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**NEW AND IMPROVED**

This KickStart release, version 2.11.0, includes enhancements to the Battery Simulator App, which now provides the ability to perform battery-cycling testing. The app now supports the 24xx Graphical Touchscreen Series SMUs and the 26xxA and 26xxB series SMUs (excluding the 2651A and 2657A models).

The Battery Simulator App allows you to generate battery models, simulate batteries, and perform battery-cycle tests. The enhancements to this specialty app allow you to have all this functionality as part of a "one-box" solution from the convenience of personal computer (PC-based) software.

**NEW FEATURES****Enhanced battery simulator app provides:**

- Battery cycle testing using the Model 24xx Graphical Touchscreen Series SMU, the Model 26xxA or 26xxB Series SMU; excluding the 2651A and 2657A models.
- Ability to discharge a battery, create a battery model, and simulate a battery using the Model 24xx Graphical Touchscreen Series SMU, the Model 26xxA or 26xxB Series SMU.
- "One box" simulator, model generator, and cycle testing solution using the Model 24xx Graphical Touchscreen Series SMU, the Model 26xxA or 26xxB Series SMU.



## KICKSTART SOFTWARE

### USAGE NOTES

<b>Issue number:</b>	KS-4891
<b>Description:</b>	Instruments that are powered off and connected to a serial adapter may show up in the instruments list. However, they cannot be used until powered on.

## BATTERY SIMULATOR APP

### USAGE NOTES

<b>Issue number:</b>	KS-6895
<b>Description:</b>	Only one channel is available when using a Model 26xx instrument for cycle testing.
<b>Issue number:</b>	KS-6834
<b>Description:</b>	While running a test, the app will ask you to confirm the test settings. This is done for you to verify that the test settings selected match the device under test parameters and to prevent damage to the device.
<b>Issue number:</b>	KS-6654
<b>Description:</b>	The KickStart battery simulator app only accepts battery models containing ESR (equivalent series resistance) values of 10 $\Omega$ or less.

### FIXED ISSUES

<b>Issue number:</b>	KS-6955
<b>Description:</b>	While running a simulate battery test, the capacity setting is updated with real-time capacity measurement values as the test proceeds.  This issue has been fixed.
<b>Issue number:</b>	KS-6954
<b>Description:</b>	While editing the state of charge or the capacity setting, the Ah (amp-hour) value in the battery graphic is not automatically updated.  This issue has been fixed.
<b>Issue number:</b>	KS-6944
<b>Description:</b>	In the generate discharge model test, the tool tip of the sample interval setting does not match the values on the instrument.  This issue has been fixed.
<b>Issue number:</b>	KS-6929
<b>Description:</b>	In some circumstances, the values available for selection may slightly exceed the instrument's power envelope. The workaround for this issue is to reduce the source current slightly to comply with the instrument's output power rating.

<b>Issue number:</b>	KS-6641
<b>Description:</b>	<p>While running the generate discharge model test, the test stops when the open circuit voltage reaches the configured cutoff voltage value.</p> <p>This issue has been fixed and the test stops when the voltage under load reaches the configured cutoff voltage value.</p>
<b>Issue number:</b>	KS-6536
<b>Description:</b>	<p>While running a test, if you select a model that is presently in use, you will receive an error message.</p> <p>This issue has been fixed.</p>
<b>Issue number:</b>	KS-6355
<b>Description:</b>	<p>When the battery simulator app is in discharge mode, the measure interval field does not display the values in the correct format.</p> <p>This issue has been fixed.</p>
<b>Issue number:</b>	KS-6330
<b>Description:</b>	<p>When loading a battery simulator app project that is saved in model browser mode, the model graph does not display.</p> <p>This issue has been fixed.</p>

## KNOWN ISSUES

<b>Issue number:</b>	KS-7103
<b>Description:</b>	When running a cycle test with a Model 26xx instrument, a new present settings run is created after run is completed.
<b>Issue number:</b>	KS-7080
<b>Description:</b>	When cycle testing, there are situations where the mini-view may show the current cycle state (charging or discharging) incorrectly.
<b>Issue number:</b>	KS-7051
<b>Description:</b>	When opening a saved project in Simulate Battery Mode, Full V and Empty V are restored from the selected battery model default instead of a previously entered value.
<b>Issue number:</b>	KS-6937
<b>Description:</b>	While using the Model 2461 instrument to generate a battery discharge model, the range setting displays 10 A as an option. This option is not valid for battery-discharge models. Selecting this option will return an error message.
<b>Issue number:</b>	KS-6904
<b>Description:</b>	When saving a new project with the battery simulator app in cycle test mode, the sheet may not display data. A workaround is to reload the project, or switch to a different mode and then back to cycle test mode.
<b>Issue number:</b>	KS-6250
<b>Description:</b>	While the battery simulator app is running and collecting data, either with a simulated or real instrument, if the app is closed it will become unresponsive.

## SCOPE APP

### USAGE NOTES

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<b>Issue number:</b>	KS-6760
<b>Description:</b>	While using the scope app for the TDS 2K series instrument, multiple timeout issues and communication error messages may occur. For example, the "Wait For Trigger" operation times out.  This issue will not be fixed.
<b>Issue number:</b>	KS-5779
<b>Description:</b>	The 6 Series MSO mixed signal oscilloscope uses Windows or Linux operating systems (OS). Using a USB connection on a MSO6 Series Scope running Windows OS requires firmware version 2.0.3.950 or higher.

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### FIXED ISSUES

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<b>Issue number:</b>	KS-6741
<b>Description:</b>	When opening the scope app for the TBS 1k series oscilloscope, KickStart indicates that the object reference is not set to an instance of an object error.  This issue has been fixed.

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## I-V CHARACTERIZER APP

### FIXED ISSUES

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<b>Issue number:</b>	KS-6896
<b>Description:</b>	In List sweep mode, loading a file that is more than 10,000 points will error and not load the file.  This issue has been fixed.
<b>Issue number:</b>	KS-6357
<b>Description:</b>	Using the I-V Characterizer, the Model 2612B channel outputs do not turn off when the test is aborted.  This issue has been fixed.
<b>Issue number:</b>	KS-6180
<b>Description:</b>	While running a pulse voltage test, the configured bias limit value is not correctly assigned to the instrument.  This issue has been fixed.

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**PULSING FOR INSTRUMENTS**

<b>Issue number:</b>	KS-4240
<b>Description:</b>	The following table indicates the bias level and limit values allowed in KickStart during pulsing for each instrument series:

Series 260x				
Region	Source voltage	Max current limit	KickStart max bias level	KickStart max bias limit
1	40 V	1 A	40 V	1 A
1	6 V	3 A	40 V*	1 A
2	40 V	1.5 A	40 V	1 A
3	35 V	5 A	40 V	1 A
4	20 V	10 A	40 V	1 A
5	6 V	5 A	Not supported	Not supported
Region	Source current	Max voltage limit	KickStart max bias level	KickStart max bias limit
1	1 A	40 V	3 A*	6 V
1	3 A	6 V	3 A	6 V
2	1.5 A	40 V	3 A	6 V
3	5 A	35 V	3 A	6 V
4	10 A	20 V	3 A	6 V
5	5 A	6 V	Not supported	Not supported
Series 261x/263x				
Region	Source current	Max voltage limit	KickStart max bias level	KickStart max bias limit
1	100 mA	200 V	1 A*	20 V
1	1.5 A	20 V	1 A	20 V
2	1 A	180 V	1 A	20 V
3**	1 A	200 V	1 A	20 V
4	10 A	5 V	1 A	20 V
Region	Source voltage	Max current limit	KickStart max bias level	KickStart max bias limit
1	200 V	100 mA	200 V	100 mA
1	20 V	1.5 A	200 V*	100 mA
2	180 V	1 A	200 V	100 mA
3	200 V	1 A	200 V	100 mA
4	5 V	10 A	200 V*	100 mA
*In some cases, KickStart will allow higher bias levels that are not supported by the instrument.				
**KickStart allows 1 A @ 200 V pulsing that may yield unexpected pulse characteristics; this will be corrected in a future release.				

## GENERAL INFORMATION

### SUPPORTED MODELS

This software is intended for use with the following Keithley Instruments and Tektronix product models using USB, LAN (ethernet), or GPIB interfaces. The use of RS-232 (serial) is not supported. You can find the supported operating systems here: [Supported operating systems](#).

#### Product category

##### AFG

31021	31022	31051	31052	31101	31102
31151	31152	31251	31252		

##### DAQ

2700	2701	2750	3706A	3706A-NFP	DAQ6510*
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\*Includes DAQ6510-US

##### SWITCH CARD

2000-SCAN	2001-TCSCAN	3720	3721	3722	3723
3724	7700	7701	7702	7703	7706
7707	7708	7710			

##### DMM

2000	2010	2100	2110	DMM6500*	DMM7510*
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\*Includes DMM6500-US, DMM-7510-US, DMM-7510-NFP, DMM7510-NFP-US, DMM7510-RACK, DMM7510-RACK-US, DMM7510-NFP-RACK, DMM7510-RACK-US

##### SMU

2400	2400-C	2401	2410	2410-C	2420
2420-C	2425	2425-C	2430	2430-C	2440
2440-C	2450	2460	2461	2470	2601A
2601B	2602A	2602B	2604B	2606B	2611A
2611B	2612A	2612B	2614B	2634B	2635B
2636A	2636B	2651A	2657A	2601B-PULSE	

##### SENSITIVE

6430	6485	6487	6514	6517A	6517B
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**POWER SUPPLY**

222x	223x	2280S-32-6	2280S-60-3	2281S-20-6	2200-20-5
2200-30-5	2200-32-3	2200-72-1	2200-60-2	2260B-30-36	2260B-80-13
2260B-250-4	2260B-800-1	2260B-30-72	2260B-80-27	2260B-30-108	2260B-250-9
2260B-800-2	2260B-250-13	2260B-800-4	2231A-30-3	2306-LAN	

**OSCILLOSCOPE**

DPO3012	DPO3014	DPO3032	DPO3034	DPO3052	DPO3054
DPO4014B	DPO4032	DPO4034	DPO4034B	DPO4054	DPO4054B
DPO4102B	DPO4102B-L	DPO4104	DPO4104B	DPO4104B-L	MDO3012
MDO3014	MDO3022	MDO3024	MDO3032	MDO3034	MDO3052
MDO3054	MDO3102	MDO3104	MDO32	MDO34	MDO4014-3
MDO4014B-3	MDO4024C	MDO4034-3	MDO4034B-3	MDO4034C	MDO4054-3
MDO4054-6	MDO4054B-3	MDO4054B-6	MDO4054C	MDO4104-3	MDO4104-6
MDO4104B-3	MDO4104B-6	MDO4104C	MSO22	MSO24	MSO44
MS046	MSO54	MSO54B	MSO56	MSO56B	MSO58
MSO58B	MSO58LP	MSO64	MSO66	MSO68	MSO64B
MSO66B	MSO68B	MSO3012	MSO3014	MSO3032	MSO3034
MSO3052	MSO3054	MSO4012B	MSO4012B-L	MSO4032	MSO4034
MSO4034B	MSO4054	MSO4054B	MSO4104	MSO4104B	TBS1000C
TBS1022	TBS1032B	TBS1032B-EDU	TBS1042	TBS1052B	TBS1052B-EDU
TBS1052C	TBS1062	TBS1064	TBS1072B	TBS1072B-EDU	TBS1072C
TBS1102	TBS1102C	TBS1104	TBS1152	TBS1152B	TBS1154
TBS1202B	TBS1202C	TBS2072B	TBS2074B	TBS2102B	TBS2104B
TBS2202B	TBS2204B	TBS1202B-EDU	TBS2000B	TBS2072	TBS2074
TBS2102	TBS2104	TBS2202	TBS2204	TDS210	TDS220
TDS224	TDS1001	TDS1001B	TDS1001C-SC	TDS1002	TDS1002B
TDS1002C-SC	TDS1012	TDS1012B	TDS1012C-SC	TDS2001C	TDS2002
TDS2002B	TDS2002C	TDS2004	TDS2004B	TDS2004C	TDS2012

**OSCILLOSCOPE (CONTINUED)**

TDS2012B	TDS2012C	TDS2014	TDS2014B	TDS2014C	TDS2022
TDS2022B	TDS2022C	TDS2024	TDS2024B	TDS2024C	

**DC ELECTRONIC LOAD**

2380-120-60	2380J-120-60	2380-500-15	2380J-500-15	2380-500-30	2380J-500-30
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**SUPPORTED OPERATING SYSTEMS**

KickStart is supported on the following operating systems:

Microsoft® Windows® 11 and Windows 10, 64-bit; KickStart version 2.0.0 and newer

Microsoft Windows 7 and Windows 8; however, KickStart is no longer evaluated or updated to support these obsolete operating systems

**SUPPORTED COMMUNICATION INTERFACES**

USB  
LAN  
GPIB

**MINIMUM PC REQUIREMENTS**

Processor: Dual-core processor @ 2 GHz or better

NTFS file system

RAM: 8 GB

Display resolution: Minimum 1920 × 1080 recommended

Disk drive space required: 8 GB of free space

**RECOMMENDED PC REQUIREMENTS**

Processor: 4-core processor @ 2 GHz or better

NTFS file system

RAM: 16 GB or more

Display resolution: Minimum 1920 × 1080 recommended

Disk drive space recommended: 100 GB or more free space for data storage

**SOFTWARE PREREQUISITES**

NI VISA™ 17.5 Runtime Engine or later (installation package included in KickStart installer)

Microsoft Visual Studio® C++ 2013 x64 Redistributable Package

Microsoft Visual Studio C++ 2017 x64 Redistributable Package

.NET Framework 4.7.

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**NOTE**

When installing KickStart without an internet connection, make sure that the last three software prerequisites are installed on your computer before installing. The NI VISA 17.5 Runtime Engine is packaged with the KickStart installer.

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**INSTALLATION INSTRUCTIONS*****To install KickStart software:***

1. Download the KickStart 2.11.0 installer from [tek.com/keithley-kickstart](http://tek.com/keithley-kickstart).
2. Unzip the file and run `KickStartSetup.exe`.
3. Follow the installation instructions and accept all default settings.



The required files are installed in the following default location:

C:\Program Files\Keithley Instruments\KickStart.

KickStart version 2.11.0 requires a software license. You can activate a one-time 30-day free trial with all KickStart apps. For more information on licenses available for KickStart version 2.11.0, please visit [tek.com/keithley-kickstart](http://tek.com/keithley-kickstart).

For more information on KickStart, see the *KickStart Quick Start Guide* (document number: KKS-903-01), available online at [tek.com/keithley-kickstart](http://tek.com/keithley-kickstart).

#### KICKSTART INSTRUMENT CONTROL SOFTWARE HISTORY

Version	Release date
2.11.0	August 2023
2.10.1	March 2023
2.10.0	December 2022
2.9.0	July 2022
2.8.0	April 2022
2.7.0	November 2021
2.6.0	September 2021
2.5.0	April 2021
2.4.0	November 2020
2.3.0	April 2020
2.2.1	February 2020
2.2.0	November 2019
2.1.1	September 2019
2.1.0	June 2019
2.0.6	February 2019
2.0.5	November 2018
2.0.4	October 2018
2.0.3	August 2018
2.0.2	July 2018
2.0.1	July 2018
2.0.0	April 2018