

Instrument Security for MS269xA/MS2830A Signal Analyzer

MS2690A/MS2691A/MS2692A Signal Analyzer
MS2830A Signal Analyzer

This application note describes the different memory types and locations where information is stored in the MS269xA and MS2830A Signal Analyzer, as well as the different ways in which it can be deleted/cleared for security reasons.

1. Warnings

Be sure that all information that must be saved and has been stored by the user in the instrument is properly backed-up before clearing any instrument memory. Anritsu will not be held responsible for any lost files or lost data resulting from clearing the memory.

In most cases, there are no user prompts to confirm clearing or deleting of files in instrument memory. Be sure to read this document entirely before proceeding with any file deletion or memory clearing.

2. Types of Memory

The MS269xA and MS2830A have the following types of memory.

Memory Type	Size	Volatile or Non-Volatile	Note
(1) DDR-SDRAM	1 GB	Volatile	For CPU
(2) DDR-SDRAM	1 GB	Volatile	For storing waveforms of signal generator
(3) DDR-SDRAM	1 GB	Volatile	For storing waveforms of signal analyzer
(4) SDRAM	16 MB	Volatile	For communication with COM-DSP
(5) FLASH Memory	8 MB	Non-Volatile	Instrument (License/ Serial/ Option information) and factory calibration information, etc.
(6) HDD	60/80 /100 GB	Non-Volatile	OS, applications, FPGA data, standard waveform pattern data, and user data (parameters, images, measurement result data, digitized data, waveform pattern data, etc)

(1) to (4) DDR-SDRAM, SDRAM

These are volatile memory and all stored data is lost at power-down.

These are not a security concern.

(5) FLASH Memory

This non-volatile memory is used to store the instrument (license/serial/option information) and factory calibration data.

No user data is stored in flash memory.

(6) HDD

This non-volatile memory stores the:

- Operating system (Windows® XP/ Windows® XP embedded)

- Applications
 - FPGA data
 - Standard waveform pattern data
 - User data
(Instrument states and setups, screen images, measurement result data, digitized data, waveform pattern data, etc.)
- The HDD is non-volatile memory so data is **not** lost at power-down.
The HDD is a security concern.

3. Maintaining Security

Clearing HDD data

Simply deleting files saved to the internal HDD is insufficient from the security perspective.

To securely delete files, there are several commercial Windows programs to “shred” files using the DoD 5220 standard based on the NSA-approved algorithm.

We recommend deleting files using such programs.

Otherwise, we recommend using the Anritsu Removable HDD option for security as described below.

Removable HDD

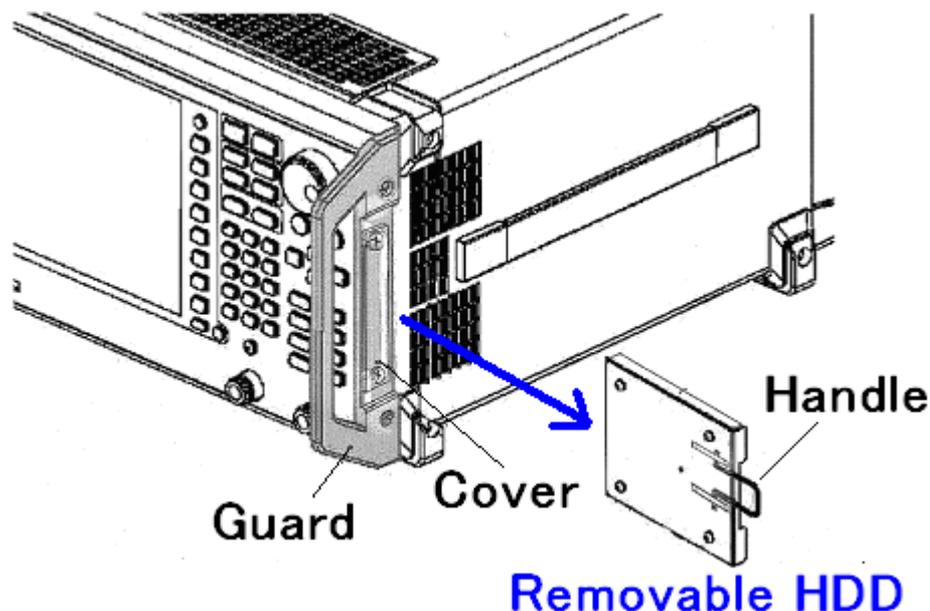
When the MS269xA/MS2830A signal analyzer must be moved from a secure area, the best method for maintaining security is to replace the HDD with another HDD that has never had any sensitive data stored on it. This allows the spectrum analyzer to function properly in non-secured areas or at servicing.

The Removable HDD option (Opt-313) is for this purpose.

How to remove MS269xA Removable HDD

<Procedure>

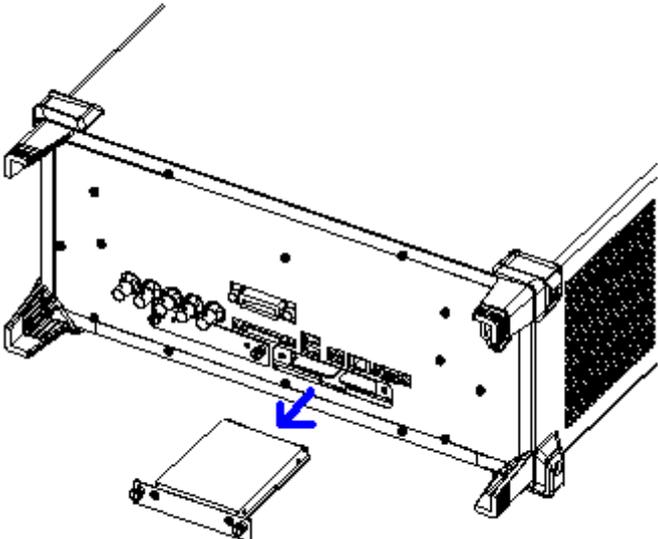
1. Turn OFF the power and remove the power plug from the power outlet.
2. Remove the two screws on the guard cover using a cross-head screwdriver.
3. Pull the HDD handle to slide out the Removable HDD.



How to remove MS2830A Removable HDD

<Procedure>

- 1. Turn OFF the power and remove the power plug from the power outlet.
- 2. Loosen the two screws shown below and pull out the Removable HDD.



Removable HDD

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