

Keithley Instruments
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Declassification and Security Instructions

Introduction

If you have data security concerns, this document tells you how to clear or sanitize the Model DMM6500 or DAQ6510 memory devices. It also explains how to declassify an instrument that is not functioning.

The procedures in this document are written to meet the requirements specified in:

- NISPOM, DoD 5220.22-M, chapter 8
- ISFO Process Manual for Certification and Accreditation of Classified Systems under NISPOM

Contact information

If you have any questions after you review the information in this documentation, please contact your local Keithley Instruments office, sales partner, or distributor, or call Keithley Instruments corporate headquarters (toll-free inside the U.S. and Canada only) at 1-800-935-5595, or from outside the U.S. at +1-440-248-0400. For worldwide contact numbers, visit the [Keithley Instruments website](http://www.tek.com/keithley) (<http://www.tek.com/keithley>).

Products

This document contains procedures for the following Keithley Instruments models:

- DMM6500
- DAQ6510

Terminology

The following terms may be used in this document:

- **Clear:** Removes data on media or in memory before reusing it in a secured area. Clears all reusable memory to deny access to previously unsecured information.
- **Demo setups:** Demonstration modules that come loaded on the instrument; you cannot modify them.
- **Direct method of modification:** You can modify data directly.
- **Erase:** Equivalent to clear (see above).
- **Indirect method of modification:** The instrument system resources modify the data; you cannot modify it.
- **Instrument declassification:** Procedures that must be completed before an instrument can be removed from a secure environment. Declassification procedures include memory sanitization and memory removal.
- **Media storage and data export device:** Devices that can be used to store or export data from the instrument, such as a USB port.
- **Nonvolatile memory:** Data is retained when the instrument power is turned off.
- **Protected user data area:** Contains data that is protected by a password.



- **Remove:** Clears instrument data by physically removing the memory device from the instrument.
- **Sanitize:** Eradicates instrument data from media and memory so it cannot be recovered by other means or technology. This is typically used when the device will be moved (temporarily or permanently) from a secured area to a non-secured area.
- **Scrub:** Directly retrieve and clear the contents of the memory device.
- **User accessible:** You can directly retrieve the contents of the memory device.
- **User data:** Measurement data that represents signals that you connect to the instrument.
- **User-modifiable:** You can write to the memory device during normal instrument operation using the front-panel interface or remote control.
- **User settings:** Instrument settings that you can change.
- **Volatile memory:** Temporary memory; data is lost when the instrument is turned off.

Description of memory

All Model DMM6500 and DAQ6510 instruments share common volatile and nonvolatile memory components. These instructions will work for all instruments listed in the [Products](#) section above.

All Model DMM6500 and DAQ6510 instruments contain the following volatile and nonvolatile memory:

MASTER/BLASTER/DISPLAY (U58 on 389517200/1 board): Contains instrument logic, calibration data, and customer scripts, readings, and data.

- (1) 32 MB nonvolatile NOR FLASH chips on the digital board
- (3) 128 MB volatile DDR2 SDRAM chips on the digital board

The DMM6500 and DAQ6510 instruments contain a battery-backed clock that is used for time-stamping. It does not store data.

Memory devices

The following tables list the volatile and nonvolatile memory devices in the standard instrument and listed options.

Volatile memory devices

The following table lists Model DMM6500 and DAQ6510 volatile memory devices and relevant memory-related information.

| Type and minimum size | Function | User modifiable | Data input method | Location | To clear | To sanitize |
|-----------------------------------|---|-----------------|-------------------|--|---------------------------|---------------------------|
| DDR2 SDRAM 256 MB (master) | Temporary memory used by the microprocessor controller for internal processor operations (on the microprocessor chip) | No | None | U16 and U17 on 389517200/1 digital board | Turn instrument power off | Turn instrument power off |
| DDR2 SDRAM 128 MB (blaster) | Temporary memory used by the microprocessor controller for internal processor operations (on the microprocessor chip) | No | None | U5 on 389517200/1 digital board | Turn instrument power off | Turn instrument power off |

Nonvolatile memory devices

The following table lists Model DMM6500 and DAQ6510 nonvolatile memory devices and relevant memory-related information. If the table indicates that a device can be cleared by the user, see the detailed instructions in [Clearing Data](#).

| Type and minimum size | Function | User modifiable | Data input method | Location | To clear | To sanitize |
|---|---|-----------------|---|--------------------------------------|---|-------------|
| NOR FLASH embedded memory, 32 MB (master/blaster/display) | Contains calibration data and user settings | Yes | Front-panel or remote interface control | U58 on the 389517200/1 digital board | Follow the Clearing Data procedures | Remove chip |
| Flash-based FPGA | Programmable logic | No | Firmware upgrade process | U72 on 389517300 board | Requires Lattice HW-USBN-2B programmer to J4 (on 389517300) | Remove chip |

Clearing data

Test Script Processor (TSP®) scripts can be used to clear data. These scripts can be run from the front panel using a USB flash drive or using a remote interface.

Clearing data scripts and setups

Set the correct command mode:

```
*LANG TSP
```

Erase user strings from nonvolatile memory:

```
for name in userstring.catalog() do
    userstring.delete(name)
end
```

Erase scripts and configuration lists from nonvolatile memory:

```
for name in script.user.catalog() do
    script.delete(name)
end
```

Model DMM6500 and DAQ6510 – Set the GPIB address to the factory default:

```
gpib.address = 16
```

Set the command set to the factory default:

```
*LANG SCPI
```

Resetting the instrument (volatile memory only)

Reset instrument to factory defaults:

```
*RST // SCPI
reset () // TSP
```

Reset the LAN

Resetting the local area network (LAN) resets the LAN settings and the instrument password to the system default values.

To reset the DMM6500 or DAQ6510:

1. Press **MENU**.
2. Under System, select **Communication**.
3. Select **LXI LAN Reset**. The commands are reset and a confirmation message is displayed.

Sanitizing instrument data

The only way to sanitize data from a TTI instrument is to physically remove the nonvolatile chips listed in the tables above.

To sanitize a nonfunctional instrument

To sanitize a nonfunctional instrument, remove the digital and display boards and return the instrument to Keithley Instruments for installation of replacement boards.