Model 2460 System SourceMeter®
Version v1.1.0c Firmware Release Notes

Keithley Instruments, Inc.
28775 Aurora Road
Cleveland, Ohio 44139-1891
1-888-KEITHLEY
www.keithley.com

Contents

General Information

Supported models

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

> 2460, 2460-NFP, 2460-RACK, 2460-NFP-RACK

Firmware Upgrade/Downgrade Instructions

NOTE: Do not turn off power or remove the USB flash drive until the upgrade process is complete.

From the front panel:
1. Copy the firmware upgrade file to a USB flash drive. The file is: `ki_2460_v1_1_0c.upg`.
2. Verify that the upgrade file is in the root subdirectory of the flash drive and that it is the only firmware upgrade file in that location. 2460 firmware files end with the file extension .upg. (example: H:\ki_2460_v1_1_0c.upg)
3. Disconnect any input and output terminals that are attached to the instrument.
4. Turn on instrument power.
5. Insert the flash drive into the USB port on the front panel of the instrument.
6. From the instrument front panel, press the **MENU** key.
7. Under System, select **Manage**.
8. Select the type of upgrade you want to do:
   To upgrade to a newer version of firmware: Select **Upgrade to New**.
   To force downgrading to an older version of firmware: Select **Downgrade to Older**.
9. If the instrument is controlled remotely, a message is displayed. Select **Yes** to continue.
10. When the upgrade is complete, reboot the instrument.

NOTE: A message is displayed while the upgrade is in progress.

For additional information about upgrading the firmware, refer to the "How do I Upgrade Firmware?" topic in the "Frequently Asked Questions (FAQs)" section of the Model 2460 Interactive SourceMeter® Instrument Reference Manual (document number: 2460-901-01). This manual is available online at http://www.keithley.com/support, Search for "2460 Reference Manual" when you get there.

Upgrade considerations for the Model 2460.

No special considerations at this time.

Version v1.1.0c Release

Overview

Version 1.1.0c is the second official firmware upgrade release for the Model 2460. Known Issues, Usage Notes, and Upcoming Enhancements are listed below in this document.

Compatibility concerns

N/A

Critical Fixes

PR53544
AR41757

Models affected:

All 2460 models

Symptom:

2460 sinks wrong current value after range change.
In certain cases when the 2460 is connected to a power supply AND the power supply is sourcing positive voltage and the 2460 is sinking current, the 2460 will occasionally sink the wrong current value. This error happens only when changing to/from the 1A range AND the source level is a very small value.

Resolution:

This issue has been corrected.

PR54745
AR42806

Models affected:

All 2460 models

Symptom:

Problem with source read back with voltages less than 1 (rounding problem).
When the source read back is turned off, the programmed voltages should be returned. However, when the programmed values are less than 1V, incorrect values are returned. This is due to a floating point rounding problem. The numbers will appear correct in the data sheet, however, the numbers returned via the bus are incorrect.

Resolution:

This issue has been corrected.

PR54626

Models affected:

All 2460 models

Symptom:

Hardware in wrong state after setting auto-range low.
Changing the measure low range setting (used for auto-range) could result in incorrect operation if the new range is higher than the active measure range.

Resolution:

This issue has been corrected.\

Enhancements

No notable enhancements for this release.

Noncritical Fixes

PR53474 **Models affected:**

All 2460 models

Symptom:

In some cases, the display will show XXX's in the measure area of the display.
When the source function is Resistance and Measure offset compensation is on, the display will sometimes display XXX.

Resolution:

This issue has been corrected.

PR54455 **Models affected:**

All 2460 models

Symptom:

Under very rare conditions, the Ohm symbol on the display will get cut off.

Resolution:

This cosmetic issue has been corrected.

PR54941 **Models affected:**

All 2460 models

Symptom:

Certain *.tsp file names cannot be processed on the "Scripts→Manage" menu.
Trying to access a 32 character (or longer) script name from a flash drive on the front panel generates an error when trying to move or run the script file.

Resolution:

This issue has been corrected. The 32 character limit is now better enforced.

Known issues

PR48636   Model 2460 does not respect a USB Flash drive that is read only.

Models affected:

2460

Symptom:

The 2460 will write over read-only files on flash drives. Specifically, if the 2460 attempts to write to file aaa.txt and aaa.txt is marked read-only, the 2460 will rewrite file aaa.txt without warning. This problem does NOT suggest the 2460 randomly overwrites arbitrary files on a flash drive.

Workaround:

There is no known workaround for this issue at this time.

PR49308   `Trigger.BLOCK_BRANCH_COUNTER` loop without a measure or delay block causes hang.
SCPI: `:TRIGger:BLOCk:BRANch:COUNter`
TSP: `trigger.model.setblock() with trigger.BLOCK_BRANCH_COUNTER`

Models affected:

2460

Symptom:

When running a tight trigger loop without a measurement or delay in the sequence, the 2460 will be unresponsive until the loop ends.

Workaround: Simply add any measurement or short delay in the trigger loop and the 2460 will perform normally. A future firmware release will work around this problem automatically.

PR55364   When executing the Resistor Demo immediately after the LED Demo, the Demo gets stuck.

Models affected:

2460

Symptom:

When executing the Resistor Demo immediately after the LED Demo, the Demo will appear to be stuck and will not execute.

Workaround:

If this problem occurs, simply navigate to the Data tab of the Graph view and clear the default buffer (`defbuffer1`). The test will then continue as expected. This issue will be repaired in the next firmware release.

Version v1.0.0f Release

Overview

Version 1.0.0f is the initial firmware release for the Model 2460. No fixes are listed since this is the very first firmware release. 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

> **N/A**