

KTE Interactive V9.1 Service Pack 2

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Software Release Notes & Installation Instructions

Introduction

This document provides supplemental information regarding KTE Interactive V9.1 Service Pack 2 (SP2). This information is grouped into two categories:

- Installation Instructions – Detailed instructions describing how to install this service pack.
- Changes – Summary of Fixes and Enhancements included in KTE Interactive V9.1 Service Pack 2.

KTE Interactive Service Pack 2 includes all changes from KTE Interactive Service Pack 1, plus additional changes. This service pack should be applied instead of Service Pack 1. However, if KTE Interactive Service Pack 1 is already installed, it is permissible to install this service pack over it. Note that KTEI V9.1 requires Windows 7 or later running on your 4200-SCS.

Updates

This document is periodically updated and distributed with each release and/or service pack to provide the most up-to-date information. This revision history is included below:

- 27-JAN-2017 – V9.1 Service Pack 2 release (document number: PA-895 Rev. R / Jan 2017)
- 18-DEC-2015 – V9.1 Service Pack 1 release (document number: PA-895 Rev. Q / April 2016)

Update firmware

To enable all V9.1 Service Pack 2 fixes, you MUST flash upgrade the firmware on all 4200-SMU, 4210-SMU, 4220-PGU, and 4225-PMU cards in the system after installing the service pack.

For instrument card flash update instructions, refer to the Version 9.1 release notes. Use the updated version table shown below in place of the table in the 9.1 release notes. To verify that all your cards are at the correct version level, open the KCON utility and select each card in turn. Compare the firmware version shown with the version portion of the filenames shown in the table below.

Card/hardware/firmware version table

4200-SCS Card	Hardware Version from KCON	Firmware file to use
4200-SMU/4210-SMU ¹	05,XXXXXXXX or 5,XXXXXXXX	4200-803-4H31.x
	06,XXXXXXXX or 6,XXXXXXXX	4200-803-4M31.x
4220-PGU/4225-PMU ²	1.0 and later	422xPxU-802SV2.04.x

¹ There are two different models of SMUs in the 4200, 4200-SMU (medium power) and 4210-SMU (high power). Both models use the same firmware files.

² The 4225-PMU and 4220-PGU share the same pulse/source board and use the same firmware file. The 4225-PMU adds measure capability through an additional hardware board but uses the same firmware image/file.

Installation instructions

The Model 4200-SCS KTE Interactive V9.1 Service Pack 2 (SP2) must be installed AFTER you have successfully installed KTE Interactive V9.1. This service pack will only install on top of KTE Interactive V9.1 or KTE Interactive V9.1 SP1 on a 4200-SCS running Microsoft® Windows® 7. After the software installation, make certain you have also performed all firmware upgrades described in the V9.1 installation instructions.

Before performing this installation, make sure that all of the KTE Interactive programs and all Windows programs, including any virus checkers, are stopped.

For information on the installation of the 4200 Compiler, or the version details of supported Microsoft Visual Studio®, see the information at the bottom of the release notes in "[4200 Compiler](#)."

CD-ROM installation

To install the Model 4200-SCS KTE Interactive V9.1SP2 CD-ROM:

- Insert the Model 4200-SCS V9.1-SP2 CD-ROM into the 4200-SCS CD-ROM drive.

NOTE: The installation will execute automatically. However, if it does not, open the executable file **KTEI_SP.exe** in Windows Explorer or with the command prompt.

After you have successfully installed the service pack, a window opens reminding you to upgrade the instrument firmware and provide an option to display the release notes.

Changes

Enhancements

PR Number	PR47605
Subsystem	Manuals
Enhancement	The following 4225-RPM information was added to the manuals: <code>pulse_output()</code> LPT command: When using a 4225-RPM with a PMU, the <code>pulse_output()</code> command is necessary to prepare the channel for sourcing, but does not close the output relay. Use the <code>rpm_config()</code> command to enable the RPM output. <code>clrcon()</code> LPT command: If an RPM is used, <code>clrcon</code> clears the physical connection to the DUT. <code>devclr()</code> LPT command: If an RPM is used, use <code>clrcon</code> to clear the physical connection to the DUT.
PR Number	PR53688/AR41792
Subsystem	KITE
Enhancement	SMU pulse mode settings are now shown in the Settings tab.
PR Number	PR60440
Subsystem	KXCI
Enhancement	Timestamps have been added to the KXCI log.

PR Number	PR60472
Subsystem	Libraries
Enhancement	A new user module, <code>RPM_configure</code> , was added to the PMUulib user library as a replacement for the deprecated <code>RPM_switch</code> module.

Problem fixes

PR Number	PR47972 / NCM06895
Subsystem	4225-PMU
Symptom	The 4225-PMU pulse commands may result in an "Exception code 1906" error when the delay (wait) during the Segment ARB is greater than approximately 55 seconds.
Resolution	This issue has been corrected.
PR Number	PR52366/AR41199
Subsystem	Manuals
Symptom	The default PGU settings listed in the manuals have errors.
Resolution	This issue has been corrected.
PR Number	PR52599/AR41305
Subsystem	Libraries
Symptom	The ki82ulib user library lacks calls to make use of cable compensation values.
Resolution	This issue has been corrected.
PR Number	PR53340
Subsystem	LPT
Symptom	LPT dual sweeps jump to the end point halfway through a sweep if a trigger is hit.
Resolution	This issue has been corrected.
PR Number	PR55583/AR50061
Subsystem	KITE
Symptom	Certain device names in project tree cause problems.
Workaround	Rename devices if problems occur.
Resolution	This issue has been corrected.
PR Number	PR55761
Subsystem	KITE
Symptom	Using Segment Stress/Measure Cycling mode on a 4200 system with more than five SMUs installed throws an i-limit error, causing the stress output to be skipped. (Note, only five SMUs are allowed in segment stressing, but more than five should be allowed to be installed in the system.)
Resolution	This issue has been corrected.
PR Number	PR55890 / AR42785
Subsystem	KITE
Symptom	Device Stress Properties does not display SegArb waveform duration properly.
Resolution	This issue has been corrected.
PR Number	PR56283 / AR43095
Subsystem	4220-PGU, 4225-PMU
Symptom	The KITE Abort button and the LPT command <code>pulse_remove</code> do not work when longer pulse or segment arb waveforms are output.
Resolution	This issue has been corrected.

PR Number	PR57069 / AR51316
Subsystem	KITE
Symptom	Clearing (deleting) an aborted test run does not remove the sheet correctly.
Resolution	This issue has been corrected.
PR Number	PR57666 / AR50060
Subsystem	KITE
Symptom	When adding custom series names in the Advanced Legend Properties dialog box, the graph does not update the legend.
Resolution	This issue has been corrected.
PR Number	PR57682 / AR50060
Subsystem	KITE
Symptom	When two vertical axes are plotted in a graph, the Advanced Legend Custom Name for second axis does not get updated in graph legend.
Resolution	This issue has been corrected.
PR Number	PR57686 / AR50060
Subsystem	KITE
Symptom	Graph autoscaling is intermittent.
Resolution	This issue has been corrected.
PR Number	PR57748 / AR52132
Subsystem	KITE
Symptom	Subsite stress functionality was incorrectly dependent on the device selections in the project tree.
Resolution	This issue has been corrected. The device selection state in the project tree no longer affects the stress functionality.
PR Number	PR58047
Subsystem	LPT
Symptom	The LPT getstatus compliance modifiers do not return results as documented for the SMU.
Resolution	The documentation has been updated. This issue has been corrected.
PR Number	PR58137 / AR52219 / AR52314 / AR54072
Subsystem	KITE
Symptom	The graph may not be plotted in real time.
Resolution	This issue has been corrected.
PR Number	PR58203 / AR52314
Subsystem	KITE
Symptom	Graph legend is not displaying user entered names if two Y-axes are used.
Resolution	This issue has been corrected.
PR Number	PR58280 / AR52545
Subsystem	KITE
Symptom	KITE software crash can occur when undocking windows.
Resolution	This issue has been corrected.

PR Number	PR58300
Subsystem	Libraries
Symptom	Lake_Shore_Temp_Controller project has incorrect settings in the <code>setSweepParam</code> UTM.
Resolution	This issue has been corrected.
PR Number	PR58375 / AR52664 / AR54072
Subsystem	KITE
Symptom	KITE graph autoscale problem.
Resolution	This issue has been corrected.
PR Number	PR58449
Subsystem	4220-PGU, 4225-PMU
Symptom	An overtemperature condition does not stop pulse output to allow the card to cool down.
Resolution	This issue has been corrected.
PR Number	PR59016 / AR42395
Subsystem	Libraries
Symptom	Function <code>Do_RPM_ILimit_Cal</code> does not work. Fails calibration process.
Resolution	This issue has been corrected.
PR Number	PR59037 / AR51327
Subsystem	KXCI
Symptom	KXCI status problem, dropping byte.
Resolution	This issue has been corrected.
PR Number	PR59043 / AR52796
Subsystem	KXCI
Symptom	4200 Remote KXCI setting SRQ line randomly missing.
Resolution	This issue has been corrected.
PR Number	PR59183 / AR52652
Subsystem	4220-PGU, 4225-PMU
Symptom	When using two 4225-PMU cards in SegArb mode and looping a test, <code>pg2_init()</code> needed to be called every loop. Without the <code>pg2_init()</code> calls, no output/readings from channels participating on the second 4225-PMU card would return.
Workaround	Call <code>pg2_init()</code> before each loop.
Resolution	This issue has been corrected.
PR Number	PR59593 / AR53575
Subsystem	Libraries
Symptom	The <code>amplitude-sweep</code> test module of the Charge Pumping user library does not gracefully handle use with RPMs.
Resolution	This issue has been corrected.
PR Number	PR60118
Subsystem	KITE
Symptom	The Pulse Timing Preview that appears in the Advanced Test Settings window when a PMU test is selected is displaying several options (Pulse Base Step and DC Step) as being Pulse Amplitude Steps when they are not.
Resolution	This issue has been corrected.

PR Number	PR60243 / AR53811
Subsystem	4225-PMU
Symptom	The 4225-PMU pulse commands may result in an "Exception code 1906" error.
Resolution	This issue has been corrected.
PR Number	PR60349 / AR54698
Subsystem	4220-PGU, 4225-PMU
Symptom	Sampling rate settings can be ignored when using 4220-PGU and 4225-PMU in the same test.
Resolution	This issue has been corrected.
PR Number	PR60361 / AR51629
Subsystem	4200-SMU, 4210-SMU
Symptom	Spike may occur when switching from voltage source to current source modes.
Resolution	This issue has been corrected.
PR Number	PR60582 / AR55277
Subsystem	KITE
Symptom	Using the UTM GUI Editor with the <code>PMU_SegArb_ExampleFull</code> UTM can cause KITE to shut down.
Resolution	This issue has been corrected.

Usage notes

In order to verify the proper installation of the Model 4200-SCS KTE Interactive V9.1SP2, follow these instructions to check the software and firmware versions:

1. In KITE, save your projects and tests.
2. Close the KITE software.
3. Run KCON software by clicking the KCON icon on the desktop.

NOTE In the left pane, the KI System Configuration function will be highlighted. If it is not, click the KI System Configuration. The right pane shows the system configuration information. Note that the KTE Interactive Version is V9.1SP2.

4. Expand the system instrument tree by clicking the + symbol next to the KI 4200-SCS in the left pane.

4200 Compiler

Model 4200-SCS Semiconductor Characterization Systems shipped prior to October 2010 included the Microsoft® C++ compiler as a standard, preinstalled part of the system.

Model 4200-SCS systems shipped after October 2010 no longer include a preinstalled compiler, unless you specifically order it when you purchase your 4200-SCS.

NOTE: You need a compiler if:

- You are using Keithley User Library Tool (KULT) to create user test modules (UTMs).
- You want to modify the standard UTMs supplied with KULT.
- You plan to do custom C++ programming to control the 4200-SCS or other equipment.

If you need the compiler, you are encouraged to order it when you are ordering your 4200-SCS system, because it will then be preinstalled at the factory. If you already have a 4200-SCS system that does not include a compiler, you can order the compiler using the catalog number 4200-Compiler, which will be Microsoft® Visual Studio® Professional 2013 or 2015, depending on the availability of the 2013 version. Or, you can purchase the 2015 version (Microsoft part number C5E-01235) or 2013 version (Microsoft part number C5E-01018) and install it on your system following the procedure "Installing the 4200-Compiler" found on the 4200 Complete Reference Technical Notes page.