



TMT4 Margin Tester

Declassification and Security Instructions

Warning: The servicing instructions are for use by qualified personnel only. To avoid personal injury, do not perform any servicing unless you are qualified to do so. Refer to all safety summaries prior to performing service.

Supports Product Firmware V1.0 and above.

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Preface

This document helps customers with data security concerns to sanitize or remove memory devices from their Tektronix instrument.

These products have data storage (memory) devices and data export interfaces (USB port, Ethernet, and SD card). These instructions describe how to clear or sanitize the memory devices and disable the data output interfaces. The instructions also describe how to declassify an instrument that is not functioning.

Products

This document pertains to the TMT4 Margin Tester.

Terms

The following terms may be used in this document:

- **Clear.** This eradicates data on media/memory before reusing it in a secured area. All reusable memory is cleared to deny access to previously stored information by standard means of access.
- **Erase.** This is equivalent to clear.
- **Media.** Storage/data export device. A device that is used to store or export data from the instrument, such as a USB port/USB flash drive.
- **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 will be moved (temporarily or permanently) from a secured area to a nonsecured area.
- **Scrub.** This is equivalent to sanitize.
- **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.** User is able to 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.** Data is lost when the instrument is powered off.
- **Non-user-accessible memory.** Data is retained when the instrument is powered off.
- **Power off.** Some instruments have a “Standby” mode, in which power is still supplied to the instrument. For the purpose of clearing data, putting the instrument in Standby mode does not qualify as powering off. For these products, you must 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 and memory removal, and sometimes both.

Clear and sanitize procedure

Memory device table terminology

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 or 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.

Memory devices

The following tables list the memory devices in the instrument.

Table 1: Volatile memory

Type & min. size	Function	Type of user info stored	Backed up by battery	Method of modification	Data Input method	Location	User access	Clear	Sanitize
SDRAM 4 GB	Holds active system memory	Both	No	Directly	Written by processor system	FPGA board	Yes	Remove power from the instrument for a minimum of 20 seconds.	

Table 2: Non-volatile memory

Type & min. size	Function	Type of user info stored	Method of modification	Data Input method	Location	User access	Clear	Sanitize
QSPI Flash 1 GBit	Configuration data, settings and SDM firmware and HPS EMIF	None	None	Factory configuration, firmware update operations	FPGA board	No	Not applicable, does not contain user data or settings. Clearing or sanitizing would disable instrument functionality.	
EEPROM 2 Kbit	MAC ID	None	None	Factory configuration	FPGA board	No	Not applicable, does not contain user data or settings. Clearing or sanitizing would disable instrument functionality.	
SD card 64 GB	User data, rest of U-Boot, Linux, and the application	User data (database, logs)	Indirect / Direct	Firmware operations, user input	SD card in rear power board	Yes	Remove the SD card. Store the removed hard drive in a secure area or destroy it.	

Media and data export devices

The following table lists the data export devices in the instrument.

Table 3: Media and Data export devices

Type	Function	Method of modification	Data input method	Location	User access	Disable
USB host port (supports removable USB flash drive)	User storage	Directly	User writeable	USB port on front of instrument. Files can be deleted or overwritten, or USB flash drive can be removed and destroyed.	Yes	The USB host port cannot be disabled.
SD card	User data, rest of U-Boot, Linux, and the application	Indirect / Direct	Firmware operations, user input	SD card from rear panel	Yes	Remove SD card. This will also disable functionality of the instrument.
LAN Ethernet connector	Transfer data	Directly	N/A	Rear panel	Yes	N/A

To sanitize SD card memory

Sanitizing means that all data in reusable memory is changed or overwritten such that the original data is no longer in memory, and the older data cannot be recovered using any known technology. You typically do a sanitize operation when you move an instrument (temporarily or permanently) from a secured area to a nonsecured area.

1. Power off the instrument.
2. Use a T10 screwdriver to remove the SD card door from the rear of the instrument.
3. Remove the SD card from the SD slot.
4. Refer to the internal policies of your organization regarding handling or disposal of the SD card.

To restore SD card memory

To recover from a nonvolatile memory sanitization, replace stored SD card into instrument or request a new program flashed SD card from Tektronix. The sanitized SD card is not usable. Contact Tektronix for further instructions.

Troubleshooting

How to sanitize a non-functional instrument

If your instrument is not functioning, proceed as follows to sanitize the instrument before returning it to Tektronix for repair.

Remove SD card

1. Power off the instrument.
2. Use a T10 screwdriver to remove the SD card door from the rear of the instrument.
3. Remove the SD card from the SD slot.
4. Refer to the internal policies of your organization regarding handling or disposal of the SD card.

Repair charges

Replacement of any missing hardware will be charged according to the rate at the time of replacement.