

Instructions



AWG5000 Series Arbitrary Waveform Generators Declassification and Security

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Preface

This document helps customers with data security concerns to sanitize or remove memory devices from the AWG5000 Series Arbitrary Waveform Generators.

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, (if possible). The instructions also tell how to declassify an instrument that is not functioning.

Products

The following Tektronix products are covered by this document:

- AWG5102
- AWG5104
- AWG5002
- AWG5004

Related Documents

- *AWG5000 Series Arbitrary Waveform Generators Service Manual* (Tektronix part number 071-2083-XX).
- *AWG5000 Series Arbitrary Waveform Generators Hard Disk Drive Assembly Installation Instructions* (Tektronix part number 075-0927-XX).

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. 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.

Table 1: Volatile Memory Devices

Type and min. size	Function	User Modifiable	Input method	Location	Process to clear
DDR2 SRAM 64 M x 64 bits	Microprocessor system memory	Yes	Written by processor system	Micro-ATX board	Remove the power source from the instrument for at least 20 seconds.
Pipelined SRAM 2 M x 36 bits	Waveform memory for holding waveforms to generate	Yes	Written by processor system	AWG1G board	Remove the power source from the instrument for at least 20 seconds.

Table 2: Nonvolatile Memory Devices

Type and min. size	Function	User Modifiable	Input method	Location	Process to sanitize
Removable hard drive	Holds user-storable data such as waveforms and instrument settings.	Yes	Firmware operations	Removable hard drive slot on rear panel	Remove the hard drive and store it in a secure area or destroy it. When it is removed, no user data remains in the instrument.
EEPROM 64 K	Contains model configurations and calibration data.	Yes	Programmed at the factory	MIO board	Remove the MIO board.
Flash, 128 K x 8 bits	Contains Video BIOS for the LCD display.	No	Programmed at the factory	MIO board	Remove the MIO board.
EEPROM 4 K	Contains MAC address for TekLink.	No	Programmed at the factory	MIO board	Remove the MIO board.
EEPROM 4 K	Contains PCI Bus configurations.	No	Programmed at the factory	MIO board	Remove the MIO board.
EEPROM 64 K	Contains count for actuation of relays.	Yes	Updated by firmware	OUT1G board	Remove the OUT1G board.

Hard Disk Removal Procedure

To remove the hard disk drive assembly, see the instrument user online help (AWG Reference > Removable Hard Disk). You can also refer to the *AWG5000 Series HDD Installation Instructions*, Tektronix part number 075-0927-XX.

AWG1G, MIO, OUT1G Boards Removal Procedure

To remove the AWG1G, MIO, or OUT1G board, refer to the *AWG5000 Series Service Manual*, Tektronix part number 071-2083-XX.

Media Storage and Data Export Devices

The following table lists the media storage and data export devices in the instrument. Detailed procedures to disable these devices, if any, are shown in the following table.

Table 3: Media Storage / Data Export Devices

Type	Function	User Modifiable	Input method	Location	Process to disable
USB host port	Supports removable USB flash drive. User storage of instrument setups and exported waveform data.	Yes	User input	USB host port on front and rear of the instrument	Files can be deleted or overwritten on the arbitrary waveform generator or a PC; USB flash drive can be removed and destroyed. The USB host port cannot be disabled.
CD-RW, DVD-ROM drive	Store and transport data	Yes	User input	Front panel	Remove all CDs and DVDs. Rewritable CDs can be formatted, stored in a secure area, or destroyed. Non-rewritable CDs or DVDs can either be stored or destroyed.
LAN Ethernet connector	Transfer data	N/A	N/A	Rear panel	The LAN connector cannot be disabled.
GPIB connector	Transfer data	N/A	N/A	Rear panel	The GPIB connector cannot be disabled.

Built-In Security Features

The AWG5000 Series Arbitrary Waveform Generators do not have a built-in security function. To secure the instrument setups or waveform data, you must remove the hard disk drive and store it in a safe place as described in Table 2. Additional removable hard drives (Tektronix part number 065-0768-00) can be purchased from Tektronix.

Troubleshooting

How to Clear or Sanitize a Non-Functional 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.
USB Flash Drive	Remove any attached USB flash drive from the instrument before returning the instrument for repair.
AWG1G, MIO, and OUT1G Board	Remove the boards and return the instrument to Tektronix. New boards will be installed, and the instrument will be repaired and adjusted as necessary. For removing instructions, refer to the <i>AWG5000 Series Arbitrary Waveform Generators Service Manual</i> , Tektronix part number 071-2083-XX, available on the Tektronix Web site at www.tektronix.com/manuals .
Charges	Replacement of any missing hardware will be charged according to the rate at the time of replacement.

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

If you removed the boards in order to clear or sanitize your instrument, you need to reinstall the boards and perform the specified adjustment procedures to verify that the instrument is in the proper condition. For adjustment procedures, refer to the *AWG5000 Series Service Manual*, Tektronix part number 071-2083-XX.

If the hard drive has been removed and a new hard drive is installed, you need to install the operating system and instrument application software. You can use the Operating System Restore DVD and Product Software CD that were shipped with the instrument.

