

# Agilent HSA Handheld Spectrum Analyzer

This manual provides documentation for the following analyzers:

N9342C Handheld Spectrum Analyzer

N9343C Handheld Spectrum Anayzer

N9344C Handheld Spectrum Analyzer

**Security Features and Document of Volatility** 

## **Notices**

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## Where to Find the Latest Information

Documentation is updated periodically. For the latest information about these products, including instrument software upgrades, application information, and product information, see the following URLs:

http://www.agilent.com/find/N9342C

http://www.agilent.com/find/N9343C

http://www.agilent.com/find/N9344C

To receive the latest updates by email, subscribe to Agilent Email Updates:

http://www.agilent.com/find/emailupdates

Information on preventing instrument damage can be found at:

http://www.agilent.com/find/tips

## Is your product software up-to-date?

Periodically, Agilent releases software updates to fix known defects and incorporate product enhancements. To search for software updates for your product, go to the Agilent Technical Support website at:

http://www.agilent.com/find/techsupport



# 1 Table of Contents

2. Contacting Agilent Sales and Service Offices	
3. Products Covered by this Document	9
4. Security Terms and Definitions	11
5. Instrument Memory & Volatility	
Non-Volatile Memory.  Volatile Memory.	
6. Memory Clearing, Sanitization and Removal Procedures	17
Memory Sanitization Procedures	
The Security Erase Function Does the Following	18
Determining Instrument Firmware Revision	18
Appendix A. References	19

Contents	

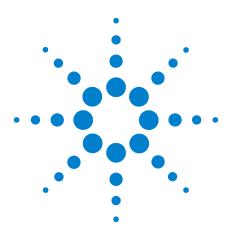


Assistance with test and measurement needs, and information to help you find a local Agilent office, is available via the internet at, http://www.agilent.com/find/assist. If you do not have internet access, please contact your designated Agilent representative.

**NOTE** 

In any correspondence or telephone conversation, refer to the instrument 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.

Contacting Agilent Sales and Service Office	es	



# 3 Products Covered by this Document

Product Family Name	Model Numbers			
HSA Handheld Spectrum Analyzers	N9342C			
	N9343C			
	N9344C			

This document describes instrument memory types and security features. It provides a statement regarding the volatility of all memory types, and specifies the steps required to declassify an instrument through memory clearing, or sanitization

For additional information, go to:

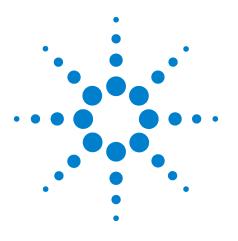
http://www.agilent.com/find/security

#### **IMPORTANT**

Be sure that all information stored by the user in the instrument that needs to be saved is properly backed up before attempting to clear any of the instrument memory. Agilent Technologies cannot be held responsible for any lost files or data resulting from the clearing of memory.

Be sure to read this document entirely before proceeding with any file deletion or memory clearing.

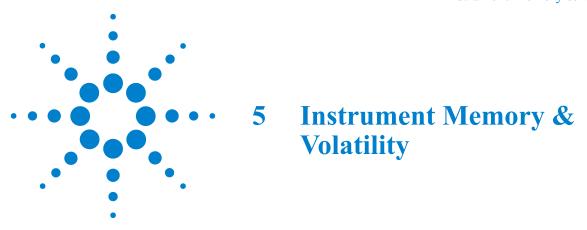
Products Covered by this D	ocument		



# 4 Security Terms and Definitions

Term	Definition
Clearing	As defined in Section 8-301a of DoD 5220.22-M, "National Industrial Security Program Operating Manual (NISPOM)", 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.
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 include memory sanitization or memory removal, or both. Agilent declassification procedures are designed to meet the requirements specified in DoD 5220.22-M, "National Industrial Security Program Operating Manual (NISPOM)", Chapter 8.
Sanitization	As defined in Section 8-301b of DoD 5220.22-M, "National Industrial Security Program Operating Manual (NISPOM)", 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.
	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 specified in the "Clearing and Sanitization Matrix" in Section 5.2.5.5.5 of the ISFO Process Manual for the Certification and Accreditation of Classified Systems under the NISPOM.
Secure Erase	Secure Erase is a term that is used to refer to either the clearing or sanitization features of Agilent instruments.

Security Terms and Definitions		



This chapter summarizes all memory types in the instrument, and the descriptions below are divided between:

- 1. Non-Volatile Memory
- 2. Volatile Memory

## **Non-Volatile Memory**

This section contains information on the non volatile memory components available in your instrument. It provides details of the size of each memory component, its type, how it is used, its location, and the sanitization procedure.

NOTE	inc	The instrument contains no user-accessible non-volatile memory. For this reason, as indicated in the tables below, no sanitization procedure is required for any memory component.						
Table 5-1	Sui	mmary	of Non-Volatile instrum	ent memory				
Memory Component, Type and Size	Writable During Normal Operation?	Data Retained When Powered Off	<b>Purpose/Contents</b>	Data Input Method	Location in Instrument and Remarks	Sanitization Procedure		
1. Control Board Firmware Flash Memory 64 MByte	No	Yes	Contains Operating System, Instrument Software, Factory Backup Calibration Data, Crash recovery image.	Programmed before installation or by factory or service center calibration procedure software, or by upgrade installation software.	A3 Digital Assembly	None.		
2. Control Board User Flash Memory 64 MByte	Yes	Yes	User instrument states, user data files, user trace data and any other measurment result.	Measurement results and Settings can be toggled by user.	A3 Digital Assembly	See Table 6-1 on page 17.		
3. Control Board Parameter EEPROM Memory 128 Byte	No	Yes	Reserved for future use.	None.	A3 Digital Assembly	None.		

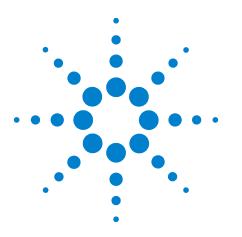
Table 5-1	Sui	nmary	of Non-Volatile instrume	ent memory		
Memory Component, Type and Size	Writable During Normal Operation?	Data Retained When Powered Off	Purpose/Contents	Data Input Method	Location in Instrument and Remarks	Sanitization Procedure
4. RF Board Flash Memory 2*512 KByte for N9342C	No	Yes	Used to store the RF board calibration data.	Programmed before installation or by factory.	A4 RF Assembly	None.
1 MByte + 512 KByte for N9343C & N9344C						
5. TG Board Flash Memory	No	Yes	Used to store the TG board calibration	Programmed before	A5 TG Assembly	None.
512 KByte			data.	installation or by factory		

## **Volatile Memory**

The volatile memory in the instrument does not have battery backup. It does not retain any information when turn off the instrument.

Removing power from this memory meets the memory sanitization requirements specified in the "Clearing and Sanitization Matrix" in Section 5.2.5.5.5 of the ISFO Process Manual for the Certification and Accreditation of Classified Systems under the NISPOM.

Table 5-2	Summary of Volatile Instrument Memory - Instruments with Single-Core and Dual-Core Processors					ore and
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
1. Control Board SDRAM 64 MByte	Yes	No	Main dynamic RAM memory for processor. Contains working copies of operating system, instrument measurement applications, calibration data, and measurement data.	programmed via firmware or operation system. Not accessible by user.	A3 Digital Assembly This memory is not battery backed-up or connected to standby power.	Turn off instrument power.
2. Microprocessor Cache 32 MByte	Yes	No	MCU Cache	Programmed by firmware and operating System. Not accessible by user.	A3 Digital Assembly This memory is not battery backed-up or connected to standby power.	Turn off instrument power.
3. DSP on-chip RAM 3 Mbit	Yes	No	DSP on-chip RAM for temporary measurement data	Programmed by firmware and Operationg System	A3 Digital Assembly  This memory is not battery backed-up or connected to standby power.	Turn off instrument power.



## Memory Clearing, Sanitization and Removal Procedures

This section explains how to clear, sanitize, memory from your instrument, for all types of non-volatile memory that can be written to during normal instrument operation.

6

Table 6-1	Control Board User Flash Memory
Description and purpose	The Control Board User Flash Memory is the main memory for the user data. It has very fast read and write speed, and there is no limitation on the number of read/write cycles.
	It contains the user instrument states, user data files, user trace data and any other measurement result.
Size	64 Mbytes
Memory clearing	Software utilities are available that comply with the clearing requirements specified for Magnetic Disks in the "Clearing and Sanitization Matrix" in Section 5.2.5.5.5 of the ISFO Process Manual for the Certification and Accreditation of Classified Systems under the NISPOM.
Memory sanitization	We recommend always removing the Disk Drive to achieve sanitization.  For program classifications lower than Top Secret, this media type can be sanitized using method "d" as defined in the "Clearing and Sanitization Matrix" in Section 5.2.5.5.5 of the ISFO Process Manual for the Certification and Accreditation of Classified Systems under the NISPOM".  For Top Secret and higher program classifications, Disk Drive removal is the
_	only acceptable sanitization procedure.
Memory removal	Not applicable.
Write protecting	Not applicable.
Memory validation	Not applicable.

## **Memory Sanitization Procedures**

This section includes process that describe how to sanitize an HSA instrument by HSA option SEC. HSA option SEC offers the security erase function to implement low-level and unrecoverable erase of Control Board User Flash Memory. The Control Board Flash Memory remains intact so the security erase function doesn't interface with normal operation of the instrument.

The following process gives the instructions on how to use the security erase function. This process requires option SEC and firmware revision A.01.04 or later.

Press the following keys:

- Shift.
- System Mode
- More 1 of 2
- Securities
- Erase Memory
- Enter, and wait for the instrument to reboot and begin normal operation. It will take several minutes.

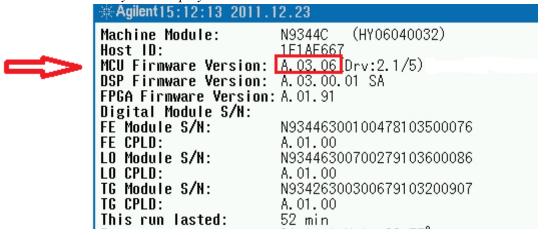
### The Security Erase Function Does the Following

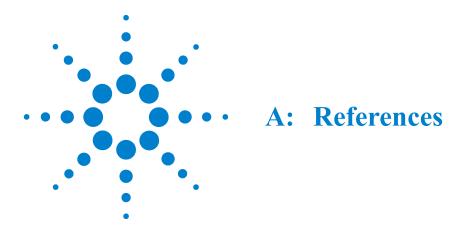
- Perform a sector security erase on all sectors in the User Flash Memory.
- Re-create a file system on the User Flash Memory so that the flash can be recognized by the operation system.
- Reboot the instrument after erase operation.

## **Determining Instrument Firmware Revision**

- On the instrument, press Shift->System Mode-> System Info-> Show System
- The "Show System" display appears, and look for the Firmware Revison number specified in the "MCU Firmware Version" entry.

Figure 6-1 Show System Display





1. DoD 5220.22-M, "National Industrial Security Program Operating Manual (NISPOM)"

United States Department of Defense. Revised February 28, 2006.

May be downloaded in Acrobat (PDF) format from:

http://www.dss.mil/isp/fac\_clear/download\_nispom.html

2. ISFO Process Manual for the Certification and Accreditation of Classified Systems under the NISPOM

Defense Security Service.

DSS-cleared industries may request a copy of this document via email, by following the instructions at:

http://www.dss.mil/isp/odaa/request.html

## References

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