

Huntron Workstation Tracker 2800/2800S Tutorial

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Huntron Workstation software Tutorial for Tracker 2800/2800S

It is very helpful if you have a working knowledge of Microsoft Windows prior to using Huntron Workstation.

You are allowed to create a backup copy of the software disk. *Your purchase agreement allows for copies to be made for backup purposes only- copying for distribution or resale is strictly prohibited.*

Installation Instructions

Install the software **BEFORE** connecting any hardware. Uninstall any previous versions prior to loading the current version. For more installation details follow the "Getting Started" sheet included with your Huntron product.

Uninstall any previous versions of Workstation prior to installing the new version. Insert the Huntron Workstation DVD. The DVD should Autorun and begin the installation process. If your PC has Autorun disabled then open a browse window to the DVD and select WorkstationSetup.exe. This will begin the installation process. During the install you will be asked to install additional software for Access Probers. Select NO as your response.

If you purchased CAD Tools then install using the supplied CD. Follow instructions listed in the CAD Tools Tutorial.

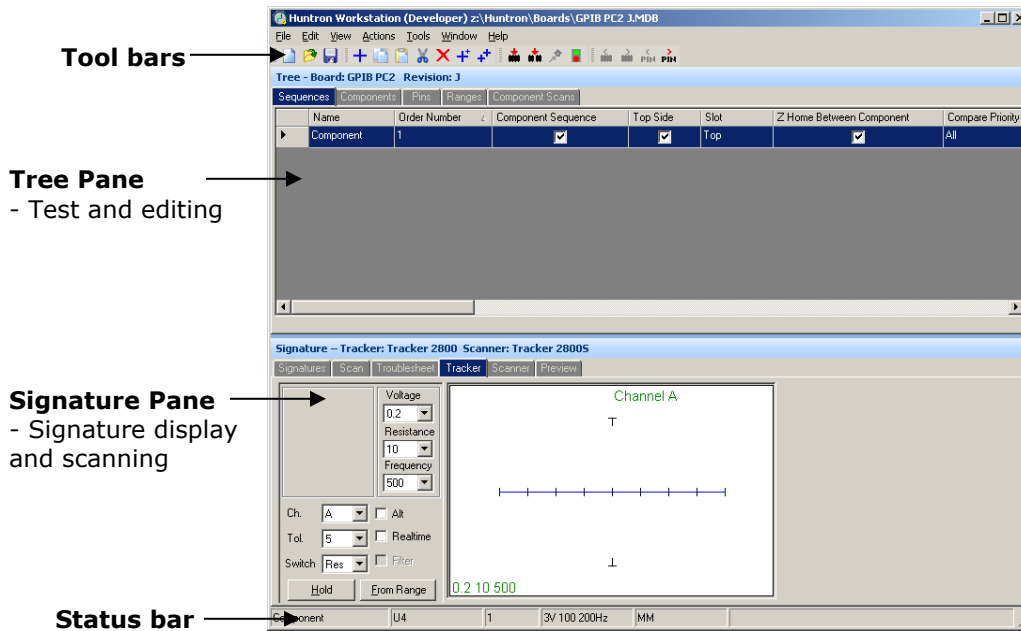
If you are using Workstation in conjunction with a digital multimeter, follow the instructions listed in the Workstation DMM Tutorial.

All of the Workstation tutorials are available on the Huntron web site:

www.huntron.com/sales-support/software.htm

Huntron Workstation Main Interface

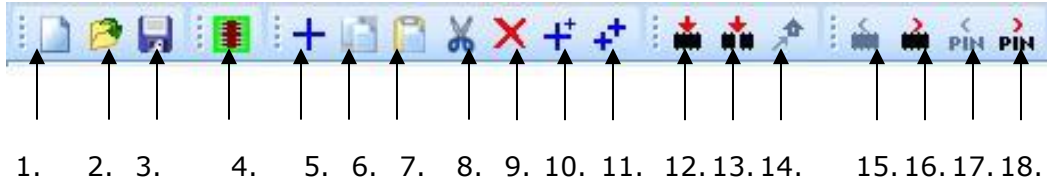
When starting Huntron Workstation for the first time, you will be prompted for an activation code. Type in the case sensitive code exactly as it is presented on the installation CD or CD envelope.



The Main Window for Huntron Workstation 4 features a multi-pane layout so many aspects of the test creation and execution can be displayed at the same time. The Panes are interactive to a certain degree in that changes in one Pane will affect other Panes. The Panes can be resized, floated independently or "tabbed" to the sides of the window. The Status Bar displays information about items currently selected in the Tree pane and status information while processes are running.

The Toolbar

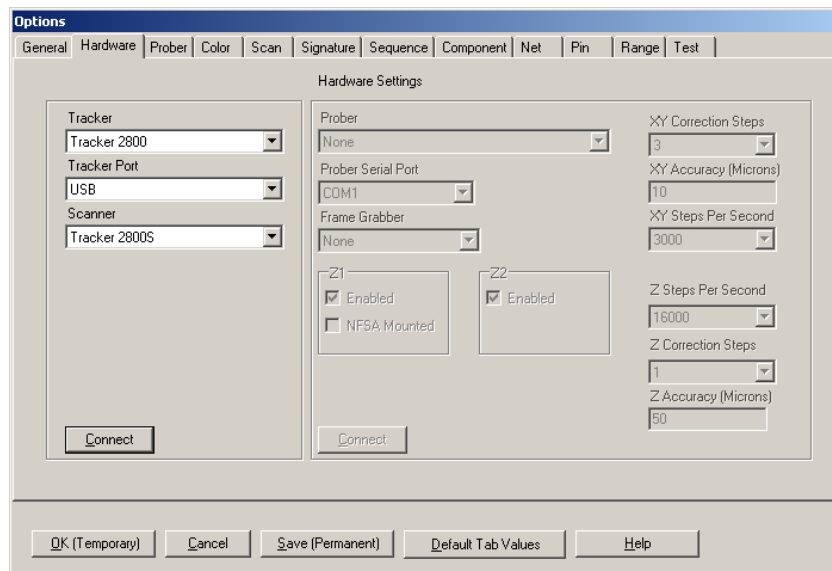
The Toolbar just under the application menus allows for quick access to several program functions. The function of each is broken out in the diagram below.



- | | |
|--|---------------------------------------|
| 1. Create New Board database | 10. Build New (Sequence, Component) |
| 2. Open Board database | 11. Repeat New (Sequence, Component) |
| 3. Save As... | 12. Scan Component or Net |
| 4. Custom Button(s) (User created) | 13. Scan Sequence |
| 5. Add New (Sequence, Component or Range) | 14. Send Prober head to Home position |
| 6. Copy (Sequence, Component, Net or Range) | 15. Previous Component or Net |
| 7. Paste (Sequence, Component, Net or Range) | 16. Next Component or Net |
| 8. Cut (Sequence, Component, Net or Range) | 17. Previous Pin |
| 9. Delete (Seq., Comp., Net, Range or Scan) | 18. Next Pin |

Hardware Setup

When first starting Huntron Workstation, select **Options** from the **Tools** menu. The Options window is used to setup default settings used when working in Huntron Workstation. Your Tracker 2800 should be connected to a USB port and powered ON at this time.



For this tutorial, the Tracker 2800 will be referred to in general as "Tracker".

Select the **Hardware** tab and set the type of Tracker hardware to **Tracker 2800**, the Tracker Port (**USB**) and Scanner (if a **Tracker 2800S** is being used). Disregard the Prober settings on the right side of the window.

Click the **Connect** button to initiate communication with the selected hardware. Once connected, click the **Save (Permanent)** button to save this configuration as the startup default. The Tracker 2800 will have "In Remote Mode" displayed on the LCD.

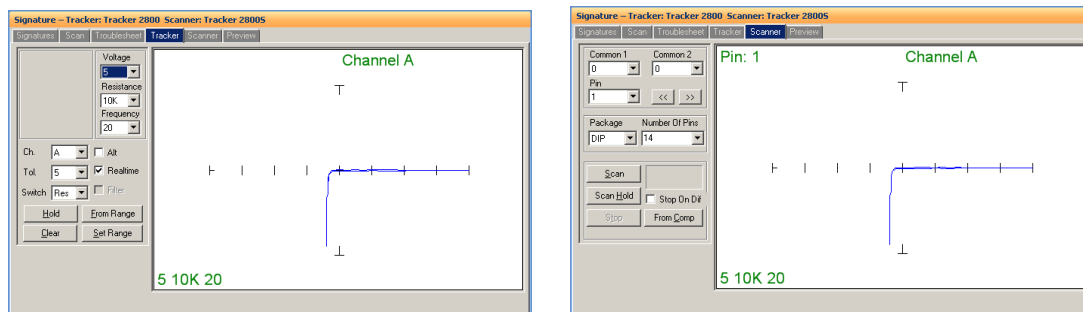
Using a Tracker 2800

The Tracker 2800 comes from the Factory calibrated for standalone use.

- Select **Tools/Maintenance/Tracker 2800 Diagnostics** from the menu.

Click the **Alignment** button. When the Alignment procedure finishes (about 10 minutes), run **Verify Alignment**. This also takes about 10 minutes to complete. The Alignment information is stored in the Tracker 2800 and will be used by the software. If changes are made to the cabling or attached instruments, simply run **Alignment** and **Verify Alignment** again.

Manual Modes – Tracker and Scanner



You may find it useful to manually test some of your components while adjusting the range parameters. The two manual modes, Tracker and Scanner located in the **Signatures** pane, can work together to display the signature of a component pin. Tracker mode sets the range parameters, channel and tolerance. Signatures will be displayed to the right while probing with hand-held probes (select the Realtime check box). The **Hold** button will capture and hold the current signature allowing for quick comparisons. **ALT** mode will switch automatically between channel A and channel B. **Scanner** mode allows you to use a Huntron Tracker 2800S to interface to the component pins. You can set the package type and number of pins (Common 1 and 2

are not supported by the Tracker 2800S). The **Scan** button starts a hands free scan of the component through the scanner cable interface or you manually increment the pins with the << and >> buttons. The **Hold** button will capture and hold the current signature allowing for quick comparisons. Manual modes are for real time display only and does not allow for permanent signature storage. To store signatures you will need to create a **Board Test**.

Creating a Board Test

There are a number of steps necessary to creating a board test.

Example of Board Test Information:

Board Name: Main Board (creates "main board.hwdb" file)

Revision: Rev. A (This field is optional)

Sequence: IC's

Component: U27 (component name) or A2 (NET name)

Pins: per pin settings for Scan Pin setting, channel, net name, etc...

Ranges: Per pin settings for common reference pin, tolerance, etc...

The user has total discretion as to the information input into these fields. There is no "right" way as to what information is entered as every user's situation will be different. The above example is just one way the information might be entered.

Entering information into the Entry windows is very straight forward. The easiest way to move from field to field is by pressing the **TAB** key. You can also use the mouse to click into a particular field so you can enter information.

Test Building Procedures

- Create Test Database in the Tree Pane
 - o Add Board, Sequence, and Components before scanning
- Scan Components and Set References

Listed above is a general outline on how you would proceed when preparing to test a board. These guidelines apply to all package types and boards. As with any type of complex test equipment, practice makes perfect so take the time to learn and practice these procedures.

Creating a Board Database

Edit Board

Name: Power Supply 1 | Manufacturer: Huntron | OK

Revision: | Test Routine Number: | Cancel

System: Controller | Unit of Measure: | Buttons...

Unit: | Data Source: User | Help

Top Name: Top | Bottom Name: Bottom

Show Instructions

F2B File | Load F2B File... | Remove F2B File...

XML File | Load XML File... | Remove XML File

Instructions |

To create a new Board, select **New** from the File menu or use the New button in the toolbar. Input information into the “Add New Board” dialog as needed. The only field that is required is board **Name**. Other fields such as Revision, System, Unit, Manufacturer and Test Routine Number can be completed with related information if desired.

Adding a New Sequence

Edit Sequence

Sequence Name: Component Side | Slot: Top | Type: Components | OK

Order Number: 1 | Auto Store ASCII: | Stop on Failed Comp/Net: | Cancel

Compare Priority: All | Show Instructions: | Z Home Between Comp/Net: | Delete Scans

Auto Store Level: Sequence | Side: Top | Auto Store Passed: | Buttons...

Sequence Id: 1 | Top Z Up: 0 | Top Z Down: 0

Instructions Id: 1 | Bottom Z Up: 0 | Bottom Z Down: 0 | Help

Auto Store File: | Browse...

Instructions | Top | Bottom | Top Image | Bottom Image | Testers | Stimulus

To add a new Sequence, select the **Sequence** tab in the Tree pane. Select **Add New Sequence** from the Edit menu or click the Add New button (+) in the toolbar.

Details:

Sequence Name Field: Enter Sequence name

Compare Priority: Selects the comparison priority between **Same** (serial number), **All** (serial numbers; this is the recommended setting) or **Merge** (Merged min/max signatures)

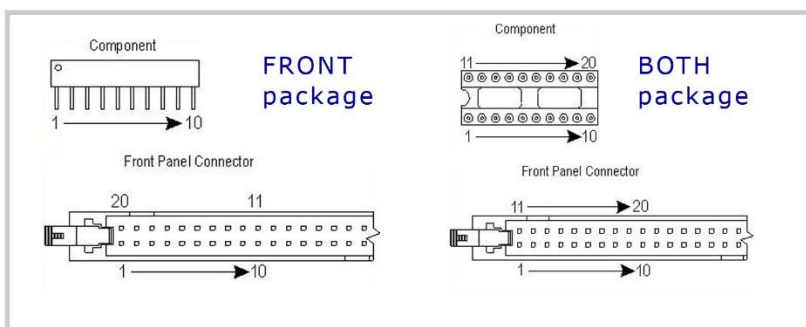
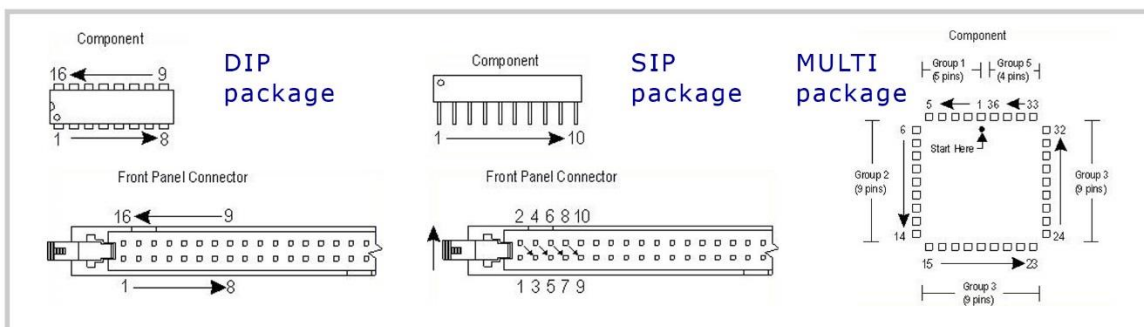
Instructions field: Enter any instructions or system information that you wish to pass on to future users. Note: the **ENTER** key in this field will work as a carriage return.

The **Delete Scans** button will delete all of the signature scans for the Sequence.

The **Buttons...** button will allow you to create a custom toolbar button that is attached to the selected Sequence.

Other functions within this window can be read about by clicking the **HELP** button.

Component Package Types



Tracker with Scanner users will use DIP, SIP, FRONT, or BOTH.

For Tracker with Scanner users, the package type determines how the Scanner pins are counted. The available Scanner packages are **DIP**, **SIP**, **Both**, and **Front**. The **MULTI** package may be used if a test created on another Huntron is moved to your

Tracker 2800 system. The **MULTI** package will also be used for components created using the CAD and/or HAF Import features.

Adding a New Component

The 'Edit Component' dialog box is shown with the following fields and values:

| | | | | | |
|-----------------|--------|---------------------|---------|------------------|-------------------------------------|
| Component Name: | U1 | Connection Type: | Scanner | Pause | <input type="checkbox"/> |
| Order Number: | 1 | Open Check Type: | Recheck | Ranges Then Pin | <input checked="" type="checkbox"/> |
| Package: | DIP | Open Recheck Depth: | 8 | Grid | <input type="checkbox"/> |
| Number Of Pins: | 14 | Correction Steps: | 3 | Test | <input type="checkbox"/> |
| Type: | 74HC04 | Short Check: | None | Instructions ID: | |
| Pin Spacing: | 100 | Component ID: | 1 | Sequence ID: | 1 |

Buttons: OK, Cancel, Delete Scans, Buttons..., Help

To add a new Component, select the **Component** tab in the Tree pane. Select **Add New Component** from the Edit menu or click Add New button (+) in the toolbar.

Details:

Component Name field: Enter the component name (reference designator) in this field.

Package and **Number of Pins** fields: Using the mouse, click on the down arrow to the right of the field to bring up the pull-down menu. Select the package type and number of pins from these menus.

Type field: This information is optional but you can enter the component type in this field.

Connection Type: Select the type of hardware used to interface to the component. Select **Probes** if manual probes will be used or **Scanner** if a Tracker 2800S will be used.

The **Delete Scans** button will delete all of the signature scans for the Component.

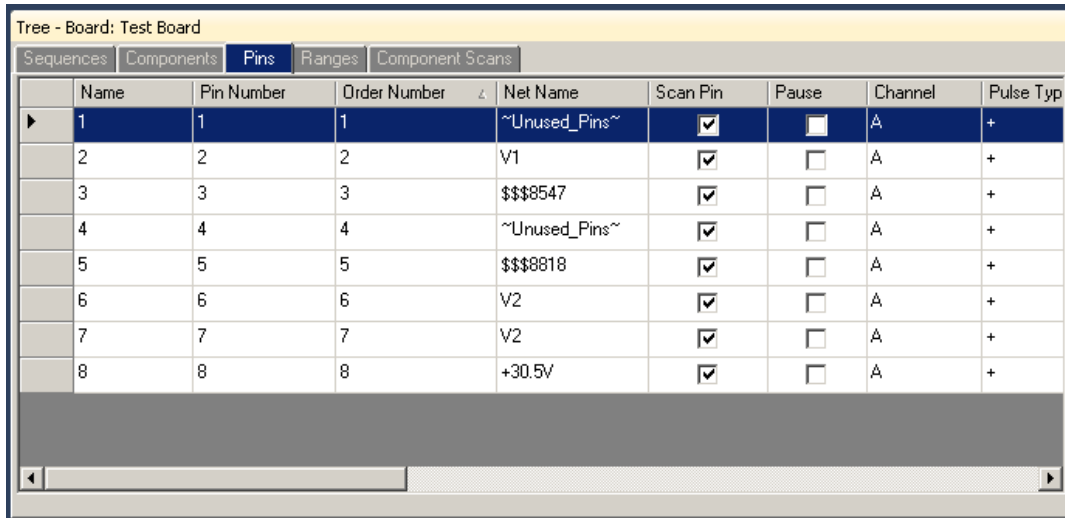
The **Buttons...** button will allow you to create a custom toolbar button that is attached to the selected Component.

Instructions field: Enter any instructions or component information that you wish to pass on to future users.

Other functions within this window can be read about by clicking the HELP button.

Tree/Pin Tab

Once a component is added to the Workstation Tree, switching to the Pin tab will display information for each pin of the selected component.



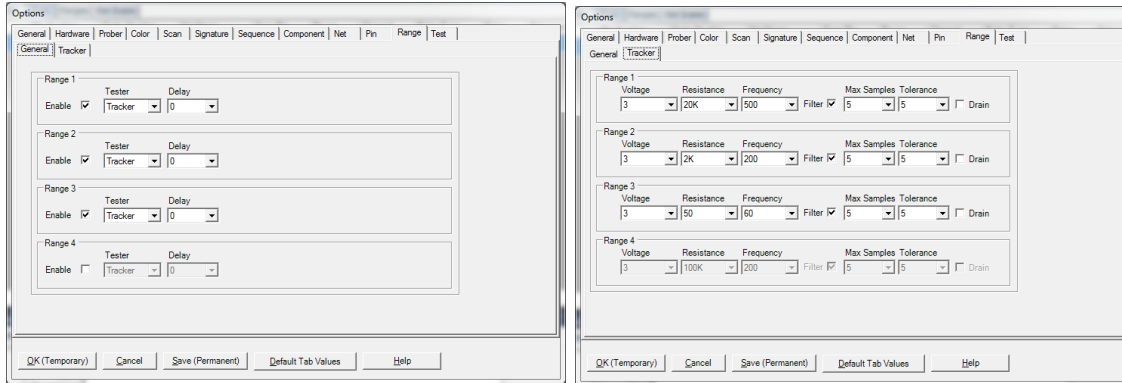
| | Name | Pin Number | Order Number | Net Name | Scan Pin | Pause | Channel | Pulse Typ |
|---|------|------------|--------------|---------------|-------------------------------------|--------------------------|---------|-----------|
| ▶ | 1 | 1 | 1 | ~Unused_Pins~ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | A | + |
| | 2 | 2 | 2 | V1 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | A | + |
| | 3 | 3 | 3 | \$\$\$8547 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | A | + |
| | 4 | 4 | 4 | ~Unused_Pins~ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | A | + |
| | 5 | 5 | 5 | \$\$\$8818 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | A | + |
| | 6 | 6 | 6 | V2 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | A | + |
| | 7 | 7 | 7 | V2 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | A | + |
| | 8 | 8 | 8 | +30.5V | <input checked="" type="checkbox"/> | <input type="checkbox"/> | A | + |

Text in the **Name** field can be modified directly by clicking in the text field and typing the new name. The **Scan Pin** setting enables or disables scanning of the pin. **Pause** will cause the scan to pause when the selected pin is reached.

Information on the other settings in the Pin tab is available in the **Workstation Help**.

Adding a New Range

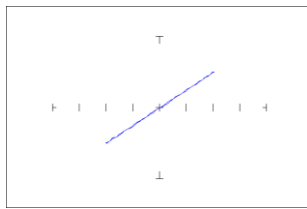
When a new component is added to a Sequence the ranges used are set by the defaults set up in the **Tools/Options/Ranges** tab. It is best to set up your desired default ranges before adding Components to your Sequence.



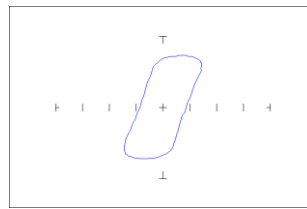
In the Range/General tab, enable the number ranges and set the tester type as Tracker (default). In the Ranges tab, set the Voltage, Resistance and Frequency range parameters. These are the ranges that will be used when adding a new Component. It does not change existing Components. On a new software installation these defaults set three ranges – **3V, 50Kohms at 500Hz; 3V, 1Kohms at 200Hz** and **3V, 50 ohms at 60Hz**. In general use, these three ranges will work well but you may need to add or modify ranges based on component type and value. As a general reference, the table below can be used to assist you in setting ranges.

| Range | 200mV | 3V | 5V | 10-15V | 20V |
|-----------------|---|----------------------------------|------------------|------------------------------------|-------------------------------|
| 10Ω-100Ω | Continuity, shorts, caps, resistors and inductors | Low impedance components | Newer MOS ICs | Power supply and Regulators | |
| 1KΩ-10KΩ | Resistive faults | Latest MOS and Surface mount ICs | Newer MOS ICs | Older MOS ICs | |
| 50KΩ | Resistive faults | Resistive faults | Older MOS ICs | TTL 74, 74LS ICs and older MOS ICs | TTL 74 ICs, power transistors |
| 100KΩ | Resistive faults | Resistive faults | Resistive faults | Resistive faults | High resistive and High power |

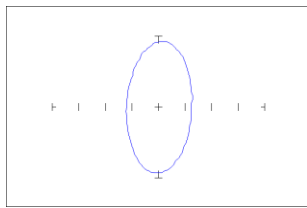
The Tracker signatures are shaped based on the Tracker range settings. The basic goal is to achieve signatures that are halfway between open and short. The signatures for the four basic types of components shown below illustrate this primary goal.



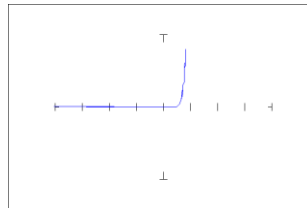
Resistance



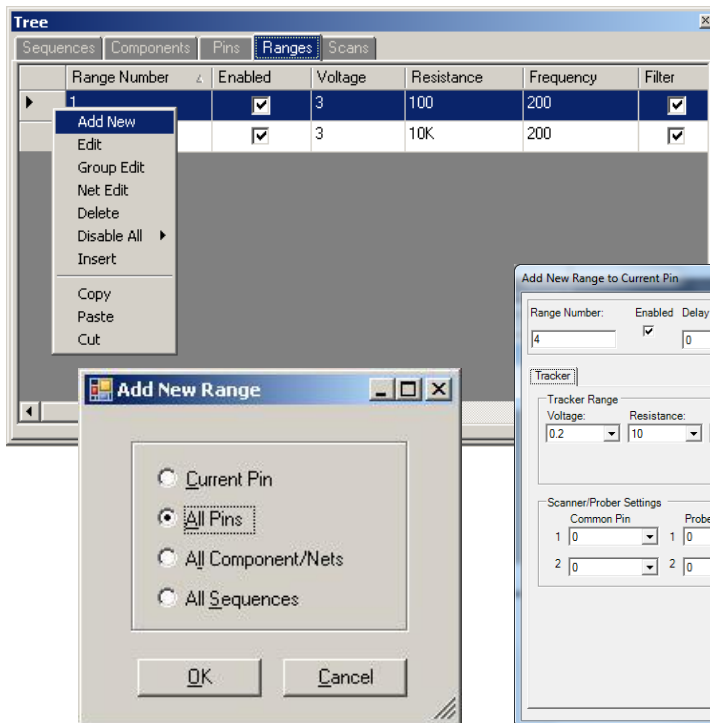
Inductance



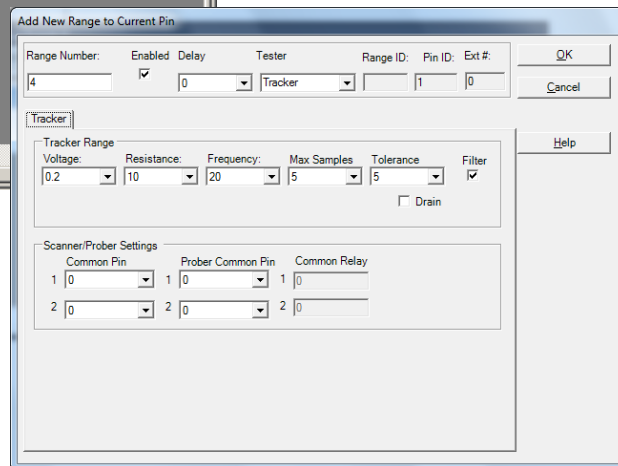
Capacitance



Semi-conductance



Select the Tree/Range tab to display the ranges for the selected component pin. RIGHT click on the row header (far left grey area of the row) to display a quick menu (shown left)



To add a new Range, select the Range tab in the Tree pane. Select **Add New Range** from the Edit menu or click the Add New button (+) in the toolbar. A pop-up dialog will ask where you want the new range to be added. Select the desired radio button (**All Pins** is generally the desired selection) and click **OK**.

Add New Range Details:

Note: **Voltage/Resistance/Frequency** can be modified directly in the Range grid.

Voltage/Resistance/Frequency fields: Select the desired range settings

Max Samples/Tolerance/Delay: Select the setting to be used when scanning **this range**

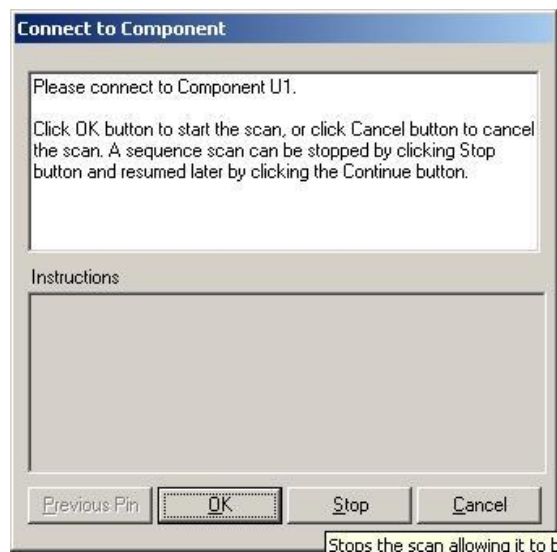
Common Pin: Common pin selection is not available with the Tracker 2800S.

Note: It is easier to set up the ranges used by selecting **Tools/Options/Range** from the Tools menu in the menu bar and pre-configuring the default ranges.

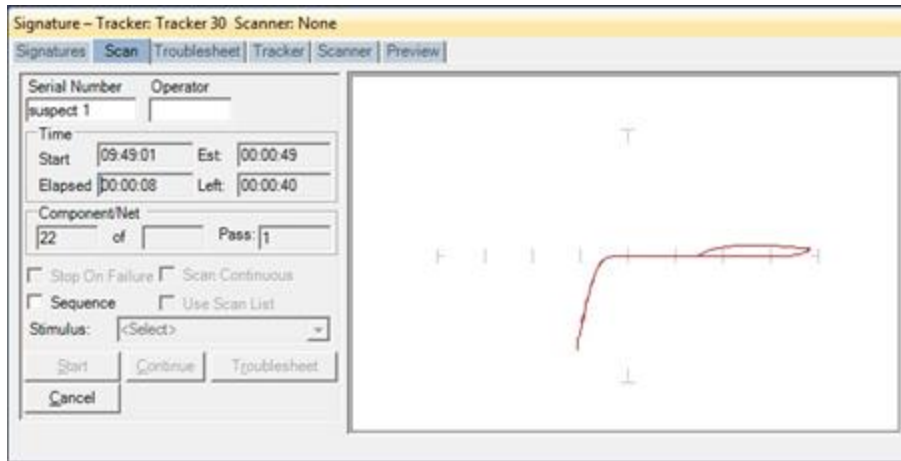
Scanning with a Tracker 2800 or Tracker 2800S

To scan an entire Sequence, select the Sequence in the Tree/Sequence tab or enable the **Sequence checkbox** in the Signature pane/Scan tab. To scan an individual component, select the component in the Tree/Component tab.

Select the **Scan tab** in the Signatures pane and input a **Serial Number** then click the **Start** button.



You will be prompted to connect to the component. Tracker with Scanner users should connect to the selected component at this time. Click **OK** to initiate the Scan.



If you are performing Sequence scan you will be prompted to continue to the next component until all of the components in the Sequence have been scanned.

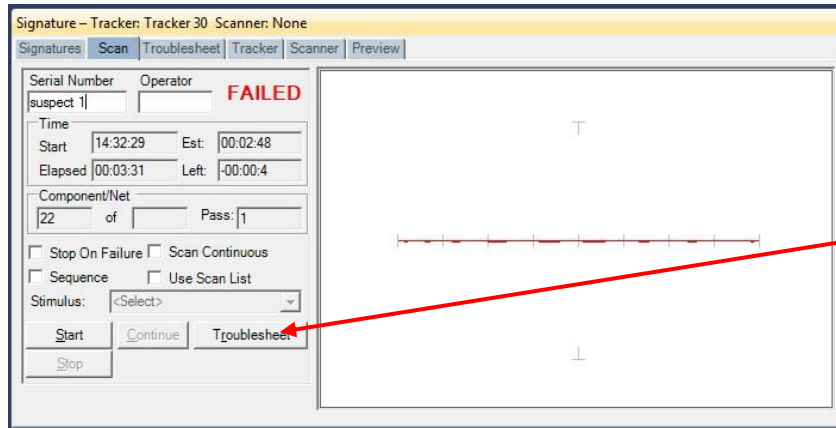
If a Tracker with probes is being used you will be prompted to connect to pin 1 of the selected component (if performing a single component scan) or of the first component in the Sequence (if performing a Sequence scan). Click the **OK** button to scan the first pin. You will then be prompted to move to the next pin for scanning. Click **OK** to scan and continue in this manner until all of the component pins are scanned. At anytime during scanning you can click the **Previous Pin** button to go back and rescan the previous pin.



Once all pins are scanned click the **OK** button to continue.

When the Sequence or Component scan is complete the Scan Results window will be displayed. Go to the **Scan Results** section of this tutorial for more information on what to do after scanning.

Scan Results



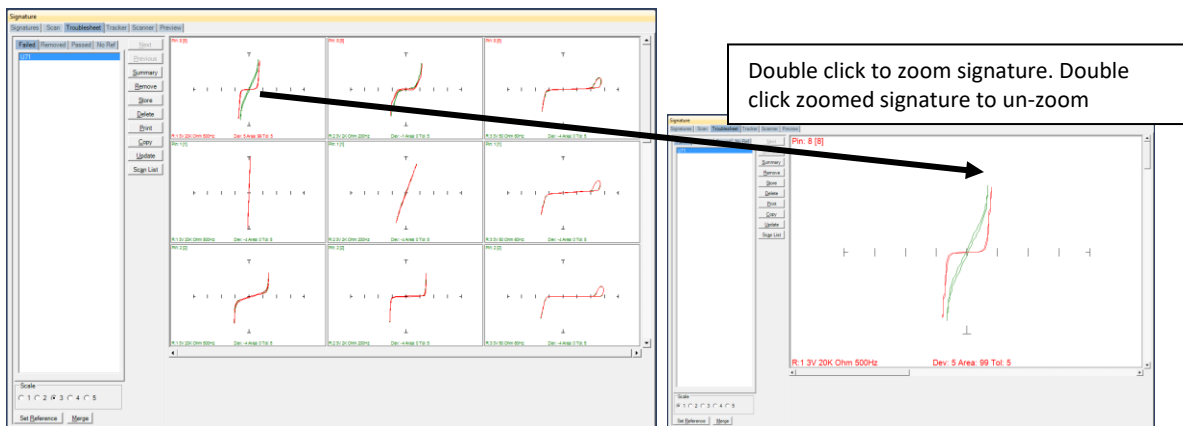
Click the Troubleshoot **BUTTON** to view latest scan results!

When a scan is complete, the results PASSED, FAILED or NO REF will be displayed (the text of the PASSED and FAILED message can be changed in the **Tools/Options/General** settings). The NO REF message will be displayed on the first scan of any test since there are no signatures stored as Reference.

Clicking the **Troubleshoot BUTTON** will display the signature differences in the Troubleshoot tab of the Signature pane.

Note: Selecting the **Troubleshoot tab** will display previous Troubleshoot information.

Viewing Signatures – Troubleshoot



To view the Troubleshoot, press the **Troubleshoot BUTTON** in the Scan Results window. This will display the signatures that compare differently from the Reference signatures.

When a scan is executed signatures are compared against the Reference set (or sets) if it exists. On the first scan, the signatures will be displayed in red and listed in the **No Ref tab**. This occurs because the first scan has no reference to compare against.

To add the signatures in the Troubleshoot as a Reference, press the **Set Reference** button located in the lower left corner (do this only with known good signatures).

Signatures of the compared signatures are displayed in contrasting colors. By default, the Reference signature is green and the failed signature is red.

To add the Troubleshoot signatures to the Merge signature set, press the **Merge** button (do this only with known good signatures that vary slightly from the original Merge signature set).

Viewing Signatures Troubleshoot Report

Troubleshoot Report
 Top Level: Sequence
 Detail Level: Component/Net
 Problem: Low 5V
 Solution: replaced C11
 Preview Close

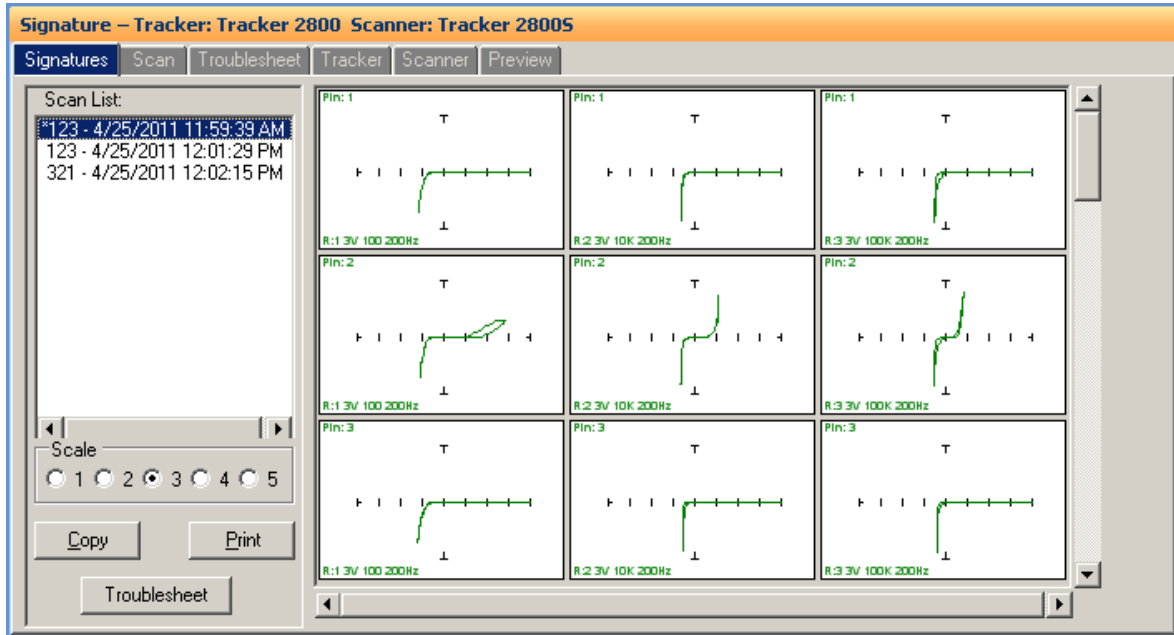
Troubleshoot Report
 6/3/2008 1:25:27 PM

| Board Information | | | |
|-------------------|----------|------------|----|
| Name: | 89006880 | Revision: | A1 |
| Top Name: | Top | Gold Disk: | |
| Bottom Name: | Bottom | System: | |

| Sequence Information | | | |
|----------------------------|------|---------------------------|-------|
| Name: | Top | ID: | 1 |
| Order Number: | 1 | Stop on Failed Component: | False |
| Z Home Between Components: | True | Top Side: | True |
| Component Sequence: | True | Compare Priority: | All |
| Instructions: | | Show Instructions: | False |
| Total Component/ Nets: | 55 | Total Scanned: | 54 |
| Total Passed: | 54 | Total Failed: | 0 |
| | | Total Removed: | 0 |

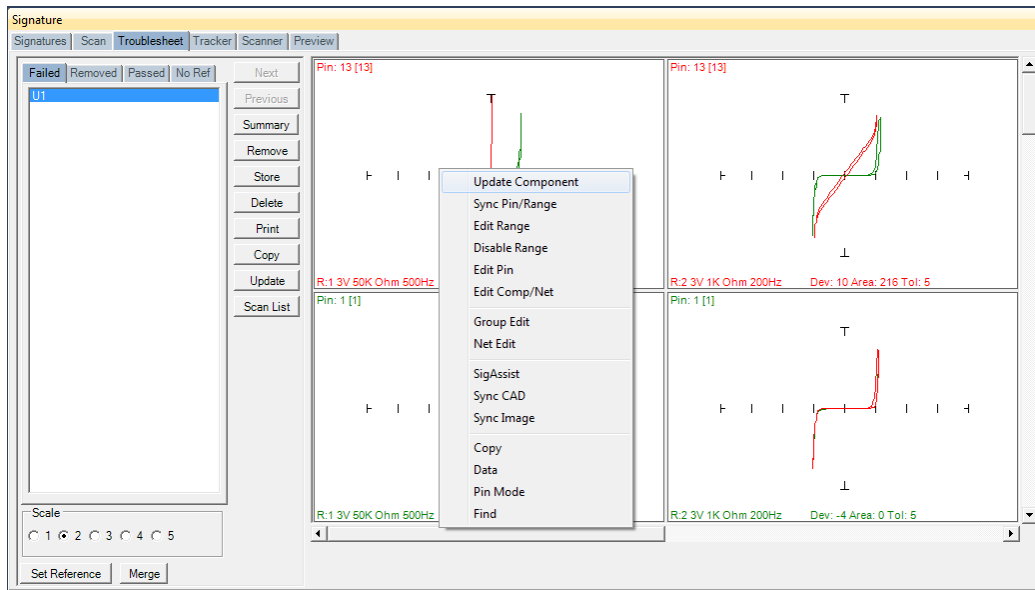
To view and print the Troubleshoot report, press the **Print** button in the Troubleshoot window. You can select from several options including a Sequence or Component Level report, the level of detail and add problem and solution comments to the report. Click **Preview** to view the report on-screen. The report can be printed or exported in several different formats including HTML and PDF by selecting **File/Export Document** in the Preview window.

Viewing Signatures in the Signatures Pane



To view scanned signatures, select the **Signatures** tab in the Signature Pane. The Scan name, date and time will be displayed on the left side of the window (Reference signatures are marked with an asterisk) and signatures on the right. The **Scale** buttons will change the number of columns displayed. Scaling the window will increase the number of signatures displayed. The **Copy** button will copy the signatures to the Windows clipboard so they can be pasted into another program (in a metafile format). The **Print** button will print the signatures in one of several different user selected formats.

Viewing Signatures – Right Click



Additional options when viewing signatures can be displayed by right clicking in the signature area.

Update Component: Updates the Troubleshoot for the selected component only

Sync Pin/Range: Selects pin and range in the Tree (see default in Tools/Options)

Edit Range: Selects the pin and range in the Tree and opens the Edit Range dialog

Edit Pin: Selects the Pin the in the Tree and opens the Edit Pin dialog

Edit Comp/Net: Selects the Component or Net the in the Tree and opens the Edit Component or Net dialog

Group Edit: Opens Group Edit dialog for editing of component pin parameters as a group

Net Edit: Opens Net Edit dialog for editing of Net pin parameters as a group

Real Time: Display signature in real time

SigAssist: Displays the SigAssist window showing calculated approximate values of resistance, capacitance, breakdown voltage, etc. based on signature information

Sync CAD: Will link the selected signature to the CAD image displayed in the Image/CAD pane. **Sync CAD** will be disabled if there is no linked CAD data.

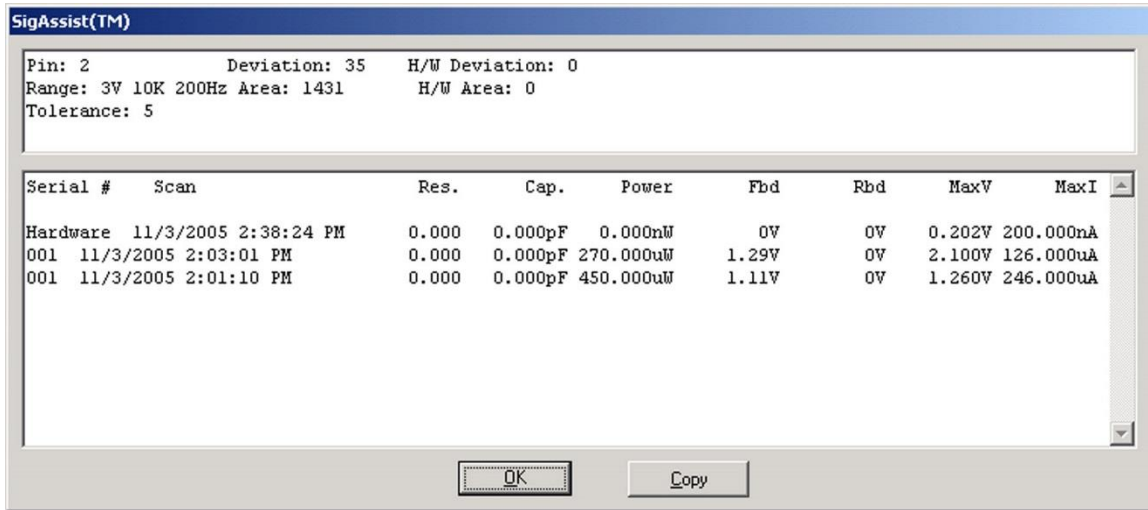
Copy: Places the signature image in the clipboard

Data: Displays the signatures numeric data

Range/Pin Mode: Displays signature with Range priority or Pin priority see (default in Tools/Options/Signature tab)

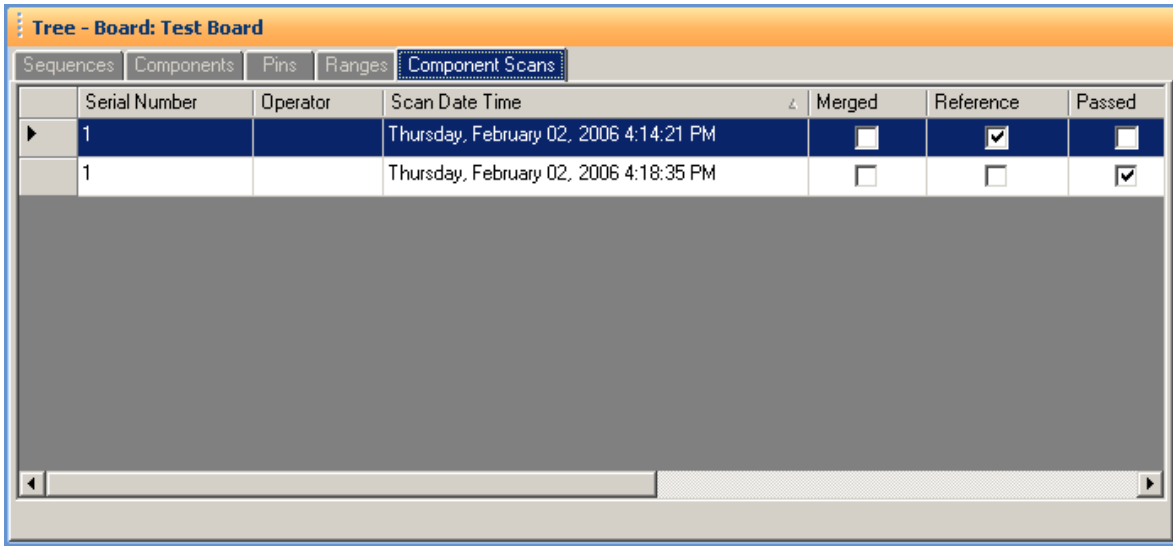
Find: Searches the Troubleshoot list for the component name entered

View SigAssist Information



The SigAssist window can be viewed by right-clicking on a displayed signature and selecting SigAssist. It appears as an additional pop-up window. The information presented relates to the individual scans displayed in the signature. The calculated resistance, capacitance, power, forward breakdown voltage (Fbd), reverse breakdown voltage (Rbd), maximum voltage and maximum current are displayed. These values are for troubleshooting purposes only and are not intended to be used as true measurements. The accuracy of the SigAssist values depends greatly on the scanned signature information. SigAssist values may not be calculated for signatures that do not contain enough information for reasonable calculations to take place (i.e. opens, shorts). The Copy button will put a copy of the window into the clipboard for use in other programs.

Component Scans Information

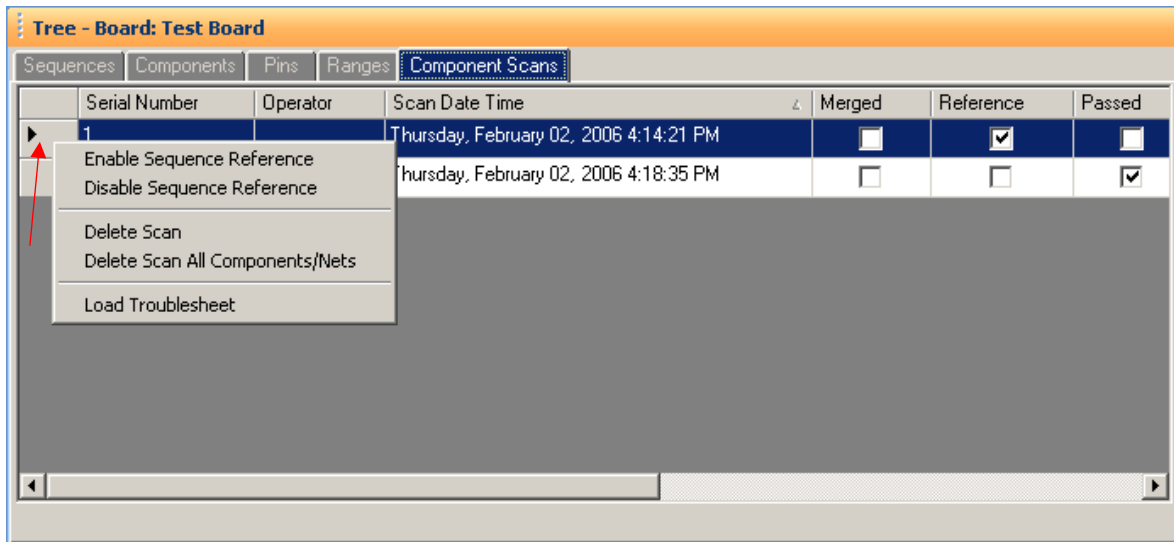


| | Serial Number | Operator | Scan Date Time | Merged | Reference | Passed |
|---|---------------|----------|--|--------------------------|-------------------------------------|-------------------------------------|
| ▶ | 1 | | Thursday, February 02, 2006 4:14:21 PM | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| | 1 | | Thursday, February 02, 2006 4:18:35 PM | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Selecting the **Component Scans** tab in the Tree Pane will display all of the scans performed on the **selected component** in a table format. The Scan information displayed includes the serial number, operator, date/time, Merge setting (checked if this scan is included in the Merge set), Reference setting (checked indicates it is set as a comparison Reference), Pass status (will be checked if components passed comparison), Removed status (will be checked if component was removed from Troubleshoot), Area number (highest of scanned pins), Deviation, Min/Max status and other settings (see Help for more information).

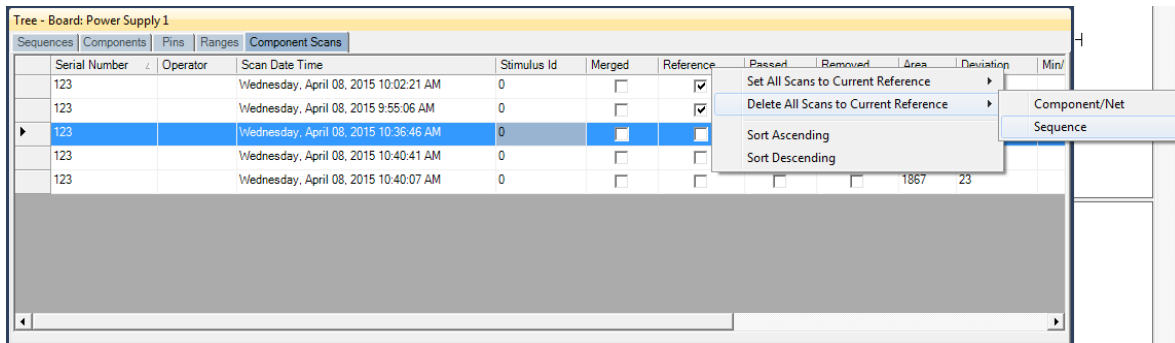
Selecting a Scan in the Component Scans tab will display the selected scan in the Signature pane in both the Signature tab and the Troubleshoot tab.

Component Scans – Right Clicking (Auxiliary menus)



Right clicking on the Row bar (red arrow) of the Component Scans tab displays an additional menu for performing specific tasks such as enabling/disabling References, deleting a scan for the selected components or all components and loading a Troubleshoot. **Enable Sequence Reference** will mark the scan as a Reference for the entire Sequence. **Disable Sequence Scan** will disable the selected Sequence as a reference. **Delete Scan** will erase the selected scan for the **current component only**. **Delete Scan All Components/Nets** will erase the selected scan for all components or nets in the Sequence. **Load Troubleshoot** will display the selected scan in the Signatures/Troubleshoot pane.

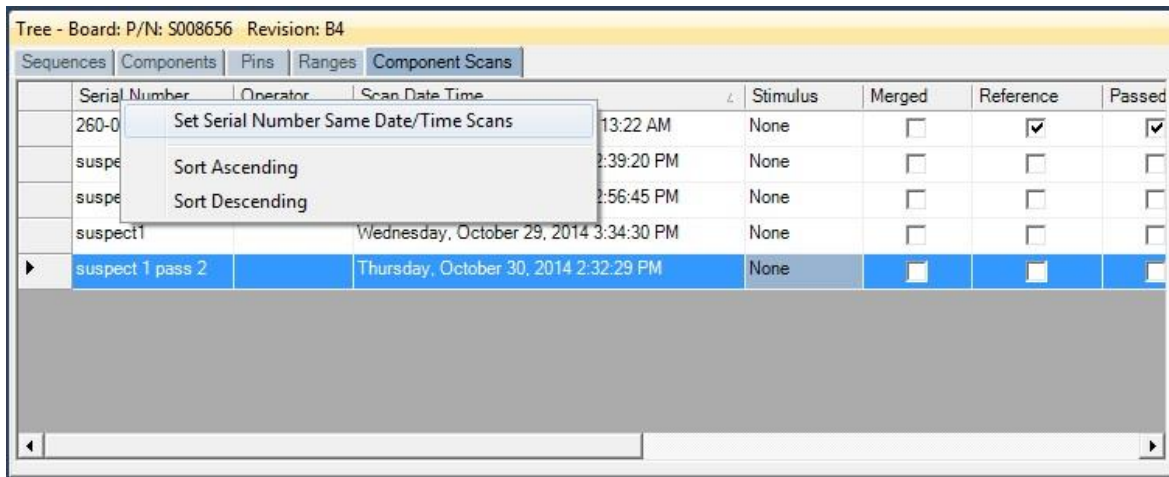
Component Scans – Right Clicking (Auxiliary menus)



Right clicking on the Column bar of the Component Scans pane displays an additional menu for performing specific tasks such as sorting or globally setting parameters. The menu will vary depending on the column selected. In the image above, the Reference column header was right-clicked where you can select to set scans as Reference or delete them.

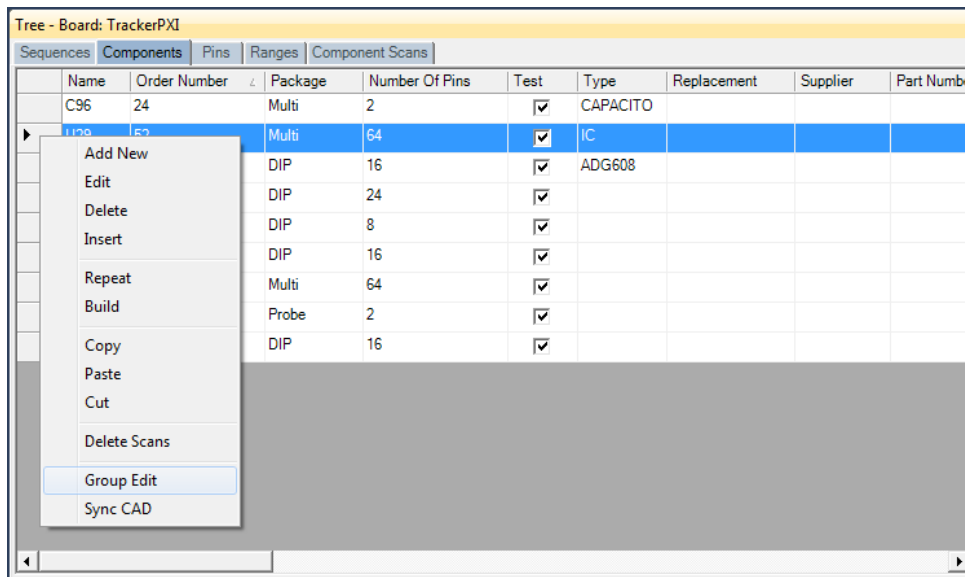
This method is an easy way to delete non-reference scans that are listed in the Tree/Component Scans pane. Select a scan that is a non-reference (the Reference check box is unchecked) the right-click the column as shown above. Select **Delete All Scans to Current Reference/Component/Net** or **Sequence** to delete the non-reference scans for the individual Component/Net or for the entire Sequence. Another more general method to delete non-reference scans is to select **“Delete Board Non-Reference Scans”** from the Workstation **Edit menu**.

Component Scans – Right Clicking (Auxiliary menus)



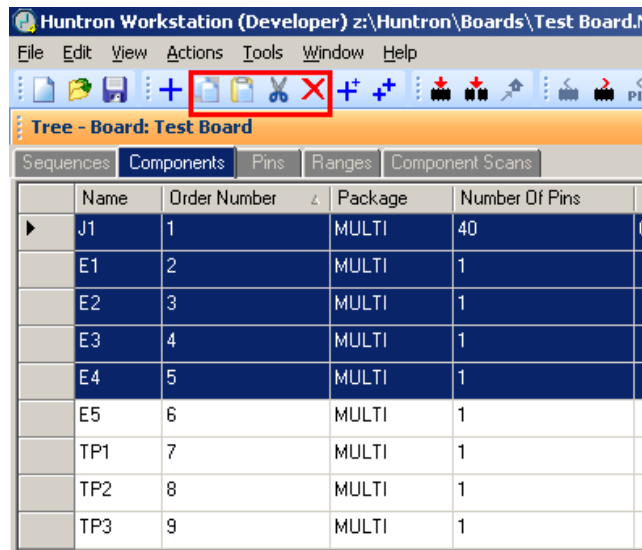
Right clicking on the Column bar of the Scans pane displays an additional menu for performing specific tasks such as sorting or globally deleting items. In the image above, the Serial Number column header was right-clicked.

Sequence/Component/Pin Editing – Right Click menus

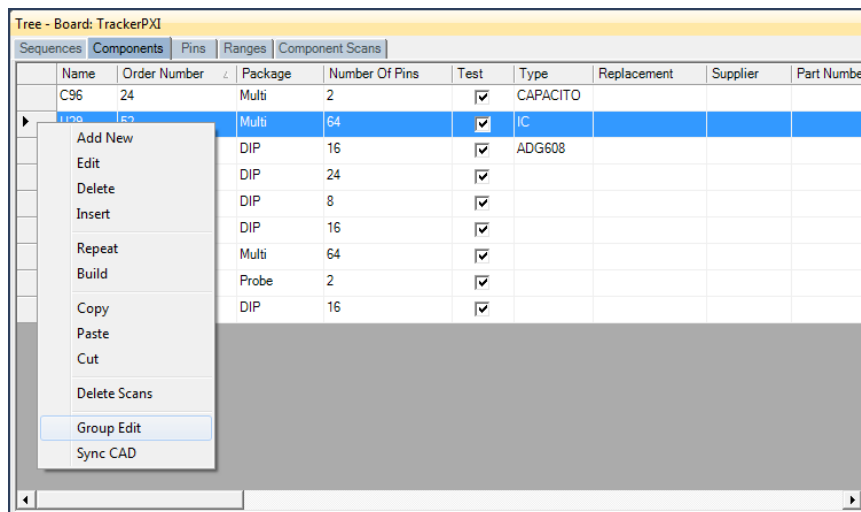


Right clicking on the Row header bar of the Tree pane displays an additional menu for performing specific tasks such as **Add New**, **Insert**, **Delete**, **Repeat**, **Build** (repeat but with name incremented by 1), **Copy**, **Paste**, **Cut**, **Delete Scans** (for selected

Component) and **Group Edit**. Right clicking works at all levels of the Tree pane including Sequence, Component (shown above), Pins, Ranges and Scans. It is also possible to select groups of components by holding the **SHIFT** or **CTRL** keys while selecting components in the Tree. To copy, paste, cut or delete groups of components, use the Copy, Paste, Cut or Delete Toolbar buttons below the main menu.

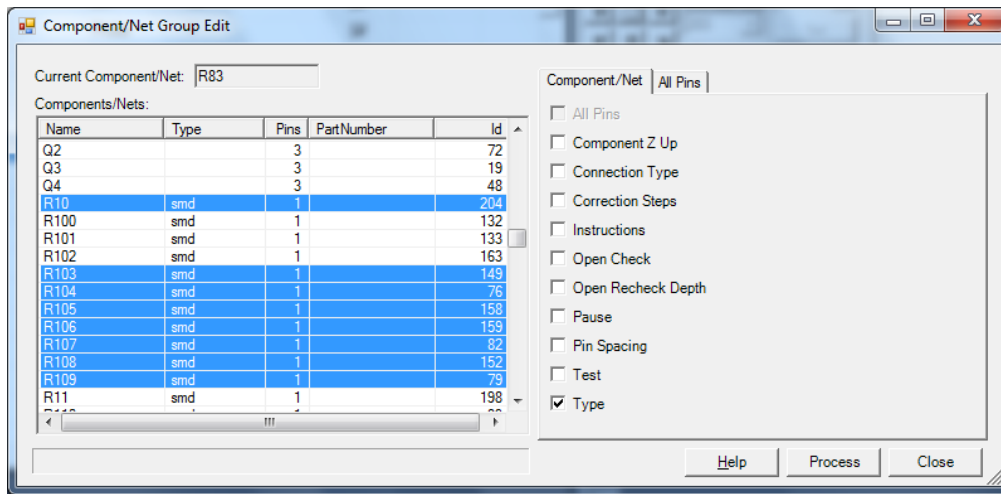


Component Editing – Component Group Edit



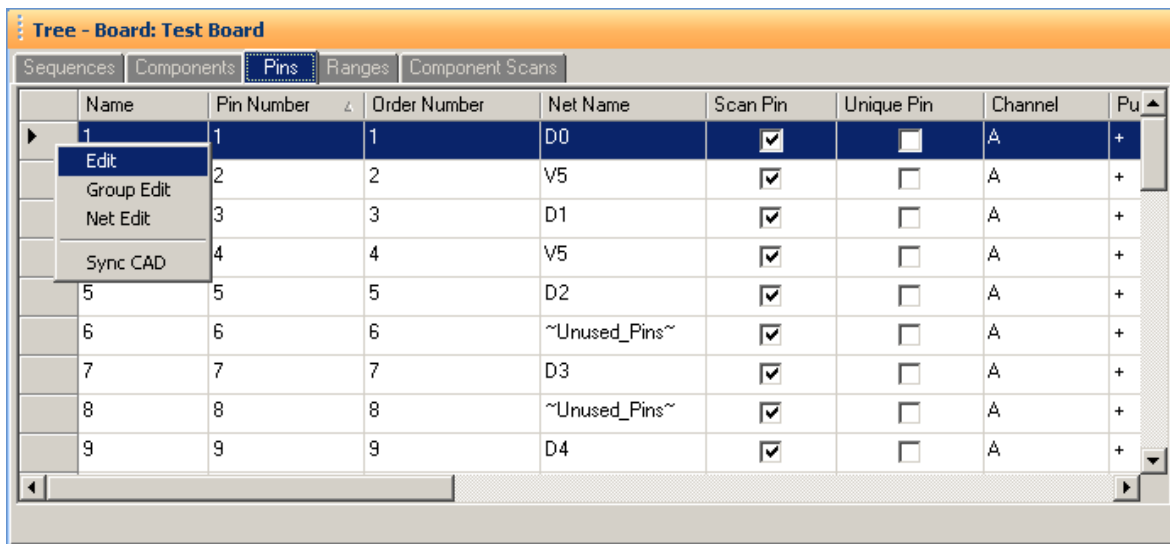
Right clicking on the Row header bar of the Tree/Components pane allows for editing of the Component information. Select **Group Edit** to open the Group Edit window for the selected Component. This allows you to duplicate changes made to the selected Component to other Components in the Tree.

Note: Be sure to make your changes to the selected Component **before** using Group Edit to duplicate the settings to other Components.



To use the Component Group Edit, select the Components on the left that you wish to change. You can **SHIFT** and **CTRL** keys to select groups or individual Components in the list. Mark the setting you want to change by clicking the checkbox. The example above shows the **TYPE** as the setting to change. Click **Process** to make the changes to the selected Components.

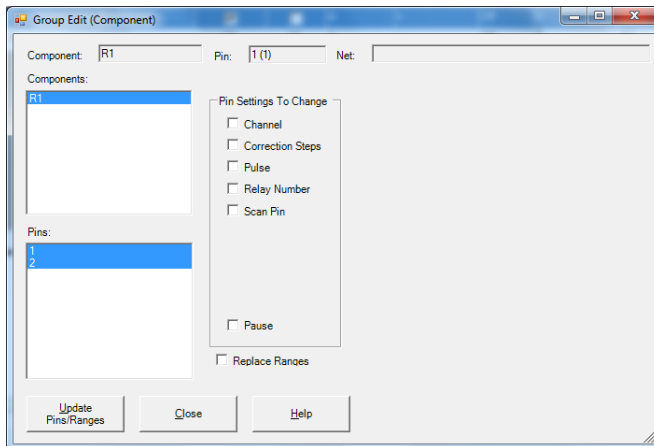
Pin Editing – Right Clicking (Auxiliary menus)



Right clicking on the Row header bar of the Tree/Pins pane allows for editing of the pin information. Select **Edit** to open the Edit window for the selected pin.

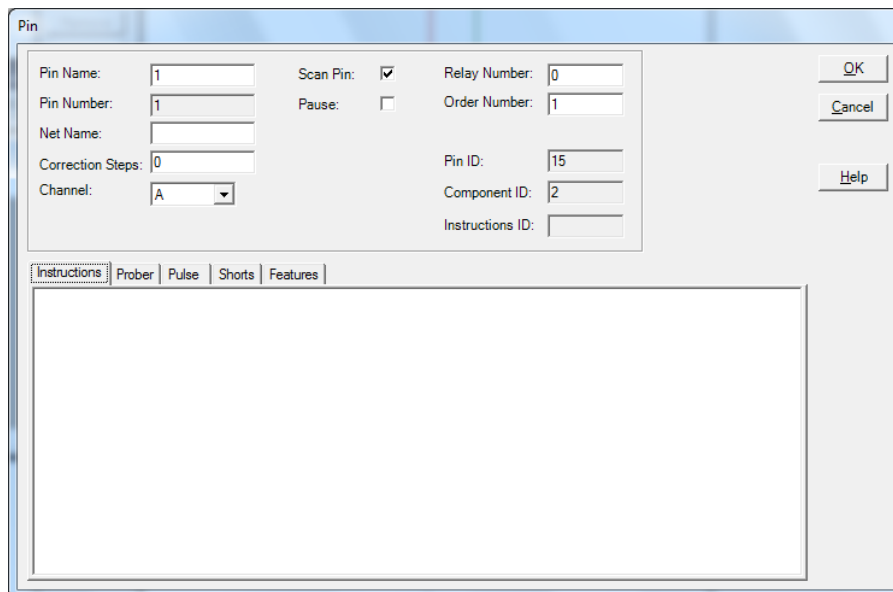
Note: Some Pin settings can also be edited directly in the Pins grid by clicking the appropriate field and modifying the setting.

Group Edit and **Net Edit** allow you make changes to the pin of a component and have those modifications also change components that have the same number of pins within the same Sequence.



Change the desired settings for the current Pin first then select Group Edit from the right-click menu (see above). Components with the same number of pins will be listed. Select the components and pins you want to be changed. Select the Pin Settings check box(s) for the setting(s) you want changed. Check the Ranges box to match the ranges (this will cause signatures to be deleted). Click the **Update Pins/Ranges** button to make the changes.

Pin Editing

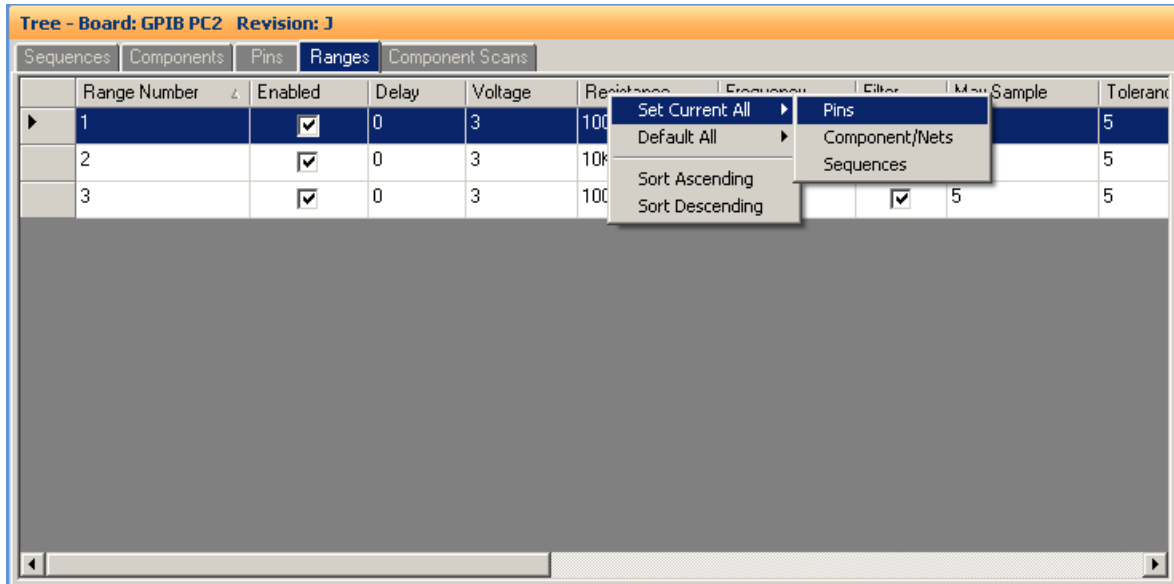


Individual pin characteristics can be edited in the Pin Edit window. **Pin Name, Net name, Channel, Correction steps** (for Access Probers) and **Scan Pin**

(enable/disable scanning of the pin) can be controlled. Instructions related to the selected pin can also be entered.

Range Editing – Right Clicking (Auxiliary menus)

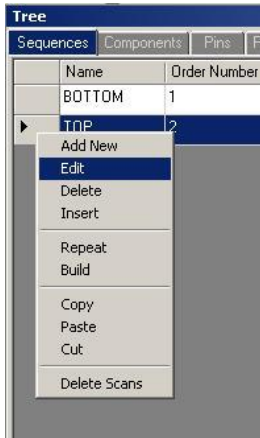
There are very useful right-click menus available in the Range tab of the Tree pane. You can **right-click** the column or row headers to display shortcuts to various functions.



One of the most useful is the ability to make global changes based on a specific setting. For example, to make a range setting such as Voltage, Resistance and Frequency affect all pins (or Components or Sequences), make the desired change and **right-click** the column header (as shown above). Select Set Current All – and choose the level you want the change to affect i.e. all **Pins**, all **Component/Nets** or all **Sequences**. The menu is similar most of the Range tab column header right-click menus.

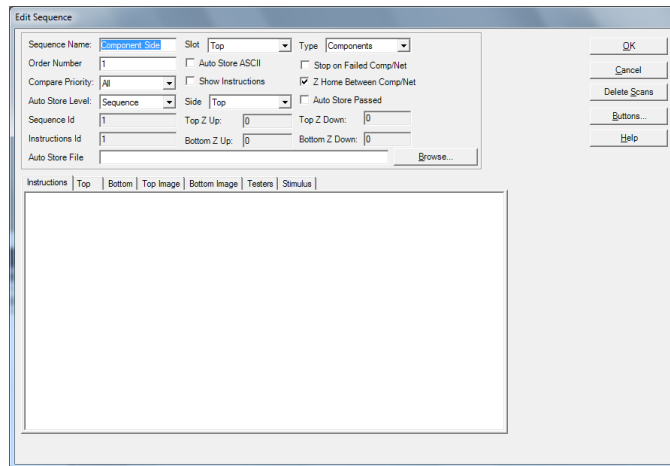
Huntron Workstation Buttons Feature

Huntron Workstation has a built-in feature that allows any Windows based program to be started by clicking a button in the Workstation toolbar. It is very easy to use and a "Button" can be attached to any Board, Sequence or Component/Net. In this example,

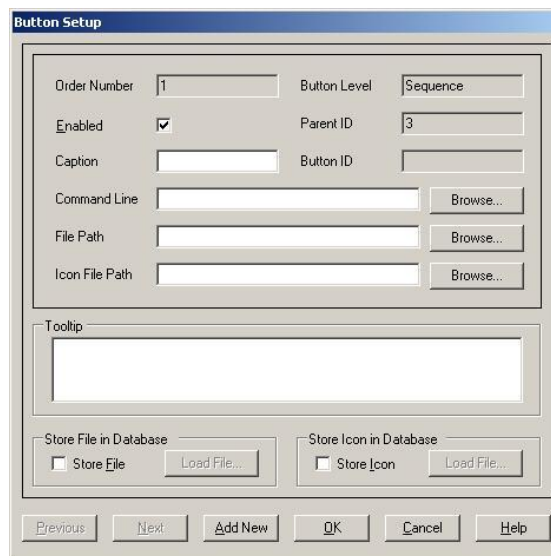


a Button will be created for a Sequence but the process is the same for the Board and Component/Net levels.

To start, the Sequence edit window is opened by right-clicking the row header for the desired sequence. The Edit window will be displayed (see below).



Select the **Buttons...** button located on the right side of the Sequence Edit window to open the Buttons Setup window.



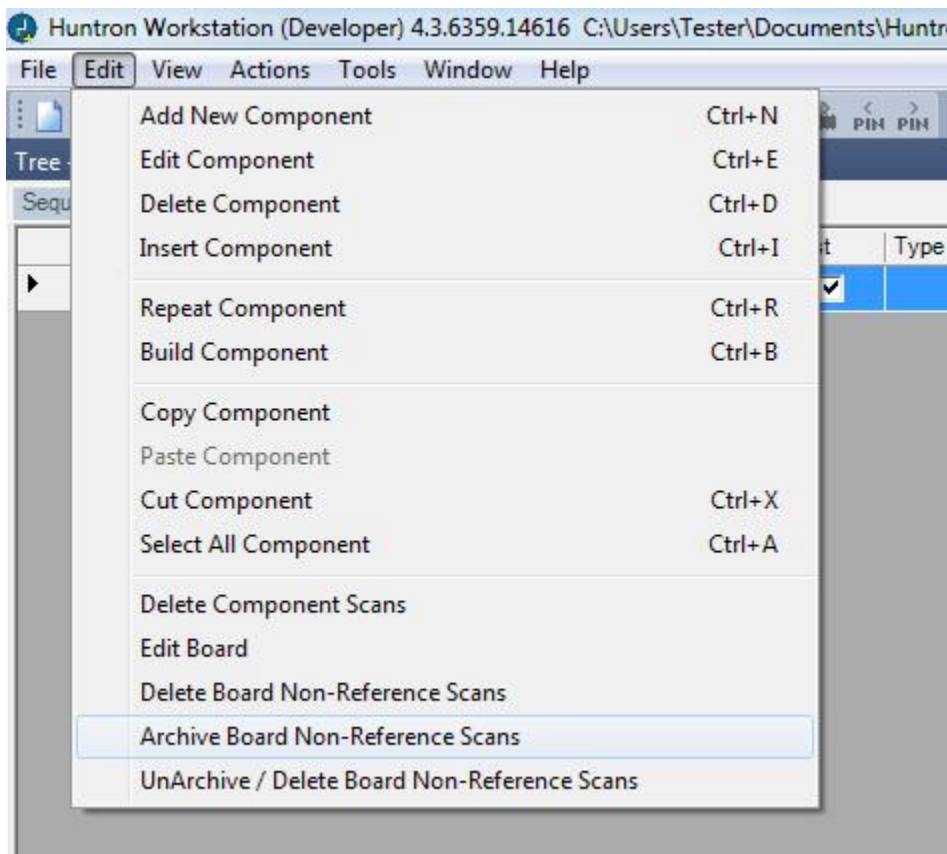
To configure the Button, a Caption (button name displayed in the Tools menu), Command Line (the application to be run) and File Path (the file opened by the executed application) need to be input into the corresponding fields. A File path will not always be required such as instances where a browser is started and pointed to a specific URL. In this example, the button will be configured to start the Microsoft Paint application and open a small PCB image (see image below). If desired, the icon displayed in the main window toolbar can be set by browsing to and setting a path to an .ICO (icon) file in the **Icon File Path** field. Add text that will be displayed when the cursor is placed over the Button in **Tooltip** field. To make the linked file or icon stored as part of the Board database, check the **Store File** and/or **Store Icon** checkboxes.

Click **OK** to accept the Button. To create additional Buttons, repeat this process and click the **Add New** button in the Button Setup window.

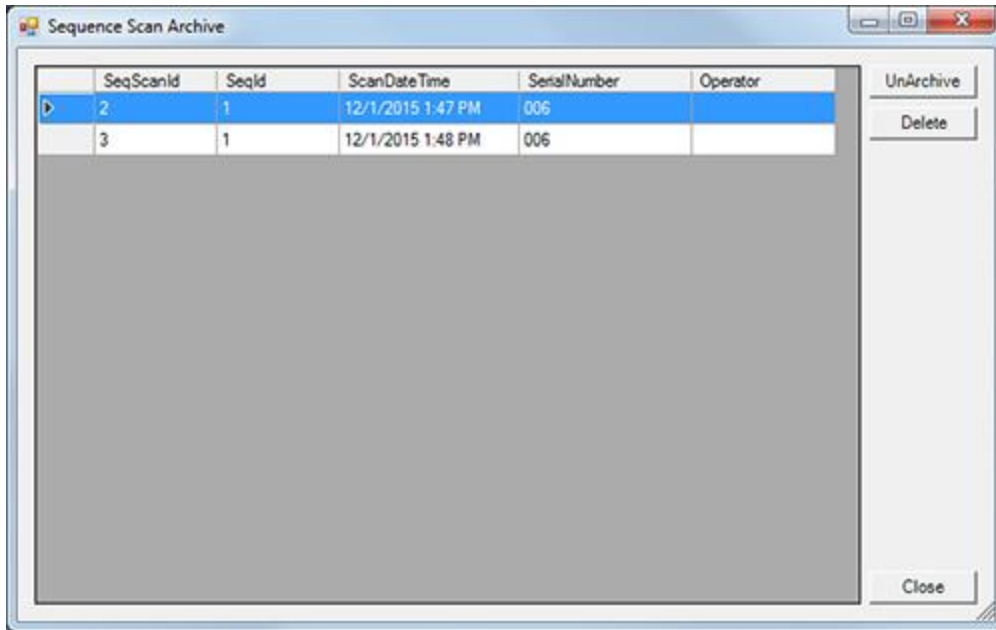
When Buttons are created, an additional toolbar will appear below the Huntron Workstation menu. This toolbar will change according to the level (board, sequence or component/net) selected.

Appendix 1: Huntron Workstation Archive Scans Feature

The new Archive feature built into Huntron Workstation allows you store and remove Sequence scans from the working database to achieve better performance. These archived scans are not deleted but saved away in a different database table and can be restored at any time. It is very simple to use.



- Select "Archive Board Non-Reference Scans" from the Workstation Edit menu
- At this point the software will search the database for non-reference scans that were part of a Sequence scan and remove them from the active database
- If you look at the Components Scans tab in the Tree pane, you will see that the Reference scans remain
- To unarchive a scan, select "UnArchive / Delete Board Non-Reference Scans"
- The Sequence Scan Archive window will be displayed



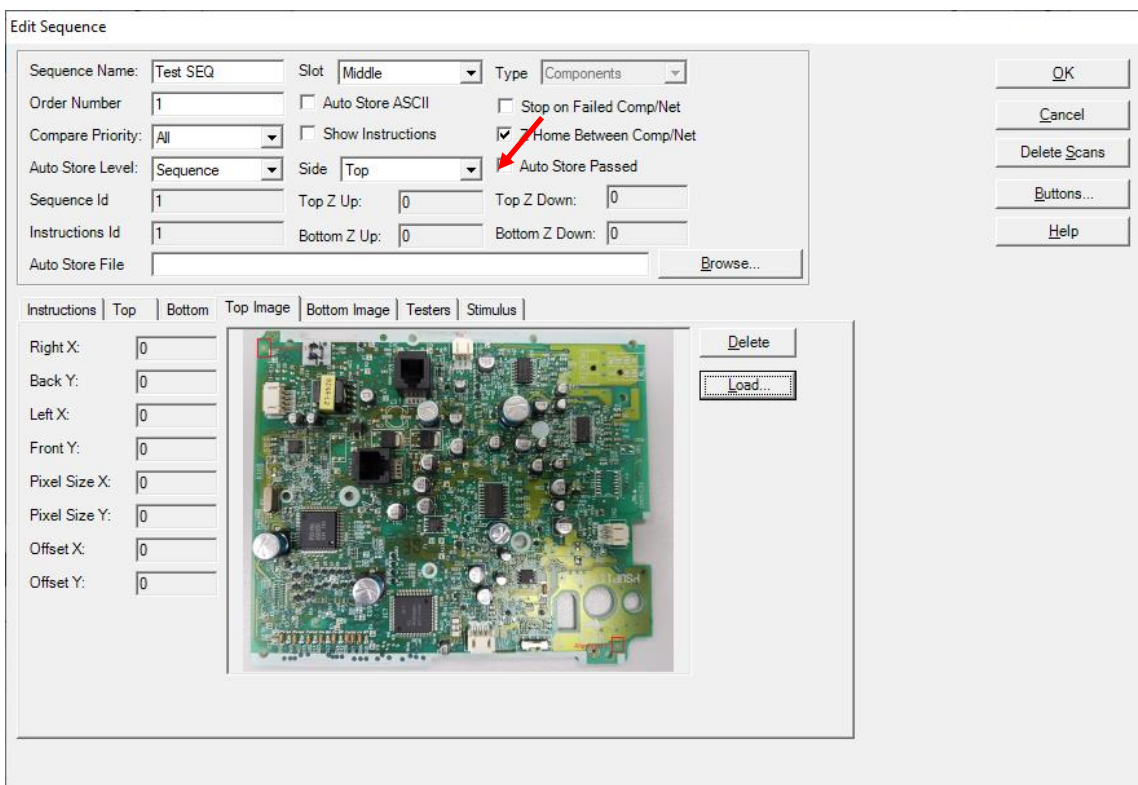
- You will see the Archive Scans listed where you can select the scan you want to restore to your test Sequence. Use the CTRL or Shift keys to select multiple scans if needed
- Click the UnArchive button and the selected scans will be restored to the Sequence
- Use the Delete button to permanently delete scans that are no longer needed.
- Close the Sequence Scan Archive window and look at your Component Scans tab and you will see that your scans have been restored.

Keeping your test database small is the best way to get the most out Huntron Workstation performance.

Appendix 2: Manually Placing Component Tags in the Image Pane/Image tab

Tracker users will appreciate this feature which allows you to manually place tags with the Component name in the board overview image in the Image pane.

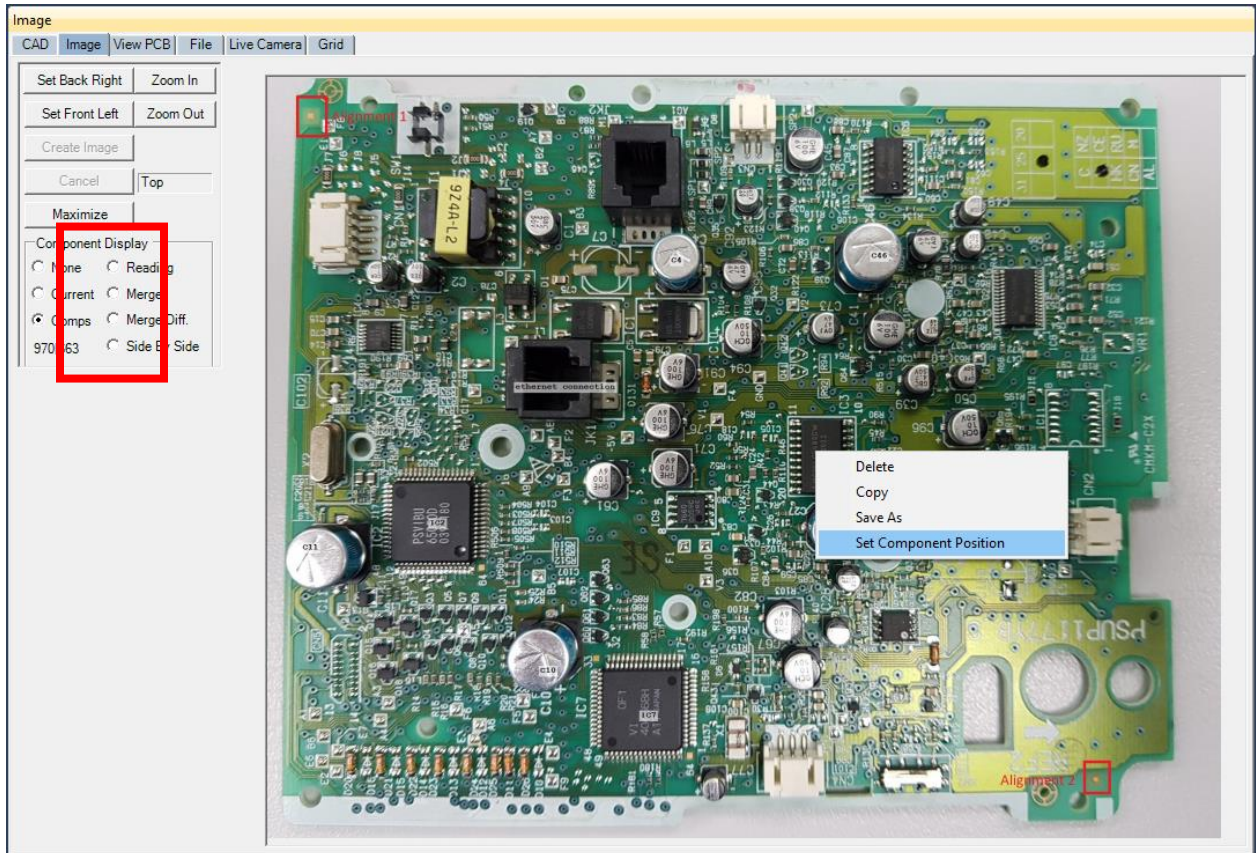
You will first need to get a high quality image of your PCB then select the Sequence where you want to use the image. Select **Edit Sequence (Ctrl+E)** from the Edit menu. Select the **Top Image** tab or **Bottom Image** tab depending on the **Side** setting used above (red arrow). Click the **Load...** button and browse to select and **Open** your image.



The image should now be displayed in the Top (or Bottom) Image tab. Click **OK** to close the Edit Sequence window.

The image you loaded should now be showing the Image pane/Image tab. If you do not see the Image pane go to the Window menu and select **Image Pane**. You may need to adjust your Workstation layout by click-dragging the panes by the title bar to get the arrangement that suits your needs.

To place a Component name tag in the image, select the Component in the Tree pane/Component tab then **right-click** at the component's location in the image. It is best to click slightly left of center as the text will be left justified. Select **Set Component Position** from the popup menu to place the tag. You should see a grey name tag appear.



It is recommended you add all of the tags before running any scans. The radio buttons on the left side (red box) control what is displayed in the image. **None** disables the tags, **Current** displays the tag of Components in the current Troubleshoot (green tags for Passed and red tags for Failed) and **Comps** displays all tags in grey.

You can have the tags appear during scanning by selecting the **Tools menu/Options/Scan tab** and enabling **Show Components on Image**. As you run your test, a green (Passed) or red (Failed) tag will appear on the component in the image to indicate its test status. This works the same with Prober systems as well.

