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MLBS Series Bench Test Synthesizer Memory Information and Sanitization Procedure.

The Information contained in this document refers to the use of the product in a secured environment, and the clearing of sensitive information from the product before removal.

Overview

When the MLBS is used in a secure environment, it is important to prevent inadvertent removal of confidential data from the secure environment. This document describes the various types and uses of digital memory within the MLBS instrument. The section below titled **Maintaining Security** describes a **process for clearing all memory that may contain confidential information** resulting from normal use of the instrument.

Definition of "user accessible memory" for this document:

User accessible memory is memory that stores frequency setting related information during normal use, either directly or indirectly. Clearing all user accessible memory **clears all history of set frequencies previously made by the MLBS instrument.**

Battery Information

The MLBS product does not contain a battery.

Types of Memory

The MLBS has several types of memory.

- Microcontroller internal program flash memory, 512 KB. This is nonvolatile memory. It is used for firmware storage and is not accessible by the customer.
- Microcontroller internal SRAM memory, 128 KB. This is volatile memory. It is used for calculations and program execution, it is not accessible by the customer. All information is erased and unrecoverable when power to the unit is turned off, or the external power cord is removed from the instrument.
- Microcontroller internal Auxiliary Flash memory, 12 KB. This is nonvolatile memory. This memory is not used.
- External FRAM, this is nonvolatile memory, 32 KB. It is used for storing the products configuration, frequency settings, user memory storage, and specification information.

Maintaining Security

The following process completely clears all user accessible memory on the MLBS instrument.

Using USB or the ethernet interface, send the following commands: (See MLBS User Manual for information on sending commands)

SP – This command resets the MLBS to factory settings. This clears the current frequency memory location to be the minimum frequency of the instrument and sets the unit to minimum frequency.

While the unit is sitting at minimum frequency, send the MS0 through MS99 commands (100 commands). This will store the minimum frequency of the MLBS product into the 100 user saved frequency locations in nonvolatile FRAM memory, clearing any sensitive user saved frequency information from these locations. A programmatic technique is the preferred method for clearing this memory.

Resend the SP command.

The above process will completely erase the User Data nonvolatile memory information and reboot the instrument. When the reboot is completed, the instrument will be ready for normal operation, and clear of any past frequency setting information.

Notes on the process for erasing the User Data nonvolatile memory.

There is no "full chip erase" function available on the memory chips used for the flash memory on the MLBS product.

More Information

Additional information on this subject can be found in our document – MLBS Series Bench Test Synthesizer Letter of Volatility.