

**MSO3000 and DPO3000 Series Oscilloscopes  
Declassification and Security  
Instructions**

Copyright © Tektronix. All rights reserved. Licensed software products are owned by Tektronix or its subsidiaries or suppliers, and are protected by national copyright laws and international treaty provisions.

Tektronix products are covered by U.S. and foreign patents, issued and pending. Information in this publication supersedes that in all previously published material. Specifications and price change privileges reserved.

TEKTRONIX and TEK are registered trademarks of Tektronix, Inc.

TekSecure is a trademark of Tektronix, Inc.

## **Contacting Tektronix**

Tektronix, Inc.  
14200 SW Karl Braun Drive  
P.O. Box 500  
Beaverton, OR 97077  
USA

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

- In North America, call 1-800-833-9200.
- Worldwide, visit [www.tektronix.com](http://www.tektronix.com) to find contacts in your area.

---

# Table of Contents

Preface .....	iii
Clear and Sanitize Procedures.....	1
Memory Devices.....	1
Data Export Devices.....	3
Built-In Security Features .....	5
When to Use TekSecure.....	5
What TekSecure Does .....	5
Disable the LAN Port and Clear LAN Ethernet Settings.....	6
Disable the USB Device Port.....	7
Clear and Sanitize a Non-Functional Instrument.....	9



---

# Preface

If you have data security concerns, this document helps you to sanitize or remove memory devices from the MSO3000 and DPO3000 Series Digital Phosphor Oscilloscopes.

The MSO3000 and DPO3000 series products have data storage (memory) devices and data output devices (USB ports). These instructions tell you how to clear or sanitize the memory devices, and also tell you how to declassify an instrument that is not functioning.

Instrument code and calibration settings reside in nonvolatile flash memory. Instrument setups and reference waveforms may also be stored in flash memory or on USB drives connected to the instrument.

If you have any questions, contact the Tektronix Technical Support Center at [www.tektronix.com/support](http://www.tektronix.com/support).

## Products

The following Tektronix products are covered by this document:

- MSO3054
- MSO3034
- MSO3032
- MSO3014
- MSO3012
- DPO3054
- DPO3052
- DPO3034
- DPO3032
- DPO3014
- DPO3012

## Related Documents

The *MSO3000 and DPO3000 Series Digital Phosphor Oscilloscopes Service Manual*, part number 071-2667-XX, is available on the Tektronix Web site at [www.tektronix.com/manuals](http://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 device.** Any of several 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 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 will need to either press a rear-panel OFF switch or remove the power source 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-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.

# Clear and Sanitize Procedures

## Memory Devices

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

**Table 1: Volatile Memory Devices for the MSO3000 and DPO3000 Series**

Type and minimum size	Function	User modifiable	Data input method	Location	To clear or sanitize
CMOS, SDRAM, 16MX16, 256MEG DDR2, 1.8V, 333MHZ; MT47H16M16BG-3, FBGA84	DDR memory: contains waveform acquisition data during operation	Only by the processor system	N/A	Acquisition board	Remove power from the instrument for at least 20 seconds
CMOS, SDRAM, 16MX16, 256MEG DDR2, 1.8V, 333MHZ; MT47H16M16BG-3, FBGA84	DDR memory: contains display images during operation	Only by the processor system	N/A	Acquisition board	Remove power from the instrument for at least 20 seconds
CMOS, DDR; 32MB X 16, 512 MEG, 7.5NS, 2.5V; MT46V32M16BN-6, BGA60	DDR memory: contains instrument code and data during operation	Only by the processor system	N/A	Acquisition board	Remove power from the instrument for at least 20 seconds

**Table 2: Additional Volatile Memory Devices for the MSO3000 Series**

Type and minimum size	Function	User modifiable	Data input method	Location	To clear or sanitize
CMOS, DRAM; 4MX32, 128MB, SDRAM, 3.3 V; MT48LC4M32B2B5-7, 90-BALL FBGA (11MM X 13MM)	DDR memory: contains instrument code and data during operation	Only by the processor system	N/A	Acquisition board	Remove power from the instrument for at least 20 seconds
CMOS, DRAM; 2MX32, 64M, SDRAM, 3.3 V; MT48LC2M32, TSOP86	DDR memory: contains instrument code and data during operation	Only by the processor system	N/A	Acquisition board	Remove power from the instrument for at least 20 seconds

**Table 3: Nonvolatile Memory Devices**

Type and minimum size	Function	User modifiable	Data input method	Location	To clear or sanitize
CMOS, FLASH; 32M X 16, 512 MEG, 85NS; 1.7V-2.0V CORE, 1.7V-3.6V I/O; STRATAFLASH; PC48F4400P0VB00, BGA64	FLASH: contains the instrument firmware, calibration constants, reference waveforms, and instrument setups	Only by the processor system	N/A	Acquisition board	<p>Not applicable for calibration constants.</p> <p>Use the TekSecure feature to erase reference waveforms and instrument setups.</p> <p>Use the procedure to disable the LAN Ethernet and to clear information, such as IP addresses. (See page 6, <i>Disable the LAN Port and Clear LAN Ethernet Settings.</i>)</p>

**Table 3: Nonvolatile Memory Devices (cont.)**

<b>Type and minimum size</b>	<b>Function</b>	<b>User modifiable</b>	<b>Data input method</b>	<b>Location</b>	<b>To clear or sanitize</b>
SERIAL REAL-TIME CLOCK, (RTC), CRYSTAL, 7X8RAM, SPI,3.3V; M41T93RMY, SO18.300	Real Time Clock w/ battery backup	Only by the processor system	N/A	Acquisition board	Not applicable; no user data
CMOS, EEPROM; 256 X 8, SERIAL; 24C02, SO8.15	EEPROM: contains application module firmware	N/A	N/A	MSO3000 and DPO3000 application module	Not applicable; no user data



## Data Export Devices

The following table lists the data export devices.

**Table 4: Data Export Devices**

Type and minimum size	Function	User modifiable	Data input method	Location	To disable
USB host ports	Supports the removable USB flash drive; user storage of reference waveforms, screen images, and instrument setups	Yes	Save	USB host ports on the front and rear of the instrument	Files can be deleted or overwritten on the instrument or a PC; the USB flash drive can be removed and destroyed.  The USB host ports cannot be disabled.
USB device port	Supports remote control and data transfer to a PC	Yes	Remote control via USBTMC	USB device port on the rear of the instrument	Use the procedure to disable the USB device port. (See page 7, <i>Disable the USB Device Port.</i> )



---

# Built-In Security Features

## When to Use TekSecure

You can use the TekSecure function to erase setup and reference waveform data stored in internal flash memory.

The MSO3000 and DPO3000 series models have two USB host ports: one on the front panel and one on the rear panel. Any USB flash devices can be removed and stored or destroyed.

## What TekSecure Does

The TekSecure function does the following:

- Replaces all waveforms in all reference memories with null sample values
- Replaces the current front-panel setup and all stored setups with the default setup values
- Calculates the checksums of all reference waveform memory and setup memory locations to verify successful completion of waveform and setup erasure
- Displays a dialog indicating whether the secure erase was successful or unsuccessful

---

**NOTE.** *TekSecure does not erase or change factory calibration constants or Ethernet settings.*

---

To use TekSecure:

1. Push the front-panel **Utility** button.
2. Push the **Utility Page** lower-bezel button and use the **Multipurpose a** knob to select **Config**.
3. Push the **TekSecure Erase Memory** lower-bezel button.
4. Push the **OK Erase Setup and Ref Memory** side-bezel button. Wait for the “TekSecure operation complete” dialog box to display.
5. Push the **Menu Off** front-panel button to close the dialog box.

To reset the instrument RAM:

1. Power off the instrument for at least 20 seconds.
2. Power on the instrument.

## Disable the LAN Port and Clear LAN Ethernet Settings

To disable the LAN port and clear LAN Ethernet settings, such as IP addresses, follow these steps:



---

**CAUTION.** *If you need to restore network connectivity at a later date, make sure to write down all setting values before clearing them.*

---

1. Remove the network cable from the LAN port on the rear of the instrument.
2. Push the front-panel **Utility** button.
3. Push the **Utility Page** lower-bezel button and use the **Multipurpose a** knob to select **I/O**.
4. Push the **Ethernet Network Settings** lower-bezel button.
5. Push the **Change Instrument Settings** side-bezel button.
6. Push the  $\uparrow$  or  $\downarrow$  arrow side-bezel button to position the cursor on the **User Password** information.
7. Push the **Clear** lower-bezel button.
8. Push the  $\downarrow$  arrow side-bezel button to position the cursor on the **Instrument IP Address** information.
9. Push the **Clear** lower-bezel button.
10. Push the  $\downarrow$  arrow side-bezel button to position the cursor on the **Domain Name** information.
11. Push the **Clear** lower-bezel button.
12. Push the  $\downarrow$  arrow side-bezel button to position the cursor on the **DNS IP Address** information.
13. Push the **Clear** lower-bezel button.

14. Push the ↓ arrow side-bezel button to position the cursor on the **Gateway IP Address** information.
15. Push the **Clear** lower-bezel button.
16. Push the ↓ arrow side-bezel button to position the cursor on the **Subnet Mask** information.
17. Push the **Clear** lower-bezel button.
18. Push the **OK Accept** side-bezel button.

The LAN system is disabled and no longer allows data traffic in or out. The relevant LAN Ethernet settings are also cleared.

## Disable the USB Device Port

To disable the USB device port, follow these steps:

1. Remove any USB cable or device from the USB device port on the rear of the instrument.
2. Push the front-panel **Utility** button.
3. Push the **Utility Page** lower-bezel button and use the **Multipurpose a** knob to select **I/O**.
4. Push the **USB** lower-bezel button.
5. Push the **Disabled (Off Bus)** side-bezel button to disable the USB device port.

The USB device port is disabled and no longer allows data traffic in or out.



---

# Clear and Sanitize a Non-Functional Instrument

If your instrument is not functioning and you need to clear or sanitize it, proceed as follows:

## Acquisition board

Only qualified personnel should perform service procedures. Read the *Service Safety Summary* and the *General Safety Summary* in the *MSO3000 and DPO3000 Series Digital Phosphor Oscilloscopes Service Manual* before performing any service procedures.

Remove the Acquisition board and return the product to Tektronix. A new Acquisition board will be installed, and the instrument will be repaired and adjusted as necessary.

For removal instructions, refer to the MSO3000 and DPO3000 series service manual, part number 071-2667-XX, available on the Tektronix Web site at [www.tektronix.com/manuals](http://www.tektronix.com/manuals).

After removal of the Acquisition board, refer to your company's internal policies regarding handling or disposal of the board.

## USB Flash Drive

Remove the USB flash drive and return the instrument to Tektronix for repair.

After removal of the USB flash drive, 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.