

12 October 2021

Customer Assistance Using a Template DataSet

Discussion

Radiant Technologies may sometimes provide a customer with a template DataSet that shows a particular use of Vision or helps the customer in the design of a Test Definition (experiment) that meets the customer’s needs. Most often the DataSet will consist of a Current Test Definition (CTD) that serves as the template, with nothing saved to the DataSet Archive. It would be unusual for the user to be able to use the template without customizing it to his or her needs.

This document provides an example that guides the user through the process of registering the DataSet and then updating it to suit the needs. The example is for demonstration within this document. Any template provided to a customer will be tailored to meet the customer’s particular needs as closely as possible.

Example Template

The example template consists of five Tasks.

1. Pause Task: This serves as a manual trigger Task. It simply presents a dialog that instructs the user to “Press <Enter> to Start”.

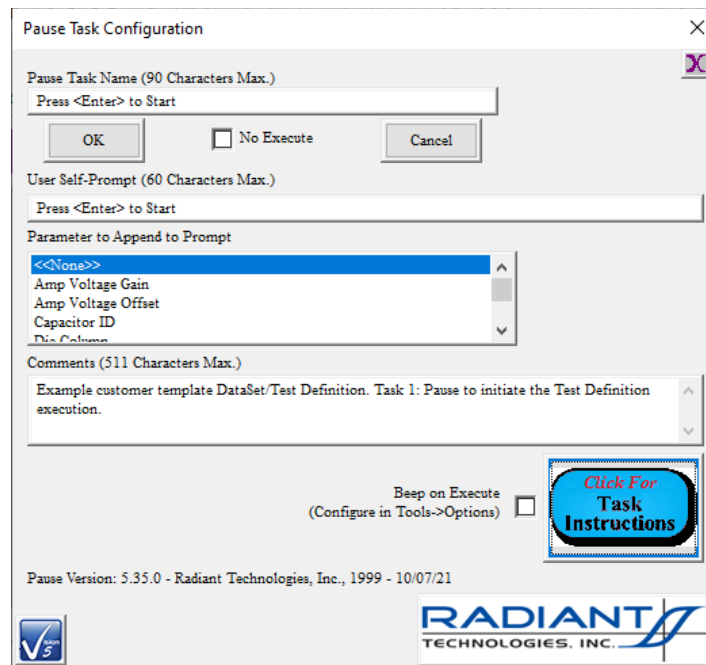


Figure 1 – Task 1: Pause To Initiate Test Definition Execution.

- Hysteresis Task: This is a 2.0-Volt/10.0 ms Hysteresis. It is configured to adjust the voltage by incrementing by 1.0 Volt in a Branch Loop.

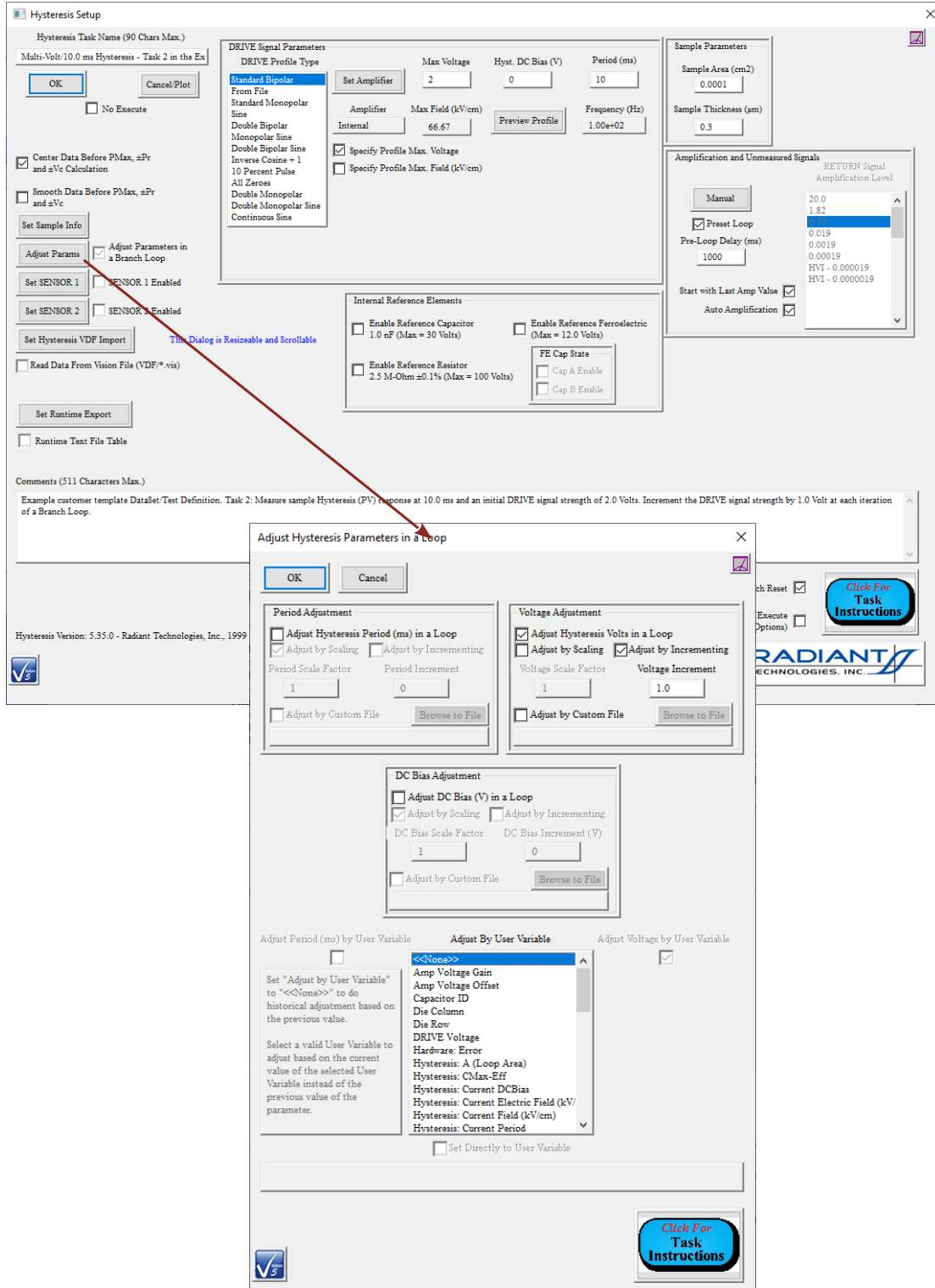


Figure 2 – Task 2: Multi-Volt/10.0 ms Hysteresis. Adjust DRIVE Signal by +1.0 V in a Branch Loop.

- Hysteresis Filter Task: The Task is configured to collect, center, plot and store the Hysteresis PV data. The Task is configured to append the data to a single plot in a Branch Loop.

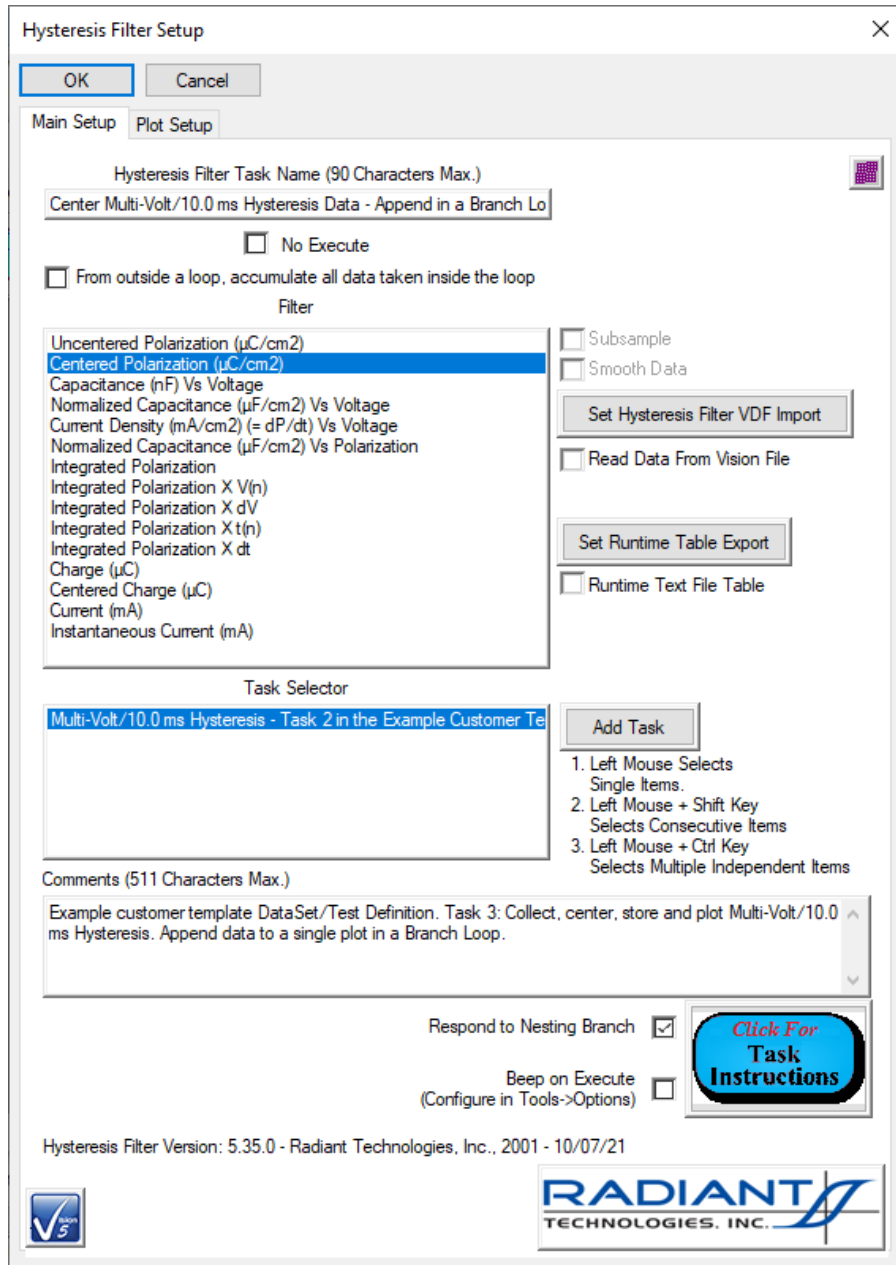


Figure 3 – Task 3: Hysteresis Filter Task Main Configuration Dialog. Center the Polarization ($\mu\text{C}/\text{cm}^2$) Vs Voltage.

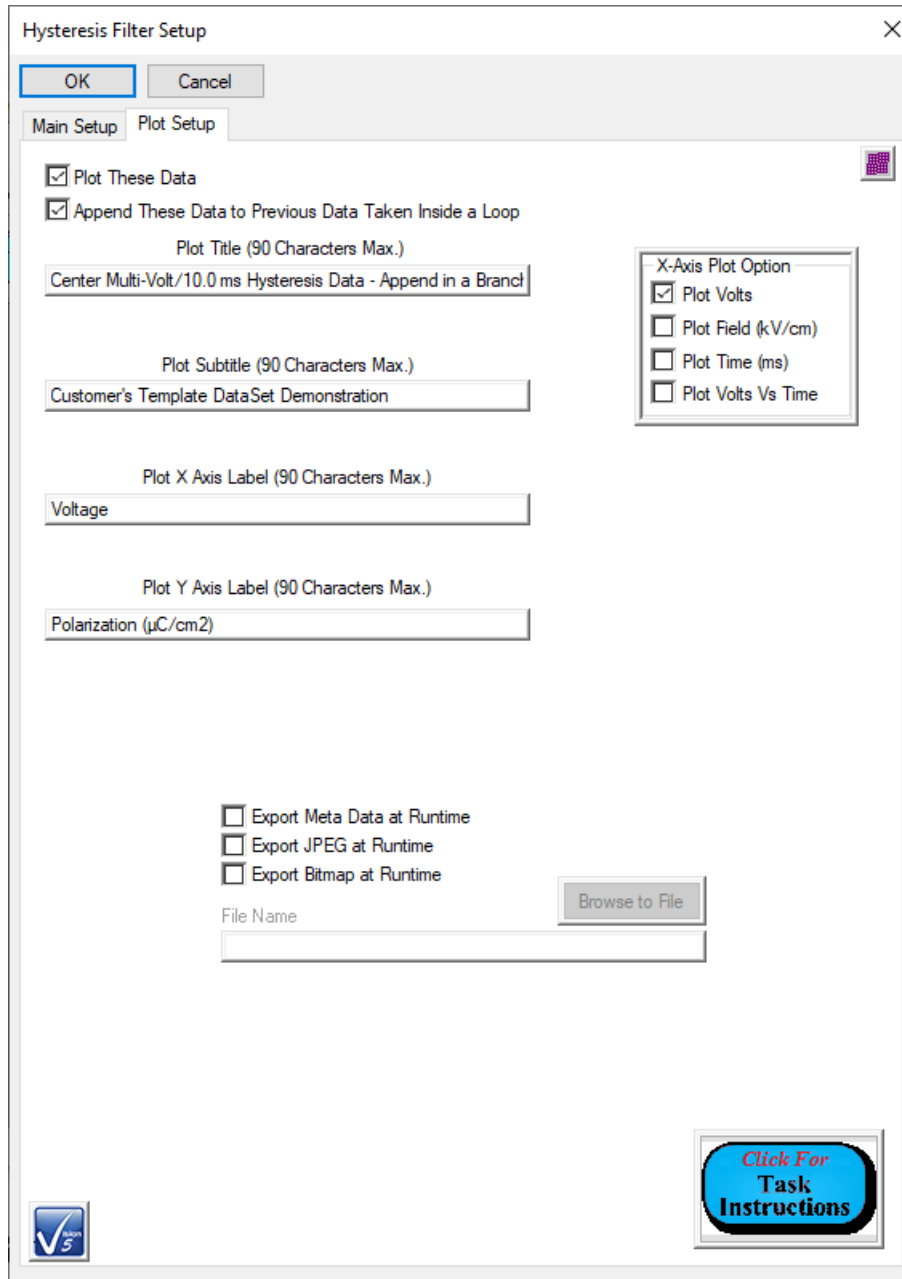


Figure 4 – Task 3: Hysteresis Filter Task Plot Configuration Dialog. Append Data to a Single Plot in a Branch Loop.

4. Single-Point Filter Task: Collect, plot and store Hysteresis P_{Max} ($\mu\text{C}/\text{cm}^2$) and $\pm P_r$ ($\mu\text{C}/\text{cm}^2$) as a function of maximum DRIVE voltage as the voltage is adjusted in a Branch Loop.

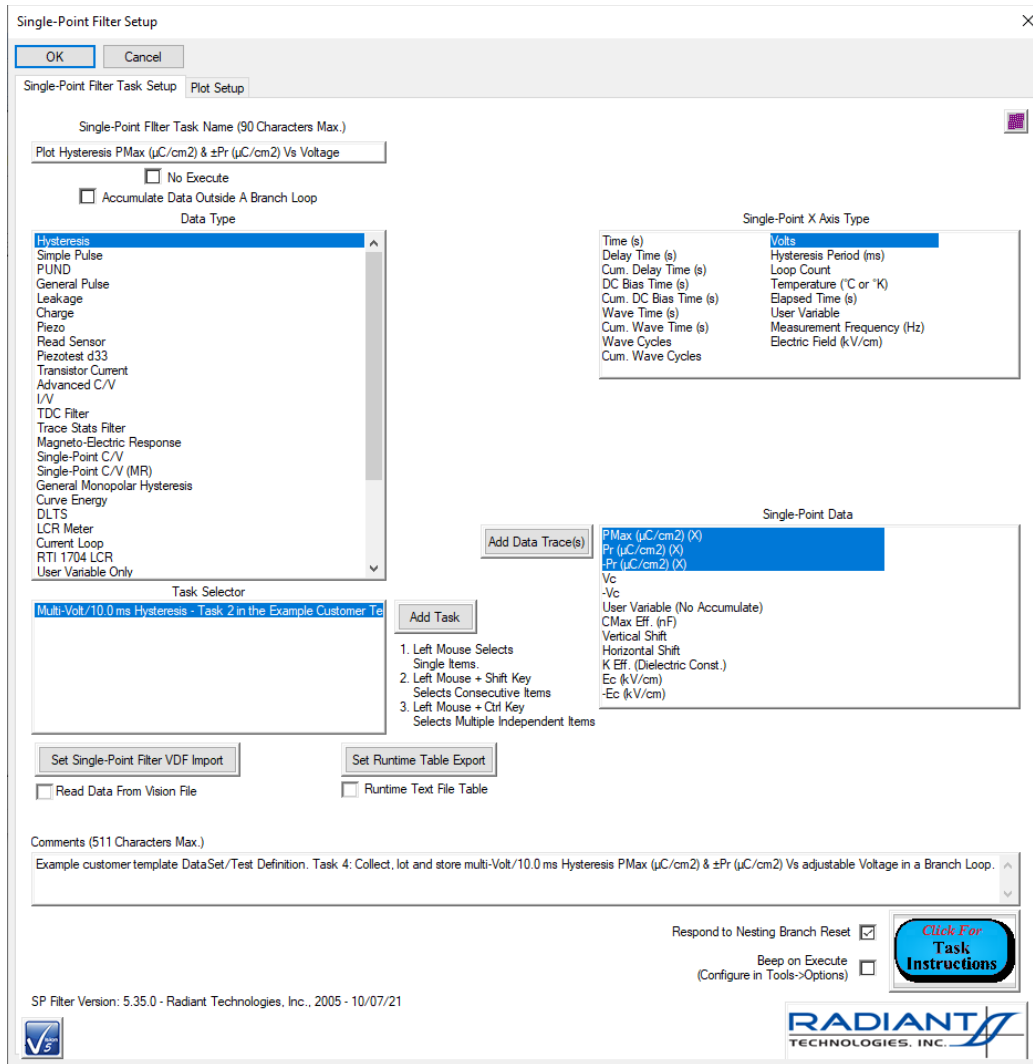


Figure 5 – Task 4: Single-Point Filter Task Main Configuration Dialog. Plot Hysteresis P_{Max} ($\mu\text{C}/\text{cm}^2$) & $\pm P_r$ ($\mu\text{C}/\text{cm}^2$) Vs Voltage.

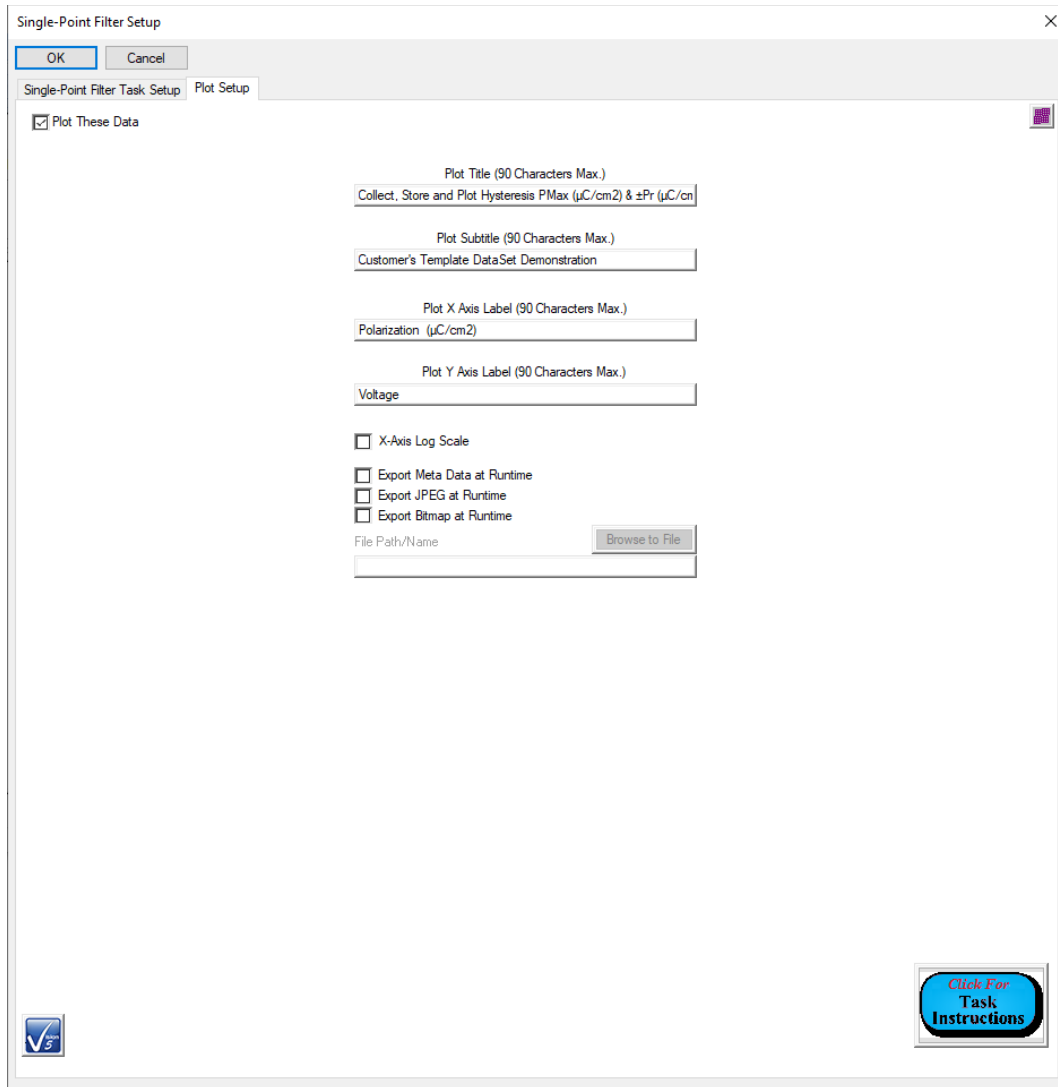


Figure 6 – Task 4: Single-Point Filter Task Plot Configuration Dialog.

5. Branch Task: Return execution to the Hysteresis Task until the “Hysteresis: Current Volts” User Variable value is greater than or equal to 10.0 Volts.

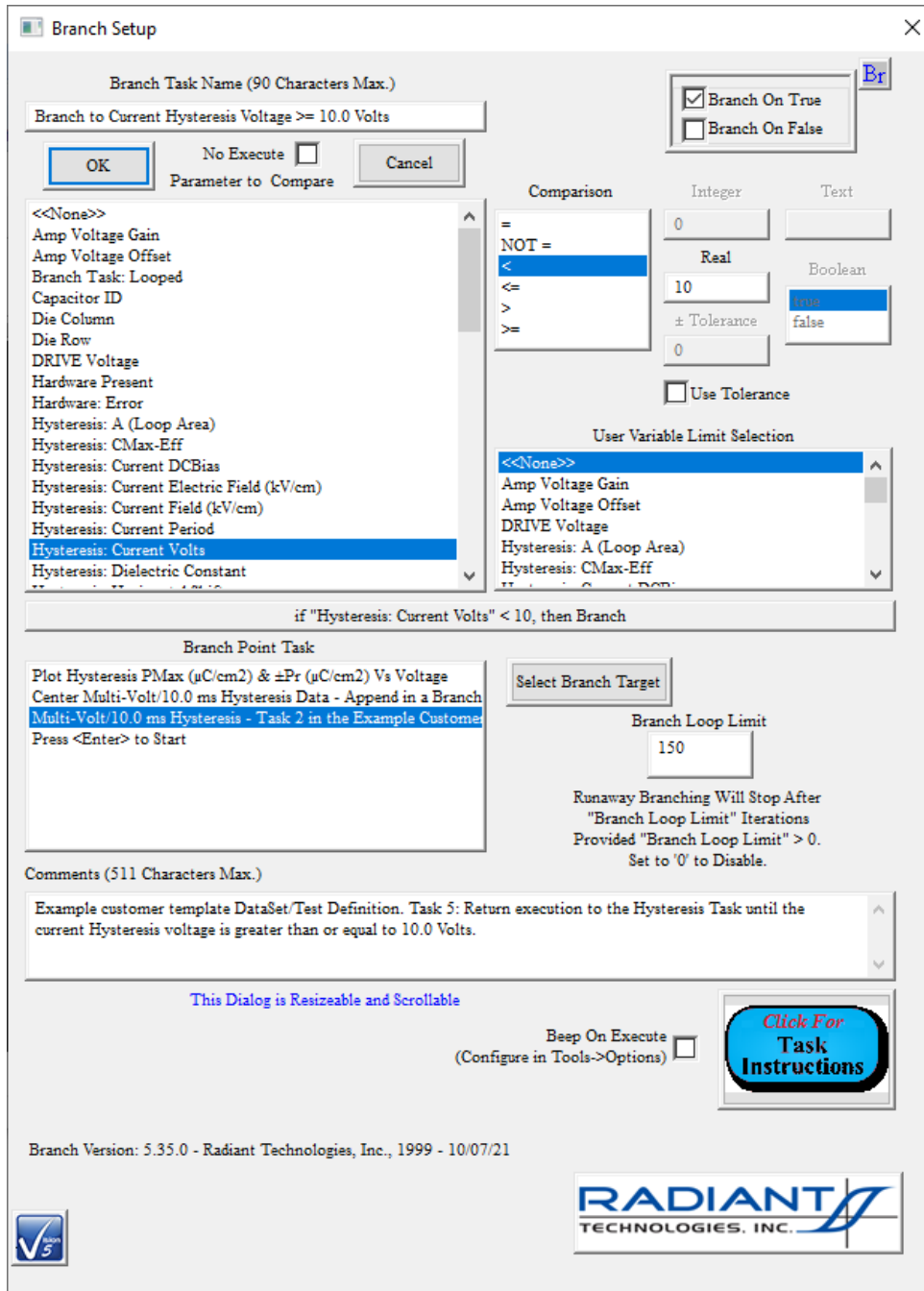


Figure 7 – Task 5: Branch Task Configuration Dialog.

This example Test Definition is stored as the Current Test Definition (CTD) to the “Customer Template DataSet Demonstration” DataSet. The CTD is also named “Customer Template DataSet Demonstration”.

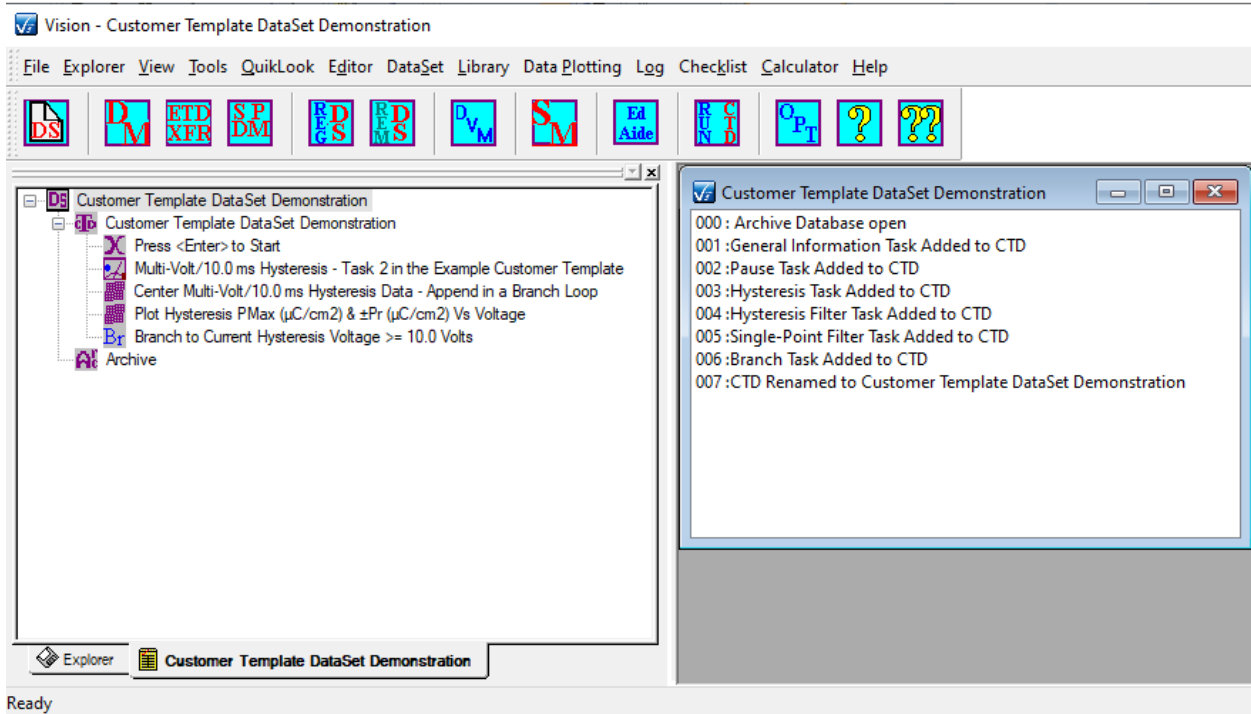


Figure 8 – “Customer Template DataSet Demonstration” DataSet.

For the purposes of this demonstration, the DataSet file, Customer Template DataSet Demonstration.dst, associated with this DataSet would be attached to an email to the customer. If you are being provided these instructions in order to work with a template DataSet, your template will almost certainly have a different construction and name.

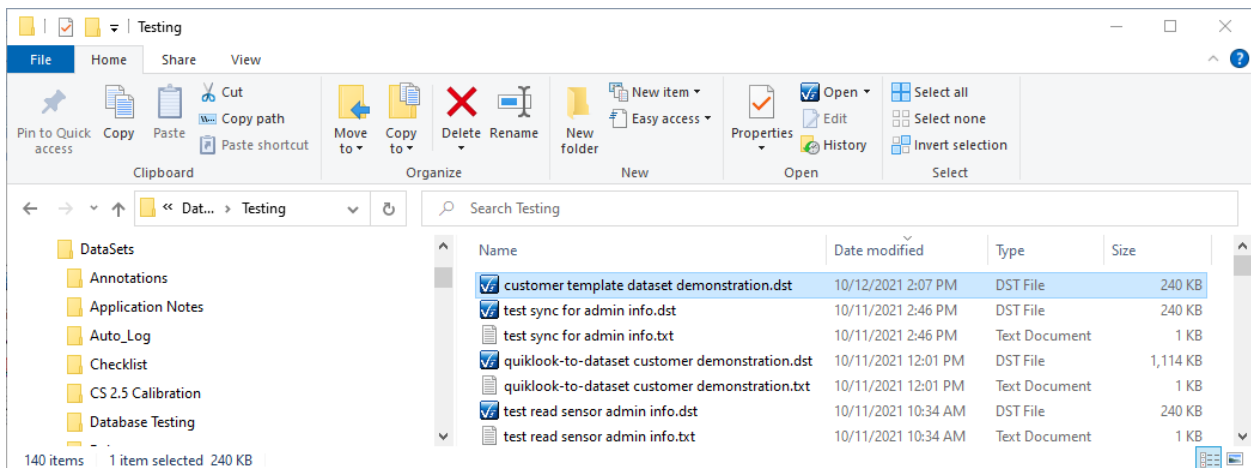


Figure 9 – The Template DataSet *.dst File.

Register the DataSet

Registering the DataSet records it into the DataSet Explorer. From that window the DataSet can be opened and worked with. Copy the DataSet file (*.dst) from the email to an appropriate location on the Vision host hard disk.

The simplest way to register the DataSet is to stop Vision if it is executing and then double-click the DataSet file. Vision will start and the DataSet will be registered and opened. This method will not work if your installed version of Vision is older than 5.34.0 and if there are any spaces in the file name or file path. This problem was resolved in version 5.34.0. (If you are running an older version then you should update your version by going to https://www.ferrodevices.com/vision-data-management-software/download_vision_software/.)

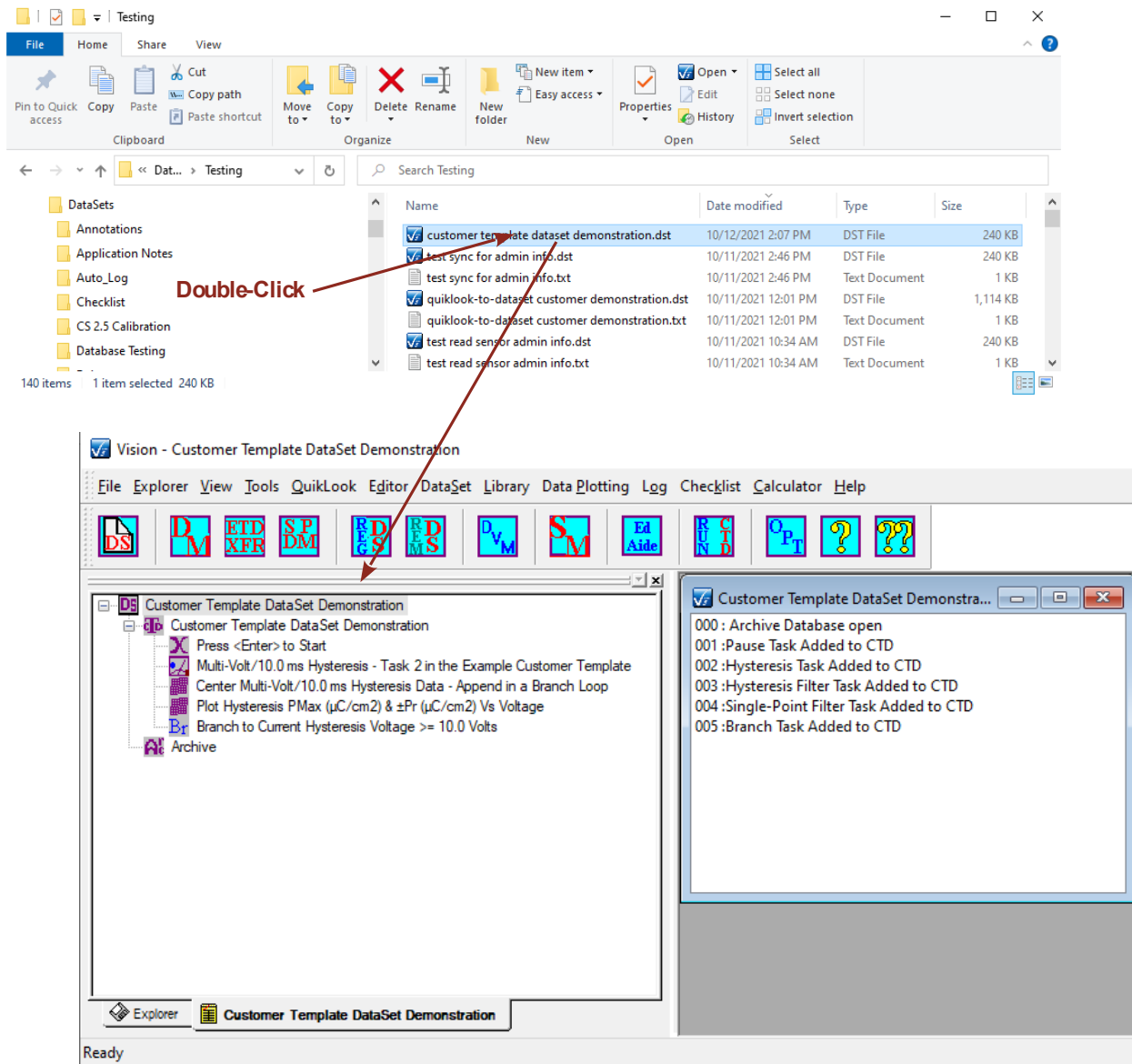



Figure 10 – Double-Click DataSet File to Register and Open in Vision.

If you are unable to register and open the DataSet by double-clicking, or if Vision is already running, you can register by selecting Explorer->Register DataSet... or by clicking the Reg DS () icon on the Vision toolbar. A standard Windows file browser dialog is used to navigate to

and select the DataSet file. When the dialog is closed the DataSet appears in the DataSet Explorer tree. Double-clicking will open the DataSet.

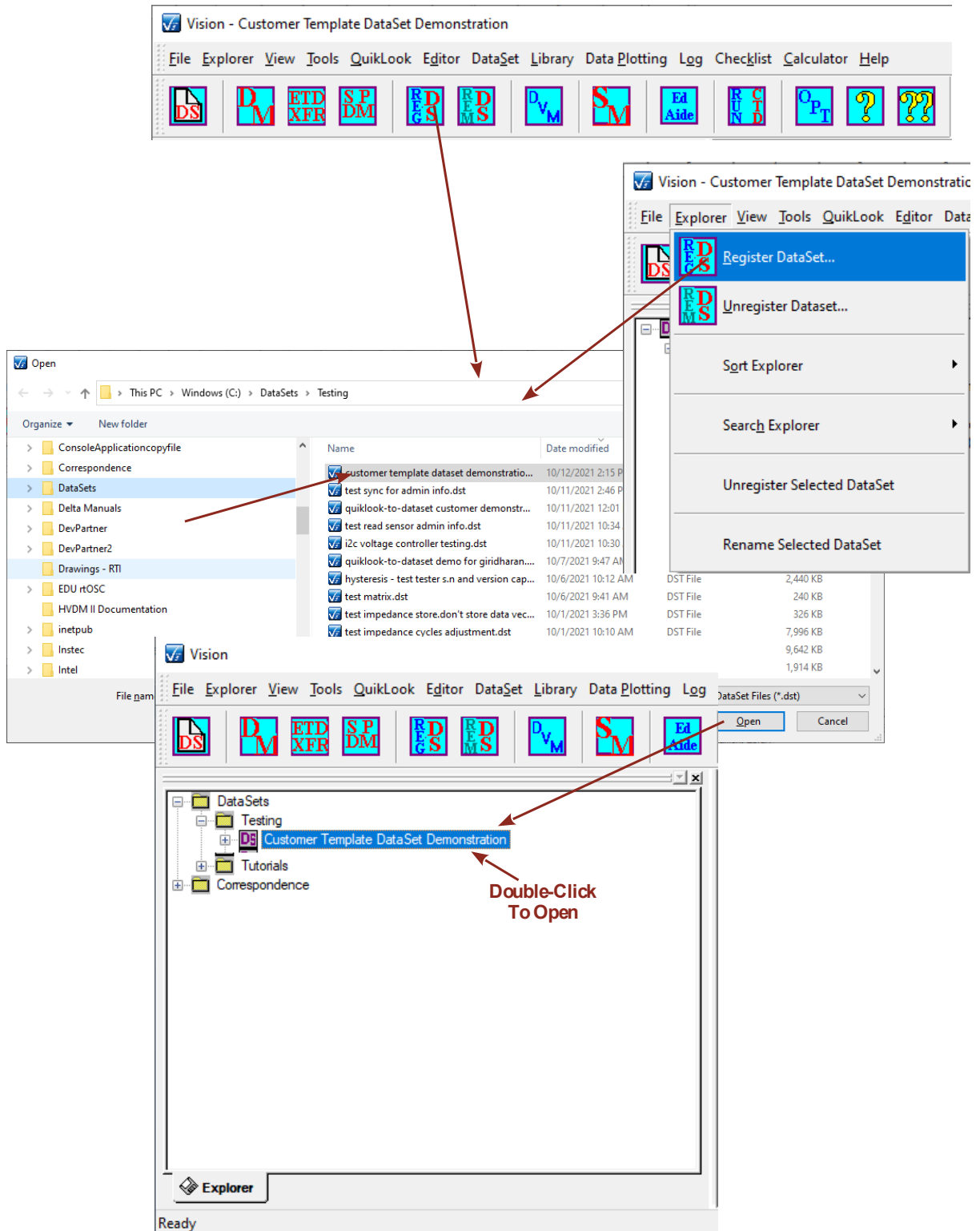


Figure 11 – Register the DataSet from the Vision Program.

Edit the Template Test Definition to Suit

The template DataSet that has been provided will resemble the customer's needs but will almost certainly need to be adjusted by the customer to be accurate. This section discusses how the Test Definition found in the template DataSet Current Test Definition (CTD) is to be edited for use.

To edit the Tasks in the template DataSet:

1. Open the DataSet if it is close.
2. Right-click in the EDITOR window and select Clear All, or press <Ctrl-A>. All Tasks in the EDITOR Test Definition will be cleared from the Window.

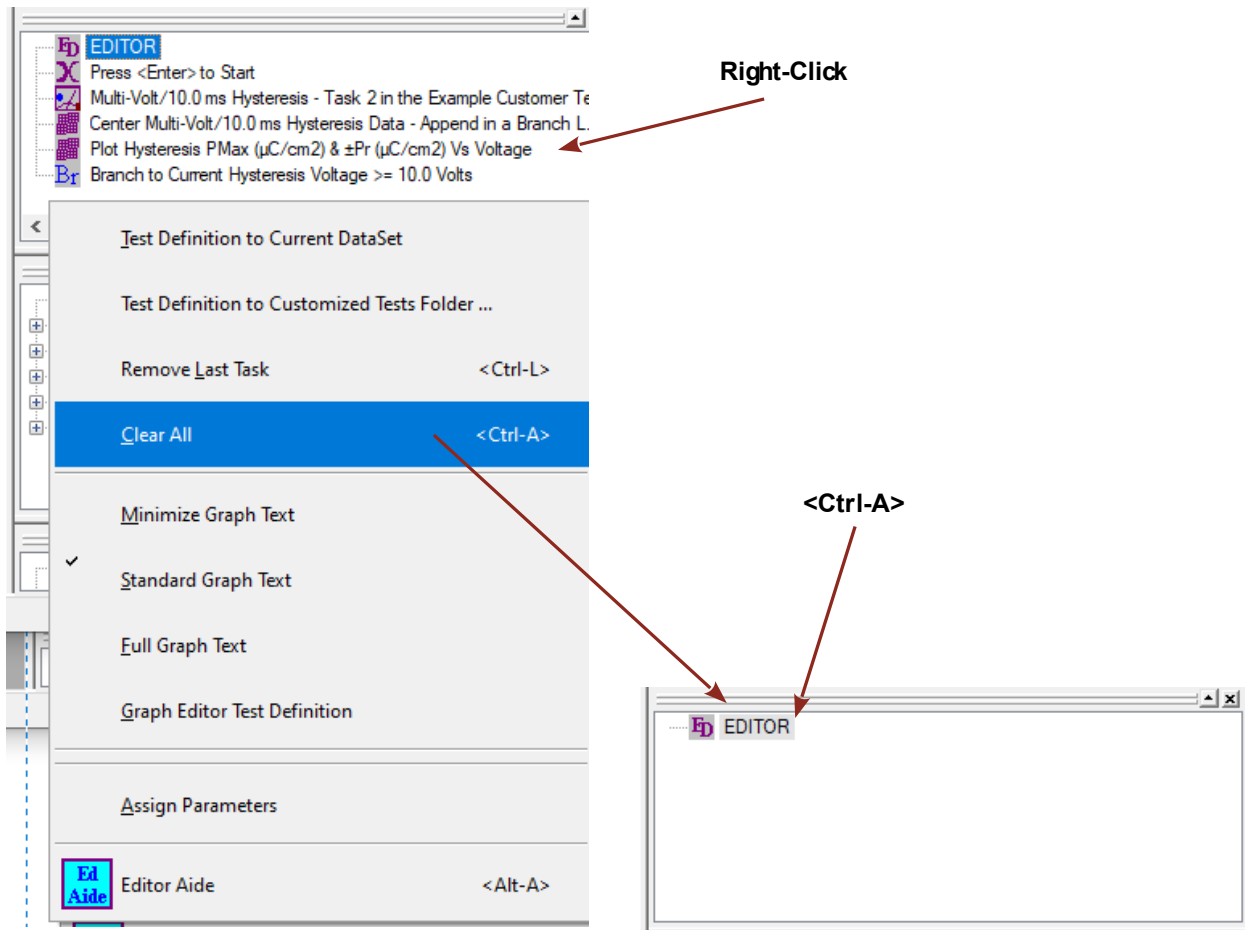


Figure 12 – Clear All Tasks from the EDITOR Window.

3. Right-click on the CTD name. Select Current Test Definition to Editor. The Tasks in the template CTD will be copied into the EDITOR window.

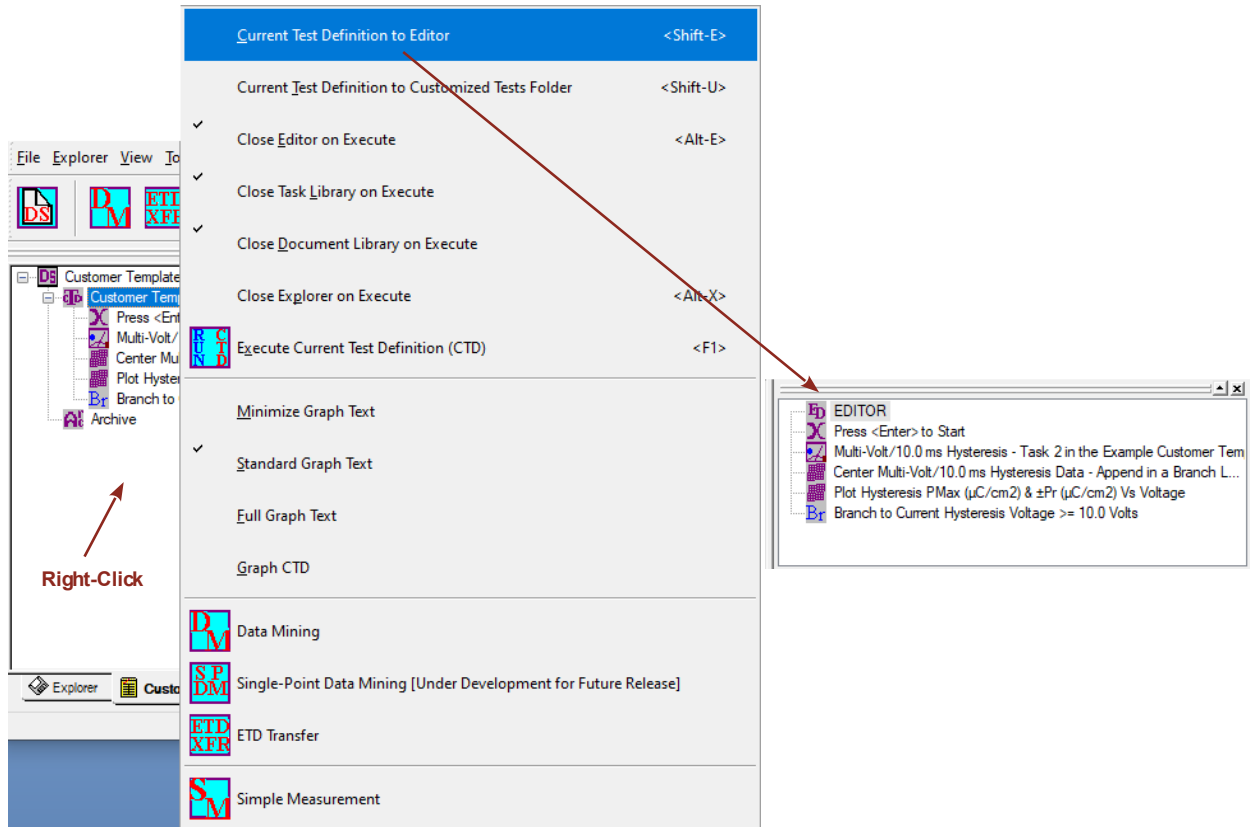


Figure 13 – CTD Tasks Copied to EDITOR.

4. Double-click a Task in the EDITOR window to open its configuration dialog for adjustment.

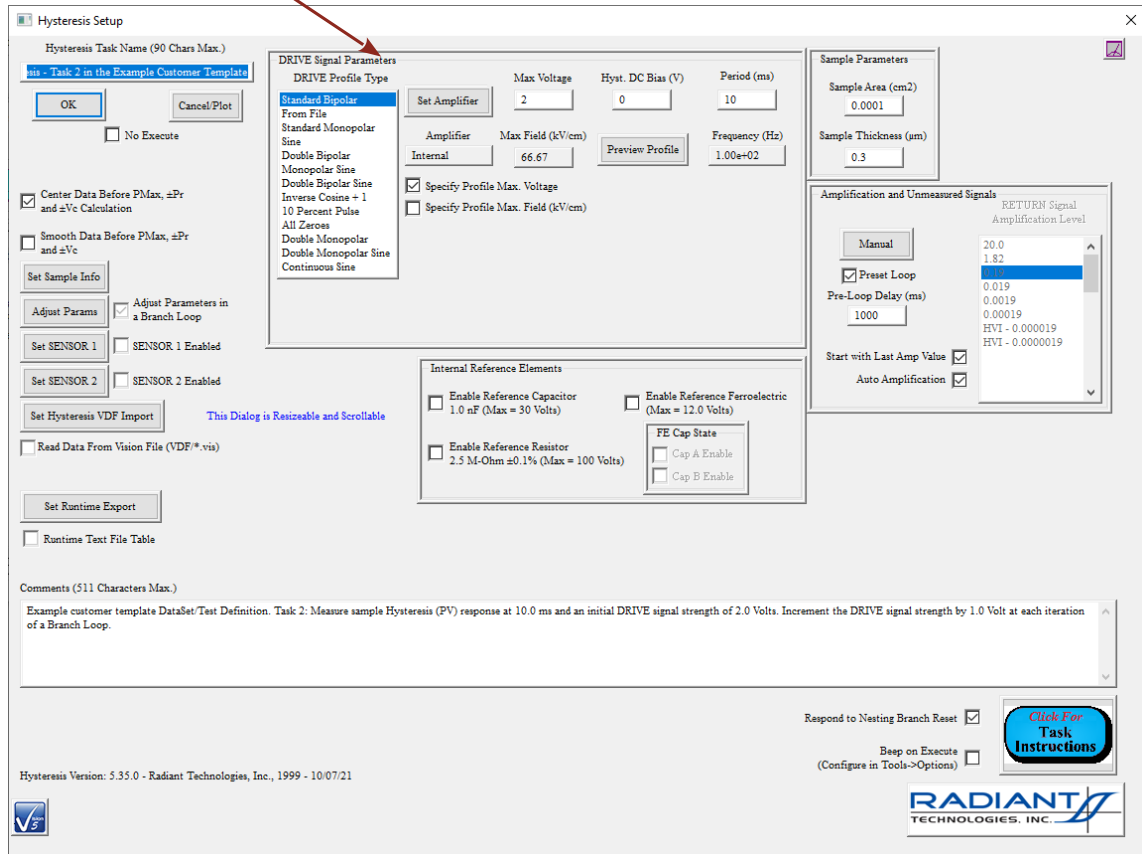
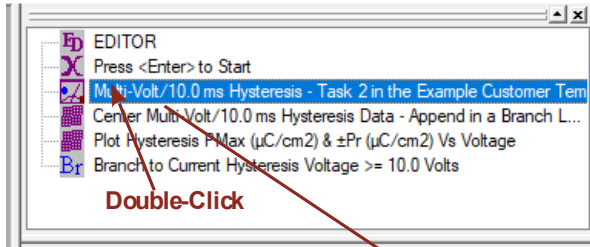


Figure 14 – Open a Task for Editing.

5. Make all adjustments and then click *OK* to close the configuration dialog and update the Task in the EDITOR window. Pay particular attention to *Sample Area (cm²)*, *Sample Thickness (μC)* and *Task Name* where appropriate.

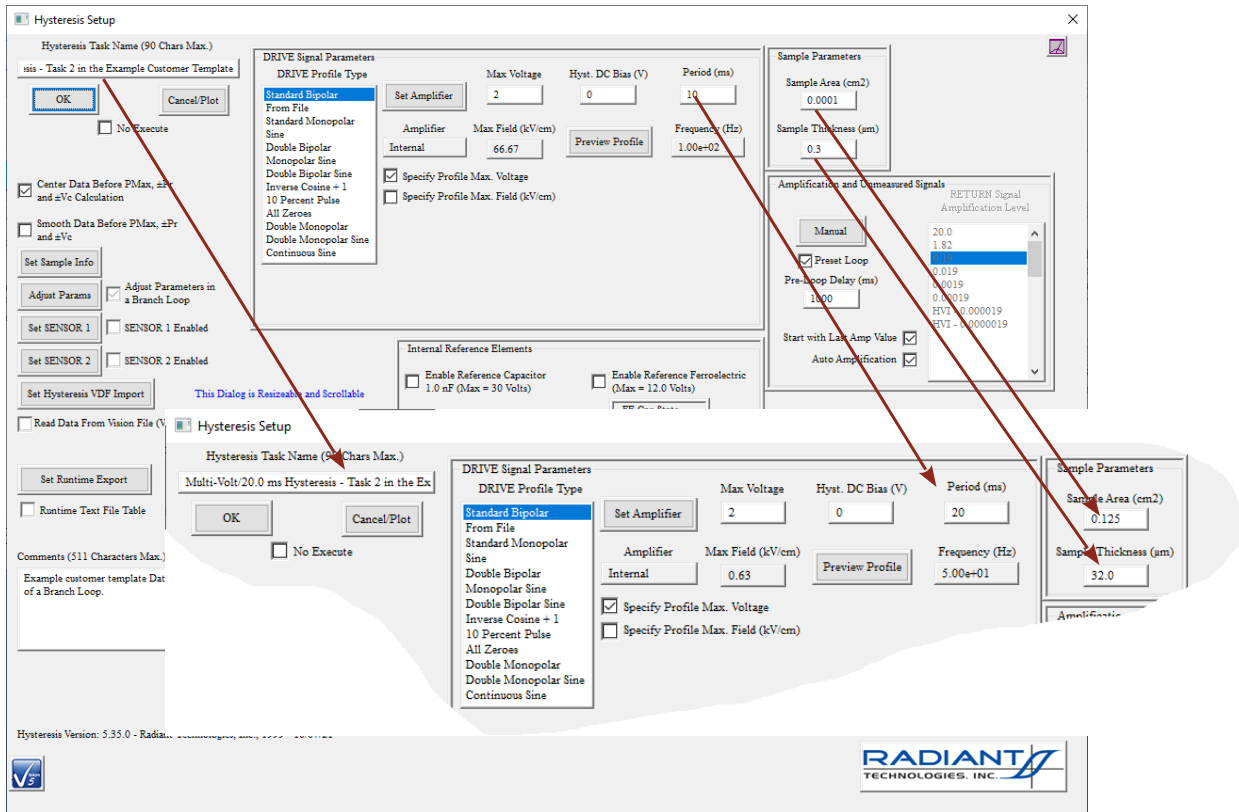


Figure 15 – Edit the Task.

6. When the update is complete for all pertinent Tasks, and all configuration dialogs are closed, right-click in the EDITOR and select Test Definition to Current DataSet. Assign an appropriate unique and meaningful name to the CTD. The CTD will be updated. Your experiment is now ready to execute. Another option is to create your own DataSet and move the Test Definition into it for execution.

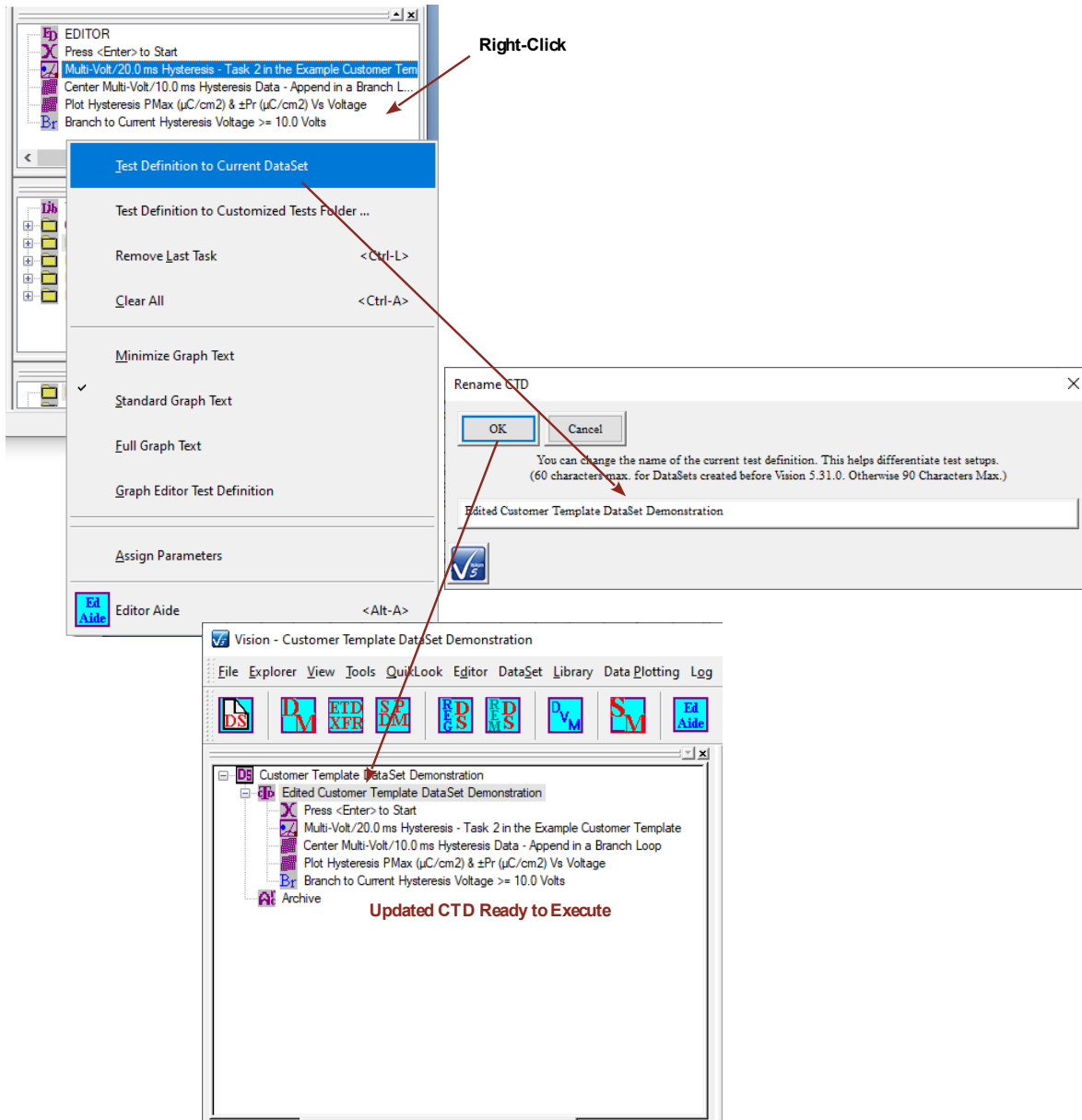


Figure 16 – Move the Updated CTD Back to the Template DataSet.

I hope that this discussion is helpful to you. Please let me know immediately if you have questions, comments or difficulties.

Good luck in your research.

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