

Keithley Instruments
28775 Aurora Rd.
Cleveland, Ohio 44139-1891
1-800-935-5595
www.keithley.com

Contents

General Information	3
Supported Test-Types	3
Supported models.....	3
Supported Operating Systems	3
PC Requirements	3
Installation instructions	4
KickStart Startup Software Release History	5
Version 1.5.0 Release	6
Overview	6
Common Framework	6
Precision Multimeter	6
Compatibility concerns	6
Critical fixes	6
Enhancements.....	6
Noncritical fixes	6
Known Issues	6
Data Logger	6
Compatibility concerns	6
Critical fixes	6
Enhancements.....	6
Noncritical fixes	7
Known Issues	7
IV Characterizer	7
Compatibility concerns	7
Critical fixes	7
Enhancements.....	7
Noncritical fixes	7
Known Issues	7
Precision DC Power.....	7
Compatibility concerns	7
Critical fixes	7
Enhancements.....	7
Noncritical fixes	7
Known Issues	7
Version 1.4.0 Release	8
Overview	8
Compatibility concerns.....	8
Critical fixes.....	8
Enhancements.....	8
Noncritical fixes.....	8
Known Issues	8
Version 1.3.0 Release	9
Overview	9
Compatibility concerns.....	9
Critical fixes.....	9

- Enhancements.....9
- Noncritical fixes.....9
- Known Issues9
- Version 1.2.0 Release12
 - Overview12
 - Compatibility concerns.....12
 - Critical fixes.....12
 - Enhancements.....12
 - Noncritical fixes.....12
 - Known Issues12
- Version 1.1.0 Release15
 - Overview15
 - Compatibility concerns.....15
 - Critical fixes.....15
 - Enhancements.....15
 - Noncritical fixes.....15
 - Known issues.....15
- Version 1.0.0 Release17
 - Overview17
 - Compatibility concerns.....17
 - Critical fixes.....17
 - Enhancements.....17
 - Noncritical fixes.....17
 - Known issues.....18
 - Usage Notes20

General Information

Supported Test-Types

KickStart comes with the following Test-Types:

- Communication Terminal
- IV Characterizer
- Power Supply
- Data Logger
- Precision Multimeter

Supported models

This Software is intended for use on the following Keithley Instruments product models:

Test Type	Models Supported	Min Firmware Version	Command Set (TSP, SCPI, 488.1)	Communication Bus
IV Characterizer	2450 2450-NFP 2450-RACK 2450-NFP-RACK	1.1.0s	TSP Only	USB LAN GPIB
	2400 (only)	C32	SCPI Only	GPIB
	2460	1.0.0c	TSP Only	USB LAN GPIB
Precision DC Power	2280S-60-3 2280S-32-6	1.01	SCPI	USB LAN GPIB
Data Logger	2700	B09	SCPI	GPIB
	2701	D05	SCPI	LAN
	2750	A13	SCPI	GPIB
Precision Multimeter	DMM7510	1.0.0h	TSP or SCPI	USB LAN GPIB
Communication Terminal	All models listed above	N/A	TSP or SCPI	USB LAN GPIB

Supported Operating Systems

KickStart is supported on the following operating systems:

- Windows 8.1, 32-bit and 64-bit (Windows 8.1, Windows 8.1 Pro)
- Windows 8, 32-bit and 64-bit (Windows 8, Windows 8 Pro)
- Windows 7, SP1 32-bit and 64-bit (Professional, Enterprise, Ultimate)
- Windows XP, SP3 32-bit (Professional)

PC Requirements

Windows 8 and Windows 7:

- Processor: 1 GHz or faster (2 GHz or greater recommended)

- RAM: 1 GB (32-bit) or 2 GB (64-bit) (4 GB or greater recommended)

Windows XP:

- Processor: 600 MHz or faster (1 GHz or greater recommended)
- RAM: 512 MB (2 GB or greater recommended)

Screen resolution

- Minimum 1024 by 768

Hard Drive Space Required

- 600 MB

Installation instructions

Abbreviated Installation Instructions

Run KickStartSetup.exe from the KickStart CD-ROM or from the unzipped image downloaded from the Keithley Website (www.keithley.com).

Follow all installation instructions and accept all default settings.

The installer will install the required files into the following default location on a 32-bit O/S: C:\Program Files\Keithley Instruments\KickStart and the following location on a 64-bit O/S: C:\Program Files (x86)\Keithley Instruments\Keithley KickStart

Please Note:

If KickStart software is taking a very long time to open or is not opening at all, you may need to download a patch for a known Microsoft bug.

For more information, see Microsoft Article ID 2484841 at <http://support.microsoft.com/kb/2484841/en-us>

If you can't find the patch to download please contact Keithley Instruments to obtain the patch.

Detailed Installation Instructions

Prerequisites to installing KickStart software:

NOTE: All prerequisites will be automatically installed by default. However, if anything goes wrong during the normal installation, each of the prerequisites can be installed individually.

- You must have NI-VISA™ Runtime Engine version 5.3 or greater installed on your computer. If you do not already have it installed, you can install it from the KickStart CD-ROM (visa530runtime.exe).
- You must have the Microsoft® .NET Framework 4.0 installed on your computer. Most computers already have this installed, but if you do not have the 4.0 version, you can download it from the Microsoft website (www.microsoft.com).

For more information on KickStart, see the "KickStart Startup Software Quick Start Guide" (document number: KKS-903-01). This Quick Start Guide is available as a shortcut under "Start", "All Programs", "Keithley Instruments", "KickStart Quick Start Guide" or online at <http://www.keithley.com/support>.

KickStart Startup Software Release History

Version 1.0.0.5 is the initial release the Keithley KickStart Software Application. – August 2013

Version 1.1.0 is a minor upgrade that is compatible with version 1.0.0.5 – January 2014

Version 1.2.0 adds support for the Keithley Model 2280 – August 2014

Version 1.3.0 adds support for the Keithley 2700, 2701 and 2750 – September 2014

Version 1.4.0 adds support for the Keithley 2460 – November 2014

Version 1.5.0 adds support for the Keithley 7510 and an update for the Data Logger – January 2015

Version 1.5.0 Release

Overview

Software Version 1.5.0:

- Adds support for the DMM7510 to the Keithley KickStart Software Application. The 7510 works with the Precision Multimeter and Communication Terminal Test Types.
- A new release of the Data Logger.
- Two minor updates to the SMU Simulator.
- A warning about upgrading the firmware on the Model 2280.

Known Issues, Usage Notes, and Upcoming Enhancements are listed below in this document.

Common Framework

PR5521: The Legacy Ethernet Instruments controls on the toolbar are only to support the 2701 and not for connecting to any other LAN based instruments.

Precision Multimeter

Compatibility concerns

None

Critical fixes

None

Enhancements

None

Noncritical fixes

None

Known Issues

1. PR54951: Repeatedly running continuity test with a large number of point's causes timeouts.
2. PR55232: Trigger options not being recalled correctly when opening a saved project file.
3. PR55192: Can't enter Trigger Delays less than 165 μ s.
4. PR55161: Export graph not working when not on graph tab.
5. DMM Simulator only simulates DC Voltage.
6. PR55272: KickStart doesn't support UNC path file names (e.g. \\x2Smb\homes\MyDmmTest)

Data Logger

Compatibility concerns

None

Critical fixes

None

Enhancements

1. PR51551, PR54133: Added "None" as a new type for timestamp configuration. When this type is selected, the returned data from instrument does not have timestamp content.
2. PR54127: Added the ability to make customization the group name.
3. PR54421: Added support for limits in the DAQ simulator.

4. PR51748: New date time picker control for entering Start Time/Stop Times.
5. PR51965, PR55081, PR55085: Add Select All/Clear All button and checkbox for group configuration and graph axis configuration.
6. PR54052: Added button for clearing the log window.

Noncritical fixes

1. PR54048: Fixed the ability to enable the manual trigger button during scan executions.
2. PR55019: Made Start Time/Stop Time trigger timer continuous to support larger time values.

Known Issues

1. PR55115: DAQ-Simulator does not support scan cases with large quantities of data (400K readings)

IV Characterizer**Compatibility concerns**

None

Critical fixes

None

Enhancements

None

Noncritical fixes

1. PR54480 Start/Stop values for the SMU Simulator can now be negative values
2. PR54867: The Simulated Time stamps are now shown as Relative Time Stamps instead of Absolute times

Known Issues

None

Precision DC Power**Compatibility concerns**

Don't install any firmware versions greater than 1.03 on your 2280 if you want the 2280 to work with KickStart. Firmware version 1.01 through 1.03 are compatible with KickStart.

Critical fixes

None

Enhancements

None

Noncritical fixes

None

Known Issues

See compatibility concerns.

Version 1.4.0 Release

Overview

Software Version 1.4.0 adds support for the 2460 to the Keithley KickStart Software Application. Known Issues, Usage Notes, and Upcoming Enhancements are listed below in this document.

The 2460 works with the IVCharacterizer and Communication Terminal Test Types.

Compatibility concerns

None with Version 1.3.0; see other version information for upgrading from an earlier version.

Critical fixes

Enhancements

Noncritical fixes

Known Issues

1. Models 2450 and 2460 will only be discovered by KickStart if the instrument is in TSP Mode.
Select Menu->Settings->Command Set and select TSP.

Version 1.3.0 Release

Overview

Software Version 1.3.0 adds support for the following models: 2700, 2701, and 2750 to the Keithley KickStart Software Application. Known Issues, Usage Notes, and Upcoming Enhancements are listed below in this document.

Compatibility concerns

None with Version 1.2.0; see Version 1.1.0 Release information for upgrading from an earlier version.

Critical fixes

None.

Enhancements

1. New Data Logger Test Type that supports the Models 2700, 2750 and 2701
2. CSV Data Streaming Support for all test types.
3. Circular buffer for infinite test run times.
4. Faster Data Handling with lower memory requirements.
5. Improved real-time graphing performance and UI responsiveness for high data rate measurements.

Noncritical fixes

None.

Known Issues

PR53634 **Screen redraw problems when switching tabs with a Multi-Monitor setup**

Models affected:

Model 2700, 2701 & 2750

Symptom:

When using KickStart on a computer system with multiple monitors and multiple display adapters you may experience the screen not redrawing when switching tabs. This is observed as nothing happening when clicking on a different tab in an open test. If you move the mouse around the window, elements of the tab you clicked on will begin to appear and sometimes the rest of the tab draws. Usually though, the rest of the tab does not draw and you have to switch to another tab and then back and maybe then the whole tab will draw.

Workaround:

If a tab fails to draw, switching to another tab and then back to the desired tab will usually make the desired tab draw. To prevent the issue from occurring at all, avoid using computer systems with multiple monitors connected to multiple video adapters.

PR53629 **KickStart crashes when Y1 sliders are brought together**

Models affected:

Model 2700, 2701 & 2750

Symptom:

It is possible to cause KickStart to crash by bringing the upper and lower Y1 zoom sliders together until they meet.

Workaround:

This problem is not easily reproducible but if it does happen avoid bringing the sliders together such that they meet. Alternatively, you can export the data to Excel and examine the data in Excel or if you had Data Streaming on then you can load the recorded csv file in Excel.

PR53417 KickStart can't keep up with 2701 0.01 nplc single channel test hangs and eventually crashes**Models affected:**

Model 2701

Symptom:

If the NPLC value is set to 0.01 and the delay is set to 0, the data from the instrument may come so quickly that the GUI cannot keep up. The Graph will fail to refresh and appear to be locked up. This typically occurs only when a scan contains only a single channel or an extremely fast scan card like the 7710 is used and/or the sample count is large.

Workaround:

Increase the NPLC value and/or delay value to reduce the rate of incoming data. Setting the NPLC value to 0.1 and turning on "Auto Delay" will sufficiently reduce the incoming data rate.

PR53685 Data Logger Test-Type not working correctly on some European versions of Windows**Models affected:**

Model 2700, 2701 & 2750

Symptom:

The Data Logger Test-Type has not been fully converted so that it will work correctly on some European versions (Locale) of Windows e.g. German, Italian, French etc. It will generate errors on the instrument as it is sending commands to the instrument with commas as the decimal place character.

All other Test-Types have been fully converted to work on European Windows.

Workaround:

Change the locale of your Windows Computer to US-English

PR53158 Data Logger to support RS-232 connections**Models affected:**

Model 2700, 2701 & 2750

Symptom:

There is limited support for RS-232 connections on the: 2700, 2750 and 2701. The 2700 and 2750 will start to drop data which will cause errors to be generated on the front panel of the instrument.

Workaround:

Due to problems with the RS-232 connection to this series of instruments RS-232 will not be supported with the Data Logger at the present time.

- PR53520 **7707 Digital Input and Digital Output functionality missing**
- PR52827 **Channels missing on Multifunction Operation tab when save files are reloaded.**
- PR52964 **Multifunction channels become grayed out and appear inoperable when tabs are switched.**
- PR52965 **Out-of-range voltage entries for the 7706 analog output are accepted.**

Models affected:

Model 2700, 2701 & 2750

Symptom:

Due to this accumulation of PR's the Multi-Function Tab in the Data Logger Test Type is not supported in this release of KickStart

Workaround:

Issues will be resolved in a future release of KickStart

Version 1.2.0 Release

Overview

Software Version 1.2.0 adds support for the Model 2280 Precision Measurement Supply to the Keithley KickStart Software Application. Known Issues, Usage Notes, and Upcoming Enhancements are listed below in this document.

Compatibility concerns

None with Version 1.1.0; see Version 1.1.0 Release information for upgrading from an earlier version.

Critical fixes

1. PR52303 Fixed issue with floating point numbers being displayed and input on country locales that use a symbol other than '.' as a decimal point
2. The state of "Clear data before run" is preserved through power cycle
3. Added the ability to manually add socket based LAN instruments. These added manual instruments are saved and recalled through a power cycle.

Enhancements

1. Added support for Model 2280S-32-6 and Model 2280S-60-3
2. The Load Plugins button on the toolbar has been disabled; appropriate tests for the selected instrument are now automatically filtered

Noncritical fixes

1. The Execute/Abort button has been renamed Start Test/Stop Test

Known Issues

Data point limitation **Models affected:**

Model 2280S-32-6, Model 2280S-60-3

Symptom:

A limit of 15,000 points has been set for the Precision DC Power test type. By default, the data will be cleared while the test continues to run, collecting a new data set.

Workaround:

If you intend to leave a KickStart test running in Single Source mode for a long duration, consider slowing down data collection by setting NPLC (Main Settings) and Reading Interval (Advanced Settings) to high values. If the "Clear Data before Execute Test" (on the Settings tab) flag is not set, the test will just stop when it reaches this limit. Otherwise, the test will be stopped and restarted automatically to clear all previous test data when this amount of data has been collected.

VISA **Models affected:**

All

Symptom:

KickStart makes use of NI VISA software for connectivity to instruments and will attempt to install NI VISA during the installation process. If you have any other manufacturer's VISA software installed and

do not have NI VISA software installed already, NI VISA installation will fail resulting in connectivity issues when running KickStart.

Workaround:

Please uninstall any other manufacturer's VISA software before installing KickStart.

VISA

Models affected:

All

Symptom:

KickStart makes use of NI VISA software for connectivity to instruments. Connectivity issues in KickStart may occur if NI VISA software and Tek VISA software are both installed.

Workaround:

If you experience connectivity problems in KickStart please run the Tek Visa utility Visa64 Conflict Manager, disable Tek VISA and click save. Restart KickStart and connectivity should be restored.

Version 1.1.0 Release

Overview

Software Version 1.1.0 is a minor update to the initial release the Keithley KickStart Software Application. Known Issues, Usage Notes, and Upcoming Enhancements are listed below in this document.

Compatibility concerns

1. The maximum number of sweep points for a 2450 is now reduced from 300,000 to 10,000.
2. For KickStart to show connected 2450's on the TSP-Link bus the firmware version for all the 2450's connected must be 1.1 or greater.
3. Log graphing is removed for 1.1.0.

Critical fixes

1. PR51058: Graphing zero or negative values in Logarithmic mode will hang KickStart. Logarithmic graphing was removed to fix this issue.
2. PR51064: Large data sets cause KickStart to be unresponsive.
3. PR51127: Enforce minimum firmware version and ensure all like models have same version for TSP-Link 2450's.
4. PR50290: Changing the number of steps between runs with data clear disabled causes "Data Application error."
5. PR50971: Adding measure selections mid-test causes crash.

Enhancements

1. The IV Characterizer now supports up to four Model 2450's daisy chained together using the TSP-Link bus. This allows support for nested sweeping. See IV Characterizer help for more information.
2. The graph in the IV Characterizer Test-Type now has manual X&Y axes configuration. PR49861.
3. Switching projects or closing KickStart will now prompt you to save the project if it has changed.

Noncritical fixes

1. PR50508: In the SMU simulator the spreadsheet values should match the source values.
2. PR51089: Notes scrolling window has an issue when pasting a large amount text into the Notes tab.
3. PR51119: Change the test tab "Spreadsheet" to simply "Sheet".
4. PR50287: See description in Version 1.0.0 section.
5. PR50229: Error message shows twice if entering a bad value into the List Sweep control

Known issues

PR50294:

Models affected:

All models

Issue:

When columns have different lengths, x-axis on graph disappears.

Suggested Procedure:

None

PR51071:

Models affected:

All models

Issue:

Need a way to differentiate between multiple traces on one Y Axis.

Suggested Procedure:

Use the Y2-Axis.

The following PR's are still known issues from Version 1.0.0. See version 1.0.0 for details:

PR50230, PR49919 and PR50276.

Version 1.0.0 Release

Overview

Software Version 1.0.0 is the initial release the Keithley KickStart Software Application. Known Issues, Usage Notes, and Upcoming Enhancements are listed below in this document.

Compatibility concerns

N/A

Critical fixes

N/A

Enhancements

N/A

Noncritical fixes

N/A

Known issues

PR50230 Models affected:

All Models

Symptom:

If KickStart software is taking a very long time to open or is not opening at all, you may need to download a patch for a known Microsoft bug.

For more information, see Microsoft Article ID 2484841 at <http://support.microsoft.com/kb/2484841/en-us>

Workaround:

Link to download the patch:

<http://archive.msdn.microsoft.com/KB2484841/Release/ProjectReleases.aspx?ReleaseId=5583>

PR50229 Models affected:

All Models

Symptom:

When adding a bad character or an out of range value into the Voltage or Current List Sweep grid control the error message is shown twice.

Workaround:

Just click twice on the OK button in the popup message.

PR49919 Models affected:

All Models

Symptom:

Communication Terminal interprets questions marks in quotes as query commands.

Workaround:

The Communications Terminal does not implement a full SCPI or TSP parser, so compound entries may be misunderstood. A workaround is to only use simple TSP or SCPI commands. A full parser will be included in a future release.

PR49861 Models affected:

All Models

Symptom:

Graph needs improved auto-scaling on the Y-Axis.

Workaround:

The auto-scaling algorithm is designed to give a good visible representation with most measurements. In some cases, the results are not ideal for all users. A workaround is to use the Display Series Info option to display an approximate result, or use the zoom feature to display an areas of interest. Manual scaling will be included in a future release. Alternatively you can export the data to Microsoft excel format and graph the data in Excel.

PR50276 Models affected:

All Models

Symptom:

If an alpha character is entered into the Voltage List Sweep or Current List Sweep list of values then a red line appears around the cell to indicate an error. If you then navigate to a different Source Mode screen like the Current Bias when you return to the List Sweep screen it will have no controls on the left hand side.

Workaround:

There is no workaround if you want to show the correct List Sweep screen after doing this then you need to restart KickStart.

PR50287 Models affected:

All Models

Symptom:

Any changes to the setup of a test will be lost if you don't do a "Save" or "Save As" before closing KickStart or selecting a new project or opening an existing project.

Workaround:

You need to remember to select "Save" or "Save As" before closing a project or you can reconstruct the settings each time you select that test type.

Usage Notes

PR49391 Models affected:

All 2450 models

Issue:

When running KickStart with the Model 2450, the user must have FULL access. If the Instrument Access Mode is anything less than FULL, the 2450 front panel will display the following error:

```
FAILURE: Another interface has control, LOGIN to access.
```

Suggested Procedure:

Before running KickStart with the Model 2450, set the instruments access to FULL. Please see the 2450 Reference Manual for further information on Access Modes.

Using SCPI commands

```
SYSTem:ACCEss FULL
```

Using TSP commands

```
localnode.access = localnode.ACCESS_FULL
```

PR49424 Models affected:

PR49848

All 2450 models

Issue:

If a 2450 is detected by KickStart and it is in SCPI mode it will not show up in the discovered instruments pane.

Suggested Procedure:

Switch the 2450 into TSP mode via the front panel of the instrument.

PR49370 Models affected:

All models

Issue:

The IV Characterizer Test doesn't currently support power measurements although there are disabled controls to configure this.

Suggested Procedure:

This feature will be available in a future release.

PRXXXX Models affected:

All models

Issue:

KickStart comes with demo projects that get installed to the hard-drive but the location is different depending on the Operating System.

Suggested Procedure:

On Windows XP the projects will be under:

C:\Documents and Settings\\My Documents\Keithley Instruments\KickStart

On Vista and Win 7 the projects will be under:

C:\Users\\My Documents\Keithley Instruments\KickStart.

The “<user>” directory name is the user account of the person installing KickStart.