WFM5250 Waveform Monitor Declassification and Security

Instructions

www.tektronix.com

077-0801-00

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Contacting Tektronix

Tektronix, Inc.
14150 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 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 WFM5250 Waveform Monitor.

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 product is covered by this document: WFM5250 (Options 3G, GEN, AUD, SIM, S3D, PROD, LOUD, and DATA).

Related Documents

The following table lists the documentation that is available for the product and shows where you can find it: in a printed manual, on the product documentation CD-ROM, or on the Tektronix Web site.

Table i: Product documentation

Item	Purpose	Location
User Manual	Provides operation and application information. This manual is available in English.	Product Documentation CD and available at www.tektronix.com/downloads
Online Help	In-depth instrument operation and UI help.	On the instrument
Specifications and Performance Verification Technical Reference	Specifications and procedures for checking instrument performance.	Product Documentation CD and available at www.tektronix.com/downloads
Service Manual	Provides information about adjustments, repair, and replaceable parts.	Available at www.tektronix.com/downloads
Installation and Safety Instructions	Provides safety and compliance information along with hardware installation instructions to present the associated safety warnings. This manual is available in English, Japanese, Russian, and Simplified Chinese.	Printed manual and also available in electronic format at www.tektronix.com/downloads

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. Detailed procedures to clear or sanitize these devices, if any, are shown following each table.

Table 1: Volatile memory devices

Type and minimum size	Function	User modifiable[1]	Data input method	Location	To clear	To sanitize
DDR2 RAM 64 M x 16	Microprocessor system memory	No	Written by processor system	CPU board, U33, U34	None	Remove the power source from the instrument for at least 20 seconds
FPGA DSP 4.3 MB	Rasterizer	No	Written by processor system or serial flash	FPGA board, U20	None	Remove the power source from the instrument for at least 20 seconds
QDR2 RAM, 1 MB X 18	DSP RAM	No	Dynamic memory for FPGA DSP	FPGA board, U3, U4	None	Remove the power source from the instrument for at least 20 seconds
FPGA, DSY 8.1 MB	Display FPGA	No	Written by processor system	FPGA board, U19	None	Remove the power source from the instrument for at least 20 seconds
DDR2 DSY 64 MB X 32	Frame Buffer #1 for DSY FPGA	Yes	Written by processor system	FPGA board, U14, U15	None	Remove the power source from the instrument for at least 20 seconds
DDR2 DSY 64 MB X 32	Frame Buffer #2 for DSY FPGA	Yes	Written by processor system	FPGA board, U22, U23	None	Remove the power source from the instrument for at least 20 seconds
DDR2 DSY 64 MB X 32	System display graphics buffer	No	Written by processor system	FPGA board, U24, U25	None	Remove the power source from the instrument for at least 20 seconds

Table 1: Volatile memory devices (cont.)

Type and minimum size	Function	User modifiable[1]	Data input method	Location	To clear	To sanitize
HDMI Receiver 1kB	EDID, Infoframes, Configuration Data	No	Written by processor system	HDMI I/O Board, U6	None	Remove the power source from the instrument for at least 20 seconds
HDMI Transmitter 1kB	EDID, Infoframes, Configuration Data	No	Written by processor system	HDMI I/O Board, U18	None	Remove the power source from the instrument for at least 20 seconds

[1] During normal instrument operation.

Table 2: Nonvolatile memory devices

Type and minimum size	Function	User modifiable[1]	Data input method	Location	To clear	To sanitize
NOR Flash 32 M X 16	Contains instrument SW, user-defined presets, and FPGA code storage	No	Programmed by software during software upgrade	CPU board, U32	Clear Presets Procedure	Reload the system software per the loading instructions
NVSRAM plus Real Time Clock 256k bits	Stores time set by user, network access parameters, software option key and current instrument state	Yes	User Interface	CPU board, U37	Clear Diagnostic Log Procedure, clear IP and SNMP Address Fields Procedure	Clear Diagnostic Log Procedure, clear IP and SNMP Address Fields Procedure
PLD, Glue	Control logic	No	Programmed by software during software upgrade	CPU board, U2	None	Reload the system software per the loading instructions

Table 2: Nonvolatile memory devices (cont.)

Type and minimum size	Function	User modifiable[1]	Data input method	Location	To clear	To sanitize
HDMI Receiver 1kB	Contains HDCP Decryption Keys, Revocation List	No	Factory programmed	HDMI I/O Board, U6	Not applicable, does not contain user data or settings. Clearing would disable instrument functionality.	Not applicable, does not contain user data or settings. Sanitizing would disable instrument functionality.
HDMI Transmitter 1kB	Contains HDCP Encryption Keys, Revocation List	No	Factory programmed	HDMI I/O Board, U18	Not applicable, does not contain user data or settings. Clearing would disable instrument functionality.	Not applicable, does not contain user data or settings. Sanitizing would disable instrument functionality.

[1] During normal instrument operation.

Clear Presets Procedure

1. Press and hold the **PRESET** button to display the preset configuration menu. Then select **Recall Preset** > **Factory Preset** > **SEL**. This restores the presets to the factory state.
2. Press and hold the **PRESET** button. Then select **Save Preset** > **Select Group A**. For all presets that are not empty “<e>”, select **Save** and then press **SEL** to overwrite that preset with the factory settings.
3. Check each group and overwrite presets that are not empty as described in the previous step.
4. Navigate to the top level menu and select **Rename Preset**. Rename all named groups and presets with the label “Default”.

Clear Diagnostic Log Procedure

1. Press the **CONFIG** button. Then press **Utilities** > **View Diagnostic Log**. Press **SEL** to display the log.
2. Press **>** until the box by “Erase Log” is highlighted. Then press **SEL** to remove all entries in the diagnostic log.
3. Press **>** until the box by “Exit” is highlighted. Then press **SEL** to exit the log display.
4. Press the **CONFIG** button to exit the configuration menu.

Clear IP and SNMP Address Fields Procedure

1. Press the **CONFIG** button. Then select **Network Settings**.
2. Set **IP Config Mode** to **Manual** to display the IP address.
3. Navigate to **IP Address**. Then press **>** to enter the edit mode. Enter “000.000.000.000” for the IP address.

4. Repeat Step 3 for the Subnet Mask, Gateway Address, and SNMP Trap Address 1 through SNMP Trap Address 4.
5. Press the **CONFIG** button to exit the configuration menu.

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: Data export devices

Type and minimum size	Function	User modifiable [1]	Data input method	Location	To disable
Ethernet	Communications	Yes	Standard Ethernet protocol	Rear of instrument	See *Disable Ethernet Access Procedure* and *Disable SNMP Access Procedure*
USB	Data storage	Yes	Standard USB protocol	Front of instrument	None

[1] During normal instrument operation.

Disable Ethernet Access Procedure

1. Press the **CONFIG** button. Then select **Network Settings**.
2. Navigate to the **Web Enable** and set it to **Off**.
3. Press the **CONFIG** button to exit the configuration menu.

Disable SNMP Access Procedure

1. Press the **CONFIG** button. Then select **Network Settings**.
2. Navigate to the **Web Enable** and set it to **Off**.
3. In the SNMP Setup dialog screen, select **Disabled** for the Remote SNMP Mode.
4. Press the **CONFIG** button to exit the configuration menu.

Enable Ethernet and SNMP Access Procedure

To enable Ethernet and SNMP access, use the same procedures you would use to disable these devices, but select **On** to enable each device.

Troubleshooting

How to Clear or Sanitize a Nonfunctional Instrument

To sanitize a nonfunctional instrument, remove the CPU board and return the instrument to Tektronix for installation of a new CPU board.

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

Reload the system software per the loading instructions.

Change Log

Document part number	Revision date	Change description
077-0801-00	March 28, 2013	New document.