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## General Information

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### Supported models

This firmware is used on the following Keithley Instruments product models:

2182A.

Because this firmware is used on multiple revisions of this model, this version of firmware may be compatible with one or more model revisions while still being unqualified for use on the others. Please refer to the upgrade considerations section below for the product of interest for more details.

### Installation instructions

Use Keithley Flash Wizard version C07 or higher to upgrade model 2182A. Flash Wizard can be downloaded from the Keithley/Tektronix website.

### Upgrade considerations for 2182A

The following table outlines the considerations that should be made when deciding whether or not to upgrade your 2182A firmware to version C06.

Consideration for Upgrade	From version C01	From version C02	From version C03	From version C04	From version C04.3
Recalibration Required	Yes	Yes	Yes	Yes	Yes
Re-qualification Suggested	Yes	Yes	Yes	Yes	Yes
Should you upgrade?	Review <sup>1,2</sup>	Review <sup>1,2</sup>	Review <sup>1,2</sup>	Review <sup>1,2</sup>	Review <sup>1,2</sup>

<sup>1</sup> Review the list of changes made in this version and all versions in between your current version and this version. Upgrade if any of the fixes or enhancements are desired.

<sup>2</sup> There were major hardware changes that required the version C06 firmware upgrade. The C06 firmware is backwards compatible with the older hardware boards, but there may be some slight additional measurement noise encountered.

## Version C06 Release

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### Overview

- The 2182A C06 firmware release was necessary to support a hardware change. It is backward compatible with previous hardware, but a user may observe a slightly higher instrument noise floor on Channel 1 in the 100 mV range at 1-NPLC on all but the latest hardware revision.
- Instruments shipped new with C06 firmware cannot have their firmware downgraded.

### Critical fixes

PR56050 **Models affected:**

2182A

**Symptom:**

Channel 1, 1 V, 5 PLC, DFIL 10 noise spec shows frequent failures during calibration.

**Resolution:**

This issue has been corrected.

### Enhancements

No enhancements in this release.

### Non-critical Fixes

No other fixes in this release.

### Known Issues

No known issues with this release.

## **Version C05 Release**

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### **Overview**

Firmware version C05 was not released. It was for internal, engineering development only.

## Version C04.3 Release

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### Overview

The 2182A C04.3 firmware release added support for new flash memory devices as well as a critical bug fix.

### Critical fixes

PR55677 **Models affected:**

2182A

**Symptom:**

Ratio function inoperable.

**Resolution:**

This issue has been corrected.

### Enhancements

No enhancements in this release.

### Non-critical Fixes

No other fixes in this release.

### Known Issues

No known issues with this release.

## Version C04 Release

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### Overview

The 2182A C04 firmware release added the poly-cal linearity fix as well as other critical bug fixes.

### Critical fixes

**PR45787 Models affected:**

2182A

**Symptom:**

2182A linearity fails specifications.

**Resolution:**

This issue has been corrected.

**PR45795 Models affected:**

2182A

**Symptom:**

Channel 1 does not pass voltage measure verify.

**Resolution:**

This issue has been corrected.

### Enhancements

No enhancements in this release.

### Non-critical Fixes

No other fixes in this release.

### Known Issues

No known issues with this release.

## **Version C03 Release**

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### **Overview**

The 2182A C03 firmware release added support for new flash memory devices. No enhancements or bug fixes were included.

### **Critical fixes**

No critical fixes in this release.

### **Enhancements**

No enhancements in this release.

### **Non-critical Fixes**

No other fixes in this release.

### **Known Issues**

No known issues with this release.



## Version C02 Release

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### Overview

The 2182A C02 firmware release contained critical bug fixes.

### Critical Fixes

**PR33775 Models Affected:**

2182A

**Symptom:**

Units in production are appearing to lose calibration constants.

**Resolution:**

Units were not losing calibration, but may have been having calibration temporarily reset by use of secret keys. Problem discovered was that calibration could be permanently erased if ACAL was performed. Now ACAL is not permitted if calibration is not valid.

**PR31390 Models Affected:**

2182A

**Symptom:**

Hi/Lo reading limits always show "IN" as the result.

**Resolution:**

A logic bug prevented limits from being evaluated properly, so they would never fail.

### Enhancements

No enhancements in this release.

### Non-critical Fixes

No other fixes in this release.

### Known Issues

No known issues with this release.

## **Version C01 Release**

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### **Overview**

Firmware version C01 was the initial release of the 2182A.