E5500 Phase Noise Measurement System

N5501A/B

E5502A/B

E5503A/B

E5504A/B

E5505A

This document describes E5501A/B, E5502A/B, E5503A/B, E5504A/B, E5505A Phase Noise Measurement System security features and the steps to declassify the E5501A/B, E5502A/B, E5503A/B, E5504A/B, E5505A through memory sanitization or removal.

Notices

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Warranty

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Safety Notices

CAUTION

A **CAUTION** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a CAUTION notice until the indicated conditions are fully understood and met.

WARNING

A **WARNING** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood and met.

Where to Find the Latest Information

Documentation is updated periodically. For the latest information about this instrument, including firmware upgrades, application information, and product information, click the website link below.

https://www.keysight.com/us/en/products/phase-noise-measurement.html

To receive the latest updates by email, subscribe to Keysight Email Updates at the following URL:

http://www.keysight.com/find/MyKeysight

Information on preventing analyzer damage can be found at:

www.keysight.com/find/PreventingInstrumentRepair

Is your product software up-to-date?

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

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

NOTICE: In August 2014, Agilent Technologies' former Test and Measurement business became Keysight Technologies. This document is provided as a courtesy but is no longer kept current and thus will contain historical references to Agilent. For more information, go to **www.keysight.com.**

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Table of Contents

Contents

E5500 Phase Noise Measurement System Product Security

Revision History

Revision	Modification	Date
A.01.00		1/12/2005
A.02.00	Added 7042xA, E5501A/B, E5502A/B, E5503A/B, E5504A/B model numbers	6/22/2007
A.03.07	Added the new Kontron PC	7/15/2009
A.04.00	Added support for Window 7	3/9/2012

Contacting Keysight Sales and Service Offices

Assistance with test and measurements needs and information on finding a local Keysight office is available on the internet at, http://www.keysight.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 E5501A/B, E5502A/B, E5503A/B, E5504A/B and E5505A phase noise system by its model number and full serial number. With this information, the Keysight representative can determine whether your unit is still within its warranty period.

Product Declassification and Security

System Model Number: E5501A/B, E5502A/B, E5503A/B, E5504A/B, E5505A

Product Name: Phase Noise Measurement System

Product Family Name: E5500

Alternate Product Numbers: N/A

This document describes E5501A/B, E5502A/B, E5503A/B, E5504A/B, E5505A Phase Noise Measurement System security features and the steps to declassify the E5501A/B, E5502A/B, E5503A/B, E5504A/B, E5505A through memory sanitization or removal. For additional information please go to www.keysight.com/find/ad and click on "Instrument Security".

Terms and 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) Keysight 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 – Security erase is a term that is used to refer to either the clearing or sanitization features of Keysight 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. Keysight declassification procedures are designed to meet the requirements specified by the DSS NISPOM security document (DoD 5220.22M chapter 8)

E5501A/B, E5502A/B, E5503A/B, E5504A/B, E5505A Phase Noise System Components

Product/System includes the following components:

Model number	Name	Description	Reference/ Remarks
70420A	Test Set	Standard configuration, 50 kHz to 1.6 GHz, 0 to 23 dBm	
70420A/001	Test Set	Adds 1.2 to 26.5 GHz, 0 to 30 dBm input and AM noise to standard configuration	
70420A/201	Test Set	Adds 1.2 to 26.5 GHz, 0 to 10 dBm input to standard configuration	
70421A	Downconverter	Low noise 6.6 GHz downconverter	
70422A	Downconverter	Low noise 18 GHz microwave downconverter	
70427A	Downconverter	Low noise 26.5 GHz microwave downconverter	
70428A	Microwave Source	Low noise 25.8 GHz microwave source	
70428A/002	Microwave Source	Low noise 25.8 GHz tunable microwave source	
N5500A	Test Set	Standard configuration, 50 kHz to 1.6 GHz, 0 to 23 dBm	
N5500A/001	Test Set	Adds 1.2 to 26.5 GHz, 0 to 30 dBm input and AM noise to standard configuration	
N5500A/201	Test Set	Adds 1.2 to 26.5 GHz, 0 to 10 dBm input to standard configuration	
N5501A	Downconverter	Low noise 6.6 GHz downconverter	
N5502A	Downconverter	Low noise 18 GHz microwave downconverter	
N5507A	Downconverter	Low noise 26.5 GHz microwave downconverter	
N5508A	Microwave Source	Low noise 25.8 GHz microwave source	
N5508A/002	Microwave Source	Low noise 25.8 GHz tunable microwave source	
KISS-platform	Kontron - PC	E5505A Phase Noise System Controller	
IPC-610	Advantech - PC	E5501A/B, E5502A/B, E5503A/B, E5504A/B, E5505A Phase Noise System Controller	
Vectra	Hewlett Packard	E5501A/B, E5502A/B, E5503A/B, E5504A/B Phase Noise System Controller	
	Hewitt Rand	E5501A/B, E5502A/B, E5503A/B, E5504A/B Phase Noise System Controller	

70420A, N5500A Test Set Instrument memory

Summary of instrument memory:

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
Volatile Memory DRAM 128 KB	Yes	No	Stores current measurement state for 70420A and N5500A test sets	User Modifiable	A6 PS/Controller board	Cycle power
Non-Volatile Memory EEPROM 2 KB	No	Yes	Stores model #, serial #, options, calibration constants during calibration	Non - User Modifiable	A6 PS/Controller board	Not required, no measurement data present
Non-Volatile Memory EPROM 1 MB	No	Yes	Firmware for instrument operation	Non - User Modifiable	A6 PS/Controller board	Not required, no measurement data present

The 70420A and N5500A phase noise test sets do not store any measurement parameters while in the power off state.

70420A, N5500A memory clearing, sanitization and/or removal procedures

DRAM (Volatile Memory)

Description and purpose	Stores current measurement state for the 70420A and N5500A test sets.
Size	128 KB
Memory clearing	Cycle power
Memory sanitization	Cycle power
Memory removal	This memory cannot be removed without damaging the test set.
Write protecting	N/A
Remarks:	

EEPROM (Non-Volatile Memory)

Description and purpose	Stores model #, serial #, options, calibration constants during calibration.
Size	2 KB
Memory clearing	Not required, no measurement data present
Memory sanitization	Not required, no measurement data present.
Memory removal	This memory cannot be removed without damaging the test set. The 70420A and N5500A must be returned to Keysight for re-calibration.
Write protecting	N/A
Remarks:	

EPROM (Non-Volatile Memory)

Description and purpose	Firmware for instrument operation.
Size	1 MB
Memory clearing	Not required, no measurement data present
Memory sanitization	Not required, no measurement data present.
Memory removal	This memory cannot be removed without damaging the test set. The 70420A and N5500A must be returned to Keysight for re-calibration.
Write protecting	N/A
Remarks:	

NOTE

Cycling power or turning off the 70420A and N5500A sanitizes all instrument memory with the following exception:

The EEPROM stores model #, serial #, options, and calibration constants generated during calibration. Measurement data is not stored the EEPROM.

70420A Opt 001, N5500A Opt 001 Test Set Instrument memory

Summary of instrument memory:

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
Volatile Memory DRAM 128 KB	Yes	No	Stores current measurement state for the 70420A/001 and N5500A/001 test sets	User Modifiable	A6 PS/Controller board	Cycle power
Non-Volatile Memory EPROM 2 KB	No	Yes	Stores model #, serial #, options, calibration constants during calibration	Non - User Modifiable	A6 PS/Controller board	Not required, no measurement data present
Non-Volatile Memory EPROM 1 MB	No	Yes	Firmware for instrument operation	Non - User Modifiable	A6 PS/Controller board	Not required, no measurement data present

The 70420A/001 and N5500A/001 phase noise test sets do not store any measurement parameters while in the power off state.

70420A Opt 001, N5500A Opt 001 memory clearing, sanitization and/or removal procedures

DRAM (Volatile Memory)

Description and purpose	Stores current measurement state for the 70420A/001 and N5500A/001 test sets.
Size	128 KB
Memory clearing	Cycle power
Memory sanitization	Cycle power
Memory removal	This memory cannot be removed without damaging the test set.
Write protecting	N/A
Remarks:	

EEPROM (Non-Volatile Memory)

Description and purpose	Stores model #, serial #, options, calibration constants during calibration.
Size	2 KB
Memory clearing	Not required, no measurement data present
Memory sanitization	Not required, no measurement data present.
Memory removal	This memory cannot be removed without damaging the test set. The 70420A/001 and N5500A/001 must be returned to Keysight for re-calibration.
Write protecting	N/A
Remarks:	

EPROM (Non-Volatile Memory)

Description and purpose	Firmware for instrument operation.
Size	1 MB
Memory clearing	Not required, no measurement data present
Memory sanitization	Not required, no measurement data present.
Memory removal	This memory cannot be removed without damaging the test set. The 70420A/001 and N5500A/001 must be returned to Keysight for re-calibration.
Write protecting	N/A
Remarks:	

NOTE

NOTE: Cycling power or turning off the 70420A/001 and N5500A/001 sanitizes all instrument memory with the following exception:

The EEPROM stores model #, serial #, options, and calibration constants generated during calibration. Measurement data is not stored in the EEPROM.

70420A Opt 201, N5500A Opt 201 Test Set Instrument memory

Summary of instrument memory

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
Volatile Memory DRAM 128 KB	Yes	No	Stores current measurement state for 70420A/201 and N5500A/201 test sets	User Modifiable	A6 PS/Controller board	Cycle power
Non-Volatile Memory EEPROM 2 KB	No	Yes	Stores model #, serial #, options, calibration constants during calibration	Non - User Modifiable	A6 PS/Controller board	Not required, no measurement data present
Non-Volatile Memory EPROM 1 MB	No	Yes	Firmware for instrument operation	Non - User Modifiable	A6 PS/Controller board	Not required, no measurement data present

The 70420A option 001 and N5500A option 001 phase noise test sets do not store any measurement parameters while in the power off state.

70420A Opt 201, N5500A Opt 201 memory clearing, sanitization and/or removal procedures

DRAM (Volatile Memory)

Description and purpose	Stores current measurement state for the 70420A/201 and N5500A/201 test sets.
Size	128 KB
Memory clearing	Cycle power
Memory sanitization	Cycle power
Memory removal	This memory cannot be removed without damaging the test set.
Write protecting	N/A
Remarks:	

EEPROM (Non–Volatile Memory)

Description and purpose	Stores model #, serial #, options, calibration constants during calibration.
Size	2 KB
Memory clearing	Not required, no measurement data present
Memory sanitization	Not required, no measurement data present.
Memory removal	This memory cannot be removed without damaging the test set. The 70420A/201 and N5500A/201 must be returned to Keysight for re-calibration.
Write protecting	N/A
Remarks:	

EPROM (Non–Volatile Memory)

Description and purpose	Firmware for instrument operation.
Size	1 MB
Memory clearing	Not required, no measurement data present
Memory sanitization	Not required, no measurement data present.
Memory removal	This memory cannot be removed without damaging the test set. The 70420A/201 and N5500A/201 must be returned to Keysight for re-calibration.
Write protecting	N/A
Remarks:	

NOTE

Cycling power or turning off the 70420A/201 and N5500A/201 sanitizes all instrument memory with the following exception:

The EEPROM stores model #, serial #, options, and calibration constants generated during calibration. Measurement data is not stored in the EEPROM.

70421A, N5501A 6.6 GHz Downconverter Instrument memory

Summary of instrument memory

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
Volatile Memory DRAM 128 KB	Yes	No	Stores current measurement state for the 70421A and N5501A downconverters	User Modifiable	A6 PS/Controller board	Cycle power
Non-Volatile Memory EEPROM 2 KB	No	Yes	Stores model #, serial #, options, calibration constants during calibration	Non - User Modifiable	A6 PS/Controller board	Not required, no measurement data present
Non-Volatile Memory EPROM 1 MB	No	Yes	Firmware for instrument operation	Non - User Modifiable	A6 PS/Controller board	Not required, no measurement data present

The 70421A and N5501A phase noise downconverters do not store **any** measurement parameters while in the power off state.

70421A, N5501A memory clearing, sanitization and/or removal procedures

DRAM (Volatile Memory)

Description and purpose	Stores current measurement state for the 70421A and N5501A downconverters.
Size	128 KB
Memory clearing	Cycle power
Memory sanitization	Cycle power
Memory removal	This memory cannot be removed without damaging the downconverter.
Write protecting	N/A
Remarks:	

EEPROM (Non-Volatile Memory)

Description and purpose	Stores model #, serial #, options, calibration constants during calibration.
Size	2 KB
Memory clearing	Not required, no measurement data present
Memory sanitization	Not required, no measurement data present.
Memory removal	This memory cannot be removed without damaging the downconverter. The 70421A and N5501A must be returned to Keysight for re-calibration.
Write protecting	N/A
Remarks:	

EPROM (Non-Volatile Memory)

Description and purpose	Firmware for instrument operation.
Size	1 MB
Memory clearing	Not required, no measurement data present
Memory sanitization	Not required, no measurement data present.
Memory removal	This memory cannot be removed without damaging the downconverter. The 70421A and N5501A must be returned to Keysight for re-calibration.
Write protecting	N/A
Remarks:	

NOTE

Cycling power or turning off the 70421A and N5501A sanitizes all instrument memory with the following exception:

The EEPROM stores model #, serial #, options, and calibration constants generated during calibration. Measurement data is not stored in the EEPROM.

70422A, N5502A 18 GHz Downconverter Instrument memory

Summary of instrument memory

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
Volatile Memory DRAM 128 KB	Yes	No	Stores current measurement state for the 70422A and N5502A downconverters	User Modifiable	A6 PS/Controller board	Cycle power
Non-Volatile Memory EEPROM 2 KB	No	Yes	Stores model #, serial #, options, calibration constants during calibration	Non - User Modifiable	A6 PS/Controller board	Not required, no measurement data present
Non-Volatile Memory EPROM 1 MB	No	Yes	Firmware for instrument operation	Non - User Modifiable	A6 PS/Controller board	Not required, no measurement data present

The 70422A and N5502A phase noise downconverters do not store any measurement parameters while in the power off state.

70422A, N5502A memory clearing, sanitization and/or removal procedures

DRAM (Volatile Memory)

Description and purpose	Stores current measurement state for the 70422A and N5502A downconverters.
Size	128 KB
Memory clearing	Cycle power
Memory sanitization	Cycle power
Memory removal	This memory cannot be removed without damaging the downconverter.
Write protecting	N/A
Remarks:	

EEPROM (Non-Volatile Memory)

Description and purpose	Stores model #, serial #, options, calibration constants during calibration.
Size	2 KB
Memory clearing	Not required, no measurement data present
Memory sanitization	Not required, no measurement data present.
Memory removal	This memory cannot be removed without damaging the downconverter. The 70422A and N5502A must be returned to Keysight for re-calibration.
Write protecting	N/A
Remarks:	

EPROM (Non-Volatile Memory)

Description and purpose	Firmware for instrument operation.
Size	1 MB
Memory clearing	Not required, no measurement data present
Memory sanitization	Not required, no measurement data present.
Memory removal	This memory cannot be removed without damaging the downconverter. The 70422A and N5502A must be returned to Keysight for re-calibration.
Write protecting	N/A
Remarks:	

NOTE   Cycling power or turning off the 70422A and N5502A sanitizes all instrument memory with the following exception:

The EEPROM stores model #, serial #, options, and calibration constants generated during calibration. Measurement data is not stored in the EEPROM.

70427A, N5507A 26.5 GHz Downconverter Instrument memory

Summary of instrument memory

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
Volatile Memory DRAM 128 KB	Yes	No	Stores current measurement state for the 70427A and N5507A downconverters	User Modifiable	A6 PS/Controller board	Cycle power
Non-Volatile Memory EEPROM 2 KB	No	Yes	Stores model #, serial #, options, calibration constants during calibration	Non - User Modifiable	A6 PS/Controller board	Not required, no measurement data present
Non-Volatile Memory EPROM 1 MB	No	Yes	Firmware for instrument operation	Non - User Modifiable	A6 PS/Controller board	Not required, no measurement data present

The 70427A and N5507A phase noise downconverters do not store any measurement parameters while in the power off state.

70427A, N5507A memory clearing, sanitization and/or removal procedures

DRAM (Volatile Memory)

Description and purpose	Stores current measurement state for the 70427A and N5507A downconverters.
Size	128 KB
Memory clearing	Cycle power
Memory sanitization	Cycle power
Memory removal	This memory cannot be removed without damaging the downconverter.
Write protecting	N/A
Remarks:	

EEPROM (Non-Volatile Memory)

Description and purpose	Stores model #, serial #, options, calibration constants during calibration.
Size	2 KB
Memory clearing	Not required, no measurement data present
Memory sanitization	Not required, no measurement data present.
Memory removal	This memory cannot be removed without damaging the downconverter. The 70427A and N5507A must be returned to Keysight for re-calibration.
Write protecting	N/A
Remarks:	

EPROM (Non-Volatile Memory)

Description and purpose	Firmware for instrument operation.
Size	1 MB
Memory clearing	Not required, no measurement data present
Memory sanitization	Not required, no measurement data present.
Memory removal	This memory cannot be removed without damaging the downconverter. The 70427A and N5507A must be returned to Keysight for re-calibration.
Write protecting	N/A
Remarks:	

NOTE

Cycling power or turning off the 70427A and N5507A sanitizes all instrument memory with the following exception:

The EEPROM stores model #, serial #, options, and calibration constants generated during calibration. Measurement data is not stored in the EEPROM.

70428A, N5508A 25.8 GHz Microwave Source Instrument memory

Summary of instrument memory

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
Volatile Memory DRAM 128 KB	Yes	No	Stores current measurement state for the 70428A and N5508A Mw Source	User Modifiable	A6 PS/Controller board	Cycle power
Non-Volatile Memory EEPROM 2 KB	No	Yes	Stores model #, serial #, options, calibration constants during calibration	Non - User Modifiable	A6 PS/Controller board	Not required, no measurement data present
Non-Volatile Memory EPROM 1 MB	No	Yes	Firmware for instrument operation	Non - User Modifiable	A6 PS/Controller board	Not required, no measurement data present

The 70428A and N5508A phase noise microwave source does not store any measurement parameters while in the power off state.

70428A, N5508A memory clearing, sanitization and/or removal procedures

DRAM (Volatile Memory)

Description and purpose	Stores current measurement state for the 70428A and N5508A microwave sources.
Size	128 KB
Memory clearing	Cycle power
Memory sanitization	Cycle power
Memory removal	This memory cannot be removed without damaging the microwave source.
Write protecting	N/A
Remarks:	

EEPROM (Non-Volatile Memory)

Description and purpose	Stores model #, serial #, options, calibration constants during calibration.
Size	2 KB
Memory clearing	Not required, no measurement data present
Memory sanitization	Not required, no measurement data present.
Memory removal	This memory cannot be removed without damaging the microwave source. The 70428A and N5508A must be returned to Keysight for re-calibration.
Write protecting	N/A
Remarks:	

EPROM (Non-Volatile Memory)

Description and purpose	Firmware for instrument operation.
Size	1 MB
Memory clearing	Not required, no measurement data present
Memory sanitization	Not required, no measurement data present.
Memory removal	This memory cannot be removed without damaging the microwave source. The 70428A and N5508A must be returned to Keysight for re-calibration.
Write protecting	N/A
Remarks:	

NOTE   Cycling power or turning off the 70428A and N5508A sanitizes all instrument memory with the following exception:

The EEPROM stores model #, serial #, options, and calibration constants generated during calibration. Measurement data is not stored in the EEPROM.

70428A Opt 002, N5508A Opt 002 25.8 GHz Tunable Microwave Source Instrument memory

Summary of instrument memory

Memory Type and Size	Writable During Normal Operations?	Data Retained When Powered	Purpose/ Contents	Data Input Method	Location in Instrument and Remarks	Sanitization Procedure
Volatile Memory DRAM 128 KB	Yes	No	Stores current measurement state for the 70428A/002 and N5508A/002 Mw Source	User Modifiable	A6 PS/Controller board	Cycle power
Non-Volatile Memory EEPROM 2 KB	No	Yes	Stores model #, serial #, options, calibration constants during calibration	Non - User Modifiable	A6 PS/Controller board	Not required, no measurement data present
Non-Volatile Memory EPROM 1 MB	No	Yes	Firmware for instrument operation	Non - User Modifiable	A6 PS/Controller board	Not required, no measurement data present

The 70428A/002 and N5508A/002 tunable microwave sources do not store any measurement parameters while in the power off state.

70428A Opt 002, N5508A Opt 002 memory clearing, sanitization and/or removal procedures

DRAM (Volatile Memory)

Description and purpose	Stores current measurement state for the 70428A/002 and N5508A/002 microwave sources.
Size	128 KB
Memory clearing	Cycle power
Memory sanitization	Cycle power
Memory removal	This memory cannot be removed without damaging the microwave source.
Write protecting	N/A
Remarks:	

EEPROM (Non-Volatile Memory)

Description and purpose	Stores model #, serial #, options, calibration constants during calibration.
Size	2 KB
Memory clearing	Not required, no measurement data present
Memory sanitization	Not required, no measurement data present.
Memory removal	This memory cannot be removed without damaging the microwave source. The 70428A/002 and N5508A/002 must be returned to Keysight for re-calibration.
Write protecting	N/A
Remarks:	

EPROM (Non-Volatile Memory)

Description and purpose	Firmware for instrument operation.
Size	1 MB
Memory clearing	Not required, no measurement data present
Memory sanitization	Not required, no measurement data present.
Memory removal	This memory cannot be removed without damaging the microwave source. The 70428A/002 and N5508A/002 must be returned to Keysight for re-calibration.
Write protecting	N/A
Remarks:	

NOTE Cycling power or turning off the 70428A/002 and N5508A/002 sanitizes all
instrument memory with the following exception:

The EEPROM stores model #, serial #, options, and calibration constants
generated during calibration. Measurement data is not stored in the
EEPROM.

E5501A/B, E5502A/B, E5503A/B, E5504A/B, E5505A PC Controller (Kontron PC/Advantech PC IPC-610/Hewlett-Packard PC Vectra/Hewitt Rand PC)

The Keysight E5501A/B, E5502A/B, E5503A/B, E5504A/B, E5505A phase noise software stores user data and therefore the PC will need to be declassified following your normal PC declassification procedures. It is important to create a backup recovery DVD. The recovery DVD is the only way to reinstall the original Windows XP® operating system after replacing the hard drive. If a recovery DVD is not created, the only recourse is to purchase a brand new PC, available from Keysight as E5505AK08.

The Kontron PC has a recovery partition for backup in case of hard drive failures. In case of a catastrophic hard drive failure, removable replacement drives are available for purchase.

 The E5501A/B, E5502A/B, E5503A/B, E5504A/B, E5505A phase noise software stores user data in a measurements file (*.pnm).

User and remote interface security measures

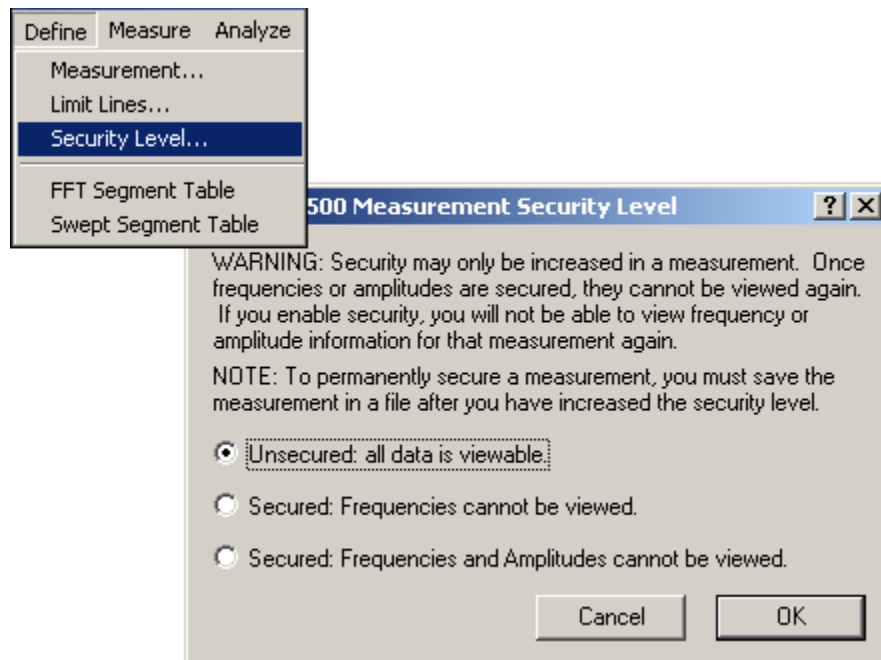Screen and annotation blanking (Frequency and Amplitude)

CAUTION   Implementing either of the "secured" levels described below is not reversible for that measurement file (*.pnm) only. Once the frequency or frequency/amplitude data has been blanked, it can not be recovered. If you need a permanent copy of the data, you can print out the graph and parameter summary before you secure the data and store the printed data in a secure location.

An alternate method of storing classified data is to save the measurement file (*.pnm), including the real frequency/amplitude data onto a floppy disk or CD and secure the data. It can then be recalled at a later date.

Security Level Procedure:

1. From the define menu, choose Security Level.

2. Choose one of the security options provided:

    – Unsecured: all data is viewable.

    – Secured: Frequencies cannot be viewed.

    – Secured: Frequencies and amplitudes cannot be viewed.

E5500 Phase Noise Measurement System Product Security
E5501A/B, E5502A/B, E5503A/B, E5504A/B, E5505A PC Controller (Kontron
PC/Advantech PC IPC-610/Hewlett-Packard PC Vectra/Hewitt Rand PC)

Kontron PC and Advantech IPC-610 PC USB mass storage device security.

CAUTION

Incorrectly editing the registry may severely damage your system. Before making changes to the registry, it is strongly recommended that you back up the registry and any valued data on the computer.

To prevent USB write capability on Windows XP® SP2, create a new registry key of: HKLM\System\CurrentControlSet\Control\StorageDevicePolicies.

Then create a REG_DWORD entry in it called WriteProtect. Set it to "1" and you'll be able to read from USB drives but not write to them.

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 and user states.

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 non-functioning instrument

Model number	Name	Non-functioning Instrument Declassification Requirements
70420A	Test Set	
70420A/001	Test Set	
70420A/201	Test Set	
70421A	Downconverter	
70422A	Downconverter	
70427A	Downconverter	
70428A	Microwave Source	Cycling power or turning off the instrument sanitizes all instrument memory with the following exception:
70428A/002	Microwave Source	
N5500A	Test Set	The EEPROM stores model #, serial #, options, and calibration constants generated during calibration. Measurement data is not stored in the EEPROM.
N5500A/001	Test Set	
N5500A/201	Test Set	
N5501A	Downconverter	
N5502A	Downconverter	
N5507A	Downconverter	
N5508A	Microwave Source	
N5508A/002	Microwave Source	
KISS Platform	Kontron PC	The Keysight E5505A phase noise software stores user data and therefore the PC will need to be declassified following your normal PC declassification procedures. The Kontron PC has a recovery partition on the hard drive to restore the factory default image to the C:drive.
IPC-610	Advantech - PC	The Keysight E5501A/B, E5502A/B, E5503A/B, E5504A/B, E5505A phase noise software stores user data and therefore the PC will need to be declassified following your normal PC declassification procedures. It is important to create a backup recovery DVD. The recovery DVD is the only way to reinstall the original Windows XP® operating system after replacing the hard drive. If a recovery DVD is not created, the only recourse is to purchase a brand new PC, available from Keysight as E5505AK08.
Vectra	Hewlett-Packard PC	The Keysight E5501A/B, E5502A/B, E5503A/B, E5504A/B phase noise software stores user measurement data and therefore a non-functioning PC will need to be declassified following your normal PC declassification procedures. It is important to create a backup recovery DVD. The recovery DVD is the only way to reinstall the original Windows 2000® operating system after replacing the hard drive. If a recovery DVD is not created, the only recourse is to purchase a brand new PC, available from Keysight as E5505AK08.

Model number	Name	Non-functioning Instrument Declassification Requirements
	Hewitt Rand	The Keysight E5501A/B, E5502A/B, E5503A/B, E5504A/B phase noise software stores user measurement data and therefore a non-functioning PC will need to be declassified following your normal PC declassification procedures. It is important to create a backup recovery DVD. The recovery DVD is the only way to reinstall the original Windows NT® operating system after replacing the hard drive. If a recovery DVD is not created, the only recourse is to purchase a brand new PC, available from Keysight as E5505AK08.

Appendix A: Other instruments that may be used with the E5500 Phase Noise System

The E5500 phase noise system supports other instruments. For product security information specific to each instrument, refer to their individual product declassification and security documentation.

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