

TDS820
Digitizing Oscilloscope
Declassification and Security Instructions

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Table of Contents

Preface iii

Clear and Sanitize Procedures..... 1

 Memory Devices..... 1

Preface

This document helps customers with data security concerns to sanitize or remove memory devices from TDS820 Digitizing Oscilloscopes.

These products have data storage (memory) devices. These instructions tell how to clear or sanitize the memory devices.

Products The following Tektronix products are covered by this document:

- TDS820

Related Documents The *TDS820 Digitizing Oscilloscope Service Manual*, part number 070-8514-XX, and the *TDS820 Digitizing Oscilloscope User Manual*, Tektronix part number 070-8512-XX, are available on the Tektronix Web site at www.tektronix.com/manuals.

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.

Media storage/data export. Various devices that are used to store or export data from the instrument, such as a USB port.

Nonvolatile memory. Data is retained when the instrument is powered off.

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-modifiable. The memory device can be written to by the user during normal instrument operation, using the instrument's user interface or remote control.

Volatile memory. Data is lost 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.

You only need to perform the *TekSecure™ Procedure* to clear the instrument. (See page 3, *TekSecure™ Procedure*.)

Table 1: Volatile memory devices

Type and minimum size	Function	User modifiable	Location	Process to clear
CMOS SRAM, 2K X 8	Display memory	No	Processor/Display board	Remove power from the instrument for at least 20 seconds.
CMOS VDRAM, Dual port 64K X 4	Display memory	No	Processor/Display board	Remove power from the instrument for at least 20 seconds.
CMOS SRAM, 32K X 8	DSP Instruction memory	No	Processor/Display board	Remove power from the instrument for at least 20 seconds.
CMOS SRAM, 32K X 8	System Processor Kernel Memory	No	Processor/Display board	Remove power from the instrument for at least 20 seconds.
CMOS SRAM, 32K X 8	DSP Data Memory	No	Processor/Display board	Remove power from the instrument for at least 20 seconds.
CMOS FIFO 512 x 9	DSP FIFO Memory	No	Processor/Display board	Remove power from the instrument for at least 20 seconds.
CMOS, DRAM 256K x 4	System Processor Memory	No	Processor/Display board	Remove power from the instrument for at least 20 seconds.
CMOS, SRAM 8K x 8	Horizontal Position Table Memory	No	Acquisition board	Remove power from the instrument for at least 20 seconds.
CMOS, SRAM 32K x 8	Acquisition Memory	No	Acquisition board	Remove power from the instrument for at least 20 seconds.

Table 2: Nonvolatile memory devices

Type and minimum size	Function	User modifiable	Location	Process to clear
CMOS, RAM w/battery 128K x 8	Reference Waveforms & Instrument Setups Memory	Yes	Processor/Display board A11U1107	See the <i>TekSecure™ Procedure</i> , which follows this table.
CMOS, EPROM 128K x 8	System Processor bootup code memory	No.	Processor/Display board A11U1331	Remove label and expose to UV light ¹
CMOS, EEPROM 256 x 8	Acquisition Calibration Constants	No	Acquisition board A10U1010 A10U2620 A10U2621	None ²
Processor, CMOS, 8-bit Microcomputer, One-time programmed 6206 x 8 EPROM 176 x 8 RAM	Probe & Temperature Sense Microcontroller	No	Acquisition board A10U1020	None ²
CMOS, PROM 64K x 1	Acquisition FPGA Serial Configuration PROM	No	Acquisition board A10U1210	None ²

¹ Erasing EPROM contents will render the product inoperable.

² Store the board in a secure area, or destroy the board.

See the *TDS820 Digitizing Oscilloscope Service Manual*, available on the Web at www.tektronix.com/manuals, for instructions on accessing and removing the Processor/Display and Acquisition boards.

TekSecure™ Procedure

All user storable data (reference waveforms and instrument setups) are stored in internal nonvolatile memory. TekSecure capability is available for erasing all reference waveforms and instrument setups.

To start TekSecure, press **SHIFT UTILITY** (front panel) > **System** (main) > **Config** (pop-up) > **Tek Secure Erase Memory** (main) > **OK Erase Setup & Ref Memory** (side).

Executing TekSecure™ performs the following operations:

1. Replaces all waveforms in Reference memories with an “empty” all zeros pattern. This can be verified by pressing the **MORE** button (front panel). Observe that the Ref1 – Ref4 selections are not highlighted and, if they are pressed, nothing happens (no waveform is restored because no reference waveforms are available).
2. Replaces the current front panel setup and all saved setups in Setup memories with the factory setup. This can be verified by following these steps:
 - a. Press **SAVE/RECALL SETUP** (front panel) > **Recall Saved Setup** (main).
 - b. Observe that all ten Recall Setup selections indicate “factory” (rather than “user”).
 - c. Observe that the current setup matches the factory setup as described in the *TDS820 User Manual*, Table E-1: Factory Initialization defaults.
3. Calculates the checksums of all waveform memory and setup memory locations in order to verify successful completion of waveform and setup memory erasure. If the checksum calculation is unsuccessful, TekSecure displays a warning message; if the checksum calculation is successful, Tek Secure displays a confirmation message.

Using TekSecure will not affect calibration of the instrument because the factory calibration constants are stored on the Acquisition board completely separate from any acquisition data or user files. This allows complete erasure/removal of any secure data without affecting oscilloscope calibration. It also allows the oscilloscope to be calibrated in a nonsecure site, and then used in a secure area without need for recalibration.

NOTE. *If you have any questions, contact the Tektronix Technical Support Center at 1-800-833-9200*3.*
