# Keysight E5864A Removable Hard Drive for 16850-Series Logic Analyzers

Installation Guide

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# Notices

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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.

## Safety Summary

The following general safety precautions must be observed during all phases of operation of this instrument. Failure to comply with these precautions or with specific warnings or operating instructions in the product manuals violates safety standards of design, manufacture, and intended use of the instrument. Keysight Technologies assumes no liability for the customer's failure to comply with these requirements. Product manuals are provided with your instrument on CD-ROM and/or in printed form. Printed manuals are an option for many products. Manuals may also be available on the Web. Go to www.keysight.com and type in your product number in the Search field at the top of the page.

**General** Do not use this product in any manner not specified by the manufacturer. The protective features of this product may be impaired if it is used in a manner not specified in the operation instructions.

**Before Applying Power** Verify that all safety precautions are taken. Make all connections to the unit before applying power. Note the instrument's external markings described in “Safety Symbols”.

**Ground the Instrument** If your product is provided with a grounding type power plug, the instrument chassis and cover must be connected to an electrical ground to minimize shock hazard. The ground pin must be firmly connected to an electrical ground (safety ground) terminal at the power outlet. Any interruption of the protective (grounding) conductor or disconnection of the protective earth terminal will cause a potential shock hazard that could result in personal injury.

**Fuses** See the user's guide or operator's manual for information about line-fuse replacement. Some instruments contain an internal fuse, which is not user accessible.

**Do Not Operate in an Explosive Atmosphere** Do not operate the instrument in the presence of flammable gases or fumes.

**Do Not Remove the Instrument Cover** Only qualified, service-trained personnel who are aware of the hazards involved should remove instrument covers. Always disconnect the power cable and any external circuits before removing the instrument cover.

**Cleaning** Clean the outside of the instrument with a soft, lint-free, slightly dampened cloth. Do not use detergent or chemical solvents.

**Do Not Modify the Instrument** Do not install substitute parts or perform any unauthorized modification to the product. Return the product to an Keysight Sales and Service Office for service and repair to ensure that safety features are maintained.

**In Case of Damage** Instruments that appear damaged or defective should be made inoperative and secured against unintended operation until they can be repaired by qualified service personnel.

**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.**

## Safety Symbols

**Table 1 Safety Symbol**

| Symbol | Description |
|---|---|
| | Direct current |
| | Alternating current |
| | Both direct and alternating current |
| | Three phase alternating current |
| | Three phase alternating current |
| | Earth ground terminal |
| | Protective earth ground terminal |
| | Frame or chassis ground terminal |
| | Terminal is at earth potential |

| Symbol | Description |
|---|---|
| | Equipotentiality |
| N | Neutral conductor on permanently installed equipment |
| L | Line conductor on permanently installed equipment |
| | On (mains supply) |
| | Off (mains supply) |
| | Standby (mains supply). The instrument is not completely disconnected from the mains supply when the power switch is in the standby position |
| | In position of a bi-stable push switch |
| | Out position of a bi-stable push switch |
| | Equipment protected throughout by DOUBLE INSULATION or REINFORCED INSULATION |
| | Caution, refer to accompanying documentation |
| | Caution, risk of electric shock |
| | Do not apply around or remove from HAZARDOUS LIVE conductors |
| | Application around and removal from HAZARDOUS LIVE conductors is permitted |
| | Caution, hot surface |

| Symbol | Description |
| --- | --- |
| | Ionizing radiation |
| CAT I | IEC Measurement Category I |
| CAT II | Measurement Category II |
| CAT III | Measurement Category III |
| CAT IV | Measurement Category IV |

# Compliance and Environmental Information

**Table 2 Compliance and Environmental Information**

| Safety Symbol | Description |
|---|---|
| | CSA is the Canadian certification mark to demonstrate compliance with the Safety requirements. |
| | The C-tick mark is a registered trademark of the Spectrum Management Agency of Australia. This signifies compliance with the Australia EMC Framework regulations under the terms of the Radio Communication Act of 1992. |
| | CE compliance marking to the EU Safety and EMC Directives.<br>ISM GRP-1A classification according to the international EMC standard.<br>ICES/NMB-001 compliance marking to the Canadian EMC standard. |

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# 1 Handling the Removable Hard Drive

For the integrity of the data on your hard disk drive, Keysight recommends that you take the following precautions while handling and storing the hard disk drives:

- Store unused hard disk drives in the shipping container.
- Protect the hard disk drive from electrostatic discharge (ESD).
- Protect the hard disk drive's edge connectors from physical contamination.
- Protect the hard disk drive from physical shock.

## Protecting Against Electrostatic Discharge (ESD)

**CAUTION** Electrostatic discharge can damage electronic components. Use grounded wrist straps and mats when handling electronic components.

## Protecting Against Contamination of the Edge Connector

**CAUTION** The hard drive edge connector is sensitive to ESD and mechanical or material contamination. Take precautions to protect the edge connector from contamination during handling and storage.

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## Protecting Against Physical Shock

**CAUTION** While operating, do not expose the hard disk drive to more than 5 to 500 Hz at 0.3 g rms.

# 2 Installing the Hard Drive

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**CAUTION** Electrostatic discharge can damage electronic components. Use grounded wrist straps and mats when handling electronic components.

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## Step 1. Back up data for transfer to new hard drive

1 Close the *Keysight Logic and Protocol Analyzer* application software.

2 Back up any data and server license files you want to retain using LAN, USB flash drive, writable CDs, etc.

Keysight recommends floating licenses for logic analyzers with removable disks (such as the 16850-series logic analyzers).

If the license server is on the logic analyzer, back up the server license files which are located in the "LicenseFiles" folder under the license server's installation directory. For example, the default location is: C:\Program Files\Agilent Technologies\LicenseServer\LicenseFiles\

License files have the extension ".lic".

You can also use node-locked licenses. However, because the logic analyzer host ID changes with the hard disk drive, you must have separate licenses on each disk. Node-locked license files are located in the "License" folder under the *Keysight Logic and Protocol Analyzer* application's installation directory. For example, the default location is: C:\Program Files\Agilent Technologies\Logic Analyzer\License\

## Step 2. Power OFF the 16850 logic analyzer

**WARNING** Hazardous voltages exist on the power supply. To avoid electrical shock, disconnect the power from the instrument before performing the following procedures. After disconnecting the power, wait at least six minutes for the capacitors on the power supply board to discharge before servicing the instrument.

**CAUTION** Damage can occur to electronic components if you remove or replace assemblies when the instrument is on or when the power cable is connected. Never attempt to remove or install any assembly with the instrument on or with the power cable connected.

1 Power off the system using one of the methods explained below.

2 Remove the power cord.

### Using the Windows Shutdown

On the logic analysis system desktop, click **Start** > **Shut Down** or if you are running remote desktop, click **Start** > **Settings** > **Windows Security** > **Shut Down**. This software power off does the following:

- Closes all programs that are running.
- Writes all data to the disk.
- Turns off the power supply.
- If the system is unplugged while it is off and then plugged back in, the system will not power on until the power button is pressed.

### Using a Short Press of the Power Button

Pressing the power button on a frame for a short time (less than 2 seconds):

- Closes all programs that are running.
- Writes all data to the disk.
- Turns off the power supply.

If the power button is depressed for a short time (less than 2 seconds or so) while another instrument has an open Remote Desktop connection to this instrument, a message on the logic analysis system screen (not on the remote desktop) will pop up asking if you really want to power down. Clicking the 'yes' button results in the above events. Clicking 'no' will prevent the shutdown and not answering the dialog box (neither clicking "Yes" or "No") will have no effect. Further short presses on the power button will have no effect.

### Using a Long Press of the Power Button

Pressing the power button for more than 4 seconds will power the system down abruptly. Use this method only when other methods have not responded:

- Programs that are running will not be shut down. Any data that has not been written to the disk will be lost.
- Turns off the power supply.
- If the system is unplugged while it is off and then plugged back in, the system will not power on until the power button is pressed.
- If the system does not boot, the hard disk drive will need to be re-imaged.

### Unplugging the Power Cord or Power Loss

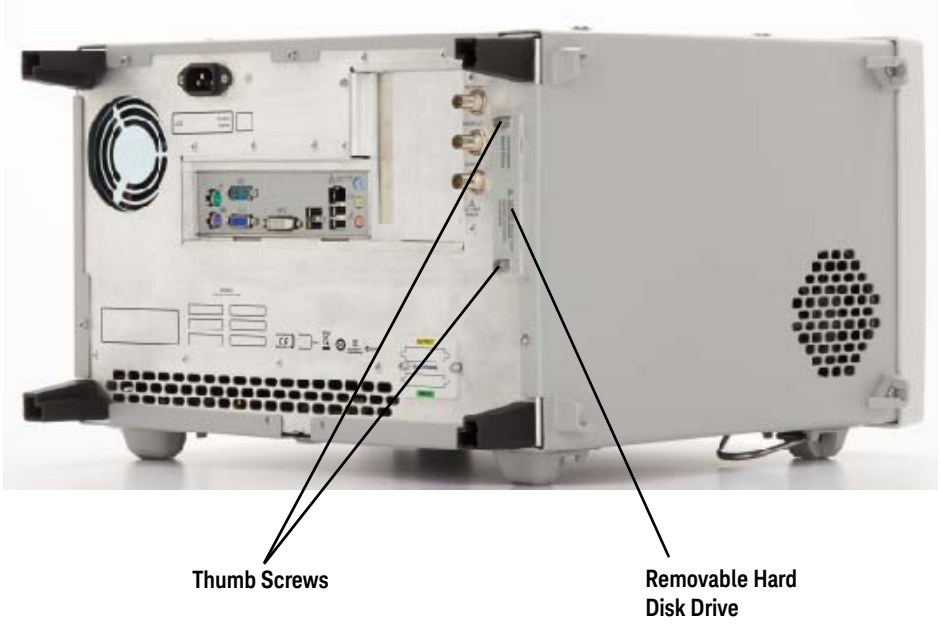
Unplugging power while the instrument is turned on or a power loss is similar to the long press of the power button with one exception:

- When the system is plugged back in, it will power up and boot into Windows.

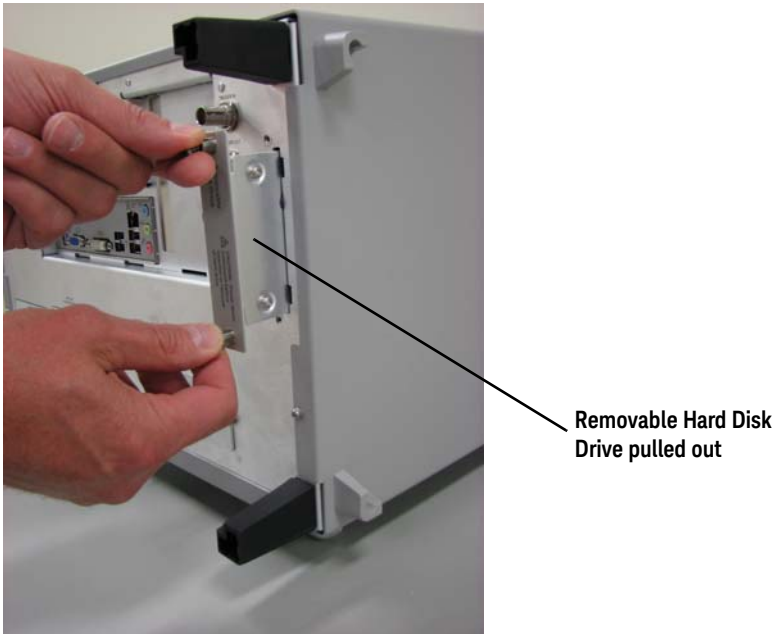
## Step 3. Remove the current hard drive

The 16850 logic analyzer has a removable hard disk drive. It can be removed and replaced without disassembling the instrument.

1 Loosen both the thumb screws that hold the hard disk drive in place.



2 Pull the drive tray out to remove the disk drive.



## Step 4. Install the new hard drive

1 Slide the new removable hard drive into the drive bay.

2 Gently press the tray all the way in to seat the disk drive connectors.

3 Tighten both the thumb screws that hold the hard disk drive in place.

## Step 5. Power on the 16850 logic analyzer

Turn on the logic analyzer.

## Step 6. Perform the first-time set up steps

If you are using the E5864A replacement hard disk as an additional bootable drive, the replacement disk is pre-configured with the operating system, frame drivers, and logic and protocol analysis application software (just like the original 16850 disk as shipped from the factory). The next step is to perform the first-time set up procedures described in the *16850 -Series Logic Analyzers Installation Guide* shipped with the 16850 logic analyzer.

## Step 7. Perform the first-time set up procedures

The next step is to perform the first-time set up procedures described in the *16850-Series Logic Analyzer Installation Guide* shipped with the 16850 logic analyzer.

## Step 8. Restore data

Restore the data and server license files you backed up in "Step 1. Back up data for transfer to new hard drive" on page 14.

## Step 9. Install any additional application software

Install any additional application software.

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