

Keysight Technologies

Declassification of the M924XA Modular Oscilloscopes

DTD Security Features

White Paper

Product declassification and security

Model number(s):

M9241A, M9242A, M9243A



Unlocking Measurement Insights

Product Declassification and Security

Model number	Bandwidth	Sample rate	Memory	Analog channels
M9241A	200 MHz	5 GSa/s	4 Mpts	2
M9242A	500 MHz	5 GSa/s	4 Mpts	2
M9243A	1 GHz	5 GSa/s	4 Mpts	2

Product name: Oscilloscope

Product family name: M924XA Modular Oscilloscope

Alternate product numbers: N/A

This document describes instrument security features and the steps to declassify an instrument through memory sanitization or removal using the security oscilloscope features.

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 Technologies, Inc. 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).

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.

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
Acquisition memory 4 MB	Yes	No	Scope channel acquisition memory for analog channels	Input signal data (ADC output)	System ASIC	Cycle power
Display memory	Yes	No	Waveform area display/screen memory	Input signal data and system software	System ASIC	Cycle power
DDR2	Yes	No	Holds waveform area GUI display planes and caches	Input signal data	System ASIC	Cycle power
FPGA DDR 64 MB	Yes	No	FPGA intermediate (scratchpad) RAM	Input signal data (ADC output)	Carrier board	Cycle power
FPGA configuration flash 8 MB	No	Yes	Scope system FPGA configuration	Firmware upgrade or <i>Update Module Firmware</i> utility	Carrier board	No user data is stored
MCU program code memory for AutoProbe/LEDs 48 KB	No	Yes	Program code for running AutoProbe interface and controlling LEDs	Factory programming and firmware update	Carrier board and inside R5F212A MCU	No user data is stored
MCU program data memory for AutoProbe/LEDs (2.5 KB)	Yes	No	MCU intermediate RAM	Probe ID and current operating mode	Carrier board and inside R5F212A MCU	No user data is stored
NOR flash 32 MB	No	Yes	<ul style="list-style-type: none"> - Calibration data - Model and serial numbers - License data 	<ul style="list-style-type: none"> - Instrument calibration - SCPI command - License installations 	Carrier board	No user data is stored

Memory Clearing, Sanitization, and/or Removal Procedures

M924XA oscilloscope drivers

The M924XA oscilloscope driver installs the IVI-C, IVI-COM, and MATLAB driver components, as well as the soft front panel and kernel device driver on your controller.

Memory type: Controller hard drive

Memory size: Unknown

Memory function: Stores device drivers, example programs, example waveforms, help system, user documentation, module calibration data, user settings, masks, labels, reference waveforms, and license data.

User modifiable? Yes

Volatile? No

Memory erase processes: To uninstall the M924XA oscilloscope instrument driver from the controller, perform the relevant procedure below.

Windows 7:

1. Select Start > Control Panel > Programs and Features
2. Select Keysight M924X InfiniiVision Oscilloscope
3. Select Uninstall

To remote customer-specific instrument data:

Navigate to C:\ProgramData\Keysight\

- M9241A
- M9242A
- M9243A

To clear all information from the controller used with M924XA oscilloscope, follow the memory erase procedure for the controller as recommended by the manufacturer.



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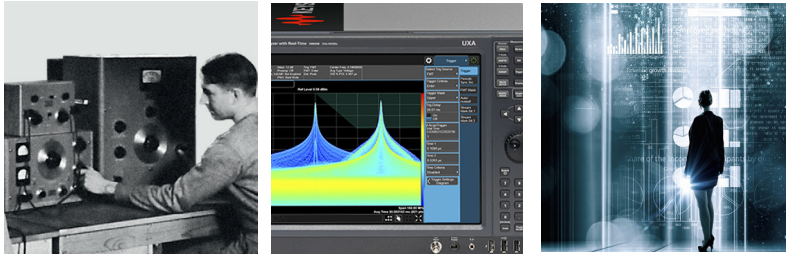
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