

MEMORIGHT GT/GTR SERIES SOLID STATE DRIVE SECURITY MODE NORMAL & ENHANCED ERASE

Overview

This document presents Memoright Solid State Drive ATA Security Erase features (Normal and Enhanced Erase).

Where traditional media Security Erase would need hours to sanitize your data, Memoright custom purge will take seconds to completely clean your drive and make it unrecoverable. Further methods are also available for specific organization or agency requirements.

Online video: <http://www.youtube.com/watch?v=uPmibCF5kkM>

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1.0 Methods

1.1 Summary

Type	Trigger	Name	Code	Mode	Time	Identify	Flash
Commercial	Software	Destroy	E+D		seconds	Drive not detected	Data not recoverable
		Quick Erase	E		seconds	Drive detected	Data not recoverable
		Normal Erase (default)	E+P		minutes	Drive detected	Data not recoverable
Military	Hardware	Enhanced Erase	E+P	0-9	variable	Drive detected	Data not recoverable
		Any	Any	Any	variable	As above	Data not recoverable

1.2 Normal Erase

Data can not be recovered after Security Erase, no matter which mode is used.

The flash's content is always overwritten.

- Quick Erase is the fastest, but the drive is not immediately re-usable afterward,
- Normal Erase is slower, but user can reuse the device directly,
- Destroy makes the hardware unusable at all,

Secure Erase (approximate speed)

	32GB	64GB	128GB
Quick	8s	15s	30s
Normal	8min	15min	30min
Destroy	8s	15s	30s

In addition, various military modes are available for sanitizing sensitive data in accordance to standard protocols, required in governmental agency and defense organizations.

1.3 Enhanced Purge

Memoright GT/GTR Solid State Drive ATA Security Mode Enhanced Erase may follow below methods:

- ✓ NSA 9-12 (factory default setting),
- ✓ NSA 130-2,
- ✓ DoD 5220.22-M,
- ✓ DoD 5220.22-M, Sup1,
- ✓ NAVSO 5239,
- ✓ AFSSI 5020,
- ✓ AR 380-19,
- ✓ Custom Purge (fastest),

Memoright Security Enhanced Erase could be as fast as few seconds for GT/GTR Series custom purge. Other methods would take longer, but comply with more restrictive regulation imperatives.

Complying with above method specifications, the Enhanced Erase Unit, Security Erase subcommand, will overwrite the drive data area with specific patterns.

Once triggered, the NAND flash modules actual content will NOT be accessible, until the sanitizing process is complete.

The drive will resume its purge, if interrupted by power cut.

1.4 Customization

Basic Operation (approximate speed)

Delete map table	4ms
Erase 64GB	15s
Write 64GB	15min

It's possible to customize on request (map table only, etc.).

Pin are still under specification process.

For on-demand customizations (delete map table only, random write, combination, etc.), please check with PM and RD for schedule and planning.

1.5 Enhanced method glossary

DoD 5220.22-M (NISPOM)

DoD 5220.22-M-Sup 1 (NISPOMSUP)

Department of Defense

National Industrial Security Program Operating Manual
and overprint supplement, Revision 1

NSA 9-12,

NSA 130-2

National Security Agency

Central Security Service

NSA/CSS Policy 9-12

Storage Device Declassification Manual

NSA/CSS Manual 130-2

Media Declassification and Destruction Manual

AFSSI-5020

Air Force System Security Instruction

USAF Cryptologic Support Center purging standard

classified national security information minimum IP requirements

NAVSO

Navy Staff Office

Remanence Security Guidebook

NAVSO P-5239-26

AR 380-5

Department of the Army Information Security Program

Army Administrative Publications

Army Regulation (AR)

380 Series Collection

2.0 Trigger

2.1 Hardware trigger

Please refer to specific model user guide.

2.2 Software utilities

Various software utilities are available to trigger ATA security mode erase.

But for basic trigger function, 3rd party tools are available, such as:

HDD Erase

This tool is available at <http://cmrr.ucsd.edu/people/Hughes/SecureErase.shtml>

It required native MS DOS environment to run.

The package contains very comprehensive explanations about Security Erase and operating guidance.

ATA Demo

This tool is available at <http://www.ata-atapi.com/atademo.html>

It required native MS DOS environment to run.

Sales and technical support

Contact Memoright SSD Design Center for data sheet, documentation, customization for specific application and technical support.

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