

**TLA6000 Series Logic Analyzers
Declassification and Security
Instructions**

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Preface

This document helps customers with data security concerns to sanitize or remove memory devices from TLA6000 series logic analyzers.

These products have data storage (memory) devices and data output devices. These instructions tell how to do the following:

- Clear or sanitize the memory devices
- Clear or sanitize an instrument that is not functioning

Products The following Tektronix products are covered by this document:

- TLA6202 and all options
- TLA6203 and all options
- TLA6204 and all options

Related Documents Refer to the following service-related documents available on the Tektronix Web site at www.tektronix.com/manuals or to the TLA Documentation CD that is available with your product:

- *TLA6000 Series Logic Analyzer Installation Manual*
- *TLA7000 Series Mainframe Technical Reference Manual*
- *TLA7ACx Logic Analyzer Module Service Manual*

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.

Power off. The 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.

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 options.

Table 1: Volatile memory devices

Type and minimum size	Function	User modifiable	Data input method	Location	To clear	To sanitize
DRAM, 1 M X 16	Firmware execution code	No	Written by the processor system	LPU board	Remove power source from the instrument for at least 20 seconds.	Remove power source from the instrument for at least 20 seconds.
DRAM, 1 M X 16	Acquisition data transfer	No	Written by the processor system	LPU board	Remove power source from the instrument for at least 20 seconds.	Remove power source from the instrument for at least 20 seconds.
BICMOS	Firmware execution code	No	Written by the processor system	LPU board	Remove power source from the instrument for at least 20 seconds.	Remove power source from the instrument for at least 20 seconds.
SDRAM 4 M X 16	Acquisition memory for storing acquired data	No	Written by controller ASICs	Acquisition board	Remove power source from the instrument for at least 20 seconds.	Remove power source from the instrument for at least 20 seconds.
SDRAM 4 M X 16	Memory for instrument code	No	Written by controller ASICs	Interface board	Remove power source from the instrument for at least 20 seconds.	Remove power source from the instrument for at least 20 seconds.
SDRAM 1 M X 16	Acquisition memory for storing acquired data	No	Written by controller ASICs	Acquisition board	Remove power source from the instrument for at least 20 seconds.	Remove power source from the instrument for at least 20 seconds.
SDRAM 16 M X 16	Acquisition memory for storing acquired data	No	Written by controller ASICs	Acquisition board	Remove power source from the instrument for at least 20 seconds.	Remove power source from the instrument for at least 20 seconds.
ASIC 16 K	Processor execution memory	No	Written by ASICs	Acquisition board	Remove power source from the instrument for at least 20 seconds.	Remove power source from the instrument for at least 20 seconds.

Table 1: Volatile memory devices (cont.)

Type and minimum size	Function	User modifiable	Data input method	Location	To clear	To sanitize
SRAM, 128 K X 8	Firmware execution code	No	Written by the processor system	LPU board	Remove power source from the instrument for at least 20 seconds.	Remove power source from the instrument for at least 20 seconds.
SO-DIMM	Motherboard DDR2 volatile memory modules	No	Written by the processor system	Motherboard	Remove power source from the instrument for at least 20 seconds.	Remove power source from the instrument for at least 20 seconds.

Table 2: Nonvolatile memory devices

Type and minimum size	Function	User modifiable	Data input method	Location	Process to clear	To sanitize
Removable hard disk drive	Holds all user-storable data	Yes	User interface	Side panel	(See page 5, <i>Removable Hard Disk Drive.</i>)	Remove the hard disk drive and store it in a secure area or destroy it. When it is removed, no user data remains in the instrument. (See page 5, <i>Removable Hard Disk Drive.</i>)
Flash 8 M	Stores BIOS	No	Programmed at the factory, no user data	Motherboard	Load new BIOS from vendor Web site.	Securely store instrument in a safe location or destroy it.
CMOS	Configurable BIOS parameters	No	Written by the processor system	Motherboard	Remove battery.	Securely store instrument in a safe location or destroy it.
FLASH, 1 M X 16	Stores instrument firmware	No	Programmed at the factory, no user data	LPU board	Load new firmware image. See manual.	Securely store instrument in a safe location or destroy it.
FLASH, 4 M X 8	Stores instrument code and MAC address	No	Programmed at the factory, no user data	Interface board	Load new firmware image. See manual.	Securely store instrument in a safe location or destroy it.
FLASH, 2 M (512 X 8)	Stores model number and instrument serial number	No	Programmed at the factory, no user data	Interface board	Load new firmware image. See manual.	Securely store instrument in a safe location or destroy it.
NVRAM, 32 K X 8	Stores instrument serial number and calibration constants	No	Written by processor	LPU board	N/A. No user data stored in this device.	N/A. No user data stored in this device.
EPROM 8 K	Stores front panel keyboard code	No	Programmed at the factory, no user data	Front panel board	N/A. No user data stored in this device.	N/A. No user data stored in this device.

Table 2: Nonvolatile memory devices (cont.)

Type and minimum size	Function	User modifiable	Data input method	Location	Process to clear	To sanitize
PROM 1 M	Contains FPGA image for instrument control	No	Programmed at the factory, no user data	Interface board	N/A. No user data stored in this device.	N/A. No user data stored in this device.
PROM 4 M	Contains FPGA image for instrument control	No	Programmed at the factory, no user data	Interface board	N/A. No user data stored in this device.	N/A. No user data stored in this device.

Data Export Devices

The following table lists the data export devices in the standard instrument and listed options.

Table 3: Data export devices

Type	Function	User modifiable ¹	Input method	Location	Process to disable
Analog outputs	Provides an analog copy of signals from the device under test	No	From the device under test	BNC connectors on the side of the instrument	N/A. Outputs cannot be disabled.
USB host port	Supports removable USB flash drive. User storage of instrument setups and exported waveform data.	Yes	Save	USB host ports on front and rear of instrument	Files can be deleted or overwritten on the instrument or a PC; USB flash drive can be removed and destroyed. The USB ports can be disabled. (See page 3, <i>Disabling USB and CD-RW Capability</i> .)
CD-RW, DVD-ROM drive	Store and transport data	Yes	Read and write	Drive on the side of the instrument	Drive can be disabled. (See page 3, <i>Disabling USB and CD-RW Capability</i> .)
LAN Ethernet	Transfer data	Yes	Read, write, and controls programs	Ethernet port on rear of instrument	Ethernet port can be disabled. (See page 4, <i>To Disable LAN Ethernet Connectivity Using the BIOS</i> .)
TekLink	Remote control of instrumentation systems	Yes	Read, write, and controls programs	TekLink port on rear of instrument	TekLink can be disabled. (See page 5, <i>To Disable TekLink Using the Windows Device Manager</i> .)

¹ 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 Windows Device Manager disables the devices for Windows programs. This procedure disables both USB and the CD-RW to prevent their use.

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 must enable one of these items.*

To disable USB and CD-RW for Windows using the Windows Device Manager complete the following steps:

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. From the Windows Start menu, go to **Control Panel > System**.
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.

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

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 the drive, and select Disable.
14. Restart the instrument to make the changes effective.
15. Tektronix suggests 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 Delete 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 once 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.



WARNING. *When you modify the BIOS configuration, be sure to follow the instructions exactly. If you make additional changes, you could disable the instrument.*

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. From the Windows Start menu, Go to **Control Panel, > System.**
4. Select the **Hardware** tab.
5. Click **Device Manager.**
6. Expand the device category Network Adapters.
7. Double-click the Network Connection.
8. Click the **General** tab, and select Do not use this device (disable) in the Device Usage drop-down list.

Removable Hard Disk Drive

To Remove the Hard Disk Drive. To remove the hard disk drive assembly, refer to the *TLA6000 Series Logic Analyzer Installation Manual*.

All user-storable data is stored on the hard disk drive. Scrub the hard disk drive in a manner that meets local and any other security requirements that you have.

NOTE. *Before scrubbing the hard disk drive, make certain that you created OS Restore CD-ROMs. For more information, see Creating Operating System Restore CD-ROMs in the TLA6000 Series Logic Analyzer Installation Manual.*

After the hard disk drive has been scrubbed, the operating system and TLA application software can be reinstalled.

Scrubbing the hard disk drive will not affect calibration of the instrument. You can completely erase or remove any secure data without affecting the calibration of the instrument.

Built-In Security Features

To secure the instrument setups or data, you must remove the hard disk drive and store it in a safe place.

If the hard disk drive has been removed and a new hard disk drive is installed, you need to install the operating system and the TLA application software. Refer to the *TLA6000 Series Logic Analyzer Installation Manual* for instructions for restoring the Windows XP Operating System and the TLA application software.

Troubleshooting

How to Clear or Sanitize a Nonfunctional Instrument

If your instrument is not functioning, proceed as follows. Refer to your organization's policies regarding storage or disposal of any removed items.

Hard Disk Drive Remove the hard disk drive before returning the instrument to Tektronix for repair.

CD-RW/DVD ROM Drive Remove all CDs and DVDs. If it is not possible to remove the disk, you might need to remove the disk drive. Refer to your instrument service manual for instructions.

USB Flash Drive Remove any attached USB flash drive from the instrument before returning the instrument for repair.

If your instrument is not functioning and you need to clear it, remove the power source from the instrument for at least 20 seconds.

To sanitize the instrument, remove the circuit boards and either securely store them in a safe location or destroy them. You can also return the circuit boards to Tektronix; Tektronix will repair and replace the circuit boards as necessary.

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

If the hard disk drive has been removed and a new hard disk drive is installed, you need to install the operating system and the TLA application software.