

**DPO7000, DPO70000 and DSA70000 Series  
Declassification and Security  
Instructions**



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**DPO7000, DPO70000 and DSA70000 Series  
Declassification and Security  
Instructions**

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## **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.

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# Preface

This document helps customers with data security concerns to sanitize or remove memory devices from the DPO7000, DPO70000 and DSA70000 Series instruments.

This series of instruments contains an open architecture PC with a removable hard drive. You can order additional removable hard drives to swap in and out of the instrument as needed for security reasons.

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.

**Products** The following Tektronix products are covered by this document:

- DPO7054, DPO7104, and DPO7254
- DPO70404, DPO70604, and DPO70804
- DSA70404, DSA70604, and DSA70804

**Related Documents** *DPO7000, DPO70000 and DSA70000 Series Service Manual*

**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 non-secured 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-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.
- **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.



# Clear and Sanitize Procedures

## Memory Devices

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

**Table 1: Volatile Memory Devices**

| Type and minimum size           | Function  | User Modifiable | Data input method           | Location          | To clear | To sanitize  |
|---------------------------------|---|-----------------|-----------------------------|-------------------|----------|--|
| SDRAM, 512K X 8 up to 512K X 64 | Acquisition memory for holding and processing waveforms, and processor system RAM | No              | Written by processor system | Acquisition board |          | Remove power from the instrument for at least 20 seconds |
| PC RAM                          | PC motherboard  | No              | Written by processor system | PC motherboard    |          | Remove power from the instrument for at least 20 seconds |

**Table 2: Nonvolatile Memory Devices**

| Type and minimum size   | Function   | User Modifiable | Data input method          | Location            | To clear                                    | To sanitize   |
|-------------------------|--|-----------------|----------------------------|---------------------|---|---|
| Removable hard drive    | Holds all user-storable data (waveforms and instrument settings) | Yes             | Windows UI and TekScope UI | Rear panel          | (See page 5, <i>Removable Hard Drive.</i> ) | (See page 5, <i>Removable Hard Drive.</i> )   |
| FLASH 512K X 4          | Video controller BIOS  | No              | Not accessible             | PCI Interface board | Not applicable                              | Not applicable  |
| EEPROM, 4096 BIT        | PCI bus settings   | No              | Not accessible             | PC Interface board  | Not applicable                              | Not applicable  |
| MIA Flash PROM          | Option key, event log, serial, and model number                  | No              | Not accessible             | PC Interface board  | Not applicable                              | Not applicable  |
| SERIAL EEPROM, 4096 BIT | TekLink settings   | No              | Not accessible             | PC Interface board  | Not applicable                              | Not applicable (See page 4, <i>To disable TekLink Using the Windows Device Manager.</i> ) |
| NVRAM                   | Calibration data   | No              | Not accessible             | Acquisition board   | Not applicable                              | Not applicable  |
| NVRAM                   | Motherboard BIOS and BIOS settings                               | Yes             | BIOS UI                    | PC motherboard      | Not applicable                              | Not applicable  |

## Data Export Devices

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

**Table 3: Data Export Devices**

| Type and minimum size | Function  | User Modifiable <sup>1</sup> | Data input method                | Location   | To disable   |
|-----------------------|---|------------------------------|----------------------------------|--|--|
| USB port              | Supports removable USB flash drive. User storage of reference waveforms, screen images, and instrument setups | Yes                          | Save                             | USB host ports on front, side, or rear of instrument | Files can be deleted or overwritten on the instrument or a PC; USB flash drive can be removed and destroyed.<br>USB ports can be disabled. (See page 2, <i>Disabling USB and CD-RW capability.</i> ) |
| CD-RW/DVD ROM Drive   | User storage of reference waveforms, screen images, and instrument setups and installation of software        | Yes                          | Read and write                   | Drive on front of instrument                         | Drive can be disabled.(See page 2, <i>Disabling USB and CD-RW capability.</i> )  |
| Ethernet              | User storage of reference waveforms, screen images, and instrument setups and installation of software        | Yes                          | Read and write                   | Ethernet port on, side or rear of instrument         | Ethernet port can be disabled.(See page 4, <i>To disable LAN Ethernet Connectivity Using the BIOS.</i> )   |
| GPIB                  | Remote control of instrumentation systems   | Yes                          | Read, write and control programs | GPIB port on rear of instrument                      | The GPIB can be disabled.(See page 5, <i>To Disable GPIB Using the Windows Device Manager.</i> )   |

<sup>1</sup> During normal instrument operation.

### Disabling USB and CD-RW capability

The following instructions give a method to disable the built-in USB and CD-RW capability. Using the BIOS disables the devices for DOS programs, while the Windows Device Manager disables the devices for Windows programs. These procedures disable both USB and the CD-RW to prevent their use.

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**NOTE.** *If you disable the USB, CD-RW, and LAN in the following procedures, you cannot write new firmware to the hard drive. To do so, you will need to enable one of these items.*

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**To Disable USB DOS Using the BIOS.**

1. Press F2 during instrument Boot Up to go to the BIOS configuration menu.
2. Go to Advanced>USB Configuration.
3. Set High-Speed USB and Legacy USB Support to Disabled.
4. Hit Esc one time to return to the main BIOS configuration menu.
5. Go to Security> Set Supervisor Password. Press Enter.
6. Specify a password. You will be asked to confirm the password by entering it again. Note the password, and store it in a safe place for future use.
7. Set User Access Level to No Access.
8. Exit Saving Changes by pressing F10, and selecting OK.

**To Disable USB and CD-RW for Windows Using the Windows Device Manager.**

1. Connect a PS2 mouse and a PS2 keyboard to the instrument before powering on (because USB will be disabled).
2. Log on to the instrument as an administrator.
3. Right-click on My Computer on the desktop, and select Properties.
4. Select the Hardware tab.
5. Click Device Manager.
6. Expand the Universal Serial Bus controllers entry by clicking the + next to it.
7. Double-click the first USB Root Hub entry.
8. Select the Power tab.
9. If the Device Description is anything other than Generic USB Hub (4 ports), click the General tab, and select Do not use this device (disable) in the Device Usage drop-down list.

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**NOTE.** *It is critical to leave the USB Root Hub operating, otherwise, the front panel will not function.*

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10. Click OK.
11. Repeat steps 7 through 9 for each USB Root Hub shown in the Device Manager window.
12. Expand DVD/CD-ROM drives in the Device Manager window.
13. Right-click TEAC DW-224E-C, and select Disable.
14. Reboot the instrument to make the changes effective.
15. We suggest that you password-protect the Windows Administrator account and set up Guest accounts for end users so that these changes cannot be easily reversed.

**To disable LAN Ethernet Connectivity Using the BIOS**

1. Press F2 during instrument Boot Up to go to the BIOS configuration menu.
2. Go to Advanced >Peripheral Configuration.
3. Set Onboard LAN to Disabled.
4. Press Esc one time to return to the main BIOS configuration menu.
5. Press F10, and select OK to save changes and exit. The LAN system will be disabled and no longer allow data traffic in or out.

**To disable TekLink Using the Windows Device Manager**

1. Connect a PS2 mouse and a PS2 keyboard to the instrument before powering on (because USB will be disabled).
2. Log on to the instrument as an administrator.
3. Right-click on My Computer on the desktop, and select Properties.
4. Select the Hardware tab.
5. Click Device Manager.
6. Expand the device category Network Adapters.
7. Double click on the Intel(R) PRO/100 M Network Connection. This will be the Network Adapter located on the interface board in PCI slot 2.
8. Click the General tab, and select Do not use this device (disable) in the Device Usage drop-down list.

**To Disable GPIB Using the Windows Device Manager**

1. Connect a PS2 mouse and a PS2 keyboard to the instrument before powering on (because USB will be disabled).
2. Log on to the instrument as an administrator.
3. Right-click on My Computer on the desktop, and select Properties.
4. Select the Hardware tab.
5. Click Device Manager.
6. Expand the device category National Instruments NI-Device GPIB Interfaces.
7. Right click on PCI-GPIB.
8. Select Disable from the list.

**Removable Hard Drive**

All user-storable data is stored on the rear-panel removable hard drive. There are DOD-approved scrubbing software packages available for the hard drive. Tektronix has no recommendations regarding the available packages.

After the hard drive has been scrubbed, the operating system and instrument software can be reinstalled using the Operating System Restore DVD and Product Software CD that ship with the instrument. Following reinstallation of the operating system and product software, you need to run the Signal Path Compensation (SPC) procedure in the Utilities menu after a 20-minute warm-up period. This returns the instrument hard drive to the initial state shipped from the factory.

Scrubbing the hard drive will not affect calibration of the instrument, since the factory calibration constants are stored on the acquisition board, entirely separate from any acquisition data or user files. You can completely erase or remove any secure data without affecting the calibration of the instrument. You can also calibrate the instrument in a nonsecure site, and then use the instrument in a secure area without recalibration.



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# Built-In Security Features

## When to Use Tek Secure™

Use Tek Secure when you want to erase and overwrite the waveform and setup memories.

## What Tek Secure™ Does

Tek Secure™ capability is present in DPO7000, DPO70000, and DSA70000 instruments. Pressing Tek Secure erases and overwrites all of the waveform and setup memories. The waveform memories, stored on the hard drive, are overwritten with an “empty,” all zeros pattern. The setup memories, stored on the hard drive, are overwritten with the factory default front-panel setup. The current front-panel setup is also overwritten with the default factory setup.

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

If you remove and store or destroy the hard drive, you do not need to use Tek Secure because the data that will be secured is on the hard drive.





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# Troubleshooting

## How to Clear or Sanitize a Non-Functional Instrument

If your instrument is not functioning, you may proceed as follows:

**Acquisition Board** 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 instrument service manual, Tektronix part number 071-1740-XX, available on the Tektronix Web site at [www.tektronix.com/manuals](http://www.tektronix.com/manuals).

**CD-RW/DVD ROM Drive** Remove all CDs and/or DVDs. These can be stored or destroyed according to the internal policies of your organization.

**USB Flash Drive** Remove any attached USB flash drives from the instrument before returning 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.

## How to Recover from Clearing or Removing the Instrument's Memory

After the hard drive has been sanitized, the operating system and instrument software must be reinstalled. You can use the Operating System Restore DVD and Product Software CD that were shipped with the instrument. Follow the instructions that came with the DVD and CD.

The PC Motherboard BIOS and CMOS settings can be reset to their factory default by following steps outlined in the Operating System Restore CD instructions. Choose the menu option called Update Motherboard BIOS firmware and CMOS settings during the OS restore sequence.