

**H500 Spectrum Analyzer and
SA2500 Spectrum Analyzer
Declassification and Security
Instructions**

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Preface

This document helps customers with data security concerns to sanitize or remove memory devices from the H500 or SA2500 Spectrum Analyzer.

These products have data storage (memory) devices and data output devices (USB ports). These instructions tell how to clear or sanitize the memory devices and disable the data output devices. The instructions also tell how to declassify an instrument that is not functioning.

Reference 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 & Accreditation of Classified Systems under NISPOM

Products The following Tektronix products are covered by this document:

H500
SA2500

Terms The following terms may be used in this document:

- **Clear.** This removes 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.
- **Instrument Declassification.** A term that refers to procedures that must be undertaken before an instrument is removed from a secure environment. Declassification procedures include memory sanitization and memory removal, and sometimes both.
- **Media storage/data export device.** Any of several devices that can be used to store or export data from the instrument, such as a USB port.

- **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 will need to either press a rear-panel OFF switch or remove the power source (such as batteries) from the instrument.
- **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.
- **Sanitize.** This eradicates the data from media/memory so that the data 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.** This is equivalent to sanitize.
- **User Accessible.** User is able to directly retrieve the memory device contents.
- **User-modifiable.** The user can write to the memory device during normal instrument operation, using the instrument interface or remote control.
- **Volatile memory.** Data is lost when the instrument is powered off.
- **Nonvolatile memory.** Data is retained when the instrument is powered off.

Clear and Sanitize Procedures

Memory Devices

The following tables list the volatile and nonvolatile memory devices in the standard instrument and listed options. Detailed procedures to clear or sanitize these devices, if any, are shown following each 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 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.

Table 1: Volatile memory devices

Type and min. size	Function	Type of user info stored	Backed-up by battery	Method of modification	Data Input method	Location	User accessible	To clear	Process to sanitize
SDRAM (2) 16M x 66	System memory				Written by system processor	Platform processor board	Yes	Remove power from the instrument for at least 20 seconds.	
SRAM (3) 256K x 16	DSP program and data memory				Read/write by DSP processor	Module digital signal processor board	No	Power down the module by exiting the H500 or SA2500 application	
SRAM, 2 MB x 18	Acquisition memory				Read/write by DSP processor	Module digital signal processor board	No	Power down the module by exiting the H500 or SA2500 application	

Table 2: Nonvolatile memory devices

Type and min. size	Function	Type of user info stored	Method of modification	Data Input method	Location	User accessible	To clear	To sanitize
M_System DiskOnChip 32M x 8 or Sandisk 512M x 8	File system			User writeable, default location for application software, application settings and measurement result files (My Device\BuiltInDisk folder)	Mainframe processor board	Yes	System reset (See page 2, Perform a System Reset.)	
Flash (2) 16M x 8	Operating system and register settings		User input		Mainframe processor board	Yes	System reset (See page 2, Perform a System Reset.)	
EEPROM 128 x 8	Ethernet		Factory programmed		Mainframe processor board	No	Store the instrument in a secure area	

Table 2: Nonvolatile memory devices (cont.)

Type and min. size	Function	Type of user info stored	Method of modification	Data Input method	Location	User accessible	To clear	To sanitize
EEPROM 128 x 8	Storing internal calibration data		Written during factory or service calibration		Module RF board	No	Store the instrument in a secure area	
Flash 8M x 16	FPGA configuration, DSP acquisition and measurement control		Factory programmed, software updates, and used by application		Module digital signal processor board	No	Store the instrument in a secure area, or destroy the instrument	

Perform a System Reset

This procedure does not erase or change factory calibration constants. Resetting the system puts the instrument back to factory specifications.

1. Power on the instrument.
2. Tap the **Start** button.
3. Select **Programs > Tektronix Utilities > System Reset**.

NOTE. *After a system reset, the user settings and data are cleared, but the instrument operating software is preserved.*

Media and Data Export Devices

Table 3: Media and data export devices

Type and min. size	Function	Method of modification	Data Input method	Location	Process to disable
USB host port (supports removable USB flash drive)	User storage of measurement data, screen images, and instrument setups; remote control and data transfer to a PC		Software operations, remote control and data transfer	USB host port on top of instrument	The USB flash drive can be removed and destroyed. The USB host port cannot be electrically disabled. Mechanically disable the USB port by filling with epoxy or other approved method.
USB slave port	Remote control and data transfer to a PC		Software operations, remote control and data transfer	USB device port on top of instrument	The USB flash drive can be removed and destroyed. The USB host port cannot be electrically disabled. Mechanically disable the USB port by filling with epoxy or other approved method.
PCMCIA	Support of PCMCIA-compliant devices including ATA flash memory cards		User writable	Right side of instrument	Remove all devices attached to the port. Remove all memory devices and format them, store them in a secure area, or destroy them. The PCMCIA device port cannot be electrically disabled. Mechanically disable the PCMCIA device port by filling the connector with epoxy or other approved method.
LAN Ethernet connector	Remote control and data transfer to a PC		Remote control and data transfer	Ethernet port on top of instrument	The Ethernet port cannot be electrically disabled. Mechanically disable the Ethernet port by filling with epoxy or other approved method.

Troubleshooting

How to Clear or Sanitize a Non-Functional Instrument

If your instrument is not functioning, perform the following actions and return the instrument for Tektronix for repair. Describe the initial problem with the product. Tektronix will install replacement parts and then repair and return the instrument.

H500, SA2500 There are no customer-removable internal memory devices or boards in the H500 or SA2500. Refer to your company's internal policies regarding handling or disposal of the module or instrument.

USB Flash Drive Remove the USB flash drive, and refer to your company's internal policies regarding handling or disposal of the flash drive.

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

Change Log

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