

**MTS400 Series  
MPEG Test Systems  
Declassification and Security Instructions**

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



077-0208-00

**Tektronix**

Copyright © Tektronix. All rights reserved. Licensed software products are owned by Tektronix or its subsidiaries or suppliers, and are protected by national copyright laws and international treaty provisions.

Tektronix products are covered by U.S. and foreign patents, issued and pending. Information in this publication supersedes that in all previously published material. Specifications and price change privileges reserved.

TEKTRONIX and TEK are registered trademarks of Tektronix, Inc.

## **Contacting Tektronix**

Tektronix, Inc.  
14200 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](http://www.tektronix.com) to find contacts in your area.

---

# Table of Contents

Preface .....	1
Clear and Sanitize Procedures.....	3
Data Export Devices.....	5
Troubleshooting.....	6
How to Clear or Sanitize a Non-Functional Instrument .....	6
How to Recover from Clearing or Removing the Instrument Memory.....	6



# Preface

This document helps customers with data security concerns to sanitize or remove memory devices from the MTS400 Series MPEG Test Systems.

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.

## Supported Products

The following Tektronix products are covered by this document:

MTS415	Base MPEG Test System
MTS430	Enhanced MPEG Test System
MTS4UP GBE	GigE interface upgrade
MTS4UP IPTVD	IP Video Gigabit Ethernet Interface with 10/100/1000 Base-T RJ45 electrical port. SFP required for optical interface (options SX, LX, or ZX)
MTS4UP LX	1000BASE-LX wavelength optical port with LC connector upgrade
MTS4UP SX	1000BASE-SX short wavelength optical port with LC connector upgrade
MTS4UP ZX	1000BASE-ZX long wavelength optical port with LC connector upgrade
MTS4UP CU	1000BASE-T electrical port with RJ45 connector upgrade
MTS4UP VS	8VSB interface upgrade
MTS4UP QB2	QAM (Annex B) interface upgrade
MTS4UP CF	COFDM interface upgrade
MTS4UP EP	QPSK/8PSK interface upgrade
MTS4UP BA	Buffer Analyzer upgrade
MTS4UP PA	PES Analyzer upgrade

## Related Documents

The *MTS400 Series MPEG Test System Service Manual*, Tektronix part number 077-0196-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.** This refers to 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 User input	Function	User modifiable?	Data input method	Location in instrument	To clear	To sanitize
RDRAM 256 MB	Microprocessor system memory	No	Written by processor system	Enhanced IP (GigE) board	Remove the power source from the instrument for at least 20 seconds.	N/A
QDR RAM 8 MB	Microprocessor system memory	No	Written by processor system	Enhanced IP (GigE) board	Remove the power source from the instrument for at least 20 seconds.	N/A
DDR RAM 256 MB	Transport traffic queue	No	Written by FPGA	GigE card	Remove the power source from the instrument for at least 20 seconds.	N/A
SDRAM 128 MB	Microprocessor system memory	No	Written by processor system	GigE card	Remove the power source from the instrument for at least 20 seconds.	N/A
SRAM 1152 KB	Microprocessor system memory	No	Written by processor system	GigE card	Remove the power source from the instrument for at least 20 seconds.	N/A
CAM 288 KB	IP Traffic buffer	No	Written by FPGA	GigE card	Remove the power source from the instrument for at least 20 seconds.	N/A
SDRAM 16 MB		No	Written by processor system	RF interface cards (QAM B, 8VSB, PSK, COFDM).	Remove the power source from the instrument for at least 20 seconds.	N/A
SDRAM 64 MB	Mega FIFO.	No	Written by processor system	A12 Main card	Remove the power source from the instrument for at least 20 seconds.	N/A

**Table 1: Volatile memory devices, (cont.)**

Type and User input	Function	User modifiable?	Data input method	Location in instrument	To clear	To sanitize
DDRAM 1 GB	Microprocessor system memory	No	Written by processor system	SBC	Remove the power source from the instrument for at least 20 seconds.	N/A
SRAM	L2 cache	No	Written by processor system	SBC	Remove the power source from the instrument for at least 20 seconds.	N/A

**Table 2: Nonvolatile memory devices**

Type and User input	Function	User modifiable?	Data input method	Location in instrument	To clear	To sanitize
Flash 8 MB	Holds instrument firmware, processor boot code.	Yes	Firmware operations.	Enhanced IP (GigE) board.	N/A	Return the instrument to Tektronix.
EEPROM	Holds installed options.	No	Factory configuration.	Enhanced IP (GigE) board.	N/A	Return the instrument to Tektronix.
Serial PROM	Holds FPGA image.	No	Factory configuration.	Enhanced IP (GigE) board.	N/A	Return the instrument to Tektronix.
Flash 16 M x 8 bits	Holds card firmware and IGMP subscription details	Yes	User input	GigE interface card	N/A	Return the instrument to Tektronix.
Flash 8 M x 8 bits	Holds FPGA image	Yes	User input	GigE interface card	N/A	Return the instrument to Tektronix.
Flash 16 MB	Holds card firmware.	Yes	Firmware operations.	RF Interface cards (QAM-B, 8VSB, PSK, COFDM).	N/A	Return the instrument to Tektronix.
EEPROM	Holds installed options.	No	Factory configuration.	A12 card	N/A	Return the instrument to Tektronix.
EEPROM	Holds FPGA image.	No	Factory configuration.	A12 card	N/A	Return the instrument to Tektronix.
Flash	BIOS	No	Factory configuration.	SBC	N/A	Return the instrument to Tektronix.



**Table 2: Nonvolatile memory devices, (cont.)**

Type and User input	Function	User modifiable?	Data input method	Location in instrument	To clear	To sanitize
Fixed IDE Hard Drive	Holds operating system and application software. Holds user storable data such as test streams, and measurement results.	Yes	Firmware operations, user input.	Mounted on chassis.	Erase the hard drive with commercial erasure software. Reinstall Microsoft Windows and the instrument software using the supplied recovery discs.	Remove the hard drive. Store the removed hard drive in a secure area or destroy it.
Fixed SCSI Hard Drive	Holds user storable data such as test streams, and measurement results.	Yes	Firmware operations, user input.	Mounted on chassis.	Erase the hard drive with commercial erasure software. Format hard disk drive.	Remove the hard drive. Store the removed hard drive in a secure area or destroy it.

## Data Export Devices

The following table lists the data export devices in the standard instrument and listed options:

**Table 3: Media storage / data export disable**

Type and minimum size	Function	User modifiable?	Data input method	Location in instrument	Process to disable
LAN Ethernet connector	Transfer data	N/A	N/A	SBC	N/A
LAN Ethernet connector	Transfer data	N/A	N/A	Enhanced IP (GigE) board.	N/A
RF input	Transfer data	N/A	N/A	RF Interface cards.	N/A
DVD $\pm$ RW	Store and transport data.	Yes	User Writeable.	Front of instrument.	Remove all DVDs. Rewriteable DVDs can be formatted, stored in a secure area, or destroyed. Non-rewriteable DVDs can either be stored or destroyed. The DVD drive cannot be disabled.

**Table 3: Media storage / data export disable, (cont.)**

Type and minimum size	Function	User modifiable?	Data input method	Location in instrument	Process to disable
USB device	Store user-storable data such as transport streams, measurement results, and instrument settings.	Yes	User Writeable.	Front of instrument.	Remove all USB memory devices. USB devices can be formatted, stored in a secure area, or destroyed. The USB port cannot be disabled.
Floppy Disk	Store and transport data.	Yes	User Writeable.	Front of instrument.	Remove all floppy disks. Rewriteable floppy can be formatted, stored in a secure area, or destroyed. The floppy drive cannot be disabled.

## 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:

**Enhanced IP (GigE) Interface Card**

This card uses data stored on the Main Processor card. Clearing the Main Processor card clears all data associated with the Gigabit Ethernet card.

**RF Interface Cards (QAM (Annex B), 8VSB, PSK, COFDM)**

The RF interface cards store immediate values in memory, for example, current frequency. These values are lost when power is removed.

**Hard Drives (IDE and SCSI)**

Remove the hard drive. Store the removed hard drive in a secure area or destroy it.

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

Follow the procedures in the *MTS400 MPEG Test System Quick Start User Manual* to reinstall the operating system and the MTS400 applications.