HIOKI E. E. CORPORATION

Letter of Volatility

This letter outlines the memory types and deleting methods for said memory used in the Hioki Memory HiCorder MR6000. Please use the contents of this letter when considering the MR6000 and its data security classification, especially in regards to data deleting.

For additional data, please contact the nearest Hioki representative.

Volatile Memory

	Memory type	User Accessible	Backup Battery	Usage	Clearing method	Stores user data
Volatile Memory 1	FPGA Block Memory	No	No	Data buffering (FPGA of MR6000, as well as FPGA of some input modules)	Power down	No
Volatile Memory 2	Synchronous DRAM	Yes (saving or loading binary files)	No	Storage memory for MR6000	Power down	Yes
Volatile Memory 3	Synchronous DRAM	No	No	Working memory for DSP	Power down	Yes
Volatile Memory 4	Synchronous DRAM	Yes (saving or loading binary files)	No	Working memory for OS, waveform calculation, FFT calculation and CAN measurement	Power down	Yes
Volatile Memory 5	SRAM	Yes (by changing the settings) (by saving or loading settings files)	Yes*1	Backs up the settings	Initialize on the system screen*2	Yes
Volatile Memory 6	RTC	Yes (by setting)	Yes*1	Clock	Initialize on the system screen*3	No

*1 These memories are backed up by a powerful battery to keep settings from being lost in times of power loss. Consequently, even though these memory types are volatile and would clear when powered down, this clearing method does not work.
*2 The memory can be initialized by the tap of a single button on the MR6000's system screen. The initializing function replaces all existing bit data with that of the factory setting. There is no way of retrieving previous bit data.
*3 This is the clock memory. Whenever the clock is reset, all previous data is replaced with new bit data, deleting all past information.

HIOKI E. E. CORPORATION
81 Koizumi Ueda, Nagano 386-1192 Japan
TEL +81-268-28-0555 FAX +81-268-28-0559
https://www.hioki.com/

Non-Volatile Memory

	Memory type	User Accessible	Backup Battery	Usage	Clearing method	Stores user data
Non-Volatile Memory 1	Flash Memory	No	Yes	Program for FPGA, DSP or FPGA inside input module	None	No*4
Non-Volatile Memory 2	BIOS	No	Yes	Boot the MR6000	None	No
Non-Volatile Memory 3	Cfast	No	Yes	OS and software for MR6000	None	No
Non-Volatile Memory 4	CPLD	No	Yes	Control power sequence	None	No
Non-Volatile Memory 5A *5	SSD	Yes	Yes	Store the measurement data	Data erasure software	Yes*6
Non-Volatile Memory 5B *5	HDD	Yes	Yes	Store the measurement data	Data erasure software	Yes*6

*4 Non-Volatile memory on which user data is not saved do not have methods of erasure. This is because data security is not an issue.
*5 When ordering the MR6000, the user can choose either 5A or 5B as the measurement data storage unit.
*6 The solid state or hard disk drive can be deleted by uploading data erasure software such as KillDisk onto the MR6000 and selecting the respective drive for erasure. The fact that the Windows OS on the MR6000 runs on a different memory (Cfast) from the SDD or HDD eliminates the need to physically remove the drive for erasure.
Such data erasure software can purge or sanitize drives using methods such as DoD 5220.22 M and NIST 800-88. This also allows the user to purge or sanitize the drives with their trusted and preferred software.
Notification: Don’t use the software during measurement. It is possible that it would affect the measurement.

Reference Time
Data erasure software: Active@KillDisk Professional
Version: File Version 12.0.25

	SSD		HDD	
Methods	DoD	NIST	DoD	NIST
Time	50 minutes	20 minutes	5 hours	2 hours

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