Tektronix BERTScope Clock Recovery Instruments Declassification and Security

Instructions

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Preface

This document helps customers with data security concerns to sanitize or remove memory devices from the BERTScope Clock Recovery instruments.

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.

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:

- CR125A, CR175A, CR286A

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.
- **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.
- **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
SRAM 16KB (U8)	Microprocessor system memory	Both	No	Directly	Written by flash	Main board processor	Yes	Remove power from the instrument for at least 20 seconds.	Remove power from the instrument for at least 20 seconds.
SRAM 128KB (U5)	Microprocessor system memory	Both	No	Directly	Processor system	Main board	Yes	Remove power from the instrument for at least 20 seconds.	Remove power from the instrument for at least 20 seconds.
SRAM 36MB (U118)	Program memory	Both	No	Indirectly	FPGA	Main board	Yes	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 modification	Data Input method	Location	User accessible	To clear	To sanitize
Flash memory, 2 MB (U6)	Holds program memory & Configuration	Configuration	Indirect	Indirectly	Main board	yes	Restore the instrument to the Factory Setup and then save it into all settings using SAVE SETUPS.	Restore the instrument to the Factory Setup and then save it into all settings using SAVE SETUPS.
PROM, 1 MB (U7)	Holds instrument manufacturing data	None	Indirect	Indirectly	Main board	No	N/A, does not contain user data or user settings. Clearing would disable instrument functionality.	N/A, does not contain user data or user settings. Sanitizing would disable instrument functionality.

Media and data export devices

The following table lists the data export devices in the standard instrument and listed options. Detailed 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 or BSA instrument.	Directly	Remote control	USB device port on rear of instrument	Yes	The USB device port cannot be disabled.
RS-232 serial port	Supports remote control to a BSA instrument.	Directly	Remote control	RS-232 port on rear of instrument.	Yes	The RS-232 port cannot be disabled.