VITREK

VITREK QT Insite

Electrical Safety Test Automation Control Software

User Manual

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1 Introduction

1.1 About This Manual

This document is the user manual for Vitrek **QT Insite** – the premiere Electrical Safety Test Automation Control Software. The software runs on Windows and Linux PCs to operate a variety of Vitrek's HIPOT testers and switches.

It is important to keep in mind that when creating test procedures the user should rely heavily on the manuals for the specific instrument being operated. Where this document illustrates a test step the settings are not to be relied on for your specific application. Your test sequences are a function of your requirements and the device under test (DUT).

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1.2 Overview

Welcome to Vitrek **Qt Insite**, your all-in-one solution for automated electrical safety test control of a Vitrek HIPOT tester. The software provides for first class creation and editing of test sequences, streamlined selection of test criteria based on model selection with a barcode scanner, and a vastly configurable set of reporting options.

All configuration settings, test sequences, and test results are stored in a SQL database. Depending on the installation model (see Appendix A) this database is local only or shared on the local network; respectively single and multiple workstation versions. The database size is only limited by the amount of local drive storage. Test results are stored until deleted by an authorized user.

The product allows for a 45 day trial period where you can freely explore all features and benefits provided by the software. After the trial if you wish to continue using **QT Insite** to execute the test sequences and store the results you will need a license key for each HIPOT tester. **QT Insite** will perpetually allow you to create/edit test sequences and directly load them into the tester for execution.

Where the user chooses the multi-station model a license is not required to access the database for configuration or browse the test results.

1.3   System Requirements

- ❖ Supported Operating Systems:
  - o Windows 10
  - o Windows 11
- ❖ Supported Architectures:
  - o x64 (64 bit)
- ❖ Hardware Requirements:
  - o Recommended Minimum: 2 GHz Processor Speed or higher with 2GB RAM (Hardware requirements may be greater due to OS requirements).
  - o A display with a resolution of at least 1058 x 737.
  - o A network interface when operating across multiple workstations.
- ❖ At least one instrument interface:
  - o One (or more) GPIB interface adaptors installed with the latest available drivers from the adaptor manufacturer for the computer OS and OS architecture. Only adapters from National Instruments are supported.
  - o One (or more) Windows compatible RS232 communications port(s) with 9600, 19200, 57600 and/or 115200 baud rate capability and hardware handshaking capability with DTR/DSR and CTS/RTS. A USB-RS232 bridge is allowed as long as it supports DSR/DTR and CTS/RTS.
  - o USB 2.0 or above.
  - o An IPv4 network (or direct connection) is required with TCP/IP protocol capabilities.
- ❖ For test-stations a HIPOT tester:
  - o A Vitrek 951, 952, 953, 954, 955, 956, 957 or 959 instrument running main firmware v2.02 or later.
  - o A Vitrek 981i or 983i.
  - o A Vitrek V70, V71, V73, V74, V76, V77, or V79 instrument running main firmware version 1.10 or later.
  - o A Vitrek V10x.
- ❖ Switch Units (optional):
  - o Any of Vitrek's model 948i, 964i, M10X, V75, V76, or V77 instruments. Different models cannot be inter-mixed in the same system.

1.4   Glossary

AC	The flow of electric current which reaches a maximum in one direction, decreases to zero, then reverses itself and reaches a maximum in the opposite direction. The cycle is repeated continuously, changing polarity and magnitude with time.
ACCAP	AC voltage withstand for breakdown and capacitance testing.
ACI	AC ground leakage test.
ACW	AC voltage withstand for breakdown, arcing, and leakage testing.
Access Level	The software provides the ability to finely tune the user permissions available to a user. A permission set has a logical name used when creating user definitions.
Active Configuration	The presently selected system configuration.
Active Sequence	The presently selected test sequence.
Arc	A momentary partial discharge due to the intense concentration of an electric field (high voltage) across a dielectric.
Breakdown	A sudden and uncontrolled flow of current.
BRKDN	DC voltage breakdown test.
Client	A networked workstation accessing a remote Qt Insite database.
DC	The flow of continuous electric current in one direction that can change in magnitude but not polarity.
DCI	DC ground leakage test.
DCIR	DC voltage withstand and leakage test with current or impedance checking.
DCW	DC voltage withstand and leakage test.
Dielectric	An insulator sandwiched between two conductors. In the case of a Hipot test, the DUT's insulation is considered to be a dielectric.
Discharge	The time period after a test step or sequence (depending on user settings) where the unsafe voltage and/or current levels are removed.
Dwell	The time period over which leakage limits are verified.
DUT	**D**evice **U**nder **T**est.
GB	AC ground bond test, a high current test that checks the integrity of a Class I product's safety ground connection.
High-Side Sense	Aka HSS. A Vitrek HIPOT feature where instead of measuring current on the return line leakage is measured on the voltage source wire.
HIPOT (strict)	An abbreviation for high potential.
HIPOT (colloquial)	A term given to a class of electrical safety testing instruments used to verify electrical insulation in finished appliances, cables, or other wired assemblies, printed circuit boards, electric motors, and transformers.
Hipot Test	A high voltage test used to stress the insulation of a product and measure the resulting leakage current.
Insulation	A material that is a poor conductor of electricity. Used to isolate electrical circuits from ground and each other.
IR Test	A high voltage test used to validate the resistance of a product's insulation.
Leakage Current	Current that leaks through a product's insulation to ground.
LowOHM	DC low resistance test.
LowΩ	
Password	A password associated with a user name, used to log in to the software. A password is case sensitive, must be at least 3 characters long, and must have at least one alphabetic character.

PDF	**P**ortable **D**ocument **F**ormat.
Pulse	Pulsed voltage withstand test.
Ramp	The time period used to increase the test level from zero to the specified setting.
Sequence	An ordered list of test steps. Sequences have unique names assigned by user.
Server	The multi-workstation database server.
Switch	An external instrument capable of switching the test voltage through a
Switch Unit	multiplexor, for example a Vitrek 964i or M10x.
System Configuration	A description of the test system defining the HIPOT tester series, interface, and optional switch configuration.
Test	The execution of one or all steps in a sequence. The results are dynamic and there are runtime specific configuration items such as a reference label.
Tester	The HIPOT instrument accessed by QT Insite.
Test-Station	The controlling PC, HIPOT tester, and optional HV switches.
User	This is the name by which the user logs in to **QT Insite**. The name is not case
User Name	sensitive, must be at least between 3 characters long, and must have at least one alphabetic character. The user name is included in all printed and saved test results. This is different from the user account used to log into the computer.
Workstation	A PC that has access to the Qt Insite database.

1.5   Installation

The software is distributed in three packages as listed below. Remember a workstation has access to the database, a test-station has access to the database and a tester.

Table 1-1 Installation Packages

Package	Trade-offs
Single workstation Zip Intended to operate one tester.	**Pros** Administrator permissions are not required. Extract anywhere. A single file contains all your data. **Cons** No uninstaller. The user manages shortcuts. Update is manual. The database is not shared.
Single workstation installer executable Intended to operate one tester	**Pros** Full administrator permissions are not required to install or operate. A single file contains all your data. Traditional shortcuts are installed. **Cons** The database cannot be transferred to a multiple workstation installation. Result data that was not exported can only be viewed on the single workstation. The database is not shared.
Multiple workstation installer executable Intended to operate multiple testers and allows remote administration and QC/QA data analysis.	**Pros** Uses a database server providing shared access to configuration, sequences, and results across the local network. Traditional shortcuts are installed. The result data is available to networked PCs. **Cons** Full administrator permissions are required to install and operate the software.

Refer to the selected package's installation guide, a summary is discussed in Appendix A.

1.6   Theory of Operation

This section is a basic discussion on using QT Insite intended to provide a quick overview on working with the software. It is not meant to replace the chapters containing detailed instructions.

1.6.1 Administration

While not required it is often beneficial to restrict certain functions to authorized personnel by creating distinct user accounts. For example, the creation of test sequences might be reserved only for a test engineer; that user would have 'Normal' permissions. A user whose role is to run the tests would be 'Run Only'.

1.6.2 Test-Station Configuration

The vast majority of sites will have a simple setup with a single test-station. You have a single *System Configuration* (see section 3) that will not change over time.

Other sites may have two or more test instruments with different capabilities depending on the DUT; the test-station user is expected to select among different configurations depending on the test criteria.

The multi-station model requires proper planning, so each station's instrument configuration is effortlessly loaded. When the instruments are directly connected to the PC then with care the configuration settings are identical across all test-stations. For example, when using RS232 use the same COM port setting for all the PCs; when using directly connected Ethernet then again identical configuration settings can be used. When using network attached instruments then it may be helpful to have station specific user accounts that are configured to select a specific system configuration.

See section appendix B for configuration examples.

1.6.3 Test Operation

The user creates one or more test sequences to fulfill electrical verification requirements. A sequence is then run on the configured HIPOT tester. The result details can be immediately evaluated, printed, or exported; the results can be accessed later if desired.

Persistent Configuration and Sequence

When a user logs out the present system configuration and active test sequence are preserved. The next time the user logs in the information is restored. See section 9.1.1 for information on pre-configuring limited access users.

2 Quick-Start

2.1 First Time Operation

The first time the application is run the 45 day trial period starts.

The user will be prompted to create the primary administrative account as illustrated:


Note you can click on the eyeball icon to view the password characters.

Figure 2-1 Creating the primary user account

Choose wisely and remember the credentials; this account cannot be changed and cannot be deleted. Enter the desired user name and a secure password, then click on the **Create Account** button. If the user name or password do not comply with the format rules from the glossary the button press will be silently ignored.

2.2 Database Server Configuration

When you setup the multi-workstation environment you will have to configure the database server name on each client workstation. When the software first starts this message appears:
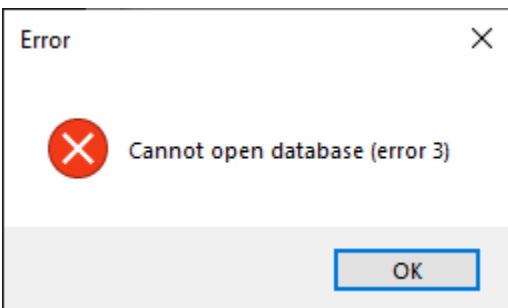
Use the button in the lower left corner to configure the server, clicking the button launches a dialog to enter the shared server name. Use the dialog's **Validate** button to verify access to the named host:
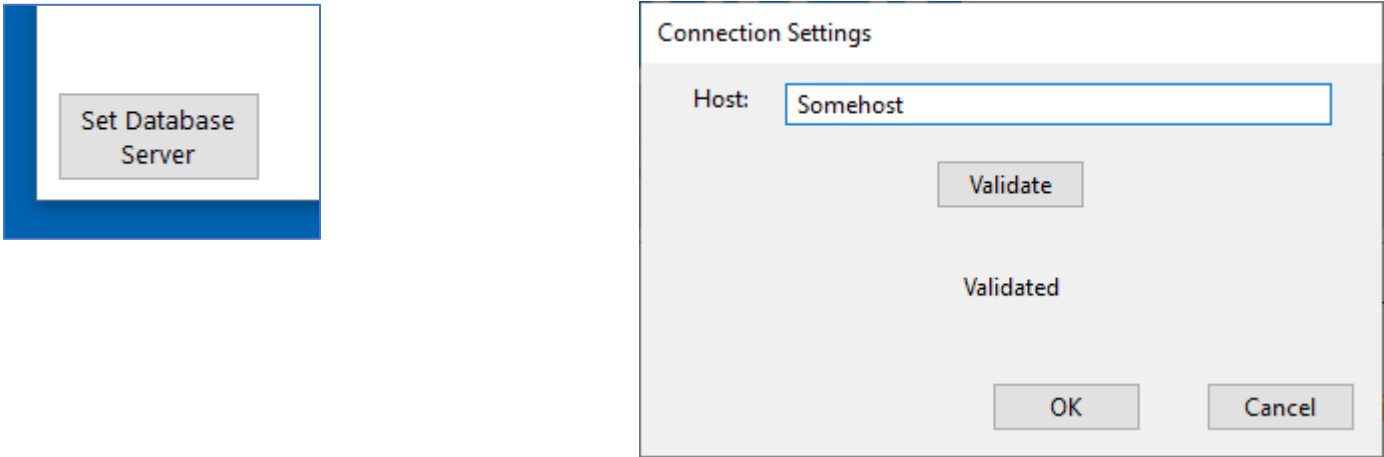
Figure 2-2 Database Server Setting

2.3 Registration Notifications

After a user logs in the registration status is checked. If the trial period is ending or has expired a notification dialog pops up as illustrated:

Registration Warning   Registration Error
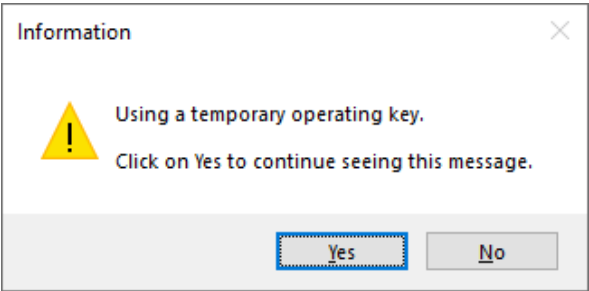
Figure 2-3 Registration Notifications

The option to disable the notification is provided for those users intending to use the software to program sequences directly into the HIPOT tester for execution where test data does not need to be recorded.

3 Main Window View

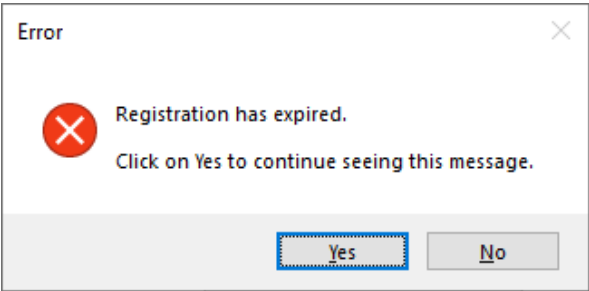The user interface image examples in the following sections presume the user has full administrative access. On the main screen if a user's permissions are limited the function buttons will be grayed out.
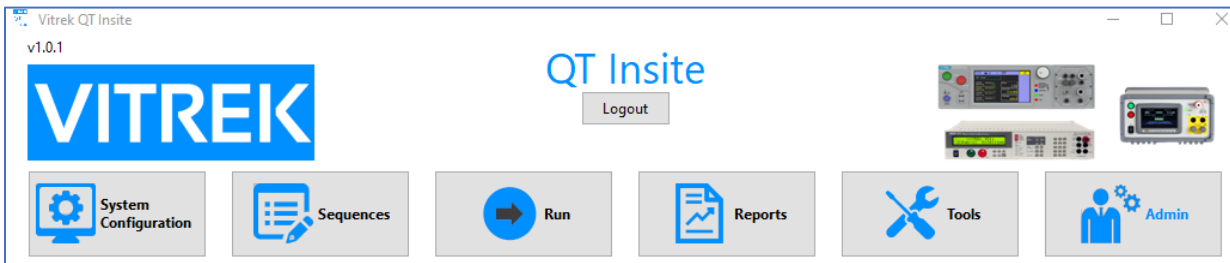
Figure 3-1 Main Window Admin Access

Figure 3-2 Main Window 'Run Only' Access

Each of the main menu buttons launches a function for one of the following activities:

Table 3-1 Menu Summary

Button	Activity
System Configuration	Configure the instrument models and interfaces
Sequences	Created and edit test sequences
Run	Run test sequences
Reports	Browse test result data
Tools	Functions to send data to the HIPOT tester and test the instrument interface
Admin	Maintain users, permission levels, and instrument keys

The following sections detail each activity.

4   System Configuration

Before any testing can commence the HIPOT tester model(s) and interfaces must be specified; in addition there may be high voltage switches involved. This activity provides the mechanisms to configure these settings. What interface to use and how to configure the instrument is beyond the scope of this document; see the instrument user manual for instructions to select and configure the desired interface.

The screen examples that follow were taken from a workstation attached to multiple instruments, hence the variety of listed configuration names.

Changes made to the configuration must be explicitly saved, there is no warning if a setting has been changed and the user loads another configuration or navigates away from this activity.

The screen presents four panes as illustrated:

Figure 4-1 System Configuration Presentation

Table 4-1 System Configuration Panes

Pane	Description
Configuration List	Shows a list of your existing configurations and buttons to Save, Delete, and Print those configurations.
Instrument	Selects the HIPOT tester, QT Insite supports the 95x series, 98x series, and V7x series.
Tester Interface	Configures the interface to the tester.
Switch Matrix Units	Configures optional switches.

4.1   Configuration List

Configurations can have a name that is useful to the user. As the example image shows the names are a combination of the instrument model and the interface used. By clicking on a name the configuration will be loaded, the buttons can be used to save, delete, and print the selected configuration.

4.2   Instrument

This section is used to select the configuration's HIPOT instrument. Use the pull-down to select the proper HIPOT tester. If the switch matrix option is enabled the **Switch Matrix Units** pane will repopulate to match the capabilities of the tester.

4.3   Tester Interface

Vitrek's HIPOT testers have a variety of command interfaces that can be used by **QT Insite**. See the manual for your tester to determine the available interfaces. Use the radio buttons to select the interface of choice. For each type a variety of settings will appear as illustrated in the following table.

Table 4-2 Tester Interface Options

Interface	Settings
RS232	COM port name and baud rate
Ethernet	IP Address
USB	Instrument Serial Number
GPIB	Controller number and instrument address

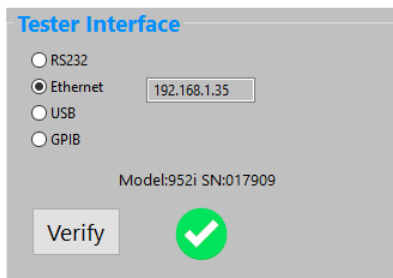Once the settings are configured properly you can use the **Verify** button to confirm the cabling and settings.

Figure 4-2 Interface Verification

4.4   Switch Matrix Units

Configuring switch matrix units presents extra levels of complexity because most models allow at least two command interfaces, and the switch(es) can be interfaced through the HIPOT tester or the desktop PC. It is important to remember that the switch configuration is coupled to the test sequences; when you save a test sequence with switch steps some information is carried from the configuration.

Generally the section looks like:
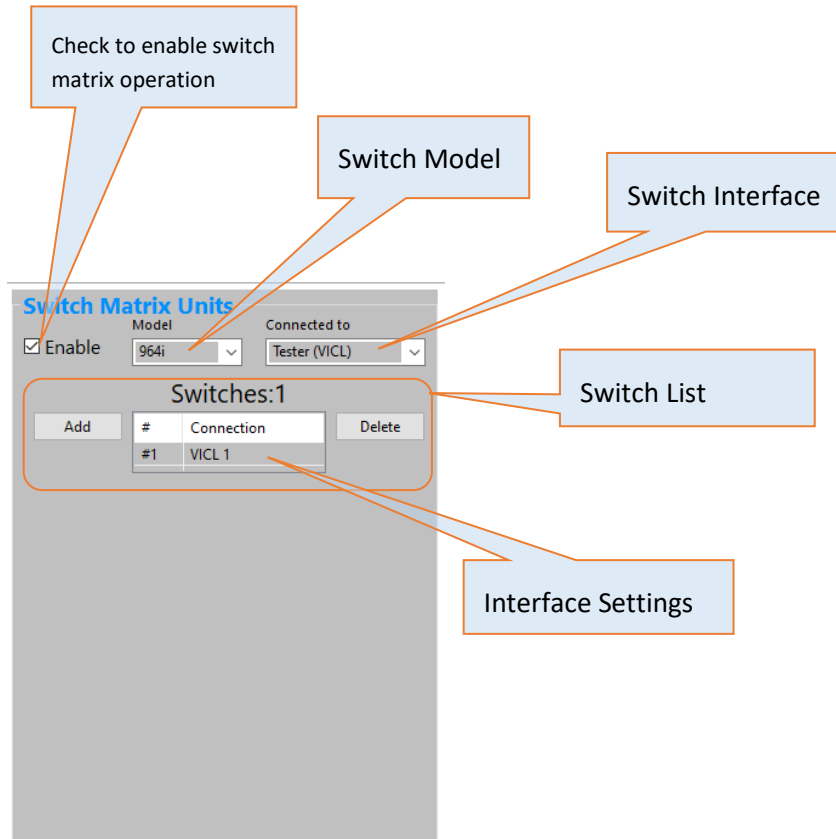
Figure 4-3 Switch Configuration Pane

It is generally a better solution to interface the switch through the HIPOT tester as it removes extra cabling from the PC to the DUT area. If the feature is not enabled then the model and interface settings are not visible.

When the switch model is changed the 'Connected to' setting will revert to the most common option, when you change the interface setting the switch list to a single switch with default settings.

Switches can be added up to a limit that is a function of the model and interface. The following table lists typical limits for permutations of the model/interface settings.

Table 4-3 Switch Limits

Tester	Switch	Interface	Limit
95x	948i	Tester RS232	1
		PC RS232	256
	964i	Tester VICL	4
		Tester RS232	1
		PC RS232	256
		PC GPIB	29
V7x	V75/V76/V77	Internal	1
	948i	PC RS232	256
	964i	Tester VICL	4
		PC RS232	256

You can mix the switch interfaces when using the computer.

When the switch is configured to be interfaced to the PC click on the connection settings to change the configuration. A dialog appears that looks like:

Figure 4-4 Switch Interface Options

The connections shown are specific to the switch model and may be different depending on the switch model. You can use the **Verify** button to test the connection.

See appendix B for configuration examples.

5   Sequences

This activity is used to manage the test sequences.

The screen examples that show test step settings are for illustration only; your levels and limits must be determined according to your requirements.

Changes made to a sequence must be explicitly saved, there is no warning if a setting has been changed and the user loads another sequence or navigates away from this activity.

The screen presents three panes as illustrated:
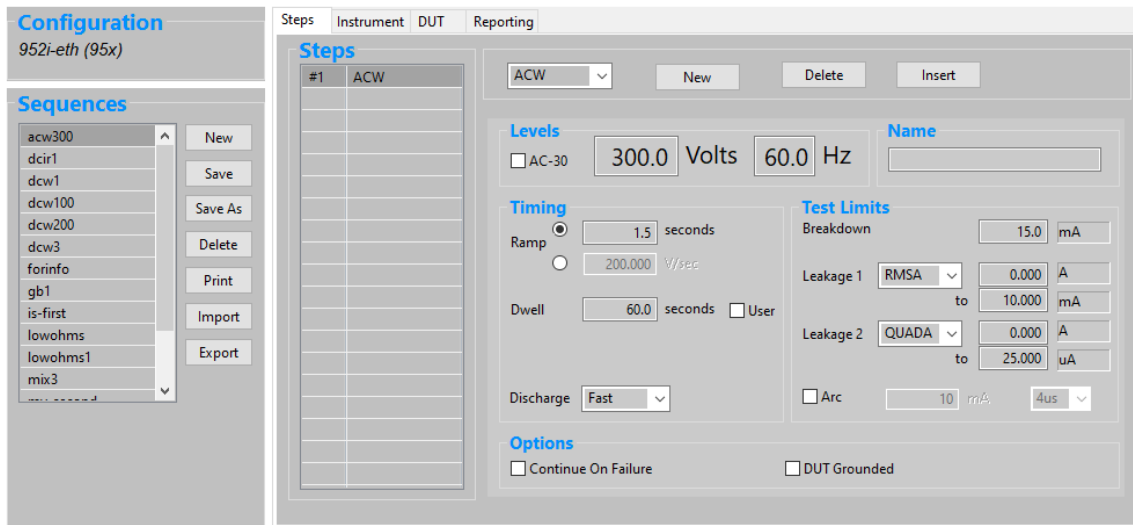
Figure 5-1 Sequence Management Example

Table 5-1 Sequence Configuration Panes

Pane	Description
Configuration	Shows the present system configuration name and tester model.
Sequence List	Shows a list of your existing sequences and buttons to act on the present sequence; the sequence names are sorted alphabetically.
Sequence Settings	Encompasses all settings for the sequence.

5.1   Sequence Management

To the right of the sequence list are buttons to manage the sequences.

New   Prepares a blank sequence with no steps and default settings.

Save   Saves the active sequence.

Save As   Saves the active sequence to a new name.

Delete   Deletes the active sequence and loads the first named sequence.

Print   Print the active sequence.

Import   Imports a sequence from **QT Pro**, **QT Enterprise**, or **QT Insite**. Appendix F discusses the specifics when importing from a legacy QT product.

Export   Exports the active sequence in the QT Insite format, note if there is a report banner image it will not be exported.

When naming sequences the name must be unique. This even applies across multiple instrument models. For example if you are operating both a 951i and a V104 you cannot use the 'test-1000V' for a V104 sequence if you have already used it for the 951i.

5.2   Sequence Settings

There are four sections comprising all sequence settings, each in a separate tab. Some settings apply to the tester model, other settings configure how the sequence is processed and how to handle the test results.

Table 5-2 Sequence Setting Tabs

Tab	Description
Steps	Provides for editing the test sequence.
Instrument	Configures the instrument settings that will apply to the entire sequence.
DUT	Configures behavior that applies to the Device-Under-Test.
Reporting	Settings for auto-export, printing, and detail level.

5.2.1 Steps

This tab provides the functions to modify the test steps. The following figure illustrates the primary elements involved in step editing:
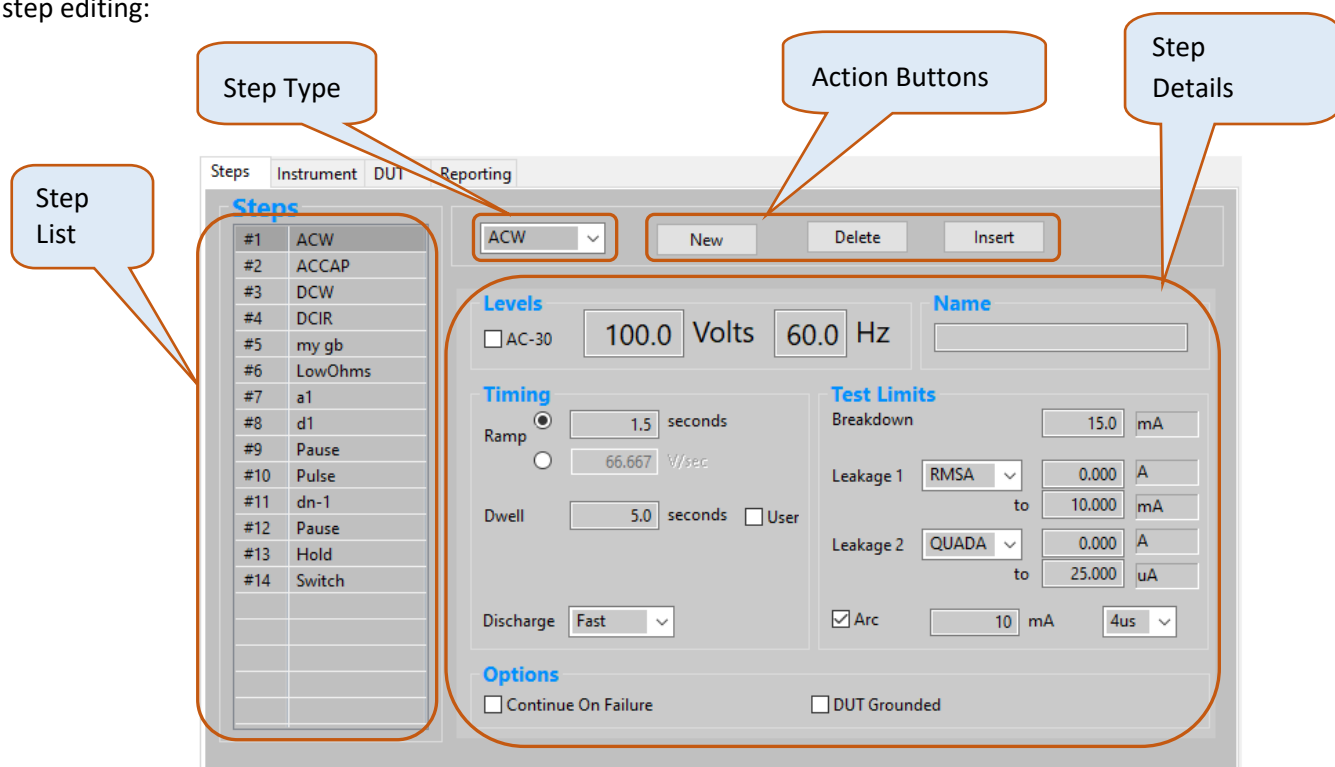

Figure 5-2 Step Editing

The *Step List* allows quick access to the specific steps. The step label will use the optional name, otherwise it uses the step type. The *Step Type* dropdown selects the specific test type. The Action Buttons perform the following:

New	Inserts a copy of the selected step at the end of the sequence.
Delete	Deletes the selected step.
Insert	Inserts a copy of the selected step directly below the selected step.

Figure 5-3 Step Details

This section discusses settings common to all step types and the steps common to all instruments. For information about the electrical safety type steps refer to the instrument manual.

5.2.1.1 Step Names

Each step can have an arbitrary name. This name is manifested in these ways:

- Replaces the step type name in the lists on the screen
- Prefixes the step information in the formatted reports
- Prefixes the step information when printing the test sequence

5.2.1.2 Electrical Test Settings

Many of the test settings mostly associated with limits have a large dynamic range. These limits are often expressed in the form of a numeric value followed by a units suffix with a range modifier. Take, for example, the leakage limits for the 95x ACW test type:

Figure 5-4 Limit Settings Example

By double clicking on the units suffix you can shift the SI units prefix.

5.2.1.3 Pause and Hold Steps

The user experience when configuring and running these steps is identical except for the **Continue** button when running the hold type step.

Setting	Description
Time	The time limit.
Image	An optional image shown on the test execution screen while the step is running. In particular for a hold type the image
Text	Text shown on the test execution screen while the step is running; depending on the tester model the same text may be displayed on the tester's front panel display.

5.2.1.4 Switch Step

This step is informed by the system configuration. Note that if you create a switch step for a configuration with 4 switches, then come back later with different switching configuration the step will be modified to match.

Depending on the switch model the step editor presentation will differ as illustrated below:

948i/964i – Organized around banks   V75/V76/V77 – Organized by sub-type

Figure 5-5 Switch Step Editing By Model

Depending on the tester model and switch interface the pre and post delay settings may not be available.

5.2.2 Instrument

See appendix B for your specific tester.

5.2.3 DUT

This section configures the requirements and actions associated with the **D**evice **U**nder **T**est: model, serial number requirements, and workflow.

Figure 5-6 DUT Configuration Settings

5.2.3.1 Model

If the sequence is used for a single model #, enter that and it will be recorded with each test result set.

If you require a model before running the test check 'Require Model To Run'.

5.2.3.2 DUT Serial Numbering

There are three checkboxes involving the DUT numbering:

1) If you want the sequence to start if you type <Enter> in the serial number box (as when you scan a barcode label) check the first box.
2) If you require serial numbering check the 'Require Serial # To Run' box and provide a length setting. A length of 0 (zero) allows any length one or greater.
3) If you are using model and serial numbers check the third box.

5.2.3.3   Model Mapping

QT Insite provides a workflow automation feature where upon entering a model number a specific sequence is loaded. Refer to section 6.3 on how the mapping loads the assigned test sequences. To create the model/sequence mapping enter a model name in the empty box and press <Enter>. If the model name is valid it is added to the list. If the model is already on the list a warning is displayed, for example:
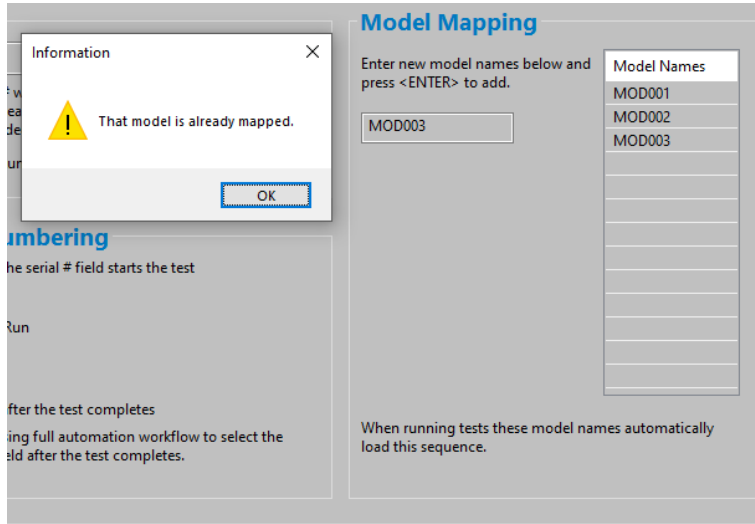

Figure 5-7 DUT Model Mapping Already Mapped Warning

If the model has already been mapped toa different sequence an option is provided to remap the model:
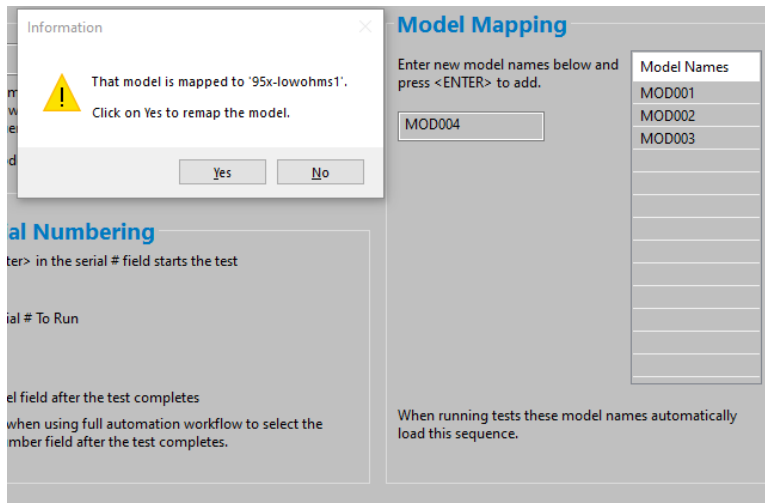

Figure 5-8 DUT Model Mapping Remap Warning

Click on Yes to remap the model.

If you save the sequence using the **Save As** button the model map will not be copied.

5.2.4 Reporting

When a test sequence has completed the software can produce any or all of the following:

- A printed report upon failure
- A printed report upon success
- A CSV data file upon failure
- A CSV data file upon success
- A formatted report in a PDF file upon failure
- A formatted report in a PDF file upon success

5.2.4.1 Report Formatting

The formatted reports will be structured using one of five detail level settings:

Table 5-3 Report Detail Levels

Level	Description
Brief	Uses a single line per step showing the basic settings and a pass/fail indicator.
Normal	Adds the most relevant measurements and associated limits.
Full	Adds all measurements.
Full+Charts (wide)	Like the 'Full' level plus data charts organized horizontally.
Full+Charts (tall)	Like the 'Full' level plus data charts organized vertically.

See appendix D for example reports in the various formats.

5.2.4.2 Formatted Report Heading

The top portion of each printed page or pdf has an optional logo, a text block listing text information, and a page number. The text information shows:

- A title stating the instrument series
- The DUT model as entered by the user
- The DUT serial number entered by the user
- The logged in user name
- The date and time the test started
- The instrument model and serial number
- A summary statement: 'Passed all tests' if all steps passed, or 'FAILED' if a failure was detected

Each test sequence can use a specific banner image. The suggested size is 910 x 260 pixels, most images that maintain a 3.5:1 aspect ratio can work. When a banner image has not been loaded a default banner is used, see section 9.3 to learn about the default banner image. Select a banner image by double-clicking on the blank area and browse to a valid image; if you already have an image you can remove it by double-clicking on the image itself.

5.2.4.3 Automatic Outputs

The automatic outputs are configured using settings illustrated with this example screen image:

Figure 5-9 Test Report Options

5.2.4.3.1 Printing Test Results

Automatically printed reports will always use the system default printer. You can choose to print the results when the sequence passes, fails, or always. You can choose to print more than one copy.

5.2.4.3.2 Saving Test Results

When saving tests results to a file a fully qualified path is required. The file name portion can contain optional substitution fields listed below:

Table 5-4 File Name Field Substitution Codes

Field code	Description
$M	Replaced with the model as entered by the user when the test started, where the model was not entered a bank is used.
$S	Replaced with the serial number as entered by the user when the test started, where the model was not entered a bank is used.
$D	Replaced with the test date as YYYYMMDD.
$T	Replaced with the test time as HHMMSS.

When any 'Auto-Save' option is selected a valid path to a file name is required - with or without field substitutions.

If the 'Include Step Header' option is checked an instrument specific step heading is included in the CSV file, the header precedes the step details

If the final CSV file name already exists the results will be appended to the file; if the final PDF file exists it will be overwritten.

See appendix E for information on the instrument specific CSV file formats.

6   Run

This activity runs previously created test sequences using the active system configuration. Having prepared the configuration and sequence connections are established to the instruments and the tester registration key is validated; the process includes HV switches configured to be operated by the workstation. The display will appear similar to the following figure:
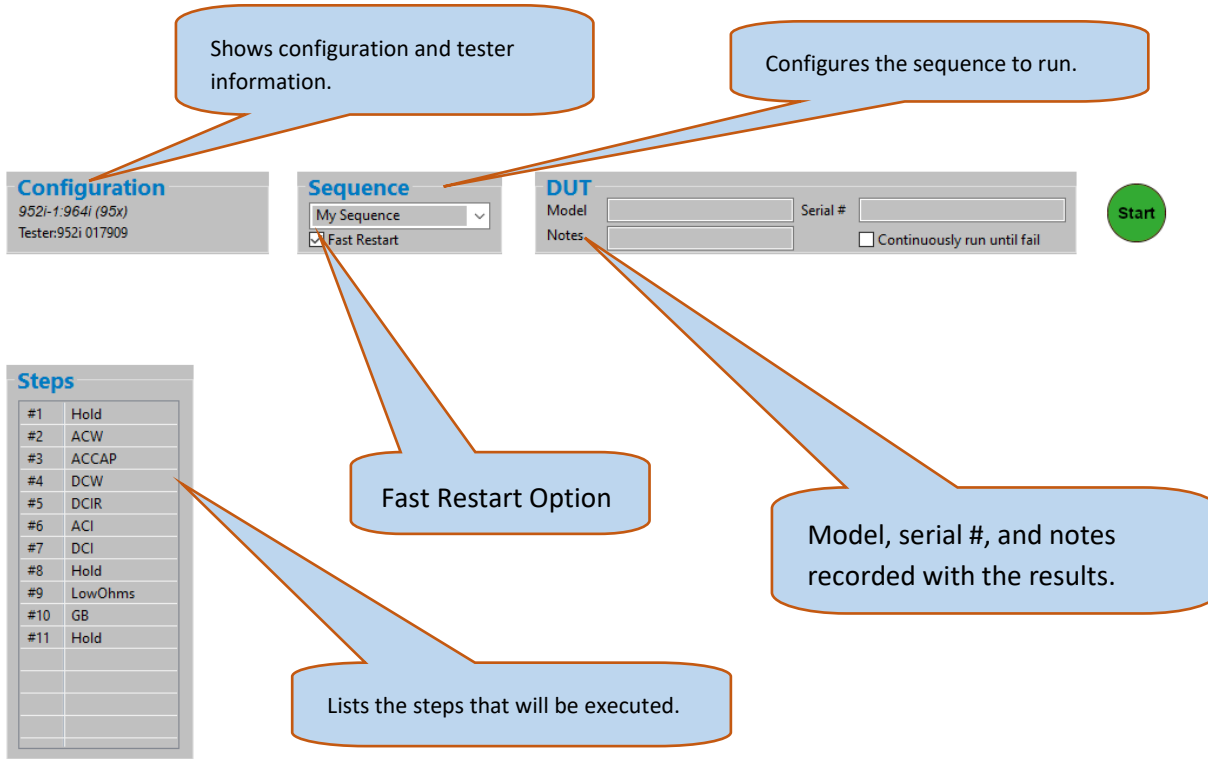
Figure 6-1 Run View Elements

The **Sequence** box shows the active-sequence; if the user's permissions allow the operator can chose the sequence to execute using the dropdown. The 'Fast Restart' option allows for faster starting once the instrument has been configured with the selected sequence.

The cursor is placed in the DUT model text box since most users track model information.

The symbol in the upper right corner of the area indicates the ready status:

Table 6-1 Run Status Indicator

Indicator	Description
Start	The software is ready to run the sequence. The button will change to Stop when the sequence is running. Click this to start the sequence.
	The connected instrument does not have a valid registration key.
	One or more connections could not be established. After correcting the fault(s) you can double click the symbol to prepare the connections.

6.1   Running the Sequence

When the sequence is ready the list of steps is shown on the left side. Click on the green button to start the sequence. As the sequence is loaded the instrument validates the settings; an error in the sequence is illustrated in the following example:

Figure 6-2 Sequence Error Example

In the event the system switch configuration does not match the test sequence an error will be shown and the sequence will not start.

When a sequence starts the display has the following symbology:
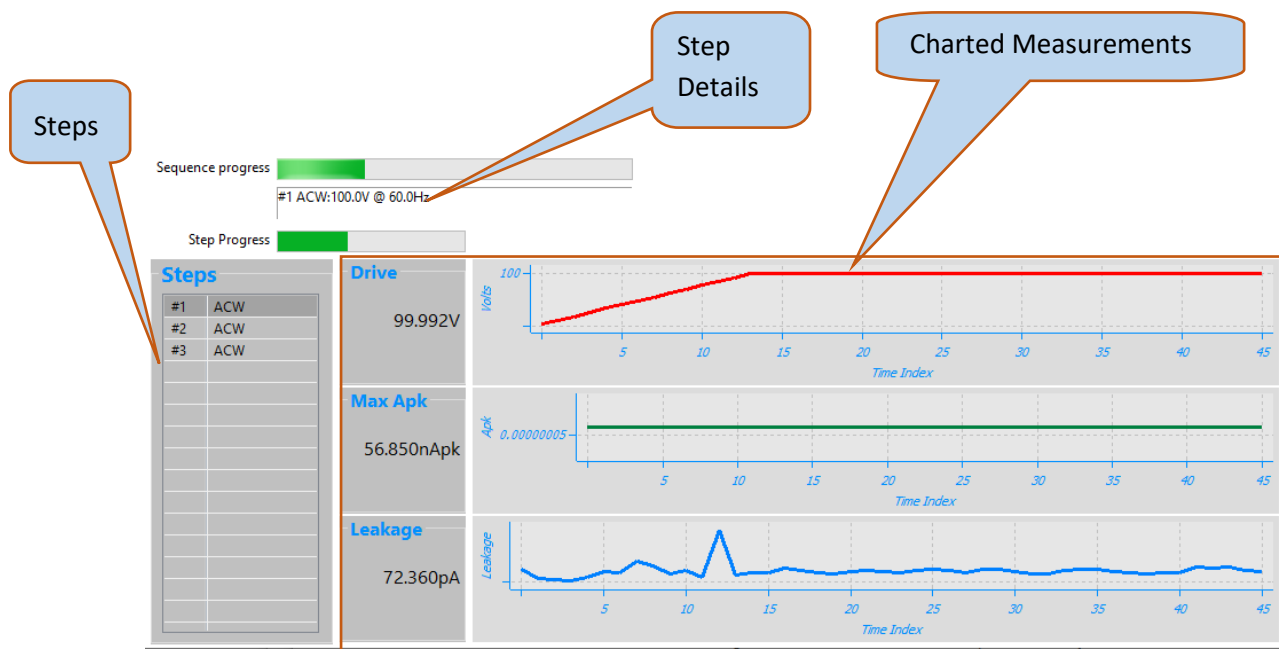
Figure 6-3 Test Execution Display Symbology

6.2   Examining the Test Results

When the sequence completes the symbology in the center will change:
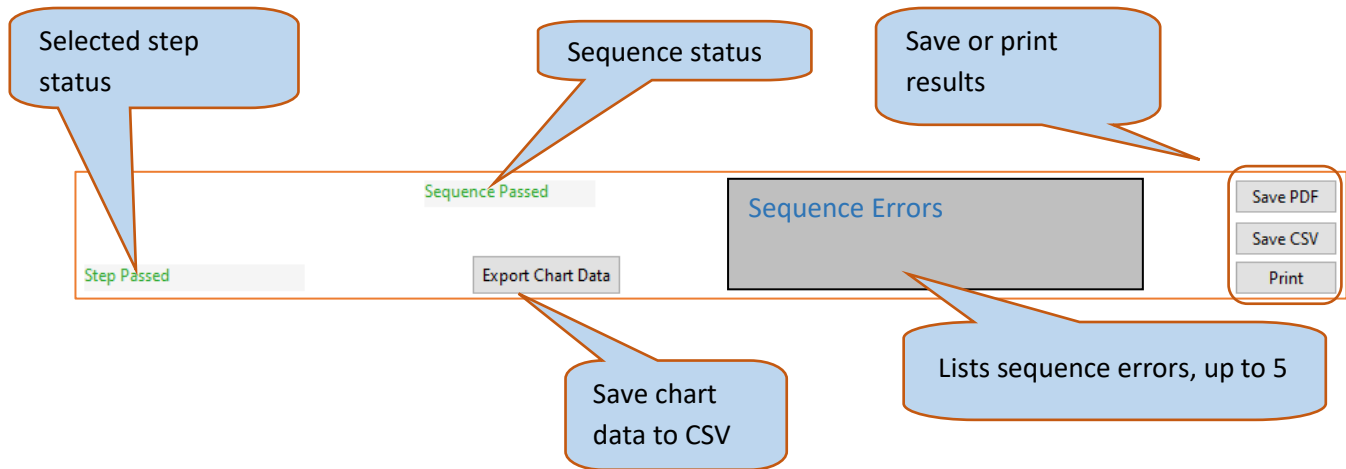
Figure 6-4 Test Completion Symbology

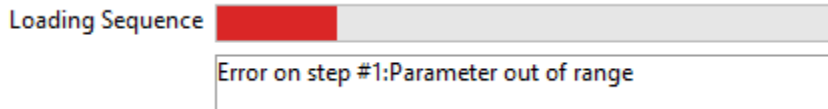Steps with an error will be shown using Red text in the list. A specific step can be selected by clicking on its label in the left side step list. The saved PDF and printed report will use the configured detail discussed in section 5.2.4.1. 5 errors

6.2.1 Continuously Running

You can check the box labeled 'Continuously run until fail' to do just that.

6.3   Workflow Automation

Integration with a barcode scanner provides the one or both of the following automation features:

- Sequence selection through a model string
- Serial number registration with optional sequence start

See section 5.2.3 for details on configuring workflow behavior.

The intent is to speed production testing by removing the need for the test operator to enter DUT specific information, instead relying on labeling native to the item being tested.

6.3.1.1 Sequence selection

As discussed in section 5.2.3.3 you can use the DUT-Sequence mapping such that when you enter a string into the **Model** field the model will be searched and if a sequence matches it will be loaded. If the model cannot be matched there is no notification. After entering a model the **Serial #** field is selected.

6.3.1.2 Working with model and serial numbers

The QT Insite software provides flexibility to adapt to your workflow. You can use model numbers, serial numbers, or both.

7   Reports

Use this activity to view past test results. When the software first starts the query parameters are set to show the present day with no additional filters, the following figure is an example of the display:

Figure 7-1 Example Reports Display

7.1   Query Filters

The query results can be filtered using any or all of the following fields.

Test   Filter on the test sequence name. You can select from the existing names or enter a blank to remove the filter.

From/To   Select a date range for the query.

Pass/Fail   Filter on one or both final conditions.

DUT Model   Filter on the DUT model name.

User   Filter on the user that performed the test.

→
Serial #   Filter on a range of serial numbers. The range comparisons use ASCII encoding. Wildcards in the form of an asterisk (*) can be used. When a wildcard is used only the
→   first field is used for matching.

Tester Model   Filter on a specific tester model.

Tester #   Filter on a tester serial number.

7.2 List Actions

These buttons act on the query results.

Query   Click on this after changing the filters to update the query results.

Export   Opens a file dialog to save the query results in a CSV formatted file.

Delete   Deletes the result data. Note there is no undo from this step.

The first six columns can be clicked to change the sorting criteria and order.

When a test record is selected by clicking on a row the display will be filled with charts of the selected test step's measurement data and action buttons as illustrated below.
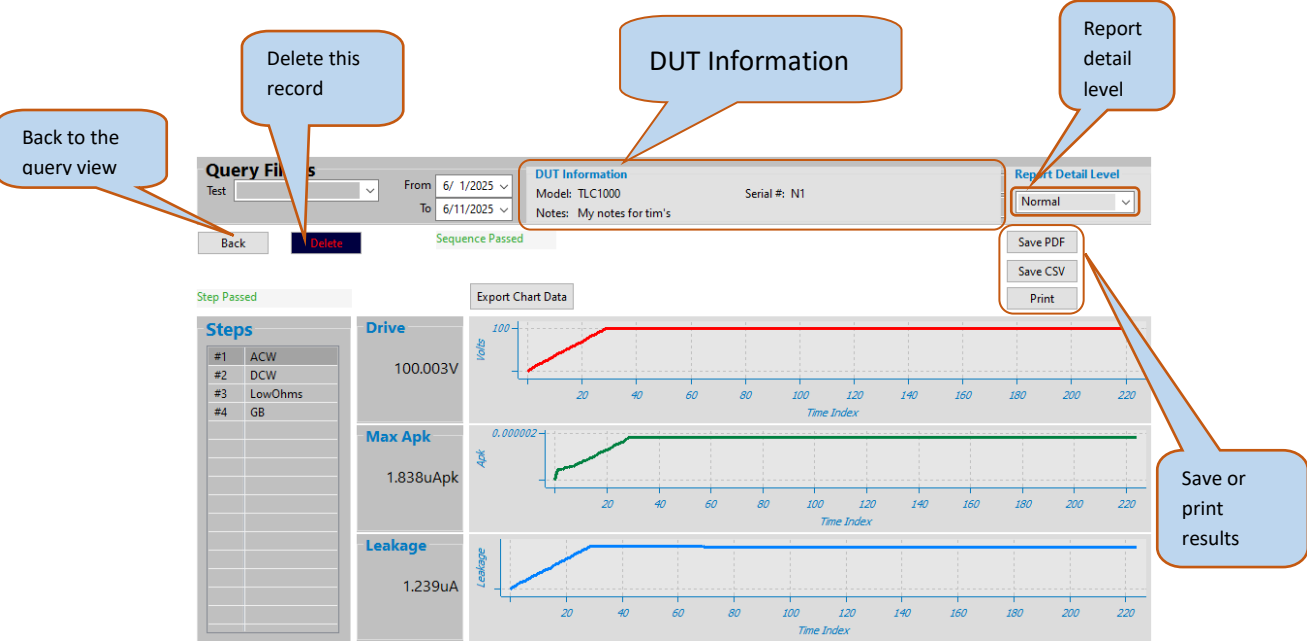
Figure 7-2 Test Report Details

8 Tools

This area provides functions that communicate with Vitrek test instruments as discussed in the following sections.

8.1 Send File to the Instrument

Some Vitrek instruments can be updated by downloading a firmware image. The present system configuration is used to make a connection. See the instrument's page on Vitrek.com for further information.

8.2 Save Sequence in the Instrument

Use this mechanism to store sequences in the instrument for stand-alone operation; note that the general instrument settings are configured as well. For example: If your sequences in the instrument are using a switch matrix and the sequence you stored does not have switching enabled then the sequences in the instrument will malfunction.

8.3 Command/Response Tool

This feature is used to connect directly to the instrument. It is most often used for these reasons:

- Diagnosing communication errors
- Verify the instrument model and serial number
- Query instrument configuration

9 Admin

This activity is used to configure system level items such as the user list, access levels, and license keys.

In particular you will need at least one registration key to run the software beyond the trial period.
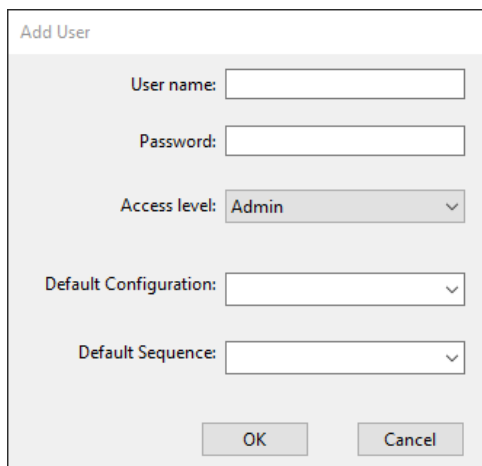
The software provides an access control system allowing the test site to finely tune the set of activities permitted by a named user. Typically this feature bisects the users into managers and operators where the former individuals prepare the test sequences, and the latter run them. This user system is completely separate from the operating system user accounts.

9.1 User List

On the left side of the display is a list of the users. There will always be the main administrator. The list shows the user name and access level. Clicking on a name brings up a dialog showing the user record; clicking on the **Add** button brings up the same dialog with empty fields.

9.1.1 User Settings
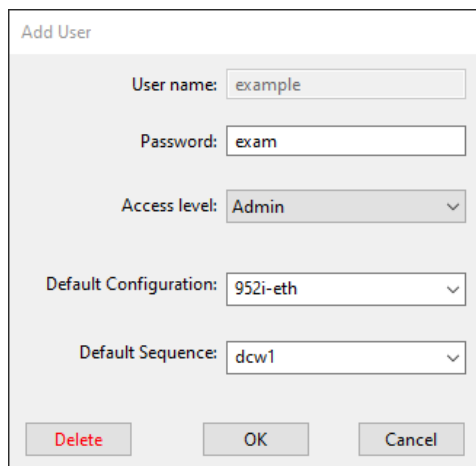
Adding a User   Editing a User

Figure 9-1 Add/Edit User Settings Dialog

The user name is not case sensitive, must be at least between 3 characters long, and must have at least one alphabetic character; the password is case sensitive, must be at least 3 characters long, and must have at least one alphabetic character.

The **Access Level** is discussed in the following section.

The Default Configuration and Default Sequence allow for a 'Run Only' user to be configured when they otherwise don't have the ability to change the settings.

9.2 Access Levels

An access level is comprised of a set of 12 permissions designed to allow fine control over a given user's responsibilities.

There are three built-in levels:

Table 9-1 Run Status Indicator Levels

Level	Description
Admin	The level assigned to the main user with no limitations.
Normal	This level does not have administration access and cannot delete report data.
Run Only	Uses an assigned configuration to select and operate test sequences.

This table describes the permission flags:

Table 9-2 Run Status Indicator Permissions

Permission	Description
Administration	Allows access to the Administration activity.
Create/Edit Configuration	Allows the user to create and edit system configurations.
Test Communications	Allows the user to test instrument communications.
Create/Edit Sequences	Allows the user to create and edit test sequences.
Select Configuration	The user can select among the system configurations.
Run the Command/Response Tool	Allows running the command/response tool.
Select Sequence	Allows the user to select the test sequence to run.
Run Test	Allows the user to run a test sequence.
Save Sequence in Tester	The user can save sequences to the tester.
Send File to Tester	The user can send a file to the tester.
View Reports	The user can view the reports.
Delete Reports	The user can delete reports.

9.3   Default Report Banner

As illustrated in Appendix D the printed PDF reports allow for a logo in the upper left corner. The default banner is used when the test sequence does not have a specific banner. You can delete the banner if you wish the banner area on the report to be blank.

It is recommended that the image be 910x260 pixels or at least maintain an aspect ratio of 3-to-1.

9.4   Instrument Keys

To operate the software beyond the 45 day trial period an instrument specific key is required. The keys can be purchased through the Vitrek online store or by contacting customer service. The key is an ASCII character string often emailed or included in a text file on a USB flash drive with the instrument. Purchased keys are valid for the lifetime of the instrument. In the event the instrument is replaced a matching key is issued at no cost. Under rare circumstances an instrument may have an expiration date; for example when conducting an extended trial period.

The key must be installed into the software. You use the **Add** button in the *Registered Keys* pane, illustrated below:
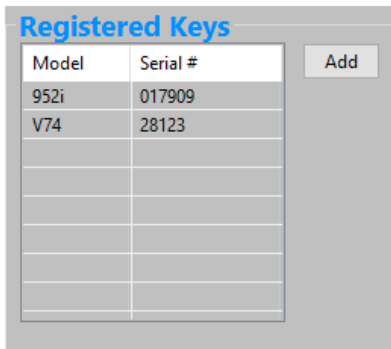
The list shows your installed keys. If the key has expired it will be shown using Red text.

Figure 9-2 Registered Keys Example

When adding a key paste the character string into the blank space at the top of the dialog:
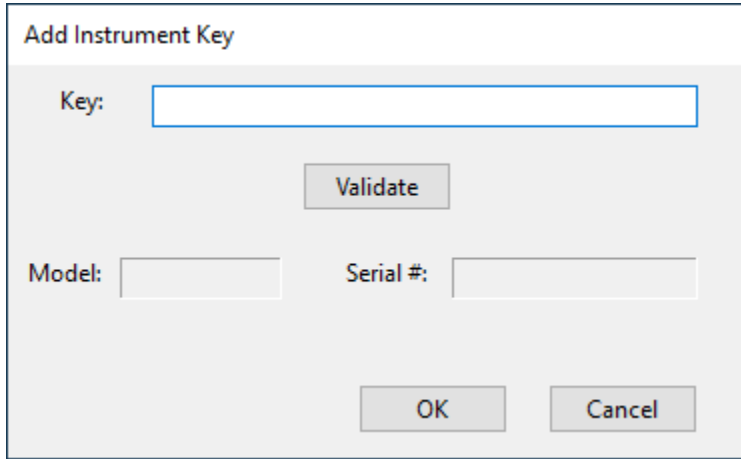
Figure 9-3 Add Instrument Key

Then click on **Validate**. The instrument model and serial number will be shown. Click on **OK** to install the key.

A. Installation

This section is intended to provide a brief overview of the different QT Insite installers. It is not meant to replace the installation guide associated with the selected package.

Single workstation Zip

You only need account permissions to write files to a selected directory. Extract the zip in a convenient directory, run *make_shortcuts*, and launch the software.

Single workstation installer executable

Depending on site user account settings you may not need full administrator privileges. Run the installer executable, give permission to the software to operate. When the installer completes a shortcut is available on the desktop, run the shortcut to launch the software.

Multiple workstation installer executable

The user account installing and operating the software must have full administrator privileges. Run the installer executable, give permission to the software to operate. You are then prompted if you wish to install the database server, answer accordingly:

> **Yes**   If the PC is to host the shared database
>
> **No**   If the shared database is elsewhere

When the installer completes a shortcut is available on the desktop, run the shortcut to launch the software. You will have to configure the database server if you choose **No** above.

B. Configuration Examples

The number of possible system configurations is immense, only a few examples of the most common setups are illustrated here.

95x connected via RS232   **Configuration Settings**

Instrument

95x

Tester Interface
- ◉ RS232   COM3   115200
- ○ Ethernet
- ○ USB
- ○ GPIB

Verify

Switch Matrix Units
☐ Enable

95x connected via direct Ethernet with four 964i's controlled via VICL   **Configuration Settings**

Instrument

95x

Tester Interface
- ○ RS232
- ◉ Ethernet   192.168.1.35
- ○ USB
- ○ GPIB

Verify

Switch Matrix Units

	Model	Connected to
☑ Enable	964i	Tester (VICL)

Switches:4

Add	#	Connection	Delete
	#1	VICL 1	
	#2	VICL 2	
	#3	VICL 3	
	#4	VICL 4	

95x connected via GPIB Ethernet with six 964i's controlled via GPIB

Configuration Settings

Instrument

95x
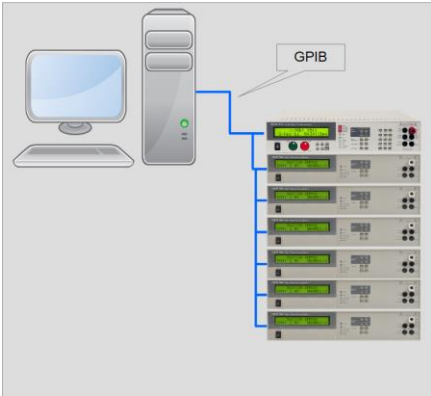
Tester Interface

- ○ RS232
- ○ Ethernet
- ○ USB
- ● GPIB   Controller [0] ⇅   Address [1] ⇅

[Verify]

Switch Matrix Units

☑ Enable   Model [964i ▾]   Connected to [Computer ▾]

Switches:6

[Add]

#	Connection
#1	GPIB 0:2
#2	GPIB 0:3
#3	GPIB 0:4
#4	GPIB 0:5
#5	GPIB 0:6
#6	GPIB 0:7
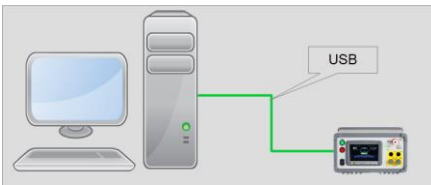
[Delete]

V7x connected via USB

Configuration Settings

Instrument

V7x

Tester Interface

- ○ RS232
- ○ Ethernet
- ● USB   [28123 ▾]
- ○ GPIB

[Verify]

Switch Matrix Units

☐ Enable

V7x connected via USB with a 964i controlled via VICL

Configuration Settings

Instrument

V7x

Tester Interface

- ◉ RS232 COM4 115200
- ○ Ethernet
- ○ USB
- ○ GPIB

Verify

Switch Matrix Units

☑ Enable   Model: 964i   Connected to: Tester (VICL)

Switches:1

Add	#	Connection	Delete
	#1	VICL 1	

C. Instrument Settings

Each Vitrek HIPOT tester has a specific set of settings that apply the entire sequence. This section briefly discusses each supported model; refer to the instrument's user manual for complete details.

95x Series Settings

Enable Tester START	Allows the sequence to be started with the tester's START button.
Arc Detect Only	Allows for arc detection but selects that arc does not cause an error.
Enable Minimum loading in DCW and DCIR	Enables the feature that detects that there is a minimum load attached during DCW or DCIR type test steps. Each DCW and DCIR test step may be individually configured for minimum loading detection as needed.
Check Chassis Continuity	Enables continuity sensing during ACW, DCW, and DCIR test types.
Enable HV Safety Trip	Enables detection of excessive HV terminal current in high voltage test step types.
Maximum DCW/DCIR Discharge	Configures the maximum current which will be allowed when discharging the load at the end of DCW and DCIR test types.

V7x Series Settings

AC Frequency	Configures the test frequency for ACW and GB steps, only values of 50 or 60 are supported.
Ramp Down	Configures the Ramp Down setting.
Arc Detect	Enables Arc detection at a specified level in milliamps.
On Fail	Selects if a sequence should continue or stop if a failure occurs.
IR End On	Configures the *IR End On* setting.

D. Example Reports

This section uses a DCW test step to illustrate the five report formats.

Brief

Vitrek QT Insite 95x Test Report   Page 1
DUT Model: Your Model
DUT Serial Number: Your SN
Tested By: tjw on 3/14/25,15:28:42
Instrument: 952i   SN: 017909
Passed all tests

Step #1 ACW @ 100.0V/60.0Hz for 10.0s PASSED

Normal

Vitrek QT Insite 95x Test Report   Page 1
DUT Model: Your Model
DUT Serial Number: Your SN
Tested By: tjw on 3/14/25,15:28:42
Instrument: 952i   SN: 017909
Passed all tests

Step #1 ACW @ 100.0V/60.0Hz for 10.0s PASSED
   Breakdown: 55.236nA @ 99.993V (15.000mA limit)
   Leakage #1: RMS 37.702pA to 128.180pA (0.000A to 100.000uA limits)
   Leakage #2: QUAD -3.122pA to 97.212pA (0.000A to 25.000uA limits)

Full

Vitrek QT Insite 95x Test Report   Page 1
DUT Model: Your Model
DUT Serial Number: Your SN
Tested By: tjw on 3/14/25,15:28:42
Instrument: 952i   SN: 017909
Passed all tests

Step #1 ACW @ 100.0V/60.0Hz for 10.0s PASSED
   Ramp: 1.5s, Discharge: Fast
   Breakdown: 55.236nA @ 99.993V (15.000mA limit)
   Leakage #1: RMS 37.702pA to 128.180pA, Avg:70.058pA, Final:44.055pA (0.000A to 100.000uA limits)
   Leakage #2: QUAD -3.122pA to 97.212pA, Avg:41.310pA, Final:15.664pA (0.000A to 25.000uA limits)

Full+Charts (wide)

Your Logo Here

Vitrek QT Insite 95x Test Report   **Page 1**
DUT Model: Your Model
DUT Serial Number: Your SN
Tested By: tjw on 3/14/25,15:28:42
Instrument: 952i   SN: 017909
Passed all tests

Step #1 ACW @ 100.0V/60.0Hz for 10.0s PASSED

Ramp: 1.5s, Discharge: Fast
Breakdown: 55.236nA @ 99.993V (15.000mA limit)
Leakage #1: RMS 37.702pA to 128.180pA, Avg:70.058pA, Final:44.055pA (0.000A to 100.000uA limits)
Leakage #2: QUAD -3.122pA to 97.212pA, Avg:41.310pA, Final:15.664pA (0.000A to 25.000uA limits)

Full+Charts (tall)

Your Logo Here

DUT Model: Your Model
DUT Serial Number: Your SN
Tested By: tjw on 3/14/25,15:28:42
Instrument: 952i   SN: 017909
Passed all tests

Step #1 ACW @ 100.0V/60.0Hz for 10.0s PASSED

Ramp: 1.5s, Discharge: Fast
Breakdown: 55.236nA @ 99.993V (15.000mA limit)
Leakage #1: RMS 37.702pA to 128.180pA, Avg:70.058pA, Final:44.055pA (0.000A to 100.000uA limits)
Leakage #2: QUAD -3.122pA to 97.212pA, Avg:41.310pA, Final:15.664pA (0.000A to 25.000uA limits)

E. CSV File Format
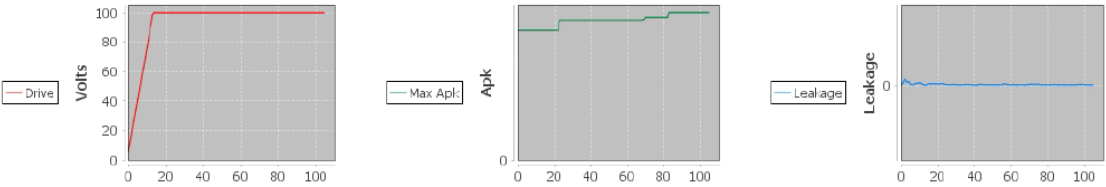
Test results files are saved in a text format using comma separated variable format for the fields, commonly referred to as CSV (comma-separated values).

The results for each test sequence are saved as a series of lines, the first line is always a HDR format line and the last is always an END format line. Between the two lines is one line for each defined step of the sequence containing the results for that step.

95x File Format

Every line contains 34 fields as follows (if a field is not defined for the specific line type then it is blank).

HDR Format (First Line)

1. The type of line (HDR).
2. An integer number defining the overall status of the sequence. Consult the 95x Operating Manual - Test Step Status Flags for information regarding this data.
3. The DUT Model # as specified in the sequence or entered by the user.
4. The DUT Serial # as specified by the user when the sequence was run.
5. The user name logged on at the time that the sequence was run.
6. The date when the sequence was run.
7. The time when the sequence was run.
8. The tester model # which was used to perform the test.
9. The tester serial # which was used to perform the test.
10. This field contains the tester firmware version which was used to perform the test.
11. The notes entered when the sequence was run.

Column Headers (second Line – optional from settings)

1. The heading for Step Type
2. The heading for Status Flag
3. The heading for Attempted?
4. The heading for Dwell Time (s)
5. The heading for Test Drive Level (V/A)
6. The heading for Actual Drive Level (V/A)
7. The heading for Test Frequency (Hz)
8. The heading for Breakdown limit (A)
9. The heading for Highest breakdown current
10. The heading for Primary (1st) Check Type
11. The heading for 1st Max Limit (V/A/Ω)
12. The heading for 1st Min Limit (V/A/Ω)
13. The heading for Highest 1st check (V/A/Ω)
14. The heading for Lowest 1st check (V/A/Ω)

15. The heading for Average 1st check (V/A/Ω)
16. The heading for Last 1st check (V/A/Ω)
17. The heading for Second Check Type
18. The heading for 2nd Max Limit (V/A/Ω)
19. The heading for 2nd Min Limit (V/A/Ω)
20. The heading for Highest 2nd check (V/A/Ω)
21. The heading for Lowest 2nd check (V/A/Ω)
22. The heading for Average 2nd check (V/A/Ω)
23. The heading for Last 2nd check (V/A/Ω)
24. The heading for ARC limit
25. The heading for ARC Time
26. The heading for Max ARC
27. The heading for Min ARC
28. The heading for Average ARC
29. The heading for Last ARC

Step Results

If a field does not apply to a given test type, a blank is placed.

1. The type of test step (DCW, ACW, DCIR, GB, LOWOHMS, GNDLEAKAGE, BRKDN, PAUSE, HOLD, PULSE or SWITCH).
2. An integer number defining the status of the specific step. Consult the 95x Operating Manual - Test Step Status Flags for information regarding this data.
3. Contains a Y if the step was attempted or N if it was not. Note: If the step was not attempted then all measurement result fields are blank.
4. The configured test dwell time for this step (in seconds); if the dwell is time is set for user termination than the actual dwell time then the cell contains the actual time interval.
5. The configured test drive level in Volts or Amps as applicable.
6. The actual final test drive level for this step in Volts or Amps as applicable.
7. The configured test drive frequency for this step in Hz.
8. The configured breakdown current limit (in Amps).
9. The actual highest recorded breakdown current limit (in Amps).
10. The selection for the primary leakage/loading test measurement (either blank, DC, RMS, INPHS, QUAD, DCO, RMSV, INPHASEV, QUADV, RMSO, INPHASEO, QUADO or NONE).
11. The maximum limit for the primary leakage/loading test measurement in Amps, Volts or Ohms as applicable.
12. The configured minimum limit for the primary leakage/loading test measurement in Amps, Volts or Ohms as applicable.
13. The highest measured primary leakage/loading test measurement in Amps, Volts or Ohms as applicable.
14. The lowest measured primary leakage/loading test measurement in Amps, Volts or Ohms as applicable.
15. The average measured primary leakage/loading test measurement in Amps, Volts or Ohms as applicable.
16. The last measured primary leakage/loading test measurement in Amps, Volts or Ohms as applicable.
17. The selection for the secondary leakage/loading test measurement (either blank, DC, RMS, INPHS, QUAD, DCO, RMSV, INPHASEV, QUADV, RMSO, INPHASEO, QUADO or NONE)

18. The configured maximum limit for the secondary leakage/loading test measurement in Amps, Volts or Ohms as applicable.
19. The configured minimum limit for the secondary leakage/loading test measurement in Amps, Volts or Ohms as applicable.
20. The highest measured secondary leakage/loading test measurement in Amps, Volts or Ohms as applicable.
21. The lowest measured secondary leakage/loading test measurement in Amps, Volts or Ohms as applicable.
22. The average measured secondary leakage/loading test measurement in Amps, Volts or Ohms as applicable.
23. The last measured secondary leakage/loading test measurement in Amps, Volts or Ohms as applicable.
24. 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.
25. The configured arc detection time limit (in microseconds). This field is blank if either the specific test step type does not allow for arc detection, or the user disabled it.
26. The highest measured arc test measurement. This field is blank if either the specific test step type does not allow for arc detection, or the user disabled it.
27. The lowest measured arc test measurement. This field is blank if either the specific test step type does not allow for arc detection, or the user disabled it.
28. The average measured arc test measurement. This field is blank if either the specific test step type does not allow for arc detection, or the user disabled it.
29. The last measured arc test measurement. This field is blank if either the specific test step type does not allow for arc detection, or the user disabled it.

END Format (Final Line)

1. The type of line (END). For an END type of line all other fields are always blank.

V7x File Format

Every line contains 13 fields as discussed below.

HDR Format (First Line)

1. The type of line (HDR).
2. An integer number defining the overall status of the sequence. Consult the V7X Operating Manual - Test Step Status Flags for information regarding this data.
3. The DUT Model # as specified in the sequence or entered by the user.
4. The DUT Serial # as specified by the user when the sequence was run.
5. The user name logged on at the time that the sequence was run.
6. The date when the sequence was run.
7. The time when the sequence was run.
8. The tester model # which was used to perform the test.
9. The tester serial # which was used to perform the test.
10. This field contains the tester firmware version which was used to perform the test.
11. The notes entered when the sequence was run.

Column Headings (second Line – optional from settings)

1. The heading for Test Type
2. The heading for Status Flag
3. The heading for Attempted?
4. The heading for Dwell Time (s)
5. The heading for Test Drive Level (V/A)
6. The heading for Actual Drive Level (V/A)
7. The heading for Test Frequency (Hz)
8. The heading for Min Limit (A/Ω)
9. The heading for Max Limit (A/Ω)
10. The heading for Final Measurement (A/Ω)
11. The heading for Highest BKDN (A)
12. The heading for ARC Limit (A)
13. The heading for Highest ARC (A)

Step Results

If a field does not apply to a given test type, a blank is placed.

1. The type of test step (DCW, ACW, IR, GB, CONT, PAUSE, HOLD, or SWITCH).
2. An integer number defining the status of the specific step. Consult the V7X Operating Manual - Test Step Status Flags for information regarding this data.
3. Contains a Y if the step was attempted or N if it was not. If the step was not attempted then all measurement result fields are blank.
4. Contains the configured test dwell time for this step (in seconds).
5. Contains the configured test drive level for this step (in Volts or Amps as applicable).

6. Contains the actual final test drive level for this step (in Volts or Amps as applicable).

7. Contains the configured test drive frequency for this step (in Hz).

8. Contains the configured Min Limit for this step (in Amps or Ohms as applicable).

9. Contains the configured Max Limit for this step (in Amps or Ohms as applicable).

10. Contains the final measurement taken for this step (in Amps or Ohms as applicable).

11. Contains the highest breakdown measured for this step (in Amps).

12. Contains the ARC Limit for this step (in Amps).

13. Contains the highest ARC measured for this step (in Amps).

END Format (Final Line)

2. The type of line (END). For an END type of line all other fields are always blank.

V10x File Format

Every line contains 34 fields as follows (if a field is not defined for the specific line type then it is blank).

HDR Format (First Line)

1. The type of line (HDR).
2. An integer number defining the overall status of the sequence. Consult the V10x Operating Manual - Test Step Status Flags for information regarding this data.
3. The DUT Model # as specified in the sequence or entered by the user.
4. The DUT Serial # as specified by the user when the sequence was run.
5. The user name logged on at the time that the sequence was run.
6. The date when the sequence was run.
7. The time when the sequence was run.
8. The tester model # which was used to perform the test.
9. The tester serial # which was used to perform the test.
10. This field contains the tester firmware version which was used to perform the test.
11. The notes entered when the sequence was run.

Column Headers (second Line – optional from settings)

30. The heading for Step Type
31. The heading for Status Flag
32. The heading for Attempted?
33. The heading for Dwell Time (s)
34. The heading for Test Drive Level (V/A)
35. The heading for Actual Drive Level (V/A)
36. The heading for Test Frequency (Hz)
37. The heading for Breakdown limit (A)
38. The heading for Highest breakdown current
39. The heading for Primary (1st) Check Type
40. The heading for 1st Max Limit (V/A/Ω)
41. The heading for 1st Min Limit (V/A/Ω)
42. The heading for Highest 1st check (V/A/Ω)
43. The heading for Lowest 1st check (V/A/Ω)
44. The heading for Average 1st check (V/A/Ω)
45. The heading for Last 1st check (V/A/Ω)
46. The heading for Second Check Type
47. The heading for 2nd Max Limit (V/A/Ω)
48. The heading for 2nd Min Limit (V/A/Ω)
49. The heading for Highest 2nd check (V/A/Ω)
50. The heading for Lowest 2nd check (V/A/Ω)
51. The heading for Average 2nd check (V/A/Ω)
52. The heading for Last 2nd check (V/A/Ω)

53. The heading for ARC limit
54. The heading for ARC Time
55. The heading for Max ARC
56. The heading for Min ARC
57. The heading for Average ARC
58. The heading for Last ARC

Step Results

If a field does not apply to a given test type, a blank is placed.

30. The type of test step (DCW, ACW, DCIR, GB, LOWOHMS, GNDLEAKAGE, BRKDN, PAUSE, HOLD, PULSE or SWITCH).
31. An integer number defining the status of the specific step. Consult the V10x Operating Manual - Test Step Status Flags for information regarding this data.
32. Contains a Y if the step was attempted or N if it was not. Note: If the step was not attempted then all measurement result fields are blank.
33. The configured test dwell time for this step (in seconds); if the dwell is time is set for user termination than the actual dwell time then the cell contains the actual time interval.
34. The configured test drive level in Volts or Amps as applicable.
35. The actual final test drive level for this step in Volts or Amps as applicable.
36. The configured test drive frequency for this step in Hz.
37. The configured breakdown current limit (in Amps).
38. The actual highest recorded breakdown current limit (in Amps).
39. The selection for the primary leakage/loading test measurement (either blank, DC, RMS, INPHS, QUAD, DCO, RMSV, INPHASEV, QUADV, RMSO, INPHASEO, QUADO or NONE).
40. The maximum limit for the primary leakage/loading test measurement in Amps, Volts or Ohms as applicable.
41. The configured minimum limit for the primary leakage/loading test measurement in Amps, Volts or Ohms as applicable.
42. The highest measured primary leakage/loading test measurement in Amps, Volts or Ohms as applicable.
43. The lowest measured primary leakage/loading test measurement in Amps, Volts or Ohms as applicable.
44. The average measured primary leakage/loading test measurement in Amps, Volts or Ohms as applicable.
45. The last measured primary leakage/loading test measurement in Amps, Volts or Ohms as applicable.
46. The selection for the secondary leakage/loading test measurement (either blank, DC, RMS, INPHS, QUAD, DCO, RMSV, INPHASEV, QUADV, RMSO, INPHASEO, QUADO or NONE)
47. The configured maximum limit for the secondary leakage/loading test measurement in Amps, Volts or Ohms as applicable.
48. The configured minimum limit for the secondary leakage/loading test measurement in Amps, Volts or Ohms as applicable.
49. The highest measured secondary leakage/loading test measurement in Amps, Volts or Ohms as applicable.
50. The lowest measured secondary leakage/loading test measurement in Amps, Volts or Ohms as applicable.
51. The average measured secondary leakage/loading test measurement in Amps, Volts or Ohms as applicable.
52. The last measured secondary leakage/loading test measurement in Amps, Volts or Ohms as applicable.
53. 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.

54. The configured arc detection time limit (in microseconds). This field is blank if either the specific test step type does not allow for arc detection, or the user disabled it.

55. The highest measured arc test measurement. This field is blank if either the specific test step type does not allow for arc detection, or the user disabled it.

56. The lowest measured arc test measurement. This field is blank if either the specific test step type does not allow for arc detection, or the user disabled it.

57. The average measured arc test measurement. This field is blank if either the specific test step type does not allow for arc detection, or the user disabled it.

58. The last measured arc test measurement. This field is blank if either the specific test step type does not allow for arc detection, or the user disabled it.

END Format (Final Line)

3. The type of line (END). For an END type of line all other fields are always blank.

F. Importing Sequences

The QT Pro settings will be imported as expected.

When importing from QT Enterprise the extra settings associated with automatic reports will not include the formatted PDF report path. You will need to manually configure this. In addition you must be using QT Enterprise version 1.1.3 for the exported data to have the proper format; the version is displayed on the upper left corner.

QT Insite offers many more options for automatic printing and exporting. You should verify the settings after the import. In particular if you are exporting files make sure the file pattern matches your needs. If you are printing or exporting a formatted report make sure the detail level is correct.

G. Troubleshooting

Here are some hints to troubleshoot your installation and workstation.

Database Connections

When running the multiple workstation system you need to configure the server name for each client test-station. Each windows account user will need to perform this action. If you neglected to perform that step when you run the software you see this message:
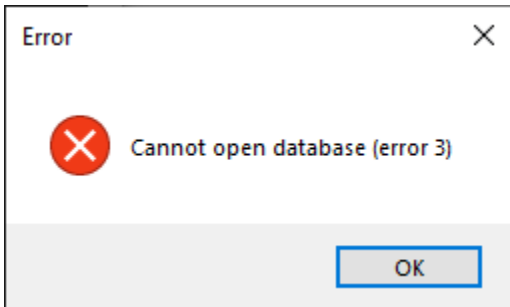
It may be that you entered the proper server's name but still got the error. If you can ping the server then the problem might be your firewall settings. Refer to your IT department to correct the problem.

RS232 Instrument Connections

The most common problem with using RS232 to operate the instrument is the PC COM port does not have full handshaking support in the form of the CTS/RTS and DSR/DTR handshaking lines. This frequently happens when you use a randomly selected RS232/USB bridge. Another common issue is that the cable between the adapter and instrument is not a full NULL-modem cable.

V7x USB Interface

The V7x USB interface enumerates as an HID device. Unknown HID devices may be blocked by security software, you will not be able to use the interface. Use the RS232 interface instead.

Cabling

The command interface cable whether it be USB, RS232, Ethernet, or GPIB should be routed away from the high voltage cables driven by the HIPOT tester.

Grounding

The controlling PC should have a solid earth ground.

Printing to *Microsoft Print to PDF*

If you use any of the printing functions and choose to print to a pdf file the function may not work on some Windows systems. Use 'Save PDF' instead. If printing sequences using 'Microsoft Print to PDF' close all instances of Adobe Reader. Or if you wish in Adobe Reader open **Preferences**, select **Security (enhanced)**, and deselect Enable Protected Mode at startup; Restart Adobe Reader.
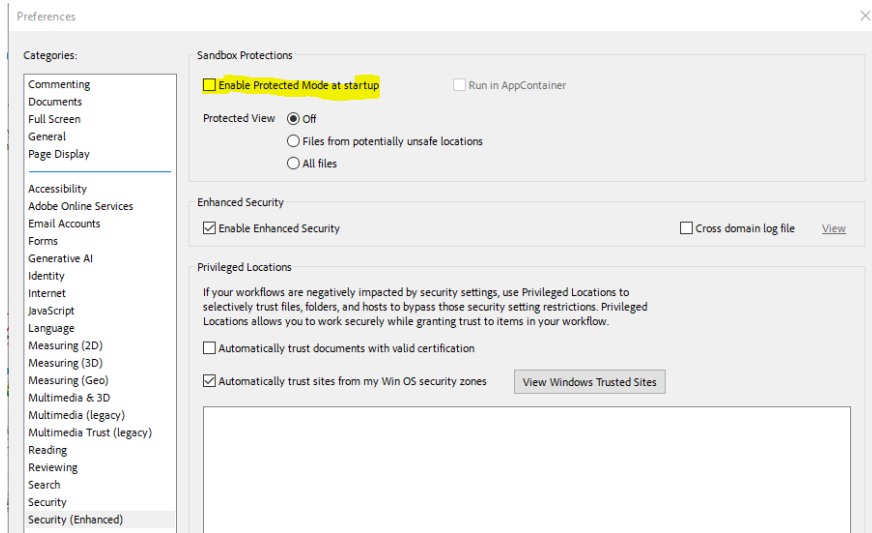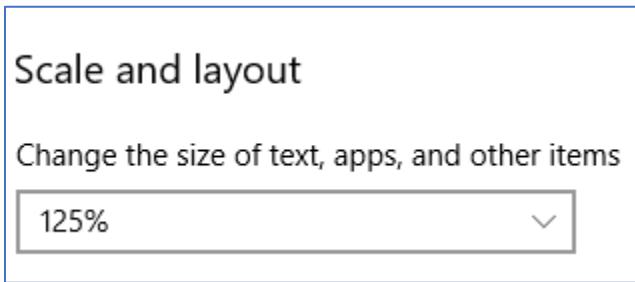

Application Crashes

In the event the application unexpectedly exits contact Vitrek using the email address info@vitrek.com and include the contents of the file in c:\temp named quilog.txt.

Scaling

On some displays when you select a scale greater than 100% the Qt Insite window will not display correctly. This setting looks like:

This happens most often with a laptop with a high resolution display.

If you like the greater than 100% setting on your laptop do the following.

1) Browse to where you installed Qt Insite, navigate to jx/bin; the default is C:\Program Files\Vitrek\QtInsite\jx\bin

2) Right click on javaw.bin

3) Select the Compatibility tab

4) Click on **Change high DPI settings**

5) Check 'Override high DPI scaling behavior', use the dropdown to select **System**

6) It looks like: