E5052B Security Features
Rev. 2.3

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.

Product Declassification and Security

Model Number(s): E5052B
Product Name: 10 MHZ TO 7 GHZ SIGNAL SOURCE ANALYZER

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 (DDR SDRAM DIMM) 1GB [SN:MY471xxxxxx] or [SN:SG471xxxxxx] 2GB [SN:MY472xxxxxx] or [SN:SG472xxxxxx]	Yes	No	Windows Operating system memory	Operating system (not user)	Digital Mother Board	Cycle power
Media Storage (Hard Disk Drive) 40 GB [SN:MY471xxxxxx] or [SN:SG471xxxxxx] 160GB [SN:MY472xxxxxx] or [SN:SG472xxxxxx	Yes	Yes	Windows Operating system boot device, factory correction data, and users file including saved traces data, settings, or images.	User-saved data	Removable Hard Disk Drive	Remove
Memory for PCI and DSP (Static RAM) 2.5MB	Yes	No	Data Processing for measurement	Measurement (not user)	PCI DSP Card	Cycle power
Non-volatile memory (Flash EEPROM) 1MB	No	Yes	Firmware for instrument operation	Non-User Modifiable	PCI DSP Card	N/A
Non-volatile memory (Flash EEPROM) 256Mbit	No	Yes	Firmware for instrument operation	Non-User Modifiable	DSP Board	N/A
Memory for Data Buffer (Static RAM) 36Mbit	Yes	No	Data Processing for measurement	Measurement (not user)	DSP Board	Cycle power
Memory for Data Buffer (Static RAM) 512MB	Yes	No	Data Processing for measurement	Measurement (not user)	DSP Board	Cycle power
DSP Work Memory (Static RAM) 18Mbit	Yes	No	Data Processing for measurement	Measurement (not user)	DSP Board	Cycle power

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.

<Memory type>

Description and purpose	Main Memory (DDR SDRAM) 1GB for Windows Operating system memory
Size	1GB [SN:MY471xxxxxx] or [SN:SG471xxxxxx] 2 GB [SN:MY472xxxxxx] or [SN:SG472xxxxxx]
Memory clearing	Power rebooting. This is a volatile memory.
Memory sanitization	Power rebooting. This is a volatile memory.
Memory removal	This memory can not be removed without damaging the instrument
Write protecting	N/A
Memory validation	N/A
Remarks	

Confirmation or setting the BIOS Options: BIOS is the PC's built-in program describing the standard procedure of basic inputs and outputs for the system hardware. BIOS involves the system BIOS, start-up program and BIOS setup utility. The E5052B starts up first with the BIOS when the power is turned on. See the trouble shooting section in the service manual for the procedure to confirm or set the BIOS options, known as the BIOS setup utility.

Name: **E5052B Signal Source Analyzer Service Guide**

Location: http://www.agilent.com/find/ssa > Product Library > Manuals.

Description and purpose	Media Storage (Removable Hard Disk Drive) for Windows Operating system boot device, factory correction data, and users file including saved traces data, settings, or images.
Size	40 GB [SN:MY471xxxxxx] or [SN:SG471xxxxxx] 160 GB [SN:MY472xxxxxx] or [SN:SG472xxxxxx]
Memory clearing	N/A
Memory sanitization	N/A
Memory removal	Hard disk is set as a removable type.
Write protecting	N/A
Memory validation	N/A
Remarks:	

Hard Disk Removal: Because it is virtually impossible to completely and selectively erase all user data on a hard drive without also destroying the operating system, the best method for maintaining security when the E5052B must be removed from a secure area is to replace the hard drive with a "non-secure" hard drive, i.e. a drive that has never had any sensitive data placed on it.

E5052B standard set is delivered with a removable hard disk unit.

E5052BU-028 is the additional hard disk drive for [SN: MY472xxxxxx] or [SN: SG472xxxxxx] to prepare the second unit for E5052B removable hard disk user.

For [SN: MY471xxxxxx] or [SN: SG471xxxxxx] user:
the unit needs to be upgraded with E5052-65102 by Agilent service center, first. Then you can use E5052BU-028. After this upgrade, your previous HDD and E5052BU-018 cannot be used.

Description and purpose	Memory for PCI and DSP (Static RAM)
Size	2.5 MB
Memory clearing	Power rebooting. This is a volatile memory.
Memory sanitization	Power rebooting. This is a volatile memory.
Memory removal	This memory can not be removed without damaging the instrument
Write protecting	N/A
Memory validation	N/A
Remarks	

Description and purpose	Non-volatile memory (Flash EEPROM) for Firmware for instrument operation
Size	1 MB
Memory clearing	Adjustment program performed by Agilent factory personnel or by calibration labs only.
Memory sanitization	Adjustment program performed by Agilent factory personnel or by calibration labs only.
Memory removal	This memory can not be removed without damaging the instrument
Write protecting	N/A
Memory validation	N/A
Remarks	The data is not stored by user under normal operation.

Description and purpose	Non-volatile memory (Flash EEPROM) for Firmware for instrument operation
Size	256 Mbit
Memory clearing	N/A
Memory sanitization	N/A
Memory removal	This memory can not be removed without damaging the instrument
Write protecting	N/A
Memory validation	N/A
Remarks	The data is not stored by user under normal operation.

Description and purpose	Memory for Data Buffer while Data processing
Size	36 Mbit
Memory clearing	Power rebooting. This is a volatile memory.
Memory sanitization	Power rebooting. This is a volatile memory.
Memory removal	This memory can not be removed without damaging the instrument
Write protecting	N/A
Memory validation	N/A
Remarks	

Description and purpose	Memory for Data Buffer while Data processing
Size	512 MB
Memory clearing	Power rebooting. This is a volatile memory.
Memory sanitization	Power rebooting. This is a volatile memory.
Memory removal	This memory can not be removed without damaging the instrument
Write protecting	N/A
Memory validation	N/A
Remarks	

Description and purpose	DSP Work Memory
Size	18 Mbit
Memory clearing	Power rebooting. This is a volatile memory.
Memory sanitization	Power rebooting. This is a volatile memory.
Memory removal	This memory can not be removed without damaging the instrument
Write protecting	N/A
Memory validation	N/A
Remarks	

User and Remote Interface Security Measures

Screen and Annotation Blanking

You can prevent frequency information from appearing on the E5052B screen and printouts.
To set security levels from the E5052B menu, go to Display, then Security Level.
When the security level is set to Frequency Blank or All Numeric Blank, the following information is blanked.

- Display annotation
- All marker readouts
- All tables
- All soft key menus
- All printouts
- Programming via GPIB or VBA

The frequency blank operation is supported on firmware revision A.02.00 or higher.
The latest firmware can be downloaded from:
http://www.agilent.com/find/ssa > Technical Support >Software Downloads & Utilities

USB Mass Storage Device Security

The following procedure shows how to disable a USB Mass Storage Device.

1. [Save/Recall] > Explorer….
2. Double-click "DisableUsbStorage.exe" from D"\Agilent\Service.
3. Click OK in the SUCCEEDED message window that appears. If any USB mass storage device is connected to the E5052B under this condition, the Hardware Wizard will start, but the USB mass storage device will not work.

The following procedure shows how to enable a USB Mass Storage Device.

1. [Save/Recall] > Explorer….
2. Double-click "EnableUsbStorage.exe" from D"\Agilent\Service.
3. Click OK in the SUCCEEDED message window that appears.

Note: If the program fails to run, it is possible that you have not logged in as a user in the Administrators Group. When you want to execute any of the above programs, make sure to log in as a user in the Administrators Group.

Note: For users who have E5052B with a serial prefix of MY421, these units do not contain the necessary programs in their HDD at shipment. Visit the following URL to obtain the program.
http://www.agilent.com/find/ssa > Technical Support >Software Downloads & Utilities > Program/Utility

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 RS-232, GPIB and LAN.

The LAN port provides the following services, which can be selectively disabled:

http

ftp

sockets

telnet

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.

Procedure for Declassifying a Faulty Instrument

As shipped from the factory, all the E5052Bs have the following instrument-specific calibration files stored on the hard disk drive. When replacing a hard disk drive, in order to achieve specified performance, these files must be copied to the new hard drive. These files are located in the directory, D:\syscal.

Perform the procedure described on the E5052B User's Guide to declassifying an E5052B if it needs to be removed from a secure area and be returned to a secure area.

The procedure can be found on Information on Maintenance on the E5052B User's Guide.
The latest manual can be also downloaded from:
http://www.agilent.com/find/ssa > Technical Support > Manuals & Guides