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Declassification and Security Instructions

Letter of Volatility

If you have data security concerns, this document tells you how to clear or sanitize instrument memory devices in Model 2280 and 2281 instruments. 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. You can also call the Tektronix corporate headquarters (toll-free inside the U.S. and Canada only) at 1-800-833-9200. For worldwide contact numbers, visit tek.com/contact-us.

Products

Series 2280 Precision Measurement DC Power Supplies

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

Series 2281 Dynamic Model Battery Simulator

- 2281S-20-6

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 applications 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 the data directly.



- **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 nonsecured 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

These instructions will work for all instruments listed in the [products](#) (on page 1) section above.

All Model 2280 and 2281S instruments contain the following volatile and nonvolatile memory:

- (8) 2 GB nonvolatile NAND FLASH chips
- (8) 128 KB volatile DDR2 SRAM chips

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 the volatile memory devices in the Model 2280 and 2281S instruments and relevant memory-related information.

Type and minimum size	Function	User modifiable	Data input method	Location	To clear	To sanitize
DDR2 SRAM 128 KB (MCIMX255)	Temporary memory used by the microprocessor controller for internal processor operations (on the microprocessor chip)	No	None	U13 on 3894685XX digital board	Turn instrument power off	Turn instrument power off

Nonvolatile memory devices

The following table lists 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. Note that the 'XX' in the digital board number (found under "Location") is a revision number and can be any number from 00-99.

Type and minimum size	Function	User modifiable	Data input method	Location	To clear	To sanitize
NAND FLASH memory, 2 GB (MT29F2G08ABB GAH4-IT:G TR)	Contains calibration data and user settings	Yes	Front-panel or remote interface control	U15 on 3894685XX digital board	Follow the Clearing Data procedures	Remove chip

Clearing data

Test Script Processor (TSP®) scripts can be used to clear data. These scripts are run from the front panel using a USB flash drive or the 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 2281S – 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)

To reset the 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 2280 and 2281 instruments:

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

Sanitize instrument data

The only way to sanitize data from an instrument is to physically remove the nonvolatile memory devices listed in the tables above.

Sanitize a nonfunctional instrument

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