KEITHLEY
A Tektronix Company

ACS Standard Edition

Version 6.1 Release Notes

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Contents

General information

This document describes the features added to the Keithley Instruments Automation Characterization Suite (ACS) Standard Edition software (version 6.1).

The Keithley Instruments ACS Standard Edition software supports component characterization testing of packaged parts and wafer-level testing using probers. ACS Standard Edition software can be installed on any computer, including Keithley Instruments Model 4200A-SCS Parameter Analyzer and Model 4200 Semiconductor Characterization System (4200-SCS).

Supported operating systems

ACS Standard Edition software is supported on the following operating systems:

Windows® 10, 64-bit

Windows® 10, 32-bit

Windows® 7, 64-bit

Windows® 7, 32-bit

ACS Standard revision history

Version	Release date
6.1	March 2022
6.0	August 2021
5.4	February 2021
5.3	December 2017
5.2.1	September 2015
5.2	December 2014
5.1	May 2014
5.0	February 2013
4.4	December 2011
4.3.1	June 2011
4.3	March 2011
4.2.5	October 2010
4.2	June 2010

Install ACS

To install ACS software:

1. Log in to your computer as an Administrator.

2. Open the ACS executable file.

3. Select **Yes** if you have an older version of ACS installed.

Figure 1: ACS Software installation
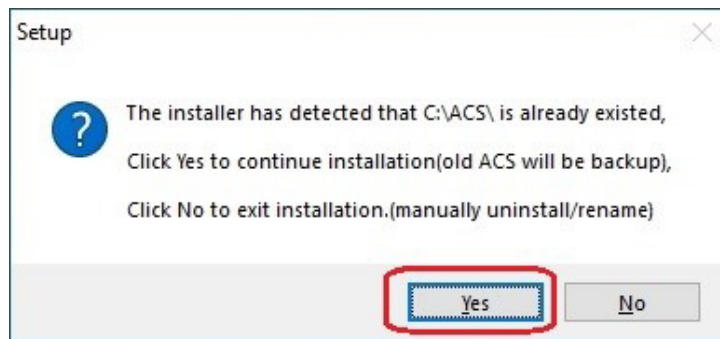
4. Follow the instructions to specify how you want to install the software on your system.

Once the new version of ACS is installed, the older version will be renamed. You can copy the projects and libraries from the previous version using the following steps.

To copy and paste folders:

1. Find the `C:\ACS_DDMMYYYY_HHMMSS\Projects\` folder; copy and paste to the current `C:\ACS\Projects` folder.

2. Find the `C:\ACS_DDMMYYYY_HHMMSS\library\pyLibrary\PTMLib\` folder; copy and paste to the current `C:\ACS\library\pyLibrary\PTMLib\` folder.

3. Find the `C:\ACS\DDMMYYYY_HHMMSS\library\26library\` folder; copy and paste to the current `C:\ACS\library\26library\` folder.

NOTE

ACS 6.1 is based on the Python 3.7 programming language. If you customized your projects in a previous version of ACS you may need to change the projects created in the older version of ACS, which includes the Python language test module (PTM) script libraries. You can go to this site to review the Python changes for more detail: https://docs.python.org/3/whatsnew/3.7.html#porting-to-python-37

NOTE

When installing ACS on a 4200A-SCS Parameter Analyzer, the following applications use files needed to close applications. Select Do not close applications and click Next to install (see the following figure). If you select Automatically close the applications, you must restart the computer after the installation has completed

Figure 2: ACS 6.1 prepare to install
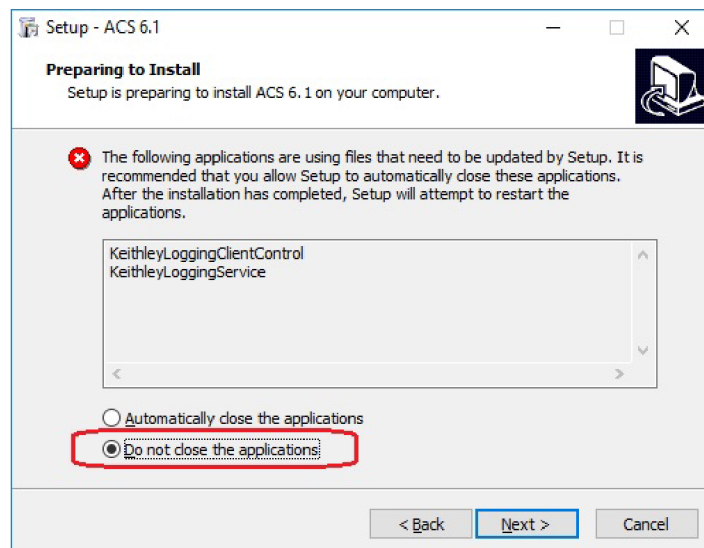
Supported models and test configurations

ACS software can be used with the following Keithley Instruments in a variety of different test configurations. The *ACS Fundamentals Reference Manual* (part number ACS-914-01) and *ACS Advanced Features Reference Manual* (part number ACS-908-01) contain detailed information about the supported hardware and test configurations.

- Perform multi-group testing with Series 2600B and 2400 TTI instruments using ACS software installed on a personal computer or laptop.
- Control hardware using ACS software installed on the Model 4200A-SCS Parameter Analyzer or Model 4200-SCS.
- Perform combined group testing with a 4200A-SCS Parameter Analyzer or 4200-SCS, and Series 2600B instruments using the combined test-execution engine in ACS software.
- Control other external GPIB, LAN, or USB instruments using ACS software installed on a personal computer or laptop.

The following table summarizes the instruments supported in the ACS test libraries.

Instrument type	Supported models
SMU Instruments	2600B Series: 2601B-PULSE (DC only), 2601B, 2602B, 2604B, 2611B, 2612B, 2614B, 2634B, 2635B, 2636B
	2600A Series: 2601A, 2602A, 2611A, 2612A, 2635A, 2636A
	2400 Graphical Touchscreen Series SMU (KI24XX TTI): 2450, 2460, 2460-NFP, 2460-NFP-RACK, 2460-RACK, 2461, 2461-SYS, 2470
	2400 Standard Series SMU: 2401, 2410, 2420, 2430, 2440
	2606B High Density SMU
	2650 Series for High Power: 2651A, 2657A
Parameter Analyzers	4200A and the following modules: 4210-CVU, 4215-CVU 4225-PMU/4225-RPM, 4225-RPM-LR, 4200-SMU, 4201-SMU, 4210-SMU, 4211-SMU, 4200-PA, 4200A-CVIV
DMMs	DMM7510, 2010 Series
Switching Systems	707A/B, 708A/B, 3700A
Pulse Generators	3400 Series

The following probers are supported in ACS:

Probers	Manual Prober
	Micromanipulator 8860 Prober
	Suss MicroTec PA200/Cascade CM300 Prober
	Cascade 12000 Prober
	Cascade S300 Prober
	Electroglas EG2X Prober
	Electroglas EG4X Prober
	TEL P8/P12 Prober
	TEL 19S Prober
	Tokyo Semitsu TSK9(UF200/UF3000/APM60/70/80/90) Prober
	Wentworth Pegasus 300S Prober with SRQ check
	Micromanipulator P300A Prober
	Yang Sagi3 Prober with SRQ check
	Signatone CM500 Prober (WL250)
	TEL T78S/80S Prober
	MPI SENTIO Prober

NOTE

The graphical interactive test module (ITM) supports 24xx Touch Test Invent® (TTI) instruments and 26xx instruments at the same time. The 24xx instrument should be connected as the master and the 26xx connected as subordinate.

You can control any test script processor (TSPTM) instrument using script test module (STM) script.

You can control any instrument using the Python language test module (PTM) script, including instrumentation from other vendors.

Also, existing ACS STM and PTM libraries support specific instruments based on the library definition.
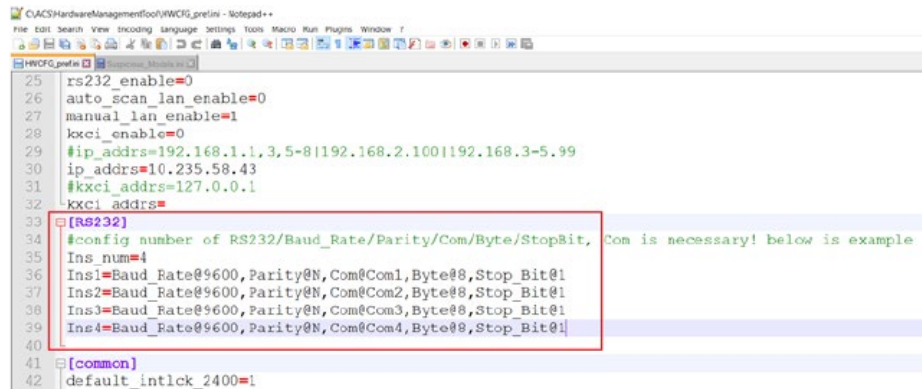
Supported communication interfaces

- GPIB
- LAN (Auto Scan and LAN)
- USB
- RS-232

NOTE

If you are using a RS-232 connection, the instrument will not be automatically added to the hardware configuration. You will have to add instruments connected with RS-232 manually. Change the hardware configuration file that is located in the following directory on your computer: `C:\ACS\HardwareManagementTool\HWCFG_pref.ini.` In this file you will need to change the Baud rate, parity, byte, and stopBit settings. Review the following figure for details.
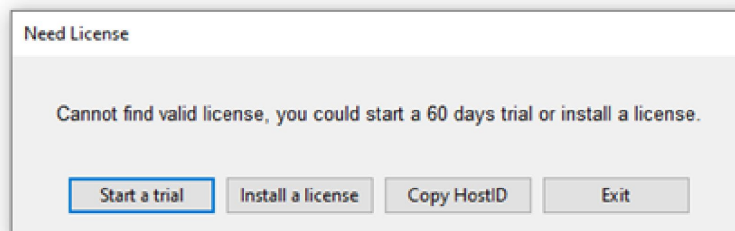
Software license

ACS allows you to create tests, manipulate settings, and view previous data without a license. However, you must have a license for ACS to control and retrieve data from a physical instrument. You can launch a one-time, 60-day trial for ACS after the initial installation. Once the license expires, you will need to purchase a full license to use the software.

Figure 3: ACS 6.1 license information

License management

The ACS software license is managed using the Tektronix Asset Management System (TekAMS). To generate a license file, you must submit your Host ID to TekAMS. For more information about TekAMS, see tek.com/products/product-license. To find the host ID, open the License Manage dialog box from the ACS Help menu. Select **License** > **Host ID** > click to copy the Host ID. Select **Install**.

Figure 4: ACS Host ID 6.1 license information
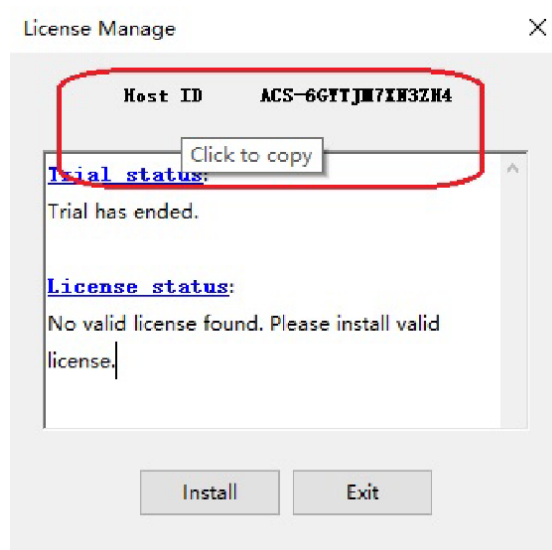
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Enhancements

|	
Hardware configuration	
Issue number:	ACS-81
Enhancement:	Added the Hardware Management Tool to scan for instruments.
Issue number:	ACS-331
Enhancement:	Added support for the new 7530A matrix card.
License management	
Issue number:	ACS-349
Enhancement:	Added logic to do countdown for license status.
Issue number:	ACS-360
Enhancement:	Added support for node-locked licenses.
Issue number:	ACS-381
Enhancement:	ACS trial license needs to support WLR edition.
ACS manual updates	
Issue number:	ACS-375, ACS-380, ACS-403, AR66794
Enhancement:	Updated the ACS Programmer's Manual.
Issue number:	ACS-376, ACS-403, AR66794
Enhancement:	Updated the ACS Start Quick Guide Manual.
Issue number:	ACS-377, ACS-379, ACS-403, AR66794
Enhancement:	Created two new manuals named *ACS Fundamentals Reference Manual* and *ACS Advanced Features Reference Manual*. Also updated the *ACS Programmer's Manual* and *ACS Quick Start Guide* (all manuals are avialable in the Tools drop-down menu in the software).

Resolved issues

Issue number:	ACS-330, ACS-336
Symptom:	Improved the CVU connection compensation and added the CUSTOM option to the cable length selector.
Resolution:	This issue has been corrected.
Issue number:	ACS-332
Symptom:	CTM cannot run in a UAP.
Resolution:	This issue has been corrected.
Issue number:	ACS-333
Symptom:	The 'tsplink' error occurs when a 2634B is connected and using an ITM.
Resolution:	This issue has been corrected.
Issue number:	ACS-334, AR66426
Symptom:	ACSV5.4 import ListV does not work.
Resolution:	This issue has been corrected.
Issue number:	ACS-359
Symptom:	In Run history, the plot color in future runs is automatically set to purple after deleting history data.
Resolution:	This issue has been corrected.

Issue number:	ACS-395
Symptom:	A VISA communication error sometimes occurs when running the `Combined_Test_Mixed_SMUs` PTM.
Resolution:	This issue has been corrected.
Issue number:	ACS-397
Symptom:	Saving a project and receiving a response when selecting the test tree is delayed after importing a large number of subsites.
Resolution:	This issue has been corrected.
Issue number:	ACS-399, AR66790
Symptom:	A runtime error can occur after the initial ACS TSP startup.
Resolution:	This issue has been corrected.
Issue number:	ACS-401, AR66791
Symptom:	A default setting error ('Setting conflict') can occur in an ACS ITM for the 24xxTTI.
Resolution:	This issue has been corrected.
Issue number:	ACS-402, AR66793
Symptom:	ACS ITM 'Output Off' did not function when output was ON.
Resolution:	This issue has been corrected.
Issue number:	ACS-404, AR66804
Symptom:	The ACS `formula_lib.py` (custom formulator) is incorrect.
Resolution:	This issue has been corrected.
Issue number:	ACS-405, AR66803
Symptom:	The ACS Formulator is not interactive as in previous releases.
Resolution:	This issue has been corrected.
Issue number:	ACS-406, AR66795
Symptom:	The ACS hardware and confgure IV coverage graphs are incorrect.
Resolution:	This issue has been corrected.
Issue number:	ACS-408
Symptom:	The import Test Plan File (*.csv) option has been removed from the ACS file menu.
Resolution:	This issue has been corrected.
Issue number:	ACS-414, AR66802
Symptom:	The ACS 2636B pulse option does not appear in Force Mode.
Resolution:	This issue has been corrected.
Issue number:	ACS-415, AR66817
Symptom:	The ACS Soft Bias behavior is incorrect.
Resolution:	This issue has been corrected.
Issue number:	ACS-431
Symptom:	A Python error may occur and cause ACS software to fail after using the KUSB-488B adapter, which may overwrite the installed NI driver.
Resolution:	This issue has been corrected.
Issue number:	ACS-433, AR66858
Symptom:	The ACS `DC_Compensation` project does not work.
Resolution:	This issue has been corrected.
Issue number:	ACS-493
Symptom:	A probe control issue and error message can occur when starting ACS.
Resolution:	This issue has been corrected.

Software compatibility

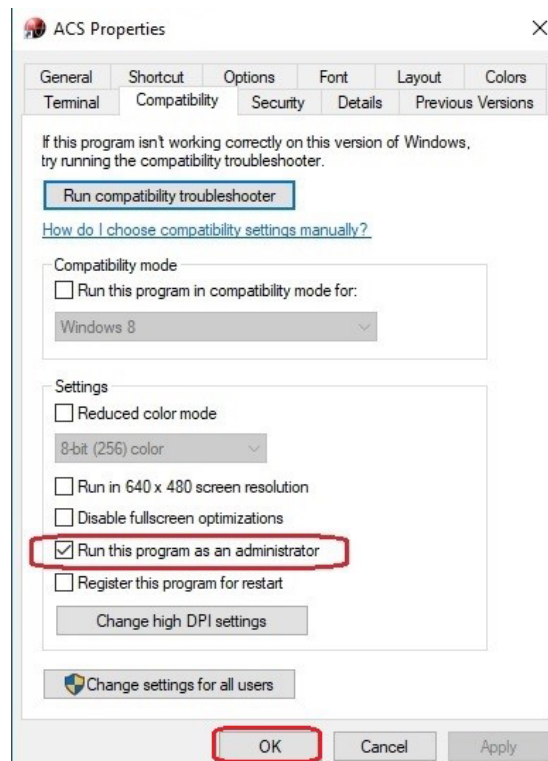|	
Issue number:	N/A
Resolution:	When you start ACS on the 4200A-SCS that has Clarius software version 1.4 or newer (with the Windows 10 operating system), a warning message may appear indicating that KXCI did not start successfully. Select **Cancel** to dismiss the warning.

Figure 5: KXCI did not start
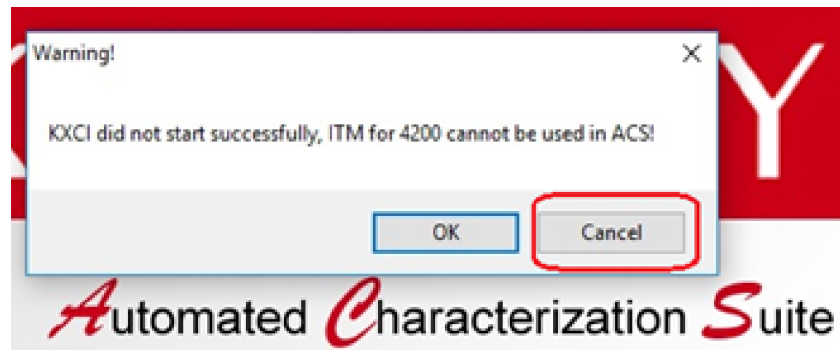
To manually configure the compatibility settings:

1. Right-click the **ACS icon** and select **Properties**.

2. Open the **Compatibility** tab.

3. Select **Run this program as an administrator** and click **OK** to save.

Figure 6: ACS properties

Usage note

Issue number:	N/A
Resolution:	If you install a KUSB-488B GPIB driver, you will see the following message. You must select the **Keithley Command Compatible** option. Select **Next** to continue the installation.

Figure 7: ACS command compatible