Keysight E5052B Signal Source Analyzer

This is the Installation Guide for E5052B Signal Source Analyzer

KEYSIGHT

Installation Guide

Notices

© Keysight Technologies 2007-2022

No part of this manual may be reproduced in any form or by any means (including electronic storage and retrieval or translation into a foreign language) without prior agreement and written consent from Keysight Technologies, Inc. as governed by United States and international copyright laws.

Trademark Acknowledgments

Manual Part Number

E5052-90046

Edition

Edition 8, July 2022

Printed in Malaysia

Published by:

Keysight Technologies International Japan G.K,
1-3-3 Higashikawasaki-cho
Chuo-ku
Kobe-shi, Hyogo, Japan

Warranty

THE MATERIAL CONTAINED IN THIS DOCUMENT IS PROVIDED "AS IS," AND IS SUBJECT TO BEING CHANGED, WITHOUT NOTICE, IN FUTURE EDITIONS. FURTHER, TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, KEYSIGHT DISCLAIMS ALL WARRANTIES, EITHER EXPRESS OR IMPLIED WITH REGARD TO THIS MANUAL AND ANY INFORMATION CONTAINED HEREIN, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. KEYSIGHT SHALL NOT BE LIABLE FOR ERRORS OR FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH THE FURNISHING, USE, OR PERFORMANCE OF THIS DOCUMENT OR ANY INFORMATION CONTAINED HEREIN. SHOULD KEYSIGHT AND THE USER HAVE A SEPARATE WRITTEN AGREEMENT WITH WARRANTY TERMS COVERING THE MATERIAL IN THIS DOCUMENT THAT CONFLICT WITH THESE TERMS, THE WARRANTY TERMS IN THE SEPARATE AGREEMENT WILL CONTROL.

Technology Licenses

The hardware and/or software described in this document are furnished under a license and may be used or copied only in accordance with the terms of such license.

Declaration of Conformity

Declarations of Conformity for this product and for other Keysight products may be downloaded from the Web. Go to http://www.keysight.com/go/conformity. You can then search by product number to find the latest Declaration of Conformity.

U.S. Government Rights

The Software is "commercial computer software," as defined by Federal Acquisition Regulation ("FAR") 2.101. Pursuant to FAR 12.212 and 27.405-3 and Department of Defense FAR Supplement ("DFARS") 227.7202, the U.S. government acquires commercial computer software under the same terms by which the software is customarily provided to the public. Accordingly, Keysight provides the Software to U.S. government customers under its standard commercial license, which is embodied in its End User License Agreement (EULA), a copy of which can be found at http://www.keysight.com/find/sweula The license set forth in the EULA represents the exclusive authority by which the U.S. government may use, modify, distribute, or disclose the Software. The EULA and the license set forth therein, does not require or permit, among other things, that Keysight: (1) Furnish technical information related to commercial computer software or commercial computer software documentation that is not customarily provided to the public; or (2) Relinquish to, or otherwise provide, the government rights in excess of these rights customarily provided to the public to use, modify, reproduce, release, perform, display, or disclose commercial computer software or commercial computer software documentation. No additional government requirements beyond those set forth in the EULA shall apply, except to the extent that those terms, rights, or licenses are explicitly required from all providers of commercial computer software pursuant to the FAR and the DFARS and are set forth specifically in writing elsewhere in the EULA. Keysight shall be under no obligation to update, revise or otherwise modify the Software. With respect to any technical data as defined by FAR 2.101, pursuant to FAR 12.211 and 27.404.2 and DFARS 227.7102, the U.S. government acquires no greater than Limited Rights as defined in FAR 27.401 or DFAR 227.7103-5 (c), as applicable in any technical data.

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, service, and repair of this instrument. Failure to comply with these precautions or with specific WARNINGS elsewhere in this manual may impair the protection provided by the equipment. Such noncompliance would also violate 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 precautions.

NOTE The E5052B complies with INSTALLATION CATEGORY II as well as POLLUTION DEGREE 2 in IEC61010-1. The E5052B is an INDOOR USE product.

NOTE The LEDs in the E5052B are Class 1 in accordance with IEC60825-1, CLASS 1 LED PRODUCT.

- Ground the Instrument

  To avoid electric shock, the instrument chassis and cabinet must be grounded with the supplied power cable's grounding prong.

- DO NOT Operate in an Explosive Atmosphere

  Do not operate the instrument in the presence of inflammable gases or fumes. Operation of any electrical instrument in such an environment clearly constitutes a safety hazard.

- Keep Away from Live Circuits

  Operators must not remove instrument covers. Component replacement and internal adjustments must be made by qualified maintenance personnel. Do not replace components with the power cable connected. Under certain conditions, dangerous voltage levels may remain even after the power cable has been disconnected. To avoid injuries, always disconnect the power and discharge circuits before touching them.

- DO NOT Service or Adjust the Instrument Alone

  Do not attempt internal service or adjustment unless another person, capable of rendering first aid and resuscitation, is present.

- DO NOT Substitute Parts or Modify the Instrument

To avoid the danger of introducing additional hazards, do not install substitute parts or perform unauthorized modifications to the instrument. Return the instrument to a Keysight Technologies Sales and Service Office for service and repair to ensure that safety features are maintained in operational condition.

- Dangerous Procedure Warnings

  Warnings, such as the example below, precede potentially dangerous procedures throughout this manual. Instructions contained in the warnings must be followed.

WARNING Dangerous voltage levels, capable of causing death, are present in this instrument. Use extreme caution when handling, testing, and adjusting this instrument.

Safety Symbols

General definitions of safety symbols used on the instrument or in manuals are listed below.

Instruction Manual symbol: the product is marked with this symbol when it is necessary for the user to refer to the instrument manual.

Alternating current.

Direct current.

On (Supply).

Off (Supply).

A chassis terminal; a connection to the instrument's chassis, which includes all exposed metal structure.

Standby.

Certification

Keysight Technologies certifies that this product met its published specifications at the time of shipment from the factory. Keysight Technologies further certifies that its calibration measurements are traceable to the United States National Institute of Standards and Technology, to the extent allowed by the Institution's calibration facility or by the calibration facilities of other International Standards Organization members.

Exclusive Remedies

The remedies provided herein are Buyer's sole and exclusive remedies. Keysight Technologies shall not be liable for any direct, indirect, special, incidental, or consequential damages, whether based on contract, tort, or any other legal theory.

Assistance

Product maintenance agreements and other customer assistance agreements are available for Keysight Technologies products.

For any assistance, contact your nearest Keysight Technologies Sales and Service Office. Addresses are provided at the back of this manual.

Table of Contents

1. Introduction
Manuals for E5052B . . . 9
Contents of This Manual. . . . 10

2. Installation
Checking the Shipment . . . 12
Environmental Requirements . . . 13
Operating Environments. . . . 13
Ventilation Requirements . . . 14
Protection Against Electrostatic Discharge (ESD) . . . 15
Ensuring Adequate Free Space around Analyzer for Immediate Disconnection of Power Cable in Case of Emergency . . . 15
Installing Front Handles/Rack Mounting Flanges . . . 16
How to Install the Handle Kit (Option 1CN). . . . 17
How to Install the Rack-mount Kit (Option 1CM) . . . 18
How to Install the Rack-mount and Handle Kit (Option 1CP) . . . 18
Connecting the Accessories . . . 19
Connecting Mouse and Keyboard . . . 19
Power Supply . . . 20
Verification of the Power Supply . . . 20
Verification and Connection of Power Cable . . . 20
Blown fuses . . . 22
Starting the E5052B . . . 23
Turning the Power ON and OFF . . . 23
Disconnection from Supply Source . . . 25
Removing / Mounting Removable Hard Disk. . . . 25
Initial Registration of E5052B. . . . 26
Windows 7 (HDD Revision NWxxx) and Windows 10 (HDD Revision NHxxx) . . . 26
Windows Vista Business (HDD Revision: NM321 or above) . . . 26
Windows Vista Business (HDD Revision: NM320 or below) . . . 30
Windows XP Pro for Embedded Systems . . . 32
Online Help . . . 35

3. Troubleshooting
Troubleshooting during Startup . . . 37
System Recovery . . . 38

Types of system recoveries 39
Factory Recovery 39
User Recovery (only for HDD Revision NM320 or below) 52

1 Introduction

This chapter introduces the documentation for Keysight E5052B and the overview of this manual to use this manual efficiently. See this manual first when you use the E5052B for the first time.

Manuals for E5052B

Keysight provides the following three manuals for the E5052B. The latest version of all documentations can be downloaded from http://www.keysight.com/find/e5052b-manual.

- Installation Guide

  The installation guide (this manual) provides start up setup information when you use the E5052B for the first time and troubleshooting information when the Windows cannot be boot up.

- Online Help

  The Online Help provides the information about the measurement operation, programming, built-in VBA, I/O interface This is pre-installed in the E5052B. Press [Help] hard key on the front panel to open.

- Service Guide

  The service manual provides information about the parts, troubleshooting, performance test, adjustment and service menu.

Contents of This Manual

The following shows the contents of this manual.

- Chapter 1, “Introduction.”

  This chapter introduces the documentation for Keysight E5052B and the overview of this manual to use this manual efficiently. See this manual first when you use the E5052B for the first time.

- Chapter 2, “Installation.”

  This chapter provides information about how to set up the Keysight E5052B.

- Chapter 3, “Troubleshooting.”

  This chapter describes the troubleshooting during start up and the procedure of the operating system (OS) recovery when the Windows OS has been damaged.

2 Installation

This chapter provides information about how to set up the Keysight E5052B.

Contents of this Chapter

- "Checking the Shipment" on page 12

  After you receive the analyzer, check all the items in the packing container.
- "Environmental Requirements" on page 13

  Describes the system requirements needed to install the E5052B and how to secure space for heat radiation.
- "Installing Front Handles/Rack Mounting Flanges" on page 16

  Shows how to mount the front handles used to transport the E5052B and how to install the flanges needed to install it in a rack.
- "Connecting the Accessories" on page 19

  Provides information for connecting the mouse, keyboard, BNC adaptor to the E5052B.
- "Power Supply" on page 20

  Shows how to check the power supply as well as check and connect the power cable.
- "Starting the E5052B" on page 23

  Describes turning on/off of the Power switch and cutting off the power supply.
- "Initial Registration of E5052B" on page 26

  Provides the procedure of initial registration for the Windows operating system of the E5052B.

Checking the Shipment

After you receive the analyzer, carry out checks during unpacking according to the following procedure.

WARNING When unpacking the analyzer, if the external face of the analyzer (such as the cover, front/rear panel, LCD screen, power switch, and port connectors) appear to be damaged during transport, do not turn on the power switch. Otherwise, you may get an electric shock.

Step 1. Check that the packing box or shock-absorbing material used to package the analyzer has not been damaged.

NOTE If the packing box or shock-absorbing material has been damaged, leave the packing box and shock-absorbing material as is until other inspection items are checked as follows:

Step 2. Check the packaged items supplied with the analyzer for any damage or defects.

Step 3. By referring to the furnished contents list, check that all packaged items supplied with the analyzer have been provided as per the specified options.

Step 4. After checking, if one of the following applies, contact your nearest Keysight Technologies sales and service office.

1. The packing box or shock-absorbing material used to package the analyzer has been damaged or the shock-absorbing material has traces where extreme force has been applied.
2. A packaged item supplied with the analyzer has mechanical damage or defects.
3. A packaged item supplied with the analyzer is missing.
4. A fault has been detected in the subsequent operation check of the analyzer.

If an abnormality is detected in step 1, contact the company that transported the analyzer as well as your nearest Keysight Technologies sales and service office. For inspection by the transport company, save the packing box, shock-absorbing material, and packaged items as you received them.

Environmental Requirements

Set up the E5052B where the following environmental requirements are met.

Operating Environments

Ensure that the operating environment meets the following requirements.

Temperature	10°C to 40°C
Temperature range at the error-correction	23°C ± 5°C (< 1°C deviation from the temperature when performing the error-correction)
Humidity	20% to 80% at wet bulb temperature < +29°C (non-condensation)
Altitude	0 to 2,000 m (0 to 6,561 feet)
Vibration	0.21 G maximum, 5 Hz to 500 Hz

NOTE

Above environmental requirements are NOT for the specifications and measurement accuracy of the analyzer, but for the operating environment of the analyzer.

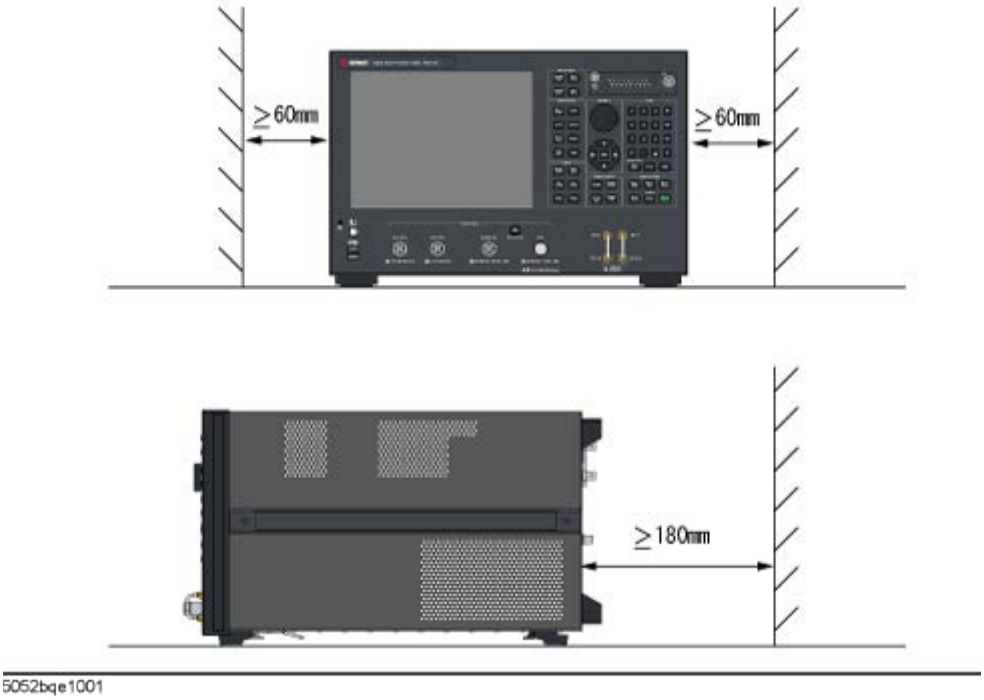
Ventilation Requirements

To ensure safety requirements, the specifications and measurement accuracy of the analyzer, you must keep environmental temperature within the specified range by providing appropriate cooling clearance around the analyzer or, for the rackmount type, by forcefully air-cooling inside the rack housing. For more information on environmental temperature to satisfy the specifications and measurement accuracy of the analyzer, see the specification in the E5052B Online Help.

When the environmental temperature around the analyzer is kept within the temperature range of the operating environment specification (See Section "Operating Environments" on page 13), the analyzer conforms to the requirements of the safety standard. Furthermore, under that temperature requirement, the analyzer still conforms to the requirements of the safety standard even when placing the analyzer with cooling clearance as follows:

	Requirements
Back	≥ 180 mm
Sides	≥ 60 mm (both right and left)

Figure 2-1 Ventilation space at the installation

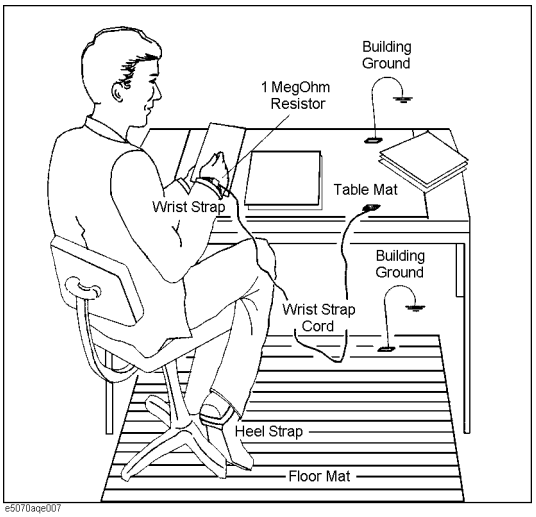


NOTE When measuring place the E5052B in a proper position as show in Figure 2-1.

Protection Against Electrostatic Discharge (ESD)

Set up a static-safe work-station to protect the electronic components from the damage by the electrostatic discharge (ESD) as shown in Figure 2-2.

Figure 2-2 Example of the static-safe work-station



Ensuring Adequate Free Space around Analyzer for Immediate Disconnection of Power Cable in Case of Emergency

As described in "Disconnection from Supply Source" on page 25, the power supply is disconnected by removing the power cable's connector plug from either the AC outlet or the E5052B unit. When installing the E5052B, ensure that there is sufficient free space around the unit to permit quick disconnection of the plug (from AC outlet or E5052B unit) in case of emergency.

Installing Front Handles/Rack Mounting Flanges

The E5052B can be installed on a workbench or in a rack. This section describes how to install the front handles (Option 1CN) used for moving or transporting the instrument, and how to install the analyzer in an equipment rack as part of a measurement system (Option 1CM: without the handles, Option 1CP: with the handles).

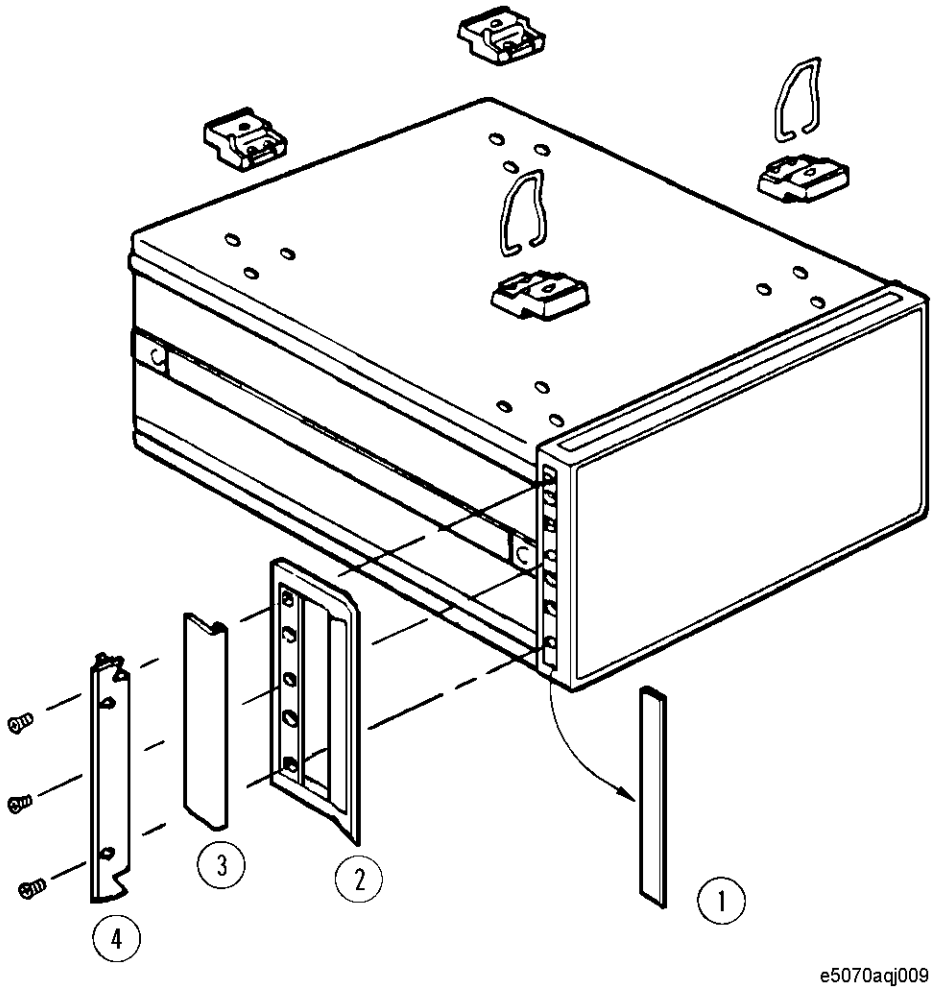
Table 2-1 Keysight E5052B handles/rack mounting options

Option	Name	Keysight Part Number
1CN	Handle Kit	5063-9230
1CM	Rack-mount Kit	5063-9217
1CP	Rack-mount and Handle Kit	5063-9224

Table 2-2 Contents of each option

Option	Contents	Quantity
1CN	Front Handles	2
	Screws	6
	Trim Strips	2
1CM	Rack-mounting flanges (locking side plate)	2
	Screws	6
1CP	Rack-mounting flanges (locking side plate)	2
	Front Handles	2
	Screws	8

Figure 2-3 Installing front handle/rack-mount kits



How to Install the Handle Kit (Option 1CN)

The handle kit is used for transport and relocation of the E5052B. While referring to Figure 2-3, install the handle kit by following these steps.

Step 1. Remove the adhesive-backed trim strip (1) from each side of the outer frame of the E5052B front panel.

Step 2. Use the provided screws to mount the front handles (2) on each side of the E5052B front panel frame.

Step 3. Attach the provided modified trim strip (3) to each front handle in order to cover the front panel locking screws.

WARNING If the installed front handle becomes damaged, replace it with a new one immediately. A damaged handle can break while moving or lifting the instrument and cause personal injury or damage to the instrument.

How to Install the Rack-mount Kit (Option 1CM)

The rack-mount kit includes two flanges (locking side plates) for mounting the E5052B on a rack (482.6 mm/19 inches) conforming to the EIA Standard. While referring to Figure 2-3, install the rack-mount kit by following these steps.

Step 1. Remove the adhesive-backed trim strip (1) from each side of the outer frame of the E5052B front panel.

Step 2. Use the provided screws to mount a rack-mounting flange (4) on each side of the E5052B front panel frame.

Step 3. Remove the four bottom feet of the E5052B (lift the bar marked TAB on the inner side of the foot and slide the foot toward the bar).

Step 4. Mount the E5052B on the rack.

How to Install the Rack-mount and Handle Kit (Option 1CP)

The rack-mount and handle kit includes both the rack-mounting flanges (locking side plates) and front handles. While referring to Figure 2-3, install the rack-mount kit by following these steps.

Step 1. Remove the adhesive-backed trim strip (1) from each side of the outer frame of the E5052B front panel.

Step 2. Use the provided screws to mount a front handle (2) and rack-mounting flange (4) on each side of the E5052B front panel frame.

CAUTION Use both a front handle and a rack-mounting flange in the same time certainly. Do not attempt to install flanges or handles separately with hardware provided. Serious electrical damage will occur to the instrument.

Step 3. Remove the four bottom feet of the E5052B (lift the bar marked TAB on the inner side of the foot and slide the foot toward the bar).

Step 4. Mount the E5052B on the rack.

Connecting the Accessories

You need to connect some accessories before use.

Connecting Mouse and Keyboard

The E5052B allows you to connect Mouse and/or keyboard through USB. USB mouse and keyboard can be connected with the USB ports on the front or rear panels.

System Recovery of the E5052B requires the keyboard before turning on the power.

Power Supply

Before turning on the E5052B power, check the following.

Verification of the Power Supply

Confirm that the power supplied to the E5052B meets the following requirements:

	Requirements
Rated voltage	115 - 230 VAC
Voltage range	90 - 264 VAC
Rated frequency	50 / 60 Hz
Frequency range	47 - 63 Hz
Maximum power consumption	500 VA

Verification and Connection of Power Cable

The three-wire power cable attached to the E5052B has one wire serving as a ground. Using this power cable allows the E5052B to be grounded, thereby protecting you against electrical shock from the power outlet.

Step 1. Confirm that the power cable is not damaged.

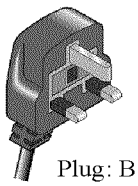
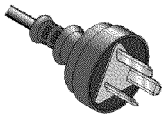
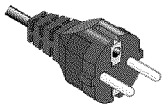
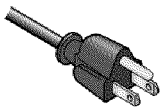
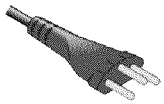
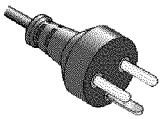
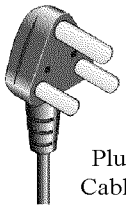
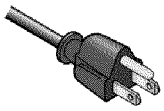
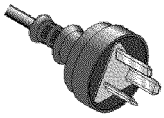
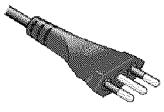
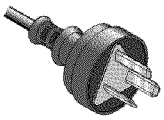
WARNING NEVER use a power cable showing any sign of damage. Faulty cables can cause electrical shock.

Step 2. Use the supplied cable to connect between the power cable receptacle (Figure 2-6 on page 24) on the rear panel of the E5052B and a three-wire power outlet with the grounding prong firmly connected in the ground slot.

WARNING Use the supplied power cable with grounding wire to securely ground the E5052B.

Figure 2-4 shows the power cable options.

Figure 2-4 Power cable options

OPTION 900 United Kingdom  Plug: BS 1363/A, 250V, 10A Cable: 8120-1351, 8120-8705	OPTION 901 Australia/New Zealand  Plug: AS 3112, 250V, 10A Cable: 8120-1369
OPTION 902 Continental Europe  Plug: CEE 7 Standard Sheet VII, 250V, 10A Cable: 8120-1689	OPTION 903 U.S./Canada  Plug: NEMA 5-15P, 125V, 10A Cable: 8120-1378
OPTION 904 U.S./Canada Plug: NEMA 6-15P, 250V, 6A Cable: 8120-0698	OPTION 906 Switzerland  Plug: SEV Type 12, 250V, 10A Cable: 8120-2104
OPTION 912 Denmark  Plug: SR 107-2-D, 250V, 10A Cable: 8120-2956	OPTION 917 India/Republic of S. Africa  Plug: IEC 83-B1, 250V, 10A Cable: 8120-4211
OPTION 918 Japan  Plug: JIS C 8303, 125V, 12A Cable: 8120-4753	OPTION 920 Argentina  Plug: Argentine Resolution 63, Annex IV, 250V, 10A Cable: 8120-6870
OPTION 921 Chile  Plug: CEI 23-16, 250V, 10A Cable: 8120-6978	OPTION 922 China  Plug: GB 1002, 250V, 10A Cable: 8120-8376
NOTE: Each option number includes a 'family' of cords and connectors of various materials and plug body configurations (straight, 90° etc.).	

power_e

Blown fuses

If the fuse appears to have blown during operation, this instrument may be subject to failure and must be repaired. Ship the E5052B to the nearest Keysight Technologies Service Center.

The product uses the following fuse type: UL/CSA Type, Slow-Blo, 15 A-250 V

WARNING **Do NOT replace the fuse yourself; doing this may expose you to dangerous electrical shock.**

Starting the E5052B

This section describes how to turn on/off the E5052B power and how to cut off the power supply in an emergency.

Turning the Power ON and OFF

Perform the following steps to turn the power ON or OFF.

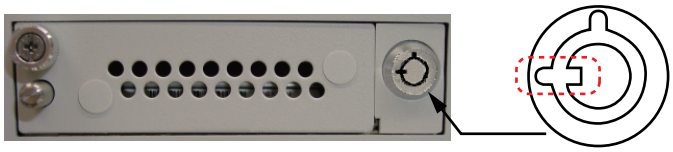
To Check the Removable Hard Disk Drive

Procedure

When the power is turned on, it is required to confirm the notch geometry is set as follows.

NOTE If the notch geometry is not set as follows, the error message “OS not found” will be shown when you turn on the power.

Figure 2-5 Removable Hard Disk Drive



e5071cse3008

Turning the Power ON

Step 1. Confirm if the Line Switch on the rear panel is on. The switch should always be turned on.

Step 2. If the standby switch (⏻) in the lower-left part of the front panel is in the depressed (▬) position, press it to put it in the popped up position (▯).

Step 3. Press the standby switch to put it in the depressed position (▬).

This operation turns ON the power, and the E5052B starts the self-test.

Step 4. Confirm that the self-test indicates normal operation.

Normal operation is confirmed by the self-test if no error message appears.

Turning the Power OFF

Step 1. Use either of the following methods to turn the power OFF.

- Press the standby switch (⏻) in the lower-left part of the front panel (now in the pressed down (▬) position) to put it in the popped up (▯) position.
- Click Turn off Computer from Windows Start menu

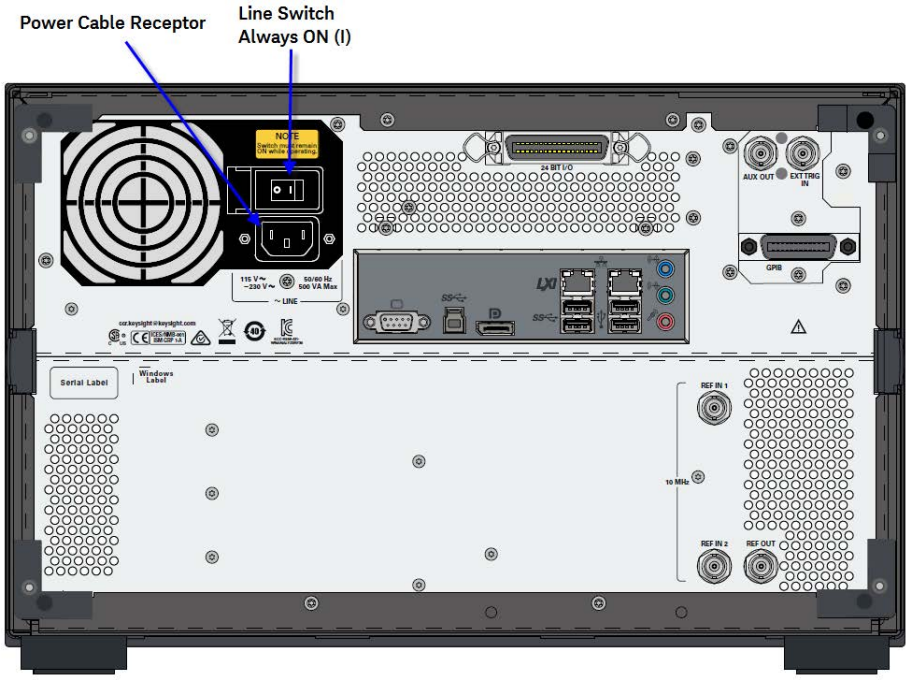
These operations will start the E5052B shutdown process (required software and hardware processes for turning the power off), and the power will turn OFF after a few seconds.

NOTE

Under normal circumstances, always press the standby switch (⏻), or click Turn off Computer from Windows Start menu, to execute the E5052B shutdown process. **Never cut off the power supply directly by disconnecting the power cable plug from the rear panel of the unit.**

If the power supply is cut off directly by disconnecting the power cable plug from the instrument or the AC outlet, the shutdown process is not carried out and there is a risk of damage to the E5052B's software or hardware.

Figure 2-6 Line switch (Always ON) and power cable receptacle



Disconnection from Supply Source

The power supply of the E5052B is cut off by disconnecting the plug of the power cable (on either AC outlet side or E5052B side). When it is necessary to disconnect the power supply in order to avoid shock hazards, etc., pull out the power cable plug from either the AC outlet side or the E5052B side.

NOTE

To allow this operation to be performed smoothly, be sure to follow the guidelines in "Ensuring Adequate Free Space around Analyzer for Immediate Disconnection of Power Cable in Case of Emergency" on page 15.

When turning the power OFF under normal circumstances, always follow the methods described in "Turning the Power OFF" on page 24.

Removing / Mounting Removable Hard Disk

For details of removing / mounting removable hard disk, refer to the following website https://rfmw.em.keysight.com/wireless/helpfiles/e5052b/index.htm

Initial Registration of E5052B

When you start up the E5052B at the first time, you need to perform the initial registration for Windows operating system of E5052B.

There are three methods of initial registration procedure depending on the windows licenses and HDD revisions of E5052B:

- Windows Vista Business (HDD Revision: NM321 or above)

- Windows Vista Business (HDD Revision: NM320 or below)

- Windows XP Pro fro Embedded Systems

- Windows 7 (HDD Revision NWxxx)

- Windows 10 (HDD Revision NHxxx)

The license is shown at the Windows License label on the rear panel of E5052B.

NOTE It is not possible to check the HDD revision installed on your E5052B before Windows is booted. Therefore, you should follow the procedures below.

NOTE For Windows Vista Business and Windows XP, you cannot use the front panel keys during the initial registration of the E5052B therefore connect the mouse and the keyboard before turning on the power.

NOTE If you perform the following procedure incorrectly, a message asking you whether to return to the previous registration screen and perform the registration appears. In this case, follow the instruction to return to the previous registration screen.

Windows 7 (HDD Revision NWxxx) and Windows 10 (HDD Revision NHxxx)

When you start up the E5052B for the first time, you need to perform the initial registration of the Windows operating system of the E5052B.

When the Windows agreement message box appears, click Agree. The rest of the procedure runs automatically.

Windows Vista Business (HDD Revision: NM321 or above)

Step 1. Turn on the E5052B.

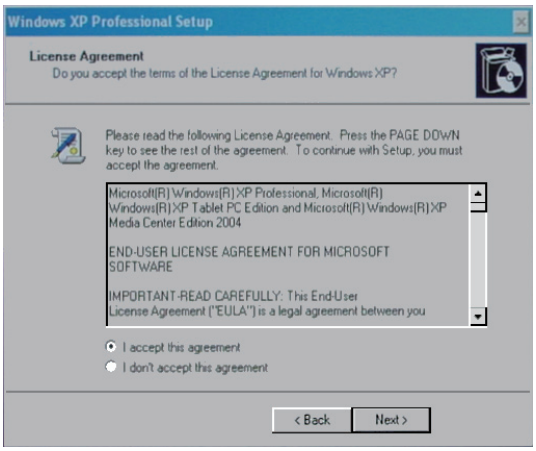
Step 2. The Windows XP Professional Setup wizard appears. Click the **Next >** button (Figure 2-7).

Figure 2-7 Windows XP Professional Setup wizard

e5071cse1073

Step 3. In the Windows XP Professional Setup dialog box, read the license agreement, then select the **I accept this agreement** box and click the **Next >** button (Figure 2-8).

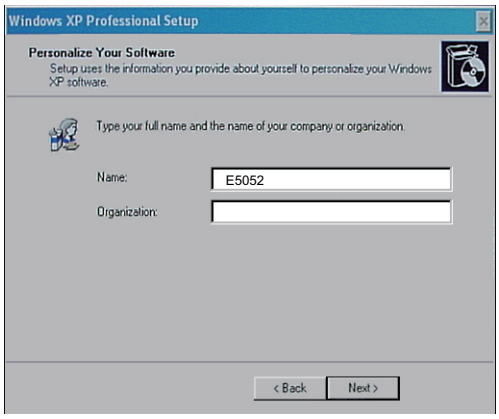
Figure 2-8 Windows XP Professional Setup dialog box (1/2)



e5071cse1074

Step 4. In the next dialog box, input **E5052** in the **Name** box. Then, click the **Next>** button (Figure 2-9).

Figure 2-9 Windows XP Professional Setup dialog box (2/2)



e5052bse1033

Step 5. The E5052B restart automatically.

Step 6. The Keysight Recovery Image Setup screen (Figure 2-10) appears. Click OK to proceed.

Figure 2-10 Keysight Recovery Image Setup Screen(1/1)

e5071cs001

Step 7. A progress bar appears (Figure 2-11) indicating the progress of the Recovery Image setup. The complete process takes less than 5 minutes to finish.

Figure 2-11 Keysight Recovery Image Setup Screen(1/2)

e5071cs002

Step 8. A message dialog box appears after the completion of the Recovery Image Setup procedure. The dialog box disappears automatically after a few seconds.

Step 9. The E5052B firmware is executed, then the measurement display appears.

Windows Vista Business (HDD Revision: NM320 or below)

Step 1. Turn on the E5052B.

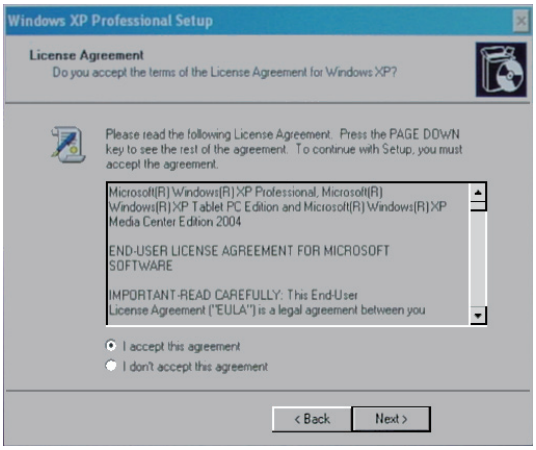
Step 2. The Windows XP Professional Setup wizard appears. Click the **Next >** button (Figure 2-12).

Figure 2-12 Windows XP Professional Setup wizard

e5071cse1073

Step 3. In the Windows XP Professional Setup dialog box, select the **I accept this agreement** box and click the **Next >** button (Figure 2-13).

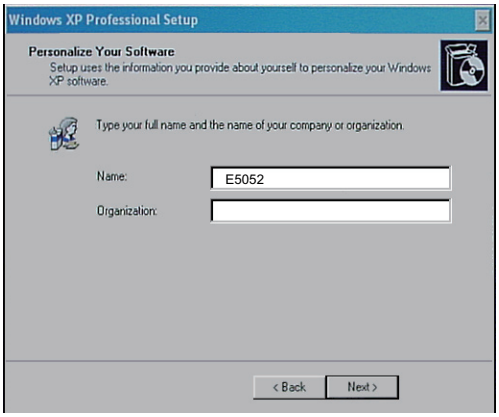
Figure 2-13 Windows XP Professional Setup dialog box (1/2)



e5071cse1074

Step 4. In the next dialog box, input **E5052** in the **Name** box. Then, click the **Next>** button (Figure 2-14).

Figure 2-14 Windows XP Professional Setup dialog box (2/2)



e5052bse1033

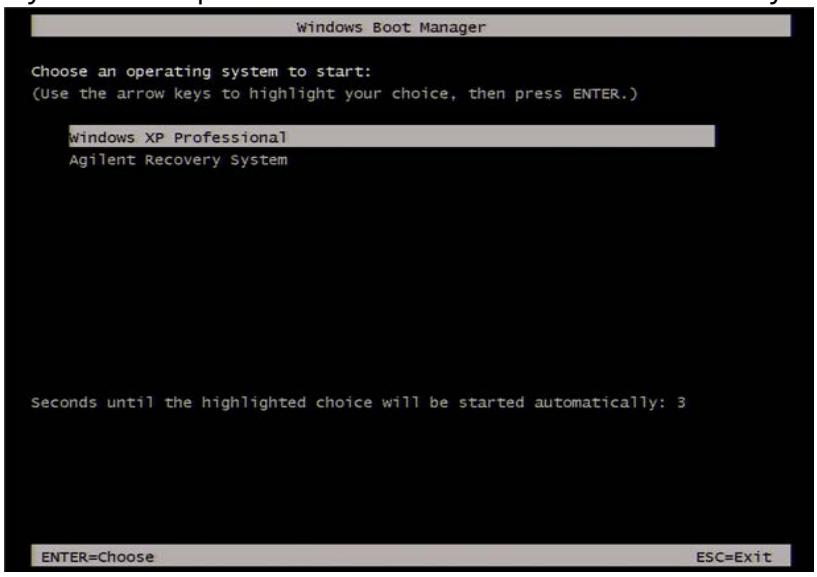
Step 5. After a while, the E5052B restarts automatically. Then, the measurement display appears.

Windows XP Pro for Embedded Systems

Step 1. Turn on the E5052B.

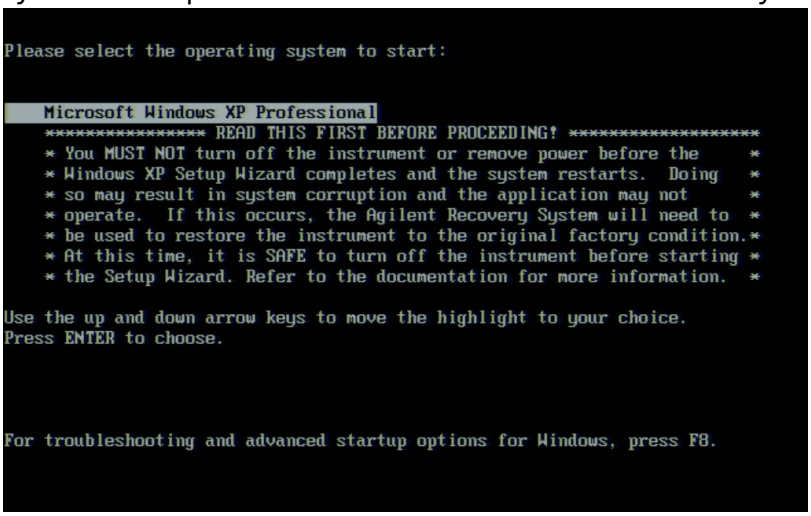
Step 2. The screen shown in Figure 2-15 appears. Select Windows XP Professional and press Enter.

Figure 2-15 System start up screen in Windows XP Pro for Embedded Systems (1/2)



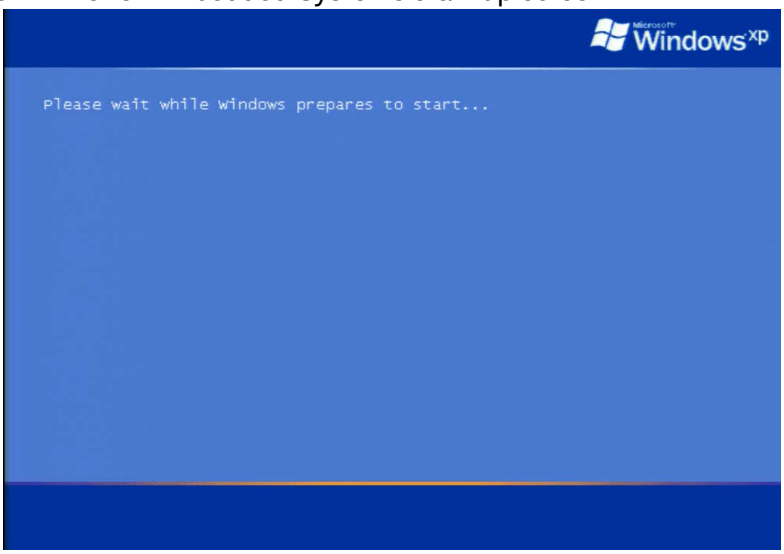
Step 3. The screen as shown in Figure 2-16 appears. Press Enter.

Figure 2-16 System start up screen in Windows XP Pro for Embedded Systems (2/2)



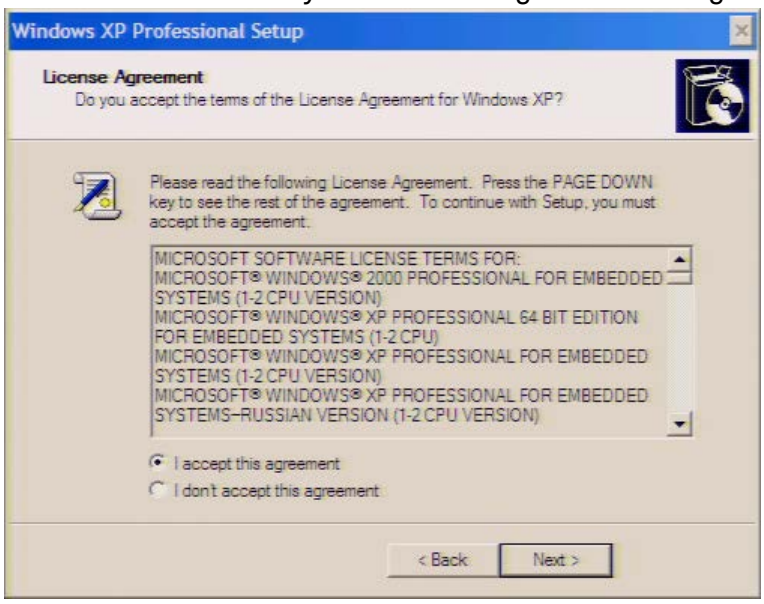
Step 4. The windows start up screen as shown in Figure 2-17 appears.

Figure 2-17 Windows XP Pro for Embedded Systems start up screen



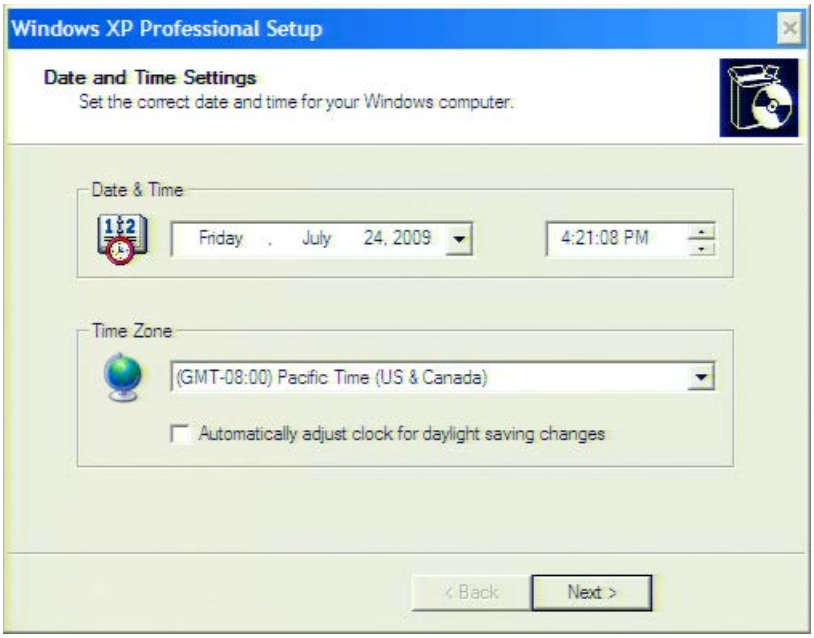
Step 5. In the License agreement dialog box, select the **I accept this agreement** box and click the **Next** > button. Figure 2-18 shows the license agreement dialog box in Windows XP Pro for Embedded Systems.

Figure 2-18 Windows XP Pro for Embedded Systems license agreement dialog box



Step 6. In the next dialog box, set the date and time for your Windows. Then, click the **Next**> button as shown in Figure 2-19.

Figure 2-19 Date and Time Setting dialog box



Step 7. After a while, the E5061B restarts automatically.

Online Help

The Online Help provides the information about the quick start, measurement operation, programming, built-in VBA, I/O interface This is pre-installed in the E5052B. Press [Help] hard key on the front panel to open. Quick Start helps in understanding the E5052B operation quickly.

The latest version of Online Help is available at
https://rfmw.em.keysight.com/wireless/helpfiles/e5052b/index.htm

3 Troubleshooting

This chapter describes the troubleshooting during start up and the procedure of the operating system (OS) recovery when the Windows OS has been damaged.

Troubleshooting during Startup

When you encounter the problem during start up, see Table 3-1. System recovery saves most of problems.

Table 3-1 Troubleshooting during startup

Symptom	Solution
Turning on (|) the standby switch does not start up the system.	Confirm that the power cable is properly plugged in. Confirm that the line switch on the rear panel is turned on
The system starts up, but it automatically shuts down immediately.	Execute the system recovery.
The system starts up, but it enters the service mode (The instrument status bar in the lower right part of the screen displays SVC in red).	
The measurement screen appears after startup, but the power on test failed, appearing against a red background in the instrument message/warning area in the lower left part of the screen.	

System Recovery

By executing system recovery, you can return the system of the E5052B (the Windows operating system and the firmware) to the factory state (at the time of purchase[1]).

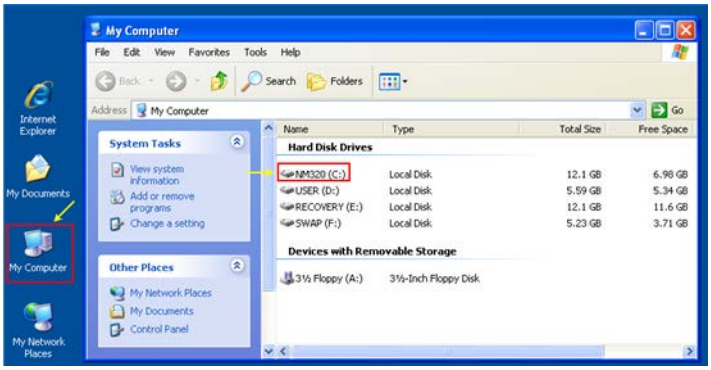
NOTE System recovery is a function of Windows and not a function of the E5052B Firmware.

The system recovery procedure is different in accordance with the Windows OS license and HDD revision. The Windows OS license and HDD revision can be confirmed using the following procedure:

Step 1. Check the Windows License label on the rear panel of the E5052B.

Step 2. In the E5052B, from Windows Start Menu, click on My Computer.

Step 3. The volume label for C: drive is displayed in Hard Disc Drive area.



CAUTION Strictly follow the steps described below. If you do any operation other than the following steps, the system may not be recovered.

1. If the hard disk failed and has been replaced after purchase, the state when the replacement was performed is recovered.

Types of system recoveries

The following 2 types of system recoveries are available.

- Factory recovery

  Returns the contents of the C drive to factory state.

  Available for all Windows OS licenses.

- User recovery (available only for Windows Vista Business with HDD revision NM320 or below)

  Returns the contents of the C and F drives to user-specified state.

  To use this function, you must prepare for recovery in advance.

  For more information on preparation, see “Procedure to create the user backup image (only available when HDD Revision is NM320 or below)” on page 52 for information on execution, see “Procedure to execute the user recovery function (only available when HDD Revision is NM320 or below)” on page 59.

Factory Recovery

Notes on executing factory recovery function

Executing factory recovery function causes the following conditions:

- In addition to the Windows operating system and the firmware, the following settings of the E5052B are returned to factory state.
  - Network setting
  - GPIB setting
  - Printer setting
- The driver for the supported printer installed after purchase is deleted.
- You need to execute initial registration again.

Files you created using the save function (files in the F drive) are not affected, but we recommend backing them up before executing system recovery for precautionary purposes. For more information on backup, refer to “Backing Up the Data” as described in E5052B Online Help.

Procedure for Windows 7/10

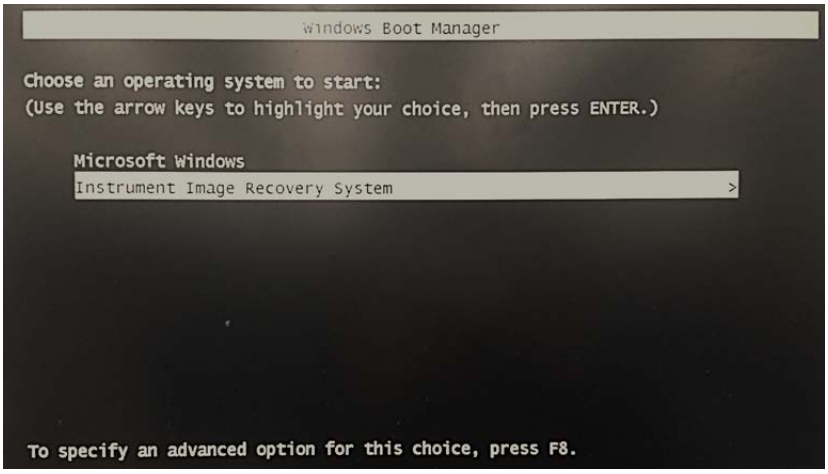
HDD Revision: NWxxx or NHxxx

Step 1. Connect a keyboard if Windows 10.

Step 2. Press the standby switch of the E5052B to turn it on.

Step 3. When the screen as shown in the figure below appears, select **Instrument Image Recovery System** and press **[Enter]**.

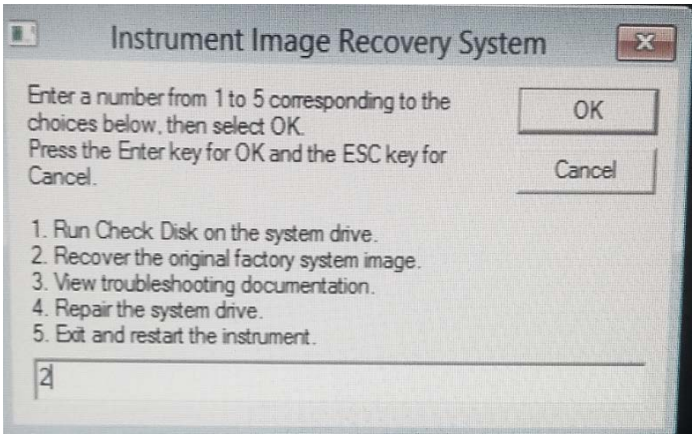
Figure 3-1 Instrument Image Recovery System Selection Screen



Step 4. In the Keysight Software End User License Agreement dialog box, select the **Agree** button.

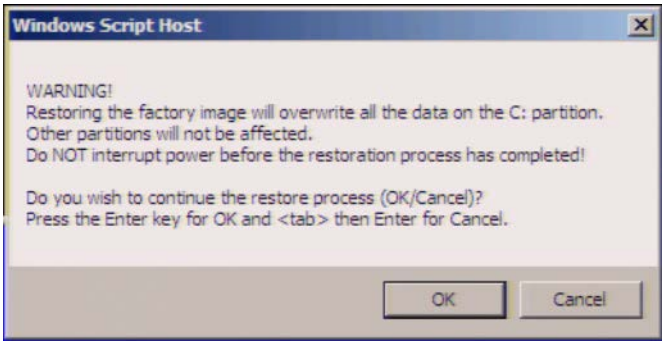
Step 5. Type **2** to select Recover the original factory system image option and press **[Enter]**.

Figure 3-2 System recovery selection screen



Step 6. A confirmation message appears. Click **OK** to confirm the process.

Figure 3-3 System recovery information screen



Step 7. The progress of the system configuration is displayed on the screen. The recovery takes a few minutes depending on the amount of data.

Figure 3-4 System configuration progress screen

Step 8. Once the recovery process is completed, completion message prompts. Click **OK**. The E5052B restarts automatically.

Figure 3-5 Recovery completion dialog box

Step 9. After the restart, execute initial registration. For information on the execution procedure, refer to “Initial Registration of E5052B” on page 26.

CAUTION Never turn off the power during the system recovery because doing so may cause serious damage to the E5052B.

Procedure for Windows Vista Business

HDD Revision: NM32x

NOTE Only the recovery function for Factory image is loaded.
The User backup function is not available.

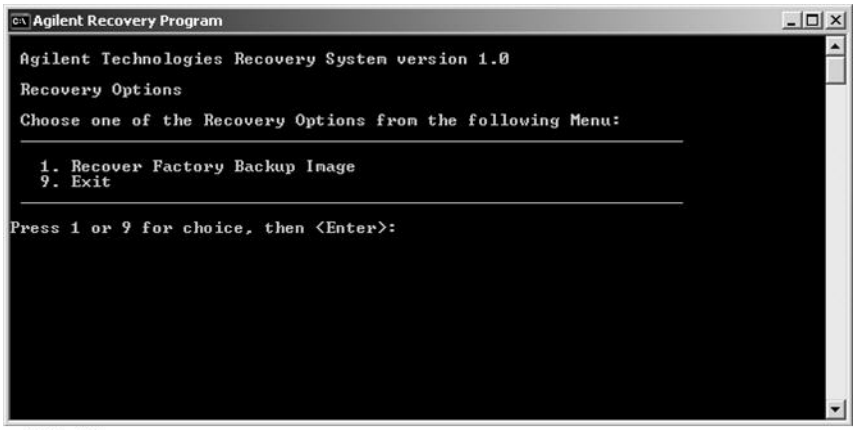
NOTE You need a keyboard for this operation.

Step 1. Turn ON the E5052B.

Step 2. The boot option is displayed. Use the downward arrow key to select the “Keysight Recovery Solution” and press Enter

Step 3. Windows PE starts up and “Keysight Recovery Program” window is displayed. Press **1**, and then press **Enter**.

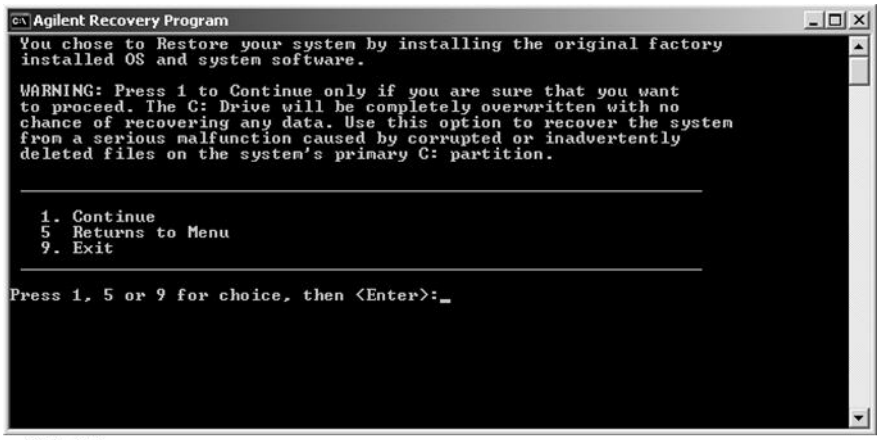
Figure 3-6 Keysight Recovery Program(1/1)



e5071cs003

Step 4. A warning message is displayed. Press **1**, and then press **Enter**.

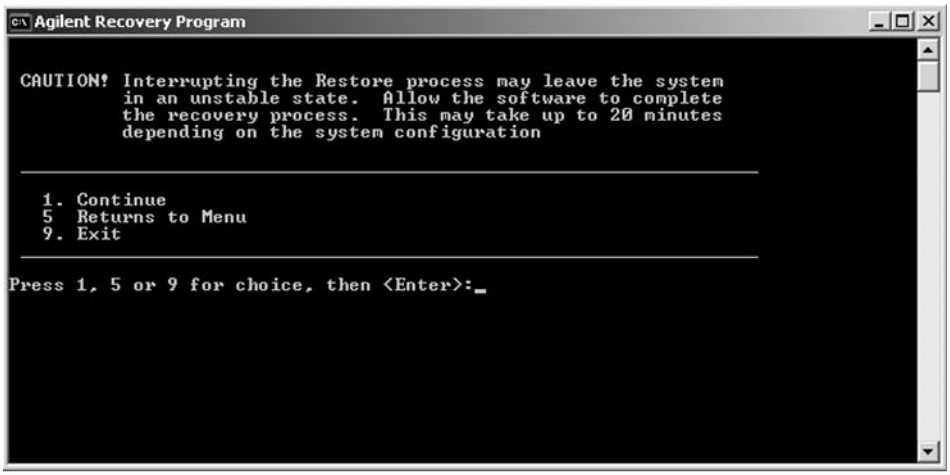
Figure 3-7 Keysight Recovery Program(1/2)



e5071c004

Step 5. Caution is displayed. Press **1**, and then press **Enter**.

Figure 3-8 Keysight Recovery Program(1/3)

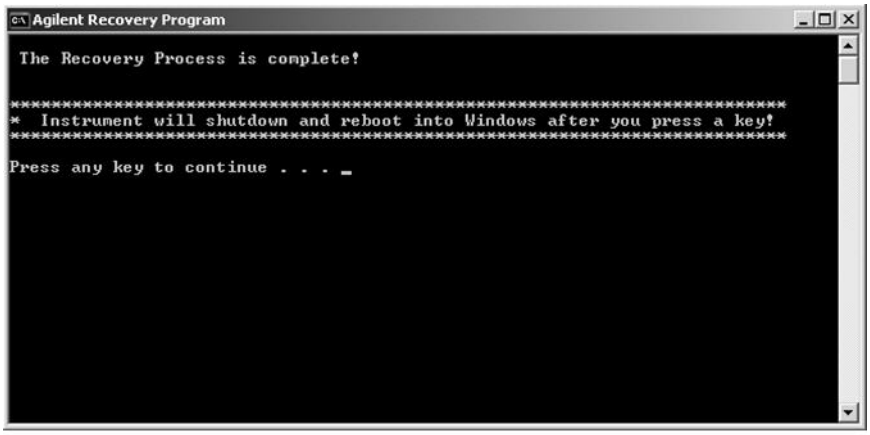


e5071c005

Step 6. Recovery function is performed.

Step 7. A message box appears after the completion of recovery process. Press any key to continue.

Figure 3-9 Keysight Recovery Program(1/4)



e5071cs006

Step 8. When factory recovery is finished, the E5052B restarts.

Step 9. After restart, the screen for initial registration appears. Execute initial registration. For information on the execution procedure, refer to "Windows Vista Business (HDD Revision: NM321 or above)" on page 26.

HDD Revision: NM320 or below

NOTE You need a keyboard for this operation.

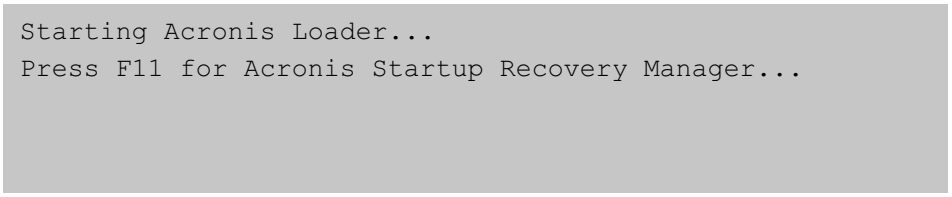
Step 1. Shut down the E5052B.

Step 2. Disconnect all of the USB device from the USB ports.

Step 3. Connect the keyboard to the E5052B.

Step 4. Press the standby switch of the E5052B to turn it on.

Step 5. When the screen as shown in the figure below appears, press F11 of the keyboard.



e5071cse1055

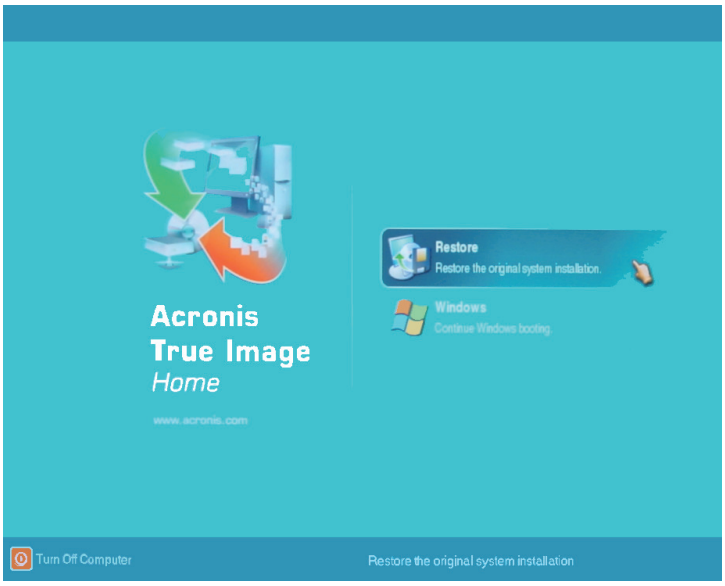
CAUTION Press F11 only once. If you press F11 twice or more and a screen which is not mentioned in this manual appears, reboot the instrument and restart the process from the first.

NOTE After several seconds, the next screen appears automatically even if you do not press any key, so do not miss it.

NOTE After Step 5, if the E5052B freezes with the cursor does not blink, turn the power off and remove unnecessary USB devices. Then, replace the keyboard with a PS/2 keyboard to execute the process again.

Step 6. Select **Restore**.

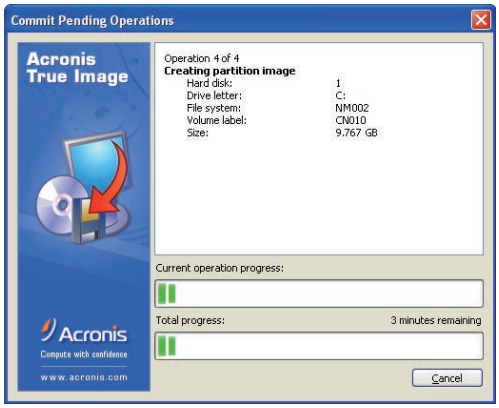
Figure 3-10 Activate Acronis Startup Recovery Manager



e5071cse1079

Step 7. A confirmation dialog box is displayed. Push the enter to select **Yes** to start the recovery of the factory backup. The recovery takes a few minutes depending on the amount of data.

Figure 3-11 Recover Factory Backup



e5052bse1018

Step 8. When the recovery is finished, click OK. The E5052B restarts automatically.

Step 9. After restart, the screen for initial registration appears. Execute initial registration. For information on the execution procedure, refer to "Windows Vista Business (HDD Revision: NM320 or below)" on page 30.

Step 10. Execute the calibration of the touch screen.

CAUTION Never turn off the power during the system recovery because doing so may cause serious damage to the E5052B.

Procedure for Windows XP Pro for Embedded Systems

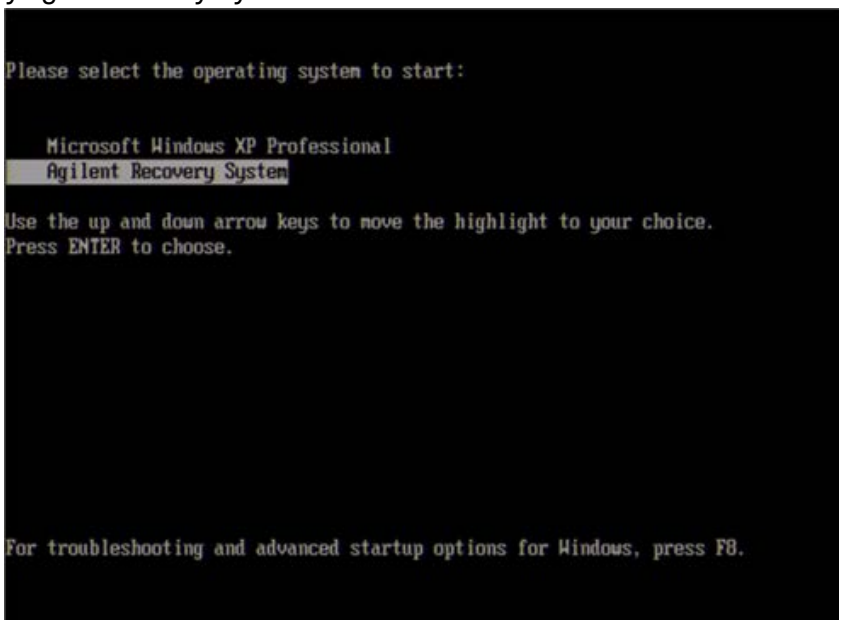
NOTE Only the recovery function for Factory image is loaded.
The User back up function is not available.

NOTE You need a keyboard for this operation.

Step 1. Turn ON the E5052B.

Step 2. The boot option is displayed. Use the downward arrow key to select the “Keysight Recovery System” and press Enter

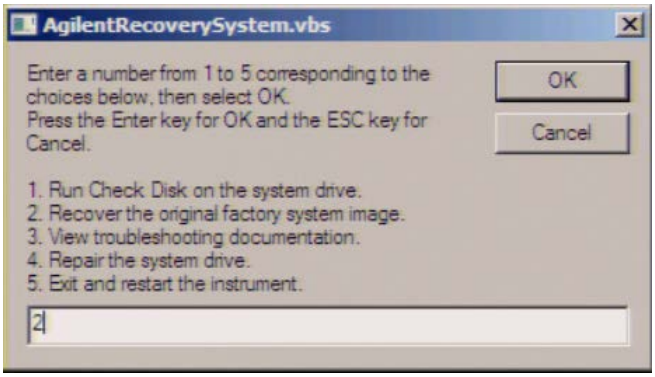
Figure 3-12 Keysight Recovery System selection screen



NOTE After several seconds, the next screen appears automatically even if you do not press any key.

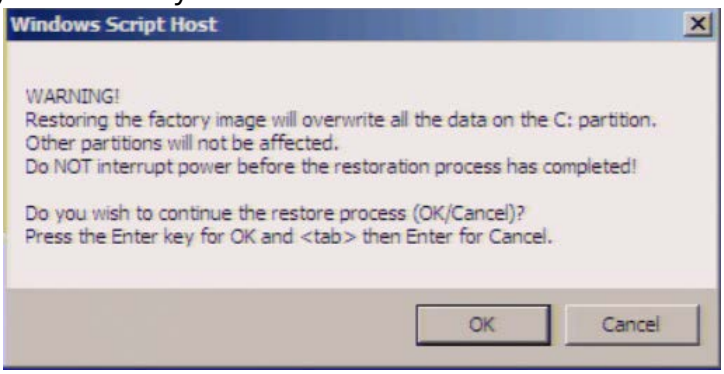
Step 3. Type **2** to select Recover the original factory system image option and press Enter.

Figure 3-13 System recovery selection screen



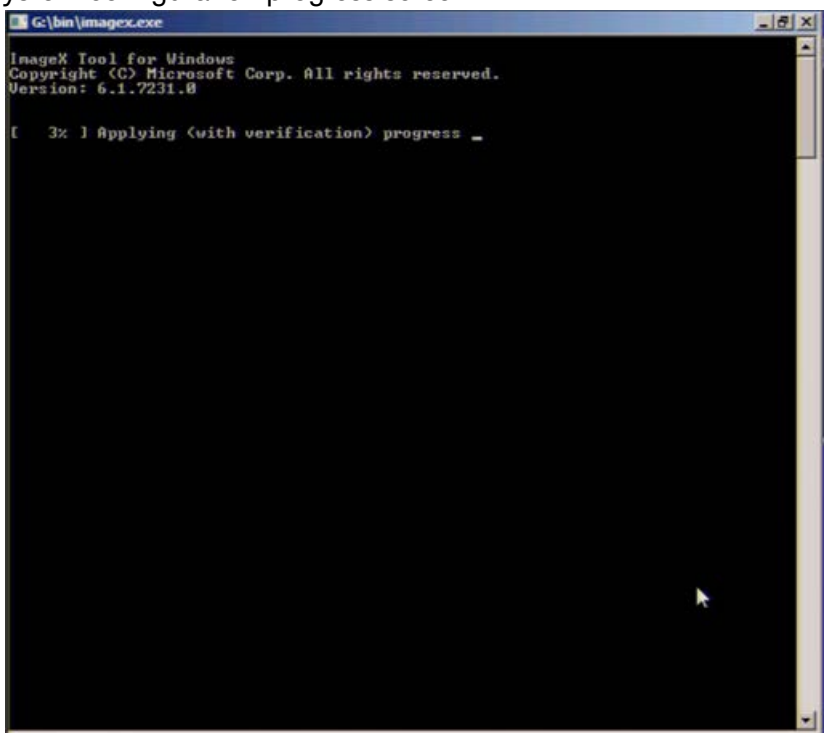
Step 4. A confirmation message appears. Click **OK** to continue the process.

Figure 3-14 System recovery confirmation screen



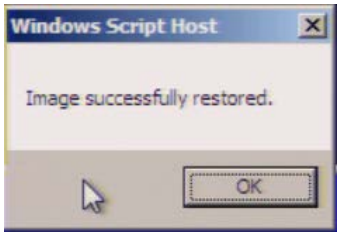
Step 5. The progress of the system configuration is displayed on the screen. The recovery takes a few minutes depending on the amount of data.

Figure 3-15 System configuration progress screen



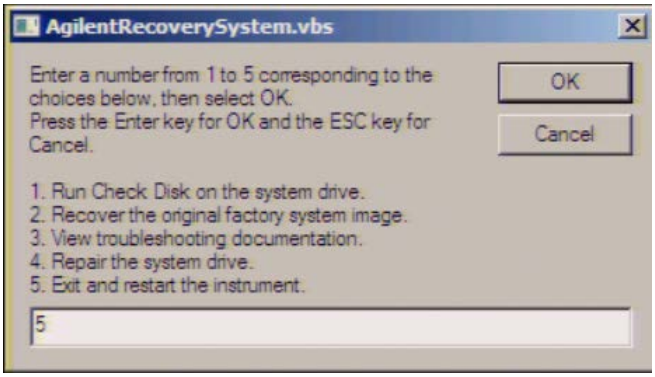
Step 6. Once the recovery process is completed, completion message prompts. Click **OK**. The E5052B restarts automatically

Figure 3-16 Recovery Option confirmation dialog box



Step 7. Type **5** to select Exit and Restart the instrument and click OK.

Figure 3-17 System recovery selection screen



Step 8. After the restart, execute initial registration. For information on the execution procedure, refer to"Windows XP Pro for Embedded Systems" on page 32.

CAUTION Never turn off the power during the system recovery because doing so may cause serious damage to the E5052B.

User Recovery (only for HDD Revision NM320 or below)

Procedure to create the user backup image (only available when HDD Revision is NM320 or below)

This section describes how to create the user backup image. The C and F drives' contents saved in this procedure are recalled when the user recovery function is executed.

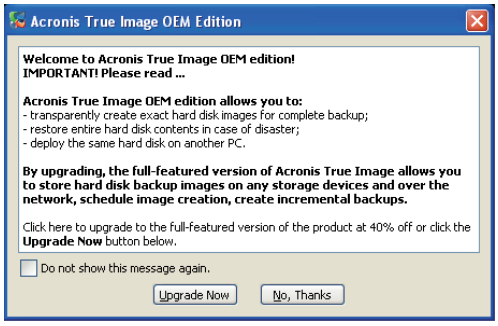
Step 1. Close the E5052B application by pressing **System** > Service Menu > Administrator Menu > Exit E5052B > OK.

Step 2. Close all other applications you currently open.

Step 3. From the Windows start menu, select All Programs > Acronis > Acronis True Image.

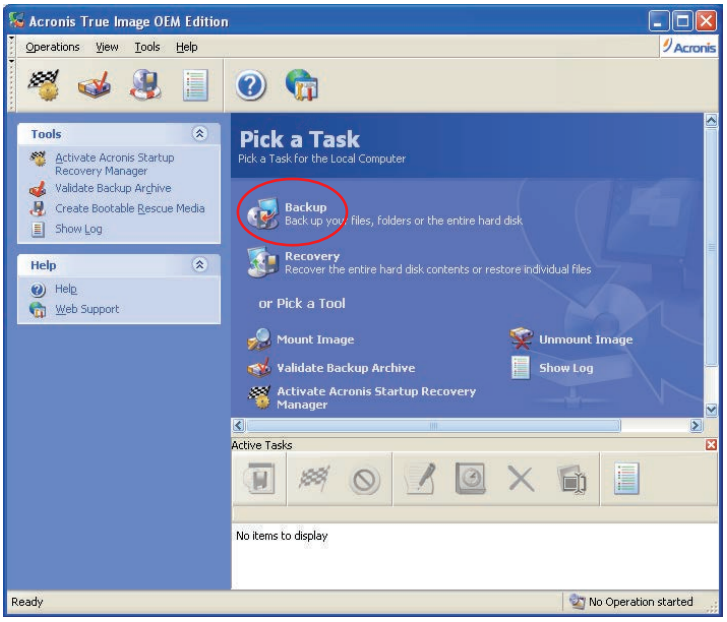
Step 4. Click "No, Thanks" button.

Figure 3-18 Recover User Backup



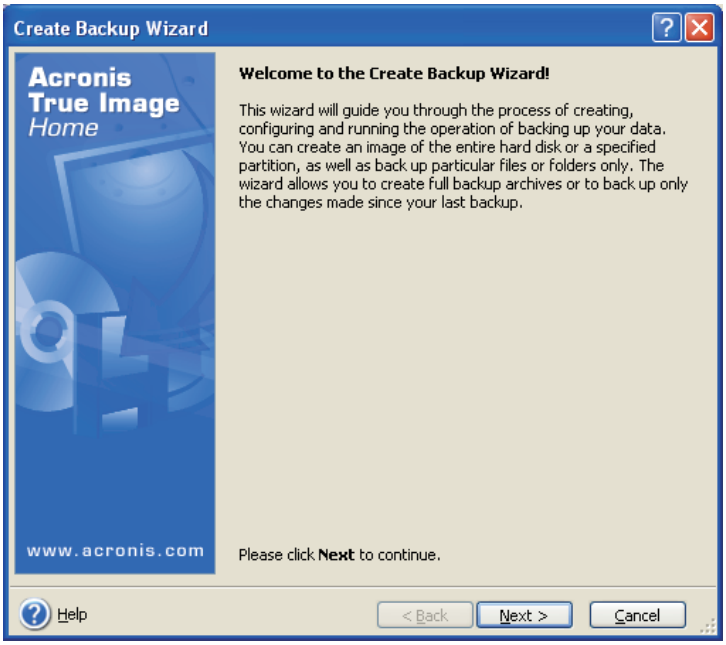
e5071cse1080

Step 5. Click **Backup**



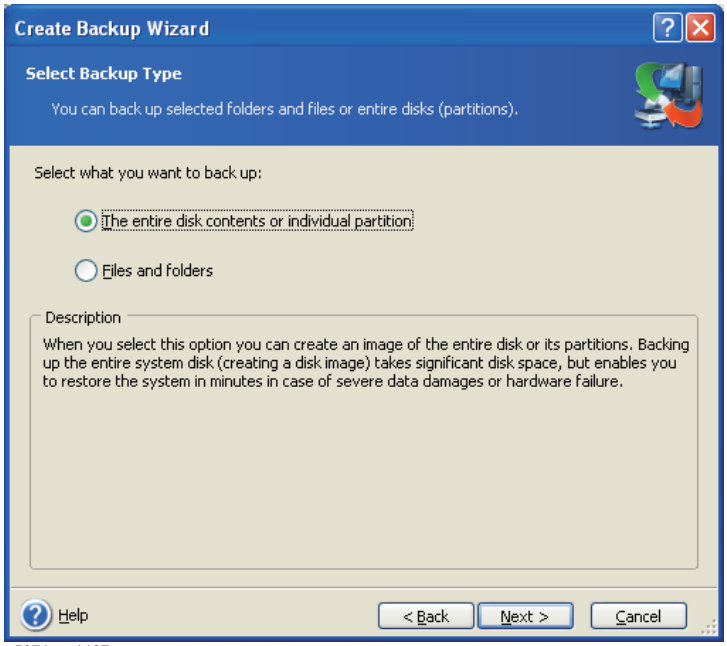
e5071cse1125

Step 6. Click **Next** button.



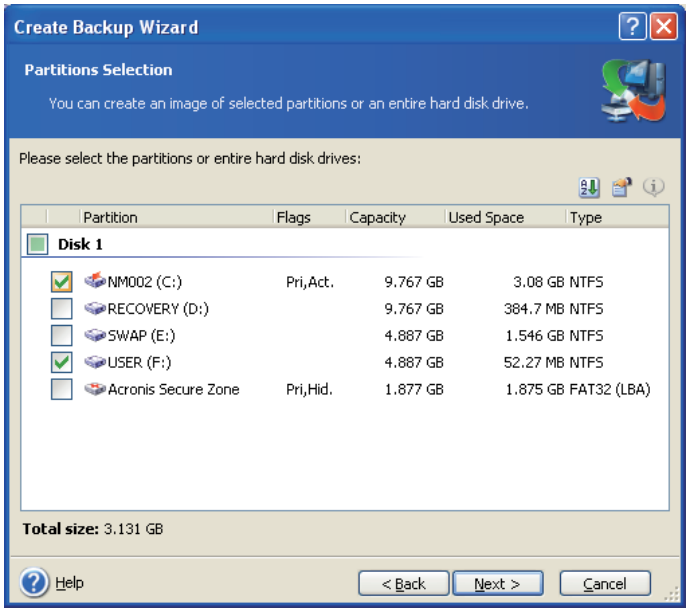
e5071cse1126

Step 7. Select “The entire disk contents or individual partition,” then click **Next** button.



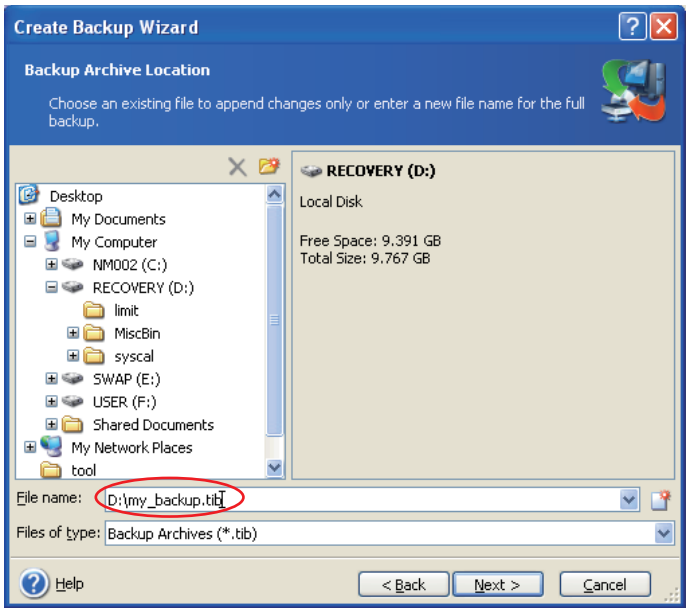
e5071cse1127

Step 8. Select the C drive and F drive.



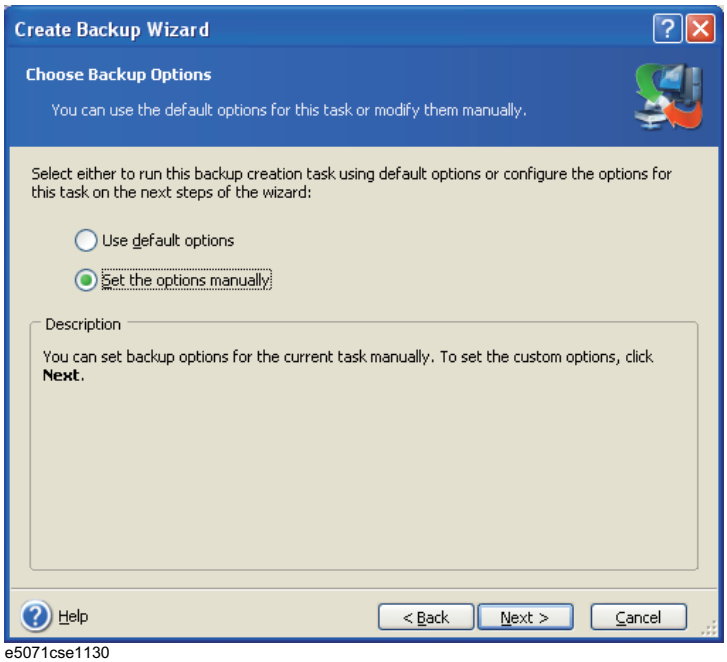
e5052bse1019

Step 9. Select the destination folder and input a file name, then click **Next** button. It is recommended to save the file to a directory which has enough space like the D drive. Also, never save the contents of the drive to the C, E or F drive.



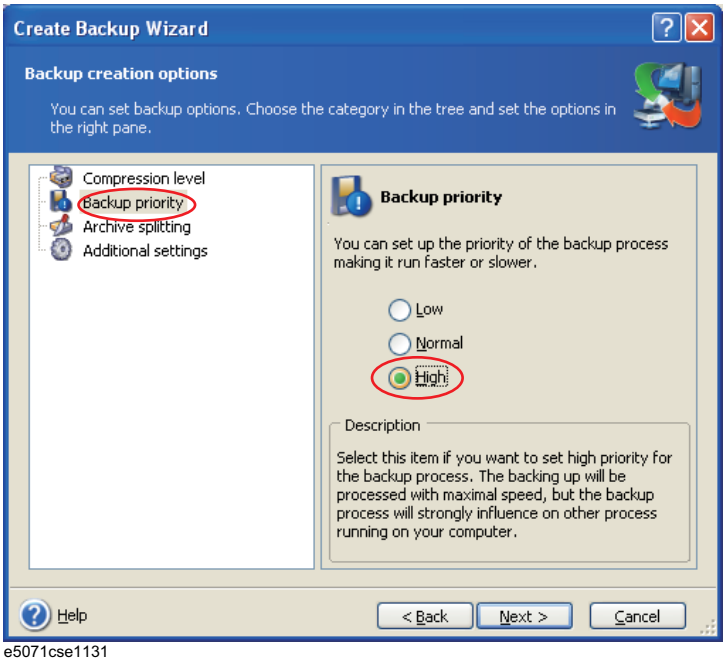
e5052bse1020

Step 10. Select “Set the options manually” and click **Next** button.



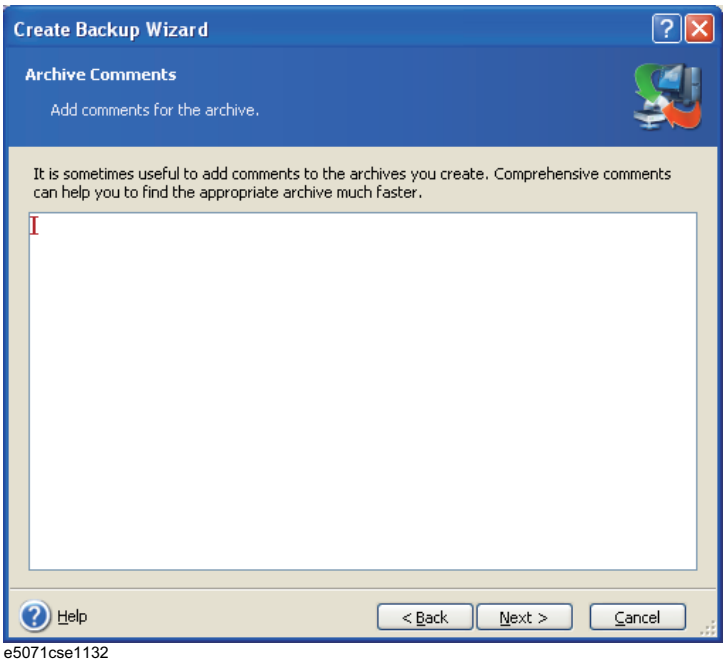
e5071cse1130

Step 11. Select “Backup priority” in the left field and “High” in the right field, then click **Next** button.



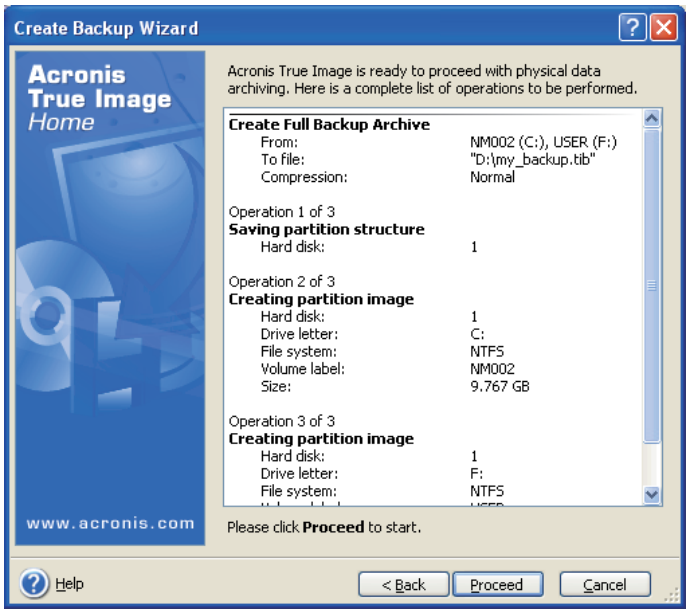
e5071cse1131

Step 12. If necessary, input comments and click **Next** button. The comments can be omitted.



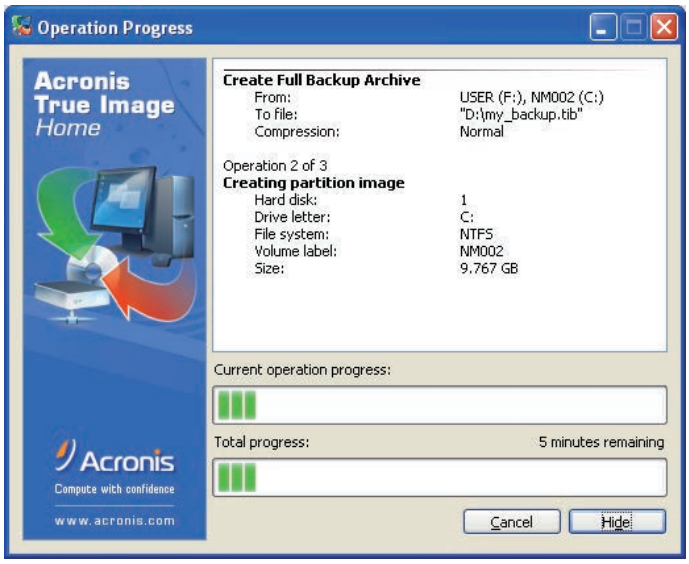
e5071cse1132

Step 13. Click **Proceed** button.



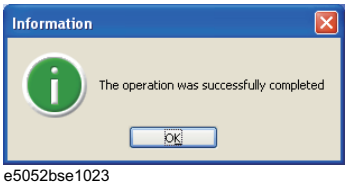
e5052bse1021

Step 14. The following screen appears during backup.



e5052bse1022

Step 15. The following screen appears when the user backup image was created. Click **OK**.



e5052bse1023

CAUTION Never turn off the power during creating the user backup image because doing so may cause serious damage to the E5052B.

Procedure to execute the user recovery function (only available when HDD Revision is NM320 or below)

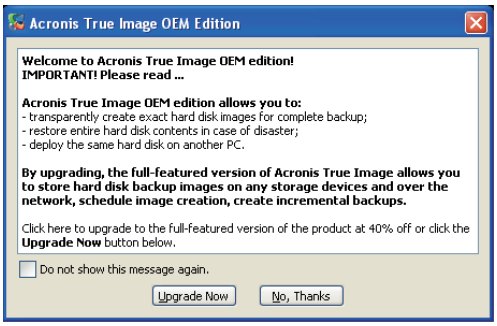
Returns the contents of the C and F drives to a user-specified state. To use this function, you must create the user backup image in advance. For more information, see the description “Procedure to create the user backup image (only available when HDD Revision is NM320 or below)” on page 52.

Step 1. Close the E5052B application by pressing **System** > Service Menu > Exit.

Step 2. Close all other applications you currently open.

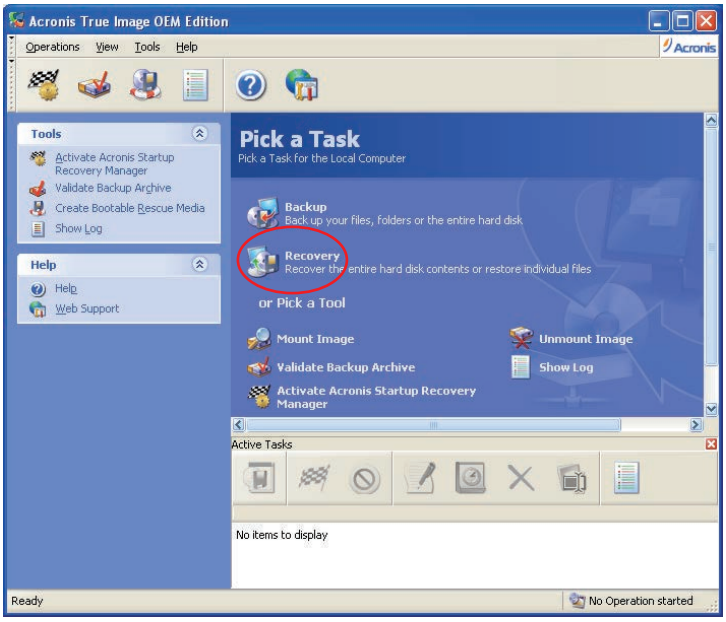
Step 3. From the Windows start menu, select All Programs > Acronis > Acronis True Image.

Step 4. Click “No, Thanks” button.



e5071cse1080

Step 5. Click **Recovery**.

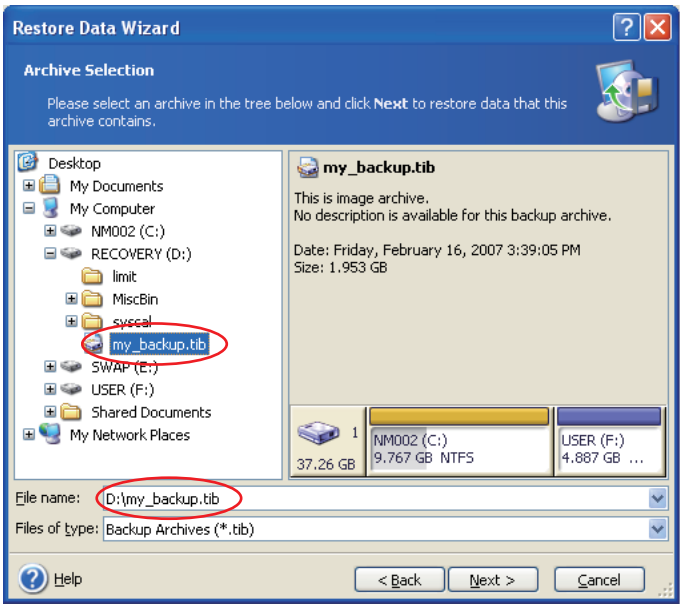


e5071cse1136

Step 6. Click **Next** button.

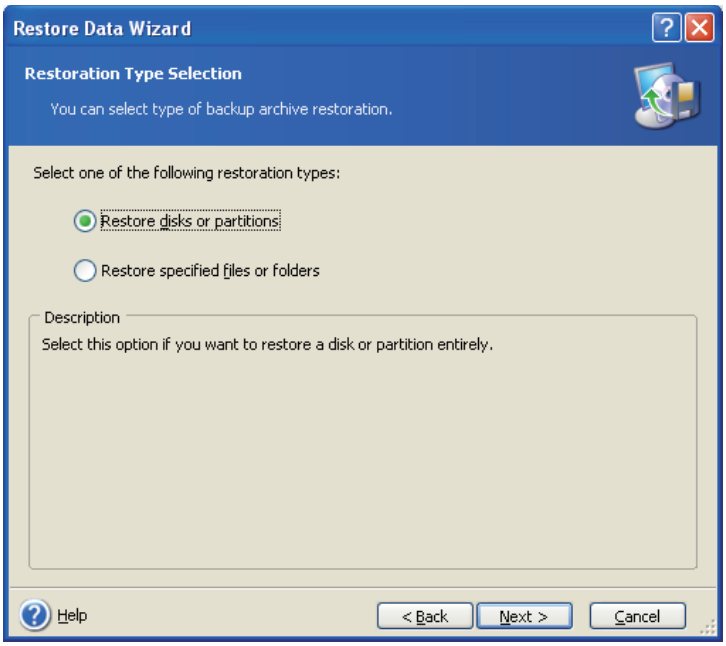
e5071cse1137

Step 7. Select the saved backup image file, then click **Next** button.



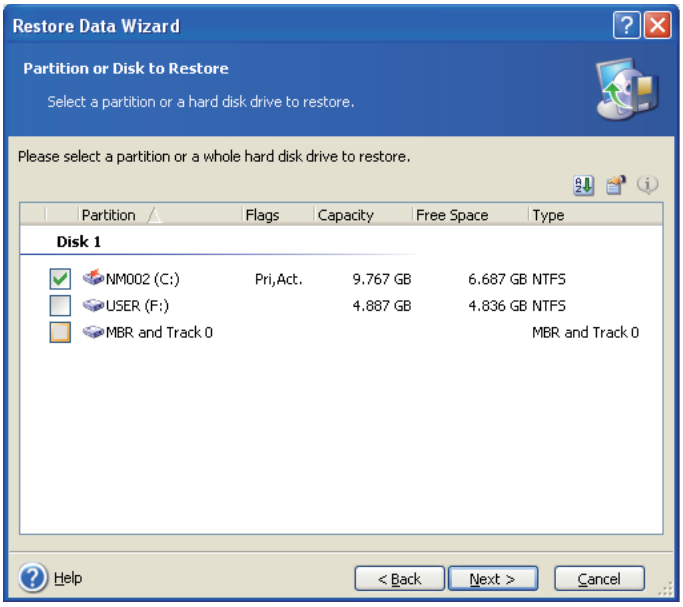
e5052bse1024

Step 8. Select “Restore disks or partitions,” then click **Next** button.



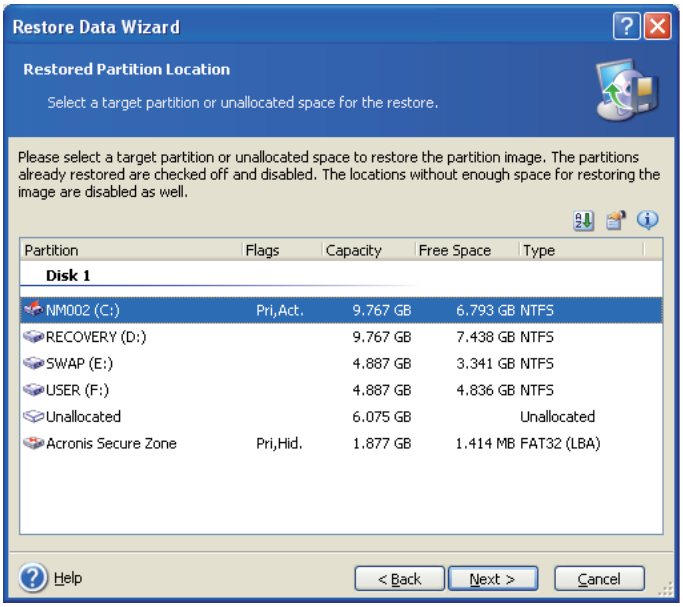
e5071cse1139

Step 9. Select the C drive, then click **Next** button.



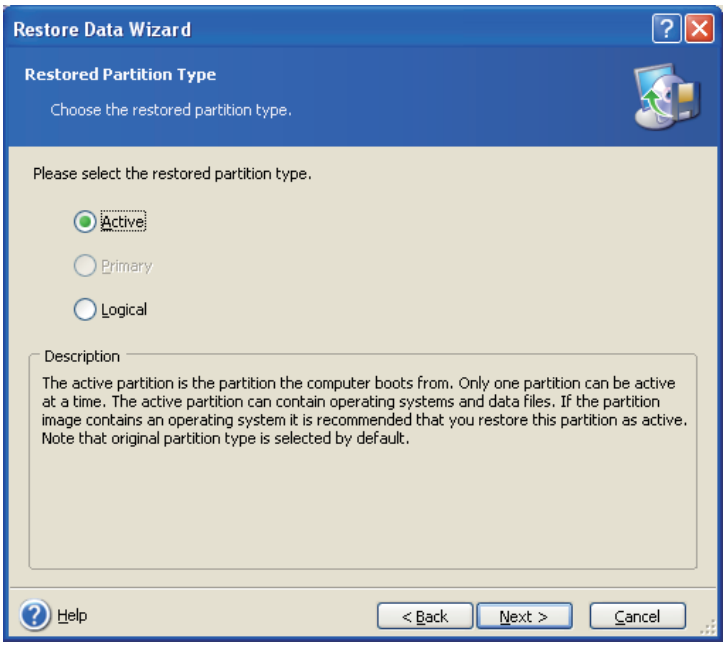
e5052bse1025

Step 10. Select the C drive to restore, then click **Next** button.



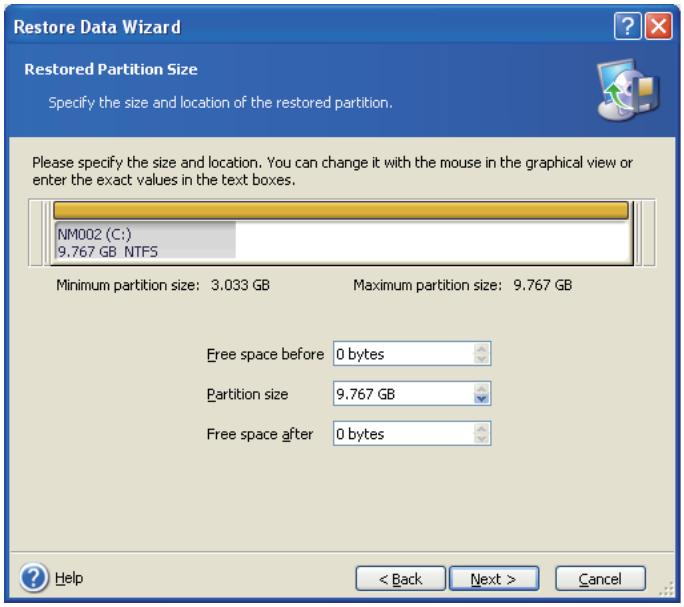
e5052bse1026

Step 11. Select “Active” and click **Next** button.



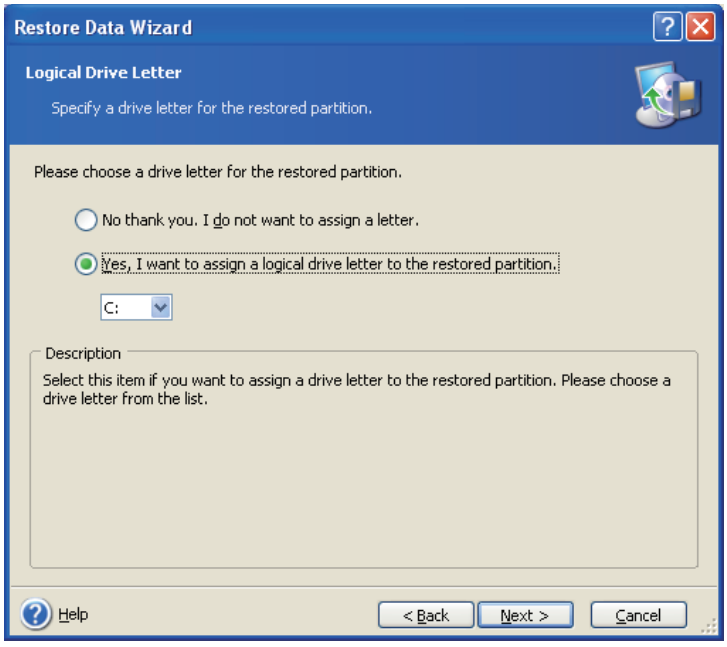
e5071cse1145

Step 12. Click **Next** button.



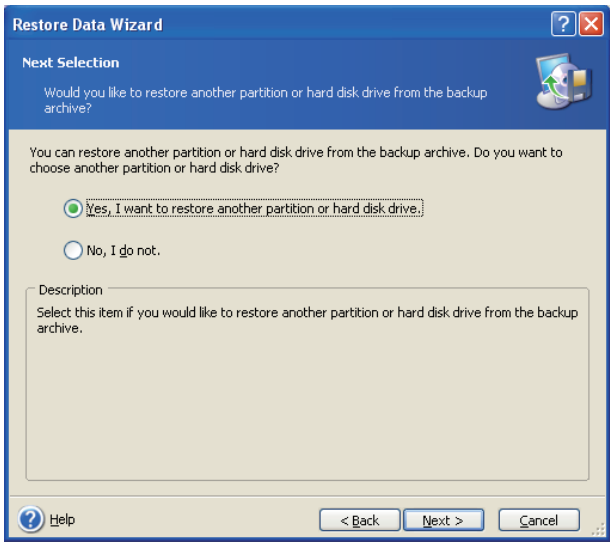
e5052bse1027

Step 13. Select “Yes, I want to assign a logical drive letter to the restored partition.” and click **Next** button.



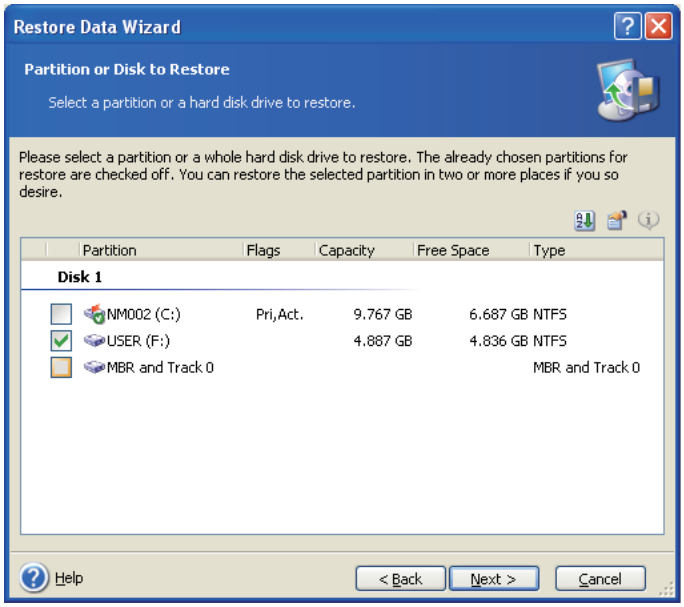
e5071cse1147

Step 14. Select “Yes, I want to restore another partition or hard disk drive.” then click **Next** button.



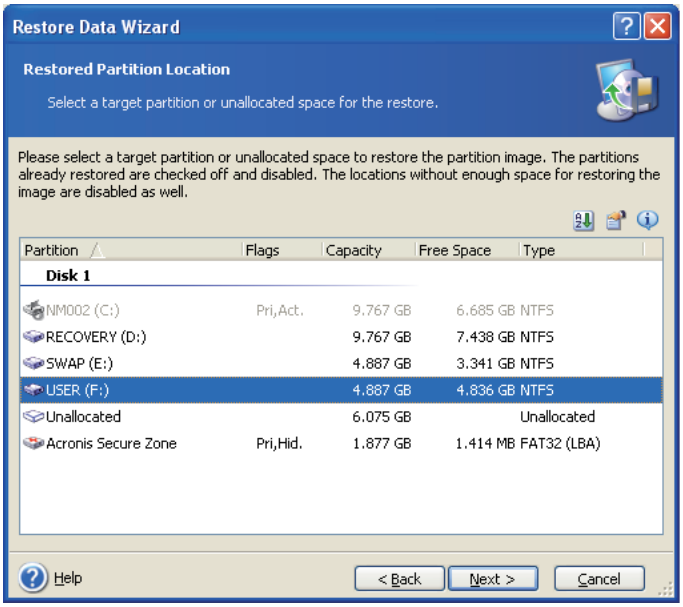
e5052bse1077

Step 15. Select the F drive to restore, then click **Next** button.



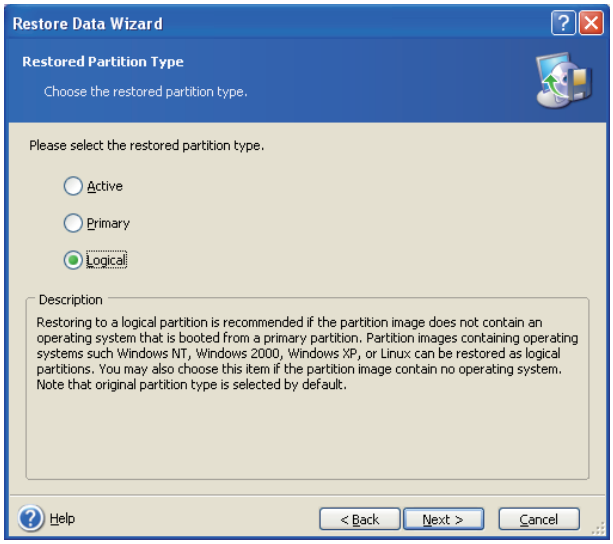
e5052bse1028

Step 16. Select the F drive to restore, then click **Next** button.



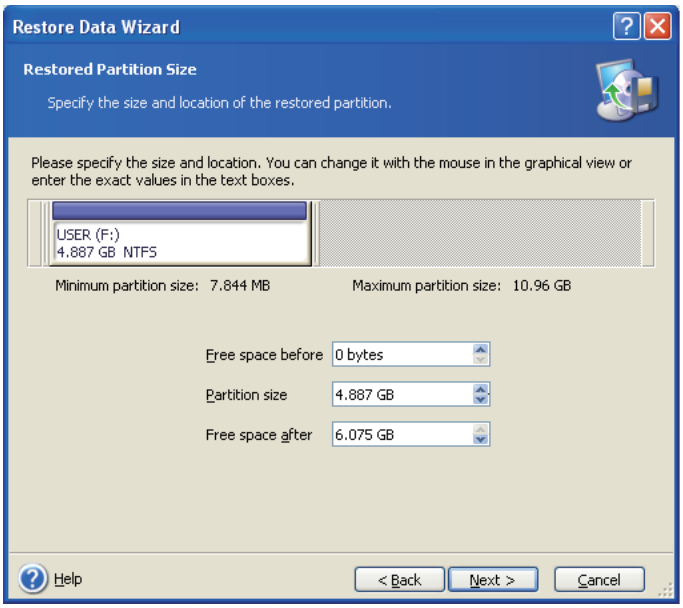
e5052bse1029

Step 17. Select “Logical” and click **Next** button.



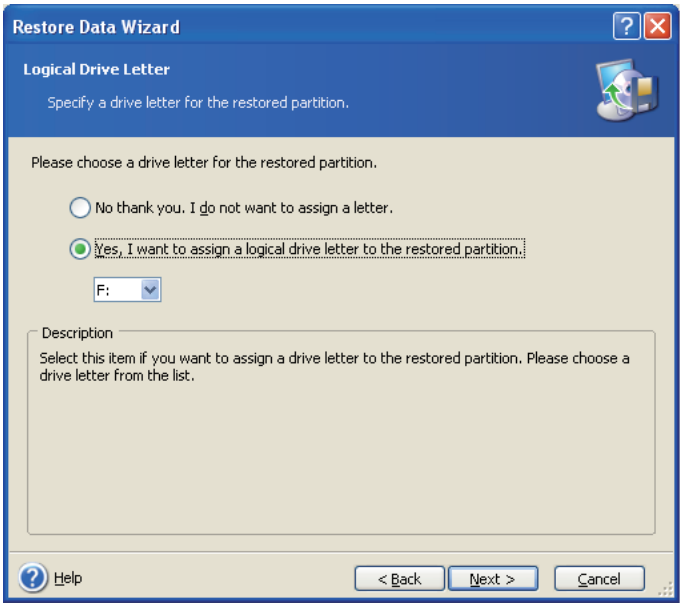
e5052bse1078

Step 18. Click **Next** button.



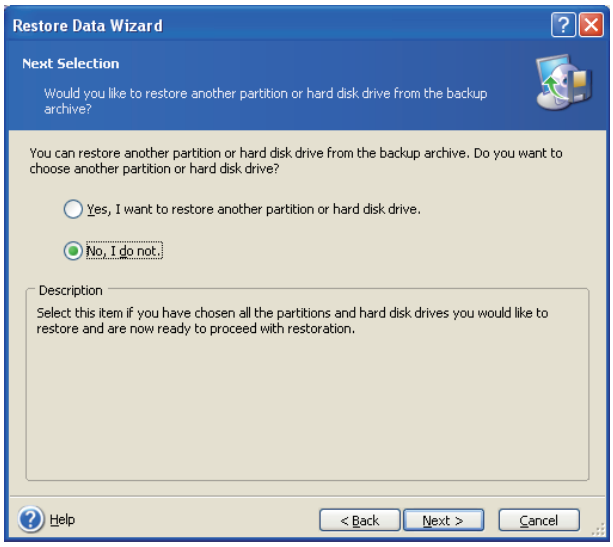
e5052bse1030

Step 19. Select “Yes, I want to assign a logical drive letter to the restored partition,” then click **Next** button.



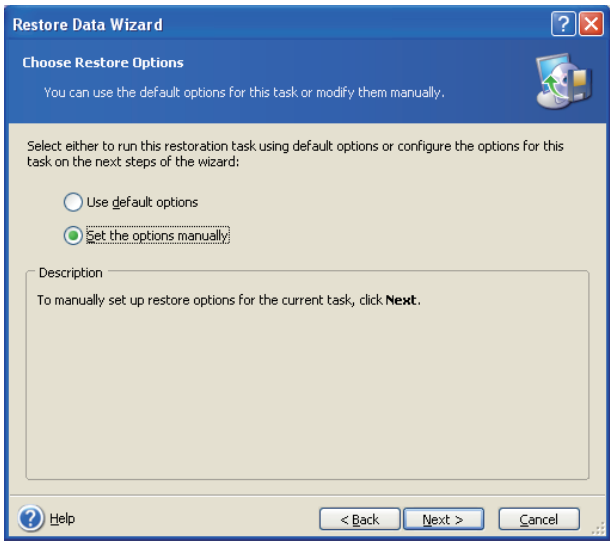
e5052bse1031

Step 20. Select “No, I do not.” and click **Next** button.



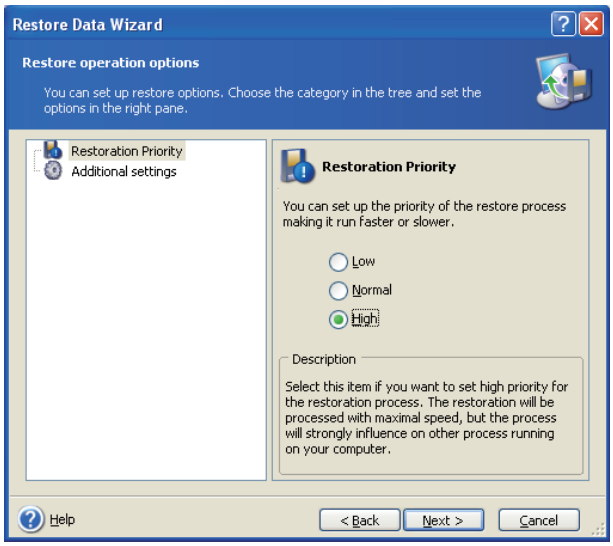
e5052bse1079

Step 21. Select “Set the options manually” and click **Next** button.



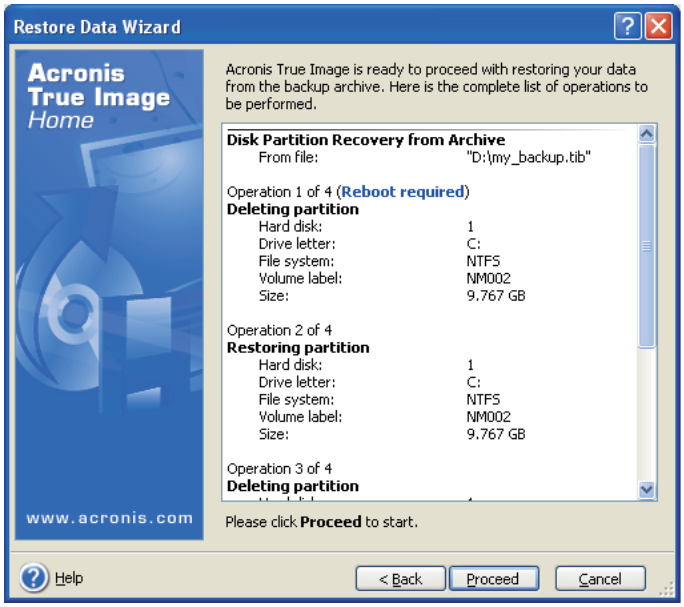
e5052bse1080

Step 22. Select “Restoration Priority” in the left field and “High” in the right field, then click **Next** button.



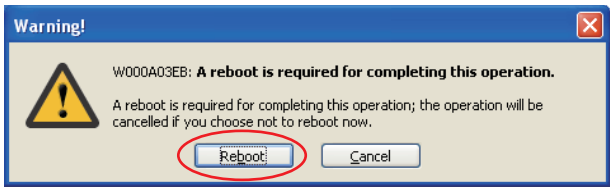
e5052bse1081

Step 23. Click **Proceed** button.



e5052bse1032

Step 24. Click **Reboot** button.



e5052bse1082

CAUTION Never turn off the power during the recovery of the user backup image because doing so may cause serious damage to the E5052B.

Step 25. After boot up, perform “Initial Registration of E5052B” on page 26 and Calibration of Touch Screen.

A

accessories
  items packaged with the E5052B, 12
assistance, 5

C

cable
  power cable options, 20

E

environmental requirements
  operation environment, 13
  ventilation space, 14
Exclusive Remedies, 5

F

front handles
  how to install the handle kit, 17

H

handle and rack-mount kit
  how to install the rack-mount and handle kit, 18
handle kit
  how to install the handle kit, 17

I

Initial registration, 26
inspection
  checking the shipment, 12

M

manual
  contents, 9, 10

P

power
  check the power supply, 20
  disconnecting device, 25
  disconnection from supply source, 25
  power cable options, 20
  shutdown, 24
  verification and connection of power cable, 20

Q

Quick Start Guide
  contents, 9, 10

R

rack-mount and handle kit
  how to install the rack-mount and handle kit, 18
rack-mount kit
  how to install the rack-mount kit, 18
Registration, 26
Removable hard disk, 25

S

safety
  symbols, 5
shutdown
  turning the power OFF, 24
system
  installing rack mount flanges, 16
System Recovery
  How to Execute, 38

W

Windows XP, 26

This information is subject to change without notice.
© Keysight Technologies 2007-2022
Edition 8, July 2022

E5052-90046
www.keysight.com

KEYSIGHT