

**WVR6020, WVR7020, and WVR7120 Waveform Rasterizers  
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 WVR6020, WVR7020, and WVR7120 Waveform Rasterizers.

These products have data storage (memory) devices. These instructions tell how to clear or sanitize the memory devices. The instructions also tell how to declassify an instrument that is not functioning.

## Products

The following Tektronix products are covered by this document:

- WVR6020 (Options CPS, AD, BAS, PER, ALY)
- WVR7020 (Options HD, CPS, AD, DL, BAS, PER, ALY)
- WVR7120 (Options HD, CPS, EYE, PHY, AD, DDE, DL, SIM, BAS, PER, ALY, AVD)

## Related Documents

*WVR6020, WVR7020, and WVR7120 Waveform Rasterizer 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 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 <sup>1</sup>	Data input method	Location	To clear	To sanitize
FPGA 1.3 K	Audio measurement	No	Programmed by onboard flash memory	Plugs into optional Digital Audio board, IC8 on Dolby Audio board	None	Remove the power source from the instrument for at least 20 seconds
FPGA 920 Kb	Audio measurement	No	Programmed by onboard serial EEPROM	U610 on Audio board	None	Remove the power source from the instrument for at least 20 seconds
FPGA 1.9 Mb	Mapper#1	No	Programmed by onboard flash memory	U350 on Main board	None	Remove the power source from the instrument for at least 20 seconds
SRAM 512 K X 18	Mapper#1 RAM	No	Static memory for mapper FPGA	U240, U251 on Main board	None	Remove the power source from the instrument for at least 20 seconds
SDRAM 16 M X 16	Mapper#1 RAM FPGA	Yes	User can initiate capture to this memory	U250 on Main board	None	Remove the power source from the instrument for at least 20 seconds
FPGA 1.9 Mb	Mapper#2	No	Programmed by onboard flash memory	U460 on Main board	None	Remove the power source from the instrument for at least 20 seconds
SRAM 512 K X 18	Mapper#2 RAM	No	Static memory for mapper FPGA	U351, U370 on Main board	None	Remove the power source from the instrument for at least 20 seconds
SDRAM 16 M X 16	SDRAM for Mapper#2 FPGA	Yes	User can initiate capture to this memory	U360 on Main board	None	Remove the power source from the instrument for at least 20 seconds
FPGA 1.9 Mb	Rasterizer	No	Programmed by onboard flash memory	U440 on Main board	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 <sup>1</sup>	Data input method	Location	To clear	To sanitize
SDRAM 16 M X 16	Rasterizer FPGA SDRAM	Yes	User can initiate capture to this memory	U421, U430 on Main board	None	Remove the power source from the instrument for at least 20 seconds
SDRAM 16 M X 16	CPU RAM	No	CPU access	U290, U390 on Main board	None	Remove the power source from the instrument for at least 20 seconds

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

**Table 2: Nonvolatile Memory Devices**

Type and minimum size	Function	User modifiable <sup>1</sup>	Data input method	Location	To clear	To sanitize
Flash Memory 4 Mb	Audio measurement	No	Programmed by software during software upgrade	Plugs into optional Digital Audio board, IC9 on Dolby Audio board	None	Reload the system software per the loading instructions
Serial EEPROM 256 X 8	Stores audio calibration coefficients	No	Programmed during calibration	U360 on Analog Audio board	Recalibrate Audio	None
Serial EEPROM 256 X 8	Stores Eye calibration coefficients	No	Programmed during calibration	U441 on Eye board	Recalibrate Eye	None
Flash Memory 512 M X 16	Loads FPGAs on power up Contains instrument SW	Yes	Programmed by software during software upgrade	U290, U390 on Main board	None	None
PLD 8 Kb	CPU glue logic	No	Programmed by flash memory during power up	U570 on Main board	None	None
PLD 8 Kb	FPGA interface	No	Programmed by flash memory during power up	U551 on Main board	None	None
EEPROM, NVRAM, Real Time Clock	Stores user-defined presets, MAC address, diagnostic log, network settings, instrument state, composite calibration coefficients, time set by user	Yes	UI Programmed by software during calibration and diagnostics	U280 on Main board	See <i>Clear Presets Procedure, Clear Diagnostic Log Procedure, and Clear IP and SNMP Address Fields Procedure</i> Set clock to GMT	None

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



**Clear Presets Procedure**

1. Press the **FACTORY** button to restore the factory preset state.
2. Press and hold the **PRESETS 1** button until the “Preset #1 Saved” message displays.
3. Repeat step 2 for **PRESETS 2** through **PRESETS 5**.

**Clear Diagnostic Log Procedure**

1. Press the **CONFIG** button. Then select **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. Select **IP Config Mode** and set it 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 <sup>1</sup>	Data input method	Location	To disable
Ethernet	Communications	Yes	Standard Ethernet protocol	Rear of instrument	See <i>Disable Ethernet Access Procedure</i>

<sup>1</sup> 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. Navigate to the **SNMP Enable** and set it to **Off**.
4. Navigate to the **SNMP Trap Enable** and set it to **Off**.
5. 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.

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# Troubleshooting

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

To sanitize a non-functional instrument, remove the Main board and return the instrument to Tektronix for installation of a new Main board. This procedure does not clear calibration constants stored on the Audio, Eye and Composite boards.

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

Reload the system software per the loading instructions.