Product Declassification and Security

Product Name: Precision LCR Meter
Model Number(s): E4980A

E4980A Security Features
Rev. 1.0

Agilent Technologies

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Contacting Agilent Sales and Service Offices

Assistance with test and measurements needs and information on finding a local Agilent office is available on the internet at, *http://www.agilent.com/find/assist.* If you do not have access to the internet, please contact your field engineer.

Note: In any correspondence or telephone conversation, refer to the signal source analyzer by its model number and full serial number. With this information, the Agilent representative can determine whether your unit is still within its warranty period.

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This document describes instrument security features and the steps to declassify an instrument through memory sanitization or removal. For additional information please go to **www.agilent.com/find/ad** and click on the security instrument tab.

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Terms and Definitions

Definitions:

Clearing – Clearing is the process of eradicating the data on media before reusing the media so that the data can no longer be retrieved using the standard interfaces on the instrument. Clearing is typically used when the instrument is to remain in an environment with an acceptable level of protection.

Sanitization – Sanitization is the process of removing or eradicating stored data so that the data cannot be recovered using any known technology. Instrument sanitization is typically required when an instrument is moved from a secure to a non-secure environment such as when it is returned to the factory for calibration. (The instrument is declassified) Agilent memory sanitization procedures are designed for customers who need to meet the requirements specified by the US Defense Security Service (DSS). These requirements are outlined in the "Clearing and Sanitization Matrix" issued by the Cognizant Security Agency (CSA) and referenced in National Industrial Security Program Operating Manual (NISPOM) DoD 5220.22M ISL 01L-1 section 8-301.

Security Erase – Refers to either the clearing or sanitization features of Agilent instruments.

Instrument declassification – A term that refers to procedures that must be undertaken before an instrument can be removed from a secure environment such as is the case when the instrument is returned for calibration. Declassification procedures will include memory sanitization and or memory removal. Agilent declassification procedures are designed to meet the requirements specified by the DSS NISPOM security document (DoD 5220.22M chapter 8)

Instrument Memory

This section contains information on the types of memory available in your instrument. It explains the size of memory, how it is used, its location, volatility, and the sanitization procedure.

Summary of instrument memory - base instrument

Memory Type and Size	Writable During Normal Operation?	Data Retained When Powered Off?	Purpose/Contents	Data Input Method	Location in Instrument and Remarks	Sanitization Procedure
Main Memory (FLASH) 8 MB	No	No	Firmware operating memory	Operating system (not user)	PPMC CPU Board	NA
Memory (EEPROM) 1 KB	Yes	Yes	GPIB Setting LAN Setting	User Modifiable	PPMC CPU Board	Reset to Factory Setting
Memory (FLASH) 8 MB	Yes	Yes	Save/Recall Files, User Correction Data, Beeper Tone/State, Handler/Scanner State, Data/Image Dump file name number	User Modifiable	PPMC CPU Board	Reset to Factory Setting
Memory (EEPROM) 256 KB	No	Yes	Serial Number, Installed Option	Factory or Service Only	A1 Mother Board	Not Required. No measurement data present
	Yes	Yes	Number of Power On times	Non-User Modifiable	A1 Mother Board	None
Memory (EEPROM) 32 KB	No	Yes	System Calibration Data	Factory or Service Only	A2 Analog Board	Not Required. No measurement data present
Memory (MPU) 128 B	Yes	Yes	Power on Accumulate Time	Non-User Modifiable	Display Interface Board	None

Memory Clearing, Sanitization and/or Removal Procedures

This section explains how to clear, sanitize, and remove memory from you instrument for all memory that can be written to during normal operation and for which the clearing and sanitization procedure is more than trivial such as rebooting your instrument.

PPMC CPU Board Main Memory (FLASH)

Description and purpose	Firmware for instrument operation
Size	8 MB
Memory clearing	Cycle Power
Memory sanitization	Cycle Power
Memory removal	This memory can not be removed without damaging the instrument.
Write protecting	N/A

PPMC CPU Board (EEPROM)

Description and purpose	Stores GPIB and LAN addresses setting.
Size	1KB
Memory clearing	Press **[Preset] > FACTORY DEFAULT > OK.**
Memory sanitization	Press **[Preset] > FACTORY DEFAULT > OK.**
Memory removal	This memory can not be removed without damaging the instrument.
Write protecting	N/A

PPMC CPU Board (FLASH)

Description and purpose	Stores the Save/Recall Files, User Correction Data, Beeper Tone/State, Handler/Scanner State, and Data/Image Dump file name number.
Size	8MB
Memory clearing	Press **[Preset] > FACTORY DEFAULT > OK.**
Memory sanitization	This memory can not be sanitized.
Memory removal	This memory can not be removed without damaging the instrument.
Write protecting	N/A

A1 Mother Board

Description and purpose	Stores the Serial Number, Installed Option, and Number of Power On times.
Size	256 KB
Memory clearing	They can not be cleared at customer site.
Memory sanitization	They can not be sanitized at customer site.
Memory removal	This memory can not be removed without damaging the instrument.
Write protecting	N/A

A2 Analog Board

Description and purpose	Stores the system calibration data which is stored by factory or service center.
Size	256 KB
Memory clearing	Adjustment clears the data. The adjustment must be performed Agilent's qualified service personnel.
Memory sanitization	Adjustment sanitizes the data. The adjustment must be performed Agilent's qualified service personnel.
Memory removal	This memory can not be removed without damaging the instrument.
Write protecting	N/A

Display Interface Board

Description and purpose	Power On Accumulate times.
Size	128B
Memory clearing	They can not be cleared at customer site.
Memory sanitization	They can not be sanitized at customer site.
Memory removal	This memory can not be removed without damaging the instrument.
Write protecting	N/A

User and Remote Interface Security Measures

Screen and Annotation Blanking

The display blanking feature is available.

The operator can perform the following keystrokes to activate the display blank.

[Display Format] > DISPLAY BLANK

Or can activate the display blank by the following SCPI command.

:DISPlay:ENABle {ON|OFF}

USB Mass Storage Device Security

E4980A does not have a capability to disable a USB Mass Storage Device.

Remote Access Interfaces

The user is responsible for providing security for the I/O ports for remote access by controlling physical access to the I/O ports. The I/O ports must be controlled because they provide access to all user settings, user states and the display image.
The I/O ports include USB, GPIB and LAN.

The LAN port provides the following services.
● http
● sockets
● telnet
● VXI-11
There is also a 'ping' service, which presently cannot be selectively disabled. The concern here might be that it is possible to discover IP addresses of connected instruments in order to query their setups over the net or break into the code.

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Procedure for Declassifying a Faulty Instrument

If the instrument is not functioning and you are unable to clear/sanitize the stored user information, you must physically remove the PPMC CPU and display boards from the instrument. See to the Service Guide for removal procedures.