



**TekExpress® 40G-CR4**  
**40GBase-CR4 Compliance and Debug Solution Software**  
**Application Help**



077-0938-02







**TekExpress® 40G-CR4**  
**40GBase-CR4 Compliance and Debug Solution Software**  
**Application Help**

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- In North America, call 1-800-833-9200.
- Worldwide, visit to [www.tek.com](http://www.tek.com) find contacts in your area.

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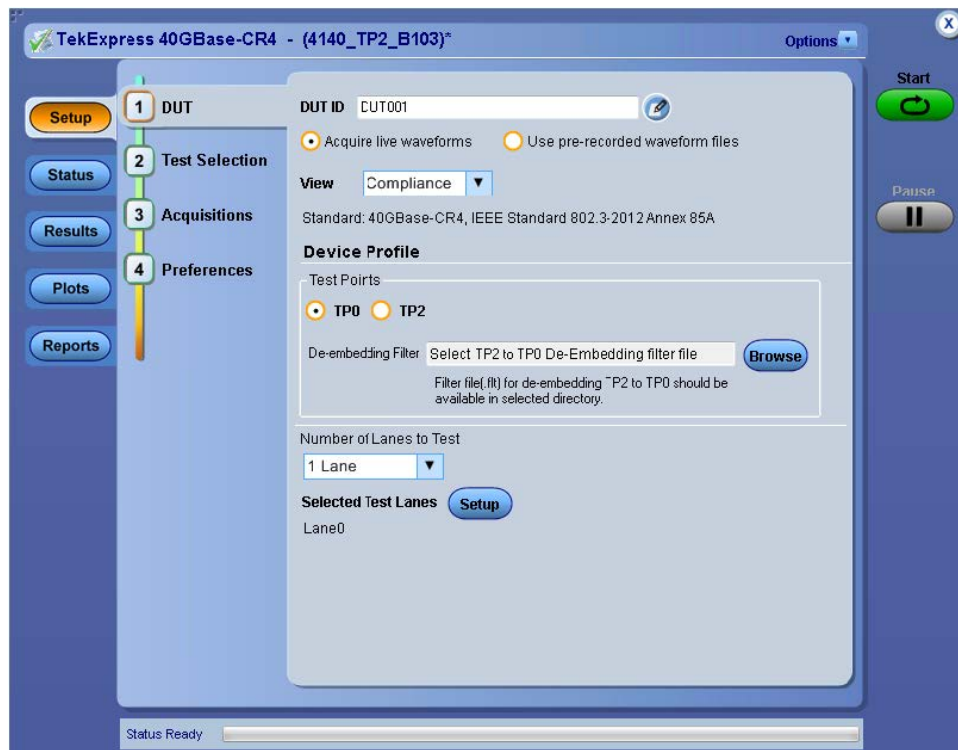
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# Welcome

Welcome to the TekExpress® 40GBase-CR4 Compliance and Debug Solution Software application and DPOJET 40GBase-CR4 plug-in. These applications provide an automated, simple, and efficient way to test interfaces and devices to the requirements of the IEEE 802.3-2012 section 85 and Annex 85A standard.



## Key Features

- An intuitive user interface and framework decreases testing time and learning curve
- Provides measurements for electrical characterization of 40GBase-CR4 signal at TP2 and TP0
- Provides both an automation solution (for compliance) and DPOJET option (for debug), saving up to 80% on testing time as compared to manual testing
- Has flexible parameter control for characterization and margin analysis (in user-defined mode)
- Supports N1N0 (4 ≤ N ≤ 12), PRBS7, PRBS11, PRBS15, PRBS20, PRBS23, and PRBS31 patterns in advanced/user-defined mode, and supports PRBS9, 8180, and 1010 patterns in compliance mode
- Complete programmatic interface enables users to call 40G-CR4 functions using custom automation scripts
- Performs automatic signal validation before performing tests and displays an error message if the signal does not meet acceptable limits
- Includes DPOJET setup files for 8180, 1010, and PRBS9 patterns to help set oscilloscope and load measurements (in DPOJET).
- Creates detailed reports (.MHT or .PDF) for compliance record keeping, with flexible reporting features such as appending the report, auto-incrementing the report, and including user comments



# Getting help and support

## Product documents

Use the product documents for more information on the application functions, understand the theory of operation, how to remotely program or operate the application, and do other tasks.

**Table 1: TekExpress Application documents**




To learn about	Use this document
How to use the application	TekExpress 40G-CR4 Help
How to remotely control the instrument	PDF version of this document can be downloaded from <a href="http://www.tek.com/downloads">www.tek.com/downloads</a> Compiled HTML (CHM) version is integrated with the application. Press <b>F1</b> key from the keyboard to start the help. Tektronix Part Number: 077-xxxx-xx

## Conventions

This application help uses the following conventions:

- The term "Application," and "Software" refers to the TekExpress 40G-CR4 application.
- The term "DUT" is an abbreviation for Device Under Test.
- The term "select" is a generic term that applies to the two methods of choosing a screen item (button control, list item): using a mouse or using the touch screen.
- A **Note** identifies important information.

**Table 2: Icons used in the help**

Icon	Description
	This icon identifies important information
	This icon identifies conditions or practices that could result in loss of data.
	This icon identifies additional information that will help you use the application more efficiently.

## Technical support

Tektronix values your feedback on our products. To help us serve you better, please send us your suggestions, ideas, or comments on your application or oscilloscope. Contact Tektronix through mail, telephone, or the Web site. See [Contacting Tektronix](#) at the front of this document for contact information.

When you contact Tektronix Technical Support, please include the following information (be as specific as possible):

### General information

- All instrument model numbers
- Hardware options, if any
- Modules used
- Your name, company, mailing address, phone number, FAX number
- Please indicate if you would like to be contacted by Tektronix about your suggestion or comments.

### Application specific information

- Software version number
- Description of the problem such that technical support can duplicate the problem
- If possible, save the setup files for all the instruments used and the application
- If possible, save the TekExpress setup files, log.xml, \*.TekX (session files and folders), and status messages text file

# Getting started

## Hardware requirements

### Minimum System Requirements

The following table shows the minimum system requirements needed for an oscilloscope to run this application.

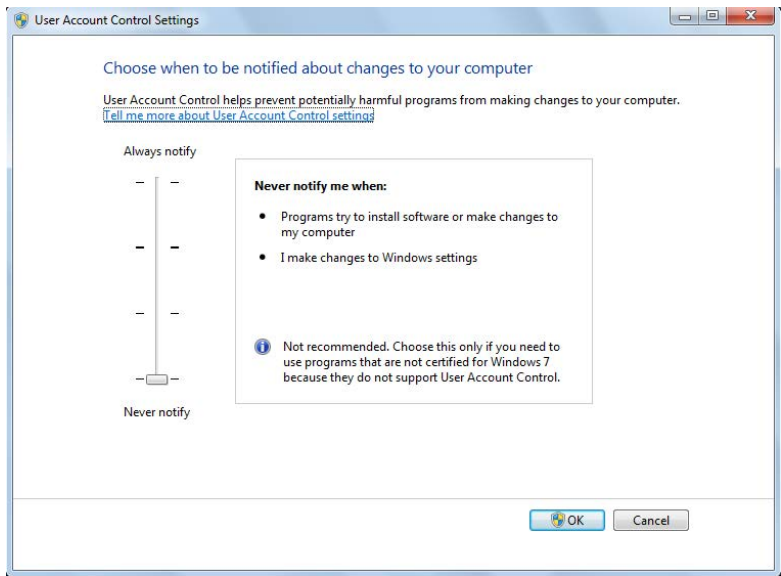
**Table 3: System requirements**

Instruments	Description
Oscilloscope	See <a href="#">Supported instruments</a>
Processor	Same as the oscilloscope
Operating System	Same as the oscilloscope: <ul style="list-style-type: none"> <li>Windows 7 (64-bit only) SP1 <a href="#">Windows 7 user account settings</a></li> </ul>
Memory	Same as the oscilloscope
Hard Disk	Same as the oscilloscope
Display	Same as the oscilloscope. Super VGA resolution or higher video adapter (800 x 600 minimum video resolution for small fonts or 1024 x 768 minimum video resolution for large fonts). The application is best viewed at 96 dpi display settings
Firmware	<ul style="list-style-type: none"> <li>TekScope 10.3.3 for non-SX series digital oscilloscopes</li> <li>TekScope 10.3.0 for SX series digital oscilloscopes</li> </ul>
Software	<ul style="list-style-type: none"> <li>DPOJET, Jitter and Eye Diagram Analysis Tool, version 10.0.0.35 or later (64-bit)</li> <li>IronPython 2.7.3</li> <li>PyVisa 1.0.0.25</li> <li>Microsoft .NET 4.0 Framework</li> <li>Microsoft Internet Explorer 7.0 SP1 or later, or other Web browser for viewing reports</li> <li>Microsoft Photo Editor 3.0 or equivalent software for viewing image files</li> <li>Adobe Reader software 7.0 or later for viewing portable document format (PDF) files</li> </ul>
Other Devices	<ul style="list-style-type: none"> <li>Microsoft compatible mouse or compatible pointing device.</li> <li>Two USB ports minimum; four USB ports recommended.</li> <li>PCI-GPIB or equivalent interface for instrument connectivity.</li> </ul>

### Required Windows 7 user account setting

Windows 7 instruments need to have the User Account Control Settings set to **Never Notify**. To set User Account Control Settings:

1. Go to **Control Panel > User Accounts > Change User Account Control settings**.
2. Set the sliding control to **Never Notify** as shown in the image, and click OK.



**See also**

[Supported oscilloscopes](#)

**Supported instruments**

**Table 4: Required equipment**

Resource	Description	Quantity
Real-time oscilloscope	DPO71604C, DPO72004C, DPO71604DX, DPO72304DX, DPO72004DX, DPO72504D, DPO72504DX, DPO73304D, DPO73304DX	1
	DSA71604C, DSA72004C, DSA72504D, DSA73304D	
	MSO71604C, MSO72004C, MSO71604DX, MSO72004DX, MSO72304DX, MSO72504DX, MSO73304DX	
	DPO72004SX, DPO72304SX, DPO72504SX, DPO73304SX, DPO75002SX, DPO75902SX, DPO77002SX	
Test fixtures and accessories	TF-QSFP-TPA-HCB-P: QSFP+ Host Compliance Board Plug	1
	TF-DC-BLOCK-KIT: DC Block Kit	4
	For C series oscilloscopes: TCA-292MM adapters	4
	For D series oscilloscopes: 12 dB attenuators	4
	For D, DX, or SX series oscilloscopes: TCA-292D adapters	4

**See also**

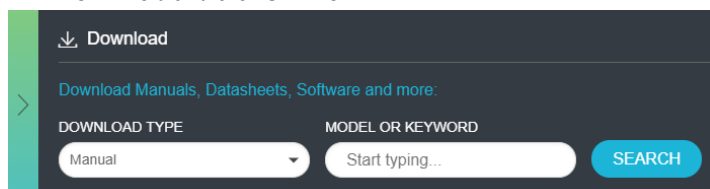
[Minimum system requirements](#)

## Software requirements

### Downloading and installing the software

Complete the following steps to download and install the latest TekExpress 40G-CR4 application.

1. Go to [www.tek.com](http://www.tek.com).
2. Click **Downloads**. In the Downloads menu, select DOWNLOAD TYPE as Software and enter the application name in the MODEL OR KEYWORD field and click **SEARCH**.



3. Select the latest version of software and follow the instructions to download the software. Copy the executable file into the oscilloscope.
4. Double-click the executable and follow the on-screen instructions.

The software is installed at `C:\Program Files\Tektronix\TekExpress\TekExpress 40G-CR4`.

5. Select **Application > TekExpress 40G-CR4** from the Oscilloscope menu, to open the application.

### Activate the license

Activate the license using the **Option Installation** wizard in the TekScope application:

1. In the **TekScope** application menu bar, click **Utilities > Option Installation**. The TekScope Option Installation wizard opens.
2. Push the **F1** key on the oscilloscope keyboard to open the Option Installation help topic.
3. Follow the directions in the help topic to activate the license.

### View software version and license key details

To view version information of the application, click **Options > About TekExpress**.

# Setting up the test environment

## Search instruments connected to the application

Use the TekExpress Instrument Control Settings dialog box to search the instruments (resources) connected to the application. The application uses TekVISA to discover the connected instruments.

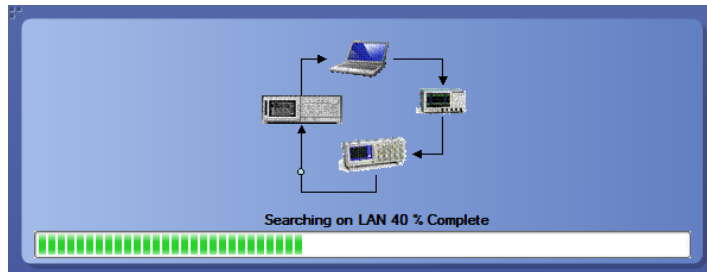


**Note:** The instruments required for the test setup must be connected and detected by the application, before running the test.

To refresh the list of connected instruments:

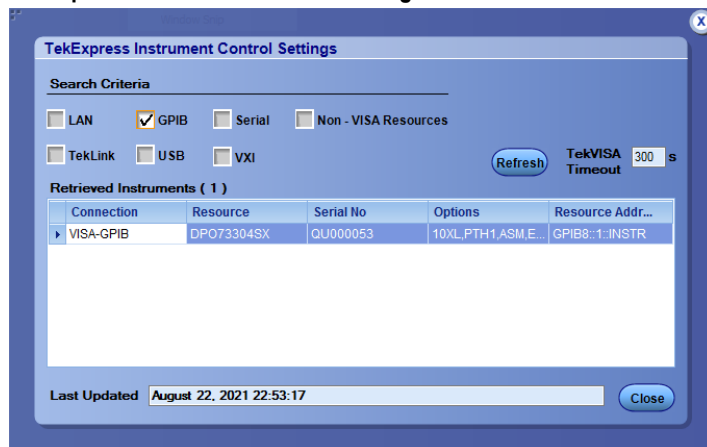
1. Select **Options > Instrument Control Settings**.
2. In the **Search Criteria** section of the **Instrument Control Settings** dialog box, select the connection types of the instruments to search. Instrument search is based on the VISA layer, but different connections determine the resource type, such as LAN, GPIB, and USB. For example, if you choose LAN, the search will include all the instruments supported by the TekExpress that are communicating over the LAN.
3. Click **Refresh**. The TekExpress application searches for the connected instruments.

### Search status of the instruments connected to LAN



4. When the search is complete, a dialog box lists the instrument-related details based on the search criteria. For example, for the Search Criteria as GPIB, the application displays all the GPIB instruments connected to the application.

### TekExpress Instrument Control Settings window.



The details of the instruments are displayed in the Retrieved Instruments table. The time and date of instrument refresh is displayed in the Last Updated field.

## Deskew real-time oscilloscopes

Use the following procedure to deskew direct input SMA channels on a real time oscilloscope.



**Note:** DPOJET has an automatic deskew option under Analyze > Jitter And Eye Analysis > Deskew. Refer to your DPOJET online help for information on how to deskew the channels.

1. Run Signal Path Compensation (SPC) on the oscilloscope.
2. Connect a SMA Power Splitter (preferred) or SMA 50  $\Omega$  coaxial “T” connector to the Fast Edge output of the oscilloscope.
3. Connect SMA cables from each of the two channels to be deskewed to the power splitter (or SMA coaxial “T” connector). It is best to use matched cables when making high speed serial measurements. **It is important to use the same cables that will be used for subsequent measurements.**
4. Select **Default Setup**, and then select **Autoset** on the oscilloscope front panel.
5. Set the oscilloscope for 70% to 90% full screen amplitude on both channels. Center both traces so that they overlap.
6. Make sure that volts/div, position, and offset are identical for the two channels being deskewed.
7. Set the time/div to approximately **100 ps/div** or less, with sample rate at **1 ps/pt**. These settings are not critical, but should be close.
8. Set the horizontal acquisition mode to average, which provides a more stable display.
9. Select **Deskew** from the **Vertical** menu.
10. Verify that the reference channel (typically CH1 or CH2) is set to **0 ps** skew.
11. In the deskew control window, select the channel to deskew (typically CH3 or CH4). Adjust the deskew to overlay the rising edge as best as possible.



**Note:** Typical values are in the 10's of ps or less with cables connected directly from Fast Edge to SMA inputs. If you are using a switch box (for example, Keithley), deskew the complete path from where the test fixture connects, through the switch, and into the oscilloscope. Deskew values in these cases may be as much as 30 ps or more.



**Note:** There can be significant differences in the skew between two TCA-SMA adapters. If you find that a system requires a very large correction, obtain a pair of TCA-SMA adapters that closely match each other to reduce the amount of correction.



**Note:** TekExpress retains the user configured Deskew values, and does not override the values during test runs.

## Instrument and DUT connection setup

Click the **Setup > Test Selection > Schematic** button to open a PDF file that shows the compliance test setup diagrams (instrument, DUT, and cabling) for supported testing configurations.

### See also

[Minimum system requirements](#)

[View connected instruments](#)

## Running tests

After selecting and configuring tests, review the [prerun checklist](#) and then click **Start** to run the tests. To monitor the test progress, switch between viewing the Status panel and the Results panel. You cannot edit any fields on these panels while tests are running.

The application displays a report when the tests are complete. While the tests are running, other applications may display windows in the background. The TekScope application takes precedence over other applications, but you can switch to other applications by using the Alt + Tab key combination. To keep the application screen on top (in front of other application screens), select Keep On Top from the TekExpress Options menu.

## Prerun checklist

Do the following before you click Start to run a test:



**Note:** If this is the first time you are running a test on the application, make sure that you have done the steps in [Required My TekExpress](#) folder settings before continuing.

1. Make sure that all the required instruments are properly warmed up (approximately 20 minutes).
2. Perform Signal Path Compensation (SPC)
  - a. On the oscilloscope main menu, select the **Utilities** menu.
  - b. Select **Instrument Calibration**.
  - c. Follow the on-screen instructions.
3. [Deskew realtime oscilloscope channels](#)
4. Verify that the application detects that the correct instruments are connected (oscilloscope and signal sources):
  - a. In 40GBase-CR4, click **Setup > Test Selection > Configure**.
  - b. Click **Global Settings**.
  - c. In the Instruments Detected list, verify that the test setup instruments are shown. If they are not, click on an instrument and click the arrow button to list and select from all detected instruments. If the required instrument is still not listed, use the TekExpress Instrument Control Settings dialog box to scan for and detect instruments (see View connected instruments).

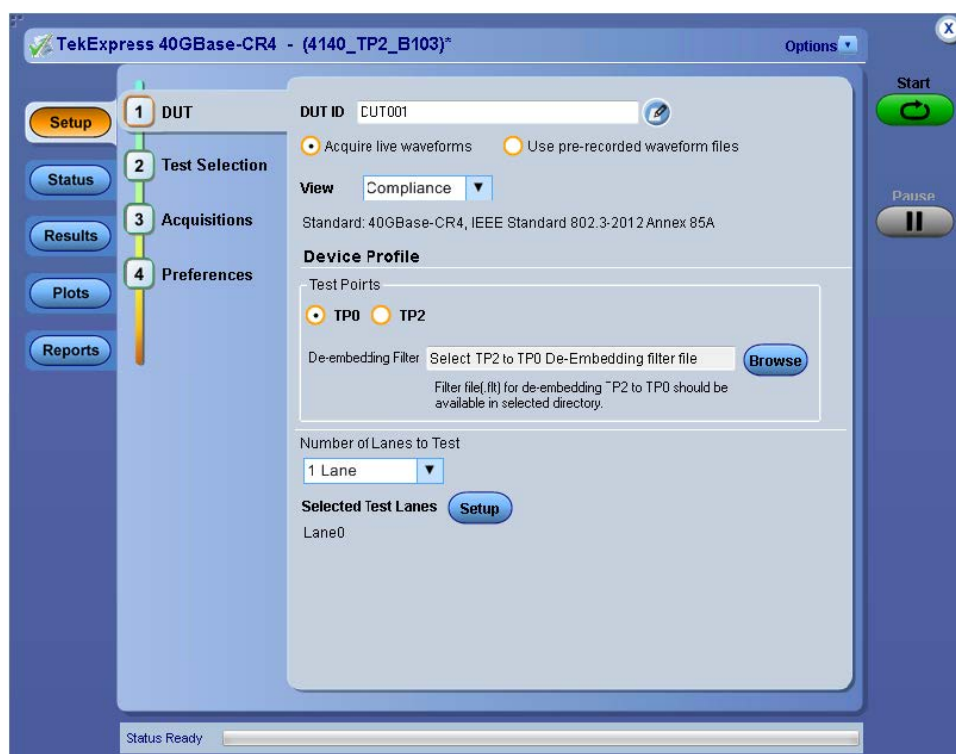
### See also

[Instrument and DUT connection setup](#)



## Starting the application

To start the TekExpress 40G-CR4, select from the oscilloscope menu bar **Applications > TekExpress 40G-CR4**.



During start, a "My TekExpress" folder is created in the Documents folder of the current user and gets mapped to "X" drive. When the application is closed properly, the "X" drive gets unmapped. Session files are then stored inside the X : \ 40G-CR4 folder. If this file is not found, the application runs an instrument discovery program to detect connected instruments before starting TekExpress 40G-CR4.

To keep the TekExpress 40G-CR4 application on top of any application, select **Keep On Top** from the [options menu](#). If the application goes behind the oscilloscope application, select **Applications > TekExpress 40G-CR4** to bring the application to the front.

## Application user interface overview

TekExpress 40GBase-CR4 uses panels to group related configuration, test, and results settings. Click on a button to open the associated panel. A panel can have one or more tabs that list further parameters available in that panel. Displayed controls in a panel can change depending on settings made in that panel or another panel.

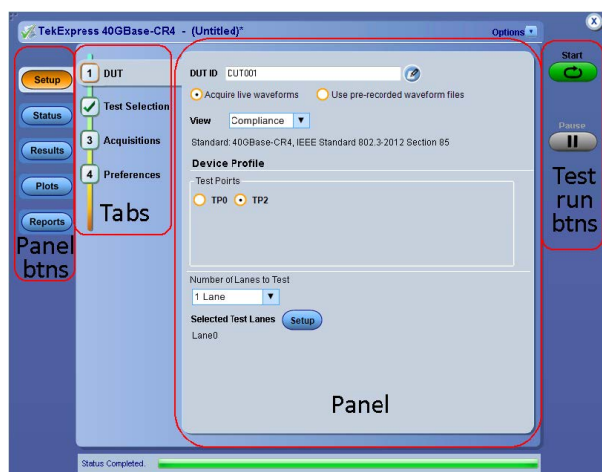


Table 5: Application panels overview

Panel Name	Purpose
<a href="#">Setup</a>	<p>The Setup panel shows the test setup controls. Click the Setup button to open this panel.</p> <p>Use this panel to:</p> <ul style="list-style-type: none"> <li>• <a href="#">Select DUT parameters.</a></li> <li>• <a href="#">Select the test(s).</a></li> <li>• <a href="#">Set acquisitions parameters for selected tests.</a></li> <li>• <a href="#">Select test notification preferences.</a></li> </ul>
<a href="#">Status</a>	View the progress and analysis status of the selected tests, and view test logs.
<a href="#">Results</a>	View a summary of test results and select result viewing preferences.
<a href="#">Plots</a>	View plots generated for tests
<a href="#">Reports</a>	Browse for reports, save reports as specific file types, specify report naming conventions, select report content to include (such as summary information, detailed information, user comments, setup configuration, application configuration), and select report viewing options.

**See also**

[Application controls](#)

## Application controls

This section describes the application controls with functionality and its details.

**Table 6: Application control description**


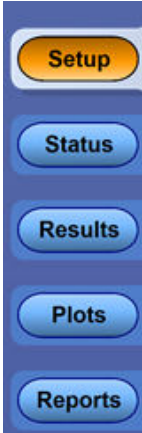











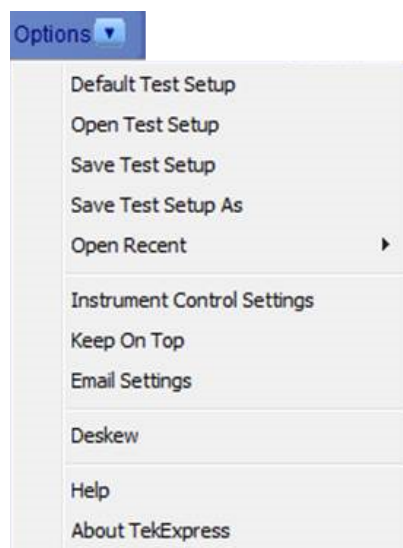
Item	Description
<a href="#">Options menu</a> 	Menu to display global application controls.
Test panel 	Controls that open tabs for configuring test settings and options.
Start / Stop button  	Use the <b>Start</b> button to start the test run of the measurements in the selected order. If prior acquired measurements are not cleared, then new measurements are added to the existing set. The button toggles to the Stop mode while tests are running. Use the <b>Stop</b> button to abort the test.
Pause / Continue button 	Use the <b>Pause</b> button to pause the acquisition. When a test is paused, this button changes as <b>Continue</b> .
Clear button 	<p>Use the <b>Clear</b> button to clear all existing measurement results. Adding or deleting a measurement, or changing a configuration parameter of an existing measurement, also clears measurements. This is to prevent the accumulation of measurement statistics or sets of statistics that are not coherent. This button is available only on <a href="#">Results panel</a>.</p> <p> <b>Note:</b> This button is visible only when there are results data on the panel.</p>
Application window move icon 	Place the cursor over the top of the application window to move the application window to the desired location
Minimize icon 	Minimizes the application.
Close icon 	Close the application.

Table continued...

Item	Description
Mini view / Normal view  	Mini view displays the run messages with the time stamp, progress bar, Start / Stop button, and Pause / Continue button. The application moves to mini view when you click the <b>Start</b> button.

## Options menu functions

To access the **Options** menu, click  in the upper-right corner of the application. It has the following selections:



**Table 7: Options menu settings**

Menu	Function
Default Test Setup	Opens a new test setup with default configurations.
Open Test Setup	Opens a previously saved test setup. Displays the list of previously saved test setup file names. Make the selection and click <b>OK</b> to open the test setup.
Save Test Setup	Saves the current test configurations with the specified file name.
Save Test Setup As	Saves the current test setup with a different file name or file type.
Open Recent	Displays the recently opened test setup file names. Make the selection and click <b>OK</b> to open the test setup.
<i>Instrument Control Settings</i>	Detects, lists, and refreshes the connected instruments found on the specified connections (LAN, GPIB, USB, Serial, Non-VISA Resources, TekLink, and VXI).
Keep On Top	Always keeps the TekExpress 40G-CR4 application on top of all the applications.
<i>Email Settings</i>	Configures email options for test run and result notifications.
Deskew	Loads oscilloscope channel deskew settings into the application.
Help	Displays the TekExpress 40G-CR4 help.
Table continued...	

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Menu	Function
About TekExpress	Displays the application name, version, and hyperlink to end the user license agreement.

## Configure email settings

Use the **Email Settings** utility to get notified by email when a measurement completes or produces any error condition. Follow the steps to configure email settings:

Figure 1: Email settings window

1. Select **Options > Email Settings** to open the Email Settings dialog box.
2. (Required) For **Recipient email Address(es)**, enter one or more recipient email addresses. To include multiple addresses, separate the addresses with commas.
3. (Required) For **Sender's Address**, enter the email address used by the instrument. This address consists of the instrument name, followed by an underscore, followed by the instrument serial number, then the @ symbol, and the email server ID. For example: user@yourcompany.com.
4. (Required) In the **Server Configuration** section, type the SMTP Server address of the Mail server configured at the client location, and the SMTP Port number, in the corresponding fields.

If this server requires password authentication, enter a valid login name, password, and host name in the corresponding fields.



**Note:** If any of the above required fields are left blank, the settings will not be saved, and email notifications will not be sent.

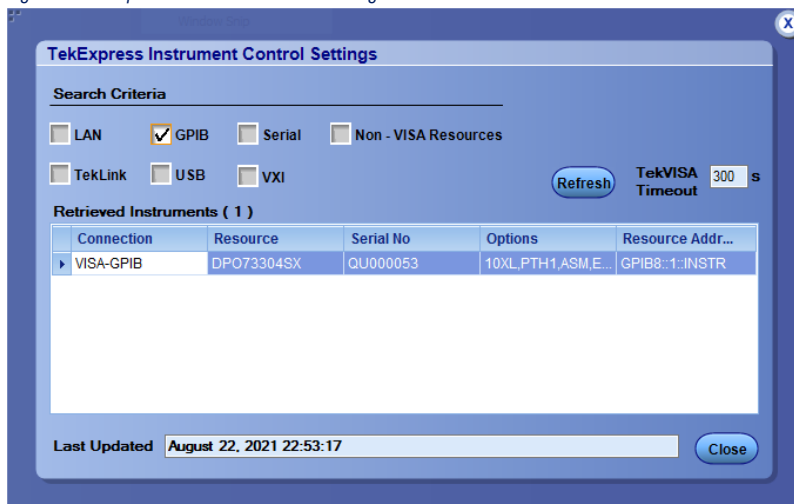
5. In the **Email Attachments** section, select from the following options:
  - **Reports:** Select to receive the test report with the notification email.
  - **Status Log:** Select to receive the test status log with the notification email. If you select this option, then also select whether you want to receive the full log or just the last 20 lines.
6. In the **Email Configuration** section:
  - Enter a maximum file size for the email message. Messages with attachments larger than this limit will not be sent. The default is 5 MB.
  - Enter the number in the Number of Attempts to Send field, to limit the number of attempts that the system makes to send a notification. The default is 1. You can also specify a timeout period.
7. Select the **Email Test Results When complete or on error** check box. Use this check box to quickly enable or disable email notifications.
8. To test your email settings, click **Test Email**.
9. To apply your settings, click **Apply**.
10. Click **Close** when finished.

## TekExpress instrument control settings

Use the **TekExpress Instrument Control Settings** dialog box to search the instruments (resources) connected to the application. You can use the **Search Criteria** options to search the connected instruments depending on the connection type. The details of the connected instrument is displayed in the Retrieved Instruments window.

To access, click **Options > Instrument Control Settings**. Select **GPIO** as search criteria for TekExpress application and click **Refresh**. The connected instruments displayed in the Retrieved Instruments window and can be selected for use under Global Settings in the test configuration section.

Figure 2: TekExpress Instrument Control Settings window

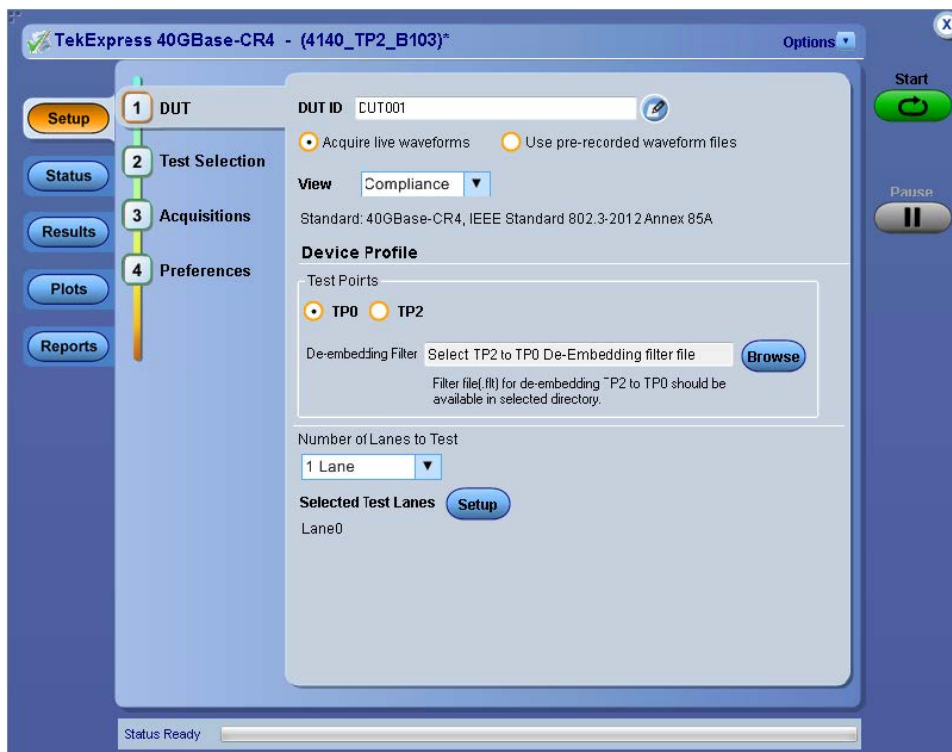


### See also

[Options menu functions](#) on page 20

## Setup panel: Configure the test setup

The Setup panel contains sequentially ordered tabs that help you guide through the test setup and execution process.



## Setup controls overview

The Setup panel contains sequentially ordered tabs that help guide you through a typical test setup and execution process. Click on a tab to open the associated panel and controls.



The tabs on this panel are:

DUT: [Set the DUT parameters](#)

Test Selection: [Select test\(s\)](#)

Acquisitions: [Select acquisition parameters](#)



Preferences: [Select test fail notification preferences](#)

Use the DUT tab to select parameters for the device under test. These settings are global and apply to all tests of current session. DUT settings also affect the list of available tests in the Test Selection tab.



### Table 8: DUT tab configuration

Table continued...

Setting	Description
<b>Device Profile</b>	
Test point	Select a test point location from those listed.
De-embedding Filter (TP0 only)	<p>Lists de-embed filter file to use for TP0. Use this filter to de-embed the signal path between TP0 and TP2.</p> <p>Click the ... button to navigate and select filter files. The default location is <i>My Documents</i>.</p> <p>Filter files are device specific; contact the device manufacture to obtain filter files.</p> <p>This control is not available when Test Point is set to TP2.</p>
Number of Lanes to Test	Selects the number of lanes to test.
Setup	Opens the <a href="#">Test Lane Setup</a> dialog box to select which lanes to test.

## Test Selection: Select the tests

Use the Test Selection tab to select the tests. The test measurements available depends on the settings selected in the DUT tab.

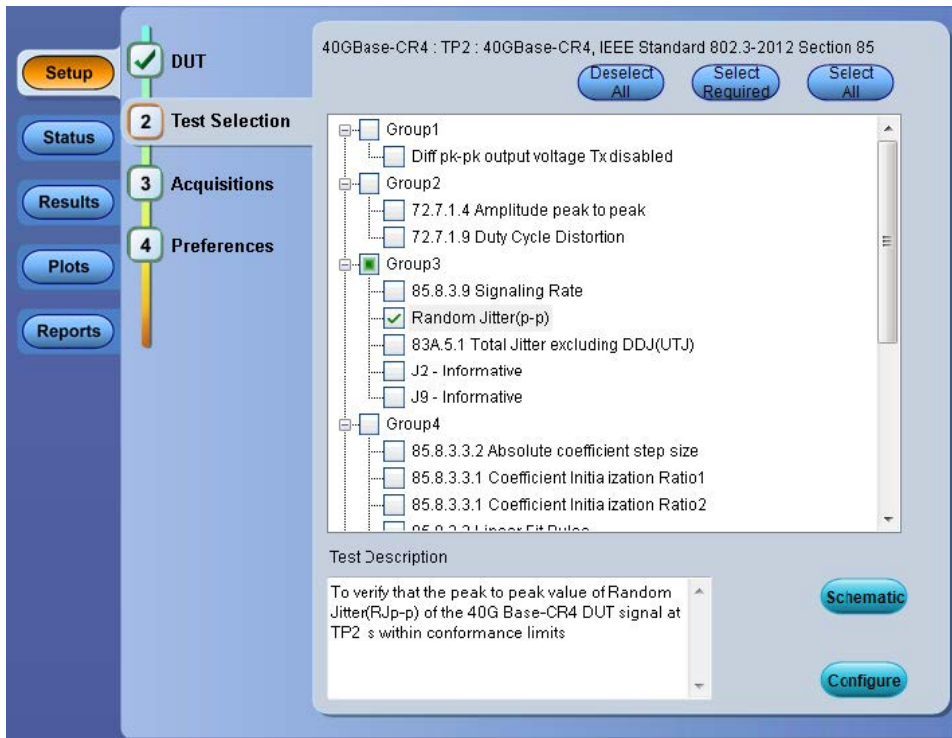


Figure 4: Test selection tab

Table 9: Test Selection tab configuration

Setting	Description
<b>Deselect All, Select All</b> buttons	Clear or select all tests in the list.
<b>Select Required</b> button	Selects all tests required for compliance certification.
Tests	Click a test to select or clear. Selecting a test also show details about that test in the Test Description pane.  All required tests are selected when in Compliance test mode.
<b>Schematic</b> button	Shows an equipment and test fixture setup schematic (connection diagram) for the selected test. Use to set up the equipment and fixtures or to verify the setup before running the test.
<b>Configure</b>	Opens the Test Selection Configuration panel.

## Acquisitions: Set waveform acquisition settings

Use Acquisitions tab to view the test acquisition parameters. The contents displayed on this tab depends on the DUT type and the tests selected.

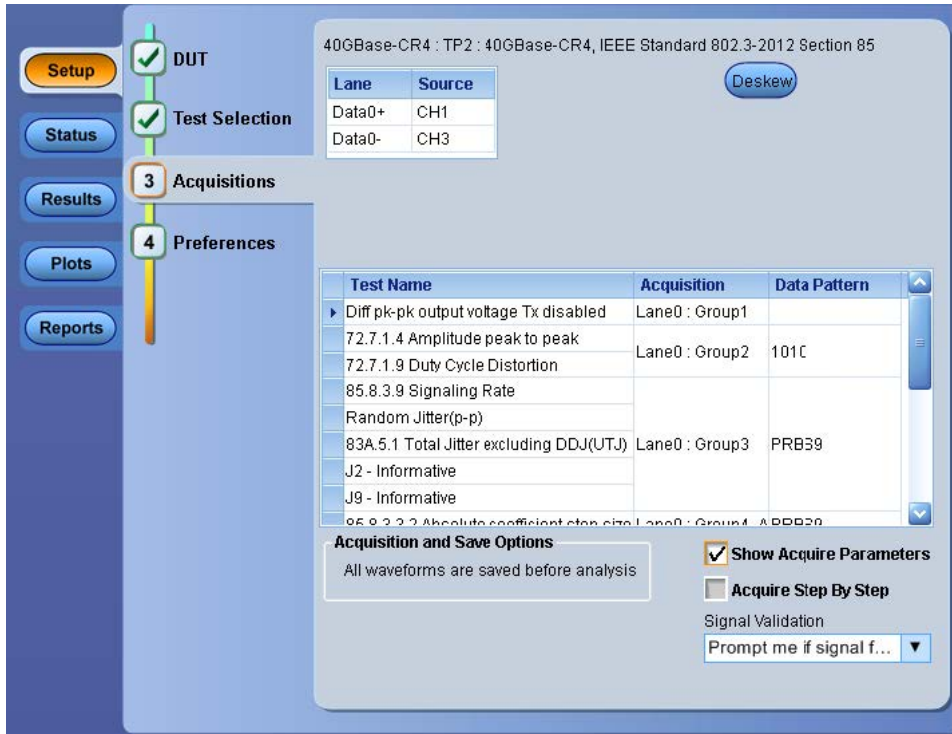


Figure 5: Acquisition tab

Table 10: Acquisitions tab configuration

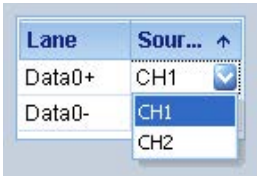
Setting	Description
Device	<p>Lists the signal type and input channel assigned to a lane.</p> <p>Click in a Source field to assign a channel source to that lane.</p> 
Deskew	Use to set deskew parameter and read instrument deskew/attenuation values
Test name/Acquisitions list	Lists each test name and its associated acquisition lane/group type.
Show Acquire Parameters	When selected, lists the acquisition parameters associated with each test. Parameters are shown in a separate column.

Table continued...

Setting	Description
Acquire Step By Step	<p>When selected, the application displays equipment/signal setup and configuration information, and examples of input signal waveform images. During execution of the measurement acquisitions. Use the example waveform images to verify that the live signal is correct. Click OK to continue the acquisition process.</p> <p>When not selected, the application displays just equipment or signal setup/ configuration information during execution of the measurement acquisitions, as required by selected tests. No input signal waveform images are shown.</p> <p>If the live signal waveform does not match the displayed example waveform, or if an acquisition fails, close the screen and click <b>Stop</b> to halt the test session,</p>
Signal Validation	<p>Sets the signal validation actions. Select from the available list items. Signal validation only applies to live signals; signal validation is not done on saved (pre-recorded) waveform.</p> <p>Select <b>Prompt me if signal fails</b> to display a dialog box when the application fails to acquire a valid signal after a specified number of retries (as set in the Configuration tab or fields). Select one of the following options in the dialog box:</p> <ul style="list-style-type: none"> <li>• <b>Re-Acquire:</b> The application attempts to re-acquire the signal.</li> <li>• <b>Use Anyway:</b> Use the acquired signal for all applicable tests. The test results may not be as expected.</li> <li>• <b>Skip Test:</b> Skip (ignore) any test(s) that depend on this acquisition. Skipped tests are listed in the status panel and in the report.</li> </ul> <p>Select <b>Skip test if signal fails</b> to skip all tests that depend on an acquired signal that fails signal validation. The comments section in the report file will show the details as "User skipped acquisitions for this pattern".</p> <p>Select <b>Use signal as it is - Don't Check</b> to skip signal validation and use the signal as-it-is for testing. The test results may not be as expected.</p>

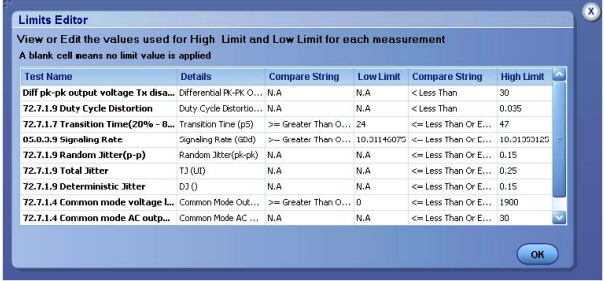
TekExpress 40G-CR4 application saves all acquisition waveforms to files by default. Waveforms are saved in a unique folder for each session (a session is started when you click the Start button). The folder path is X:\TekExpress 40G-CR4\Untitled Session\<dutid>\<date>\_<time>. Images created for each analysis, XML files with result values, reports, and other information specific to that particular execution are also saved in this folder.

Saving a session moves the session file contents from the Untitled Session folder to the specified folder name and changes the session name to the specified name.

## Configuration: Set measurement limits for tests

Use Configuration tab to view and configure the Global Settings and the measurement configurations. The measurement specific configurations available in this tab depends on the selections made in the DUT panel and Test Selection panel.

**Table 11: Configuration tab: Common parameters**

Settings	Description
Limit Editor	<p>Displays the upper and lower limits for the applicable measurement using different types of comparisons.</p> 

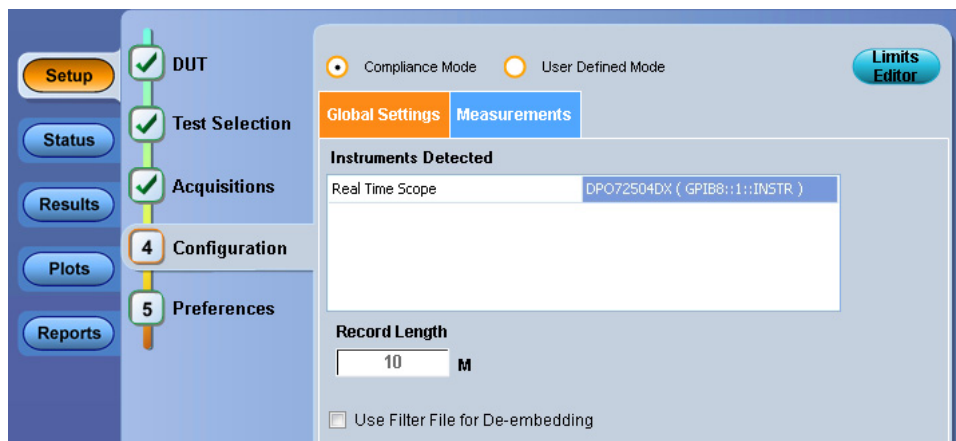


Figure 6: Configuration tab: Global Settings

**Table 12: Configuration tab: Global Settings configuration**

Setting	Description
Mode	<p>Sets the test measurement mode.</p> <ul style="list-style-type: none"> <li>Compliance: Most test parameter values cannot be edited. Select this for compliance mode testing.</li> <li>User Defined Mode: Enables editing of measurement parameters for selected tests (in the Measurements tab or with the Limits Editor).</li> </ul>
Test Selection button	<p>Displays the main Test Selection panel. This button is only shown when View is set for Compliance mode on the DUT panel, and you clicked the Configure button in the Test Selection panel.</p>

Table continued...

Setting	Description
Instruments Detected	Displays a list of the connected instruments found during the instrument discovery. Instrument types include equipment such as oscilloscopes and signal sources (AFG, AWG). Select <b>Options &gt; Instrument Control Settings</b> to refresh the connected instrument list.
Record Length	Sets the waveform record length to acquire. Valid range is 2M to 20M.
Use Filter File for De-embedding	<p>All tests except Group 4: When selected, provides a way to select and apply a de-embed filter for sampling rate of 100 Gs/sec.</p> <p>Group 4 tests only: When selected, provides a way to select and apply a de-embedded filter for sampling rate of 3.3 Ts/sec.</p>



## Preferences: Set the test run preferences

Use **Preferences** tab to set the application action on completion of a measurement. The **Preferences** tab has the feature to enable or disable certain options related to the measurement execution.

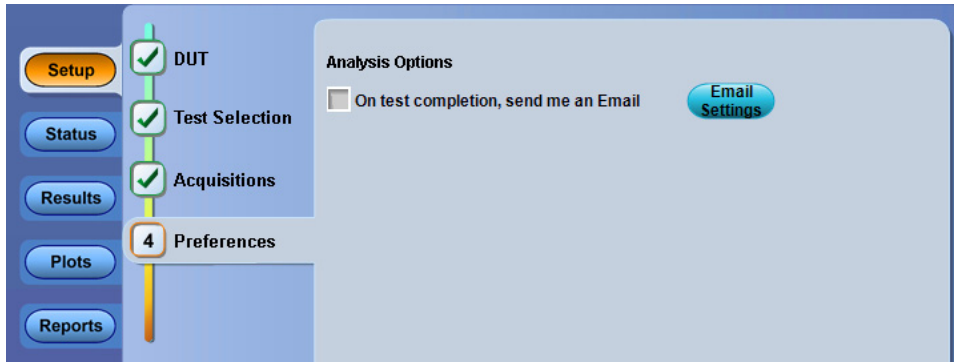


Figure 7: Preferences tab

Refer the below table for the options available in the **Preferences** tab:

Table 13: Preferences tab settings

Setting	Description
<b>Analysis Options</b>	
On test completion, send me an Email	Sends an email when a test finishes.

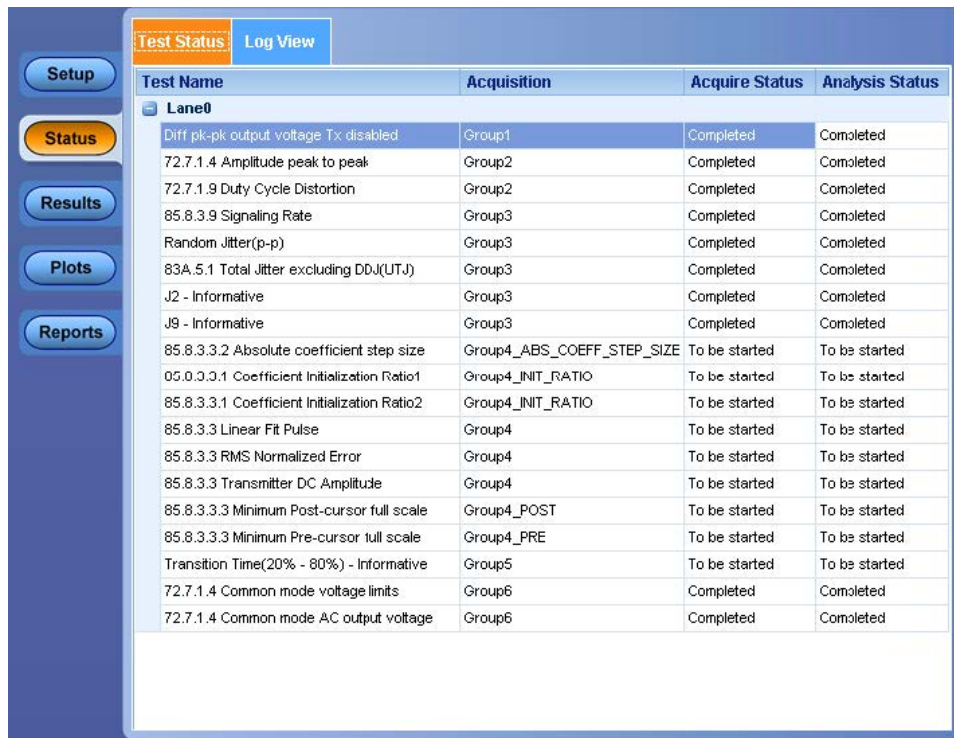
## Status panel: View the test execution status

The Status panel contains the **Test Status** and **Log View** tabs, which provides status on the test acquisition and analysis (Test Status) and listing of test tasks performed (Log View tab). The application opens the **Test Status** tab when you start to execute the test. Select the **Test Status** or the **Log View** tab to view these items while the test execution is in progress.

### View test execution status

The tests are grouped and displayed based on the Clock and Data lane. It displays the tests along with the acquisition type, acquire, and analysis status of the tests. In pre-recorded mode, **Acquire Status** is not valid.

The **Test Status** tab presents a collapsible table with information about each test as it is running. Use the symbols to expand (+) and collapse (–) the table rows.



Test Name	Acquisition	Acquire Status	Analysis Status
Diff pk-pk output voltage Tx disabled	Group1	Completed	Completed
72.7.1.4 Amplitude peak to peak	Group2	Completed	Completed
72.7.1.9 Duty Cycle Distortion	Group2	Completed	Completed
85.8.3.9 Signaling Rate	Group3	Completed	Completed
Random Jitter(p-p)	Group3	Completed	Completed
83A.5.1 Total Jitter excluding DDJ(UTJ)	Group3	Completed	Completed
J2 - Informative	Group3	Completed	Completed
J9 - Informative	Group3	Completed	Completed
85.8.3.3.2 Absolute coefficient step size	Group4_ABS_COEFF_STEP_SIZE	To be started	To be started
05.0.3.3.1 Coefficient Initialization Ratio1	Group4_INIT_RATIO	To be started	To be started
85.8.3.3.1 Coefficient Initialization Ratio2	Group4_INIT_RATIO	To be started	To be started
85.8.3.3 Linear Fit Pulse	Group4	To be started	To be started
85.8.3.3 RMS Normalized Error	Group4	To be started	To be started
85.8.3.3 Transmitter DC Amplitude	Group4	To be started	To be started
85.8.3.3.3 Minimum Post-cursor full scale	Group4_POST	To be started	To be started
85.8.3.3.3 Minimum Pre-cursor full scale	Group4_PRE	To be started	To be started
Transition Time(20% - 80%) - Informative	Group5	To be started	To be started
72.7.1.4 Common mode voltage limits	Group6	Completed	Completed
72.7.1.4 Common mode AC output voltage	Group6	Completed	Completed

Figure 8: Test execution status view in Status panel

Table 14: Test execution status table headers

Control	Description
Test Name	Displays the measurement name.
Acquisition	Describes the type of data being acquired.
Acquire Status	Displays the progress state of the acquisition: <ul style="list-style-type: none"> <li>To be started</li> </ul>
Analysis Status	Displays the progress state of the analysis: <ul style="list-style-type: none"> <li>To be started</li> <li>Completed</li> </ul>

## View test execution logs

The Test Status tab displays the detailed execution status of the tests. Also, displays each and every execution step in detail with its timestamp information. The log details can be used to troubleshoot and resolve any issue/bug which is blocking the test execution process.

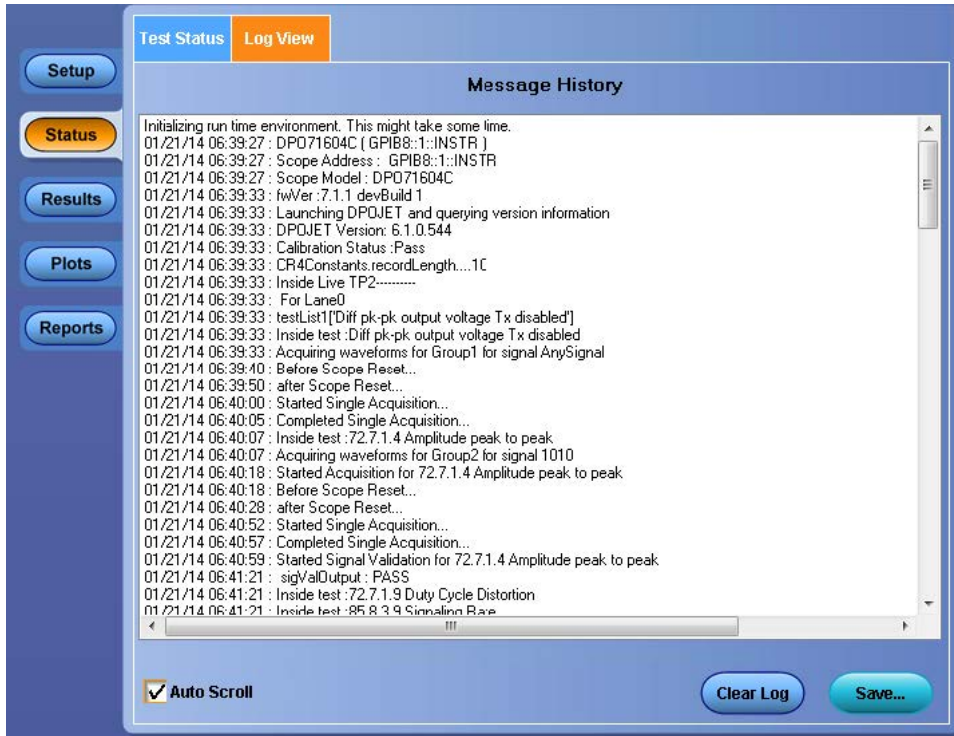


Figure 9: Log view in Status panel

Table 15: Status panel settings

Control	Description
Message History	Lists all the executed test operations and timestamp information.
Auto Scroll	Enables automatic scrolling of the log view as information is added to the log during the test execution.
Clear Log	Clears all the messages from the log view.
Save	Saves the log file into a text file format. Use the standard Save File window to navigate to and specify the folder and file name to save the log text.


## Results panel: View summary of test results

When a test execution is complete, the application automatically opens the **Results** panel to display a summary of test results.

In the Results table, each test result occupies a row. By default, results are displayed in summary format with the measurement details collapsed and with the Pass/Fail column visible.

Test Name	Details	Pass/Fail	Lane	Value	Units	Margin
Diff pk-pk output voltage Tx disabled	Diff pk-pk output voltage Tx disabled	Fail	Lane0	612.000009	mV	-582.0
72.7.1.4 Amplitude peak to peak	72.7.1.4 Amplitude peak to peak	Pass	Lane0	442.736025	mV	757.264
72.7.1.9 Duty Cycle Distortion	72.7.1.9 Duty Cycle Distortion	Pass	Lane0	0.000356	UI	0.0346
85.8.3.9 Signaling Rate	85.8.3.9 Signaling Rate	Pass	Lane0	10.312178244	GBd	H:0.0014, L:0.0007
83A.5.1 Total Jitter excluding DDJ(UTJ)	83A.5.1 Total Jitter excluding DDJ(UTJ)	Pass	Lane0	0.0758	UI	0.1742
72.7.1.4 Common mode voltage limits	72.7.1.4 Common mode voltage limits	Fail	Lane0	-0.005235	mV	H:1900.0052, L:-0.0052
High Limit		Pass		1900.0		
Low Limit		Fail		0.0		
72.7.1.4 Common mode AC output voltage	72.7.1.4 Common mode AC output	Pass	Lane0	6.061301	mV	23.9387

Figure 10: Results panel with measurement results

Click  icon on each measurement in the row to expand and to display the minimum and maximum parameter values of the measurement.

## Filter the test results

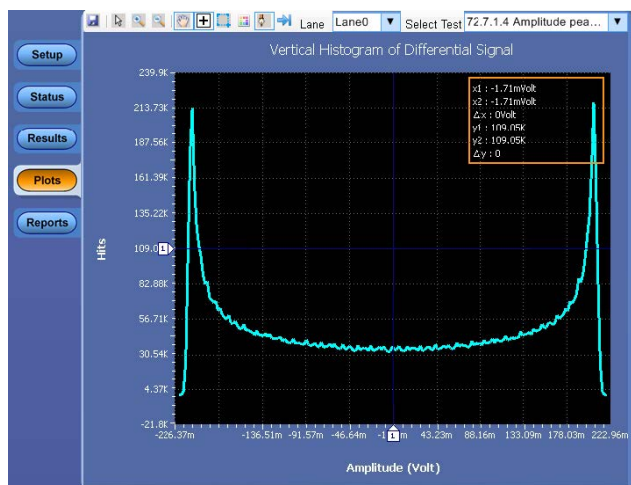
Each column in the result table can be customized and displayed by enabling or disabling any column as per your requirement. You can change the view in the following ways:

- To remove or restore the Pass/Fail column, select **Preferences > Show Pass/Fail**.
- To collapse all expanded tests, select **Preferences > View Results Summary**.
- To expand all the listed tests, select **View Results Details** from the **Preferences** menu in the upper right corner.
- To enable or disable the wordwrap feature, select **Preferences > Enable Wordwrap**.
- To view the results grouped by lane or test, select the corresponding item from the **Preferences** menu.
- To expand the width of a column, place the cursor over the vertical line that separates the column from the column to the right. When the cursor changes to a double-ended arrow, hold down the mouse button and drag the column to the desired width.
- To clear all test results displayed, click **Clear**.

# Plots Panel

## Plots panel overview

Use the Plots panel to view waveform plots associated with test measurements, and use cursors to take measurements on the plotted waveforms.



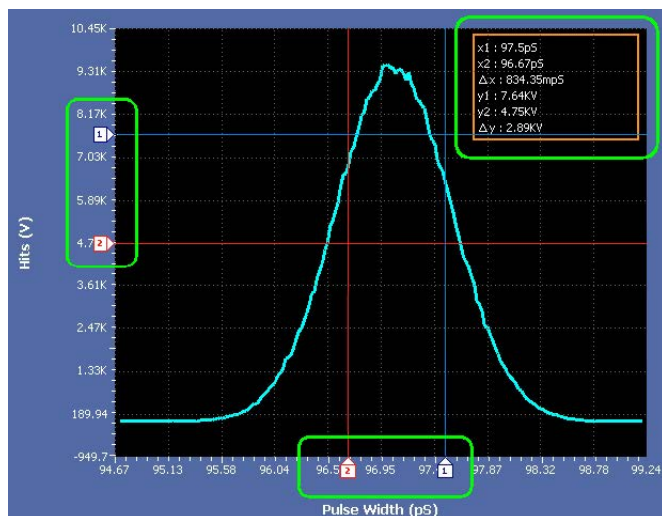
The toolbar at the top edge of the plot contains the plot UI controls. Position the cursor over a control to see a pop-up description of that control. Use the Lane and Select Test controls to select and view a plot for a specific measurement.

### See also

[Plot cursors](#)

## Plot cursors

The plot panel provides a pair of cursors for each plot axis (X axis and Yaxis). The readout in the upper right corner of the plot shows the difference (delta) between the cursors.



Each pair of cursors is positioned together by default. To move a cursor:

1. Position the mouse pointer over the plot cursor icon until the pointer changes to a vertical or horizontal move icon
2. Select and hold the left mouse button, then move the cursor to a new position.
3. Release the mouse button.

# Reports panel: Configure report generation settings

Click **Reports** panel to configure the report generation settings and select the test result information to include in the report. You can use the Reports panel to configure report generation settings, select test content to include in reports, generate the report, view the report, browse for reports, name and save reports, and select report viewing options.

## Select report generation options

This section describes the report generation settings you can configure in the Reports panel. Select report settings before running a test or when creating and saving test setups. Report settings configured are included in saved test setups.

Figure 11: Reports panel



## Report Update Mode Settings

Table 16: Report Update Mode Settings

Control	Description
Generate new report	Each time when you click <b>Run</b> and when the test execution is complete, it will create a new report. The report can be in either .mht, .pdf, or .csv file formats.
Append with previous run session	Appends the latest test results to the end of the current test results report. Each time when you click this option and run the tests, it will run the previously failed tests and replace the failed test result with the new pass test result in the same report.
Replace current test results	Replaces the previous test results with the latest test results. Results from newly added tests are appended to the end of the report.

Table continued...



Control	Description
In previous run, current session	Select to replace current test results in the report with the test result(s) of previous run in the current session.
In any run, any session	Select to replace current test results in the report with the test result(s) in the selected run session's report. Click and select test result of any other run session.
<b>Report Creation Settings</b>	
Report name	<p>Displays the name and path of the TekExpress 40G-CR4 report. The default location is at \My Documents&gt;\My TekExpress\40G-CR4\Reports. The report file in this folder gets overwritten each time you run a test unless you specify a unique name or select to auto increment the report name.</p> <p><b>To change the report name or location, do one of the following:</b></p> <ul style="list-style-type: none"> <li>In the Report Path field, type the current folder path and name.</li> <li>Double-click in the Report Path field and then make selections from the popup keyboard and click <b>Enter</b>.</li> </ul> <p>Be sure to include the entire folder path, the file name, and the file extension. For example: C:\Documents and Settings\your user name\My Documents\My TekExpress\40G-CR4\DUT001.mht.</p> <p> <b>Note:</b> You cannot set the file location using the Browse button.</p> <p><b>Open an existing report</b></p> <p>Click <b>Browse</b>, locate and select the report file and then click <b>View</b> at the bottom of the panel.</p>
Save as type	<p>Saves a report in the specified file type, selected from the drop-down list. The report is saved in .csv, .pdf, or .mht.</p> <p><b>Note:</b></p> <p> If you select a file type different from the default, be sure to change the report file name extension in the Report Name field to match.</p>
Auto increment report name if duplicate	Sets the application to automatically increment the name of the report file if the application finds a file with the same name as the one being generated. For example: DUT001, DUT002, DUT003. This option is enabled by default.
<b>Contents To Save Settings</b>	
Include pass/fail info in details table	Select to include pass/fail information in the details table of the report.
Include detailed results	Select to include detailed results in the report.
Include plot images	Select to include the plot images in the report.
Table continued...	



Control	Description
Include setup configuration	Sets the application to include hardware and software information in the summary box at the top of the report. Information includes: the oscilloscope model and serial number, the oscilloscope firmware version, and software versions for applications used in the measurements.
Include user comments	Select to include any comments about the test that you or another user have added in the DUT tab of the Setup panel. Comments appear in the Comments section, below the summary box at the beginning of each report.
<b>Other settings in report panel</b>	
View report after generating	Automatically opens the report in a Web browser when the test execution is complete. This option is selected by default.
Generate Report	Generates a new report based on the current analysis results.
<b>Group Test Results By</b>	
Test Name	Select to group the test results based on the test name in the report.
Add logo to report	Browse the files to add logo

## View a generated report

### Sample report and its contents

A report shows detailed results and plots, as set in the Reports panel.

Tektronix

TekExpress 40GBase-CR4

TP0 Test Suite

Setup Information			
DUT ID	DUT001	TekExpress 40GBase-CR4 Version	1.0.0.2 (Evaluation_Version)
Specification Version	40GBase-CR4, IEEE Standard 802.3-2012 Annex 85A	FrameWork Version	3.0.1.41
Date/Time	2014-01-23 04:13:55	Scope Model	DPO71604C
Pre-Recorded Mode	No	FirmWare Version	7.1.1 devBuild 1
Compliance Mode	Yes	DPOJET Version	6.1.0.544
Overall Execution Time	0:09:43	Calibration Status	Pass
Overall Analysis Time	0:04:04		
Overall Test Result	Fail		
DUT COMMENT:	General Comment - 40GBase-CR4 Transmitter DUT		

Test Name Summary Table	
Diff_pk-pk output voltage Tx disabled	Fail
72.7.1.9 Duty Cycle Distortion	Skipped
72.7.1.7 Transition Time(20% - 80%)	Fail
85.8.3.9 Signaling Rate	Fail
72.7.1.9 Random Jitter(p-p)	Pass
72.7.1.9 Total Jitter	Pass
72.7.1.9 Deterministic Jitter	Pass

Figure 12: Report

#### Setup Information

The summary box at the beginning of the report lists setup configuration information. This information includes the oscilloscope model and serial number, optical module model and serial number, and software version numbers of all associated applications.

#### Test Name Summary Table

The test summary table lists all the tests which are executed with its result status.

#### Measurement

The measurement table displays the measurement related details with its parameter value.

#### User comments

If you had selected to include comments in the test report, any comments you added in the DUT tab are shown at the top of the report.

# Saving and recalling test setup

## Overview

You can save the test setup and recall it later for further analysis. Saved setup includes the selected oscilloscope, general parameters, acquisition parameters, measurement limits, waveforms (if applicable), and other configuration settings. The setup files are saved under the setup name at **X:\TekExpress 40G-CR4**

Name	Date modified	Type
1-LP_20210331_210911	3/31/2021 9:06 PM	File folder
1-LP_20210331_220738	3/31/2021 10:05 PM	File folder
1-LP_20210331_223715	3/31/2021 10:35 PM	File folder
1-LP_20210331_224851	3/31/2021 10:48 PM	File folder
1-LP_20210331_230337	3/31/2021 11:02 PM	File folder
1-LP_20210331_230921	3/31/2021 11:08 PM	File folder

Figure 13: Example of Test Setup File

Use test setups to:

- Recall a saved configuration.
- Run a new session or acquire live waveforms.
- Create a new test setup using an existing one.
- View all the information associated with a saved test, including the log file, the history of the test status as it executed, and the results summary.
- Run a saved test using saved waveforms.

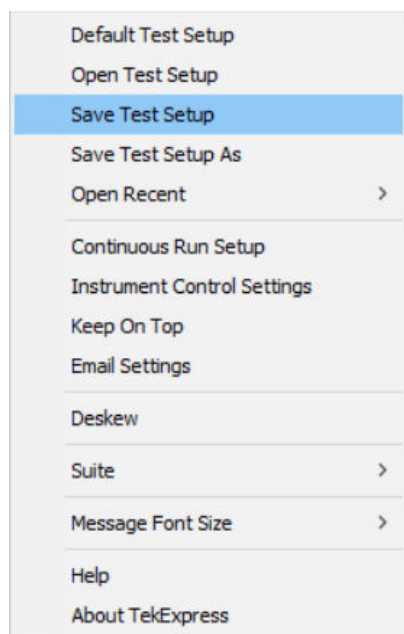


**Note:** Images that are shown in this Saving and recalling test setup chapter are for illustration purpose only and it may vary depending on the TekExpress application.

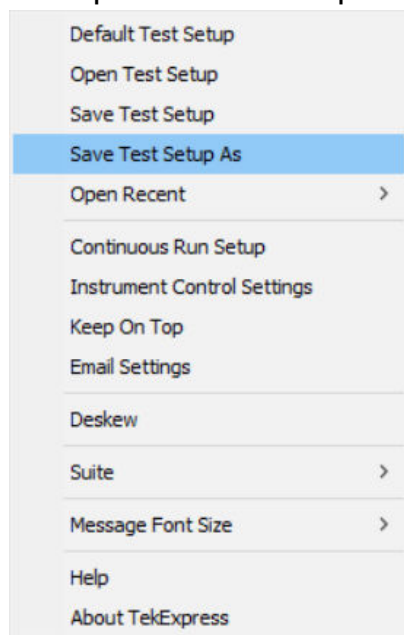
## Save the configured test setup

You can save a test setup before or after running a test. You can create a test setup from already created test setup or using a default test setup. When you save a setup, all the parameters, measurement limits, waveform files (if applicable), test selections, and other configuration settings are saved under the setup name. When you select the default test setup, the parameters are set to the application's default value.

- Select **Options > Save Test Setup** to save the opened setup.



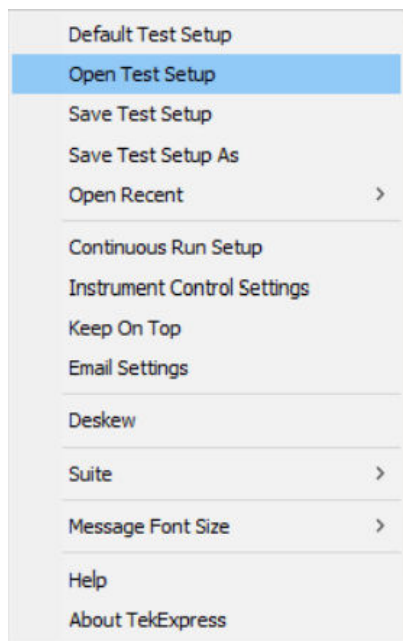
- Select **Options > Save Test Setup As** to save the setup with different name.



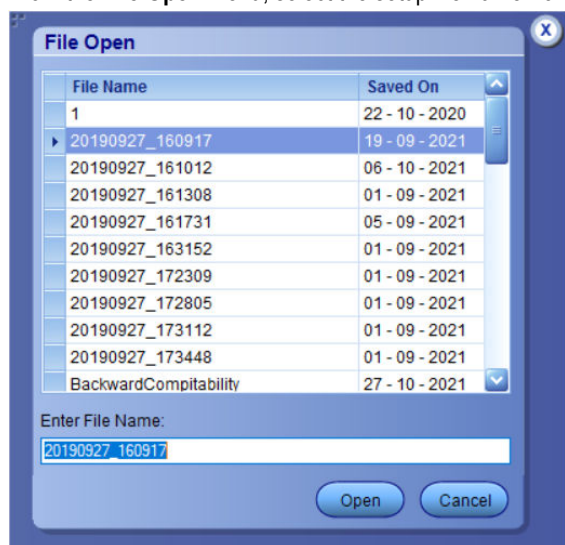
## Load a saved test setup

To open (load) a saved test setup, do the following:

- Select **Options > Open Test Setup**.



- From the **File Open** menu, select the setup file name from the list and click **Open**.

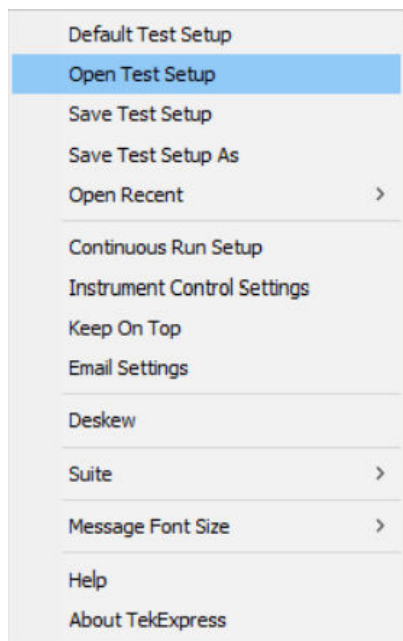


**Note:** Parameters that are set for the respective test setup will enable after opening the file.

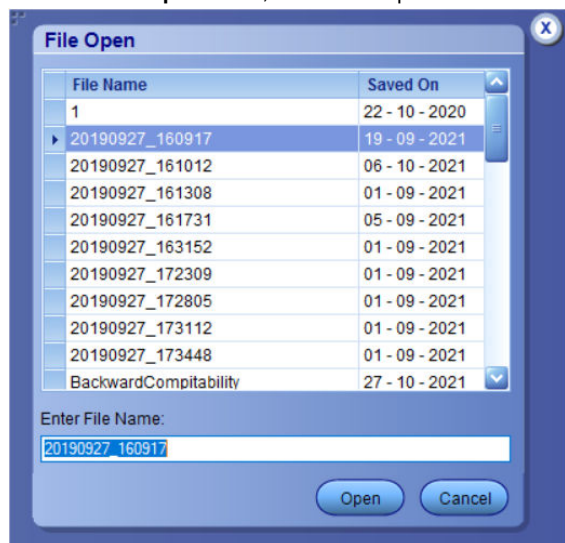
## Perform a test using pre-run session files

Complete the following steps to load a test setup from a pre-run session:

1. Select **Options > Open Test Setup**.

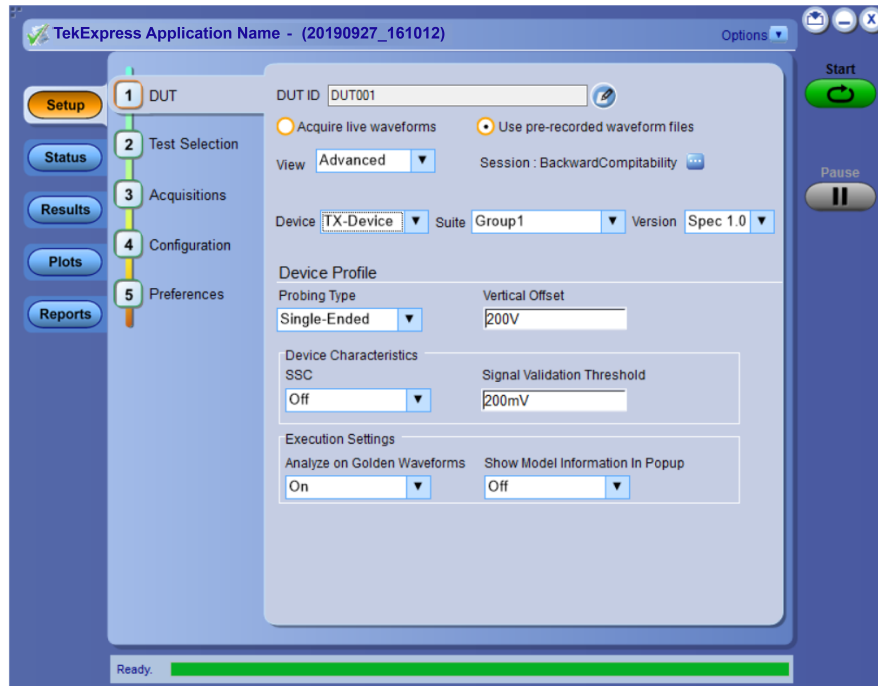


- From the **File Open** menu, select a setup from the list and then click **Open**.

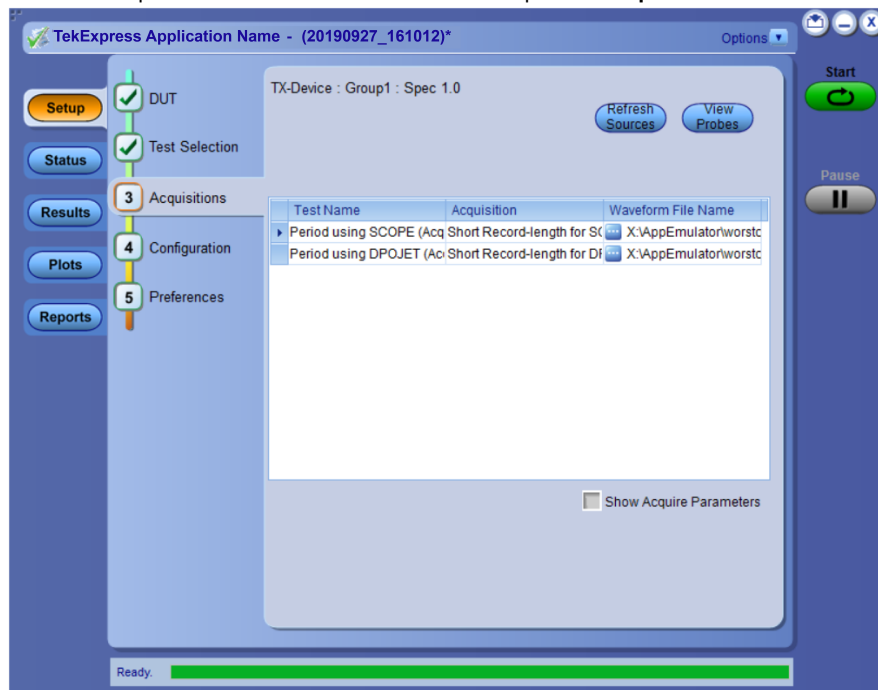



**Note:** Parameters that are set for the respective test setup will enable after opening the file.

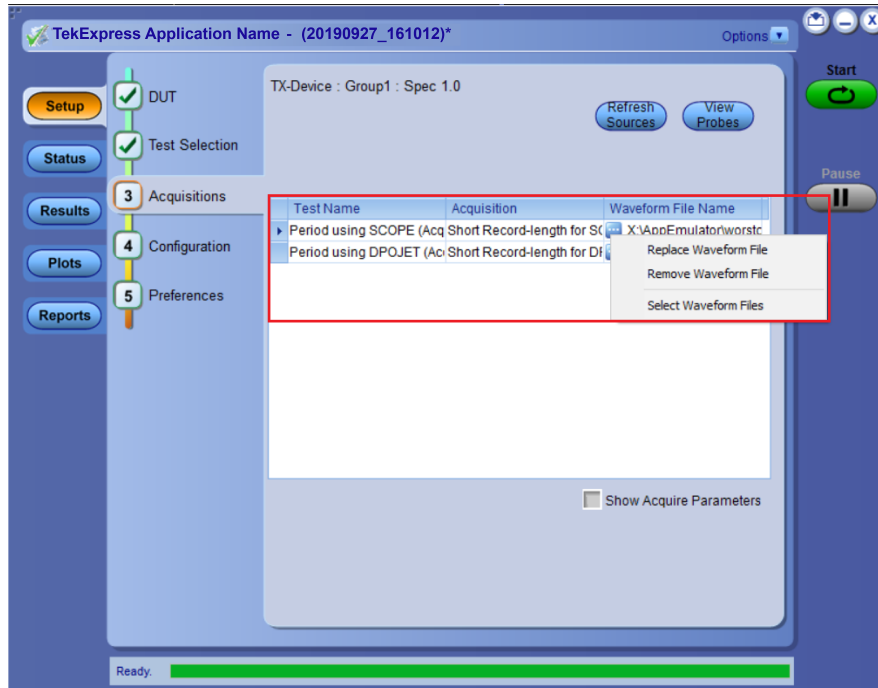
- Switch the mode to **Use Pre-recorded waveform files** in the DUT panel.



4. Select the required waveforms from the selected setup in the **Acquisitions** tab and click **Start**.



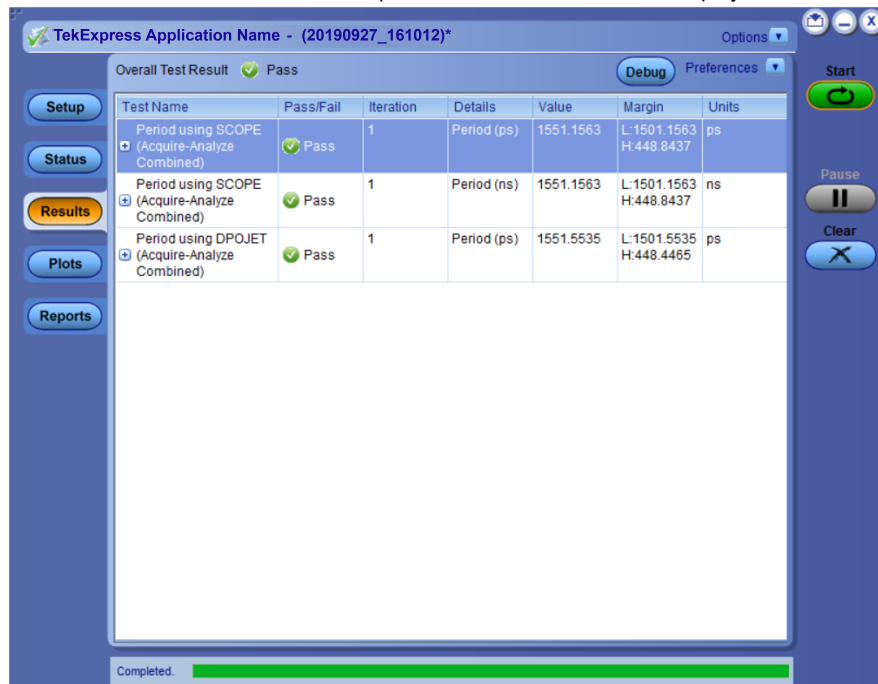
5. The selected waveform file can be removed/replaced by clicking on the (  ) icon.



6. After successful completion of the test, the waveform report files are stored at X:\<Application Name>\Reports.

Name	Date modified	Type
DUT001_2266.mht	10/27/2021 4:25 AM	MHTML Document
DUT001_2265.mht	10/27/2021 1:24 AM	MHTML Document
DUT001_2264.mht	10/6/2021 2:58 AM	MHTML Document
DUT001_2263.mht	10/6/2021 2:40 AM	MHTML Document
DUT001_2262.mht	10/6/2021 2:35 AM	MHTML Document
DUT001_2261.mht	10/6/2021 2:23 AM	MHTML Document

7. The overall test result status after completion of the test execution is displayed in the Results Panel.

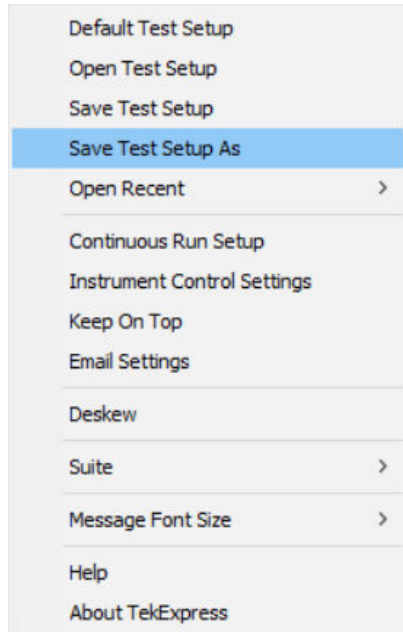




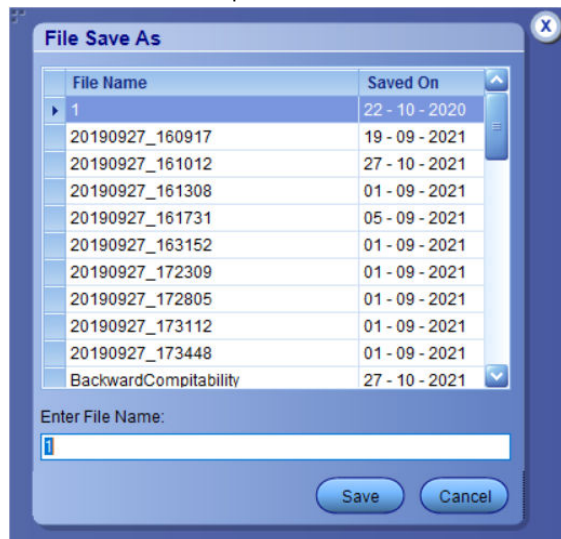
## Save the test setup with a different name

To save a test setup with a different name, follow the steps:

1. Select **Options > Save Test Setup As**.



2. Enter the new test setup name and click **Save**.



# SCPI Commands

## About SCPI command

You can use the Standard Commands for Programmable Instruments (SCPI) to communicate remotely with the TekExpress application. Complete the TCP/IP socket configuration and the TekVISA configuration in the oscilloscope or in the device where you are executing the script.



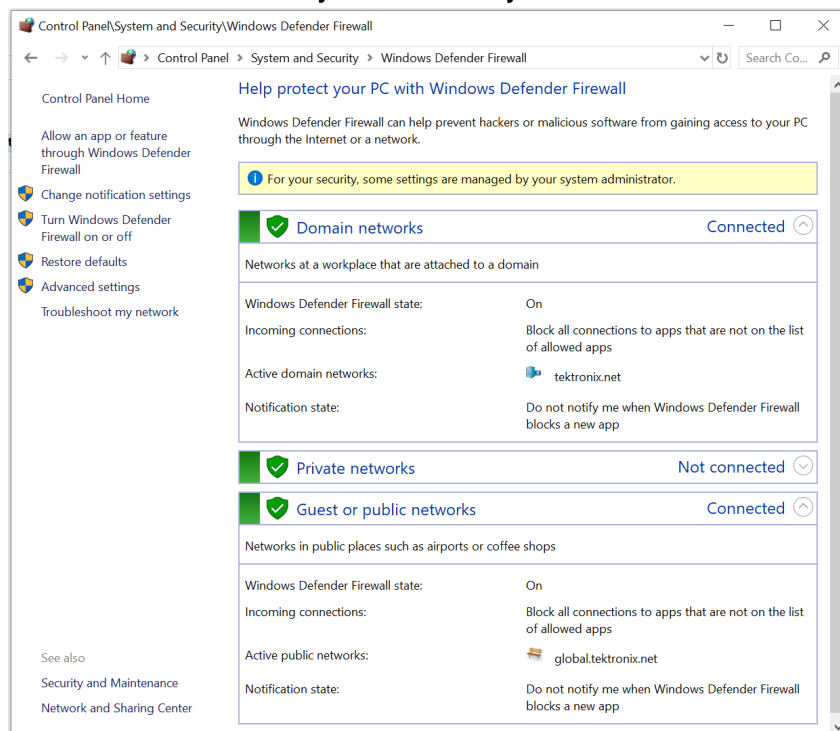
**Note:** If you are using an external PC to execute the remote interface commands, then install TekVISA in the PC to make the configurations.

## Socket configuration for SCPI commands

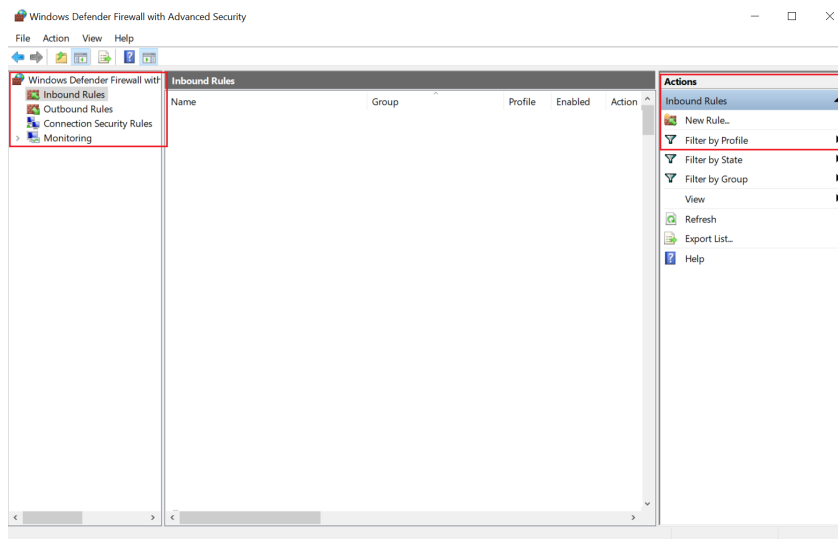
This section describes the steps to configure the TCP/IP socket configuration in your script execution device and the steps to configure the TekVISA configuration in the oscilloscope to execute the SCPI commands.

### TCP/IP socket configuration

1. Click **Start > Control Panel > System and Security > Windows Firewall > Advanced settings**.

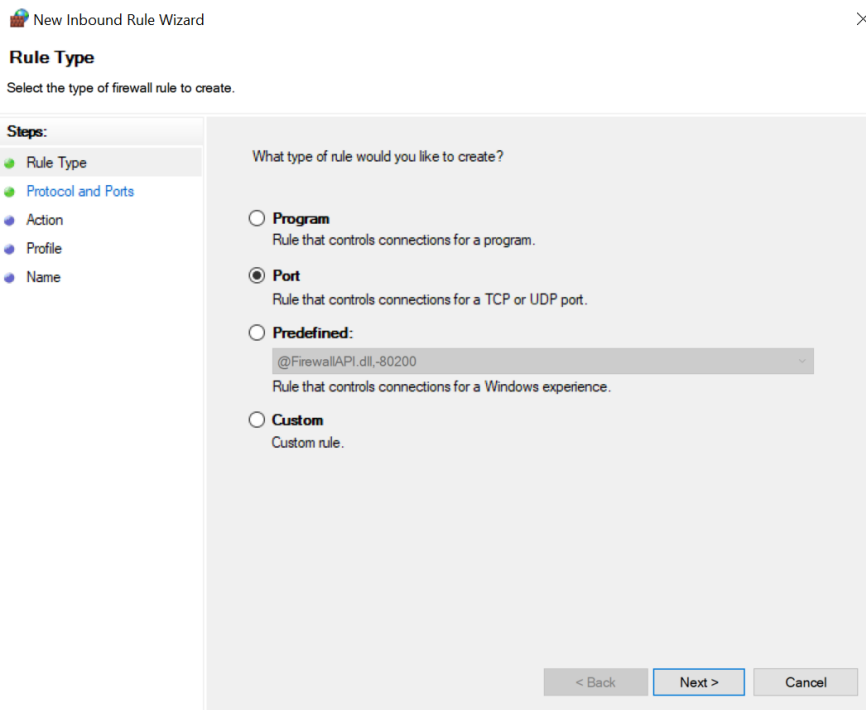


2. In Windows Firewall with Advanced Security menu, select **Windows Firewall with Advanced Security on Local Computer > Inbound Rules** and click **New Rule...**



### 3. In New Inbound Rule Wizard menu

#### a. Select **Port** and click **Next**.



#### b. Select **TCP** as rule apply, enter 5000 for **Specific local ports** and click **Next**.

New Inbound Rule Wizard

**Protocol and Ports**

Specify the protocols and ports to which this rule applies.

**Steps:**

- Rule Type
- Protocol and Ports
- Action
- Profile
- Name

Does this rule apply to TCP or UDP?

☒ TCP  
☐ UDP

Does this rule apply to all local ports or specific local ports?

☐ All local ports  
☒ Specific local ports:   
Example: 80, 443, 5000-5010

< Back   Next >   Cancel

- c. Select **Allow the connection** and click **Next**.

New Inbound Rule Wizard

**Action**

Specify the action to be taken when a connection matches the conditions specified in the rule.

**Steps:**

- Rule Type
- Protocol and Ports
- Action
- Profile
- Name

What action should be taken when a connection matches the specified conditions?

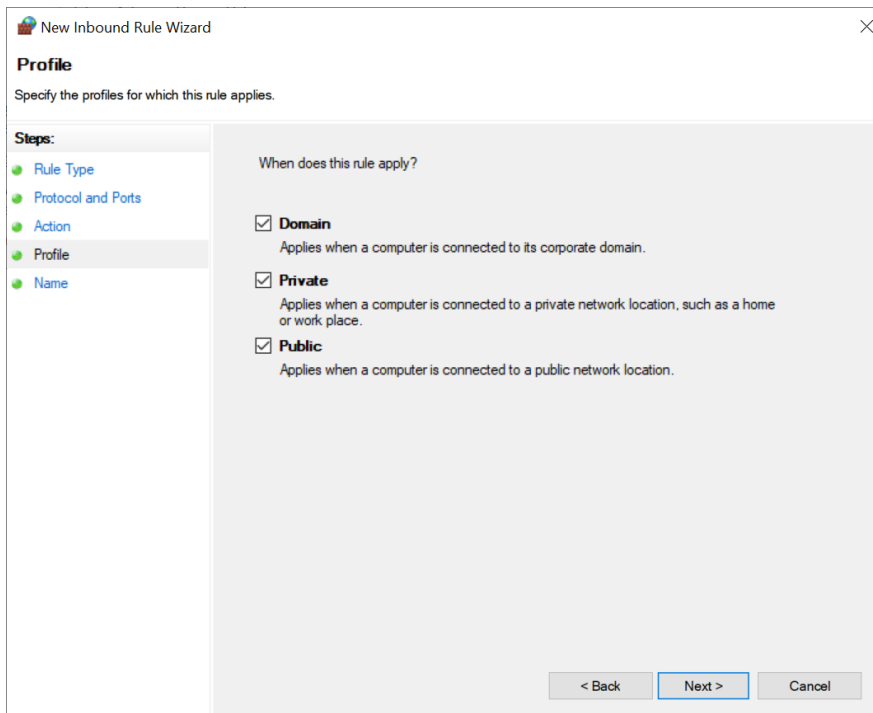
☒ **Allow the connection**  
This includes connections that are protected with IPsec as well as those are not.

☐ **Allow the connection if it is secure**  
This includes only connections that have been authenticated by using IPsec. Connections will be secured using the settings in IPsec properties and rules in the Connection Security Rule node.  
[Customize...](#)

☐ **Block the connection**

< Back   Next >   Cancel

- d. Select **Domain, Private, Public** checkbox and click **Next**.



New Inbound Rule Wizard

**Profile**

Specify the profiles for which this rule applies.

**Steps:**

- Rule Type
- Protocol and Ports
- Action
- Profile
- Name

When does this rule apply?

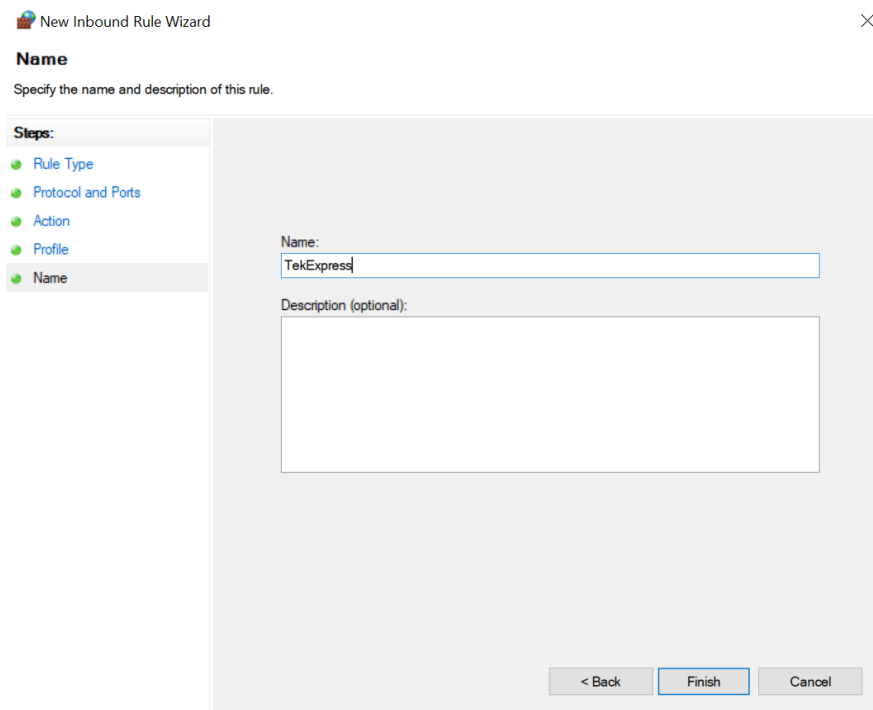
☒ **Domain**  
Applies when a computer is connected to its corporate domain.

☒ **Private**  
Applies when a computer is connected to a private network location, such as a home or work place.

☒ **Public**  
Applies when a computer is connected to a public network location.

< Back   Next >   Cancel

- e. Enter **Name**, **Description** (optional), and click **Finish**.



New Inbound Rule Wizard

**Name**

Specify the name and description of this rule.

**Steps:**

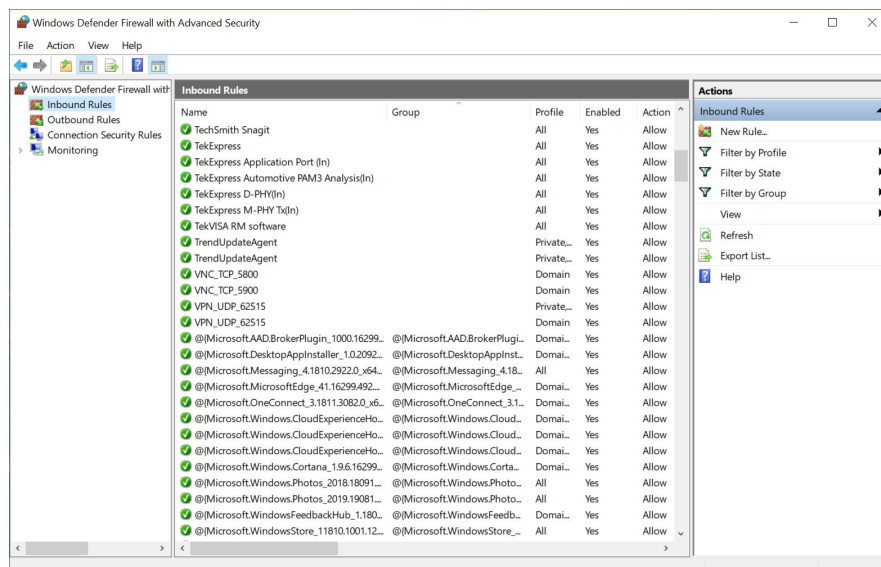
- Rule Type
- Protocol and Ports
- Action
- Profile
- Name

Name:  
TekExpress

Description (optional):

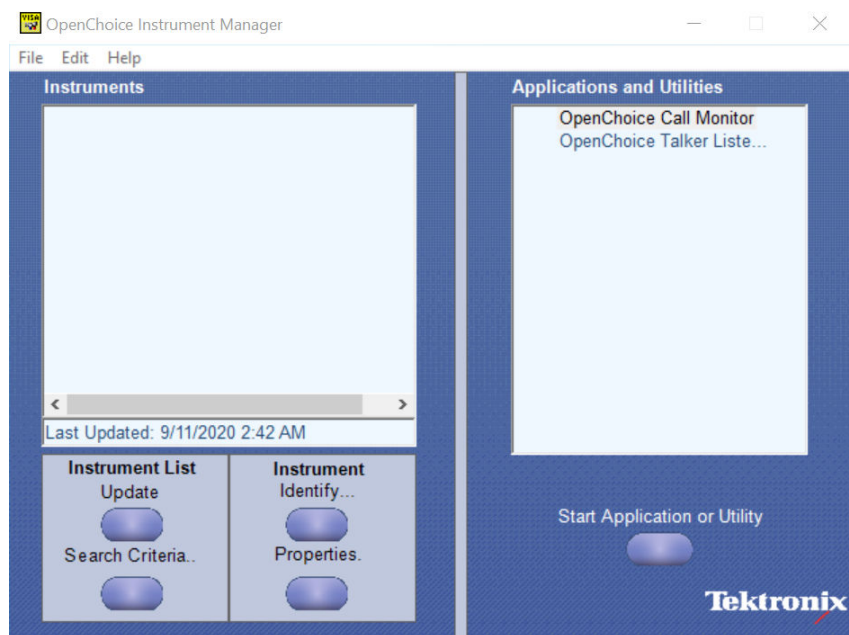
< Back   Finish   Cancel

4. Check whether the Rule name is displayed in **Windows Firewall with Advanced Security** menu > **Inbound Rules**.




## TekVISA configuration

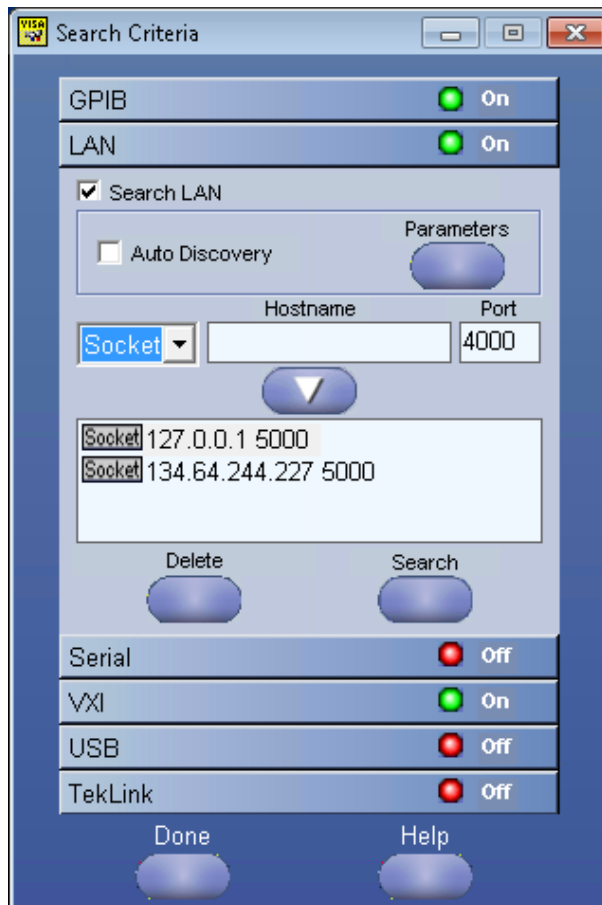
1. Click **Start > All Programs > TekVISA > OpenChoice Instrument Manager**.



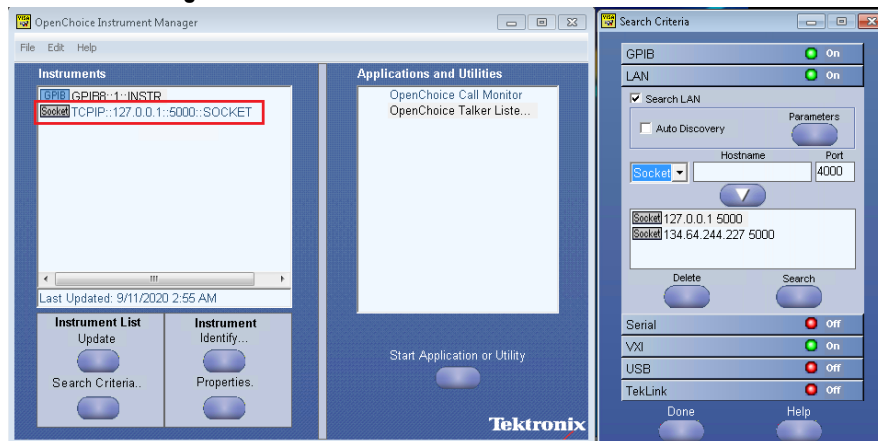
2. Click **Search Criteria**. In **Search Criteria** menu, click **LAN** to Turn-on. Select **Socket** from the drop-down list, enter the IP address of

the TekExpress device in **Hostname** and type **Port** as 5000. Click  to configure the IP address with Port.

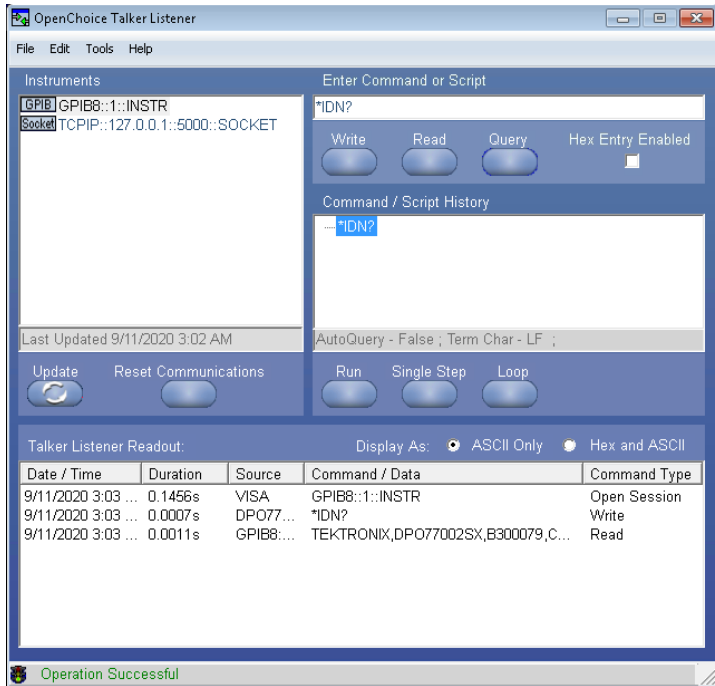
Enter the Hostname as 127.0.0.1 if the TekVISA and TekExpress application are in the same system, else enter the IP address of the oscilloscope where the TekExpress application is running.



3. Click **Search** to setup the TCPIP connection with the host. Check whether the TCPIP host name is displayed in **OpenChoice Instrument Manager > Instruments**.



4. Double-click **OpenChoice Talker Listener** and enter the Command **\*IDN?** in command entry field and click **Query**. Check that the Operation is successful and Talker Listener Readout displays the Command / Data.



## Set or query the device name of application

This command sets or queries the device name of the application.

### Syntax

TEKEXP:SELECT DEVICE, "<DeviceName>" (Set)

TEKEXP:SELECT? DEVICE (Query)

### Command arguments

Argument Name	Argument Type
<DeviceName>	<String>

### Returns

<String>

### Examples

TEKEXP:SELECT DEVICE, "<DeviceName>" command sets the device name of the application.

TEKEXP:SELECT? DEVICE command returns the selected device name of the application.

## Set or query the suite name of the application

This command sets or queries the suite name of the application.

### Syntax

TEKEXP:SELECT SUITE, "<SuiteName>" (Set)

TEKEXP:SELECT? SUITE (Query)



## Command arguments

Argument Name	Argument Type and value	Description
<SuiteName> • TP0 • TP2	<String>	It is the name of the suite on the DUT panel of the application

## Returns

<String>

## Examples

TEKEXP:SELECT SUITE, "<SuiteName>" command sets the suite name of the application.

TEKEXP:SELECT? SUITE command returns the selected suite of the application.

## Set or query the test name of the application

This command selects or deselects the specified test name of the application.

## Syntax

TEKEXP:SELECT TEST, "<TestName>", <Value> (Set)

TEKEXP:SELECT TEST, "<ALL>" (Set)

TEKEXP:SELECT? TEST (Query)

## Command arguments

Test Name	Value
<b>TP0</b> <ul style="list-style-type: none"> <li>Differential peak-peak output voltage Tx disabled</li> <li>72.7.1.9 Duty Cycle Distortion</li> <li>72.7.1.7 Transition Time(20% - 80%)</li> <li>85.8.3.9 Signaling Rate</li> <li>72.7.1.9 Random Jitter(p-p)</li> <li>72.7.1.9 Total Jitter</li> <li>72.7.1.9 Deterministic Jitter</li> <li>72.7.1.4 Common mode voltage limits</li> <li>72.7.1.4 Common mode AC output voltage</li> <li>72.7.1.5 Differential Output Return Loss</li> <li>72.7.1.6 Common Mode Output Return Loss</li> </ul>	{ True   False } or {1   0} It represents selected or unselected. Where, True or 1 - Selected False or 0 - Unselected

Table continued...

Test Name	Value
<b>TP2</b> <ul style="list-style-type: none"> <li>Differential peak-peak output voltage Tx disabled</li> <li>72.7.1.4 Amplitude peak to peak</li> <li>72.7.1.9 Duty Cycle Distortion</li> <li>85.8.3.9 Signaling Rate</li> <li>Random Jitter(p-p)</li> <li>83A.5.1 Total Jitter excluding DDJ(UTJ)</li> <li>J2 - Informative</li> <li>J9 - Informative</li> <li>85.8.3.3.2 Absolute coefficient step size</li> <li>85.8.3.3.1 Coefficient Initialization Ratio1</li> <li>85.8.3.3.1 Coefficient Initialization Ratio2</li> <li>85.8.3.3 Linear Fit Pulse</li> <li>85.8.3.3 RMS Normalized Error</li> <li>85.8.3.3 Transmitter DC Amplitude</li> <li>85.8.3.3.3 Minimum Pre-cursor full scale range</li> <li>85.8.3.3.3 Minimum Post-cursor full scale range</li> <li>Transition Time(20% - 80%) - Informative</li> <li>72.7.1.4 Common mode voltage limits</li> <li>72.7.1.4 Common mode AC output voltage</li> <li>85.8.3.1 Differential Output Return Loss</li> </ul>	{ True   False } or {1   0} It represents selected or unselected. Where, True or 1 - Selected False or 0 - Unselected

## Returns

{True | False} or {1 | 0}

## Examples

TEKEXP:SELECT TEST, "<TestName>", 1 command selects the specified test in the Test Panel.

TEKEXP:SELECT TEST, "<ALL>" command select all the tests in the Test Panel.

TEKEXP:SELECT? TEST command returns the list of selected tests.

## Set or query the version name of the application

This command sets or queries the version name of the application.

## Syntax

TEKEXP:SELECT VERSION, "<VersionName>" (Set)

TEKEXP:SELECT? VERSION (Query)

## Command arguments

Version Name	Argument Type	Valid Values
<VersionName>	<String>	It is the name of the version on the DUT panel of the application

## Returns

<String>

## Examples

TEKEXP:SELECT VERSION,"<VersionName>" command sets the version name of application.

TEKEXP:SELECT? VERSION command returns the version name of application.

## Set or query the general parameter values

This command sets or queries the general parameter values of the application.

## Syntax

TEKEXP:VALUE GENERAL,"<ParameterName>","<Value>" (Set)

TEKEXP:VALUE? GENERAL,"<ParameterName>" (Query)

## Command arguments

Table 17: Command arguments for general settings

Parameter Name	Value
Device Type	40GBase-CR4
Suite Type	<ul style="list-style-type: none"> <li>TP0</li> <li>TP2</li> </ul>
Record Length	Data Type: Double Range(2-20)
De-embedding filter	Data Type: String File Path
Apply Filter for Group4	<ul style="list-style-type: none"> <li>Yes</li> <li>No</li> </ul>
Filter File Path for Group4 (.flt file)	File Path
Apply Filter	<ul style="list-style-type: none"> <li>Yes</li> <li>No</li> </ul>
Filter File Path (.flt file)	File Path

## Returns

<NRf> or <String>

## Examples

TEKEXP:VALUE GENERAL,"<ParameterName>","<Value>" command set the value for the specified general parameter.

TEKEXP:VALUE? GENERAL,"<ParameterName>" command returns the value for the specified general parameter.

## Set or query the acquire parameter values

This command sets or queries the acquire parameter values of the application.

### Syntax

TEKEXP:VALUE

ACQUIRE,"<TestName>","<AcquireType>","<ParameterName>","<ParameterValue>" (Set)

TEKEXP:VALUE? ACQUIRE,"<TestName>","<AcquireType>","<ParameterName>" (Query)

### Command arguments

Test Name	Acquire Type	Parameter Name	Parameter Value
<b>TP0</b>			
Differential peak - peak output voltage Tx disabled	Group 1	Data Pattern	
72.7.1.9 Duty Cycle Distortion	Group 2		1010 (Default Value)
			<ul style="list-style-type: none"> <li>1010</li> <li>PRBS7</li> <li>PRBS9</li> <li>PRBS11</li> <li>PRBS15</li> <li>PRBS20</li> <li>PRBS23</li> <li>PRBS31</li> </ul>
72.7.1.7 Transition Time(20% - 80%)	Group 3		8180 (Default Value)
			8180, N1N0 (4 & l t; = N & l t; = 12)
85.8.3.9 Signaling Rate	Group 4		PRBS9 (Default Value)
			<ul style="list-style-type: none"> <li>1010</li> <li>PRBS7</li> <li>PRBS9</li> <li>PRBS11</li> <li>PRBS15</li> <li>PRBS20</li> <li>PRBS23</li> <li>PRBS31</li> </ul>
72.7.1.9 Random Jitter(p - p)			<ul style="list-style-type: none"> <li>PRBS7</li> <li>PRBS9</li> <li>PRBS11</li> <li>PRBS15</li> <li>PRBS20</li> </ul>

Table continued...

Test Name	Acquire Type	Parameter Name	Parameter Value
			<ul style="list-style-type: none"><li>• PRBS23</li><li>• PRBS31</li></ul>
72.7.1.9 Total Jitter			<ul style="list-style-type: none"><li>• PRBS7</li><li>• PRBS9</li><li>• PRBS11</li><li>• PRBS15</li><li>• PRBS20</li><li>• PRBS23</li><li>• PRBS31</li></ul>
72.7.1.9 Deterministic Jitter			<ul style="list-style-type: none"><li>• PRBS7</li><li>• PRBS9</li><li>• PRBS11</li><li>• PRBS15</li><li>• PRBS20</li><li>• PRBS23</li><li>• PRBS31</li></ul>
72.7.1.4 Common mode voltage limits	Group 5		
72.7.1.4 Common mode AC output voltage			
72.7.1.5 Differential Output Return Loss	Group 6	Differential Return Loss	File path
72.7.1.6 Common Mode Output Return Loss			
TP2			
Differential peak-peak output voltage Tx disabled	Group 1		
72.7.1.4 Amplitude peak to peak	Group 2	Data Pattern	<ul style="list-style-type: none"><li>• 1010</li><li>• PRBS7</li><li>• PRBS9</li><li>• PRBS11</li><li>• PRBS15</li><li>• PRBS20</li><li>• PRBS23</li><li>• PRBS31</li></ul>
72.7.1.9 Duty Cycle Distortion			
Table continued...			

Test Name	Acquire Type	Parameter Name	Parameter Value
85.8.3.9 Signaling Rate	Group 3	Data Pattern	<ul style="list-style-type: none"><li>• 1010</li><li>• PRBS7</li><li>• PRBS9</li><li>• PRBS11</li><li>• PRBS15</li><li>• PRBS20</li><li>• PRBS23</li><li>• PRBS31</li></ul>
Random Jitter(p-p)			<ul style="list-style-type: none"><li>• PRBS7</li><li>• PRBS9</li><li>• PRBS11</li><li>• PRBS15</li></ul>
83A.5.1 Total Jitter excluding DDJ(UTJ)			<ul style="list-style-type: none"><li>• 1010</li><li>• PRBS7</li><li>• PRBS9</li><li>• PRBS11</li><li>• PRBS15</li><li>• PRBS20</li><li>• PRBS23</li><li>• PRBS31</li></ul>
J2 - Informative			<ul style="list-style-type: none"><li>• 1010</li><li>• PRBS7</li><li>• PRBS9</li><li>• PRBS11</li><li>• PRBS15</li><li>• PRBS20</li><li>• PRBS23</li><li>• PRBS31</li></ul>
J9 - Informative			<ul style="list-style-type: none"><li>• 1010</li><li>• PRBS7</li><li>• PRBS9</li><li>• PRBS11</li><li>• PRBS15</li><li>• PRBS20</li><li>• PRBS23</li><li>• PRBS31</li></ul>
Table continued...			

Test Name	Acquire Type	Parameter Name	Parameter Value
85.8.3.3.2 Absolute coefficient step size	Group 4_ABS_COEFF_STEP_SIZE		
85.8.3.3.1 Coefficient Initialization Ratio1	Group 4_INIT_RATIO		
85.8.3.3.1 Coefficient Initialization Ratio2			
85.8.3.3 Linear Fit Pulse	Group 4		
85.8.3.3 RMS Normalized Error			
85.8.3.3 Transmitter DC Amplitude			
85.8.3.3.3 Minimum Pre-cursor full scale range	Group 4_PRE		
85.8.3.3.3 Minimum Post-cursor full scale range	Group 4_POST		
Transition Time(20% - 80%) - Informative	Group 5	Data Pattern	8180, N1N0 (4 & lt; = N & lt; = 12)
72.7.1.4 Common mode voltage limits	Group 6		
72.7.1.4 Common mode AC output voltage			
85.8.3.1 Differential Output Return Loss	Group 7	Differential Return Loss	File path

## Returns

<Nrf>

## Examples

TEKEXP:VALUE

ACQUIRE, "<TestName>", "<AcquireType>", "<ParameterName>", "<ParameterValue>" command sets the value for the specified test and its acquire parameter.

TEKEXP:VALUE? ACQUIRE, "<TestName>", "<AcquireType>", "<ParameterName>" command returns the value for the specified test and its acquire parameter.

## Set or query the analyze parameter values

This command sets or queries the analyze parameter values of the application.

## Syntax

TEKEXP:VALUE ANALYZE,"<TestName>","<ParameterName>","<ParameterValue>" (Set)

TEKEXP:VALUE? ANALYZE,"<TestName>","<ParameterName>" (Query)

## Command arguments

TestName	ParameterName	ParameterValue
72.7.1.9 Total Jitter	BER	Range (2 to 14)
Random Jitter (P - P)		
83A.5.1 Total Jitter excluding DDJ (UTJ)		

## Returns

<Nrf>

## Examples

TEKEXP:VALUE ANALYZE,"<TestName>","<ParameterName>","<ParameterValue>" command set the value for the specified test and its analyze parameter.

TEKEXP:VALUE? ANALYZE,"<TestName>","<ParameterName>" command returns the value for the specified test and its analyze parameter.

# Query the available devices in the DUT panel of the application

## Syntax

TEKEXP:LIST? DEVICE (Query)

## Command arguments

Device	Device Type and value	Description
<Device>	<String>	It is the name of the device on the DUT panel of the application.

## Returns

<String>

## Examples

TEKEXP:LIST? DEVICE command returns the list of available devices.

# Query the available suites for the selected device

This command queries the list of available suites for the selected device as comma separated values.

## Syntax

TEKEXP:LIST? SUITE (Query)

## Returns

<String>



## Examples

TEKEXP:LIST? SUITE command returns the list of available suites for the selected device.

## Query the list of available tests of the application

This command queries the list of available tests of the application for the selected device as comma separated values.

### Syntax

TEKEXP:LIST? TEST (Query)

### Command arguments

Test Name	String
TP0	<ul style="list-style-type: none"> <li>Differential peak-peak output voltage Tx disabled</li> <li>72.7.1.9 Duty Cycle Distortion</li> <li>72.7.1.7 Transition Time(20% - 80%)</li> <li>85.8.3.9 Signaling Rate</li> <li>72.7.1.9 Random Jitter(p-p)</li> <li>72.7.1.9 Total Jitter</li> <li>72.7.1.9 Deterministic Jitter</li> <li>72.7.1.4 Common mode voltage limits</li> <li>72.7.1.4 Common mode AC output voltage</li> <li>72.7.1.5 Differential Output Return Loss</li> <li>72.7.1.6 Common Mode Output Return Loss</li> </ul>
TP2	<ul style="list-style-type: none"> <li>Differential peak-peak output voltage Tx disabled</li> <li>72.7.1.4 Amplitude peak to peak</li> <li>72.7.1.9 Duty Cycle Distortion</li> <li>85.8.3.9 Signaling Rate</li> <li>Random Jitter(p-p)</li> <li>83A.5.1 Total Jitter excluding DDJ(UTJ)</li> <li>J2 - Informative</li> <li>J9 - Informative</li> <li>85.8.3.3.2 Absolute coefficient step size</li> <li>85.8.3.3.1 Coefficient Initialization Ratio1</li> <li>85.8.3.3.1 Coefficient Initialization Ratio2</li> <li>85.8.3.3 Linear Fit Pulse</li> <li>85.8.3.3 RMS Normalized Error</li> <li>85.8.3.3 Transmitter DC Amplitude</li> <li>85.8.3.3.3 Minimum Pre-cursor full scale range</li> <li>85.8.3.3.3 Minimum Post-cursor full scale range</li> <li>Transition Time(20% - 80%) - Informative</li> <li>72.7.1.4 Common mode voltage limits</li> <li>72.7.1.4 Common mode AC output voltage</li> </ul>

Test Name	String
	<ul style="list-style-type: none"> <li>85.8.3.1 Differential Output Return Loss</li> </ul>

## Returns

<String>

## Examples

TEKEXP:LIST? TEST command returns the list of available tests for the selected device.

## Query the available version names of the application

This command queries the list of available version names of the application for the selected device as comma separated values.

## Syntax

TEKEXP:LIST? VERSION (Query)

## Returns

<String>

## Examples

TEKEXP:LIST? VERSION command returns the list of version names for the selected device.

## Query the list of available instruments based on the specified instrument type

This command queries the list of available instruments based on the specified instrument type.

## Syntax

TEKEXP:LIST? INSTRUMENT, "<InstrumentType>" (Query)

## Command argument

Argument Name	Argument value
<InstrumentType>	<String>

## Returns

<String>

## Examples

TEKEXP:LIST? INSTRUMENT, "Real Time Scope" command returns the list of available instruments based on the real time scope type.

## Set or query the IP address of the instrument based on the specified instrument type

This command sets or queries the IP address of the instrument based on the specified instrument type.

## Syntax

TEKEXP:INSTRUMENT? "<InstrumentType>" (Query)

TEKEXP:INSTRUMENT, "<InstrumentType>", "<Value>" (Set)

## Command argument

Argument Name	Argument Type
<InstrumentType>	<String>
<Value>	<String> TCPIP::XXX.XX.XXX.XXX::INSTR

## Returns

<String>

## Examples

TEKEXP:INSTRUMENT? "<InstrumentType>" command returns the IP address of the oscilloscope.

TEKEXP:INSTRUMENT, "<InstrumentType>", "<value>" command sets the oscilloscope to the specified IP address.

## Query the information of the generated report file

This command queries the information of the generated report file in the format "<FileSize>",<FileName>".

## Pre-requisite

A session should be run earlier and the report should be generated to get the information of the report.

## Syntax

TEKEXP:INFO? REPORT (Query)

## Returns

<FileSize>:: <String>

<FileName>:: <String>

## Examples

TEKEXP:INFO? REPORT command returns the information of the generated report in the format ("1215","DUT001.mht").

## Query the information of the generated waveform files

This command queries the information of the generated waveform files in the format.

<File1Size,"File1Name">.

If there are more than one waveform, the waveform file names are displayed with the comma separated values in the format

<File1Size,"File1Name">,<File2Size,"File2Name">.

## Syntax

TEKEXP:INFO? WFM (Query)

## Returns

<FileSize>:: <String>

<FileName>:: <String>

## Examples

TEKEXP:INFO? WFM command returns the information of the generated waveform in the format (20000858,"X:\40G-CR4\Untitled Session\DUT001\20200916\_041609\Iter1\_Short Record-length for SCOPE Period\_NoSSC\_DIFF.wfm").

## Query the information of the generated image files

This command queries the information of the generated image files in the format.

<File1Size,"File1Name">.

If there are more than one image, the image file names are displayed with the comma separated values in the format

<File1Size,"File1Name">,<File2Size,"File2Name">.

## Syntax

TEKEXP:INFO? IMAGE (Query)

## Returns

<FileSize>:: <String>

<FileName>:: <String>

## Examples

TEKEXP:INFO? IMAGE command returns the information of the generated image in the format (109058, "X:\40G-CR4\Untitled Session\DUT001\20200916\_041609\Iter1\_Short Record-length for SCOPE Period\_NoSSC\_DIFF.png";22794,"X:\40G-CR4\UntitledSession\DUT001\20 200916\_041609\ScopePeriodPlot\_Iteration1WithCursor.png").

## Query the active TekExpress application name

This command queries the active TekExpress application name running on the oscilloscope.

## Syntax

TEKEXP:\*IDN? (Query)

## Returns

<String>

## Examples

TEKEXP:\*IDN? command returns the active TekExpress application name running on the oscilloscope.

## Set or query the DUTID of application

This command sets or queries the DUTID of the application.

## Syntax

TEKEXP:VALUE DUTID, "<Value>" (Set)

TEKEXP:VALUE? DUTID (Query)

## Command arguments

Argument Name	Argument Type
<Value>	<String>

## Returns

<String>

## Examples

TEKEXP:VALUE DUTID, "DUT001" command sets the DUTID of the application to DUT001.

TEKEXP:VALUE? DUTID command returns the DUTID of the application.

## Sets or query the acquire mode status

This command sets or queries the acquire mode status.

## Syntax

TEKEXP:ACQUIRE\_MODE <Mode> (Set)

TEKEXP:ACQUIRE\_MODE? (Query)

## Command arguments

Argument Name	Argument value
<Mode>	<ul style="list-style-type: none"> <li>LIVE</li> <li>PRE-RECORDED</li> </ul>

## Returns

LIVE | PRE-RECORDED

## Examples

TEKEXP:ACQUIRE\_MODE LIVE command sets the acquire mode to the Live mode.

TEKEXP:ACQUIRE\_MODE? command returns the current acquire mode.

## Set or query the execution mode status

This command sets or queries the execution mode status.

## Syntax

TEKEXP:MODE <Mode> (Set)

TEKEXP:MODE? (Query)

## Command arguments

Argument Name	Argument value
<Mode>	<ul style="list-style-type: none"> <li>COMPLIANCE</li> <li>USER-DEFINED</li> </ul>

## Returns

COMPLIANCE | USER-DEFINED

## Examples

TEKEXP:MODE COMPLIANCE command sets the execution mode to the compliance mode.

TEKEXP:MODE? command returns the current execution mode.

## Generate the report for the current session

This command generates the report for the current session.

## Syntax

TEKEXP:REPORT GENERATE(Set)

## Arguments

N/A

## Examples

TEKEXP:REPORT GENERATE command generates the report for the current session.

## Query the value of specified report header field in the report

This command queries the value of specified report header field in the report.

## Syntax

TEKEXP:REPORT? "<Device Field>" (Query)

## Command arguments

Argument Name	Argument Type
<Device Field>  Device field is the header name of each field in the setup information section of the report.	<String>

## Returns

<String>

## Examples

TEKEXP:REPORT? "DUT ID" command returns the value of DUT ID field in the report.

## Query the value of specified result detail available in report summary/details table

This command queries the value of specified result detail available in report summary/details table.

### Syntax

TEKEXP:RESULT? "<TestName>" (Query)

TEKEXP:RESULT? "<TestName>", "<ColumnName>" (Query)

TEKEXP:RESULT? "<TestName>", "<ColumnName>", <RowNumber> (Query)

### Command arguments

Argument Name	Argument Type
<TestName> It is the test name of which the details are required in the report.	<String>
<ColumnName> It is the column header name of which the details are required in the report.	<String>
<RowNumber> It is the row number of which the details are required in the report.	<String>

### Returns

<String>

### Examples

TEKEXP:RESULT? "<TestName>" will return the pass fail status of test.

TEKEXP:RESULT? "<TestName>", "<ColumnName>" will return all the row values of specific column for the test with comma separated values.

TEKEXP:RESULT? "<TestName>", "<ColumnName>", <RowNumber> will return the column value of specified row number.

## Restore the setup to default settings

This command restores the setup to default settings.

### Syntax

TEKEXP:SETUP Default(Set)

### Arguments

N/A

### Examples

TEKEXP:SETUP Default command restores the setup to default settings.

## Save the setup

This command saves the setup.

### Syntax

```
TEKEXP:SETUP Save(Set)
```

### Examples

```
TEKEXP:SETUP Save command saves the setup.
```

## Save the settings to a specified session

This command saves the settings to a specified session.

### Syntax

```
TEKEXP:SETUP Save,"<SessionName>"
```

### Command arguments

Argument Name	Argument value
<SessionName>	<String>

### Examples

```
TEKEXP:SETUP Save,"<SessionName>" command saves the settings to a specified session.
```

## Open the setup from a specified session

This command opens the setup from a specified session.

### Syntax

```
TEKEXP:SETUP Open,"<SessionName>"(Set)
```

### Command arguments

Argument Name	Argument value
<SessionName>	<String>

### Examples

```
TEKEXP:SETUP Open,"<SessionName>" command opens the setup from a specified session.
```

## Query the current setup file name

This command queries the current setup file name.

### Syntax

```
TEKEXP:SETUP? CURRENT (Query)
```

### Returns

<String>



## Examples

TEKEXP:SETUP? CURRENT command returns the current setup file name.

## Run/stop/pause/resume the selected measurements execution in the application

This command run/stop/pause/resume the selected measurements execution in the application.

### Syntax

TEKEXP:STATE <operation mode> (Set)

### Command arguments

Argument Name	Argument value
<operation mode>	<ul style="list-style-type: none"><li>• RUN</li><li>• STOP</li><li>• PAUSE</li><li>• RESUME</li></ul>

### Returns

RUN | STOP | PAUSE | RESUME

### Examples

TEKEXP:STATE RUN command runs the execution for the selected measurements.

## Query the current measurement execution status

This command queries the current measurement execution status.

### Syntax

TEKEXP:STATE? (Query)

### Returns

RUNNING | PAUSED | WAIT | ERROR | READY

### Examples

TEKEXP:STATE? command returns the current measurement execution status.

## Query whether the current setup is saved or not saved

This command queries whether the current setup is saved or not saved.

### Syntax

TEKEXP:STATE? SETUP (Query)

### Returns

Saved or Not-Saved

## Examples

TEKEXP:STATE? SETUP command returns whether the current setup is saved or not saved.

## Exit or close the application

The command exits or close the application

### Syntax

TEKEXP:EXIT(Set)

### Examples

TEKEXP:EXIT command close the application.

## Query the status of the previous command execution

This command queries whether the previous command execution is completed successfully.

### Syntax

TEKEXP:\*OPC? (Query)

### Returns

{0 | 1} or {True | False}

1 or True indicates that command execution is successful.

0 or False indicates that command execution is failed.

### Examples

TEKEXP:\*OPC? command returns whether the previous command operation is completed successfully.

## Query the last error occurred

This command queries the last error occurred.

### Syntax

TEKEXP:LASTERROR? (Query)

### Returns

<String>

### Examples

TEKEXP:LASTERROR? command returns the last error occurred.

## Set or query the popup details

This command sets or queries the popup details.

### Syntax

TEKEXP:POPUP? (Query)

TEKEXP:POPUP "<PopupResponse>" (Set)

## Command arguments

Argument Name	Argument value
<PopupResponse>	<ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> </ul>

## Returns

The pop-up details return in the following format:

"<Title>","<message>","<response1>,<response2>".

Where,

<Title> :: <String>

<message> :: <String>

<response1>,<response2> :: <String>

## Examples

TEKEXP:POPUP? command returns the popup details in following format ": "Do you really want to exit TekExpress?";Responses: "Yes, No".

TEKEXP:POPUP "Yes" command sets the popup response to Yes.

## Sets or query the limit values in the limits editor window

This command sets or queries the limit values in the limits editor window.

### Syntax

TEKEXP:VALUE LIMIT,<TestName>,<LimitHeader>,<Value1>,<CompareString>,<Value2>(Set)

TEKEXP:VALUE? LIMIT,<TestName>,<LimitHeader> (Query)

### Returns

<String> or <NRf>

### Examples

TEKEXP:VALUE LIMIT,<TestName>,<LimitHeader>,<Value1>,<CompareString>,<Value2> command sets the limits value for the specified testname and limit header.

TEKEXP:VALUE? LIMIT,<TestName>,<LimitHeader> command returns the limits value for the specified testname and limit header.

## Set or query the waveform file recalled for the specified test name and acquire type

This command set or queries the waveform file recalled for the specified test name and acquire type.

If there are more than one waveform, the waveform file names are displayed with the symbol "\$" separated values in the format

<WaveformFileName1\$ WaveformFileName2>.

## Syntax

TEKEXP:VALUE WFMFILE, <TestName>, <AcquireType>, <WaveformFileName> (Set)

TEKEXP:VALUE? WFMFILE, <TestName>, <AcquireType> (Query)

## Returns

<String>

## Examples

TEKEXP:VALUE WFMFILE, <TestName>, <AcquireType>, <WaveformFileName> command recalls the specified waveform file for the specified testname and acquire type.

TEKEXP:VALUE? WFMFILE, <TestName>, <AcquireType> command returns the waveform file name recalled for the specified testname and acquire type.

## Set or query the enable/disable status of Verbose function

This command sets or queries the enable/disable status of Verbose function.

## Syntax

TEKEXP:VALUE VERBOSE, "<Value>" (Set)

TEKEXP:VALUE? VERBOSE (Query)

## Arguments

Argument Name	Argument value
<Value>	{True   False} or {1   0} It represents enabled or disabled. Where, <ul style="list-style-type: none"> <li>True or 1 - enabled</li> <li>False or 0 - disabled</li> </ul>

## Returns

{True | False} or {0 | 1}

## Examples

TEKEXP:VALUE VERBOSE, "<Value>" command enable or disable the Verbose function.

TEKEXP:VALUE? VERBOSE command returns the enable or disable status of Verbose function.

## Query the enable or disable status of Continuous run function.

This command queries the enable or disable status of Continuous run function.

## Syntax

TEKEXP:VALUE? GENERAL, "Enable Continuous Run" (Query)

## Returns

{True | False} or {0 | 1}

Where,

1 or True indicates that the continuous run function is enabled.

0 or False indicates that the continuous run function is disabled.

## Examples

TEKEXP:VALUE? GENERAL, "Enable Continuous Run" command returns the enable or disable status of continuous run function.

## Set or query the enable/disable status of Continuous Run function

This command sets or queries the enable/disable status of Continuous Run function.

### Syntax

TEKEXP:VALUE ContinuousRun, "<Value>" (Set)

TEKEXP:VALUE? ContinuousRun (Query)

### Arguments

Argument Name	Argument value
<Value>	{True   False} or {1   0} It represents enabled or disabled. Where, <ul style="list-style-type: none"> <li>• True or 1 - enabled</li> <li>• False or 0 - disabled</li> </ul>

### Returns

{True | False} or {0 | 1}

### Examples

TEKEXP:VALUE? ContinuousRun command returns the enable or disable status of Continuous run function.

TEKEXP:VALUE ContinuousRun, "<Value>" command enable or disable the Continuous run function.

## Set or query the continuous run duration time value

This command sets or queries the continuous run duration time value.

### Syntax

TEKEXP:VALUE? ContinuousRun\_Duration (Query)

TEKEXP:VALUE ContinuousRun\_Duration, "<Value>" (Set)

## Arguments

Argument Name	Argument value
<Value>	Infinite   hh:mm  Infinite sets the radio on button to infinite.  hh:mm sets the continuous run duration to the specified time in hours and minutes. The minimum time duration you can set is 00:30.

## Returns

Infinite | hh:mm

## Examples

TEKEXP:VALUE? ContinuousRun\_Duration command returns the continuous run duration time value.

TEKEXP:VALUE ContinuousRun\_Duration, "<Value>" command sets the continuous run duration time value.

## Set or query the session create option in the continuous run function

This command sets or queries the option for session creation in the continuous run function.

## Syntax

TEKEXP:VALUE? ContinuousRun\_RunSessionOptions (Query)

TEKEXP:VALUE ContinuousRun\_RunSessionOptions, "Value" (Set)

## Arguments

Argument Name	Argument value
<Value>	NewSession   SameSession_ClearResults  NewSession - creates new session for each run.  SameSession_ClearResults - Clears the test results of the current session and starts the test execution. The session results will be added in the same session, by erasing the previous run results.

## Returns

NewSession | SameSession\_ClearResults

## Examples

TEKEXP:VALUE? ContinuousRun\_RunSessionOptions command returns the option for session creation in the continuous run function.

TEKEXP:VALUE ContinuousRun\_RunSessionOptions, "Value" command sets the option for session creation in the continuous run function.

## Set or query the View report after generating option status

This command sets or queries the enable/disable status of the View report after generating function.

## Syntax

TEKEXP:VALUE? GENERAL, "View Report After Generating" (Query)

TEKEXP:VALUE GENERAL, "View Report After Generating", <value> (Set)

## Arguments

Argument Name	Argument value
<Value>	{True   False} or {1   0} It represents enabled or disabled. Where, <ul style="list-style-type: none"> <li>True or 1 - enabled</li> <li>False or 0 - disabled</li> </ul>

## Returns

{True | False} or {0 | 1}

## Examples

TEKEXP:VALUE? GENERAL, "View Report After Generating" command returns the enable or disable status of view report after generating option.

TEKEXP:VALUE GENERAL, "View Report After Generating", <value> command enable or disable the view report after generating option.

## Returns the report as XML string

This command returns the report as XML string.

## Syntax

TEKEXP:REPORTASXML? (Query)

## Returns

<String>

## Examples

TEKEXP:REPORTASXML? command returns the report XML string.

## Copies all the images from current run session to the given destination location

This command copies all the images from current run session to the given destination location.

## Syntax

TEKEXP:COPYIMAGES <DestinationPath> (Set)

## Command argument

<DestinationPath> :: <String>

## Returns

NA

## Examples

TEKEXP: COPYIMAGES C:\Temp command copies all the images from current run session to the mentioned location.

## Selects the specified test(s) and deselect all other tests

This command selects the specified test(s) and deselect all other tests.

### Syntax

TEKEXP: SELECTID <"TestID"> (Set)

### Command argument

Argument Name	Argument value
TestID	String

### Returns

NA

### Examples

TEKEXP: SELECTID "11101" This command select the test associated with the ID and deselects all other tests in the application.

TEKEXP: SELECTID "11101, 11102" This command selects the tests associated with the IDs and other tests will be deselected.

## Returns the complete information about the selected test

This command returns the complete information about the selected test.

The information includes application name, TestID, Device selected, Suite selected, version, Test name, Test description.

### Syntax

TEKEXP: TESTINFO? (Query)

### Returns

<String>

### Examples

TEKEXP: TESTINFO? This command returns the following details:

<TekExpress> <Test Id="11101" Device="TX-Device" Suite="Group1" Version="Spec 1.0" Name="Algorithm Library Measurement" Description="This is Algorithm Library measurement test. Refer Section-B of TekExpress SampleApp Development Guide for more details.

## Set the default session

Sets the application configurations to default value.

### Syntax

TEKEXP: SESSION DEFAULT (set)

### Examples

TEKEXP: SESSION DEFAULT, sets the application configurations to default value.



## Save the run/config sessions

Enter the name to save/config the session.

### Syntax

```
TEKEXP:SESSION SAVE, "Session Name" (set)
```

### Command arguments

Argument Name	Argument value
<Session Name>	<String>

### Examples

```
TEKEXP:SESSION SAVE, "Session Name" saves the session.
```

## Load the run/config session

Load the selected config/run session.

### Syntax

```
TEKEXP:SESSION LOAD, "Session Name" (set)
```

### Command arguments

Argument Name	Argument value
<Session Name>	<String>

### Examples

```
TEKEXP:SESSION LOAD, "Session Name", load the selected config/run session.
```

## Delete the run/config session

Deletes the selected config/run session.

### Syntax

```
TEKEXP:SESSION DELETE, "Session1, Session2" (set)
```

### Command arguments

Argument Name	Argument value
<Session Name>	<String>

### Examples

```
TEKEXP:SESSION DELETE, "Session1, Session2", deletes the selected config/run session.
```

## Run the run/config saved session

Run the selected config/run session.

## Syntax

TEKEXP:SESSION RUN, "Session Name's separated by comma" (set)

## Command arguments

Argument Name	Argument value
<Session Name>	<String>
Session Name's separated by comma (to run the multiple run sessions)	<String>

## Examples

TEKEXP:SESSION RUN, "Session Name's separated by comma", runs the selected config/run session.

## Query the available list in the run/config session

Returns the list of available config/run session.

## Syntax

TEKEXP:SESSION? LIST

## Returns

Returns the list of available config/run session.

## Examples

TEKEXP:SESSION? LIST, returns the list of available config/run session.

## Query the current run/config session

Returns the selected config/run session.

## Syntax

TEKEXP:SESSION? CURRENT

## Returns

Returns the selected config/run session.

## Examples

TEKEXP:SESSION? CURRENT, returns the selected config/run session.

## Override the run/config session

Overrides the selected config/run session.

## Syntax

TEKEXP:SESSION SAVE, "SessionName", "True" (set)

## Command arguments

Argument Name	Argument Type	Argument Value
<Session Name>	<String>	{True   False} or {1   0} It represents enabled or disabled. Where, <ul style="list-style-type: none"><li>• True or 1 - enabled</li><li>• False or 0 - disabled</li></ul>

## Returns

{True | False} or {0 | 1}

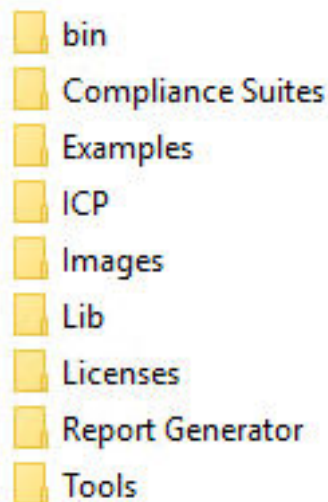
## Examples

TEKEXP:SESSION SAVE, "SessionName", "True", overrides the selected config/run session.

# References

## Application directories

You can find the application files at `C:\Program Files\Tektronix\TekExpress 40G-CR4`. The application directory and associated files are organized as follows:



The following table lists the default directory names and their usage:

**Table 18: Application directories and usage**

Directory names	Usage
Bin	Contains application libraries
Compliance Suites	Contains test suite specific files
ICP	Contains instrument and application specific interface libraries
Images	Contains images of the application
Lib	Contains utility files specific to the application
Licenses	Contains all the license files
Report Generator	Contains style sheets for report generation
Tools	Contains instrument and application specific files

## File name extensions

The TekExpress 40G-CR4 software uses the following file name extensions:

**Table 19: File name extension**

File name extension	Description
*.TekX	Application session files (the extensions may not be displayed)
*.py	Python sequence file.
Table continued...	

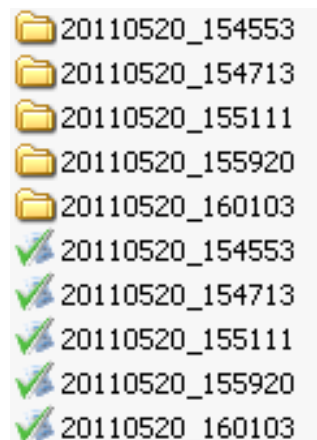
File name extension	Description
*.xml	Test-specific configuration information (encrypted) files. Application log files
*.csv	Test result reports Plot data
*.mht	Test result reports (default) Test reports can also be saved in HTML format
*.pdf	Test result reports Application help document
*.xslt	Style sheet used to generate reports
*.png	Captured images
.wfm	Test waveform file

## View test-related files

Files related to tests are stored in My Documents\TekExpress 40G-CR4\Untitled session folder. Each test setup in this folder has both a test setup file and a test setup folder, both with the test setup name. The test setup file is preceded by the TekExpress icon.

Inside the test setup folder is another folder named for the DUT ID used in the test sessions. The default is DUT001.

Inside the DUT001 folder are the session folders and files. Each session also has a folder and file pair, both named for the test session using the naming convention (date)\_(time). Each session file is stored outside its matching session folder:



Each session folder contains image files of any plots generated from running the test session. If you selected to save all waveforms or ran tests using prerecorded waveform files, these are included here.

The first time you run a new, unsaved session, the session files are stored in the Untitled Session folder located at X:\TekExpress 40G-CR4. When you name and save the session, the files are placed in a folder with the name that you specify. A copy of the test files stay in the Untitled Session folder until you run a new test or until you close the application.

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