

**GPS7 GPS Synchronization and Timecode Module
HD3G7 HD 3 Gb/s SDI Video Generator
Declassification and Security
Instructions**

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Preface

This document describes how to clear or sanitize the data storage (memory) devices in the products listed below. The instructions also describe how to declassify an instrument that is not functioning. These procedures are useful for customers with data security concerns.

Products This document applies to the GPS7 GPS Synchronization Timecode Module and the HD3G7 HD 3 Gb/s SDI Video Generator module used with the TG700 TV Signal Generator mainframe.

Related Documents *TG700 TV Signal Generator Platform Service Manual*, Tektronix part number 077-0230-XX, is available on the Tektronix Web site at 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 clearing data, putting the instrument in Standby mode does not qualify as powering off. For these products, you must 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 is moved (temporarily or permanently) from a secured area to a nonsecured area.
- **User-modifiable.** The user can write to the memory device during normal instrument operation, using the instrument interface or remote control.

Clear and Sanitize Procedures

Memory Devices

The following table lists the nonvolatile memory devices in the modules. Detailed procedures to clear or sanitize these devices are shown following the tables.

Table 1: Nonvolatile memory devices for the GPS7 module

Type and minimum size	Function	May contain user data ¹	Data input method	Location	To clear	To sanitize
Flash memory 4 M X 8	Configuration of FPGA	No	Written by processor system from TG700 Main board	U0331	None	N/A No customer information can be stored in this flash memory
Flash memory 4 M X 8	Calibration for the module Stores leap second information	Yes. The values are a function of how the user calibrates the module and when it was last receiving the GPS signal	Stored during calibration Stores leap second information obtained by satellite	U0332	Manually calibrate the module back to the factory default values Allow the module to receive satellite information for 30 minutes to update the leap second field	Remove and destroy the memory device or destroy the entire board
Flash memory 4 M X 8	unused	No	None	U0741	None	None
GPS receiver assembly	Calculates timing and position information	Yes if operated in fixed mode	Location is stored when operated in fixed mode	Mounts above the main module board and connects to J12 with a ribbon cable, and to the antenna connector on the rear panel	Save a position from a location different from the one that was last saved. This will erase the previous position and save the new one	Remove and destroy the module or destroy the entire board

¹ During normal instrument operation.

Table 2: Nonvolatile memory devices for the HD3G7 module

Type and minimum size	Function	May contain user data ¹	Data input method	Location	To clear	To sanitize
Flash 32M x 16	FPGA configuration	No	Written by processor system on TG700 Main board using PLD U226	389-4093-00 board, U321	None. A software upgrade will erase and reprogram this part	Remove part from board and destroy
PLD with internal 512 x16 byte User Flash Memory	PLD addresses decoding, memory not used	No	Programmed at factory	389-4093-00 board, U226	None	Remove part from board and destroy

Table 2: Nonvolatile memory devices for the HD3G7 module (cont.)

Type and minimum size	Function	May contain user data ¹	Data input method	Location	To clear	To sanitize
DDR2 32M x 16	Unused	No, currently unused	None	389-4093-00 board, U618, U711	Remove power	Remove part from board and destroy
SRAM 256K x 16	Unused	No, currently unused	None	389-4093-00 board U521, U0521, U621, U0621, U622, U0622	Remove power	Remove part from board and destroy
100 step Electronic Potentiometer with EEPROM	Holds Calibration data	Yes, Indirectly	Calibrate Output levels	389-4096-00 output board U0113, U0114	Set output level to minimum	Set output to max and min three times then leave at min.
FPGA with 60K Logic elements and 2.5Mbits of RAM	Generates signals from logic and memory	Yes, indirectly by signal selection	Programed from flash at bootup, changes state as instrument operates	389-4093-00 board, U811	Remove power	Set instrument to power up on factory default and cycle power three times

¹ During normal instrument operation.

**Restore Factory Defaults
Procedure**

Restore the module settings to the factory default as follows:

1. Press the **MODULE** button until **TG700 Preset** appears.
2. Press the **ENTER** button. You will see the words **RECALL** appear.
3. Press the right or left arrow button until **Factory Default** appears.
4. Press the **ENTER** button.
5. Press the **CANCEL** button or the **MODULE** button to exit the Recall preset menu.

**Set the Factory Default
Settings as the Power on
State**

1. Follow the previous procedure to restore the factory preset/default state.
2. Press the **MODULE** button until TG700 Preset appears.
3. Press the **ENTER** button. You will see the word **RECALL** appear.
4. Press the down arrow.
The display should show **TG700 : PRESET SAVE Power On Default**.
5. Press the **ENTER** button. The display will flash as it saves the preset.
6. Press the **CANCEL** button to exit the preset menu.

Troubleshooting

How to Clear or Sanitize a Non-Functional Instrument

To sanitize a non-functional instrument, remove the Main board and receiver module and return the instrument to Tektronix for installation of a new Main board and receiver module.

How to Recover from Clearing or Removing Memory from the Instrument

Perform the following procedure to recover a module:

1. Power on the module.
2. Calibrate the module as instructed in the *TG700 TV Signal Generator Platform Service Manual* (Tektronix part number 077-0230-XX).
3. Reconfigure the module for your specific application. You can find configuration information in the *TG700 TV Signal Generator Platform User Manual* (Tektronix part number 071-1970-XX, English; 071-1971-XX, Japanese).
4. For the GPS7 module only, connect a GPS signal to the module and let it run for 30 minutes. This allows the leap second and position information to be reacquired.
5. If you have an HD3G7, go to the next step. If you have a GPS7 module, stop here. The GPS7 module reloads the system software on start up and you are now finished with the recovery.
6. Press the MODULE button until you see the HD3G7 module main menu.
7. Press and hold the ENTER button until “Upgrade HD3G7 FPGA” appears.
8. Press the ENTER button to upgrade the module.
9. The upgrade will take approximately three minutes. After it is complete, remove power from the TG700 and then reapply power to reboot the system.