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GENERAL INFORMATION

SUPPORTED MODELS

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

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

INSTALLATION INSTRUCTIONS

Firmware upgrade and downgrade instructions

CAUTION

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 that is less than or equal to 2 GB and formatted in the FAT file format. The file is: `ki_2280_v01_07.tfb`.
2. Verify that the upgrade file is in the root directory of the flash drive.
2280 firmware files end with the file extension `.tfb`. (example: `H:\ki_2280_v01_07.tfb`)
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 **Information**.
8. Next to **Version**, select **Upgrade**
9. Select **OK** in the dialog box.
10. Select the type of upgrade you want to do:
 - To upgrade to a newer version of firmware: Select **New**.
 - To force downgrading to an older version of firmware: Select **Previous**.
11. When the upgrade is complete, reboot the instrument.

UPGRADE CONSIDERATIONS FOR ALL SERIES 2280 MODELS

The following table lists the considerations that should be made when deciding whether to upgrade your Series 2280S instrument firmware to version 1.07.

Consideration for upgrade	From any previous version
Recalibration required?	No
Backward compatibility concerns?	Yes
Requalification recommended?	No
Should you upgrade?	Review ¹

¹ Review the entire list of changes and compatibility concerns made in all firmware versions between your current version and version 1.07. Upgrade if any of the fixes or enhancements are wanted.

VERSION 1.07 RELEASE NOTES

OVERVIEW

Version 1.07 is a maintenance release of the 2280S firmware. This release includes fixes.

CRITICAL FIXES

There were no critical fixes included in this release.

NONCRITICAL FIXES

Reference number:	PSDN-1540
Symptom:	Keithley link in header of web page can't load.
Resolution:	This issue has been corrected.
Reference number:	PSDN-1532
Symptom:	CALC2:FORM:ELEM? does not return the proper default value after a reset
Resolution:	This issue has been corrected.
Reference number:	PSDN-1524
Symptom:	The 2280S-60-3 advertises itself as a 2280S-32-6 in its mDNS broadcast. Additionally the web page shows 2280S-32-6 in the Description field of the welcome page.
Resolution:	The webpage issue has been corrected. The mDNS issue is not a firmware bug, but rather a manufacturing process problem which is being addressed separately.
Reference number:	PSDN-1508
Symptom:	Graph labeled incorrect for Voc plot, the label displays Vt.
Resolution:	This issue has been corrected
Reference number:	PSDN-1386
Symptom:	IVI driver reported error after some iterations of continuously running (20k to 100k, random), and either unit totally froze and no key pressing is working or key pressing still working but IVI program needs to restart.
Resolution:	This issue has been corrected
Reference number:	PSDN-1382
Symptom:	Virtual Front Panel was broken.
Resolution:	This issue has been corrected

Reference number:	PSDN-1374
Symptom:	If a user opens a raw socket connection to the instrument and the connection isn't properly terminated, the socket on the instrument can be left open. This will cause subsequent connections to fail. The user is forced to power cycle the unit.
Resolution:	This issue has been corrected by adding a Dead Socket Port (5030)
Reference number:	PSDN-1152
Symptom:	After the system is reset you will find that any changes you made to the level edge trigger settings are still there. The level edge trigger settings do not go back to their power on defaults.
Resolution:	This issue has been corrected
Reference number:	PSDN-1151
Symptom:	The level edge trigger settings are not included in the save/recall procedures.
Resolution:	This issue has been corrected
Reference number:	PSDN-853
Symptom:	Garbage is returned by :system:error? command for an undefined header
Resolution:	This issue has been corrected
Reference number:	PSDN-249
Symptom:	The "LXI – Welcome" page needs to list the new LAN socket port in the Ports listing of the page.
Resolution:	This issue has been corrected
Reference number:	PSDN-245
Symptom:	LXI is displayed on UI status bar when using Socket communication
Resolution:	This issue has been corrected
Reference number:	PSDN-234
Symptom:	Saving data to USB drive sometimes writes corrupt file or even corrupts entire USB drive
Resolution:	This issue has been corrected
Reference number:	PSDN-232
Symptom:	Missing OxP/Overflow/Math information in LXI data logging
Resolution:	This issue has been corrected

Reference number:	PSDN-220
Symptom:	smoke test will let volt range returns 0.00
Resolution:	This issue has been corrected
Reference number:	PSDN-128
Symptom:	LXI "Java Out of Memory" still exists even after restarting data logging
Resolution:	This issue has been corrected
Reference number:	PSDN-103
Symptom:	Time Stamps in Buffer Go Back in Time
Resolution:	This issue has been corrected

ENHANCEMENTS

Reference number:	PSDN-1525
Symptom:	Instrument powers up with GPIB Remote Interface as default. (2280S and 2281S)
Enhancement:	The instrument now powers up using the same remote interface that was last selected when previously powered on.

VERSION 1.06 RELEASE NOTES

OVERVIEW

Version 1.06 is a maintenance and function enhancement release of the Series 2280S firmware. This release addresses critical issues, one which was introduced in version 1.03, as well as correcting some noncritical issues and providing a few enhancements.

COMPATIBILITY CONCERNS

Compared with version 1.03, version 1.06 has these changes:

1. Removed start zero function in List Mode. Remove related SCPI command.
2. Added OPS report in OXP status vector, which means Open Lead Fault.
3. Changed default filter window to 1 from 0.1.

CRITICAL FIXES

Reference number:	CR-00484506
Symptom:	Enabled List demo function and reenter the Information menu, the instruments may reboot.
Resolution:	This issue has been corrected.
Reference number:	CR-00477649
Symptom:	Unit sometimes locks up after several OCP events.
Resolution:	This issue has been corrected.

NONCRITICAL FIXES

Reference number:	CR-00477046
Symptom:	The resolution of the :SOURce:DElay command is insufficient at 1ms. Resolution should be 100us or better.
Resolution:	This issue has been corrected by optimizing code to support 20us.
Reference number:	CR-00476895
Symptom:	Resolution changed will let DUT work abnormal. turn on Rel and Math, change resolution from 6.5 to 5.5, then turn off and turn on Rel, all parameters are fixed.
Resolution:	Rewrote the code to avoid task block during the Rel status changes.
Reference number:	CR-00478423
Symptom:	The *RST command doesn't reset the filter value to default.
Resolution:	This issue has been corrected.

ENHANCEMENTS

Reference number:	CR-00502662
Enhancement:	Implement only V and only I measurement in List mode.
Reference number:	CR-00502663
Enhancement:	Implement separate TIME mode and POINT mode.
Reference number:	CR-00502665
Enhancement:	Implement Level Trigger function. It can capture specific wave form.
Reference number:	CR-00502667
Enhancement:	Add Auto Load ability after power up.
Reference number:	CR-00502668
Enhancement:	Enhance measurement displaying for only V and only I.
Reference number:	CR-00502670
Enhancement:	Add raw socket connection for SCPI access at TCP 5025
Reference number:	CR-00502671
Enhancement:	Implement Data Logging function. PC can store measurement result simultaneously and export them into Excel.
Reference number:	CR-00502674
Enhancement:	Enhance the SCPI console. User can run a batch of SCPI commands through LXI interface.
Reference number:	CR-00502675
Enhancement:	Add Fetch Data and Snapshot function to VFP. User can take snapshot on VFP screen and all data in Data Buffer and save them to PC.

KNOWN ISSUES

The list mode in firmware version 1.06 is not compatible with KickStart 1.5 or below because KickStart doesn't recognize the mode selection command [:SOURce[n]]:LIST:HTIME..

VERSION 1.03 RELEASE NOTES

OVERVIEW

Version 1.03 is the initial release for 2280S. It provides the functionality of 2280S series power supply.