**PPG3000/PPG3200/PED3200 Series
Declassification and Security**

Instructions

Tektronix

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Preface

This document helps customers with data security concerns to sanitize or remove memory devices from the PPG3000 or PPG3200 Series Programmable Pattern Generators or the PED3200 Series Programmable Error Detectors.

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 a non functioning instrument.

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:

- PPG3001, PPG3002, PPG3004 Programmable Pattern Generators

- PPG3201, PPG3202, PPG3204 Programmable Pattern Generators

- PED3201, PED3202 Programmable Error Detectors

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 can be 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.

- **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 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.

- **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. 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
Microprocessor RAM (32 k)	Holds programs and active acquisition data	System and user data	No	Indirectly	Firmware operations	Processor board	No	Remove power from the instrument for at least 20 seconds.	Remove power from the instrument for at least 20 seconds.
FPGA RAM (~4.1 Mbits)	Holds pattern data and miscellaneous FPGA state information	System and user data	No	Indirectly	Firmware operations	FPGA board	No	Remove power from the instrument for at least 20 seconds.	Remove power from the instrument for at least 20 seconds.

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
Microprocessor ROM (512 k)	Holds operating system	None	Not modifiable	Programmed at factory	Internal	No	Not accessible to user	Not applicable, does not contain user data or settings. Sanitizing would disable instrument functionality.
FPGA programming ROM	Holds FPGA firmware	None	Not modifiable	Programmed at factory	Internal	No	Not accessible to user	Not applicable, does not contain user data or settings. Sanitizing would disable instrument functionality.

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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
SD Card (1 G)	Holds system, calibration, and user data	Pattern data, system setup	Indirect	Front panel, USB remote programming	Internal	Yes	Delete all user pattern data and user instrument setup files. Restore factory defaults to instrument. Factory calibration data remains.	Remove SD card. Disables instrument functionality. (Note: opening instrument and removing SD card invalidates customer warranty. Contact Tektronix for more information.)
EEPROM (256 k)	Holds instrument configuration data	Used to configure instrument	Not modifiable	Programmed at factory	Internal	No	Not accessible to user	Not applicable, does not contain user data or settings. Sanitizing would disable instrument functionality.

Clear the SD Card

NOTE. The SD Card is the only location where user data is saved after turning the instrument off.

The following steps delete the instrument setup files and user pattern data files and loads the factory default parameters. The steps involve touching soft keys on the touch screen through the graphical user interface.

1. Touch the **UTIL** soft key.

2. Touch the **SAVE SETUP** soft key.

3. Touch the **DEFAULTS** soft key.

4. Touch the **FILE MGMT** soft key.

   Follow the on-screen procedure to delete all user instrument setup files.

5. Touch the **PATTERN** soft key.

6. Touch the **FILE MGMT** soft key.

Follow the on-screen procedure to delete all user pattern data files.

The instrument should now have the factory default parameters loaded and all user instrument setup files and all user pattern data files should be deleted.

7. Power off the instrument.

Nonvolatile recovery information

No recovery from a clear is needed as the nonvolatile clear procedure does not erase or change factory calibration constants and the instrument firmware is not impacted. There is no standard sanitization procedure as it requires partial disassembly of the instrument that is only permitted by factory authorized personnel.

Media and data export devices

The following table lists the data export devices. Procedures to disable these devices, if any, are shown following the table.

Table 3: Media and data export devices

Type and min. size	Function	Method of modification	Data input method	Location	User accessible	Process to disable
USB device port	Supports remote control and data transfer to a PC.	Directly	Remote control via USBTMC	USB device port on rear of instrument	Yes	The USB device port cannot be disabled.

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Troubleshooting

Clear or sanitize a nonfunctional instrument

⚠ **CAUTION.** *Removing instrument covers to access internal components invalidates your warranty. Do not remove instrument covers unless you are qualified to do so. For additional information, contact your local Tektronix service representative.*

If your instrument is not functioning and you need to clear or sanitize it, the SD card should be removed and the instrument should be returned to Tektronix Inc. To remove the SD card, the chassis covers must be removed and the SD card must be removed from the processor board. Please contact your local Tektronix service representative for more SD card removal details.

The SD card is the only part of the instrument that will retain user data (such as pattern data or instrument setups) after the instrument has been turned off.

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

Change log

Document part number	Revision date	Change description
077-0776-00	1-17-2013	Initial release