User's Guide

MB Model

This User's Guide contains information primarily specific to this computer, assuming that the user is able to perform basic Windows operations and understands how to use help in its installed applications to resolve problems. In this user's guide, unless specified, "Windows 8.1" refers to Windows® 8.1 Pro 64-bit system. System configuration and software installation should be conducted by a user who has administrator privileges. If a [User Account Control] screen comes up, please be sure to confirm the contents before continuing.

The information contained within this manual applies to the following models:


Note: For details about a model number, please see “Model number list” (p.24).

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Note: The illustrations, screenshots, icons, and on-screen text shown in this document may differ from the ones you actually encounter.
# 1 Checking Included Accessories

## Checking that all included accessories are present
Please open up the box and check that all included items and accessories are there. Please immediately contact the place of purchase if any items happen to be missing or damaged.

1. **Check contents of the box.**

   - 保修书 *1
   - 修理サービス保証規定書 *3
   - 安全使用説明 *1
   - Instructions For Safe Use *2
   - 安全にお使いいただくために *3
   - NECソフトウェアのご使用条件【即EULA】(対顾客の特別提示)(请务必先仔细阅读如下内容后, 决定是否打开本个人电脑的包装)*1
   - Terms and Conditions for using software (For Customer) (Please read this before opening the package) *2
   - ソフトウェアのご使用条件（お客様へのお願い）*3
   - Base unit
   - Power cord
   - DisplayPort to DVI-D adapter
   - Keyboard
   - Mouse
   - Stand
   - Cable stopper
   - Application Disc
   - Recovery Disc *2*3
   - User's Guide

   *1: Included with models MC32M/B-H and MC34L/B-H
   *2: Included with models MG32M/B-H and MG34L/B-H
   *3: Included with models MG32M/B-H and MG34L/B-H (Japanese versions)

2. **Confirm that the model number and serial number on the base unit matches the model number and serial number written on the warranty.**

   If they happen to differ, please contact the place of purchase immediately. Please also keep your written warranty in a safe place for future reference.

   If your encounter a breakdown during the warranty period, we shall provide repairs based on the conditions specified in the warranty.

   For repairs after the warranty period has expired, please consult the place of purchase or one of our specified customer service locations. If it is deemed possible to regain functionality, we are able to perform paid repairs at the customer's request.

## 2 Connecting Included Accessories

### Important points when connecting
- Do not touch connector terminals when connecting any items. Failure to do so may cause damage.
- Connect the LAN cable, only after completing Windows setup and firewall configuration.

This ensures that your computer can be safely connected to a network.

### Connecting power sources

1. **Attaching the Stands**

   This computer includes Stands that keep your computer stable when it is positioned vertically. When you position the computer vertically, attach one or two Stands to ensure that it will not fall over.

   Stands are not necessary when the computer is positioned horizontally.

   In such a case, proceed to “2. Connect the keyboard and the mouse” (p.2).

   1. Pull out the rear end of the Stand, and place the Stand where you wish to place the computer.

      Pull out the Stand until it is locked and you hear a click sound.

2. **Connect the keyboard and the mouse**

   1. Connect the purple keyboard port to the purple keyboard port (idian).
   2. Connect the mouse to a USB port (idian or idian).
3. Connect the display

Connect your display to the computer using either a digital connector or an analog connector.

*Check:

If you will use the dual display function, connect the second display after Windows Setup has finished.

◆ Connecting a digital LCD display

1. The LCD display has the DVI signal cable on its rear panel. Connect this DVI cable to the “DisplayPort to DVI-D” adapter and secure it by tightening the setscrews.

2. Check the icon and the connector shape at the other end of DisplayPort to DVI-D adapter, and connect it to the DisplayPort socket.

◆ Connecting an analog LCD display

1. Make sure the analog RGB cable connected to the back of the LCD display matches the icon and shape of the computer’s analog RGB port, and then attach the cable to the computer’s analog RGB port and secure it by tightening the screws.

4. Connect the power cord and the ground wire

1. Insert the power cord plug into an AC wall outlet. There may be different ways of connection depending on the type of the display.

2. Connect the power cord to the computer.

*Check:

If a ground wire is attached to the supplied power cord, connect it to the ground terminal of the AC wall outlet.

3. Insert the other end of the power cord into an AC wall outlet.

*Check:

Although the power may turn on and off after a few seconds, the machine is not broken.

3 Windows Setup

When you first power up your new computer, it is necessary to perform Windows setup.

Important points during setup

- Always follow the procedure written in the manual. Setup may not be able to be successfully completed if you omit any steps, press any keys other than the ones indicated on the screen, or operate any switches.
- Do not connect any external peripherals. Never connect any peripherals (printers, memory, etc.) other than the items outlined in "Connecting Included Accessories". Please connect or install such peripherals after "Windows Setup" had been completed.
- Do not connect a LAN cable. To ensure safe network connection, only connect a LAN cable after Windows setup and firewall configuration has been completed.
- Do not turn off the power during setup. The setup program is running normally even if the screen appears to stop. Please keep following the steps in the manual.
- Do not leave the computer alone during setup. Do not leave the computer unattended until Windows setup has completed including passing all the screens which require your key operations, and power OFF.

Preparation for setup

During Windows setup, you are required to enter the name of the person who will be using the computer (user name), as well as the computer name. Please choose these names in advance.

*Check:

For the user name and computer name, use single-byte alphanumeric characters only (20 or less).
If the following symbols or if certain strings are used for any part of the user name or computer name, Windows setup may not be completed and some applications may not run correctly.
- Double-byte characters, single-byte Kana characters, non-standard characters, all symbols, spaces
- Restricted strings CON, PRN, AUX, CLOCK$, NUL, COM1-COM9, LPT1-LPT9, NONE
### Turning on the power

1. Turn on the display.
2. Press the power switch ( ).

**Check:** Never turn off the power during Windows setup. Turning off the power switch or pulling out the power cord in the middle of this process may lead to damage. If there is a problem or you accidentally press the power switch, please see “If you encounter problems during setup” (p.4).

### Setup Procedure


**Check:** Please contact your system administrator for the appropriate settings in steps 1, 4 and 6.

1. When [Region and language] is displayed, set the [Time zone] and click [Next] to continue.

**Check:** If you wish to change the [Country or region], [App language], or [Keyboard layout], after the setup process has finished, select [Clock, Language, and Region] from the [Control Panel] and change them.

2. Please check the contents when the [License terms] page is displayed.
3. After confirming the contents, click [I accept].
4. When the personal setting screen appears, select a desired color, enter the [PC name], and click [Next] to continue.

**Check:** Setup cannot progress to the next step unless you enter a valid PC name.

5. When the setting screen appears, check the easy setup, and click [Use express settings].
6. Enter your user name and password when prompted and click [Finish].

**Check:** You cannot complete this step without entering the user name.

The screen should change several times during this process, and it may take some time before the start screen is displayed.

### If you encounter problems during setup

#### If you accidentally turn off the power during setup

The setup process will not be successfully completed and Windows system files or the registry may be corrupted. In this case, either perform Windows recovery or consult your place of purchase.

#### The computer is unresponsive or shows an error message during setup

Make a note of the error message and hold down the power switch for at least four seconds to perform a forced shutdown. Please wait for at least five seconds before turning the power switch back on. After that, please see the above "If you accidentally turn off the power during setup".

### Using and configuring your computer after setup is complete

#### If the Windows license is not authenticated yet (Windows 8.1)

If the [Activate Windows] screen is displayed, activate the Windows system via the Internet or by phone call.

**<Activation via Internet>**

1. Click [Go to PC settings].

   When the computer is connected to the Internet, the Windows system is activated automatically.

   **<Activation by phone call>**

   1. Click [Go to PC settings].
   2. Click [Activate by phone].

   Follow the on-screen instructions and call the indicated phone number to obtain the confirmation ID. Activate the Windows system using the confirmation ID.

---

4
Creating multiple hard disk partitions

As a default setting, the first internal hard disk has only one useable partition (volume), designated as the C: drive. However, it is possible to divide drive C: into multiple partitions. Please refer to the following steps if you would like to change the factory default settings and reduce the size of the C: drive in order to create a new partition from the resulting unassigned space.

1. Click [Desktop] on the start screen.
2. Display the charm bar on the desktop, and click [Settings].
3. Click [Control Panel].
4. Click [System and Security] and then [Administrative Tools].
5. Double click [Computer Management].
6. On the tree displayed on the left side of the window, click [Storage] → [Disk Management].
7. Select the volume marked as (C:) and right click it.
8. Click [Shrink Volume].
9. Enter the desired size into the [Enter the amount of space to shrink in MB] box. The size entered here will become the maximum size of the newly created partition.
10. Click [Shrink].
11. After shrinking is complete, select the unassigned space that has been reserved, and right click it.
12. Click [New Simple Volume].
13. Click [Next].
14. Enter the desired volume size into the [Simple volume size in MB] box and click [Next].
15. Confirm that [Assign the following drive letter] is selected and click [Next].
16. Confirm that [Format this volume with the following settings] is selected and click [Next].
17. Click [Finish].

Creating a "Recovery Drive"

We recommend that a "Recovery Drive" be created for times when problems such as corrupted files result in Windows not loading correctly. For creation of "Recovery Drive," please refer to "Creating a recovery drive" (p.23). For information on using "Recovery Drive," please refer to "Using the Windows function" → "If the computer does not start up" (p.22).

Check! ⬤

- If you are using model MG32M/B-H or MG34L/B-H, you cannot create a recovery drive. If Windows does not start normally, set up the system again using the included "Recovery Disc."

Windows® Update and Microsoft® Update

The latest updates and important updates are available through Windows® Update or Microsoft® Update. Please run Windows® Update or Microsoft® Update regularly to ensure you always have the latest version of Windows installed.

Check! ⬤

- Your computer has been delivered to with the all current updates already installed. Please do not attempt to uninstall these updates as it may cause issues that have already been resolved to reappear.

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# Knowing the Parts

- **Names and descriptions of your computer’s major components**

## The front side

<table>
<thead>
<tr>
<th>Number</th>
<th>Name</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>Optical drive</td>
<td>This computer features either a built-in DVD Super Multi drive or a built-in DVD-ROM drive. The type of drive varies by model.</td>
</tr>
<tr>
<td>(2)</td>
<td>Power switch (/)</td>
<td>This is used to turn the computer on/off or change the power state.</td>
</tr>
<tr>
<td>(3)</td>
<td>USB port ()</td>
<td>This port can be used to connect to USB devices. This USB port supports both USB 2.0 and USB 1.1. In order to take advantage of USB 2.0 transfer speeds, it is necessary to be connected to a USB 2.0 enabled device.</td>
</tr>
<tr>
<td>(4)</td>
<td>USB port (supports USB 3.0) ()</td>
<td>This port can be used to connect to USB devices. This USB port supports USB 3.0, USB 2.0, and USB 1.1. In order to take advantage of USB 3.0 transfer speeds, it is necessary to be connected to a USB 3.0 enabled device.</td>
</tr>
<tr>
<td>(5)</td>
<td>Mic terminal (mini jack) ()</td>
<td>A terminal used to connect microphones and input audio signals.</td>
</tr>
<tr>
<td>(6)</td>
<td>PS/2 keyboard port ()</td>
<td>A port used to connect a PS/2 (MiniDIN 6-Pin) keyboard.</td>
</tr>
<tr>
<td>(7)</td>
<td>Analog RGB port ()</td>
<td>A port used to connect an analog interface display.</td>
</tr>
<tr>
<td>(8)</td>
<td>LAN port ()</td>
<td>A port used to connect a LAN cable.</td>
</tr>
</tbody>
</table>

## The back side

- **Explanation of Components**

### Communication speed LED
- Lights orange when connecting to a 1000 Mbps network.
- Lights green when connecting to a 100 Mbps network.
- Does not light when connecting to a 10 Mbps network.

### Network communication/Connection LED (ACT/LINK)
Flashes when data is being read from or written to the network. Also lights when receiving link pulses from a hub or switch. However, the data may not necessarily be being read from or written to this computer.
<table>
<thead>
<tr>
<th>Number</th>
<th>Name</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>(9)</td>
<td>Air vent</td>
<td>These holes are designed to allow internal heat to escape. Please be careful not to leave the air vent blocked.</td>
</tr>
<tr>
<td>(10)</td>
<td>Chassis lock</td>
<td>A security cable (sold separately) can be attached to this slot.</td>
</tr>
<tr>
<td>(11)</td>
<td>AC power input jack</td>
<td>A jack used to supply power to the machine. Connects to the supplied power cord.</td>
</tr>
<tr>
<td>(12)</td>
<td>PS/2 mouse port (</td>
<td>A port used to connect a PS/2 (MiniDIN 6-Pin) mouse.</td>
</tr>
<tr>
<td>(13)</td>
<td>Serial port (</td>
<td>This is used to connect to devices that have a serial port.</td>
</tr>
<tr>
<td>(14)</td>
<td>Power LED (</td>
<td>It indicates the power status. This indicator continues to light when the power is on, and it flashes in the Sleep mode.</td>
</tr>
<tr>
<td>(15)</td>
<td>Drive activity LED (</td>
<td>This indicator lights up when accessing the hard disk or the optical drive. Do not press the power switch when the Drive activity LED is lit. It may cause damage to the hard disk.</td>
</tr>
<tr>
<td>(16)</td>
<td>Stand</td>
<td>This keeps the computer stable.</td>
</tr>
<tr>
<td>(17)</td>
<td>Line input terminal (</td>
<td>A terminal used to input audio signals from audio devices.</td>
</tr>
<tr>
<td>(18)</td>
<td>Setscrews</td>
<td>Fixes the computer side cover.</td>
</tr>
<tr>
<td>(19)</td>
<td>Cable stopper</td>
<td>Prevents the keyboard cable from pulling out or protects devices connected using cables against theft. The cable stopper can be found in the included accessory case.</td>
</tr>
<tr>
<td>(20)</td>
<td>DisplayPort connector (</td>
<td>The computer can be connected to a display that has a DVI-D interface, using the DisplayPort to DVI-D adapter. The operation is only checked at this port when the display is connected via the DisplayPort to DVI-D adapter.</td>
</tr>
<tr>
<td>(21)</td>
<td>PCI slot</td>
<td>A slot used to attach a PCI board. Helps to enhance and extend the machine's functions.</td>
</tr>
<tr>
<td>(22)</td>
<td>PCI Express x1 slot</td>
<td>A slot used to attach a PCI Express x1 board. Helps to enhance and extend the machine's functions.</td>
</tr>
<tr>
<td>(23)</td>
<td>Headphone jack (</td>
<td>The port to connect a stereo headphone that has a mini plug. Do not plug in/unplug the headphone to/from the jack when you are using the headphone.</td>
</tr>
</tbody>
</table>

### Status LEDs

#### Base unit

<table>
<thead>
<tr>
<th>LED state</th>
<th>Computer State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green On</td>
<td>Computer power on</td>
</tr>
<tr>
<td>Flashing Sleep</td>
<td>Sleep</td>
</tr>
<tr>
<td>Off</td>
<td>Computer power off, or hibernating</td>
</tr>
</tbody>
</table>

#### Drive activity LED

<table>
<thead>
<tr>
<th>LED state</th>
<th>Computer State</th>
</tr>
</thead>
<tbody>
<tr>
<td>On (Green)</td>
<td>The hard disk or optical drive is currently accessing data.</td>
</tr>
<tr>
<td>Off</td>
<td>The hard disk or optical drive is not currently accessing data.</td>
</tr>
</tbody>
</table>

#### Keyboard

<table>
<thead>
<tr>
<th>LED state</th>
<th>Computer State</th>
</tr>
</thead>
<tbody>
<tr>
<td>On (Green) &lt;Caps Lock&gt; is on (all letters are entered as capital letters))</td>
<td>&lt;Caps Lock&gt; is on (all letters are entered as capital letters))</td>
</tr>
<tr>
<td>Off</td>
<td>&lt;Caps Lock&gt; is off (all letters are entered as lowercase letters))</td>
</tr>
</tbody>
</table>

#### Scroll Lock indicator LED

<table>
<thead>
<tr>
<th>LED state</th>
<th>Computer State</th>
</tr>
</thead>
<tbody>
<tr>
<td>On (Green) &lt;Scroll Lock&gt; is on</td>
<td>&lt;Scroll Lock&gt; is on</td>
</tr>
<tr>
<td>Off</td>
<td>&lt;Scroll Lock&gt; is off</td>
</tr>
</tbody>
</table>

#### Num Lock indicator LED

<table>
<thead>
<tr>
<th>LED state</th>
<th>Computer State</th>
</tr>
</thead>
<tbody>
<tr>
<td>On (Green) &lt;Num Lock&gt; is on</td>
<td>&lt;Num Lock&gt; is on</td>
</tr>
<tr>
<td>Off</td>
<td>&lt;Num Lock&gt; is off</td>
</tr>
</tbody>
</table>
5 Mouse

A USB mouse is included.

**Check**

A sensor detects the movement of the mouse with the assistance of the light source at the bottom of the mouse. In the following cases the mouse may not move properly (the mouse pointer may respond as you expect).
- Reflective surfaces (mirrors or glass)
- Surfaces with continuous patterns like halftone printings (such as magazines and images in newspapers)
- Striped surfaces or patterns with strong shading
- Shiny surfaces including transparent and translucent materials

**Using the scroll wheel**

**Check**

Scroll wheel features are only available when using the applications that support them.

- **Vertical scrolling**
  You can scroll up and down by rotating the wheel back and forth.
- **Auto scrolling**
  A scroll icon is displayed when you click or hold down the wheel. When the icon is displayed, you can scroll up and down by moving the mouse in the direction of the arrows. By clicking the wheel again or realizing your finger, the scroll icon disappears.

6 LAN Function

This section covers important points and the correct procedure for setting up the LAN (Local Area Network) function.

**LAN settings**

The following provides a simple explanation about how to perform network setup in order to connect to a LAN.

**Setting up a network connection**

Network connection settings can be changed by going to the [Control Panel] and clicking [Network and Internet] → [View network status and tasks] → [Change adapter settings]. For more detailed information, please refer to Windows help.

The following step allows you to change settings such as the computer name.

**Setting the computer name and network to connect to**

You can change settings related to the connected network and change the name of your computer as it is displayed on the network by opening the [Control Panel] and clicking [System and Security] → [System], and then selecting [Change settings] under [Computer name, domain, and workgroup settings]. For more detailed information, please refer to Windows help.

This is all you need to do to correctly setup your LAN.

**Remote power on (WoL - Wake on LAN)**

Remote Power On (WoL - Wake on LAN) allows you to do the following.
- Remotely turn your computer on after the power is off.
- Remotely wake up your computer after sleep or hibernate.

If you configure your computer to allow WoL, the LAN adapter stays active, even when the computer power is off.

A special packet (Magic Packet) that instructs your computer to turn on can be transmitted from a remote administrator’s PC. When this packet is received by the computer’s dedicated controller, it triggers the power to be turned on.

This allows you to be able to remotely turn your computer’s power on or wake it up from sleep or hibernate from an administrator’s PC when your computer has a LAN connection.
The following steps can be used to configure your computer to allow WoL from when the power is turned off.

1. Turn on the power and immediately press <F2> several times. The BIOS setup utility will then be displayed.
3. Press the <F10> key.
4. Confirm that [Yes] is selected and then press <Enter>. These setting values are saved, the BIOS setup utility will finish, and your computer will restart.

How to configure your computer to allow WoL from when the power is turned off

In order to enable WoL, it is necessary to install special software on the administrator's PC to allow sending of Magic Packets.

- When using the WoL, disable the "Fast Startup" function. For more detailed information, please refer to "Disabling the "Fast Startup" function" (p.23).
- It is not possible to use WoL in cases where the previous system shutdown (power off, sleep, or hibernate) was not correctly completed. If this is the case, please turn the power back on, restart Windows, and once again perform a system shutdown using the correct procedure.
- WoL cannot be used with a hub that only supports a speed of 1000 Mbps. Please use a hub that supports 10M/100M/1000M Auto-negotiation.

Network booting function (PXE)

This enables booting via a network, and remote connection to your computer from an administrator's PC which allows you to do the following.

- Operating system installation
- BIOS flashing (Rewriting the BIOS ROM)
- BIOS configuration changes

As this computer has the UEFI function, it is necessary to change the network boot server to use the UEFI.

Configuring the BIOS setup utility to enable network booting.

1. Turn the power on and immediately press <F2> key several times. The BIOS setup utility will then be displayed.
2. From the [Devices] menu, call the [Network Setup] menu and then set the [Boot Agent] to [PXE]. Also, set the [PXE IPV4 network stack] or [PXE IPV6 network stack] to [Enabled].
3. Press the <F10> key. A confirmation screen should be displayed.
4. Confirm that [Yes] is selected and then press <Enter>. These setting values are saved, the BIOS setup utility will finish, and your computer will restart.
5. Immediately press the <F2> key several times. The BIOS setup utility will then be displayed.
6. From the [Startup] menu, call the [Primary Boot Sequence] menu, select [Network 1], and set it to the highest level by pressing the <+> key.
7. Press the <F10> key.
8. Confirm that [Yes] is selected and then press <Enter>. These setting values are saved, the BIOS setup utility will finish, and your computer will restart.

This is all you need to do to correctly setup network booting.
7 Opening and Closing Covers

Removing the side cover
The side cover needs to be removed when installing internal devices such as memory and a PCI board.

Check:
- The plate will be very hot right after the machine is used, and you may be burnt if you touch it. Please do not touch to prevent burns. It is recommended to wait 30 minutes after the computer is turned off and the power cord is disconnected before installing or removing internal devices.
- Before installing or removing a built-in device, disable the "Fast Startup" function. For more detailed information, please refer to "Disabling the "Fast Startup" function" (p.23).

1 Turn off the computer.
2 Make sure the power LED is off and then remove the power cord and all cables and cords.
3 If you are using a security lock, remove it.
4 If the computer is positioned horizontally, proceed to step 5.
   If the computer is positioned vertically, remove it from stands.

Check:
It is recommended that thick paper or cloth be placed on the desk or table to prevent damage.

5 Remove setscrews by rotating them by hands, and release the lock.

6 Slide the side cover to the rear side until it stops, and lift up and remove the cover.
Closing the side cover
Refer to the following procedure when closing the side cover.

1. Attach the side cover at about 10 mm above the back side of the machine and slide the cover to the back side, keeping the side cover hook and the hole of the machine close.

2. Secure the setscrews by rotating them by hands, and lock the cover.

3. If the computer is positioned horizontally, proceed to step 4. Attach the Stands to the computer if it is positioned vertically.

4. Attach the security lock, if necessary.

5. Connect the power cord and all other cables and cords.

Opening the drive bay
The drive bay needs to be opened when installing internal devices such as memory in the bay.

1. Place the computer horizontally on a desktop or others to allow easy access to the front panel of the computer.

2. Release the prongs of the front mask.

3. Pull the top of the front mask (front panel) toward you and release the prongs, and remove the mask from the computer.

- Be careful not to pinch, strike, or cut your fingers when opening the drive bay.
- Open the drive bay as described in “Removing the side cover” (p. 10).

Check
- Do not force to pull the cables connected between the front mask and the computer.
Hold the bottom side of the optical drive unit with your hand, and carefully pull up the drive bay with your other hand.

- **Check:**
  - Pull up the drive bay until it is locked.

**Closing the drive bay**

- **Check:**
  - Be careful not to pinch, strike, or cut your fingers when closing the drive bay.

1. Release the lock, carefully move down the drive bay, and push it from the top and lock it.

- **Check:**
  - Exercise care not to pinch the internal cables by the drive bay.
2 Engage the prongs at the bottom of the front mask.

**Check**
Do not pinch the cables connected between the front mask and the computer.

3 Engage the prongs and secure the front mask to the computer.

---

8 Memory

### Before installing the board

Before installing memory in this computer, check the memory compatibility, the installation order and the location of the slot.

A maximum of 8 GB of memory (two 4GB memory cards) can be installed on this machine (one memory card is installed at the time of shipment from the factory).

**Check**

- Before installing or removing memories, disable the "Fast Startup" function. For more detailed information, please refer to "Disabling the "Fast Startup" function" (p.23).
- Depending on the size of the PCI Express x16 board, you may need to remove the PCI Express x16 board first in order to be able to install/remove memory cards. For details about the PCI Express x16 board, please see "PCI board/PCI Express x16/x1 board" (p.14).

---

**Check**

Close the side cover as described in "Closing the side cover" (p.11).
14

Inserting the memory into the slot

Mount memory cards into sockets DIMM4, DIMM2, DIMM3, and DIMM1 in this order.

To use dual-channel memory access with two pairs of memory cards, install two pairs of the same capacity in DIMM4 and DIMM2 or DIMM3 and DIMM1.

Slot location

Memory combination examples

<table>
<thead>
<tr>
<th>Total size</th>
<th>DIMM1</th>
<th>DIMM2</th>
<th>DIMM3</th>
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<td></td>
<td>(4,096 MB)</td>
<td></td>
<td>(4,096 MB)</td>
</tr>
</tbody>
</table>

PCI board/PCI Express x16/x1 board

Before installing the board

The following are the available board sizes for this computer.
- PCI board: Low profile, 64.5 (W) mm x 167.7 (D) mm or less
- PCI Express x16/x1 board: Low profile, 68.9 (W) mm x 167.7 (D) mm or less

Installing and Removing

- The PCI board/PCI Express x16/x1 board (PCI board) is very vulnerable to static electricity. Touching the PCI board when your body contains static electricity may damage the board. Before touching the board, eliminate static electricity by touching a metal object such as an aluminum sash or door knob.
- Do not touch the PCI board port. This may cause poor connections or damage.
- Please be careful not to touch the parts on the board or the solder-mounted areas.
- Forcefully inserting the PCI board in the wrong direction may cause damage to the connector port of the computer and the PCI slot/PCI Express slot x16/x1 (PCI slot).
- Make sure your PCI board is compatible with this computer.
- Do not touch any other internal parts or switches inside the machine.
- Before mounting or dismounting memory of PCI slots, disable the "Fast Startup" function. For more detailed information, please refer to "Disabling the "Fast Startup" function" (p.23).
Installing

1. Open the side cover and drive bay as described in "Removing the side cover" (p.10) "Opening the drive bay" (p.11).
2. Remove one screw from the PCI board slot cover that you are installing, and remove the slot cover.
3. Secure the PCI board to the PCI slot using the screw from step 2.
4. Close the side cover and drive bay as described in "Closing the drive bay" (p.12) "Closing the side cover" (p.11).

Removing

1. Open the side cover and drive bay as described in "Removing the side cover" (p.10) and "Opening the drive bay" (p.11).
2. Remove one screw from the PCI board that you wish to remove.
3. Remove the PCI board.
   When removing the PCI Express x16 board, hold the lever to the side and remove the board as shown in the figure.
4. Install the slot cover, and secure it by tightening the screw that you removed in step 2.
5. Close the drive bay and side cover as described in "Closing the drive bay" (p.12) and "Closing the side cover" (p.11).
10 System Configuration

The BIOS setup utility

- Do not turn your computer off with the power switch while in the BIOS setup utility. If you wish to turn the computer power supply off after you have completed the BIOS setup, be sure to exit the BIOS setup utility. When the Windows system has started up, shut down the computer from the Windows screen.
- To change the [Devices] menu settings, select [Power] and [Restart] from the charm bar. When the computer is restarted, call the BIOS setup utility.

Entering the BIOS setup utility

1 Turn on the power and immediately press <F2> several times.
   The BIOS setup utility will then be displayed.

- If the BIOS setup utility is not displayed, press the <F2> key in different timing.
- When the BIOS setup utility is started and if [Load Previous Values?] is displayed, press <Esc> to cancel the [Load Previous Values] option.

BIOS setup utility basic operation

- You can use the keyboard.
- Select the menu bar cursor using <←> <→> and settings using <↑> <↓>. Open the pop menu using <+> <−> or <Enter> and use <↑> <↓> to change the setting values.
- You can move the cursor in the settings (e.g., Hour/Minute/Second of the system time) using <Tab> or <Enter>. Use the numeric keys to enter the date and time.
- For the settings with ▶, press <Enter> to display the sub-menu and press <Esc> to return.

Restoring default factory setting values

Please follow these steps to restore your system to the default factory settings.

1 Enter the BIOS setup utility.
2 Select [Exit] on the Menu bar, using <←> or <→> keyboard key.
   The menu appears.
3 Select [OS Optimized Defaults] using the <↓> keyboard key, and press <Enter>.
4 Select [Enabled] and press <Enter>.
   [Attention!] is displayed.
   If it has already been [Enabled], [Attention!] is not displayed. Proceed to step 6.
5 Confirm that [Yes] is selected and then press <Enter>.
   The computer is configured to run on the Windows 8.1 system.
6 Press the <F9> key.
   The message [Load Optimized Defaults?] appears.
7 Confirm that [Yes] is selected and then press <Enter>.
   This will load the default factory setting values.
8 Press the <F10> key.
   Message [Save configuration and exit] appears.
9 Confirm that [Yes] is selected and then press <Enter>.
   These setting values are saved, the BIOS setup utility will finish, and your computer will restart.

Configuration is now complete.
### Security Chip Function

#### Outline

- The security chip function is valid on models MG32M/B-H and MG34L/B-H only.
- The security chip does not guarantee complete protection of data or hardware.
- Always exercise appropriate caution when managing and handling important data.
- In addition to the security chip function, we recommend configuring supervisor and user passwords to the BIOS setup utility.
- When performing computer recovery, reinstalling the operating system, or using a separately sold operating system, initialize the security chip before enabling it.

#### Before sending your computer for repair

When you send your computer for repair, please be sure to cancel administrator and power-on password settings for the BIOS setup utility and initialize the security chip to prevent information from being divulged.

Please refer to the following procedures for security chip initialization.

If the Windows BitLocker drive encryption is used, first disable it and then initialize the security chip.

1. Turn the power on and immediately press <F2> key several times.
   The BIOS setup utility will then be displayed.
2. From the [Security] menu, select [TCG Feature Setup] and press <Enter>.
3. Set [TCG Security Feature] to [Active].
4. Press the <F10> key.
   A confirmation message is displayed.
5. Select [Yes] and then press <Enter>.
   The settings are saved and the BIOS setup utility exits.
6. After the Windows system has started, restart the computer.
   The features of the security chip are now enabled.

### Enable the security chip

After initializing the security chip, carry out the following procedure to enable it for use again.

1. Turn the power on and immediately press <F2> key several times.
   The BIOS setup utility will then be displayed.
2. From the [Security] menu, select [TCG Feature Setup] and press <Enter>.
3. Set [TCG Security Feature] to [Active].
4. Press the <F10> key.
   A confirmation message is displayed.
5. Select [Yes] and then press <Enter>.
   The settings are saved and the BIOS setup utility exits.
6. After the Windows system has started, restart the computer.
   The features of the security chip are now enabled.

### Check

- You can clear the current security chip settings by setting [Clear TCG Security Feature] to [YES]. Therefore, we recommend you set up an administrator password or power-on password before you use security chip features so that a higher level of security can prevent a third party from resetting security chip feature settings.

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Outline

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- You can clear the current security chip settings by setting [Clear TCG Security Feature] to [YES]. Therefore, we recommend you set up an administrator password or power-on password before you use security chip features so that a higher level of security can prevent a third party from resetting security chip feature settings.
12 Applications

Microsoft® Office Single Image v15

Check

"Microsoft® Office Single Image v15" is not pre-installed in the Japanese version of models MG32M/B-H and MG34L/B-H.

"Microsoft® Office Single Image v15" is installed on this computer. To use Microsoft® Office, you need to purchase a product key separately.

Check

"Microsoft® Office Single Image v15" is installed only at the time of shipment from the factory. If you perform a recovery, it will no longer be installed. If you wish to use the Microsoft® Office, purchase it from the Microsoft® website.

Deleting Data from the Hard Disk

Check

The Recovery Disc is not included with models MC32M/B-H and MC34L/B-H.

About Deleting Data from the Hard Disk

Data can be deleted from the computer’s hard disk. Data written to the hard disk can be removed using the [Recycle Bin] or by formatting the computer to the original state. Selecting this menu will remove hard disk data that cannot be removed by hard disk formatting of operation system standard, and the removed data will not be easily recovered with recovery tools. Format the hard disk before transferring or disposing of the computer.

Check

Before deleting the hard disk data, return the BIOS Setup Utility setting to the factory setting values.

Data can be deleted from the computer in the following 3 ways.

- **Simple mode (1 time erasure)**
  Overwrites "00" data entirely from the hard disk once.

- **NSA-introduced mode (3 times erasure)**
  Deletes data from the hard disk in a method compliant to the U.S. Department of Defense NSA Standard. The data is deleted effectively by writing random data 1, then random data 2, then "00" data 3 times in order and then deleting it 3 times. However, since the data is written 3 times, it takes 3 times longer than simple mode for deletion to be completed.

- **DoD-introduced mode (3 times erasure + Verify)**
  Deletes data from the hard disk in a method compliant to the U.S. Department of Defense Standard. "00", "FF", and "random value" is written in order 3 times, and verifies that the final random data is written correctly. Effective deletion is performed by deleting 3 times. However, since the data is written and verified 3 times, it takes 4 times or longer than when in simple mode.

By using this method it is not guaranteed that the data cannot be completely recovered.
**How to Delete Data from the Hard Disk**

1. Turn the power on and immediately press <F2> key several times. The BIOS setup utility will then be started.
2. When the BIOS setup utility is displayed, quickly insert the "Recovery Disc" into the optical drive.
3. Press the <F10> key.
4. Confirm that [Yes] is selected and then press <Enter>.
5. Turn on the power and immediately press <F12> key several times. The [Startup Device Menu] is displayed.
6. From the [Startup Device Menu], select the optical drive using <↑> or <↓> key, and press <Enter>.
7. When the [Windows Recovery] screen is displayed, select [Erase data on the hard disk], and press <Enter>.
8. When [Data stored on the hard disk drive will be erased. Are you sure to continue?] is displayed, select [Yes] and then press <Enter>.
9. Select a hard disk to delete its data, and click [Next].
10. Select a data deletion method, and click [OK].
11. When [Starting to erase HDD data. Is it OK?], click [Yes].
12. When [Completed] is displayed, click [OK].
13. Remove the "Recovery Disc" from the optical drive and press <Enter>.

Following the above steps will complete data deletion on the hard disk.

---

**13 Recovery**

**Recovery Basics**

Here we will explain the basics before recovery. Please read this before performing recovery.

**Required Materials**

When recovering from a DVD, the following materials are required. Prepare all of the materials before starting the process.

- Recovery Disc

The Recovery Disc is not included with models MC32M/B-H and MC34L/B-H.

**Backup Data from the Hard Disk**

Before recovery, if there is data that you would like to maintain, make a backup of the data and then perform recovery.

**Maintain System Settings**

Once recovery is performed, all the settings including system configuration will be reset to the factory default settings. If you would like to use the current settings again after recovery, such as BIOS setup utility settings and network settings, make a note of the current settings.

**Returning the BIOS Utility Settings to the Original Values**

Before recovery, please be sure to load the factory default settings for the BIOS setup utility.

If you are using the security chip function on the MG32M/B-H or MG34L/B-H, be sure to initialize the security chip using the BIOS setup utility before the computer recovery. For the security chip initialization, please refer to "Before sending your computer for repair" (p.17).
Precautions during Recovery
Follow the following precautions during recovery.

Follow the steps in the manual and on the recovery screen
During recovery, be sure to follow the steps in this manual and on the recovery screen. Missing a step, pressing a key other than the indicated key, or changing the procedure may result in improper recovery.

Disconnect peripheral devices
Disconnect peripheral devices to return to the state at time of purchase (excluding the optical drive used for recovery).

Check
- If the computer's LAN cable is connected, disconnect it before recovery.
- If the dual display function is used, disconnect the second display unit and return to the state at the time of purchase.

Turn on the power
Please wait at least five seconds before turning the power on again. If the power shutdown resulted from removing the power cord or a tripped circuit breaker, please wait for at least 90 seconds with the power cord disconnected, reconnect the power cord, and then turn the power on again.

Do not interrupt recovery
Do not interrupt the recovery process once it has started. The setup program is running normally even if the screen appears to stop, so please wait without interrupting the recovery. If you interrupt, the recovery may not be performed correctly, so you have to start over from the beginning.

When recovery cannot be performed
If [Recovery could not be completed.] is displayed, it is possible that model information was written incorrectly. Please contact our repair facilities.

Do not leave the computer alone during recovery
Do not leave the computer unattended until the recovery has completed including passing all the screens that require your key operations, and power OFF.

Computer recovery
Perform computer recovery.
There are two setup options: recovery using the "Recovery Disc", and that using the Windows function.

Check
- If you are using model MG32M/B-H or MG34L/B-H, you can only carry out the setup process using the "Recovery Disc".
- If you are using model MC32M/B-H or MC34L/B-H, you can only carry out the setup process using the Windows function.

Using the "Recovery Disc"
Recover the computer using the DVD (Recovery Disc).

Check
Be sure to start operations with the computer's power turned OFF.

1 Turn the power on and immediately press <F2> key several times. The BIOS setup utility will then be started.
2 When the BIOS setup utility is displayed, insert the "Recovery Disc" into the optical drive.
3 Press the <F10> key.
4 Confirm that [Yes] is selected and then press <Enter>.
5 Turn the power on and immediately press <F12> key several times. The [Startup Device Menu] is displayed.
6 From the [Startup Device Menu], select the optical drive using <↑> or <↓> key, and press <Enter>.
7 When the [Windows Recovery] screen is displayed, select [Restore your computer with Recovery Disc], and press <Enter>.
8 When [Restore the Windows 8.1 operating system using the Recovery Disc] is displayed, read the precautions and press <Enter>.
9 When the [The hard disk drive will be restored to the factory default settings. Are you sure to continue?] message is displayed, read the notes carefully. If OK, select [Yes], and press <Enter>.

Follow the steps on the screen for the procedure.
Go to "Windows Setup" (p.22).
Using the Windows function

Recover the computer using the Windows function. The subsequent procedure differs depending on whether or not the computer can start up.

If the computer can start up, go to the next “If the computer starts up” section.
If the computer cannot start up, go to the “If the computer does not start up” section (p.22).

If the computer starts up

If the computer starts up, you can recover the computer using the “Refresh” or “Reset” function on the system.

•Refresh

Although the personal files, accounts, private setup, and Windows Store applications are all maintained, the Windows OS will be reset to the factory default settings.
All applications (Windows Store applications) that the customer has installed are deleted. After refreshing, the list of the deleted applications is saved on the desktop.

•Reset

All files including personal files and Windows Store applications will be deleted. The computer will be reset to the initial (default) status.
If you have created multiple partitions, you can delete all personal files by selecting “Only the drive where Windows is installed” or “All drives”. Also, you can select “Just remove my files” to delete personal files only, or “Fully clean the drive” to clean up the drives and disable them in order to easily complete the recovery operation and enhance security.
If the PC is reset, the BitLocker drive encryption becomes invalid.

Check:

Carry out the following steps using the “Administrator” account.

1. Display the charm bar, and click [Settings].
2. Click [Change PC settings].
3. Click [Update and recovery].
4. Click [Recover].
5. Select a recovery method.

For refreshing:
- Click [Get started] on the [Refresh your PC without affecting your files] option.
For resetting:
- Click [Get started] on the [Remove everything and reinstall Windows] option.
- Follow the on-screen instructions for the procedure.

After refreshing, reinstall the deleted applications. The computer will have now been recovered.
After resetting, continue to “Windows Setup” (p.22).
If the computer does not start up

If the system does not start up, you can recover the system by starting it from the "recovery drive". For creation of "recovery drive", please refer to “Creating a recovery drive” (p.23).

1 Connect the "recovery drive" you have created to the USB port of the computer.

2 Turn on the power and immediately press <F12> several times. The [Startup Device Menu] is displayed.

3 Select the startup device from the [Startup Device Menu], using <↑> or <↓> key, and press <Enter>.

4 When [Choose your keyboard layout] is displayed, select [US].

Check

When [BitLocker] is displayed, enter the recovery key on the form and proceed to the next step.

5 When [Choose an option] is displayed, select [Troubleshooting]. Message [Troubleshooting] appears.

6 Select a recovery method.

For refreshing :
Select [Refresh your PC].
For reset :
Select [Reset your PC].

Follow the steps on the screen for the procedure.

When you have refreshed your computer, reinstall the deleted applications. Now, the system has been recovered.

If you have reset the computer, proceed to "Windows Setup" (p.22).

Windows Setup

Perform Windows setup.

Windows Setup

Set up the Windows system by referring to "Windows Setup" (p.3).

Check

When Windows setup has completed, turn the power OFF and then do settings to your needs.

Next, continue to ‘Re-set the settings you made after purchase’.

Re-set the settings you made after purchase

The settings which you did after purchasing your computer is lost once recovery has started. Do the settings again. If you want to use some peripherals, connect them and do the settings again. Configure the system and network settings again.

Next, continue to ‘After Recovery’.

After Recovery

The applications which you installed after your purchase cannot be recovered. Reinstall them if needed.

Check

Depending on your usage environment, the drive letter or the path assigned before recovery might be different. In that case, change the allocation.

Now, your computer has been recovered.
Appendix

Disabling the "Fast Startup" function

The "Fast Startup" function allows quick computer startup from the power-off state. The "Fast Startup" function is enabled by factory default.

Before installing or removing a peripheral including the PS/2 interface keyboard, disable the "Fast Startup" function as follows and shut down the computer.

If the "Fast Startup" function is still enabled and if you install or remove a peripheral device, the device may not be detected by the system.

1. Click [Desktop] on the Start screen.
2. Display the charm bar on the desktop, and click [Settings].
3. Click [Control Panel].
4. Click [System and Security] and then select [Change what the power buttons do] from the [Power Options].
5. Select [Change settings that are currently unavailable].
6. Uncheck the [Turn on fast startup (recommended)] box of [Shutdown settings].
7. Click [Save changes].

Creating a recovery drive

We recommend that a "recovery drive" be created for times when problems such as corrupted files result in Windows not loading correctly.

1. Click [Desktop] on the Start screen.
2. Display the charm bar.
3. Click [Settings].
4. Click [Control Panel].
5. Click [System and Security].
6. Click [Action Center].
7. Click [Recovery].
8. Click [Create a recovery drive].
9. When the [User Account Control] is displayed, click [Yes].
10. When the [Create a recovery drive] screen appears, check to see that [Copy the recovery partition from the PC to the recovery drive.] box is select, and then click [Next].
11. When [Connect a USB flash drive] is displayed, connect the USB memory to the computer.

Do not operate even if a notification is shown at upper right of the screen.

12. When [Select a USB flash drive] is displayed, click [Next].
13. When [Create the recovery drive] is displayed, check its contents and click [Create].
14. When [The recovery drive is ready] is displayed, click [Finish].

Do not select the [Delete the recovery partition] option.

15. Remove the USB memory from the computer.

Now, the recovery drive has been created.

An 8GB or larger USB memory is required to create a recovery drive.
Existing data is erased from the USB memory. Back up the required data in advance.
You can use the "recovery drive" only for the computer on which you have created this drive.
### Specifications

<table>
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<th>Model name</th>
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<th>MC34L/B-H</th>
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<td>Intel® Core™ i3-4130 processor *8</td>
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</tr>
<tr>
<td>Power</td>
<td>Compatible with AC 100 V-240 V ± 10%, 50/60 Hz (supported input waveform: sine wave only) or your region's specifications [the included power cord is adapted to suit your region's specifications. For use outside your region, another power cord will be required.]</td>
<td></td>
</tr>
<tr>
<td>Power consumption</td>
<td>Maximum approximately 228 W (Maximum configuration *22)</td>
<td>Maximum approximately 223 W</td>
</tr>
<tr>
<td>External dimensions (body)*16</td>
<td>97 (W) x 333 (H) x 383 (D) mm (without Stands) 147 (W) x 372 (H) x 397 (D) mm (with Stands)</td>
<td></td>
</tr>
<tr>
<td>Weight (body)*18</td>
<td>Approx. 6.3kg</td>
<td></td>
</tr>
</tbody>
</table>

For comments, please refer to the followings.

### Comments

* 8 : Equipped with an enhanced version of Intel SpeedStep® Technology.
* 15 : 4GB memory, 500 GB HDD, DVD SuperMulti drive settings (keyboard and mouse not included).
* 16 : Not including any other prongs except for the rubber feet when the machine is stood vertically.
* 22 : Measured in 100 VAC power environment

### Model number list

<table>
<thead>
<tr>
<th>Model name</th>
<th>Model number</th>
</tr>
</thead>
<tbody>
<tr>
<td>MC32M/B-H</td>
<td>PC-MC32MBZCECH, PC-MC32MBZCE4CH, PC-MC32MBZJUECH, PC-MC32MBZJU4CH, PC-MC32MBZJ1ECH, PC-MC32MBZJ14CH</td>
</tr>
<tr>
<td>MC34L/B-H</td>
<td>PC-MC34LBZCECH, PC-MC34LBZCE4CH, PC-MC34LBZJUECH, PC-MC34LBZJU4CH, PC-MC34LBZJ1ECH, PC-MC34LBZJ14CH</td>
</tr>
<tr>
<td>MG34L/B-H</td>
<td>PC-MG34LBZEBDGH, PC-MG34LBZEBDGH, PC-MG34LBZEB6GH, PC-MG34LBZEB6NH, PC-MG34LBZEE6GGH, PC-MG34LBZEE6GNH, PC-MG34LBZJUDGH, PC-MG34LBZJUDGH, PC-MG34LBZJ1DGH, PC-MG34LBZJ16GH</td>
</tr>
</tbody>
</table>