Tektronix®

2 Series Mixed Signal Oscilloscope
MSO22, MSO24

Declassification and Security Instructions

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Click the following link to protect your product.
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077-1712-00

Contacting Tektronix

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For product information, sales, service, and technical support:

- In North America, call 1-800-833-9200.
- Worldwide, visit to *www.tek.com* find contacts in your area.

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Preface

This document helps customers with data security concerns to clear or sanitize 2 Series MSO instruments. Instruments in this series contain a processor system with a non-removable mass storage.

These products have data storage (memory) devices and data export interfaces (USB and Ethernet). The following instructions explain how to sanitize the instrument.

Reference

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

- National Industrial Security Program Operating Manual (NISPOM), DoD 5220.22–M, Chapter 8
- Defense Security Service Manual for the Certification and Accreditation of Classified Systems under the NISPOM

Supported products

Tektronix 2 Series Mixed Signal Oscilloscope products are covered by this document.

Terms

The following terms may be used in this document:

- **Clear**: This removes data from media/memory before reusing it in a secured area. All reusable memory is cleared to deny access to previously stored information by a standard means of access.
- **Erase**: This is equivalent to clear.
- **Media**: Storage/data export device. A device that stores or exports data from the instrument, such as a USB flash drive or USB port.
- **Sanitize**: This removes the data from media/memory so that the data cannot be recovered using any known technology. This is typically used when the device is moved (temporarily or permanently) from a secured area to a non-secured area.
- **Remove**: This is a physical means to clear the data by removing the memory device from the instrument. Instructions are available in the product service manual.
- **User-Accessible**: The user can directly retrieve the memory device contents.
- **User-Modifiable**: The memory device can be written to by the user during normal instrument operation, using the instrument user interface or remote control.
- **Volatile memory**: Memory that loses data when the instrument is powered off.
- **Nonvolatile memory**: Memory that retains data when the instrument is powered off.
- **Power off**: Some instruments have a "Standby" mode, in which power is still supplied to the instrument. For clearing data, putting the instrument in Standby mode does not qualify as powering off. For these products, you must either push a rear-panel OFF switch or remove the power source from the instrument.
- **Instrument Declassification**: A term that refers to procedures that must be undertaken before an instrument can be removed from a secure environment. Declassification procedures include memory sanitization, memory removal, and sometimes both.

Clear and sanitize procedures

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

Procedures to clear or sanitize these devices, if any, are given in each table.

Terms

The following terms are used in the tables in this section:

- **User data** – Describes the type of information stored in the device. Refers to waveforms or other measurement data representing signals connected to the instrument by users.
- **User settings** – Describes the type of information stored in the device. Refers to instrument settings that can be changed by the user.
- **Both** – Describes the type of information stored in the device. It means that both user data and user settings are stored in the device.
- **None** – Describes the type of information stored in the device. It means that neither user data nor user settings are stored in the device.
- **Directly** – Describes how data is modified. It means that the user can modify the data.
- **Indirectly** – Describes how data is modified. It means that the instrument system resources modify the data and that the user cannot modify the data.

Volatile memory devices

These are the memory capacities at the time of publishing this document, but are subject to change.

Type and size	Function	Type of user info stored	Backed up by battery	Method of modification	Data input method	Location	User accessible	To clear	To sanitize
SDRAM 2 GB (All models)	System memory	Both	No	Indirectly	Written by processor system and application software operations	Main board	No	Unplug the instrument and remove all battery packs for at least 30 seconds	Unplug the instrument and remove all battery packs for at least 30 seconds
CMOS RAM 13 bytes	Holds clock and boot configuration data	None	Yes	Indirectly	Boot operations	Main board	No	Cannot be cleared	Remove the Main board
FPGA <20 MB	Acquisition system	None	No	None	Written by processor	Main board	No	Unplug the instrument and remove all battery packs for at least 30 seconds	Unplug the instrument and remove all battery packs for at least 30 seconds

Non-volatile memory devices

These are the memory capacities at the time of publishing this document but are subject to change.

Type and Size	Function	Type of user info stored	Method of modification	Data input method	Location	User accessible	To clear	To sanitize
eMMC 4 GB or 8 GB	Stores application software and user data	Both	Directly	Application software operations and file operations	Main board	Yes	Run TekSecure	Remove the Main board

How to sanitize an instrument

Do the following to sanitize your instrument if it must be returned to Tektronix for repair:

1. Remove all external USB memory devices and store or destroy the USB memory devices in accordance with your organization's guidelines.
2. Follow the instructions in the *Main board removal instructions* to get access to and remove the Main board, which contains user data and settings. Store or destroy the Main board in accordance with your organization's guidelines.
3. Reassemble the instrument without the Main board and return it to Tektronix. The instrument will then be repaired and calibrated as necessary.

In North America, contact the Tektronix Customer Care Center (1-800-833-9200) for assistance with returning the instrument to a repair center. Worldwide, visit *tek.com* to find contacts in your area.

Main board removal instructions

Use this procedure to remove the Main board when you need to sanitize an instrument before returning it to Tektronix for repair. Refer to your company's internal policies regarding handling or disposal of the Main board. A new Main board will be installed by Tektronix service and the instrument is repaired and adjusted as necessary.

1. Disconnect the AC power adapter from the instrument.
2. If installed, remove all batteries from the instrument.
3. If installed, remove the battery pack from the instrument.
4. Place the instrument on a work surface with the display facing up.
5. Remove the seven knobs from the front of the instrument.
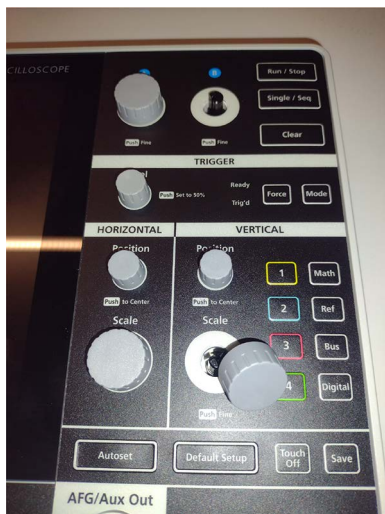
6. Flip the instrument cover so the display is facing down.

7. Remove the rectangular label from the back of the instrument. Stick the label on the back of the instrument so that it is out of the way and not covering any screws.

8. Using a T-10 screwdriver, remove the 16 PT thread forming screws from the back of the instrument.

9. Remove the back cover of the instrument and set it aside.

   The large circuit board visible inside the instrument is the Main board.

10. Disconnect the power cable from the Main board by pressing on the tab near the wire-end of the connector and sliding the connector away from the board.

11. Disconnect the display cable from the Main board by flipping up the latch on the backside of the connector and sliding the cable out. Use the illustration printed on the Main board near the connector for reference.

12. Disconnect the touch screen cable from the Main board by flipping up the latch on the cable-side of the connector and sliding the cable out of the connector.
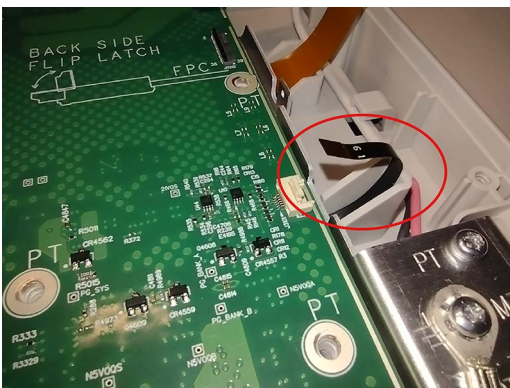
13. Disconnect the front panel cable from the Main board by flipping up the latch on the cable-side of the connector and sliding the cable out of the connector. This cable includes hook features, so the cable must be lifted out of the connector while sliding it out.

14. Disconnect the two fan cables from the Main board by pressing on the tab on the connector and sliding the connector away from the board.

15. Remove the 24 screws from the Main board.

16. Slowly work around the edges of the Main board and lift the board straight out of the enclosure.

17. Reattach the back cover using the PT thread forming screws from the instrument.

Repair charges

Replacement of damaged and missing hardware is charged according to the rate at the time of replacement.