Product Information

Product Information

- Documentations
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Documentations for E5052B

Manuals for E5052B

The following documentations are provided for E5052B.

Name	Description
Help (This file)	Provides the information about the measurement operation, programming, built-in VBA, I/O interface.
Installation Guide	Provides information about start up setup and system recovery information when the Windows cannot be boot up.
Service Guide	Provides information about the parts, troubleshooting, performance test, adjustment and service menu.

The Installation Guide is furnished with E5052B as a paper manual.

Both Installation Guide and Service Guide can be downloaded from http://www.agilent.com/find/ssa.

The latest revision of Help and Help in PDF, WebHelp formats are also available at the site.

Other topics about Product Information

Specifications

The Data Sheet (PDF format) shows the E5052B specifications.

The latest version of data sheet is available at http://cp.literature.agilent.com/litweb/pdf/5989-6388EN.pdf

For its history, see Data Sheet Revision History.

Other topics about Product Information

Customer Contacts

For assistance on E5052B, refer to http://www.agilent.com/find/assist for your regional customer contacts. Click **Select a Country or Area** on the upper right of the web page to select your region.

Other topics about Product Information

System Accessories

- USB/GPIB Interface
- GPIB Cables
- Agilent IO Libraries

Other topics about Product Information

82357A/B USB/GPIB Interface

The 82357A/B can be used to control external GPIB devices by the E5052B. This also can be used to control E5052B by PC with USB. See the page of "82357B USB/GPIB Interface High-Speed USB 2.0" in http://www.agilent.com/find/gpib for more information.

GPIB Cables

The following GPIB cables can be used to connect the analyzer with an external device such as a computer.

Product Number	Length
10833A	1.0 m (3.3 ft)
10833B	2.0 m (6.6 ft)
10833C	3.0 m (9.9 ft)
10833D	0.5 m (1.6 ft)

Agilent IO Libraries

Agilent IO Libraries is a collection of libraries that give you the ability to use your instruments from a test and measurement program, and utilities that help you quickly and easily connect your instruments to your PC.

See the IO libraries manual for more information. The latest revision of IO Libraries can be downloaded from http://www.agilent.com/find/iolib.

CAUTION Do not update Agilent IO Library on E5052B besides Agilent recommends to do so. Refer to http://www.agilent.com/find/ssa for the information.

Default Condition

Default Conditions

This default conditions finder provides the default values, settings for Save/Recall of an object, and settings for backing up an object when using the E5052B.

Conventions used for Preset, *RST, and Save/Recall

Symbol	Description
<<	Setup is same as that of the default value
*	Save/Recall can be performed

Error Message

Error Message

- Error Messages
- Warning Message

Error Messages

An error message is displayed against a red background in the instrument message/warning area in the lower-left part of the screen. Touching Entry Off key at the front panel or executing the :DISPlay:MESSage:CLEar command clears the error message. Moreover, about a specific error message, when a sweep is started again, the display of an error message may disappear. Errors caused by operation of a front panel key simply appear on the display; with a few exceptions, these are not stored in the error queue.

The log of an error message,a maximum of 100 pieces are recorded, and it can go back and check from the newest error. The following procedures perform the procedure of elimination of an error check and an error log. This operation can be performed only from a front panel. It cannot be operated by the "SCPI" command.
System > **Error Log** > **View Error Log**
System > **Error Log** > **Clear Error Log**
An error with a positive error number is one uniquely defined for this instrument. On the other hand, an error with a negative error number is basically one defined for common *GPIB* devices in IEEE488.2

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

A

No.	Message	Description
120	AFC Failed	This error message appears when the Automatic frequency control function could not follow the fluctuation in the measurement condition or automatic frequency control function was set on, however, the power or control voltage is not being applied to the DUT For the corrective actions, refer to the error message “AFC out of loop” and the

		warning message “DC output on required in AFC”.
330	AFC out of loop	The Automatic frequency control function could not follow the fluctuation in the measurement condition, and did not converge on the target frequency. Possible problems and corrective action are shown below. • Press **DC Control** > **Auto Freq Control** > **Sensitivity** to specify a proper tuning sensitivity. • Press **DC Control** > **Auto Freq Control** > **Max Iteration** to specify a value larger than the current setting. • Press **DC Control** > **Auto Freq Control** > **Max Ctrl Voltage Limit** to specify a maximum value larger then the current setting. Be careful not to set a value that exceeds the DUT’s maximum acceptable value. • Press **DC Control** > **DC control Delay** to specify a value larger than the current setting.
51	A21 flash ROM write error	This error occurs when writing the system calibration data to ROM on the A21 board fails. Contact Agilent Technologies’ Customer Contact given at the end of this guide or the company from which you bought the device.
311	A4/A5 local unlocked	This error occurs when the internal Local signal of the instrument cannot be unlocked. There is the possibility of a device failure. Contact an Agilent Technologies sales office or the company from which you bought the device.
130	Auto Setting failed	This error occurs when Freq Band, Input Attn and IF gain cannot be set to optimum value according to the input signal.

D

No.	Message	Description
-222	Data out of range	A data element (not violating the standard) outside the range defined by this instrument has been received. This error occurs, for example, when an

		integer-based command for which the parameter can be rounded exceeds the range of -65536 to +65536 or when a real-number-based command for which the parameter can be rounded exceeds the range of -9.9e37 to +9.9e37.
280	DC control overload	The current through the DC CONTROL connector is too large.
270	DC power overload	The current through the DC POWER connector is too large.
373	Downconverter Fan Stop	This error occurs when the fan of the downconverter stops. Contact Agilent Technologies' Customer Contact given at the end of this guide or the company from which you bought the device.
354	Downconverter *IF* not found	This error occurs when the down-converted signal does not fall into the expected IF range. The deviation between the set nominal frequency and the actual input signal's frequency may be too large. Execute the carrier search function, and set a correct nominal frequency.
352	Downconverter Oven Cold	This error may occur due to the unlocked PLL because the oven is not heated sufficiently for some time after the downconverter is turned on. Heat the oven for some time with the power on.
374	Downconverter P5V power fail	This error occurs when the 5-V power of the downconverter fails. A device failure is suspected. Contact Agilent Technologies' Customer Contact given at the end of this guide or the company from which you bought the device.
353	Downconverter Ref Input Level Low	This error occurs when the level of the 10-MHz reference signal to the downconverter is low.
372	Downconverter	This error occurs when the PLL circuit of the downconverter is unlocked during measurement. This

	Ref PLL unlocked	error may occur when the carrier frequency of the measurement sample is unstable. It may occur also due to the same reason as "Downconverter Oven Cold."
375	Downconverter test failed	This error occurs when the self-test of the downconverter fails. A device failure is suspected. Contact Agilent Technologies' Customer Contact given at the end of this guide or the company from which you bought the device.
371	Downconverter local unlocked	This error occurs when the local of the downconverter cannot be locked. A device failure is suspected. Contact Agilent Technologies' Customer Contact given at the end of this guide or the company from which you bought the device.

E

No.	Message	Description
-200	Execution error	An error associated with execution has been generated for which this instrument cannot specify the error message. This code shows the occurrence of an error associated with execution, as defined in 11.5.1.1.5, IEEE488.2.

F

No.	Message	Description
72	Failed to copy file	This error occurs when copying a file (MMEM:COPY command) fails.
74	Failed to create directory	This error occurs when creating a directory (MMEM:MDIR command) fails.
73	Failed to delete file	This error occurs when deleting a file (MMEM:DEL command) fails.
91	Failed to execute user	In the user menu function, this error occurs when a

	defined key	disabled softkey is executed.
61	Failed to hide trace	In the user window, this error occurs when the show trace "OFF" command is executed to turn off the remaining trace on the window. At least one trace should be visible at all times.
60	Failed to hide window	This error occurs when the show window "OFF" command is executed to turn off the remaining window on the screen. At least one window should be visible at all times.
70	Failed to read file	This error occurs when a VBA project file (MMEM:LOAD:PROG command) or other type of file cannot be read normally.
90	Failed to stop program	This error occurs when stopping a program fails.
71	Failed to write file	This error occurs when the display image (MMEM:STOR:IMAG command) for the LCD screen, a VBA project file (MMEM:STOR:PROG command) or other type of file cannot be written normally.
-257	File name error	A file name error. This message appears when an error exists in the file name and thus a command is not executed correctly. This error occurs, for example, when you try to copy to an improper file name.
-256	File name not found	The file name specified is not found and thus the command is not executed correctly. This error occurs, for example, when you try to read a file that does not exist in a disk or a disk is not correctly inserted into the drive.
80	File transfer failed	This error occurs when writing data into or reading data from a file (MMEM:DATA command) fails.
131	Failed to find Freq Band	The current measurement disables to adapt to carrier frequency, which is measurement target.

133	Failed to find IF Gain	This error occurs when the input signal level is high at IF gain setting for frequency band 1-3 in PN/PLL mode. Under this condition auto setting is disabled.

I

No.	Message	Description
213	IF A/D overflow	This message appears when the internal IF level is too high and it exceeds the internal A/D converter input range. In the phase noise measurement, check that the DUT's carrier signal is within the selected frequency band. Also, the message may appear if a DUT that has a large noise level and an unstable output level is measured. When measuring phase noise in such a case, decrease the IF Gain value or increase the sweep start value if possible. In the spectrum monitor measurement, decrease the DUT's carrier level, or set the reference level or input attenuator value larger than the current setting. In the transient measurement, decrease the DUT's carrier level, or set the max input level or input attenuator value larger than the current setting.
260	IF Level Overload	The IF level is too high. Set the input attenuator value larger than the current setting.
312	IF not found	The IF signal cannot be found. Please confirm whether the cable between RF1 IN - OUT and RF2 IN - OUT is connected correctly. When the connection of these cables has the trouble, error message "IF not found" occurs. The downconverter user may find this error message when the user changes the cable connection. In the phase noise measurement,this error occurs when no signal is inputted to the RF IN, or the input level to the RF IN is too low. Also, the message may appear if a DUT that has an unstable output level is measured, or if the carrier frequency of a DUT is out of the specified frequency band. Aside from the above reasons, there is the possibility of a device failure. Contact an Agilent Technologies sales office or the company from which you

		bought the device.
-224	Illegal parameter value	The parameter value is improperly set.
-282	Illegal program name	This error occurs when a nonexistent VBA program name is specified by the PROG:SEL:NAME command.
-213	Init ignored	Because another measurement is in progress, the request for initiating a measurement (“INIT” command) is ignored.
250	Insufficient IF Level	The IF level is too low. Set the input attenuator value smaller than the current setting.
230	Insufficient RF Level	The input level to the RF IN connector is too low.
50	Internal test failed	Internal test failed
170	Invalid equation label	The invalid character is received in the label data element
171	Invalid equation expression	The formula data element is invalid.

L

No.	Message	Description
101	License installation failed	This error occurs when an invalid license code is input during installation of the E5001 SSA-J license.
77	Load VBA	This error occurs when loading a VBA program file fails.

	program failed	

M

No.	Message	Description
20	Marker search failed	This error occurs when marker search fails.
-109	Missing parameter	The number of parameters is less than that required for the command, or the parameter has not been entered.

N

No.	Message	Description
351	No downconverter unit connected	This error occurs when the downconverter is not turned on or when the USB cable is not connected even though the downconverter is enabled. Disable the downconverter, turn on the downconverter, or connect the USB cable.
111	No signal found	This error message appears when a carrier is outside the selected frequency band or the attenuator is improperly set during execution of the Carrier to function. Set the attenuator to 0 in case you measure a DUT whose output is less than - 15 dBm.

O

No.	Message	Description
100	Option not installed	The command received has been ignored because of the mismatch between the contents of an option for this instrument and the command. This error is not generated by front key operations.
290	Oven Cold	This error occurs when PLL cannot be locked because the oven is not warm enough after start-up the E5052B.

		The resolution is to wait until the oven becomes warm.

P

No.	Message	Description
-220	Parameter error	This error message is displayed when a parameter-related error other than Error -221 to -229 occurs.
-108	Parameter not allowed	The number of parameters exceeds that required for the command. See the command reference to confirm the required number of parameters.
200	Power on test failed	This error occurs when the power-on test fails, indicating a failure of the instrument. Contact an Agilent Technologies sales office or the company from which you bought the instrument.
40	Printer error	This error occurs when the previous printing is still in progress or the printer fails (offline, short of paper, etc.) at the time of outputting the display image on the LCD screen to the printer (HCOP:IMM command).
41	Print failed	This error occurs when printing fails for reasons other than Error 40, Printer error.
-284	Program currently running	This error occurs when the PROG:SEL:STAT RUN command is executed when the VBA program is in the Run state.
-286	Program runtime error	An error occurring when VBA is executed.
92	Program not running	This error occurs when :PROG:QUER? command is executed when the VBA program is not running.
93	Program command error	This error occurs when :PROG:COMM command is executed and another command is sent for execution before the first command execution is finished.

R

No.	Message	Description
75	Recall failed	This error occurs when reading an instrument status file (State01.sta, etc.) (MMEM:LOAD:STAT command) fails.
291	Ref In 1 input not detected	This error occurs when the external reference input to Ref In 1 port is not detected.
220	RF freq out of range	This error occurs when the DUT's output frequency is not within the measurement range.
240	RF level overload	This error occurs when the input to the RF IN port exceeds the maximum input level in the measurement. The measurement value obtained in such a case is not correct. In the worst case, a failure (damage to the receiver) may occur.

S

No.	Message	Description
76	Save failed	This error occurs when writing an instrument status file (State01.sta, etc.) (MMEM:STOR:STAT command) fails.
78	Save VBA program failed	This error occurs when saving a VBA program file fails.
210	System PLL unlocked	This error occurs when the PLL circuit of the instrument becomes unlocked while the measurement is in progress. This message may appear if the DUT's carrier signal is unstable. If this message is displayed in the phase noise measurement, the following problems and corrective actions are shown below. • The DUT's noise level is too large, or a large level spurious component exists in the measurement range.

		Verify the spectrum of the DUT's output signal. Decrease the IF Gain value, or increase the sweep start value when possible. • The DUT's output signal is being modulated in frequency. Stop the frequency modulation. • A large harmonics component is included in the DUT's output signal. Insert a low-pass filter between the DUT's output terminal and the E5052B RF IN connector to eliminate the harmonics component.
211	System PLL frequency range over	This error occurs when the internal PLL circuit becomes unlocked while the measurement is in progress. This error may occur when the frequency of the input signal is out of range.
212	System PLL Input overflow	This error occurs when the internal PLL circuit becomes unlocked while the measurement is in progress. This error may occur when the level of the input signal is too large.
214	System FLL unlocked	This error occurs when FLL version of "210 System PLL unlocked." When the capture range in PN measurement is Normal, it's 210 and when Wide, 214.
215	System FLL frequency range over	This error occurs when FLL version of "211 System PLL frequency range over." When the capture range in PN measurement is Normal, it's 211 and when Wide, 215.
-310	System error	One of the errors designated as "system errors" in this instrument has occurred.

T

No.	Message	Description
110	Target freq out	This error indicates the 2nd, 3rd, or nth order

	of range	harmonics is not within the E5052B measurement range. At this time, the previous measurement conditions still remain (any of sweep parameters are not changed).
-223	Too much data	The block-, expression-, or character-string-type program data that have been received conform with the standard but exceed the amount that can be processed under the conditions of the memory or conditions specific to memory-related devices. In this instrument, this error occurs when the number of characters exceeds 254 in a character-string parameter.
-211	*Trigger* ignored	This instrument receives and detects a trigger command (“TRIG”) or an external trigger signal, but it is ignored due to the timing conditions (the instrument is not in the wait-for- trigger state, for example). Change the setup so that a trigger command or an external trigger signal can be sent after the instrument has entered the wait-for-trigger state.
320	Thermometer out of range	The internal thermometer reading is out of the proper range. Adjustment or repair is necessary.
132	Try wide capture range	This error occurs when the input level of the input signal is high, and exceeds the input level of the unit. It is recommended to change the Capture range to wide.

U

No.	Message	Description
-113	Undefined header	A command not defined in this instrument, although not illegal in the syntactic structure, has been received. See the command reference and use correct commands.

Warning Message

A warning message is displayed in the instrument message/Warning area in the lower-left part of the display against a gray background. Touching Entry Off key at the front panel executing the :DISPlay:MESSage:CLEar command clears the message. Moreover, about a specific warning message, when a sweep is started again, a warning message may disappear.

This message simply appears on the display, since it is not known to remote environments such as a GPIB. This message is not displayed when another error message (against a red background) has already been displayed in the instrument message/Warning area.

The warning messages for this instrument are as follows:

No.	Message	Description
571	DC control out of limit	This message occurs when the specified DC control voltage or the sweep start/stop DC control voltage for the frequency & power measurement is out of the maximum/minimum allowed voltage of DC control.
580	DC control output ON required in AFC	The automatic frequency control function was set on, however, the power or control voltage is not being applied to the DUT. Verify that the control voltage output is set to ON.
570	DC power out of limit	This message occurs when the specified DC power voltage or the sweep start/stop DC power voltage for the frequency & power measurement is out of the maximum/minimum allowance voltage of DC control.
560	Incompatible recall file	This message occurs when an incompatible file is read.
550	Marker tracking failed	This message occurs when marker tracking fails.
503	Set *RF* ATT 0dB	This message occurs when the input attenuator is set improperly. Set the input attenuator to 0 *dB* .

504	Set RF ATT 5dB	This message occurs when the input attenuator is set improperly. Set the input attenuator to 5 dB.
505	Set RF ATT 10dB	This message occurs when the input attenuator is set improperly. Set the input attenuator to 10 dB.
506	Set RF ATT 15dB	This message occurs when the input attenuator is set improperly. Set the input attenuator to 15 dB.
507	Set RF ATT 20dB	This message occurs when the input attenuator is set improperly. Set the input attenuator to 20 dB.
508	Set RF ATT 25dB	This message occurs when the input attenuator is set improperly. Set the input attenuator to 25 dB.
510	Set RF ATT 30dB	This message occurs when the input attenuator is set improperly. Set the input attenuator to 30 dB.
511	Set RF ATT 35dB	This message occurs when the input attenuator is set improperly. Set the input attenuator to 35 dB.
590	Unable to find help file	Help file doesn't appear
591	Failed to read help file	Help file is found. But could not be read.
561	Recall in bad condition	This message occurs when the measurement data does not corresponds with the X-axis value of the reading data.

Troubleshooting

Troubleshooting

This section explains the steps you should take when you believe the Agilent E5052B is operating improperly. The results of these simple investigative

procedures may help you avoid the down-time and inconvenience of repair service. The troubleshooting instructions are divided into three categories.

When taking all solution but it does not work. Contact Agilent Technology's Customer Contact.

- Troubleshooting during Startup
- Troubleshooting during Operation
- Troubleshooting for External Devices

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 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)	Execute system recovery.
The measurement screen appears after startup, but the date and time displayed on the instrument status bar in the lower right part of the screen differ greatly from the previous settings	Execute system recovery.
The measurement screen appears after startup, but the power-on test fails with *Error Message* 200 appearing against a red background in the instrument message/warning area in the lower left part of the screen	Execute system recovery.
"Invalid power on test data. Old test	The file D:\limit\selftest.xml is an old

limit file" dialog box is displayed.	revision. Test revision 2 or above is required. When you replace the removable HDD,you need to copy the selftest.xml file. **Note:** You can see the test revision when you open the selftest.xml file. - <!-- Test Revision -->\ - <TEST_REVISION>\ <d>2</d>\ </TEST_REVISION> (If the test revision is not explicitly stated, then it is revision 1.)
"Ax is not found in slot y" dialog box is displayed (where x is 4, 5 or 6 and y is 2, 3 or 5).	Update the firmware revision to A.03.30 or above.
It is not possible to lock the removable hard disk after replacing it with another one.	Confirm that the connector at the rear end of the HDD is the same as the original HDD. There are two types of connectors as shown in the following figure. If they are different, contact your Agilent service office.  SSA0173

NOTE Occasionally, a few pixels may appear on the screen as a fixed point of blue, green or red. Please note that this is not a failure and does not affect the performance of your product.

Troubleshooting during Operation

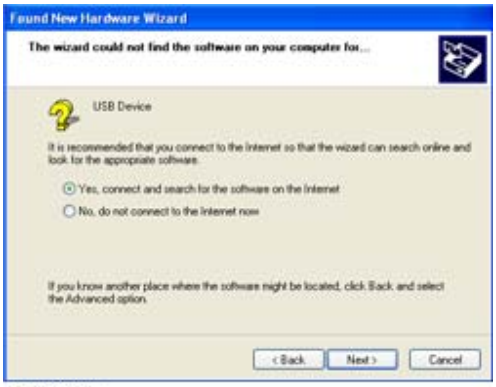
Symptom	Solution
The sweep action stops during measurement or is not executed, but the front keys and softkeys are operational	There is a possibility of a failure
During measurement of the DUT, Error Messages 240 “RF level overload” is displayed. This error occurs when the input to the RF IN port exceeds the maximum input level in the measurement. The measurement value obtained in such a case is not correct. In the worst case, a failure (damage to the receiver) may occur.	Change the measurement condition so that the input to the RF IN port does not exceed the maximum input level.
A Clearly Abnormal Measurement Value The measurement value is not reproducible, or clearly abnormal.	• Confirm that the DUT, connection cables, and other parts are connected correctly. • Confirm that the connectors and cables used to connect the DUT are free from damage or poor contact.
The System Cannot be Operated Manually (Front Panel Keys, Keyboard, Touch Screen and Mouse) The keyboard or mouse becomes inoperable.	Confirm that the keyboard or mouse is connected correctly. When it is connected correctly, turn off the power and restart the system.
The front panel key or keyboard becomes inoperable.	Using the mouse, turn **System** > **Misc Setup** > **Key Lock** > **Front Panel & Keyboard Lock** OFF to turn OFF the lock.

The touch screen becomes inoperable.	• Using the front panel keys, turn **System** > **Misc Setup** > **Key Lock** > **Touch Screen & Mouse Lock** OFF to turn OFF the lock. • Execute the calibration of the touch screen. For information on the execution procedure, see Calibration of the Touch Screen.
The mouse becomes inoperable.	Using the front panel keys, turn **System** > **Misc Setup** > **Key Lock** > **Touch Screen & Mouse Lock** OFF to turn OFF the lock.
All of the front panel keys, keyboard, and mouse become inoperable	Confirm that the keyboard or mouse is connected correctly. When it is connected correctly, turn off the power once, and restart the system.
The keyboard and mouse have been connected after power-on	Turn off the power once, and restart the system. When taking all these measures does not recover operability, there is a possibility of a failure.
The Screen Freezes and All Operations Become Impossible. The measurement in progress or screen update is stalled and all of the front panel keys, keyboard, mouse, and touch screen are inoperable.	Press the standby switch to turn off the power and restart the system. If a similar symptom reappears, there is a possibility of a device failure.
The System Freezes while in Operation	Press the standby switch to turn off the power and restart the system.
The Rear Cooling Fan Does Not Operate.	There is a possibility of a failure.
An error or warning message is displayed on the instrument	Refer to Error Messages and Warning Messages.

message/warning area in the lower part of the screen	

Troubleshooting for External Devices

Symptom	Solution
Cannot Output to a Printer Cannot output a measurement screen or data to a printer. Attempting to output to a printer causes Error Messages 40 and 41 to appear	• Confirm that the power to the printer is on and that the power cable is connected correctly. • Confirm that the connector cable of the printer is connected correctly. • Confirm that the printer is online. • Confirm that the printer has not run out of paper. • Confirm that the printer has not run out of ink.
A GPIB device does not respond to the external controller, or fails to function normally.	• Confirm that the GPIB address is defined correctly. • Confirm that the GPIB cable is connected. • Confirm that another instrument connected by the GPIB cable does not have the same GPIB address. • Confirm that the GPIB cable connection does not forms a loop.
When E5053A which serial number prefix is MY452, SG425 or above is connected to E5052B, the "Found New	Your E5052B requires a new driver software for E5053A. To install the driver, update the firmware to revision

Hardware Wizard" is executed. However, "The wizard could not find the software on your computer for..." is displayed.  SSA0219	A.03.30 and above.

Maintenance

Maintenance

- Backing Up the Data
- Cautions Applicable to Requesting Repair, Replacement, Regular Calibration, etc.
- Cleaning this Instrument
- Removing/Mounting Removable Hard Disk
- Replacement of Parts with Limited Service Life
- System Recovery
- Updating Firmware

Backing Up the Data

Be sure to back up regularly your important data (including program) files in this instrument to a CD-R or other backup medium. Agilent Technologies shall not be liable for any data damages caused by troubles of this instrument.

Making Backup Files

You can make backup files on the hard disk of an external PC using following methods.

You can access to drive D: of the E5052B from an external PC via LAN, and copy your important data files on the drive D: to the external PC. See Accessing Hard Disk of E5052B from External PC for details.

You can transfer your important data files on the drive D: of the E5052B to the external PC using :MMEM:TRAN command via GPIB.

CAUTION Do not modify any files and folders in drives other than drive D:. Doing so will cause malfunctions.

Cautions Applicable to Requesting Repair, Replacement, Regular Calibration, etc.

- Backing Up Data in the Hard Disk
- Devices to be Sent Back for Repair or Regular Calibration

Other topics about Maintenance

Backing Up Data in the Hard Disk

The user is requested to back up the stored programs and data into external media by using the instrument's storing function before requesting the Company's Service Center to repair the instrument or replace hard disks.

See Making Backup Files for how to make backup files.

Please take note that the Company will not be held liable to any extent for potential erasure or change of stored programs or data due to the repair or replacement of hard disks performed by the Company. When a hard disk itself fails, the programs and data stored in it cannot be recovered.

Devices to be Sent Back for Repair or Regular Calibration

If it is necessary to send the unit to the Service Center of Agilent Technologies for repair or regular calibration, please follow the instructions below.

Equipment to be Sent

When requesting repair or regular calibration of the unit by our Service Center, send only the E5052B main unit without any installed option you may have ordered. Unless specifically instructed, it is not necessary to send accessories and calibration kits.

Packing

Use the original package and shock absorbers, or equivalent anti-static packing materials, when sending the unit.

Shipping Address

For the location of the nearest Agilent Technologies Service Center, contact the Customer Contact.

Recommended Calibration Period

The recommended calibration period for this instrument is one year. The user is recommended to request the Company's Service Center to perform regular calibration every year.

Cleaning this Instrument

- Cleaning an LCD
- Maintenance of Test Ports and Other Connectors/Ports
- Cleaning a Display Other than an LCD

Other topics about Maintenance

This section describes how to clean the instrument.

To protect yourself from electrical shock, be sure to unplug the power cable from the outlet before cleaning the instrument.

Never clean the internal components of the instrument.

Cleaning an LCD

Use one of the following methods to clean the display surface regularly.

- For normal cleaning, rub the surface gently with a dry, soft cloth.
- When stains are difficult to remove, gently wipe the surface with cloth damped with a small amount of ethanol or isopropyl alcohol.
  You can clean the standard type LCD (no touch screen function) with a cloth dipped in water and then wrung tightly.

NOTE Do not use chemicals other than ethanol and isopropyl alcohol to wet the cleaning cloth. To clean the touch screen LCD, do not wet the cloth with water.

Maintenance of Test Ports and Other Connectors/Ports

Test ports on the front panel of the E5052B are fitted with N Type connectors (f). Stains or other damage to these connectors would significantly affect the accuracy in measurements in the RF range. Always pay attention to the following precautions.

- Always keep the connectors free from stains and dust.
- Do not touch the contact surface on the connectors.
- Do not plug damaged or scratched connectors into the test ports.
- Use compressed air for cleaning connectors. Do not use abrasives under any circumstance.

The above precautions must also be observed in maintaining connectors and ports other than these test ports.

Cleaning a Display Other than an LCD

To remove stains on parts other than the LCD, test ports, and other connectors/ports of the instrument, wipe them gently with a soft cloth that is dry or wetted with a small amount of water and wrung tightly.

Removing/Mounting Removable Hard Disk

- Saving system calibration data from removable hard disk to USB pen drive
- Removing Removable Hard Disk
- Mounting Removable Hard Disk
- Recalling System Calibration Data from USB Pen drive to Removable Hard Disk

Other topics about Maintenance

This section provides information on how to save system calibration data from removable hard disk to USB pen drive, recall system calibration data from USB pen drive to removable hard disk as well as mount and remove a removable hard disk.

For calibration or repair of the E5052B, send it with the removable hard disk mounted.

Saving system calibration data from removable hard disk to USB pen drive

Replacing a removable hard disk causes the system calibration data to be lost. Therefore, before replacing the removable hard disk, you need to save the system calibration data to a USB Pen drive.

Follow the steps below to save the system calibration data to a USB Pen drive before replacing the removable hard disk:

1. Exit the measurement window.

   Press **System** > **Service Menu** > **Administrator Menu** > **Exit E5052B** > **OK**

2. Insert a USB Pen drive into the USB port in front panel.

3. Open Recovery (D) Drive.

4. Copy the entire **D:\syscal** directory to the USB Pen drive.

   Place the mouse pointer at the **D:\syscal** directory, right-click it, and select Copy .

   Place the mouse pointer at the USB Pen drive, right-click it, and select Paste .

5. Copy the entire **D:\limit** directory to the USB Pen drive.

   Place the mouse pointer at the **D:\limit** directory, right-click it, and select Copy .

   Place the mouse pointer at the USB pen drive, right-click it, and select Paste .

Removing Removable Hard Disk

Follow the steps below to remove a removable hard disk.

1. Turn off the power.

2. Insert the key (furnished, Agilent Part Number 5188-4426) in the lock and turn anti-clockwise.


WINDOW/TRACE
Window Next
Trace Next
Window Max
Trace Max
MEASUREMENT
Meas/ View
Input
Scale
Format
Display
NAVIGATION
ENTRY
7
8
9
4
5
6
1
2
3
0

ssa0153

3. Open the screw in clockwise direction.

ssa0154

4. Press the button under the screw.

ssa0155

5. Remove the hard disk.

ssa0156

CAUTION Do not attempt to unlock the key and remove the hard disk when the power is on. Doing so will turn off the power automatically.

Mounting Removable Hard Disk

Follow the steps below to mount a removable hard disk.

1. Insert the hard disk into the slot.
2. Turn the screw in anti-clockwise direction until it is locked.
3. Turn the key to the right until it is locked.

   CAUTION If it is not possible to lock the removable hard disk, refer to Troubleshooting_during_Startup.
4. Remove the key.
5. Turn on the E5052B.

   CAUTION The key is available to remove even in Unlocked state. Before power on, confirm if Removable hard disk is locked completely.

Recalling System Calibration Data from USB Pen drive to Removable Hard Disk

When you install another hard disk drive into the E5052B, the system calibration data and limit files are required to copy from the HDD which is placed in the unit to the HDD which will be installed. Follow the procedure below.

1. Turn on the E5052B
2. Initial registration of E5052B if it is required.
3. Execute "Calibration of Touch Screen"
4. Restart
5. Exit the measurement window.

   Press **System** > **Service Menu** > **Administrator Menu** > **Exit E5052B** > **OK**
6. Insert a USB Pen drive where you stored the original data into the USB port in front panel.
7. If the unit is returned from Agilent Service center, it is required to update the firmware to A.03.30 or above.
8. Open Recovery (D) Drive.
9. Click **syscal** folder in the USB Pen drive from the explorer.
10. Select **Edit** > **Copy** from menu bar of the explorer.
11. Click the **D:** of the explorer.
12. Select **Edit** > **Paste** from menu bar of the explorer.
13. Click **limit** folder in the USB Pen drive from the explorer.
14. Select **Edit** > **Copy** from menu bar of the explorer.
15. Click the **D:** of the explorer.
16. Select **Edit** > **Paste** from menu bar of the explorer.
17. Restart E5052B

Replacement of Parts with Limited Service Life

This instrument incorporates parts with limited service life as shown in the following table. Using the recommended replacement time as a guide, request the Agilent Service Center to replace these parts. However, a part may need to be replaced at an earlier time than that listed in the table, depending on such conditions as location, frequency of use, and where it is stored.

NOTE Each service life and recommended replacement time listed below is for reference only and does not imply a guarantee of the part's service life.

Part Name	Service Life (Parts supplier reference value)	Recommended replacement time
Hard Disk Drive (HDD)	5 years or 20,000 operating hours, whichever comes earlier. Exchanging hard disk drives causes the contents written after shipment from the factory (LAN setup, etc.)to be initialized to the state at the time of shipment. The programs and data stored in Drive D (user directory) are erased.	3 years
Main fan	50,000 operating hours. The service life may be significantly shorter when used in a dusty and dirty environment.	5 years
CPU fan		
Battery on Mother board	50,000 operating hours. The service life may be shorter if E5052B power has not been turned on for long time.	5 years
Power supply	50,000 operating hours (Depends on the service life of the power supply cooling fun) The service life may be significantly shorter when used in a dusty and dirty environment.	5 years
LCD screen backlight	50,000 operating hours. When the unit is used for automatic measurements in a production line and the on-screen information is not required, the life of the LCD backlight can be	5 years

	saved by turning it off. As for the method of turning the backlight off, refer to Turning off the LCD Screen Backlight.	
Touch screen (function)	One million times (dotting life)	5 years
USB receptacle	1,500 cycles insertion / extraction. The service life may be shorter when used in a dusty and dirty environment. In the case that the insertion / extraction is in heavy usage, using USB extension cable may save the USB receptacle life.	N/A

Other topics about Maintenance

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) or the user state at the setting the user performed save user state.

NOTE User state recovery function is available at HDD revision NM320 and below.

The procedure of system recovery is described in both installation manual and Service Manual.

Other topics about Maintenance

Updating Firmware

The latest firmware and its update procedure is available from the Technical Support at http://www.agilent.com/find/ssa.

Other topics about Maintenance

Revision History

Revision History

- Firmware Revision History
- HDD Revision History
- Data Sheet Revision History

Other topics about Product Information

Firmware Revision History

Firmware revision denotes E5052B measurement software. To know E5052B firmware revision, refer to Checking the product information.

For the firmware revision, refer to E5052B Revision History on Agilent web site.

Other topics about Revision History

HDD Revision History

HDD revision is based upon a number of factors such as windows OS, driver upgrade patch which are installed at the factory shipment. Firmware revision denotes E5052B measurement software. To know E5052B HDD revision, refer to Checking the product information.

- NF330
- NM330
- NM322/NM323
- NM321
- NM320
- NM310

Other topics about Revision History

NF330

- Initial registration procedure is changed.
- System recovery procedure is changed.
- Administrator account at the factory shipment is defined.
- Windows Licence is changed to Windows XP Pro for embedded systems.

NM330

- Supports the E5053A which serial number prefix is MY452, SG425 or above.

NM322 / NM323

- No change in functionality

NM321

- Initial registration procedure has been changed.
- Factory recovery procedure has been changed.
- User recovery capability has been deleted.

NM320

- Windows SP3 is applied.

NM310

- LXI is supported

Data Sheet Revision History

Data sheet revision is the "printed date" published at the last page of the E5052B data sheet.

- February 16, 2011
- March 11,2009
- February 3, 2009

Other topics about Revision History

February 16, 2011

- Change in rear panel due to CPU board change.

March 11, 2009

- Transient measurement, Table 4-1. Transient measurement performance Residual FM is added in Frequency Measurement.

February 3, 2009

- Specification of segment PN mode is added.
- Specification of advanced mode in transient measurement is added.
- Power level of reference output port in the E5052B is changed to 2.5 dBm ± 2 dB typical.
- Input level of external reference signal input port in the E5053A is changed to -6 dBm to 6 dBm typical.
- System SSB phase noise sensitivity (dBc/Hz) in normal capture range mode (E5053A + E5052B) is improved at 1 Hz offset frequency, and definition is changed to SPD.