical process control program designed to manage, analyze, and report inspection data. Inspection data may be collected automatically from inspection devices or entered manually. QC-CALC is divided into two separate pieces of software. QC-CALC Real-Time and QC-CALC SPC.

Real-Time

QC-CALC Real-Time is used to collect and display measurement results from all CMMs, Video CMMs, and hand gages with minimal operator intervention. Data can be converted into reports, or exported to spreadsheets, databases, and other SPC programs. This allows for simple transferring of data from all measurement devices to any SPC package using one program.

It is the first program to provide one interface for all machines and all outputs. QC-CALC Real-Time's goal is to make data collection seamless, regardless of what software you use.

SPC

QC-CALC SPC is a complete SPC package that analyzes the data collected by QC-CALC Real-Time, and can be used to constantly monitor processes and keep them in control.

QC-CALC SPC offers a wide variety of charts and functions to aid in analysis and give users the power to make on-the-spot decisions. QC-CALC SPC gives users a precise picture of how the production line is performing in seconds with easy to use menus.

Most of QC-CALC's operation is automatic, and requires very little knowledge to operate. This quick-start manual was designed to walk users through the installation and configuration process, while giving a general overview of the some prominent features of the software.

INTRODUCTION

This Quick Start Guide will take you through the basics of using your QC-CALC Real-Time and QC-CALC SPC software. It will help you configure the software to communicate with your inspection software, introduce you to many of the features, and walk you through setting up your first reports and exports.

LEARN MORE

Please read the QC-CALC Reference Manual for complete information on all of QC-CALC's features. It can be found in the Manuals folder on your installation CD, or by going to our website, www.prolinksoftware.com/support, and clicking on the "QC-CALC Specific" link. Keep in mind the reference manual is written in menu-function-order for those knowing the software. The training manual is written in a tutorial style and includes exercises to help reinforce the subject being discussed.

ADDITIONAL DOCUMENTATION

Visit www.prolinksoftware.com/support for additional helpful documentation, including:

- A PDF of the full QC-CALC Reference Manual that you can download and print freely
- Knowledge Base articles and White Papers covering a number of common topics and questions
- Tutorial Videos
- Self-Guided Training Workbooks

CUSTOMER SUPPORT AND TROUBLESHOOTING

If you run into any problems installing, configuring, or running the QC-CALC software, you can email Prolink Customer Service at support@prolinksoftware.com, or consult the Help section of this Quick Start Guide for troubleshooting steps for some of the most common issues, as well as submitting a Support Ticket, and contacting our support staff.

INSTALLATION AND ACTIVATION

Before Installing QC-CALC, make sure you have:

- Access to the internet
- The QC-CALC Installation CD packaged with your manual OR
- A download of the QC-CALC installer, found at www.prolinksoftware.com/download
- Access to an account with administrative rights on the computer you wish to install QC-CALC

IMPORTANT:

It is recommended that you install using an Administrator account on the computer you wish to have QC-CALC. If you are not going to be running QC-CALC under an Administrator account after it has been installed, be sure to talk to your IT department and make sure you have been given proper permissions to run the software. In other words, have IT logoff after installation and you logon with your credentials and start QC-CALC to ensure all permissions are correct. See the Getting Help section on page 26 of this Quick Start Guide for more information on permissions and access required to run QC-CALC.

INSTALLING QC-CALC
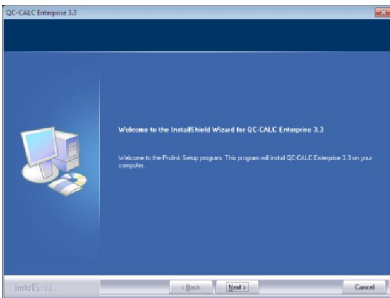
Once you have downloaded the installation package from our website, or located it on the CD accompanying this manual, double click the icon to being installation. The Welcome window should appear.

Click the **Next >** button located at the bottom of the screen to proceed to the License Agreement screen. Read through the License Agreement, and click the **Yes** button to continue to the Customer Information screen.
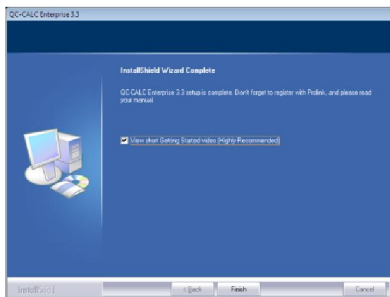
After entering your **User Name** and **Company Name**, click the **Next >** button at the bottom of the screen to continue to the Choose Destination Location screen. It is recommended you install into the default directory. Click **Next >** to continue to the Select Program Folder screen. It is recommended you install to the default program folder. Click **Next >**. The package will now install QC-CALC. When it has finished, the Install Complete window should appear. Click **Finish** to complete installation and watch the quick **Getting Started Video.**

ADDITIONAL STEP FOR WINDOWS VISTA & WINDOWS 7 USERS:

If you are installing QC-CALC on a computer with the Windows Vista or Windows 7 operating system, you may need to complete the following step to allow QC-CALC to run as an administrator. You may need to contact your IT department if you don't have permissions to change these settings.

Right click on the QC-CALC icon on your desktop and select **Properties.** When the **QC-CALC Real-Time Properties** window appears, select the **Compatibility** tab at the top. At the bottom, in the **Privilege Level** section, check the **Run this program as an administrator** checkbox and click **OK**.
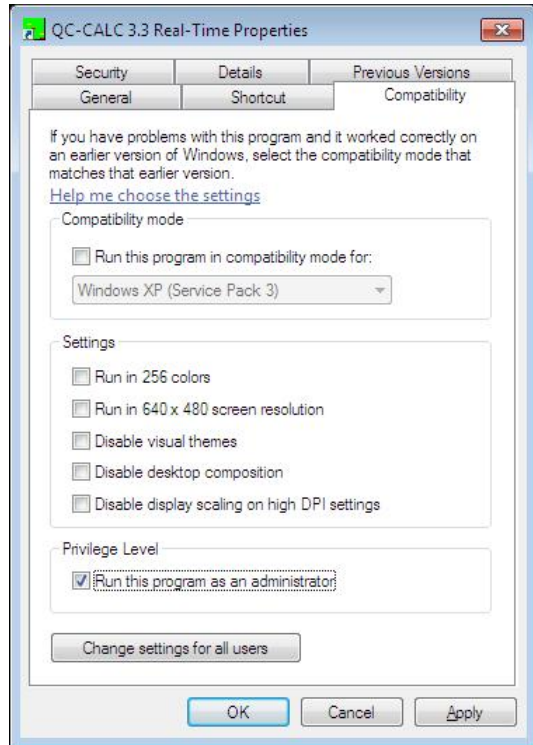
LICENSING QC-CALC

Once QC-CALC has been installed, double click the icon on your desktop, and you'll be greeted with the **Welcome to QC-CALC Real-Time** screen. From here you have the option of either activating your software, or beginning your 30 day evaluation. Click the **Activate Software…** button to bring up the **License Configuration** window.

On the **License Configuration** screen, you should see a 4-digit number labeled **Computer ID**. Make a note of this number, as you will need it to activate your software.
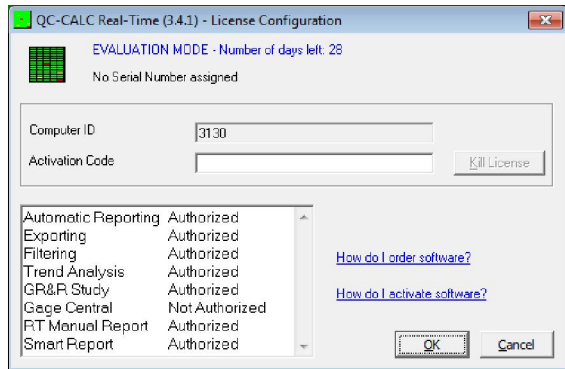
The next step in online activation is to open your internet browser and type the following into your address bar: **www.prolinksoftware.com/claim**

Once here you will be asked to register an account with the **Prolink Software** website. If you already have an account with us, click the **Login** link in the middle of **Step 1** to use your existing account.

The next step is to locate your **licensing information**. On the back of this manual you'll find a sticker with all the information you need to activate this software. Enter the **Claim Number** and **Product Serial Number (PSN)** into the **Step 2** box and click **Continue**.
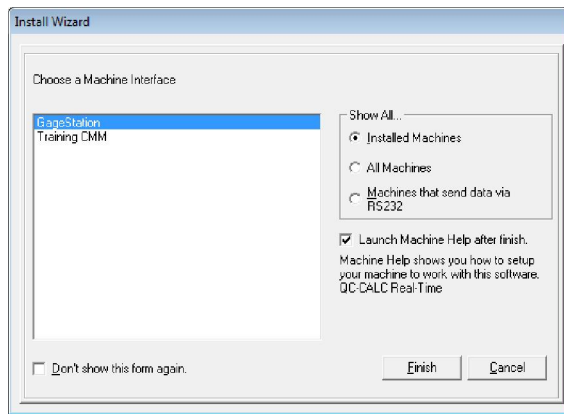
In the **Step 3** box, click the **Activate** link next to the product you just installed. This will take you to the **Activate Software** screen. You'll see a box labeled **Enter Computer ID**, this is where you want to type the 4-digit **Computer ID** you made a note of earlier. In the **Machine Description** box, you can type anything that will later help you identify which computer the software was installed on. Once you've filled out those two boxes, click the **Get Activation Code** button. Copy the activation code that is generated, and paste it into the **Activation Code** box in the QC-CALC Real-Time **License Configuration** screen. Click **OK**, and if everything went well, you should see a **Software Activated** message pop up. Click **OK** to dismiss that message, and you're ready to get started.

QC-CALC REAL-TIME

QC-CALC Real-Time is used to collect and display measurement results from CMMs, Video CMMs, and hand gages without operator intervention. It can be used to create a variety of reports, and export data to spreadsheets, databases, and many other SPC programs. QC-CALC Real-Time is the only program to provide one interface for all machines, and one interface for all outputs.

INITIAL CONFIGURATION

INSTALL WIZARD

After activating QC-CALC Real-Time, you should see the **Install Wizard** window. QC-CALC will scan your computer to find out what inspection software you're using, and display it in the list on the left of the Install Wizard. If the inspection software you're using isn't detected, select the **All Machines** option on the right, and you'll see a list of all the inspection machines and inspection software that QC-CALC Real-Time supports. Find your software in the list, and highlight it. Also, make sure to check the **Don't show this form again** checkbox, this will stop the Install Wizard screen from popping up automatically, and prevent an operator from accidentally changing the machine type that QC-CALC Real-Time is set to read results from.

After selecting your machine type, click the **Finish** button, and QC-CALC Real-Time will configure itself to work with the most common settings for your machine. It will also bring up a **Machine Specific Help** file for your machine type. The steps and instructions listed in this help file will guide you through configuring QC-CALC Real-Time and your inspection software to communicate properly, and are recommended for all new installations of QC-CALC Real-Time. The machine specific help described here is available in a PDF file located in the C:\Prolink\QC-CALC 3.4\Machines\ folder.
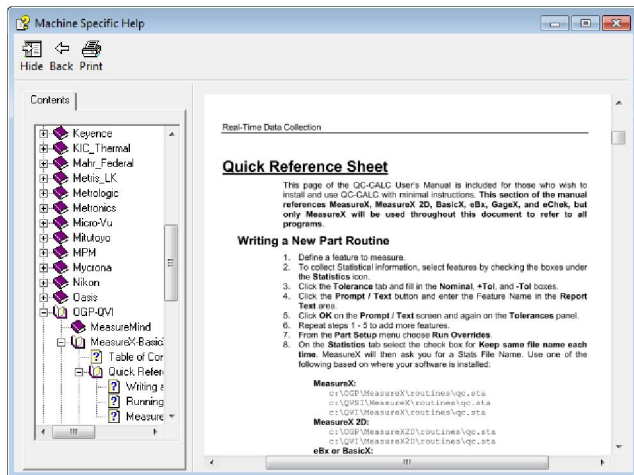
SETTING PATHS

Once you've read through the Machine Specific Help file, you can now configure where QC-CALC Real-Time is saving its data and settings. Open the **Tools** menu at the top of the screen and select **Options** to bring up the QC-CALC Real-Time **Settings** window. On the left side of the **Settings** window, click the **+** sign next to **Data Collection** and then select the **Set Paths** option that appears beneath it.

LOCATION TO SAVE NEW DATA (QCC FILES)

When QC-CALC Real-Time collects data from your inspection equipment, it saves that data to **.QCC Files**, one for each unique part program that you run. Many users want to save the .QCC files that QC-CALC creates to a location on their local network, or to a local folder that gets backed up regularly. To do this, click the **Browse** button next to the **Fixed Database Folder** path, and change it to wherever you want QC-CALC to save its data.
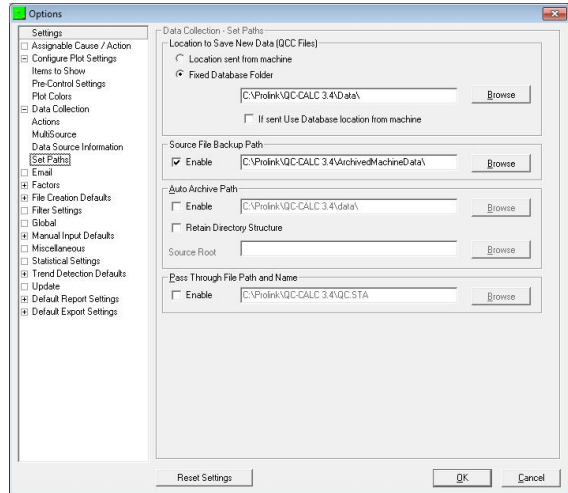
SOURCE FILE BACKUP PATH

When QC-CALC Real-Time reads the output files from your inspection equipment (source file), it makes a backup copy of that file to the path listed in the **Source File Backup Path**. This backup is enabled by default, and disabling it is not recommended. Similar to the **Location to Save New Data**, many customers want these files saved to their local network, or to a local folder that gets backed up regularly. To change where these files are backed up, click the **Browse** button next to the **Source File Backup Path**.

You can find more information about the settings in the Options window in the full QC-CALC Real-Time help file. To access it, just hit **F1** on your keyboard at any time, and the help file will open up to the page that explains the screen you currently have open

ASSIGNABLE CAUSE / CORRECTIVE ACTION

The Assignable Causes and Corrective Actions that you create in QC-CALC Real-Time and QC-CALC SPC are saved to configuration files that are, by default, saved to your local machine. We recommend saving these files to a network location that is regularly backed up if at all possible.

In the **Options** window, select the **Assignable Cause / Action** page on the left side. On this screen you'll see paths for an **Assignable Cause File** and a **Corrective Action File**. Click the **Create** button beneath each path to create a new Assignable Cause or Corrective Action file in a network location.

FILTER SETTINGS

The Record and Dimension Filters that you create in QC-CALC Real-Time and QC-CALC SPC are saved to a configuration file that is, by default, saved to your local machine. We recommend saving these files to a network location that is regularly backed up if at all possible.

In the **Options** window, select the **Filter Settings** page on the left side. On this screen you'll see a path for your **Filter File**. Click the **Create** button beneath the path to create a new Filter File in a network location.

ADMIN TOOL

Some companies, especially those with multiple inspection machines and multiple copies of QC-CALC Real-Time, need to have more centralized control, and more continuity, between their copies of software. For those companies, QC-CALC has the **Administrative Tool**, which allows companies to standardize the settings and operation of their software across a network.

In addition, many medical supply companies must meet **FDA title 21 Code of Federal Regulations (CFR 21 Part 11)** in their medical manufacturing environment. Special tools and options are included in the **Administrative Tool** to allow those companies to configure QC-CALC and help meet those requirements.

To learn about the Administrative Tool, what it's capable of, and how to enable it, see the **AdminTool.pdf** located on the CD included with this manual, in the **\Manuals\QC-CALC\English** folder, or go to **www.prolinksoftware.com/support**, click on the **White Papers** link, and scroll to the **General Program Information** area. Look for the entry labeled **The Administrative Tool Explained**, and download that PDF to get started with the Administrative Tool.

QC-CALC REAL-TIME LAYOUT
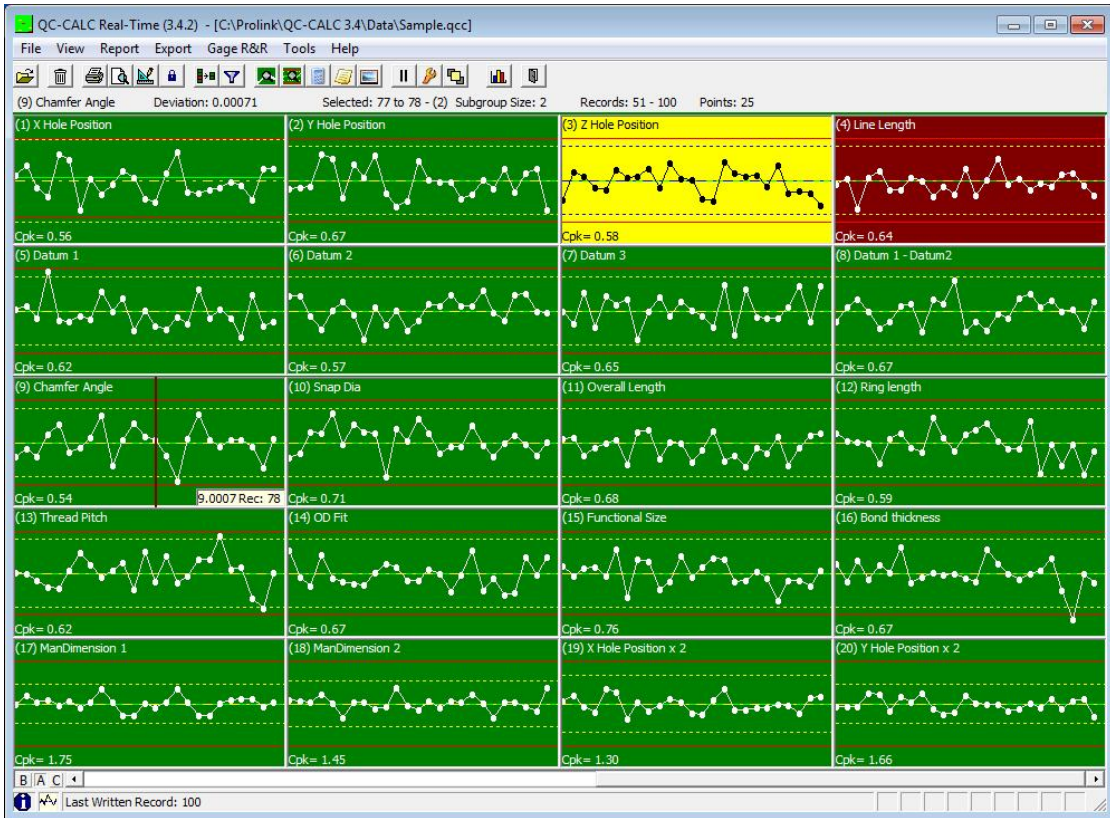
The QC-CALC Real-Time screen can have a great deal of information on display at any given time. Here's a quick overview of the items on the main screen, and their general purpose.

TITLE BAR

The title bar contains the QC-CALC Real-Time followed by the version in parenthesis, the active file name, and the location of the QCC database you are currently viewing. It can also display which **User Group** you're currently logged in as, if you are making use of QC-CALC Real-Time's **Admin Tool** options.

MENU BAR

The QC-CALC Real-Time menu bar houses the functions for some of QC-CALC's more in depth features, like **Reporting**, **Exporting**, and running a **Gage R&R**, as well as accessing the full **QC-CALC Help File**, and any **Machine Specific** help files.

TOOLBAR

The QC-CALC Real-Time Toolbar contains shortcuts to do some of the more commonly used functions of the software, such as printing a report and pausing data collection, as well as toggling on docked windows like the **Dimension Filters** list, or viewing the **Point Properties**.

UPPER STATUS BAR

SPC Subgroup Size: 5   Real-Time Subgroup Size: 2   File Path: C:\Prolink\QC-CALC 3.4\Data\

The **Upper Status Bar** gives you quick access to important information about the file you currently have open, such as the **Range of Records** currently being displayed, the **Subgroup Size** of the active file, or the **Deviation** for the point directly beneath the mouse.

PLOTS

The data within the displayed plots, whether **Raw Data**, **Scatter**, **Whisker**, or **True Position**, are gathered from your inspection machine by QC-CALC Real-Time. These values are stored within the QC-CALC database, to allow for quick review of individual plots. QC-CALC Real-Time Up to 500 plots can be displayed on the screen at a time, containing nominal and tolerance lines, feature labels, and data points.
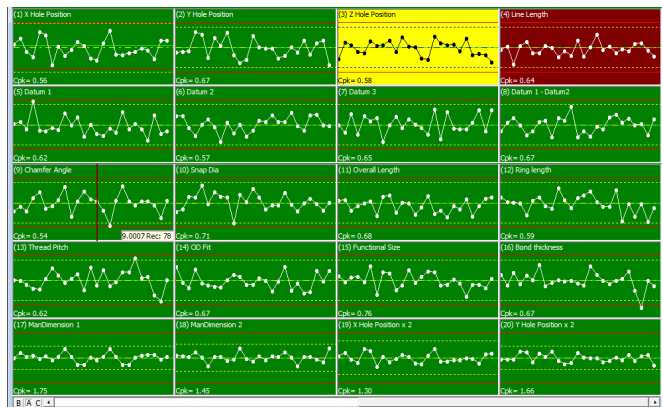
The background color of these plots changes depending on the value of current data point. If the current point is within specification, the background is green. If it exceeds the control limits (yellow dashed lines), the background is yellow. If it exceeds the specification limits, the background is red. And if it breaks a specified **Trend**, the background color is purple.

The QC-CALC Reference Manual, located on this CD, and the QC-CALC Help File, located within the software in the **Help** menu under **Contents…** goes into greater detail about these plots and how to customize them to best fit your needs.
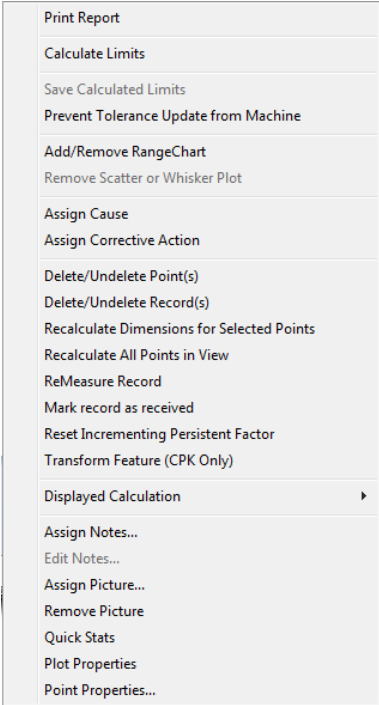
LOWER STATUS BAR

Last Written Record: 100   Records Sorted By: (Ascending)   Last Part Time: 12/12/1994 12:00:00 PM

The Lower Status Bar gives you quick access to important information about your process, displaying the current record number and the part rate, represented by a line graph. It also gives you an at-a-glance breakdown of some of the QC-CALC features currently active, such as whether Automatic Reporting and Automatic Exporting are toggled on. If you feel something is missing in your plot display, glance at this status bar to see if a filter is active and therefore hiding things such as plots and data.

RIGHT MOUSE CLICK

As with most Windows programs, the right mouse button usually has hidden options. If you Right click any plot on the QC-CALC Real-Time screen, a special menu pops up with a variety of options. This type of interface allows you to select the plot and the point before the menu is activated. The selected menu acts on the plot or point under the cursor. For example, selecting Delete/Undelete Point removes the single point while Delete/Undelete Record removes the entire part.

Print Report
Calculate Limits
Save Calculated Limits
Prevent Tolerance Update from Machine
Add/Remove RangeChart
Remove Scatter or Whisker Plot
Assign Cause
Assign Corrective Action
Delete/Undelete Point(s)
Delete/Undelete Record(s)
Recalculate Dimensions for Selected Points
Recalculate All Points in View
ReMeasure Record
Mark record as received
Reset Incrementing Persistent Factor
Transform Feature (CPK Only)
Displayed Calculation ▶
Assign Notes...
Edit Notes...
Assign Picture...
Remove Picture
Quick Stats
Plot Properties
Point Properties...

INFORMATION PANELS

QC-CALC Real-Time has panels you can toggle on and off that display more detailed information about the points and plots you have on screen. All these panels can be activated in the **View** menu
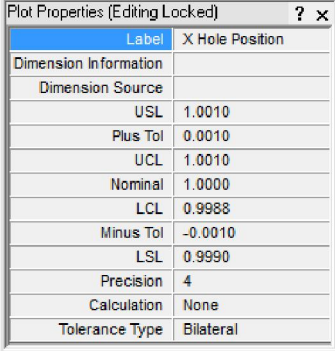
POINT PROPERTIES

The **Point Properties** panel gives you detailed information on the specific point that your mouse is hovering over. The point is highlighted by a vertical red line as the mouse is moved over the points. The Point Properties panel will show you not only the value of that specific point, but the **Deviation**, any text or numeric **Factors**, or any **Assignable Causes** and **Corrective Actions** assigned to that point. If you have the Point Properties panel open, you can hover over any point and press **F6** to edit many of the values for that point. Moving the mouse rapidly over the points updates this screen very quickly.
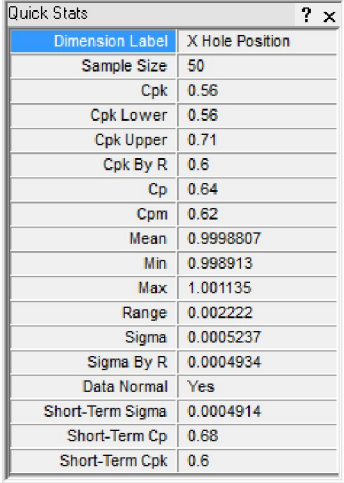
Point Properties (F6 - To toggle editing)	? ×
Record	52
Dimension Label	X Hole Position
Date	12/12/1994
Time	12:00:00 PM
Average	1.0000
Deviation	0.00004
Rec 51	1.00015
Rec 52	0.99993
Cavity	4
Machine	2
Part	342
Lot Number	22
Line	NORTH
Supplier	HP
Machine Type	Vision
Fixture	13L
Operator	Ben
Assignable Cause1	None
Assignable Cause2	None
Corrective Action1	None
Corrective Action2	None
Fails	0

PLOT PROPERTIES

The **Plot Properties** panel gives you detailed information on the plot or dimension that your mouse is hovering over. This panel will show you **Control Limits** and **Spec Limits**, as well as the level of precision for that specific dimension, and the **Tolerance** type (Bilateral, Single Sided, Non-Toleranced, etc.) If you have the Plot Properties panel open, you can hover over any plot and press **F7** to edit many of the values for that dimension.

Plot Properties (Editing Locked)	? ×
Label	X Hole Position
Dimension Information	
Dimension Source	
USL	1.0010
Plus Tol	0.0010
UCL	1.0010
Nominal	1.0000
LCL	0.9988
Minus Tol	−0.0010
LSL	0.9990
Precision	4
Calculation	None
Tolerance Type	Bilateral

QUICK STATS

The **Quick Stats** panel gives you detailed statistical information on the plot that your mouse is hovering over, or the points you have left clicked and dragged to select. This panel will display **Cp, Cpk, Cpk By R, Mean, Min, Max, Range, Sigma,** and a number of other calculations. You can also choose to display **Ppk** instead of Cpk. To do this, open the Tools menu and select Options, and on the left side, select the **Global** page. On this page you'll see a **Show Ppk instead of Cpk** checkbox. Check this checkbox to display Ppk instead of Cpk in the Quick Stats panel, as well as any other places in the software where Ppk would be displayed.

You can learn more about how Ppk and Cpk is calculated, as well as how all other stats are calculated, by reading the **Equations** appendix in the full QC-CALC Reference Manual.

| Quick Stats	? ×
Dimension Label	X Hole Position
Sample Size	50
Cpk	0.56
Cpk Lower	0.56
Cpk Upper	0.71
Cpk By R	0.6
Cp	0.64
Cpm	0.62
Mean	0.9998807
Min	0.998913
Max	1.001135
Range	0.002222
Sigma	0.0005237
Sigma By R	0.0004934
Data Normal	Yes
Short-Term Sigma	0.0004914
Short-Term Cp	0.68
Short-Term Cpk	0.6

FILTERING

DIMENSION FILTERS

If you want to reduce the number of plots (dimensions) displayed on the screen, QC-CALC gives you the ability to set up **Dimension Filters**.
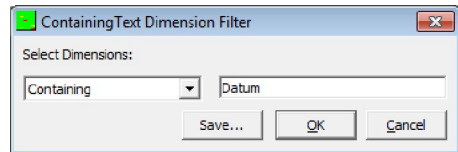
To access the **Dimension Filter Information Panel**, open the **View** menu and select **Dimension Filter**. On the left side of the screen, you'll see the Dimension Filter Information Panel, listing off all the filters available to you. QC-CALC Real-Time comes with default filters to display only dimensions meeting certain conditions, such as those that are out of spec, those that are in control, and those that are within a specified trend.
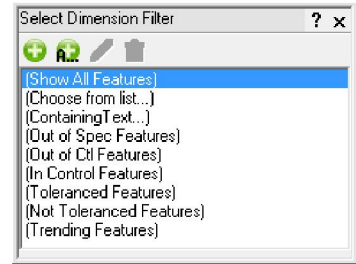
The **green +** button at the top of the Information Panel opens the **Dimension Selector** window, allowing you to choose which dimensions you want displayed from a list of all available in the current file.
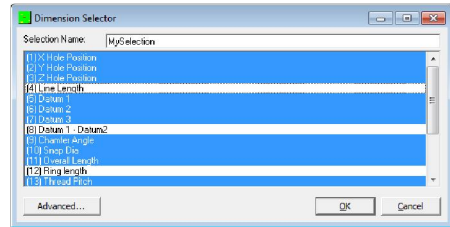
The **green + A...** button at the top of the Information Panel opens the **Containing Text Dimension Filter** window. From here you can filter out dimensions based on what text they have, or do not have, in their dimension labels.

You can read more about Dimension Filters in the full QC-CALC Reference Manual.

RECORD FILTERS

If you want to reduce the number of parts displayed on the screen, QC-CALC allows you to set up Record Filters. By reducing the number of records shown, you can group parts based on when they were made, what machine they were made on, who was operating the machine at the time, etc.

To access the **Record Filter Information Panel**, open the **View** menu and select **Record Filter**. On the left side of the screen you'll see the Record Filter Information Panel, listing off all the filters available to you. QC-CALC Real-Time comes with some default filters to display only those records taken in a specific time period, such as records taken last year, this month, or just the records taken today.
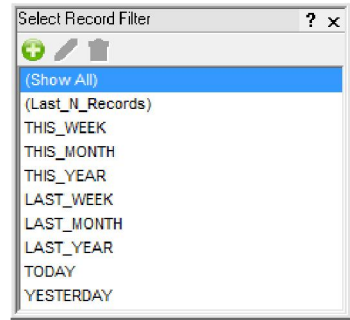
The **green +** button opens the **Edit Filter Criteria** window. Within this window, you can chose from an expansive list of options to filter records on, including the date and time of inspection, the number of fails, and the values for various dimensions and factors. You can set any number of criteria for each filter, and save it for use later, giving you limitless options for how you want to filter your data.
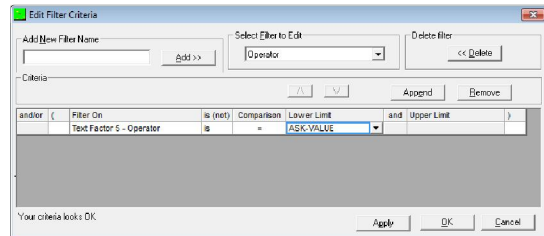
You can read more about Record Filters in the full QC-CALC Reference Manual.

REPORTING

QC-CALC Real-Time offers a wide variety of report types and templates to try and fit our customers' basic reporting needs. Reports in QC-CALC Real-Time can be generated manually, generated automatically after a certain number of records, or even generated when Real-Time collects data that is out of spec. Reports can also be printed to a number of different file formats on a local or network drive, and automatically emailed to any number of email addresses.
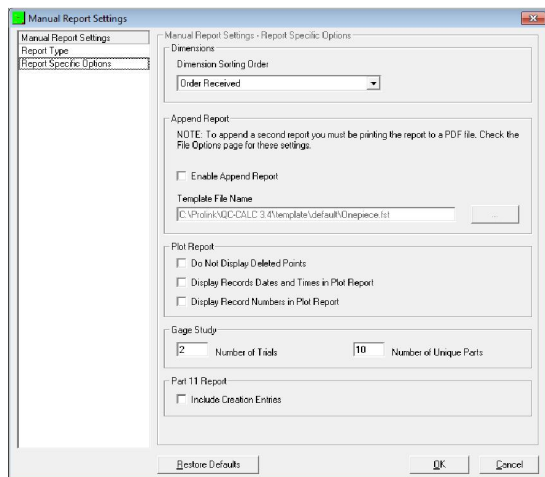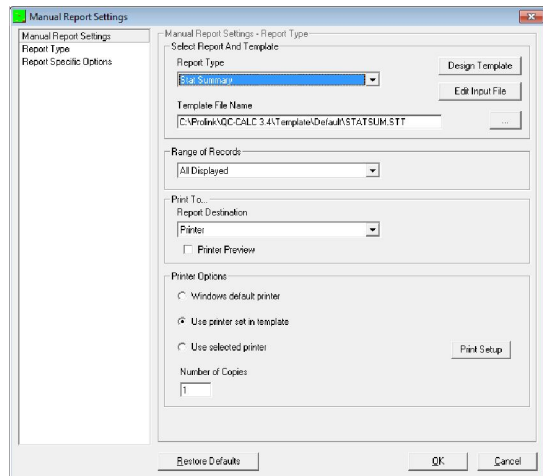
MANUAL REPORTING

To run a report manually, open the **Report** menu and select **Print Report**. The software will display the **Report Type** page of the **Manual Report Settings** screen. From here, you can select a **Report Type** and then select the report template that best fits your needs. You can find examples of the included report templates in the full QC-CALC Reference Manual.

Once you've selected a Report Type, you can determine how many records you want included in your report by selecting the appropriate option in the **Range of Records** drop down menu. The **Print To** menu will allow you to choose between sending a report directly to your printer, and saving your report to a file on your local or network drive.

If you select the **Report Specific Options** page on the left, you'll see more options and tweaks that you can set for your report. You can read more about these report options in the full QC-CALC Reference Manual.

Prolink Pro Tip: Once you've set up a manual report, you don't have to go into the Report menu every time you want to run it again. The Print button in the toolbar will tell QC-CALC Real-Time to run a report with the last settings that you used.
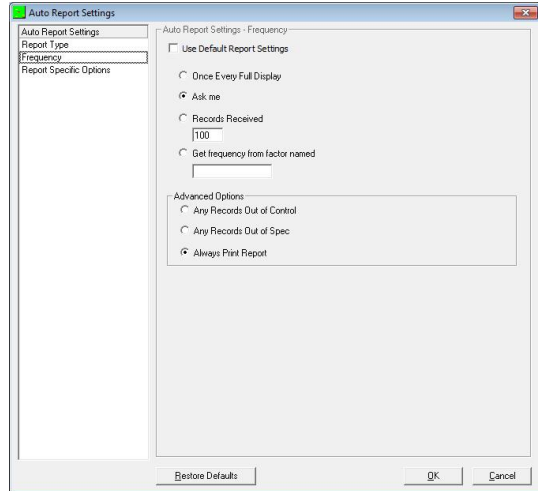
AUTOMATIC REPORTING

To set up an **Automatic Report**, open the **Report** menu and select **Setup Automatic Reporting.** The software will display the **Report Type** page of the **Auto Report Settings** screen. Just like with the **Manual Report**, this screen allows you to select a Report Type and Report Template, as well as define what records to be included in your report, and whether you want your report to be sent to a printer, or saved to a file on a local or network drive. Also, like the Manual Report Settings screen, you can open the Report Specific Options page to make changes to further options and settings for your report.

The Auto Report Settings window adds a new page, the **Frequency** page. This page is where you set how often you want your report to run. You can choose to run your report every time the QC-CALC Real-Time display fills up, after a specific number of parts have been run, or even have Real-Time pull the frequency from a factor sent over by your inspection software. You also have the option of running your report whenever QC-CALC Real-Time collects data that is outside your part program's control limits, or spec limits.

Once you've set up the report that you want, and the frequency you want it, click the **OK** button at the bottom of the window to save these settings. When you're ready to start printing automatic reports, open the **Report** menu and select **Automatic Reporting (Off)**.

Prolink Pro Tip: Automatic Reports can also be triggered by the Trend Detection feature in QC-CALC Real-Time. Besides the 7 Western Electric trend rules, QC-CALC includes Low Cpk, Out of Spec, Out of Control and Consecutive Points in a row Trending. Read more about it in the Trend Detection section of the full QC-CALC Reference Manual.

Many customers want to have their inspection results available for use in multiple programs. Because of this, QC-CALC Real-Time has a wide variety of exporting options (over 40) available to allow you to transfer your data to simple text files, Excel workbooks, numerous database formats, and several other SPC software packages. Exports in QC-CALC Real-Time, like Reports, can be triggered manually, triggered automatically after a certain number of records are read, or even triggered by records that are out of spec, and saved to any local or network location.

MANUAL EXPORTING

To manually export data, open the **Export** menu and select **Export Data**. The software will display the **Export Type** page of the **Manual Export Settings** window. From here, you can select from a long list of file types from the **Export Format** drop down menu, and select the path and file name where you want your export to appear. Many export formats have additional configuration options specific to their type; access these additional options by clicking the **Configure** button next to the Export Format drop down menu. **If the Configure button is grayed out, there are no additional settings for that particular output format.** You can read in detail about many of our supported export formats in the full QC-CALC Reference Manual.
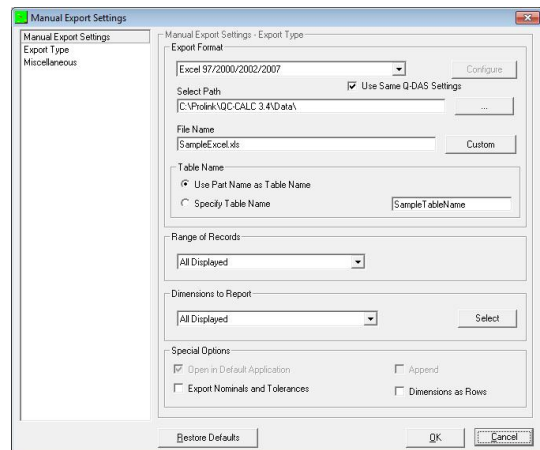
Once you've selected an Export Format, set where you want the exported file to be saved, and what you want to call it, you can select how many records you want to include in your export by selecting the appropriate option in the **Range of Records** drop down menu. You can also select which dimensions you want to include in your export by selecting one of the options in the **Dimensions to Export** drop down menu.

AUTOMATIC EXPORTING

To set up an **Automatic Export,** open the **Export** menu and select **Setup Automatic Exporting**. The software will display the **Export Type** page of the **Automatic Export Settings** screen. Just like with the **Manual Export**, this screen allows you to select an Export Format, the path and name of the exported file, and which records you want to include in your export. And also like the Manual Export, you can set specific configuration options for many of the export formats by clicking the **Configure** button next to the Export Format drop down menu.

The Auto Export Settings window adds a new page, the **Frequency** page. Similar to the Automatic Reporting Frequency page, this page is where you set how often you want your export to run. You can choose to export your data every time the QC-CALC Real-Time display fills up, or after a specific number of parts have been run. You also have the option of running your report whenever QC-CALC Real-Time collects data specifically that is inside control limits or spec limits, or you can export when data is collected that is outside control or spec limits.
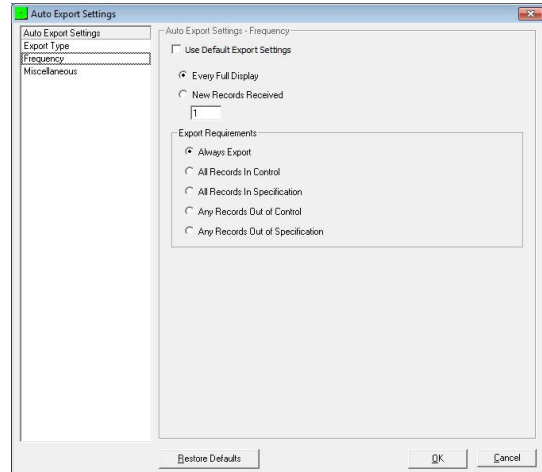
Once you've set up the export that you want, and the frequency you want it to run, click the **OK** button at the bottom of the window to save these settings. When you're ready to start exporting your data automatically, open the **Export** menu and select the **Automatic Reporting (Off) menu**. The (Off) label will switch to (On).
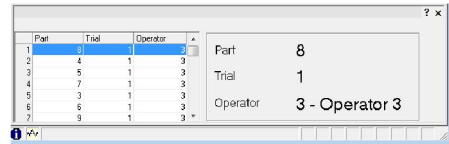
*Prolink Pro Tip: QC-CALC Real-Time has the ability to have two automatic exports set up at a time. Open the **Export** menu and select **Secondary Export Setup** to configure a second automatic export.*

GAGE R&R

QC-CALC Real-Time has a built in **Gage R&R Wizard** to help guide you through the process of setting up and conducting a Gage Repeatability and Reproducibility study. It allows you define the study how you wish, and save those settings for a quick setup with future studies.

During your Gage R&R study, you follow the Gage R&R panel at the bottom of the QC-CALC Real-Time screen to guide you through all of the Part, Trial, and Operator combinations to be used. The Gage R&R pane indicates the parts already measured, as well as the part currently to be measured.

To start a new study, open the **Gage R&R** menu and select **Begin New Study**. Follow the instructions in the **Gage R&R Study Setup Wizard** and you will quickly be ready to begin your study. Automated gaging can be tricky so we provide a method of correcting errors by re-measuring the part. You can even pause the study and restart later – not recommended but it is possible.

You can read more about conducting Gage Repeatability and Reproducibility studies in the full QC-CALC Reference Manual.

EDIT NOMINALS AND TOLERANCES

You can quickly and easily change the Label, Nominals, Tolerances, and Limits of your features by access the **Edit Nominals and Tolerances** window in QC-CALC Real-Time. Open the **File** menu and select **Edit Nominals and Tolerances** to bring this window up. From here you can select any dimensions or factors in the file you have open and modify any of their settings.
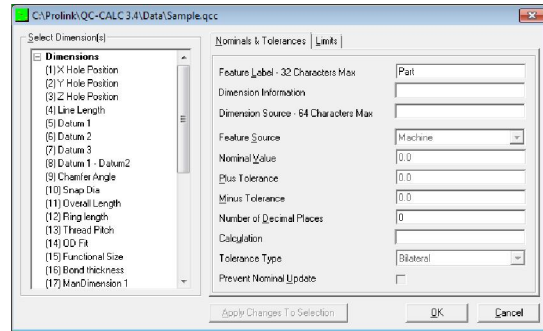
Prolink Pro Tip: By holding down the CTRL key, you can select multiple dimensions from the list on the left side of the Edit Nominals and Tolerances window. Use this to make changes to several dimensions at once. Once you've made your changes, just click the **Apply Changes to Selection** button at the bottom of the window. For example, you could select all dimensions and then change the Number of Decimals from 4 to 3 and click Apply Changes to Selection and all dimensions are changed.

UPDATING
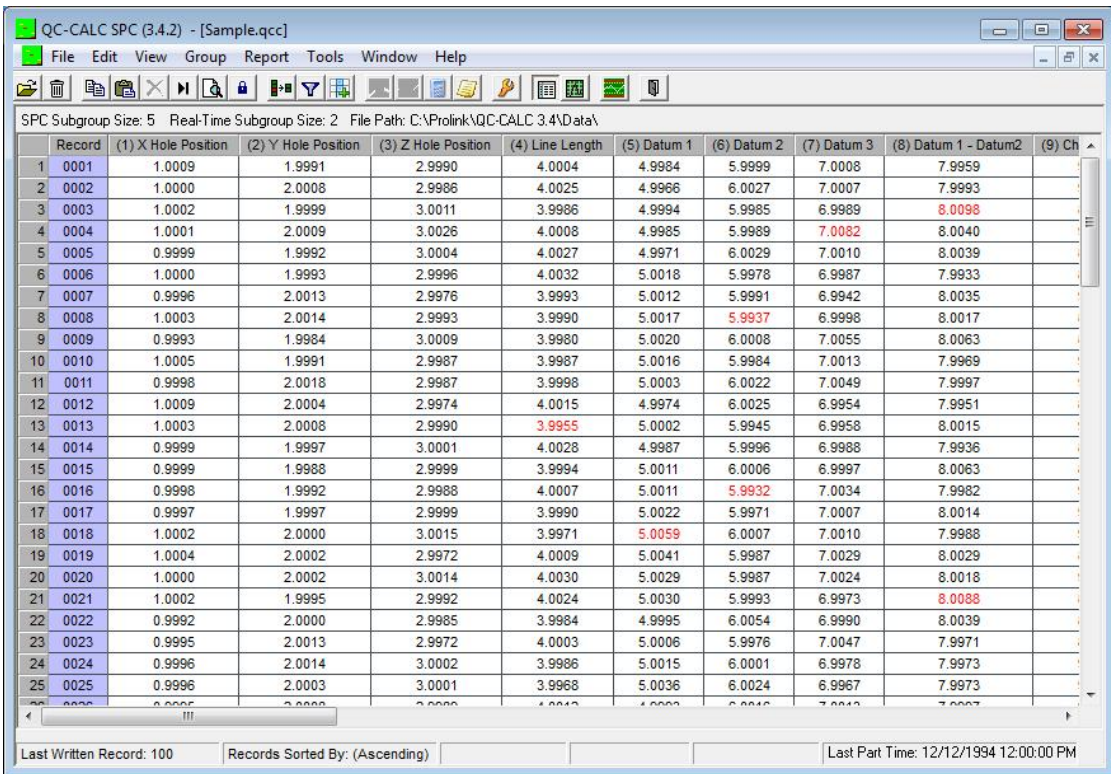
Prolink Corporation releases updates to its software, QC-CALC Real-Time included, often, and it's important to keep your installation up to date. Updates frequently include

Downloading QC-CALC Update Patch. Please Wait.

bug fixes, and changes to increase performance. You can check for updates any time by going to the **Help** menu and selecting **Run Update**. You can also set your update to run automatically by going to the **Tools** menu, clicking **Options** and selecting the **Update** page on the left side of the Settings window. If you're interested in what changes are included in a new update, go to **www.prolinksoftware.com/support**, click the **QC-CALC Specific** link, and then click on **Release Notes**.
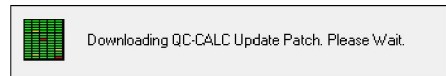
QC-CALC SPC

QC-CALC SPC is a complete SPC software package for analyzing the data collected by QC-CALC Real-Time. Use QC-CALC SPC's charts and reports to constantly monitoring your process and keep it in control. QC-CALC SPC offers a wide variety of charts and functions to aid your analysis, and give you the power to make on-the-spot decisions. Monitor the shop floor, group data from multiple sources, run charts with just a few clicks, and QC-CALC SPC gives you a precise picture of how your production line is performing.

QC-CALC SPC SCREEN LAYOUT

The QC-CALC SPC screen can have a great deal of information on display at any given time. Here's a quick overview of the items on the main screen, and their general purpose.

TITLE BAR

The title bar contains the file name, and the location of the QCC database you are currently viewing. It can also display which **User Group** you're currently logged in as, if you are making use of QC-CALC's **Admin Tool** options.

MENU BAR

The QC-CALC SPC menu bar houses the majority of SPC's functions, like **Grouping**, **Reporting**, and **Monitoring**, as well as accessing the full **QC-CALC Help File**.

TOOLBAR

The QC-CALC SPC Toolbar contains shortcut buttons to access some of the software's most commonly used functions, such as accessing Dimension or Record filters, as well as toggling things like the **Point Properties** or **Quick Stats** information panels. Float the mouse over the buttons to see the tool tip describing the button's function.
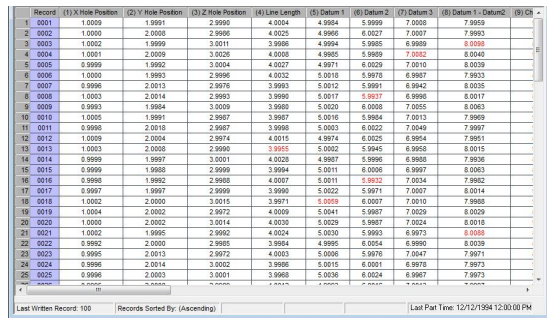
UPPER STATUS BAR
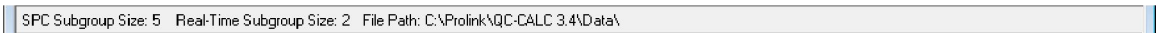
The **Upper Status Bar** gives you quick access to important information about the file you're currently viewing, such as the SPC and Real-Time **Subgroup Size**, the **File Path** of the active file, and if you're in **Plot View**, the **Deviation** for the point directly beneath the mouse.

DATA VIEW

When QC-CALC SPC is in **Data View**, all records from the active file are displayed in an easy to read, easy to edit spreadsheet format. These values are stored within the QC-CALC database for that part to allow for quick analysis of historical data. You can highlight an area, right click and copy to the clipboard and paste the data directly into Excel.

From this view, data can be edited, sorted, and filtered with ease, and can even be copied and pasted into an Excel spreadsheet, or any other program.

Plot View

When QC-CALC SPC is in Plot View, it displays all records in the active file in the same plots that the user would see in QC-CALC Real-Time. As in Real-Time, the background color of these plots changes depending on the value of the current data point.

If **Monitoring** is enabled in QC-CALC SPC, the plots update in real time as your copy of QC-CALC Real-

Time collects data. This allows you to keep an eye on your process from remote computers. For more details on monitoring see Monitoring on page 25.

Plot View also features **Quick Filter Tabs** across the top, allowing you to instantly filter down to just the dimensions that are in control, or out of control, or out of spec.

You can read more about the functions and capabilities of the Plot View and Data View screens in the full QC-CALC Reference Manual.

LOWER STATUS BAR
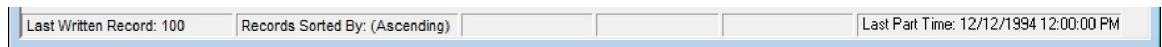
The **Lower Status Bar** gives you quick access to information about the currently active file, displaying the number of the last written record, the sort status, and what Dimension and Record filters are applied.
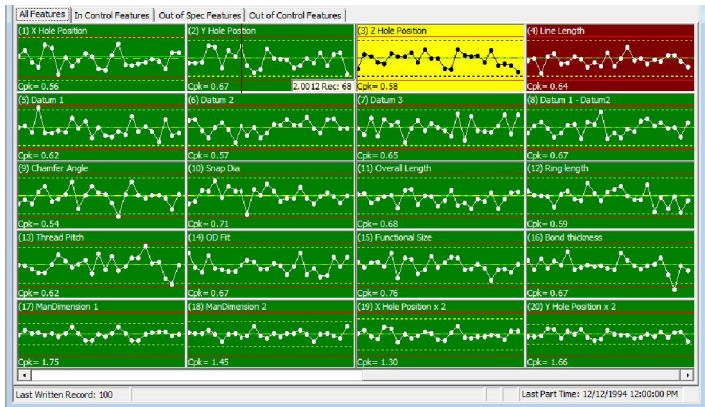
QC-CALC SPC offers a wide variety of report types, many of them more in depth than the reports available in QC-CALC Real-Time. These reports can be run at any time, and sent directly to a printer or on-screen print preview. They can also be saved to a file and on a local or network drive, or even emailed to any number of people, with your choice of many different file formats.

Reports can also be run across a number of files and on specific dimensions from different files, by using the **Grouping** function of QC-CALC SPC, which is explained later in this quick start guide.

To run a report, open the **Report** menu and select the report type you would wish to run. The software will bring up the **Dimension Selector**, giving you an opportunity to select specific dimensions in the file or files you have open, or to let QC-CALC SPC run the report across all dimensions available.
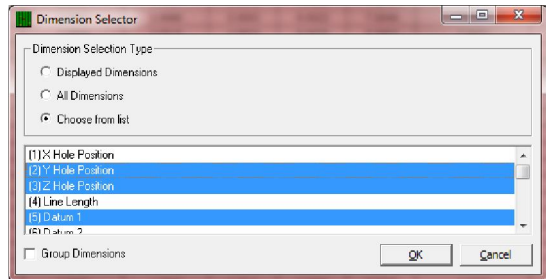
Once you've made your dimension selection, click the **OK** button and the report window will appear. The report window gives you a detailed breakdown of the stats for the dimension displayed in the **Dimension Number** and **Label** field. After reviewing the data on this screen, you can click the **Next** button to see the same report on the next dimension, or click the **Print** button to send this report to a printer, or save it to a file.
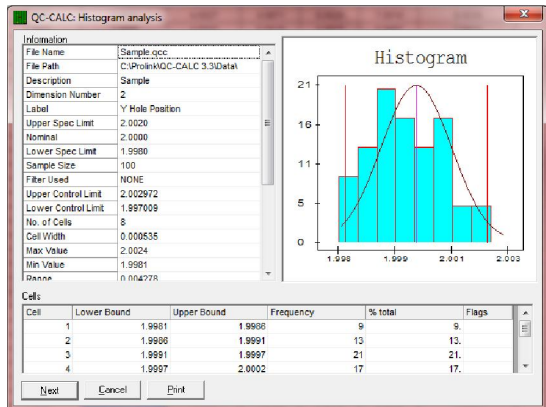
Prolink Pro Tip: *Along with all the in-depth reports QC-CALC SPC has to offer, you can also run many of the reports from QC-CALC Real-Time right from SPC. Just select **Other Reports** from the Report menu to see which are available.*

GROUPS

With QC-CALC SPC's **Grouping** feature, you can have multiple QCC files open at a time, allowing you to filter data across multiple files, and combine data from separate files on to the same report.

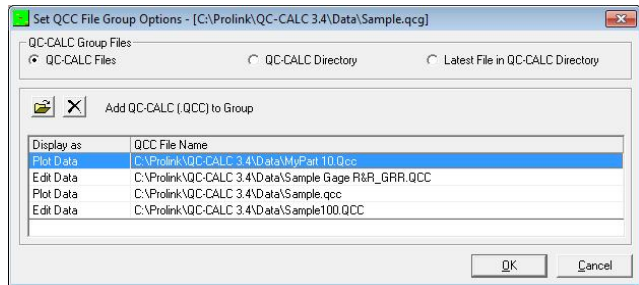To create a group, open the **Group** menu and select **New**. You'll be asked to pick a name and a location for a .qcg file, which is the file that contains all the settings for the group you're about to create. Once you've selected a folder and a name for your group, click **Open**, and you'll be brought to the **Set QCC File Group Options** window.

From here, you have the choice of either selecting which specific files you'd like to have in your new group. Click the folder button to start choosing files. Or you can select the **QC-CALC Directory** option, and select a whole folder of QCC files to group together. Once you've made your selection, click **OK** and your group will be displayed on screen immediately. You can later edit, close, or delete your groups from the **Group** menu.

MONITORING

If you have the QCC files that QC-CALC Real-Time is creating saved to a location that accessible across your local network, QC-CALC SPC can monitor them for new records, and update them automatically, allowing you to keep an eye on your process as it happens. As well as monitoring individual files, you can combine monitoring with QC-CALC SPC's groups, and monitor entire folders of data for new information.

To enable **Monitoring**, open the **Tools** menu and select **Enable Monitoring**.

Prolink Pro Tip: When setting up a group, you can also select the Latest File in QC-CALC Directory option to have QC-CALC SPC monitor a folder and update you on the file that had the most recent part run. Combine this with monitoring, and you'll have a constantly updated view of what your inspection machines are doing, regardless of what file they're saving their data to.

HELP AND TROUBLESHOOTING

GETTING HELP

QC-CALC Real-Time and QC-CALC SPC have far more features and abilities than can be covered in this Quick Start Guide. You can find more in depth information about any of the topics covered here, and any topics not covered, several ways:

QC-CALC REFERENCE MANUAL

The QC-CALC Reference Manual contains over 300 pages of information and explanations of every feature in QC-CALC Real-Time and QC-CALC SPC. The reference manual can be found on the CD included with this Quick Start Guide by browsing to the **\Manuals\QC-CALC\English** directory and opening the **QC-CALC_34.pdf**. You can also download the latest version of our Reference Manual by browsing to **www.prolinksoftware.com/support**, clicking on the **QC-CALC Specific** link, and then clicking on the **Download Manuals/Help for QC-CALC** link.

QC-CALC HELP FILE / MACHINE SPECIFIC HELP FILE

In QC-CALC Real-Time and QC-CALC SPC, you can open the **Help** menu and select **Contents** to access the QC-CALC Help File. This help file contains the same information found in the QC-CALC Reference Manual, and is indexed and searchable. You can also press **F1** on your keyboard at any time and the software will open the QC-CALC Help File up to the page that deals with whatever window or screen you're working with.

In QC-CALC Real-Time only, you can open the **Help** menu and select **Machine Specific** to access the Machine Specific Help File. This help file contains all the information needed to configure the inspection software you selected in the **Install Wizard** to communicate with QC-CALC Real-Time. It also contains information on additional features that may be available for your machine type.

KNOWLEDGE BASE / WHITE PAPERS

Prolink Software maintains a searchable database of Knowledge Base articles, each written to assist customers in performing a specific task, or correcting a specific issue. You can find these on our website by browsing to **www.prolinksoftware.com/support**, and clicking the **Knowledge Base** link.

Also on our website are a number of White Paper and Tutorials on a wide range of subjects. Many of the tutorials are available not only as PDFs, but as video tutorials you can stream right from our website. To access these White Papers and Tutorials, browse to **www.prolinksoftware.com/support** and click either **Tutorials** or **White Papers**.

TRAINING MANUALS

For customers looking for a more directed approach to learning QC-CALC software, self-guided training materials are available on our website for download. These are the same training manuals used in Prolink's training classes, and you can print out as many copies as you want, and go through them at your own pace. You can download our training manuals for QC-CALC Real-Time and QC-CALC SPC by browsing to **www.prolinksoftware.com/support**, clicking on the **QC-CALC Specific** link, and then clicking on the **Download Manuals/Help for QC-CALC** link.

GETTING SUPPORT

Prolink Software offers a number of ways for you to contact us with questions about our software. If you run into any error messages, or are unsure of how to use a feature of our software, feel free to contact our support staff at any time.

EMAILING SUPPORT

You can email our support staff at any time by sending any questions or issues you're having to **support@prolinksoftware.com** . Please remember to include as much detail as you can regarding the issue or question that you're having, and if you are getting any error messages, screenshots of those error messages can be very helpful to our support staff.

OPENING A SUPPORT TICKET

If you have a question about our software, or are running into an issue, you can open a support ticket at any time on our website by going to **www.prolinksoftware.com/support** and clicking the **Open a Support Ticket** link. Opening a support ticket is one of the best ways to get support because it allows you to follow your issue and all correspondence in one place, as well as look over previous tickets for solutions or suggestions. Support Tickets are replied to by the same staff that works on the Maintenance Phone Support line.

MAINTENANCE PHONE SUPPORT

Prolink Software offers **Maintenance Plans** for all current-version copies of software. Companies covered by our Maintenance Plan are entitled to free upgrades to any new version upgrades to their software that are released, as well as access to our **Maintenance Phone Support Line**. Each new purchase of software comes with 6 months of maintenance free, starting from the date of purchase. After 6 months, this maintenance can be renewed on a yearly basis.

If you are within your 6 months of free maintenance, you can call our Maintenance Phone Support line at **(860)-659-5928**. Our support line is open **Monday through Friday, 8am – 6pm EST**.

You can find out more information about our maintenance plans and get pricing on our website, **www.prolinksoftware.com**. Just click on the **Maintenance Plans** link in the left side bar.

GENERAL TROUBLESHOOTING

Many of issues that sometimes appear when using QC-CALC Real-Time and QC-CALC SPC can be solved with simple troubleshooting techniques. Here are some tips to solving the most common issues that customers contact us about.

I need to transfer my license to a new machine

When a hard drive crashes or a new computer is purchased, licenses may need to move from one machine to another. Follow these steps to get your license reset so you can install on a new machine, and use our website to activate your software, following the procedure outlined earlier in this Quick Start Guide.

1) Identify the **PSN (Product Serial Number)** of the copy of software you wish to transfer. You can find this in the **Help** menu by selecting **About QC-CALC**. Make a note of the PSN.
2) Open the **Help** menu and select **License Configuration**
3) Click the **Kill License** button. Make a note of the **Verification Number** that is displayed
4) Go to **www.prolinksoftware.com** and log in by clicking the **Login** link at the top of the page
5) Click the **My Account** button
6) In the **My Software** section, locate the copy of software you wish to transfer by finding the **PSN** you noted down earlier
7) Click the **Details** link for this license
8) Click the **Download Full Install** link on the right
9) Send the **PSN** of the license being moved and the **Verification Number** noted down earlier to **support@prolinksoftware.com**, or open a support ticket with this information, and a request to reset your license
10) Once you receive confirmation from our support staff that your license has been reset, follow the **Activation** instructions outlined earlier in this Quick Start Guide to activate your new install of QC-CALC

My software was activated, but now it's telling me that my license has expired

The license in QC-CALC is partially based on the hardware that you have in your machine. Often, if new hardware is installed or swapped out, or a large Windows update is installed, this can cause issues with

QC-CALC Licensing. This problem can be corrected by emailing **support@prolinksotware.com**, or opening a support ticket and letting our support staff know what happened so they can reset your license.

My software is telling me that I'm running in "Limited Use Mode"

QC-CALC Real-Time and QC-CALC SPC will go into what's called **Limited Use Mode** when the 30 day evaluation period has passed. If you have purchased the software, and the Limited Use Mode message appears, this usually means that the software was not licensed during installation, or there was problem with the license. This problem can be corrected by emailing **support@prolinksotware.com**, or opening a support ticket and letting our support staff know what happened so they can reset your license.

QC-CALC Real-Time isn't collecting data

Data Collection issues in QC-CALC Real-Time can be caused by a number of issues. Here are two of the most common reasons for this:

QC-CALC Real-Time is looking for the wrong type of machine data

1) Open the **Help** menu and select **Install Wizard**
2) Select your inspection machine type from the list and click the **OK** button

QC-CALC Real-Time is looking for data in the wrong location

1) Open the **Tools** menu and select **Options**
2) On the left side of the **Options** window, click the **+** next to **Data Collection**
3) Select the **Data Source Information** page that appears beneath Data Collection
4) Look at the **File Path and Name** at the top of the **Data Source Information** page. This is where QC-CALC Real-Time is looking for output files from your inspection machine. If the output files from your inspection machine are not going to that location, or do not have that name, QC-CALC Real-Time will not be able to collect them. The **Machine Specific Help File**, located in the **Help** menu can guide you to changing the path and name of the output file for your specific inspection machine.

QC-CALC gives me a Read/Write Access error when I try to run it

This error usually means either that you are running QC-CALC in Windows 7, but not running as Administrator, or the user account you are using on that machine lacks read/write access to the location listed in the error message. Show this error message to your IT department, and they should be able to give you the correct permissions.

I'm getting an error message with a number when I try to access a specific feature

Depending on the error message, these can mean a number of different things. If you encounter any numbered error messages, please take a screenshot of them and send the screenshots over to our support department with a description of when they occurred so that they can instruct you on how best to resolve that issue.