

# Instructions



## **AFG3000 Series Arbitrary/Function Generators Declassification and Security**

**071-1856-01**

[www.tektronix.com](http://www.tektronix.com)



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# Preface

This document helps customers with data security concerns to sanitize or remove memory devices from the AFG3000 Series Arbitrary/Function Generators.

These products have data storage (memory) devices and data output devices (USB ports, GPIB connector, and LAN Ethernet connector). These instructions tell how to do the following:

- Clear or sanitize the memory devices
- Clear or sanitize an instrument that is not functioning.

## Products

The following Tektronix products are covered by this document:

- AFG3021B
- AFG3022B
- AFG3101
- AFG3102
- AFG3251
- AFG3252

## Related Documents

- *AFG3000 Series Arbitrary/Function Generators Service Manual*, Tektronix part number 071-1640-XX, is available on the Tektronix Web site at [www.tektronix.com/manuals](http://www.tektronix.com/manuals).
- *AFG3000 Series Arbitrary/Function Generators Quick Start User Manual*, Tektronix part number 071-1631-XX, is available on the Tektronix Web site at [www.tektronix.com/manuals](http://www.tektronix.com/manuals).

**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
SDRAM 1 M x 64	Microprocessor system memory, Display memory	No	Written by processor system	U204, U208 on A72 CPU 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
Flash, 4 M x 16	Holds instrument firmware, setups, waveforms, calibration data, Ethernet MAC address, and instrument serial number	Yes	Programmed at the factory.  Firmware operations and user input.	U202 on A72 CPU board	Use <b>Secure</b> .  See "Secure" procedure on page 2.

## Built-In Security Features

The AFG3000 Series Arbitrary/Function Generators have the following security functions:

- Secure
- Access Protection

**Secure** To erase confidential data from your AFG3000 Series Arbitrary/Function Generators, use the Secure function. This procedure does not erase or change factory calibration constants.

1. Push the front-panel **Utility** button to display the Utility menu.
2. Push the **System** bezel button.
3. Push the **Secure** bezel button. The following message appears on the screen:  
*The Secure function will erase all setups and waveforms stored in the internal memory. Are you sure you want to execute secure function?*
4. Select **OK** to execute Secure. Secure does the following:
  - Erases all waveforms and stored setups in all user memories
  - Replaces the current front-panel setup with the default factory setup values
  - Replaces the current GPIB and Ethernet settings with the default factory settings.

**Access Protection** To protect calibration data and the instrument firmware, follow these steps:

1. Push the front-panel **Utility** button to display the Utility menu.
2. Push the **-more-** bezel button twice.
3. Push the **Security Menu** bezel button.
4. Select **Access Protection** to display the password input page.
5. Enter your password. Use the general purpose knob to select the characters and push the **Enter Character** bezel button after each selection.

As you enter the characters of your password, they are displayed as a series of asterisks (\*\*\*\*\*) on the password input page.

If no specific password has been previously defined, use the default password DEFAULT.



6. Select **OK** to turn the access protection on.

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**NOTE.** *If Access Protection is set to On, the Firmware Update and the Service Menu cannot be selected. To change the Access Protection to Off, you must enter the password.*

*For information about changing the password, refer to the AFG3000 Series Arbitrary/Function Generators Quick Start User Manual.*

*For information about the Service Menu, refer to the AFG3000 Series Arbitrary/Function Generators Service Manual.*

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## 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 memory device to save setups and waveforms.	Yes	User writeable	Front panel	Files can be deleted or overwritten on the arbitrary/function generator or a PC; USB memory device can be removed and destroyed.  The USB host port cannot be disabled.
USB device port	Supports remote control and data transfer to PC	N/A	Remote control via USB TMC	Rear panel	The USB device port cannot be disabled.
LAN Ethernet	Supports remote control and data transfer to PC	N/A	Remote control via VXI-11	Rear panel	The Ethernet port can be disabled.  Set "0.0.0.0" as IP Address and Subnet Mask under Utility-I/O Interface-Ethernet.
GPIB	Supports remote control and data transfer to PC	N/A	Remote control via IEEE488.2	Rear panel	The GPIB can be disabled.  Select Off Bus as Utility-I/O Interface-GPIB-Configuration.

# Troubleshooting

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

If your instrument is not functioning and you need to clear or sanitize it, proceed as follows:

**CPU Board** Remove the CPU board and return the product to Tektronix. A new CPU board will be installed, and the instrument will be repaired and adjusted as necessary.

For removal instructions, refer to the *AFG3000 Series Arbitrary/Function Generators Service Manual*, part number 071-1640-XX, available on the Tektronix Web site at [www.tektronix.com/manuals](http://www.tektronix.com/manuals).

After removal of the CPU board, refer to your company's internal policies regarding handling or disposal of the board.

**USB Memory Device** Remove any attached USB memory device from the instrument before returning the instrument for repair.

After removal of the USB memory device, refer to your company's internal policies regarding handling or disposal of the memory device.

**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 CPU board in order to clear or sanitize your instrument, you need to reinstall the board and perform the specified adjustment procedures to verify that the instrument is in the proper condition. For adjustment procedures, refer to the *AFG3000 Series Arbitrary/Function Generators Service Manual*, part number 071-1640-XX.