

# ViTREK QuickTest Pro (V-series Edition)

## Installation and User Guide

### v1.3.3

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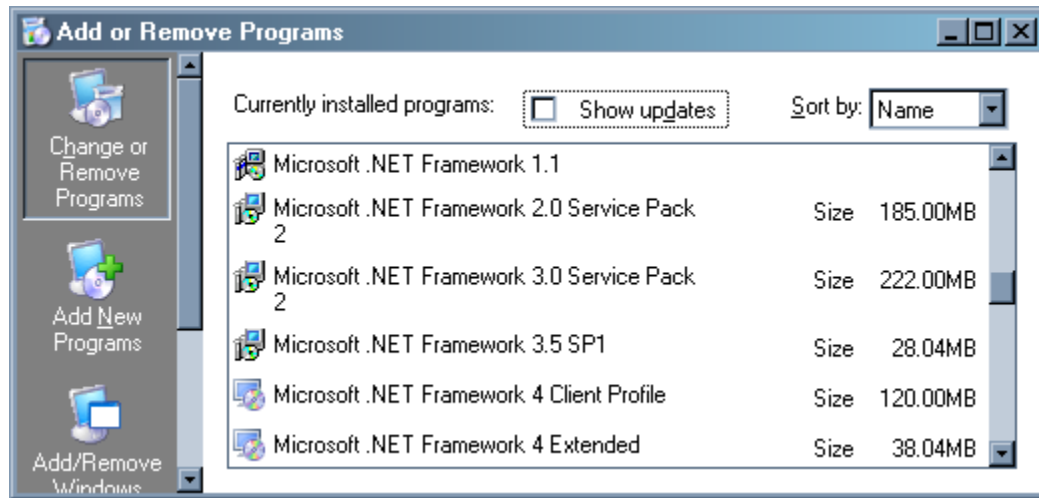
#### Requirements

- **Supported Operating Systems:**
  - Windows XP SP3
  - Windows Vista SP1 or later
  - Windows 7
- **Supported Architectures:**
  - x86 (32 bit)
  - x64 (64 bit)
- **Hardware Requirements:**
  - Recommended Minimum: Pentium 1 GHz or higher with 512 MB RAM (Hardware requirements may be greater due to OS requirements)
- **GPiB Interface Adaptor Requirements (optional):**
  - One (or more) GPiB interface adaptor installed with the latest available drivers from the adaptor manufacturer for the computer OS and OS architecture.
  - Adaptors from National Instruments and Agilent have been tested by Vitrek, other manufacturers adaptors should function properly if installed correctly for the computer operating system and they use the National Instrument interface method (either gpib-32.dll or the latest NI 488.2 methods).
  - Different manufacturers' adaptors cannot be inter-mixed in the same system except in certain (special) circumstances.
- **RS232 Interface Adaptor Requirements (optional):**
  - One (or more) Windows compatible RS232 communications port(s) with 9600, 19200, 57600 and/or 115200 baud rate capability and CTS/RTS hardware handshaking capability.
  - A separate port is required for each unit (tester and switch unit) interfaced using RS232.
- **Tester:**
  - A Vitrek v4, v60, v61 or v63 instrument
- **Switch Units (optional):**
  - Either Vitrek model 948 or model 964 instruments. Different models cannot be inter-mixed in the same system.

#### Installation

1. Verify that .NET framework 4 is installed on the computer
  - i. Open Control Panel.

- ii. View the list of installed programs. In Windows XP this list can be accessed by double clicking the Add or Remove Programs icon. In Windows Vista and Windows 7 this list can be accessed by clicking Programs and then viewing Programs and Features.
- iii. Search for Microsoft .NET Framework 4 in the list of installed programs (refer to the picture below).



- iv. If .NET framework 4 is not installed on the computer, refer to the **Downloading and installing .NET Framework 4** section for instructions.
2. Run QTPProVSetup.exe and follow the on screen instructions.

### Downloading and installing .NET Framework 4

1. Open a browser window and navigate to **www.microsoft.com**.
2. In the search window of the main page, type: **.net framework 4 standalone download** and press the search button.
3. Select the download for: **Download details: Microsoft .NET Framework 4 (Standalone Installer)**.
4. Choose the appropriate connection speed and language then click the download button.
5. After the download completes, run the .exe file and follow the prompts to install the program.

## Nomenclature

### User List

This is a list of all the user names, passwords and allowed access levels for QuickTest Pro.

### User Name

This is the name by which the user must log in to QuickTest Pro to be able to use it. User names are case sensitive, must be between 2 and 30 characters long, cannot start with a space character and cannot contain a comma (,) character anywhere within it. The user name used to log in is included in all printed and saved test results.

### Password

This is the password which in combination with the user name identifies the specific user logging on to QuickTest Pro. Passwords are case sensitive, must be between 2 and 30 characters long, cannot start with a space character and cannot contain a comma (,) character anywhere within it.

### Access Level

Users are allocated an access level according to their user name and password. Since a user is identified by the combination of the user name and the password, it is possible to assign multiple passwords and access levels to a single user name. There are three possible access levels –

- FULL USER. This allows access to all of the features of QuickTest Pro.
- NORMAL USER. This allows access to all features except the viewing, editing or generation of user lists and making changes to the results file format.
- RUN-ONLY USER.
  - This access level only allows the user to view the loaded system configuration but not alter it.
  - This access level only allows the user to view or load an existing test sequence but not to alter it.
  - This access level only allows the user to view or load an existing results file format but not to alter it.
  - This access level allows the user to run the loaded test sequence.

### Tester

This is the V series unit being controlled by QuickTest Pro.

### Switch Units

These are the 948 or 964 Switch Matrix units controlled by either the tester or directly by QuickTest Pro.

### System Configuration

This is the interface configuration between tester and the computer, and the (optional) configuration of the interfacing to any Switch Units.

## **Device under Test (DUT)**

This is the device being tested by QuickTest Pro.

## **Test Sequence**

This is a series of test steps used to completely test a DUT

## **Test Step**

This is a single step within a test sequence. Several types of operations can be configured to be performed within a step, but only one of these can be executed in a single test step. Test steps include those needed to perform timing duties and changing the states of switches in Switch Units.

## General Information Regarding Use

QuickTest Pro runs in a single “window” in Microsoft Windows™. The window is not resizable and is always approximately 800x600 pixels in size. The colors used within the window are those defined by the settings of the computer on which the software is being run (generally available in the “desktop” settings for the computer). Generally, only one copy of QuickTest Pro may be run on a computer.

Because the colors and appearance of QuickTest Pro are defined by the computer OS and settings, its overall appearance and the appearance of the controls contained within it may be different between computers.

QuickTest Pro uses standard Windows functions to create and decode floating point numbers, and it uses “comma separated value” format file formats. If the user has configured Windows to use one of the international numeric formats which use the comma (,) character as a decimal point then QuickTest Pro might not function as expected and the user should select a different numeric format in Windows.

When access to a file is needed (e.g. for opening or saving), QuickTest Pro uses the standard Windows “Open File” or “Save File” dialog allowing the user to select any file accessible by the computer, including on a network if available. Files are only accessed while actually loading or saving them and are only “locked” while actually saving them, thus allowing sharing of files between several computers each running QuickTest Pro.

When access to a printer is needed (e.g. to print a user list, system configuration, test sequence or a test results report) the standard Windows dialog is used to allow the user to select any printer which the computer has available to it (including network printers).

QuickTest Pro only communicates with the tester and (optionally) the switch units when it is required to do so. This means that the user may use QuickTest Pro on any computer installation to define user lists, system configurations and/or test sequences and/or results file format without needing the specific interface hardware or the units themselves (an unregistered QuickTest Pro may be used indefinitely for these purposes).

Every control and information shown in the QuickTest Pro window has a “ToolTip” which is displayed next to the control/information when the mouse hovers over it. This ToolTip contains a brief description on the use of the control or information. An experienced user may turn off these by checking the “Disable ToolTips” box in the upper right hand corner of the QuickTest Pro window.

The window of QuickTest Pro contains “tabs” allowing the user to perform the various tasks available. Prior to logging onto QuickTest Pro, only the USER LOGIN tab is selectable.

QuickTest Pro (V-series edition) runs each test step one at a time on the tester. The user should ignore the PASS and FAIL indicators on the tester and instead use the PASS and FAIL indicator in QuickTest Pro.

## Setting Up and Maintaining the User List

When first used there is no user list defined. The user must log on to QuickTest Pro using the default login username and password provided in a separate document. After logging on to QuickTest Pro the user should generate a user list and save it (or locate and load an existing user list), after this the user generated user list will be used. Ensure that at least one user has FULL ACCESS level; otherwise no further changes to the user list can be made without using the default username and password again.

After logging on to QuickTest Pro with FULL ACCESS the USER LOGIN tab screen includes a section in the lower portion which has a scrollable listing of user names, passwords and access levels. The user can edit, create or delete entries as needed using this listing.

After any changes have been made to the user list an information text “Changes Not Saved” is displayed next to the SAVE button. If the user does not save any changes made prior to closing QuickTest Pro then they will be lost.

ViTREK QuickTest Pro (950 edition) v1.2.0

USER LOGIN SYSTEM CONFIGURE TEST SEQUENCE RUN TEST SEQUENCE UTILITIES

Disable ToolTips

User List File

Login User Name  Log Out

Login Password  Default User Logged In (Full)

User List File

NEW LOAD SAVE PRINT

Login User Name	Password	Access Level
<input type="text"/>	<input type="text"/>	RUN ONLY USER
<input type="text"/>	<input type="text"/>	RUN ONLY USER
<input type="text"/>	<input type="text"/>	RUN ONLY USER
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QuickTest Pro uses the last used user list file each time that it is started. Generally, the user will only need to create the user list file once and then it will be automatically used until changes to it are needed by the user. If the user is using multiple QuickTest Pro installations throughout a company then it is possible to create a single user list file in a network and have all installations access the same file.

Use caution when creating or editing a user list. It is strongly recommended that at least one user name and password combination have FULL ACCESS level, otherwise the only way to edit the user in the future will be to use the “Default User Name and Password” (see the separate document for those).

### **Editing an Existing User Name, Password or Access Level**

This is achieved by editing the fields as needed within the listing. The vertical scroll bar to the left of the listing allows the user to scroll up and down the listing as needed.

### **Creating a New User Name, Password and Access Level**

This is achieved by entering the desired user name, password and access level in any line having a “blank” user name entry in the user listing. There is a limit of 24 user names, passwords and access levels which may be defined.

### **Deleting a User Name**

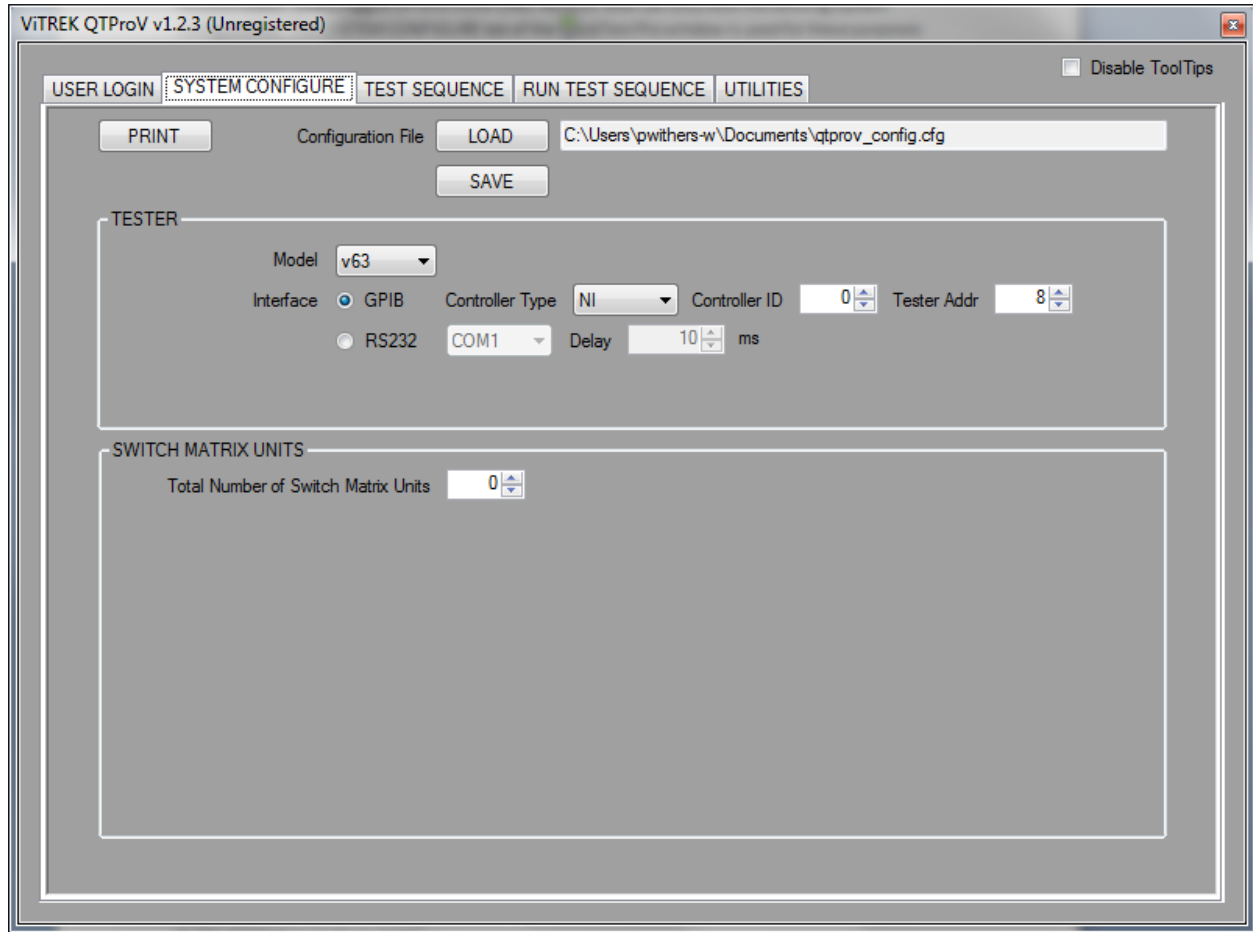
To delete an existing user name, with its’ associated password and access level the user should delete the user name entry in the user list. QuickTest Pro removes the associated password and access level entries automatically.

### **Printing the User List**

To print the entire user list on a printer available to the computer press the PRINT button. The user should then select the printer to which the list is to be printed. NOTE – the printout contains all of the valid user names and passwords, the user should keep this in a secure location.

## Setting Up the System Configuration

This can be performed by any user who has logged on to QuickTest Pro with FULL ACCESS or NORMAL ACCESS levels. Users logged on with RUN-ONLY ACCESS level can only view the existing system configuration. The SYSTEM CONFIGURE tab of the QuickTest Pro window is used for these purposes.



All System Configuration settings for QuickTest Pro are stored in a system configuration file which may be loaded or saved by the user. The last used system configuration file is automatically loaded each time that QuickTest Pro is started.

After any changes have been made to the system configuration an information text “Changes Not Saved” is displayed next to the SAVE button. If the user does not save any changes made prior to closing QuickTest Pro then they will be lost.

## Defining the Model of Tester being used

This is defined by the Model selection in the TESTER section of the SYSTEM CONFIGURE tab of QuickTest Pro. The user should select the actual model being used, or None if only switch matrix units are to be controlled.



## Defining the Interface between the Computer and the Tester

This is defined by the controls in the TESTER section of the SYSTEM CONFIGURE tab of QuickTest Pro.

Depending on the option content of the tester, and the physical interface capabilities of the computer there are three possible methods for interfacing the tester to the computer, the method being selected by the respective “radio buttons” –

- Using a GPIB Interface. When using a GPIB interface between the computer and the tester, the user must configure –
  - The type of GPIB adaptor present in the computer. Select NI if the adaptor was manufactured by National Instruments. Select OTHER if the GPIB adaptor was manufactured by another vendor. If the user is unsure, then select each in turn until selecting the RUN TEST SEQUENCE tab does not create an error message from QuickTest Pro.
  - The specific GPIB adaptor ID number in the computer. This can be obtained from the configuration of the specific adaptor in the computer (see the specific vendors’ documentation for details regarding this), typically the first adaptor installed in a system is ID #0, the second is #1 and so on.. NOTE – this is not the adaptors’ GPIB address.
  - The address of the tester on the GPIB bus. This should correspond to the address set in the testers’ UTILITY menu.
- Using a RS232 interface. When using a RS232 interface between the computer and the tester, the tester must be configured for 9600baud, and in QuickTest Pro the user must configure –
  - The specific computer RS232 port to be used. This is a “drop-down” box control allowing the user to select any available RS232 port within the computer (if this box has no selections available then no RS232 ports are fitted in the computer).
  - The minimum delay between successive RS232 communications. Normally the user should select a setting of 10ms, but it has been found that some USB-RS232 adaptors require this setting to be increased. A figure of greater than 500ms is not recommended.

## Defining Switch Units

In many configurations the user will require the use of Switch Units to perform multiplexing of the connections to and from the tester to the DUT. The configuration of Switch Units is performed by the controls in the SWITCH MATRIX UNITS section of the SYSTEM CONFIGURE tab of QuickTest Pro.

The user must define –

- The total number of Switch Units in the system. This may be between 0 (i.e. none) and 16 and includes switch units interfaced to the tester itself.
- The type of switch unit being used. All switch units must be of the same model number (either Vitrek 948 or 964).

## Defining the Interface between the Computer and each Switch Unit

This is defined by the controls in the INTERFACE FOR EACH SWITCH MATRIX UNIT sub-section of the SWITCH MATRIX UNITS section of the SYSTEM CONFIGURE tab of QuickTest Pro. If this sub-section is not available then no switch units need to be configured for interfacing to the computer.

Note that each switch unit is separately configured; the user does not have to use the same interfacing method between each switch unit and the computer.

Depending on the option content of the switch unit, and the physical interface capabilities of the computer there are two possible methods for interfacing each switch unit to the computer, the method being selected by the respective “radio buttons” –

- Using a GPIB Interface. When using a GPIB interface between the computer and the switch unit, the user must configure –
  - The type of GPIB adaptor present in the computer. Select NI if the adaptor was manufactured by National Instruments. Select OTHER if the GPIB adaptor was manufactured by another vendor. If the user is unsure, then select each in turn until selecting the RUN TEST SEQUENCE tab does not create an error message from QuickTest Pro.
  - The specific GPIB adaptor ID number in the computer. This can be obtained from the configuration of the specific adaptor in the computer (see the specific vendors’ documentation for details regarding this), typically the first adaptor installed in a system is ID #0, the second is #1 and so on.. NOTE – this is not the adaptors’ GPIB address.
  - The address of the specific switch unit on the GPIB bus.
- Using a RS232 interface. When using a RS232 interface between the computer and the switch unit, the user must configure –
  - The specific computer RS232 port to be used. This is a “drop-down” box control allowing the user to select any available RS232 port within the computer (if this box has no selections available then no RS232 ports are fitted in the computer).
  - The baud rate at which to communicate with the switch unit (this is only available for model 964 switch units).

## Printing the System Configuration

The system configuration can be printed on a printer available to the computer by pressing the PRINT button on the SYSTEM CONFIGURE tab screen.

## General Information Regarding Detachable RS232 Interfaces

For computers with multiple serial ports it can be difficult to determine which computer port is attached to which unit (tester or switch). The list of available RS232 ports in the computer is updated each time that QuickTest Pro is started. If using a detachable RS232 interface (e.g. a USB-RS232 Converter) then those must be attached and installed correctly prior to QuickTest Pro being started. It has been found that the labeling of detachable RS232 ports in Windows is not always maintained and may be different after a Windows update, or between differently logged on Windows users. If the user is unsure

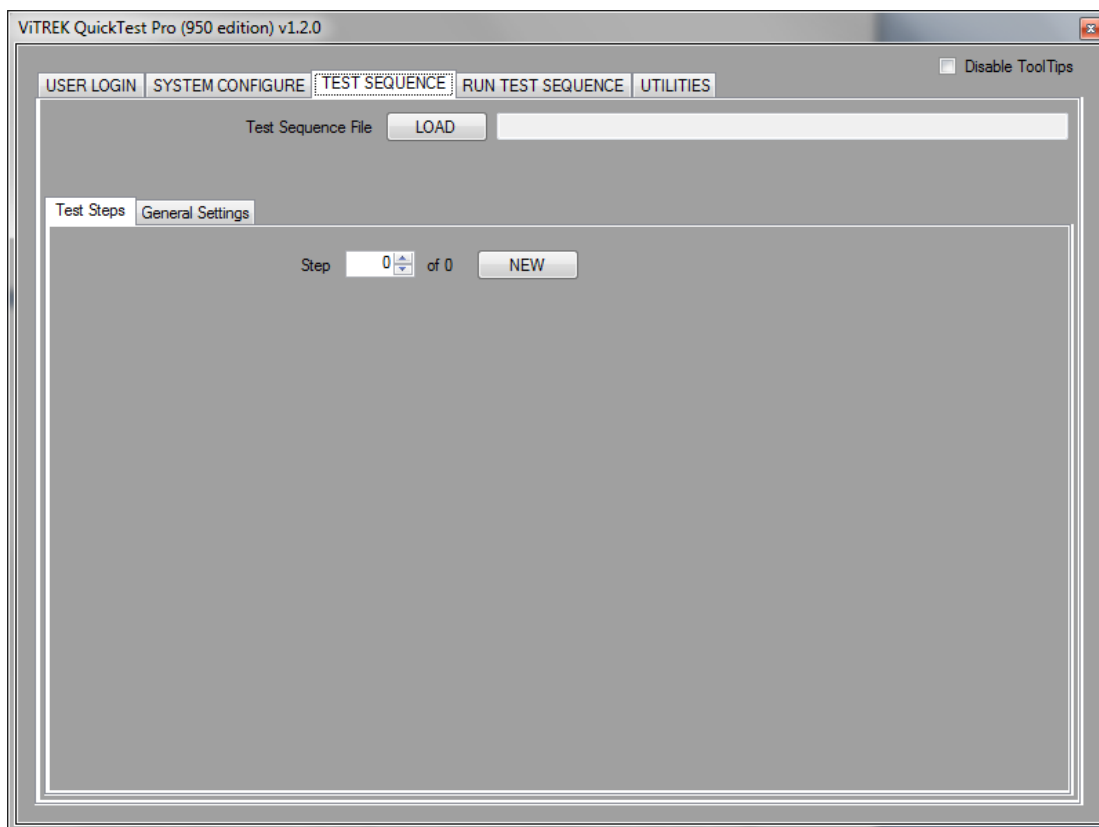
regarding which computer RS232 port is attached to which unit then the user will have to use “trial and error” to determine which serial port is being used for each unit.

## Creating a Test Sequence

This can be performed by any user who has logged on to QuickTest Pro with FULL ACCESS or NORMAL ACCESS levels. Users logged on with RUN-ONLY ACCESS level can only load and/or view an existing test sequence. The TEST SEQUENCE tab of the QuickTest Pro window is used for these purposes.

Each test sequence for QuickTest Pro is stored in separate test sequence files which may be loaded or saved by the user. The last used test sequence file is automatically loaded each time that QuickTest Pro is started.

To clear an already loaded test sequence from QuickTest Pro prior to defining a new one the user should press the NEW button in the upper portion of the TEST SEQUENCE tab window.



A test sequence is built by the user defining a series of test steps which QuickTest Pro is to perform, and also by the user defining certain general activities associated with the test sequence. The test steps are defined by the user in the TEST STEPS tab portion of the TEST SEQUENCE window, and the general activities are defined by the user in the GENERAL SETTINGS tab portion.

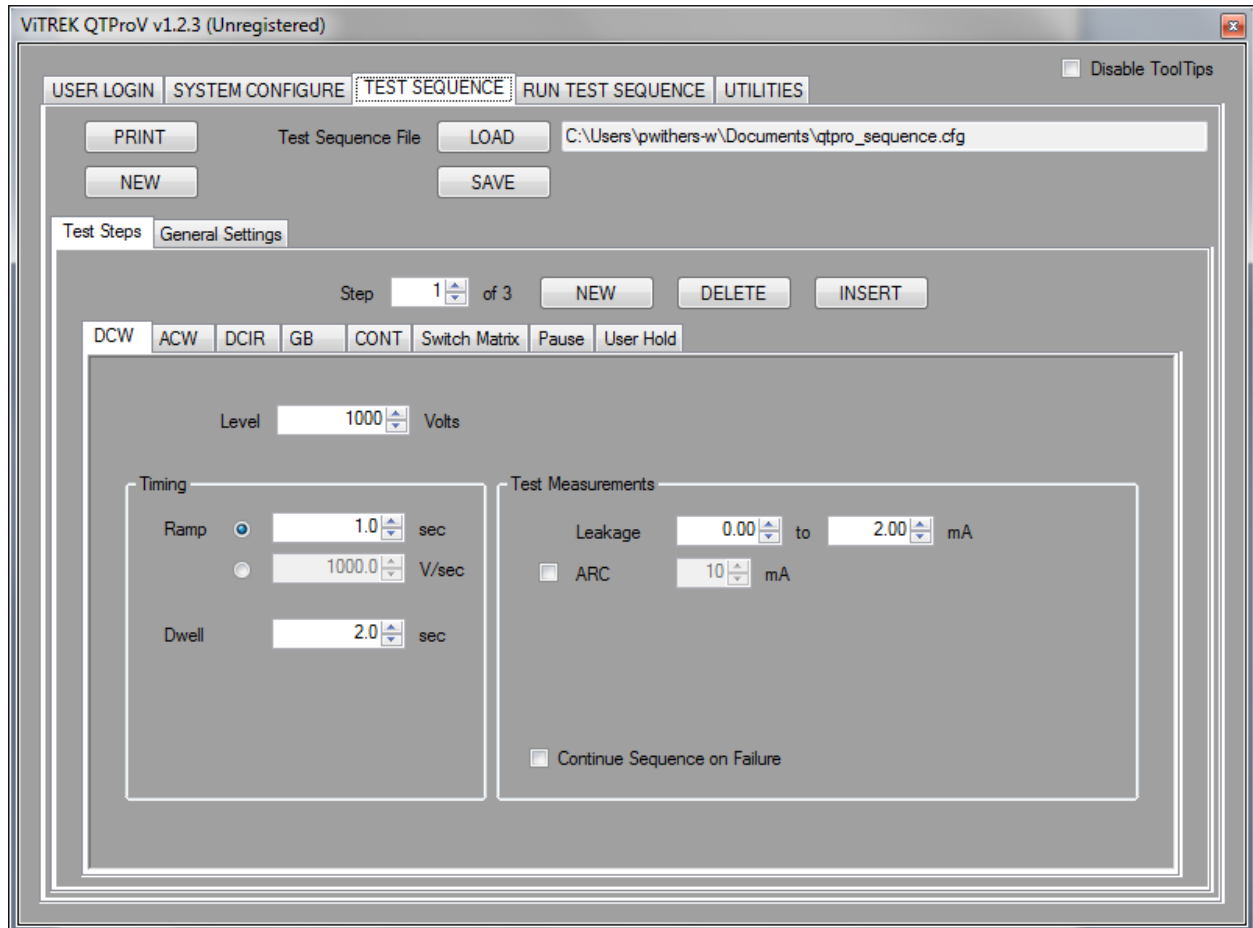
## Defining the Test Steps in a Sequence

The user may define between 1 and 99 steps to be performed in a sequence. These are always consecutively numbered starting with step #1 and are always executed in ascending order from step #1. Each step can be one of several activities, selected by the tab selected for that specific step #.

The user can delete a step within an existing sequence by pressing the DELETE button when the step # to be deleted has been selected by the Step # control.

The user can insert a step into a sequence by pressing the INSERT button when the step # at which the new step is to be inserted has been selected by the Step # control.

The user can add a new step to the end of a sequence (or the first step of a new sequence) by pressing the NEW button next to the step # control. A new step is automatically generated at the end of the sequence, and that step is automatically selected.

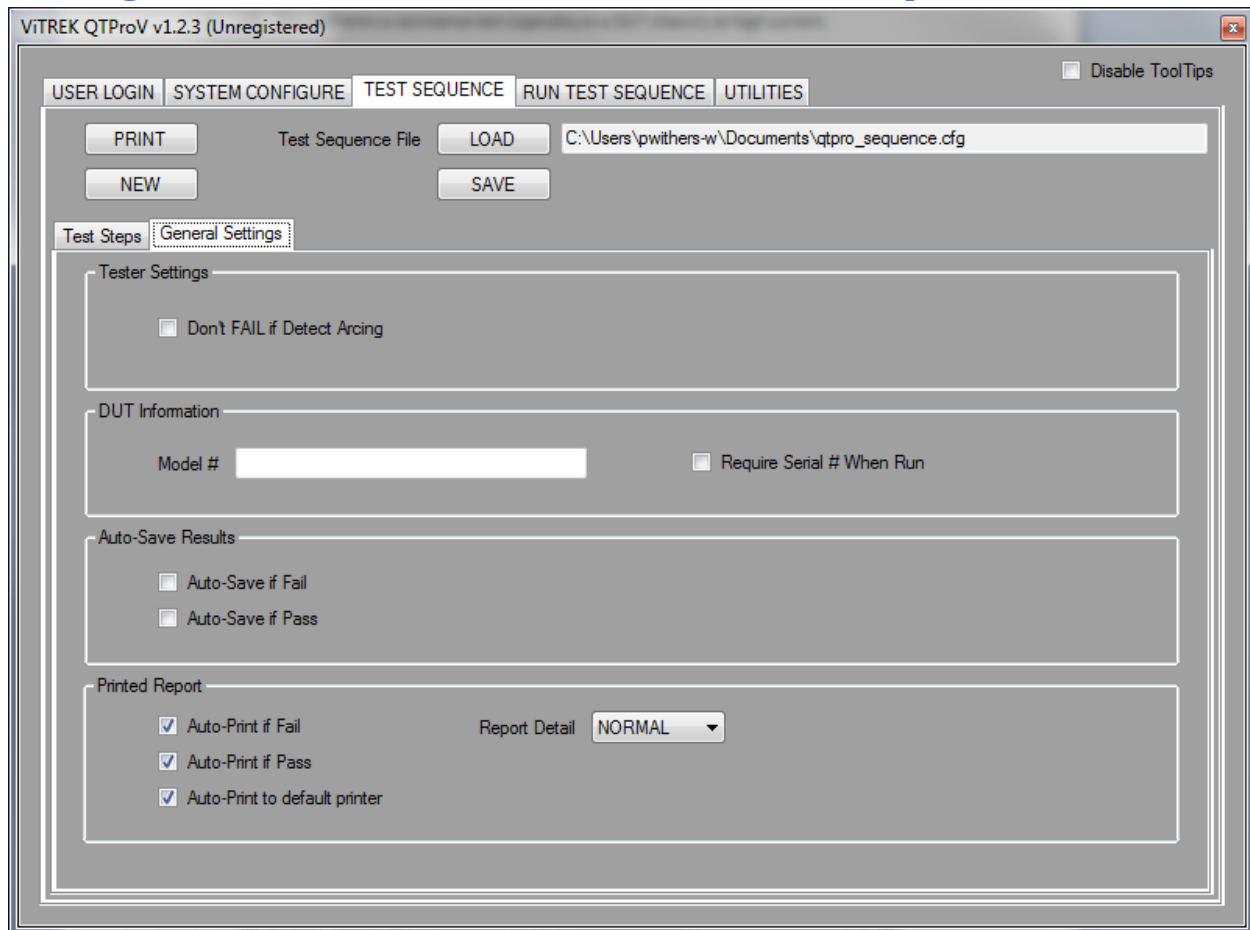


Each test step can be one of the following actions –

- DCW. This performs a DC voltage withstand test, checking the leakage current, and (optionally) arcing on the DUT.
- ACW. This performs a AC voltage withstand test, checking the leakage current, and (optionally) arcing test on the DUT.
- DCIR. This performs a DC voltage insulation resistance test on the DUT.
- GB. This performs a resistance test (typically on a DUT chassis) at high current.

- CONT. This performs a DC resistance test at low current (100mA).
- Switch Matrix. This allows the user to change the state of each switch within each switch unit. Note that Switch Matrix steps are only needed when changes are required, each switch unit remains in its last programmed state during other test step types. If the user requires that the initial state be known then the user should set Step #1 of the sequence to a Switch Matrix type of step defining the required states.
- Pause. This allows the user to program timed pauses in between other steps in the sequence.
- User Hold. This allows the user to prompt the operator (at run time) to perform some action before allowing the test sequence to continue running.

## Defining the General Activities Associated with a Test Sequence



### Tester Settings

The user can configure certain portions of the tester specifically for this test sequence.

- Don't FAIL if Detect Arcing. If checked then all test steps which have arc detection enabled will not fail the step if arcing is detected beyond the set limits, but will still detect and report arcing.

## DUT Information

The user can define a textual DUT Model # which will be included in the test results file and in any printed test results report generated by QuickTest Pro for this sequence. If left blank then this information is not included in the test results report. Checking the Require Serial # When Run control specifies to QuickTest Pro that this test sequence cannot be run unless the user has entered a DUT serial number separately for each run, otherwise the user can leave the serial # blank and still run a test sequence.

## Auto-Save Results

The user can select if QuickTest Pro will automatically accumulate test results in an auto-save results file if the test sequence fails, passes, or both, or neither. If enabled to accumulate test results, the user must select the file to use.

## Printed Reports

The user can select if QuickTest Pro will automatically print a test results report on a failure, pass, or both, or neither. The user can also disable the generation of a dialog enabling the user to select a printer (if checked then QuickTest Pro will use the last selected printer, or the Windows default printer if none was previously used).

The user can also select the detail level included in the test results report –

- **BRIEF.** A single line is used for each test step, indicating the step #, type, level, frequency and the pass/fail status. A brief failure description is also included if needed.
- **NORMAL.** A few lines are included for each test step. A summary of the measurement results, and the limits associated with them are included in the report.
- **FULL.** This selection causes QuickTest Pro to provide all measurement results and a complete definition of each test step in the results report.

Note that Switch Matrix, Pause and User Hold steps are not included in any of the test results report formats excepting if a failure occurred during the step.

## Printing a Defined Test Sequence

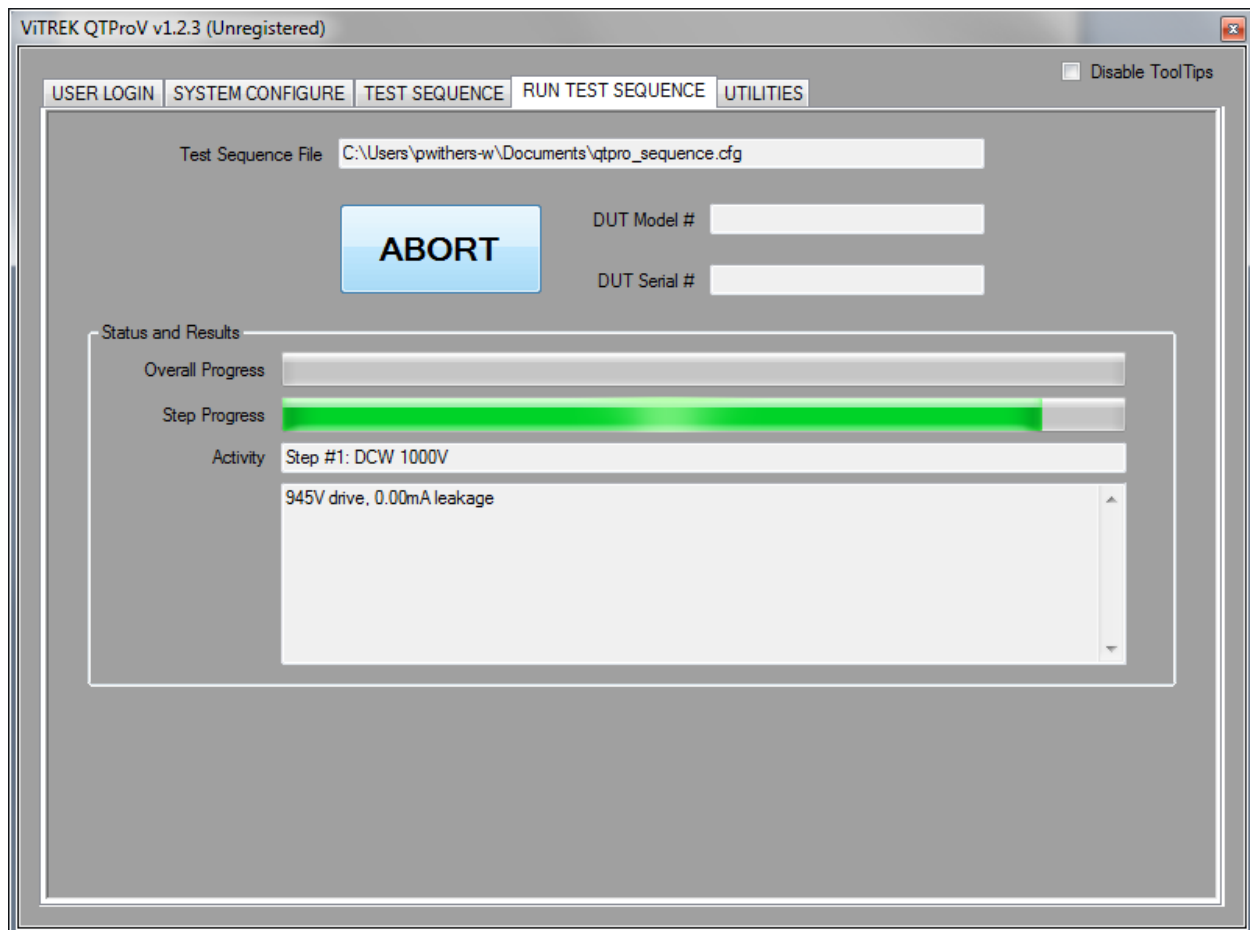
The user can print the defined test sequence on a printer available to the computer by pressing the PRINT button on the TEST SEQUENCE tab screen.

## Running a Test Sequence

This can be performed by any user who has logged on to QuickTest Pro with any access level. The RUN TEST SEQUENCE tab of the QuickTest Pro window is used for these purposes.

If the user wishes to include a DUT serial # in the test results file and the test results report printout, then the DUT Serial # data control must be filled in as needed by the user prior to pressing the RUN button.

The RUN button is a dual purpose button; when not running a test sequence it is denoted as RUN and pressing it causes the test sequence to be run; while running a test sequence it is denoted as ABORT and pressing it causes the test sequence to be aborted (this is flagged as a failure).



NOTE – navigating away from the RUN TEST SEQUENCE tab screen causes the last taken results to be discarded. If it is wished to manually save and/or print the results then that action should be performed PRIOR to selecting a different tab.



## Repeatedly Running a Test Sequence in a Loop

Below the RUN button are two check boxes enabling the user to repeatedly run the selected test sequence (optionally until a failure occurs) or the test is stopped manually. Only none or one of these can be checked at any time. When the RUN TEST SEQUENCE tab is first selected these are always unchecked. These can be checked or unchecked at any time, including while a test sequence is being run. To terminate a test sequence being run continuously the user should either–

- Uncheck the “Continuously Run until Fail” or “Continuously Run” check box. The sequence will stop after it has completed the loop being executed. If there were no failures then the test will have a PASS status.
- Press the ABORT button. The sequence will immediately stop with an ABORTED failure status.

If the user selected to automatically print a test report then this will only be performed if the “Continuously Run until Fail” and “Continuously Run” check boxes are unchecked when the test is completed. If the user selected to automatically save the results then this will be performed for each loop of the test sequence.

## Status and Results

This section of the RUN TEST SEQUENCE tab window is only available during and after the test sequence is run. The controls show the user the progress and certain measurement results and drive levels during each step of the sequence. During a User Hold type of test step a CONTINUE button is available allowing the user to continue the execution of the sequence, pressing the ENTER key on the computer keyboard will also continue the test sequence.

## Final Results

This section is only available after the test sequence has been run. The large PASS/FAIL indicator shows the overall status of the test sequence just completed

The MANUAL SAVE button allows the user to save the test results to a file, the file is selected by the user in a dialog generated when this button is pressed.

The MANUAL PRINT button allows the user to print a test results report (of the prior selected detail level).

The MANUAL SAVE and PRINT button activities are totally independent of the auto-save and auto-print actions configured for the sequence.

## Results File Format

Test Results files are saved in text format using multiple lines each containing comma separated variable formatted fields. When results are saved into an existing file the lines are always appended to the content already in the file (the format of the existing content is ignored).

The user can control which fields and lines are included in this file by using the RESULTS FILE FORMAT tab in QuickTest Pro. The use of the checkboxes in this tab and the meaning of the various available fields are described below.

Note, if compatibility with earlier versions or with other editions of QuickTest Pro is desired, then use the settings provided by pressing the “SET TO DEFAULTS” button on the Results File Format tab and saving these settings in a file.

Note, take extreme care planning the results file format. Once results have been stored there is no method of retrieving data which was not initially included in the results file. Saving insufficient or improperly formatted data can result in the results file being unsuitable for the users’ intended purpose. The following checkboxes can be used without causing data loss –

- Include Step # Field
- Unique HDR Line Fields
- Only Include Attempted Steps
- Include Non-measurement Steps
- Include Blank Fields for 95x Compatibility
- All Lines have Same Number of Fields

## Results File Lines

Generally, each test sequence is saved as a HDR line and an END line with one line per step in between them. See the next sub-section for the various fields available in each line.

If the user has unchecked the “Include HDR and END Lines and Fields” checkbox then the HDR and END lines are not included. Note, only the HDR line contains the overall pass/fail status of the test sequence, the individual test step lines only contain the status for each specific step; there are also other fields which may be useful and which are only in the HDR line.

If the user has checked the “Only Include Attempted Steps” checkbox then lines are only included in the results file for test steps which were attempted (i.e. if the test sequence was stopped manually or by failure before the last step was started then only the steps actually performed are included).

If the user has unchecked the “Include Non-measurement Steps” checkbox then PAUSE, HOLD and SWITCH type step lines are not included in the results file unless a failure occurred during them.

## Results File Fields

Each results file line is a set of fields, each separated from the next by the comma character (this is often called a comma-separated variable file and is generally able to be opened by a spreadsheet program

such as Microsoft Excel). The user can control which fields are included in each line by using the checkboxes in the RESULTS FILE FORMAT tab, the fields are always in the same order but may or may not be included depending on the user settings in this tab.

If the “All Lines have Same Number of Fields” checkbox is checked then all lines have the same number of fields, unused fields at the end of each line are included but are blank.

Several fields are not used in this edition of QuickTest Pro but may optionally be included for compatibility with other editions. Those fields are listed below as “blank” fields and are only included if the “Include Blank Fields for 95x Compatibility” checkbox is checked.

Certain fields are only used for a HDR line, while the remaining fields are only used in other types of line. If the “Unique HDR Line Fields” checkbox is checked then the HDR specific fields are included in the other line types as blank fields, otherwise the field format of HDR and of other types of line are independent of each other.

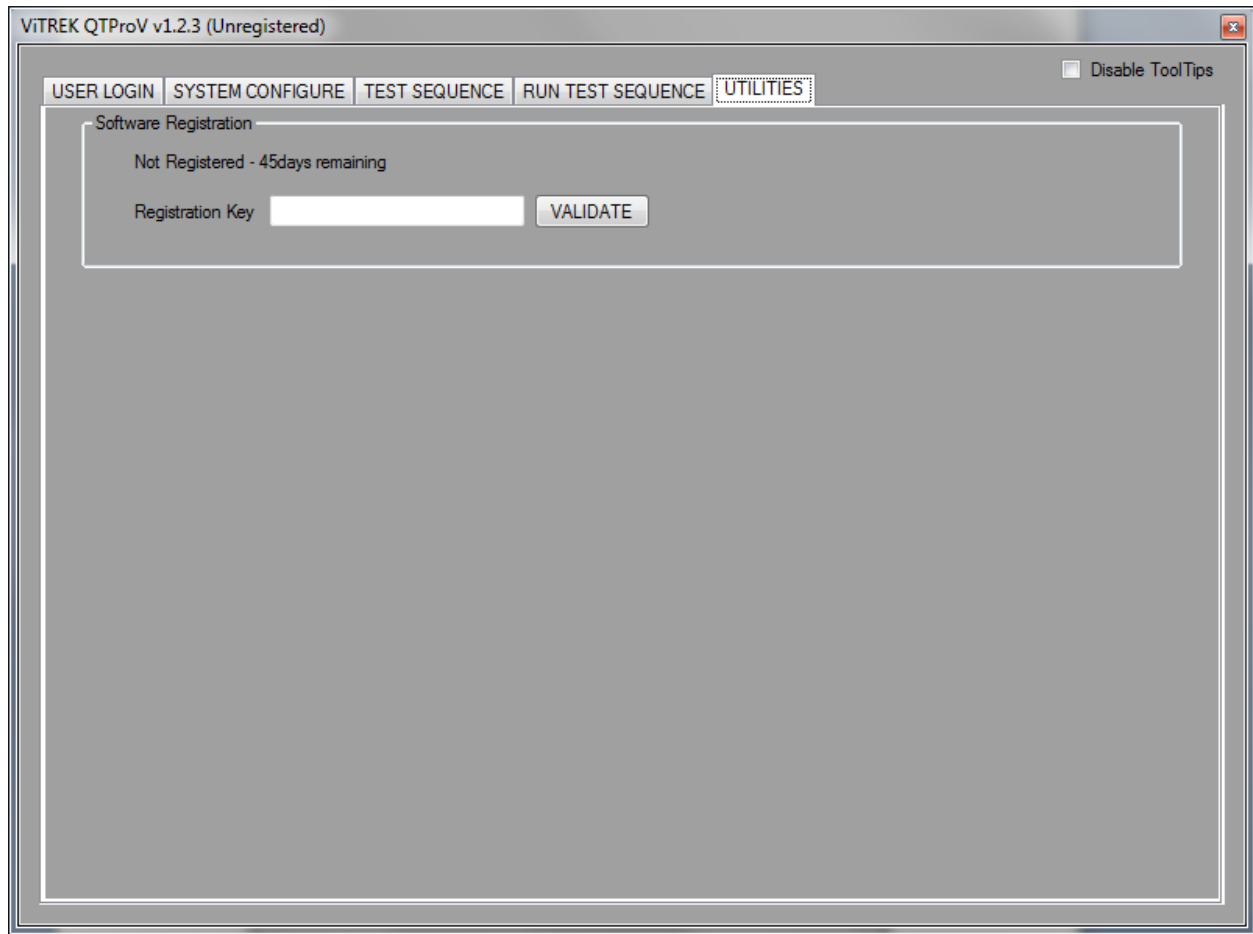
The available fields are as follows in the order listed (the numbers do not represent the “number” of the field only the order in which they are placed, an END type line only uses the first two fields)-

1. The test step number for the results in the remaining fields of this line. HDR and END lines use a step number of 0. This field is only included if the “Include Step # Field” checkbox is checked.
2. The type of line. This is the text HDR, END, DCW, ACW, DCIR, GB, LOWOHMS, PAUSE, HOLD or SWITCH as appropriate for each line. This field is only included if the “Include Step Type Field” checkbox is checked.
3. An integer number defining the overall status of the sequence (in a HDR line) or the status of the specific step (other types of line). This integer is the addition of the following numbers if the corresponding failure has occurred –
  - a. 1 – An internal fault occurred in the tester
  - b. 2 – The tester output level could not be controlled
  - c. 8 - An internal fault occurred in the tester
  - d. 16 – The user aborted the sequence
  - e. 128 – An arc was detected and arc detection limits were applied
  - f. 256 – The leakage/load level was below the minimum level for the step
  - g. 512 – The leakage/load level was above the maximum level for the step
  - h. 4096 – The interlock was enabled and was opened during the sequence or step.
  - i. 16384 – A switch unit failed to communicate
4. This field is only used in the HDR type line and contains the DUT Model # (as specified in the test sequence).
5. This field is only used in the HDR type line and contains the DUT Serial # (as specified by the user when the sequence was run).
6. This field is only used in the HDR type line and contains the user name logged on at the time that the sequence was run.

7. This field is only used in the HDR type line and contains the date specifying when the sequence was run.
8. This field is only used in the HDR type line and contains the time specifying when the sequence was run.
9. This field is not used in a HDR type line, otherwise it contains either Y if the step was attempted or N if it was not. This field is only included if the "Include Step Attempted Field" checkbox is checked.
10. This field is not used in a HDR type line, otherwise it contains the configured test dwell time for this step (in seconds). This field is only included if the "Include Fields for Required Step Level, Timing and Limits" checkbox is checked.
11. This field is not used in a HDR type line, otherwise it contains the configured test drive level in Volts or Amps as applicable. This field is only included if the "Include Fields for Required Step Level, Timing and Limits" checkbox is checked.
12. This field is not used in a HDR type line, otherwise it contains the actual final test drive level for this step in Volts or Amps as applicable. This field is only included if the "Include Field for Actual Test Level" checkbox is checked.
13. This field is not used in a HDR type line, otherwise it contains the configured test drive frequency for this step in Hz. This field is only included if the "Include Fields for Required Step Level, Timing and Limits" checkbox is checked.
14. This field is always blank. This field is only included if the "Include Blank Fields for 95x Compatibility" checkbox is checked.
15. This field is always blank. This field is only included if the "Include Blank Fields for 95x Compatibility" checkbox is checked.
16. This field is not used in a HDR type line, otherwise it contains the type of leakage/loading measurement result (either blank, DC = DC current, RMS = AC current or DCO = DC resistance). This field is only included if the "Include Step Measurement Type Field" checkbox is checked.
17. This field is not used in a HDR type line, otherwise it contains the configured maximum limit for the leakage/loading test measurement in Amps or Ohms as applicable. This field is only included if the "Include Fields for Required Step Level, Timing and Limits" checkbox is checked.
18. This field is not used in a HDR type line, otherwise it contains the configured minimum limit for the leakage/loading test measurement in Amps or Ohms as applicable. This field is only included if the "Include Fields for Required Step Level, Timing and Limits" checkbox is checked.
19. This field is always blank. This field is only included if the "Include Blank Fields for 95x Compatibility" checkbox is checked.
20. This field is always blank. This field is only included if the "Include Blank Fields for 95x Compatibility" checkbox is checked.
21. This field is always blank. This field is only included if the "Include Blank Fields for 95x Compatibility" checkbox is checked.
22. This field is not used in a HDR type line, otherwise it contains the measured leakage/loading test measurement in Amps or Ohms as applicable.
23. This field is always blank. This field is only included if the "Include Blank Fields for 95x Compatibility" checkbox is checked.

24. This field is always blank. This field is only included if the “Include Blank Fields for 95x Compatibility” checkbox is checked.
25. This field is always blank. This field is only included if the “Include Blank Fields for 95x Compatibility” checkbox is checked.
26. This field is always blank. This field is only included if the “Include Blank Fields for 95x Compatibility” checkbox is checked.
27. This field is always blank. This field is only included if the “Include Blank Fields for 95x Compatibility” checkbox is checked.
28. This field is always blank. This field is only included if the “Include Blank Fields for 95x Compatibility” checkbox is checked.
29. This field is always blank. This field is only included if the “Include Blank Fields for 95x Compatibility” checkbox is checked.
30. This field is not used in a HDR type line, otherwise it contains the configured arc detection current limit (in Amps). This field is blank if either the specific test step type does not allow for arc detection or the user disabled it. This field is only included if the “Include Fields for Required Step Level, Timing and Limits” checkbox is checked.
31. This field is always blank. This field is only included if the “Include Blank Fields for 95x Compatibility” checkbox is checked and the “Include Fields for Required Step Level, Timing and Limits” checkbox is checked.
32. This field is always blank. This field is only included if the “Include Blank Fields for 95x Compatibility” checkbox is checked.
33. This field is always blank. This field is only included if the “Include Blank Fields for 95x Compatibility” checkbox is checked.
34. This field is always blank. This field is only included if the “Include Blank Fields for 95x Compatibility” checkbox is checked.
35. This field is always blank. This field is only included if the “Include Blank Fields for 95x Compatibility” checkbox is checked.

## Utilities



### Software Registration

QuickTest Pro can be fully used for the first 45 days after the first time it is run on a computer. After that time QuickTest Pro can be used for generating test sequences but cannot be used to actually run a sequence without being purchased and registered.

The user may operate as many copies of QuickTest Pro as they wish, however the software may only be fully used with a specific V-series series tester. When purchased with a tester in the V-series, the user will be given a registration key to enter into QuickTest Pro in order to allow its' full use after the initial 45 days. If the user wishes to allow its' use with a second V-series tester then please contact ViTREK for a second registration key.

After receiving the registration key the user must enter it into the "Registration Key" entry area in the Utilities tab screen and then press the VALIDATE button located next to the entry area. The text shown at the top of the Software Registration area shows the number of days of full use remaining (if not registered) or the models and serials numbers registered (if registered).

## Compatibility with the 950 edition of QuickTest Pro

The V-series and 950 editions of QuickTest Pro are fully compatible with each other. They can be used together on the same computer if the user wishes (the user is recommended to install them both into the same directory), or the user can migrate from the V-series to the 950 series with ease. This requires the use of v1.2.3 of QuickTest Pro (or later).

The user list file and all configuration files are compatible between the editions.

- The user may load a test sequence file generated in the 950 edition into the V-series edition as long as it does not contain any test steps which are not found in the V-series (e.g. Ground Leakage, BRKDN or PULSE test steps). Some steps may not be compatible with the model of V-series, or may call for test levels or limits which are beyond the capabilities of the V-series unit. Because of this the user should visually check the test sequence loaded into QuickTest Pro prior to actually running it.
- In general the capabilities of the 950 series are beyond those of the V-series, so loading a test sequence generated for the V-series into QuickTest Pro 950 edition will not have any limitations.

The registrations of the editions of QuickTest Pro are separate, and so are required for both editions independently if both are to be used.