

H81M-CT



Motherboard

E10386

First Edition

May 2015

Copyright © 2015 ASUSTeK COMPUTER INC. All Rights Reserved.

No part of this manual, including the products and software described in it, may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language in any form or by any means, except documentation kept by the purchaser for backup purposes, without the express written permission of ASUSTeK COMPUTER INC. ("ASUS").

Product warranty or service will not be extended if: (1) the product is repaired, modified or altered, unless such repair, modification or alteration is authorized in writing by ASUS; or (2) the serial number of the product is defaced or missing.

ASUS PROVIDES THIS MANUAL "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL ASUS, ITS DIRECTORS, OFFICERS, EMPLOYEES OR AGENTS BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES (INCLUDING DAMAGES FOR LOSS OF PROFITS, LOSS OF BUSINESS, LOSS OF USE OR DATA, INTERRUPTION OF BUSINESS AND THE LIKE), EVEN IF ASUS HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES ARISING FROM ANY DEFECT OR ERROR IN THIS MANUAL OR PRODUCT.

SPECIFICATIONS AND INFORMATION CONTAINED IN THIS MANUAL ARE FURNISHED FOR INFORMATIONAL USE ONLY, AND ARE SUBJECT TO CHANGE AT ANY TIME WITHOUT NOTICE, AND SHOULD NOT BE CONSTRUED AS A COMMITMENT BY ASUS. ASUS ASSUMES NO RESPONSIBILITY OR LIABILITY FOR ANY ERRORS OR INACCURACIES THAT MAY APPEAR IN THIS MANUAL, INCLUDING THE PRODUCTS AND SOFTWARE DESCRIBED IN IT.

Products and corporate names appearing in this manual may or may not be registered trademarks or copyrights of their respective companies, and are used only for identification or explanation and to the owners' benefit, without intent to infringe.

Offer to Provide Source Code of Certain Software

This product contains copyrighted software that is licensed under the General Public License ("GPL"), under the Lesser General Public License Version ("LGPL") and/or other Free Open Source Software Licenses. Such software in this product is distributed without any warranty to the extent permitted by the applicable law. Copies of these licenses are included in this product.

Where the applicable license entitles you to the source code of such software and/or other additional data, you may obtain it for a period of three years after our last shipment of the product, either

(1) for free by downloading it from <http://support.asus.com/download>
or

(2) for the cost of reproduction and shipment, which is dependent on the preferred carrier and the location where you want to have it shipped to, by sending a request to:

ASUSTeK Computer Inc.

Legal Compliance Dept.

15 Li Te Rd.,

Beitou, Taipei 112

Taiwan

In your request please provide the name, model number and version, as stated in the About Box of the product for which you wish to obtain the corresponding source code and your contact details so that we can coordinate the terms and cost of shipment with you.

The source code will be distributed WITHOUT ANY WARRANTY and licensed under the same license as the corresponding binary/object code.

This offer is valid to anyone in receipt of this information.

ASUSTeK is eager to duly provide complete source code as required under various Free Open Source Software licenses. If however you encounter any problems in obtaining the full corresponding source code we would be much obliged if you give us a notification to the email address gpl@asus.com, stating the product and describing the problem (please DO NOT send large attachments such as source code archives, etc. to this email address).

Contents

Safety information	iv
About this guide	iv
Package contents	vi
H81M-CT specifications summary	vi

Chapter 1: Product introduction

1.1 Before you proceed	1-1
1.2 Motherboard overview	1-1
1.3 Central Processing Unit (CPU)	1-3
1.4 System memory	1-7
1.5 Expansion slots.....	1-9
1.6 Jumpers	1-11
1.7 Connectors	1-12
1.8 Onboard LEDs	1-19
1.9 Software support.....	1-20

Chapter 2: BIOS information

2.1 Managing and updating your BIOS	2-1
2.2 BIOS setup program	2-6
2.3 My Favorites	2-9
2.4 Main menu	2-10
2.5 Ai Tweaker menu.....	2-12
2.6 Advanced menu	2-13
2.7 Monitor menu	2-22
2.8 Boot menu	2-23
2.9 Tools menu	2-27
2.10 Exit menu	2-29

Appendices

Notices.....	A-1
ASUS contact information	A-4

Safety information

Electrical safety

- To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system.
- When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.
- Before connecting or removing signal cables from the motherboard, ensure that all power cables are unplugged.
- Seek professional assistance before using an adapter or extension cord. These devices could interrupt the grounding circuit.
- Ensure that your power supply is set to the correct voltage in your area. If you are not sure about the voltage of the electrical outlet you are using, contact your local power company.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your retailer.

Operation safety

- Before installing the motherboard and adding components, carefully read all the manuals that came with the package.
- Before using the product, ensure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may be exposed to moisture.
- Place the product on a stable surface.
- If you encounter technical problems with the product, contact a qualified service technician or your retailer.

About this guide

This user guide contains the information you need when installing and configuring the motherboard.

How this guide is organized

This guide contains the following parts:

- **Chapter 1: Product introduction**
This chapter describes the features of the motherboard and the new technology it supports. It includes descriptions of the switches, jumpers, and connectors on the motherboard.
- **Chapter 2: BIOS information**
This chapter discusses changing system settings through the BIOS Setup menus. Detailed descriptions of the BIOS parameters are also provided.

Where to find more information

Refer to the following sources for additional information and for product and software updates.

1. ASUS websites

The ASUS website provides updated information on ASUS hardware and software products. Refer to the ASUS contact information.

2. Optional documentation

Your product package may include optional documentation, such as warranty flyers, that may have been added by your dealer. These documents are not part of the standard package.

Conventions used in this guide

To ensure that you perform certain tasks properly, take note of the following symbols used throughout this manual.



DANGER/WARNING: Information to prevent injury to yourself when completing a task.



CAUTION: Information to prevent damage to the components when completing a task



IMPORTANT: Instructions that you **MUST** follow to complete a task.



NOTE: Tips and additional information to help you complete a task.

Typography

Bold text

Indicates a menu or an item to select.

Italics

Used to emphasize a word or a phrase.

<Key>

Keys enclosed in the less-than and greater-than sign means that you must press the enclosed key.

Example: <Enter> means that you must press the Enter or Return key.

<Key1> + <Key2> + <Key3>

If you must press two or more keys simultaneously, the key names are linked with a plus sign (+).

Package contents

Check your motherboard package for the following items.

Motherboard	ASUS H81M-CT motherboard
Cables	2 x Serial ATA 6.0 Gb/s cables
Accessories	1 x I/O Shield
Application DVD	Support DVD
Documentation	User Guide



If any of the above items is damaged or missing, contact your retailer.

H81M-CT specifications summary

CPU	LGA1150 socket for 4th Generation Intel® Core™ i7/i5/i3, Pentium®, Celeron® Processors Supports Intel® 22nm CPU Supports Intel® Turbo Boost Technology 2.0* * The Intel® Turbo Boost Technology 2.0 support depends on the CPU types. ** Refer to www.asus.com for Intel® CPU support list.
Chipset	Intel® H81 Express Chipset
Memory	2 x DIMM, max. 16GB, DDR3 1600 / 1333 / 1066 MHz, non-ECC, un-buffered memory* Dual-channel memory architecture Supports Intel® Extreme Memory Profile (XMP) * Hyper DIMM support is subject to the physical characteristics of individual CPUs. Please refer to the Memory QVL (Qualified Vendors List) for details. ** Refer to www.asus.com for the latest Memory QVL (Qualified Vendors List). *** Due to Intel® chipset limitation, the DDR3 1600MHz and higher memory modules on XMP mode will run at the maximum transfer rate of DDR3 1600MHz.
Graphics	Multi-VGA output support: HDMI, D-SUB ports - Supports HDMI with max.resolution of 4096 x 2304 @24Hz - Supports D-SUB with max.resolution of 1920 x 1200 @60Hz Maximum shared memory of 1024 MB
Expansion slots	1 x PCI Express 2.0 x16 slot 1 x PCI Express 2.0 x1 slot 2 x PCI slots
Storage	Intel® H81 Express Chipset: - 2 x Serial ATA 6.0 Gb/s connector - 2 x Serial ATA 3.0 Gb/s connector
Audio	Realtek® ALC887 7.1-channel Audio CODEC - Supports jack-detection, multi-streaming, front panel jack-retasking * Use a chassis with HD audio module in the front panel to support an 7.1-channel audio output.
LAN	Realtek 8111G PCIe Gigabit LAN controller

(continued on the next page)

H81M-CT specifications summary

USB	Intel® H81 Express Chipset - 2 x USB 3.0 ports at back panel (2 ports at midboard) - 8 x USB 2.0 ports (4 ports at midboard, 4 ports at the back panel)
Rear panel I/O ports	1 x PS/2 keyboard port (purple) 1 x PS/2 mouse port (green) 1 x D-SUB port 1 x HDMI port 1 x COM port 1 x LAN (RJ-45) port 4 x USB 2.0 ports 3 x Audio jacks support 8-channel audio output
Internal connectors	2 x USB 2.0/1.1 connectors support additional 4 USB 2.0 ports 2 x SATA 6.0 Gb/s connectors 2 x SATA 3.0 Gb/s connectors 1 x 24-pin ATX power connector 1 x 4-pin ATX 12V power connector 1 x 4-pin CPU fan connector 1 x 4-pin Chassis fan connector 1 x Front panel audio connector (AAFP) 1 x Front panel header (F_PANEL) 1 x COM connector 1 x LPT header 1 x Speaker header 1 x Mono out header 1 x TPM header 1 x Clear CMOS jumper
BIOS features	64 Mb Flash ROM, UEFI BIOS, PnP, DMI v2.0, WfM2.0, SM BIOS v2.7, ACPI v2.0a, SLP3.0, EUP-ready
Manageability	WOL, PXE, PME Wake up
Operating System Support	Windows® 8.1 (32bit/64bit) Windows® 8 (32bit/64bit) Windows® 7 (32bit/64bit)
Form factor	uATX form factor: 9.6"x 7.8" (24.4cm x 19.8cm)



Specifications are subject to change without notice.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Product introduction

1

1.1 Before you proceed

Take note of the following precautions before you install motherboard components or change any motherboard settings.



- Unplug the power cord from the wall socket before touching any component.
- Before handling components, use a grounded wrist strap or touch a safely grounded object or a metal object, such as the power supply case, to avoid damaging them due to static electricity.
- Hold components by the edges to avoid touching the ICs on them.
- Whenever you uninstall any component, place it on a grounded antistatic pad or in the bag that came with the component.
- Before you install or remove any component, ensure that the ATX power supply is switched off or the power cord is detached from the power supply. Failure to do so may cause severe damage to the motherboard, peripherals, or components.

1.2 Motherboard overview

Before you install the motherboard, study the configuration of your chassis to ensure that the motherboard fits.



Unplug the power cord before installing or removing the motherboard. Failure to do so can cause you physical injury and damage to motherboard components.

1.2.1 Placement direction

When installing the motherboard, place it into the chassis in the correct orientation. The edge with external ports goes to the rear part of the chassis as indicated in the image.

1.2.2 Screw holes

Place six screws into the holes indicated by circles to secure the motherboard to the chassis.



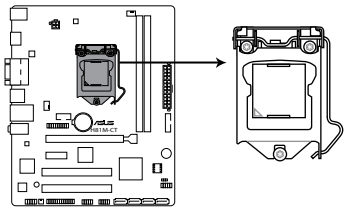
Do not overtighten the screws! Doing so can damage the motherboard.

1.2.4 Layout contents

Connectors/Jumpers/Slots/LED	Page
1. CPU and chassis fan connectors (4-pin CPU_FAN, 4-pin CHA_FAN)	
2. ATX power connectors (24-pin ATXPWR, 4-pin ATX12V)	
3. Serial port connectors (10-1 pin COM2)	
4. Intel® LGA1150 CPU socket	
5. DDR3 DIMM slots	
6. USB 3.0 connector (20-1 pin USB3_12)	
7. Clear RTC RAM (3-pin CLRTC)	
8. System panel connector (10-1 pin F_PANEL)	
9. Intel® H81 Serial ATA 3.0Gb/s connector (7-pin SATA3G_1~2)	
10. Intel® H81 Serial ATA 6.0Gb/s connector (7-pin SATA6G_1~2)	
11. USB 2.0 connectors (10-1 pin USB910, USB1112)	
12. LPT connector (26-1 pin LPT)	
13. Mono out header (2-pin MONO_OUT)	
14. Front panel audio connector (10-1 pin AAFP)	
15. Onboard LED (SB_PWR)	
16. TPM header (20-1 pin TPM)	

1.3 Central Processing Unit (CPU)

This motherboard comes with a surface mount LGA1150 socket designed for the Intel® 4th generation Core™ i7 / Core™ i5 / Core™ i3, Pentium®, Celeron® processors.



H81M-CT CPU socket LGA1150

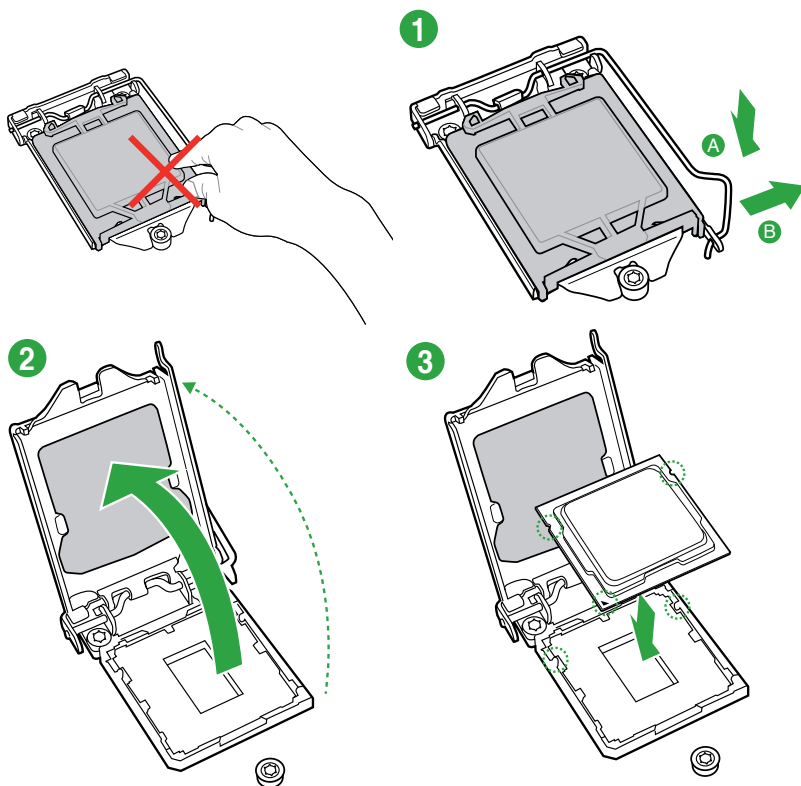


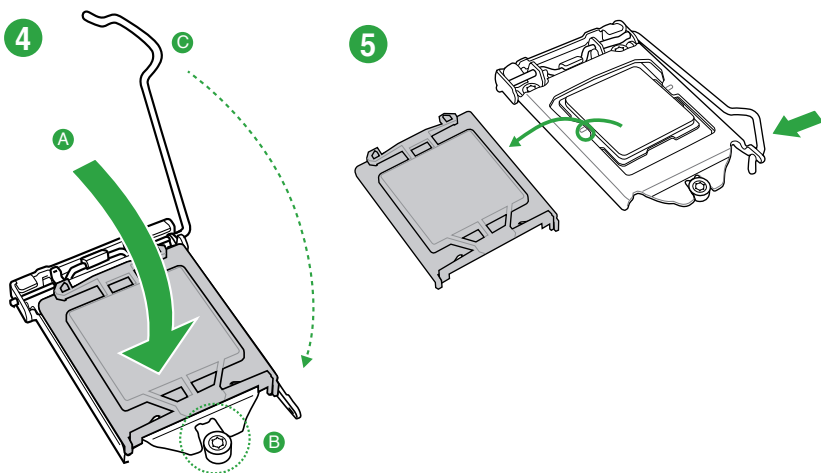
Unplug all power cables before installing the CPU.



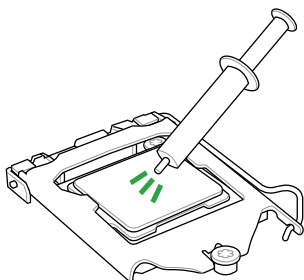
- Ensure that you install the correct CPU designed for the LGA1150 socket only. DO NOT install a CPU designed for LGA1155 and LGA1156 sockets on the LGA1150 socket.
- Upon purchase of the motherboard, ensure that the PnP cap is on the socket and the socket contacts are not bent. Contact your retailer immediately if the PnP cap is missing, or if you see any damage to the PnP cap/socket contacts/motherboard components. ASUS will shoulder the cost of repair only if the damage is shipment/transit-related.
- Keep the cap after installing the motherboard. ASUS will process Return Merchandise Authorization (RMA) requests only if the motherboard comes with the cap on the LGA1150 socket.
- The product warranty does not cover damage to the socket contacts resulting from incorrect CPU installation/removal, or misplacement/loss/incorrect removal of the PnP cap.

1.3.1 Installing the CPU



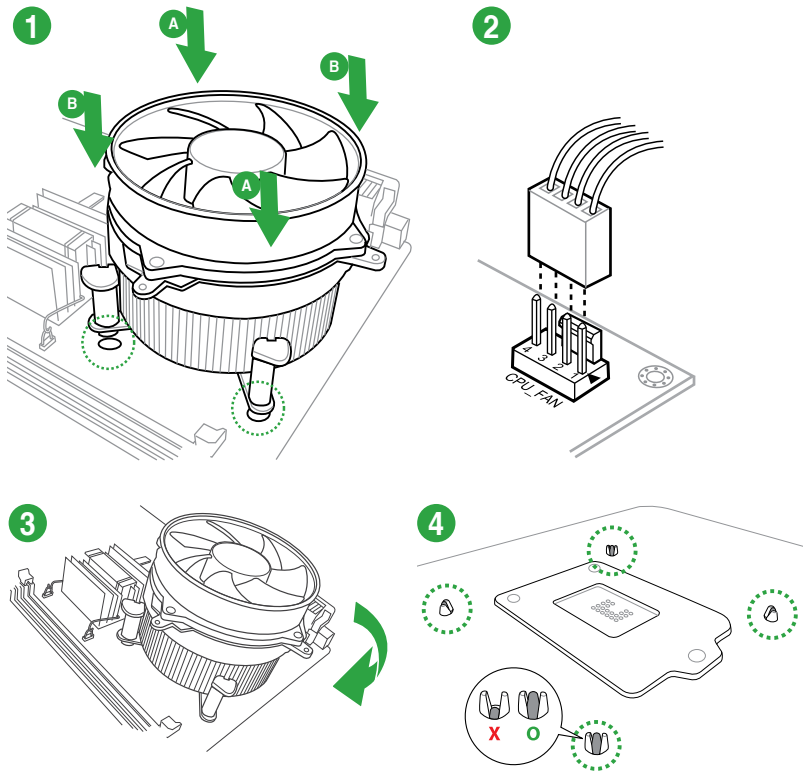


1.3.2 CPU heatsink and fan assembly installation

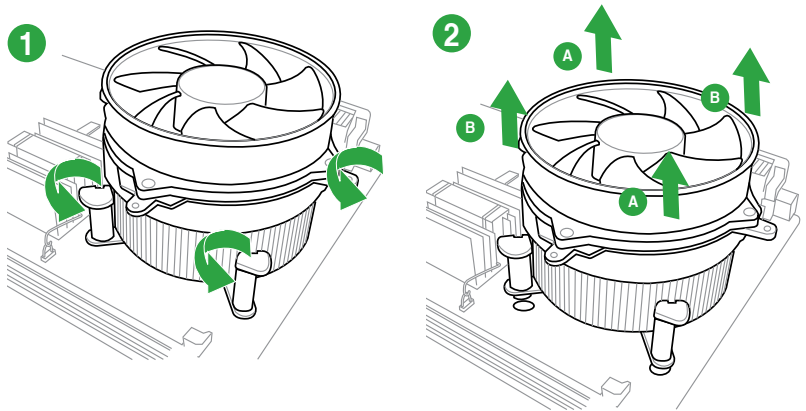


Apply the Thermal Interface Material to the CPU heatsink and CPU before you install the heatsink and fan if necessary.

To install the CPU heatsink and fan assembly



To uninstall the CPU heatsink and fan assembly



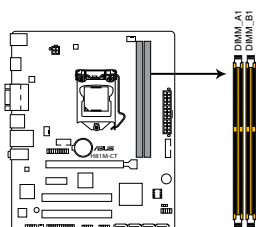
1.4 System memory

1.4.1 Overview

This motherboard comes with two Double Data Rate 3 (DDR3) Dual Inline Memory Module (DIMM) sockets. A DDR3 module is notched differently from a DDR or DDR2 module. DO NOT install a DDR or DDR2 memory module to the DDR3 slot.



According to Intel® CPU spec, DIMM voltage below 1.65V is recommended to protect the CPU.



H81M-CT 240-pin DDR3 DIMM sockets

Channel	Sockets
Channel A	DIMM_A1
Channel B	DIMM_B1

1.4.2 Memory configurations

You may install 1GB, 2GB, 4GB, and 8GB unbuffered non-ECC DDR3 DIMMs into the DIMM sockets.



- You may install varying memory sizes in Channel A and Channel B. The system maps the total size of the lower-sized channel for the dual-channel configuration. Any excess memory from the higher-sized channel is then mapped for single-channel operation.
- Due to Intel® chipset limitation, DDR3 1600MHz and higher memory modules on XMP mode will run at the maximum transfer rate of DDR3 1600MHz.
- Always install DIMMs with the same CAS latency. For optimal compatibility, we recommend that you install memory modules of the same version or date code (D/C) from the same vendor. Check with the retailer to get the correct memory modules.
- Due to the memory address limitation on 32-bit Windows® OS, when you install 4GB or more memory on the motherboard, the actual usable memory for the OS can be about 3GB or less. For effective use of memory, we recommend that you do any of the following:
 - Use a maximum of 3GB system memory if you are using a 32-bit Windows® OS.
 - Install a 64-bit Windows® OS if you want to install 4GB or more on the motherboard.
- This motherboard does not support DIMMs made up of 512Mb (64MB) chips or less.



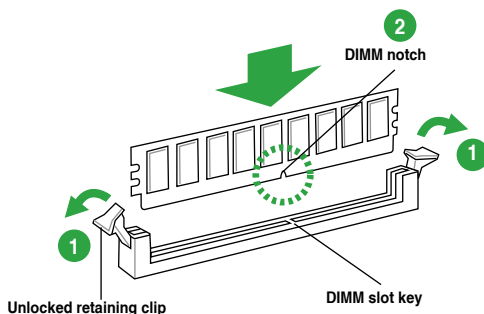
- The default memory operation frequency is dependent on its Serial Presence Detect (SPD), which is the standard way of accessing information from a memory module. Under the default state, some memory modules for overclocking may operate at a lower frequency than the vendor-marked value. To operate at the vendor-marked or at a higher frequency, refer to section **2.5 Ai Tweaker menu** for manual memory frequency adjustment.
- For system stability, use a more efficient memory cooling system to support a full memory load (2 DIMMs) or overclocking condition.
- Visit the ASUS website at: www.asus.com for the latest QVL.

1.4.3 Installing a DIMM



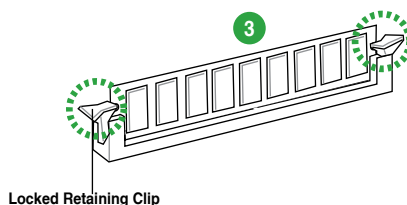
Unplug the power supply before adding or removing DIMMs or other system components. Failure to do so can cause severe damage to both the motherboard and the components.

1. Press the retaining clips outward to unlock a DIMM socket.
2. Align a DIMM on the socket such that the notch on the DIMM matches the DIMM slot key on the socket.



A DIMM is keyed with a notch so that it fits in only one direction. DO NOT force a DIMM into a socket in the wrong direction to avoid damaging the DIMM.

3. Firmly insert the DIMM into the socket until the retaining clips snap back in place and the DIMM is properly seated.



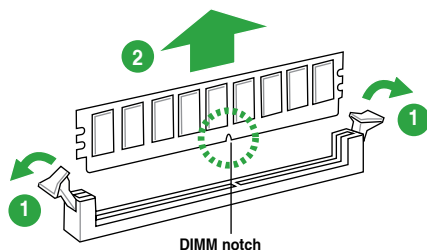
1.4.4 Removing a DIMM

To remove a DIMM:

1. Simultaneously press the retaining clips outward to unlock the DIMM.



Support the DIMM lightly with your fingers when pressing the retaining clips. The DIMM might get damaged when it flips out with extra force.



2. Remove the DIMM from the socket.

1.5 Expansion slots

In the future, you may need to install expansion cards. The following sub-sections describe the slots and the expansion cards that they support.



Unplug the power cord before adding or removing expansion cards. Failure to do so may cause you physical injury and damage motherboard components.

1.5.1 Installing an expansion card

To install an expansion card:

1. Before installing the expansion card, read the documentation that came with it and make the necessary hardware settings for the card.
2. Remove the system unit cover (if your motherboard is already installed in a chassis).
3. Remove the bracket opposite the slot that you intend to use. Keep the screw for later use.
4. Align the card connector with the slot and press firmly until the card is completely seated on the slot.
5. Secure the card to the chassis with the screw you removed earlier.
6. Replace the system cover.

1.5.2 Configuring an expansion card

After installing the expansion card, configure it by adjusting the software settings.

1. Turn on the system and change the necessary BIOS settings, if any. See Chapter 2 for information on BIOS setup.
2. Assign an IRQ to the card.
3. Install the software drivers for the expansion card.



When using PCI cards on shared slots, ensure that the drivers support “Share IRQ” or that the cards do not need IRQ assignments. Otherwise, conflicts will arise between the two PCI groups, making the system unstable and the card inoperable.

1.5.3 PCI Express 2.0 x1 slots

This motherboard supports PCI Express x1 network cards, SCSI cards, and other cards that comply with the PCI Express specifications.

1.5.4 PCI Express x16 slot

This motherboard has a PCI Express x16 slot that supports PCI Express x16 graphic cards complying with the PCI Express specifications.

1.5.3 PCI slots

The PCI slot supports cards such as a LAN card, SCSI card, USB card, and other cards that comply with PCI specifications.

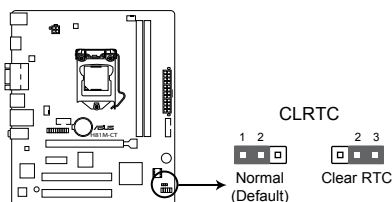
IRQ assignments for this motherboard

	A	B	C	D	E	F	G	H
PCIEx16_1	shared	–	–	–	–	–	–	–
PCIEx1_1	shared	–	–	–	–	–	–	–
Intel SATA Controller	–	–	–	shared	–	–	–	–
Realtek LAN	–	–	shared	–	–	–	–	–
Intel XHC	–	–	–	–	–	shared	–	–
Intel EHCI1	–	–	–	–	–	–	–	shared
Intel EHCI2	–	–	–	–	shared	–	–	–
HD Audio	–	–	–	–	–	–	shared	–

1.6 Jumpers

1. Clear RTC RAM (3-pin CLRTC)

This jumper allows you to clear the Real Time Clock (RTC) RAM in CMOS. You can clear the CMOS memory of date, time, and system setup parameters by erasing the CMOS RTC RAM data. The onboard button cell battery powers the RAM data in CMOS, which include system setup information such as system passwords.



H81M-CT Clear RTC RAM

To erase the RTC RAM:

1. Turn OFF the computer and unplug the power cord.
2. Move the jumper cap from pins 1-2 (default) to pins 2-3. Keep the cap on pins 2-3 for about 5-10 seconds, then move the cap back to pins 1-2. 3. Plug the power cord and turn ON the computer.
4. Hold down the key during the boot process and enter BIOS setup to re-enter data.



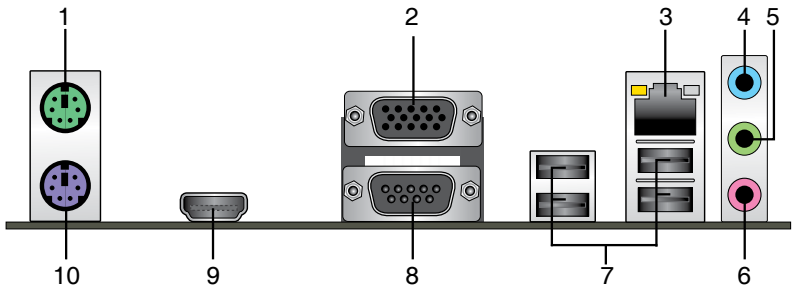
Except when clearing the RTC RAM, never remove the cap on CLRTC jumper default position. Removing the cap will cause system boot failure!



- If the steps above do not help, remove the onboard battery and move the jumper again to clear the CMOS RTC RAM data. After clearing the CMOS, reinstall the battery.
- You do not need to clear the RTC when the system hangs due to overclocking. For system failure due to overclocking, use the CPU Parameter Recall (C.P.R.) feature. Shut down and reboot the system, then the BIOS automatically resets parameter settings to default values.

1.7 Connectors

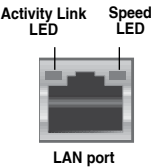
1.7.1 Rear panel connectors



- 1. **PS/2 mouse port (green).** This port is for a PS/2 mouse.
- 2. **Video Graphics Adapter (VGA) port.** This 15-pin port is for a VGA monitor or other VGA-compatible devices.
- 3. **LAN (RJ-45) port.** This port allows Gigabit connection to a Local Area Network (LAN) through a network hub.

LAN port LED indications

Activity/Link LED		Speed LED	
Status	Description	Status	Description
Off	No link	OFF	10Mbps connection
Orange	Linked	ORANGE	1Gbps connection
Orange (Blinking)	Data activity	GREEN	100Mbps connection
Orange (Blinking then steady)	Ready to wake up from S5 mode	—	—



- 4. **Line In port (light blue).** This port connects to the tape, CD, DVD player, or other audio sources.
- 5. **Line Out port (lime).** This port connects to a headphone or a speaker. In the 4.1, 5.1 and 7.1-channel configurations, the function of this port becomes Front Speaker Out.
- 6. **Microphone port (pink).** This port connects to a microphone.



Refer to the audio configuration table for the function of the audio ports in 2.1, 4.1, 5.1, or 7.1-channel configuration.

Audio 2.1, 4.1, 5.1, or 7.1-channel configuration

Port	Headset 2.1- channel	4.1-channel	5.1-channel	7.1-channel
Light Blue (Rear panel)	Line In	Rear Speaker Out	Rear Speaker Out	Rear Speaker Out
Line (Rear panel)	Line Out	Front Speaker Out	Front Speaker Out	Front Speaker Out
Pink (Rear panel)	Mic In	Mic In	Bass/Center	Bass/Center
Line (Front panel)	-	-	-	Side Speaker Out



To configure an 7.1-channel audio output:

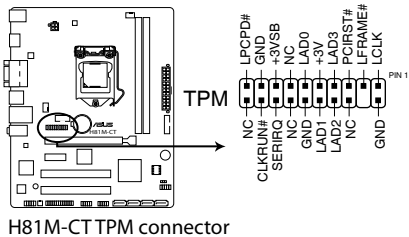
Use a chassis with HD audio module in the front panel to support an 7.1-channel audio output.

- 7. **USB 2.0 ports.** These 4-pin Universal Serial Bus (USB) ports are for USB 2.0/1.1 devices.
- 8. **Serial (COM) port.** This 9-pin communication port is for pointing devices or other serial devices.
- 9. **HDMI port.** This port is for a High-Definition Multimedia Interface (HDMI) connector, and is HDCP compliant allowing playback of HD DVD, Blu-ray, and other protected content.
- 10. **PS/2 keyboard port (purple).** This port is for a PS/2 keyboard.

1.7.2 Internal connectors

1. TPM connector (20-pin TPM)

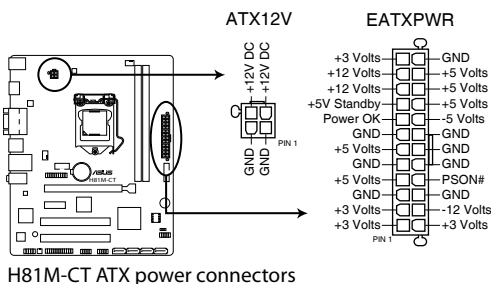
This connector supports a Trusted Platform Module (TPM) system, which securely store keys, digital certificates, passwords and data. A TPM system also helps enhance network security, protect digital identities, and ensures platform integrity.



The TPM module is purchased separately.

2. ATX power connectors (24-pin EATXPWR, 4-pin ATX12V)

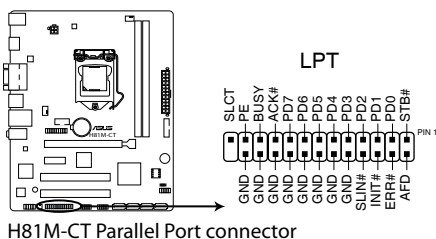
These connectors are for ATX power supply plugs. The power supply plugs are designed to fit these connectors in only one orientation. Find the proper orientation and push down firmly until the connectors completely fit.



- For a fully configured system, we recommend that you use a power supply unit (PSU) that complies with ATX 12V Specification 2.0 (or later version) and provides a minimum power of 350W.
- DO NOT forget to connect the 4-pin ATX +12V power plug. Otherwise, the system will not boot up.
- We recommend that you use a PSU with higher power output when configuring a system with more power-consuming devices or when you intend to install additional devices. The system may become unstable or may not boot up if the power is inadequate.
- If you are uncertain about the minimum power supply requirement for your system, refer to the Recommended Power Supply Wattage Calculator at <http://support.asus.com/PowerSupplyCalculator/PSCalculator.aspx?SLanguage=en-us> for details.

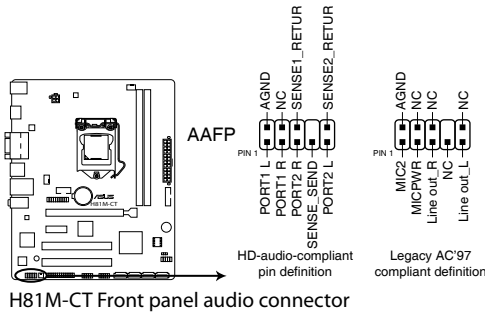
3. LPT connector (26-pin LPT)

The LPT (Line Printing Terminal) connector supports devices such as a printer. LPT standardizes as IEEE 1284, which is the parallel port interface on IBM-compatible computers.



4. **Front panel audio connector (10-1 pin AAFP)**

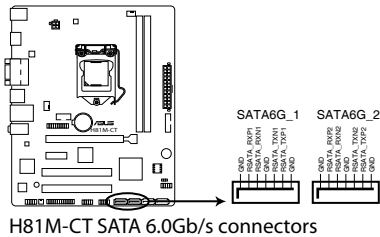
This connector is for a chassis-mounted front panel audio I/O module that supports either HD Audio or legacy AC'97 audio standard. Connect one end of the front panel audio I/O module cable to this connector.



- We recommend that you connect a high-definition front panel audio module to this connector to avail of the motherboard's high-definition audio capability.
- If you want to connect a high-definition front panel audio module to this connector, set the Front Panel Type item in the BIOS setup to [HD]. If you want to connect an AC'97 front panel audio module to this connector, set the item to [AC97]. By default, this connector is set to [HD]. See section 2.6.7 Onboard Devices Configuration for details.

5. **Intel® H81 Serial ATA 6.0Gb/s connector s(7-pin SATA6G_1~2)**

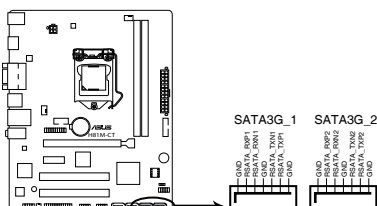
These connectors connect to Serial ATA 6.0 Gb/s hard disk drives via Serial ATA 6.0 Gb/s signal cables.



- You must install Windows. XP Service Pack 3 or later version before using Serial ATA hard disk drives.
- When using hot-plug and NCQ, set the **SATA Mode Selection** item in the BIOS to [AHCI]. See section 2.6.3 SATA Configuration for details.

6. Intel® H81 Serial ATA 3.0Gb/s connectors (7-pin SATA3G_1-2)

These connectors connect to Serial ATA 3.0 Gb/s hard disk drives via Serial ATA 3.0 Gb/s signal cables.



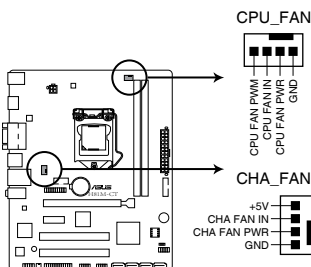
H81M-CT SATA 3.0Gb/s connectors



- You must install Windows. XP Service Pack 3 or later version before using Serial ATA hard disk drives.
- When using hot-plug and NCQ, set the **SATA Mode Selection** item in the BIOS to [AHCI]

7. CPU and chassis fan connectors (4-pin CPU_FAN, 4-pin CHA_FAN)

Connect the fan cables to the fan connectors on the motherboard, ensuring that the black wire of each cable matches the ground pin of the connector..



H81M-CT Fan connectors



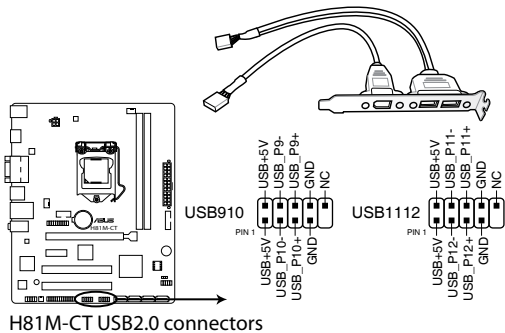
Do not forget to connect the fan cables to the fan connectors. Insufficient air flow inside the system may damage the motherboard components. These are not jumpers! Do not place jumper caps on the fan connectors! The CPU_FAN connector supports a CPU fan of maximum 1A (12 W) fan power.



Only the 4-pin CPU fan supports the ASUS Fan Xpert 2 feature.

8. **USB 2.0 connectors (10-1 pin USB910, USB1112)**

These connectors are for USB 2.0 ports. Connect the USB module cable to any of these connectors, then install the module to a slot opening at the back of the system chassis. These USB connectors comply with USB 2.0 specifications and supports up to 480Mbps connection speed.



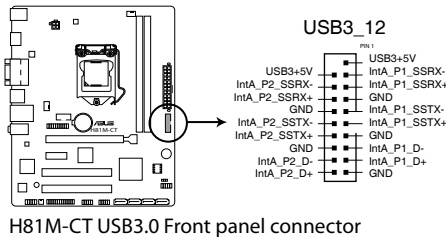
Never connect a 1394 cable to the USB connectors. Doing so will damage the motherboard!



The USB 2.0 module is purchased separately.

9. **USB 3.0 connector (20-1 pin USB3_12)**

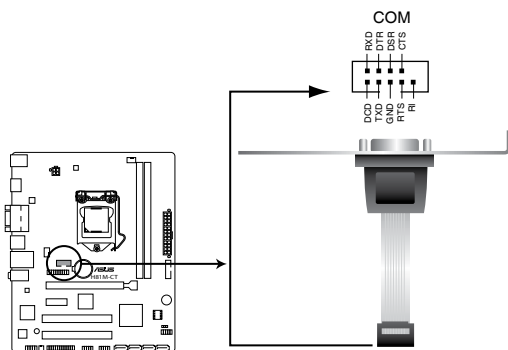
This connector allows you to connect a USB 3.0 module for additional USB 3.0 front or rear panel ports. With an installed USB 3.0 module, you can enjoy all the benefits of USB 3.0 including faster data transfer speeds of up to 5Gbps, faster charging time for USB-chargeable devices, optimized power efficiency, and backward compatibility with USB 2.0.



The USB 3.0 module is purchased separately.

10. Serial port connector (10-1 pin COM)

This connector is for a serial (COM) port. Connect the serial port module cable to this connector, then install the module to a slot opening at the back of the system chassis.



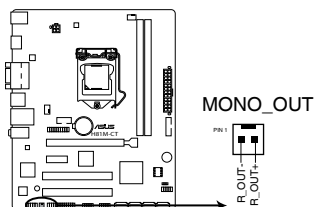
H81M-CT Serial port connectors



The COM module is purchased separately.

11. Mono out header (2-pin MONO_OUT)

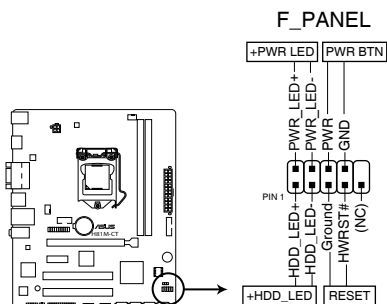
This internal mono out header allows connection to an internal, low power speaker for basic system sound capability. The subsystem is capable of driving a speaker load of 4 Ohms at 2 Watts (rms).



H81M-CT MONO_OUT connector

12. System panel connector (10-1 pin PANEL)

This connector supports several chassis-mounted functions.



H81M-CT System panel connector

- **System power LED (2-pin PWR_LED)**

This 2-pin connector is for the system power LED. Connect the chassis power LED cable to this connector. The system power LED lights up when you turn on the system power, and blinks when the system is in sleep mode.

- **Hard disk drive activity LED (2-pin HDD_LED)**

This 2-pin connector is for the HDD Activity LED. Connect the HDD Activity LED cable to this connector. The HDD LED lights up or flashes when data is read from or written to the HDD.

- **ATX power button/soft-off button (2-pin PWR_BTN)**

This connector is for the system power button.

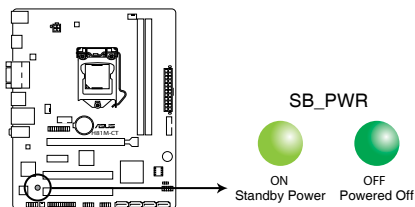
- **Reset button (2-pin RESET)**

This 2-pin connector is for the chassis-mounted reset button for system reboot without turning off the system power.

1.8 Onboard LEDs

1. Standby Power LED

The motherboard comes with a standby power LED that lights up to indicate that the system is ON, in sleep mode, or in soft-off mode. This is a reminder that you should shut down the system and unplug the power cable before removing or plugging in any motherboard component. The illustration below shows the location of the onboard LED.



H81M-CT Onboard LED

1.9 Software support

1.9.1 Installing an operating system

This motherboard supports Windows® 7 (32bit/64bit) and Windows® 8 (32bit/64bit) Operating Systems (OS). Always install the latest OS version and corresponding updates to maximize the features of your hardware.



Motherboard settings and hardware options vary. Refer to your OS documentation for detailed information.

1.9.2 Support DVD information

The Support DVD that comes with the motherboard package contains the drivers, software applications, and utilities that you can install to avail all motherboard features.



The contents of the Support DVD are subject to change at any time without notice. Visit the ASUS website at www.asus.com for updates.

To run the Support DVD

Place the Support DVD into the optical drive. If Autorun is enabled in your computer, the DVD automatically displays the Specials screen which lists the unique features of your ASUS motherboard. Click Drivers, Utilities, AHCI Driver, Manual, Contact and Specials tabs to display their respective menus.



The following screen is for reference only.



Click an icon to display Support DVD/motherboard information

Click an item to install



If Autorun is NOT enabled in your computer, browse the contents of the Support DVD to locate the file ASSETUP.EXE from the BIN folder. Double-click the ASSETUP.EXE to run the DVD.

BIOS information

2

2.1 Managing and updating your BIOS

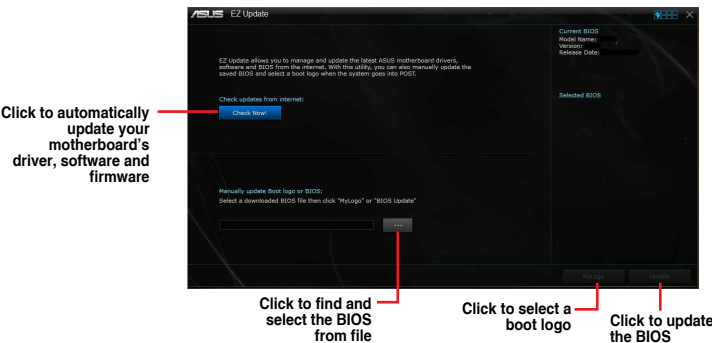


Save a copy of the original motherboard BIOS file to a USB flash disk in case you need to restore the BIOS in the future. Copy the original motherboard BIOS using the ASUS Update utility.

2.1.1 EZ Update

EZ Update is a utility that allows you to automatically update your motherboard's softwares, drivers and the BIOS version easily. With this utility, you can also manually update the saved BIOS and select a boot logo when the system goes into POST.

To launch EZ Update, click **EZ Update** on the AI Suite 3 main menu bar.



EZ Update requires an Internet connection either through a network or an ISP (Internet Service Provider).

2.1.2 ASUS EZ Flash 2

The ASUS EZ Flash 2 feature allows you to update the BIOS without using an OS-based utility.



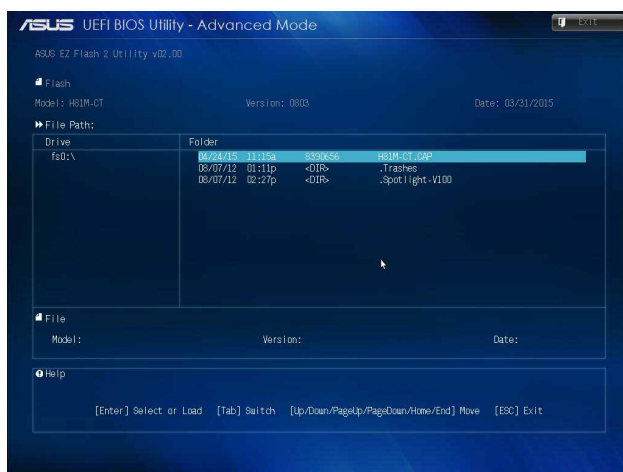
Before you start using this utility, download the latest BIOS file from the ASUS website at www.asus.com.

To update the BIOS using EZ Flash 2:

1. Insert the USB flash disk that contains the latest BIOS file to the USB port.
2. Enter the **Advanced Mode** of the BIOS setup program. Go to the **Tool** menu to select **ASUS EZ Flash Utility** and press <Enter> to enable it.
3. Press <Tab> to switch to the **Drive** field.
4. Press the Up/Down arrow keys to find the USB flash disk that contains the latest BIOS, and then press <Enter>.
5. Press <Tab> to switch to the **Folder Info** field.
6. Press the Up/Down arrow keys to find the BIOS file, and then press <Enter> to perform the BIOS update process. Reboot the system when the update process is done.



- This function supports USB flash disks formatted using FAT32/16 on a single partition only.
- Ensure to load the BIOS default settings to ensure system compatibility and stability. Select the Load Optimized Defaults item under the Exit menu. .
- DO NOT shut down or reset the system while updating the BIOS to prevent system boot failure!



2.1.3 ASUS CrashFree BIOS 3 utility

The ASUS CrashFree BIOS 3 is an auto recovery tool that allows you to restore the BIOS file when it fails or gets corrupted during the updating process. You can restore a corrupted BIOS file using the motherboard support DVD or a USB flash drive that contains the updated BIOS file.



- Before using this utility, rename the BIOS file in the removable device into **H81MCT.CAP**.
- The BIOS file in the support DVD may not be the latest version. Download the latest BIOS file from the ASUS website at www.asus.com.

Recovering the BIOS

To recover the BIOS:

1. Turn on the system.
2. Insert the support DVD to the optical drive or the USB flash drive that contains the BIOS file to the USB port.
3. The utility automatically checks the devices for the BIOS file. When found, the utility reads the BIOS file and enters ASUS EZ Flash 2 utility automatically.
4. The system requires you to enter BIOS Setup to recover BIOS settings. To ensure system compatibility and stability, we recommend that you press <F5> to load default BIOS values.



DO NOT shut down or reset the system while updating the BIOS! Doing so can cause system boot failure!

2.1.4 ASUS BIOS Updater

The ASUS BIOS Updater allows you to update BIOS in a DOS environment. This utility also allows you to copy the current BIOS file that you can use as a backup when the BIOS fails or gets corrupted during the updating process.



The succeeding utility screens are for reference only. The actual utility screen displays may not be same as shown.

Before updating BIOS

1. Prepare the motherboard support DVD and a USB flash drive formatted using FAT32/16 on a single partition.
2. Download the latest BIOS file and BIOS Updater from the ASUS website at <http://support.asus.com> and save them on the USB flash drive.

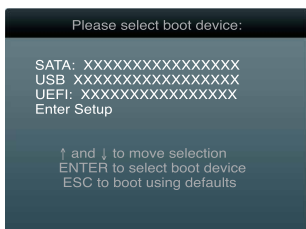


NTFS is not supported under DOS environment. Do not save the BIOS file and BIOS Updater to a hard disk drive or USB flash drive in NTFS format.

3. Turn off the computer and disconnect all SATA hard disk drives (optional).

Booting the system to a DOS environment

1. Insert the DOS-bootable USB flash drive with the latest BIOS file and BIOS Updater to your computer's USB port.
2. Boot your computer. When the ASUS Logo appears, press <F8> to show the **BIOS Boot Device Select Menu**.



3. Select the optical drive as the boot device. The DOS screen appears.



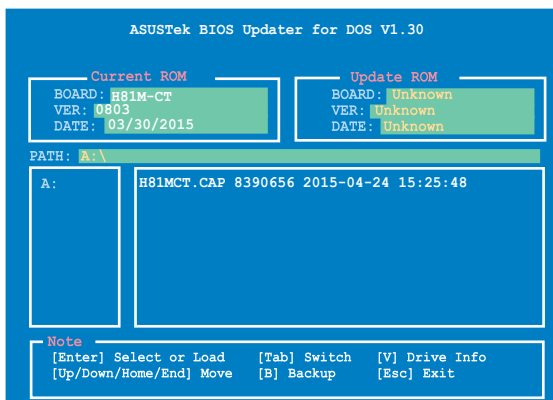
Updating the BIOS file

To update the BIOS file using BIOS Updater:

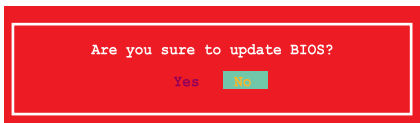
1. At the FreeDOS prompt, type **bupdater /pc /g** and press <Enter>.



2. The BIOS Updater screen appears as below.



3. Press <Tab> to switch between screen fields and use the <Up/Down/Home/End> keys to select the BIOS file and press <Enter>. BIOS Updater checks the selected BIOS file and prompts you to confirm BIOS update.



4. Select Yes and press <Enter>. When BIOS update is done, press <ESC> to exit BIOS Updater. Restart your computer.



DO NOT shut down or reset the system while updating the BIOS to prevent system boot failure!



-
- For BIOS Updater version 1.30 or later, the utility automatically exits to the DOS prompt after updating BIOS.
 - Ensure to load the BIOS default settings to ensure system compatibility and stability. Select the Load Optimized Defaults item under the Exit menu. Refer to section **2.10 Exit menu** for details.
 - Ensure to connect all SATA hard disk drives after updating the BIOS file if you have disconnected them.
-

2.2 BIOS setup program

Use the BIOS Setup program to update the BIOS or configure its parameters. The BIOS screens include navigation keys and brief online help to guide you in using the BIOS Setup program.

Entering BIOS Setup at startup

To enter BIOS Setup at startup:

- Press <Delete> during the Power-On Self Test (POST). If you do not press <Delete>, POST continues with its routines.

Entering BIOS Setup after POST

To enter BIOS Setup after POST:

- Press <Ctrl>+<Alt>+ simultaneously.
- Press the reset button on the system chassis.
- Press the power button to turn the system off then back on. Do this option only if you failed to enter BIOS Setup using the first two options.



Using the power button, reset button, or the <Ctrl>+<Alt>+ keys to force reset from a running operating system can cause damage to your data or system. We recommend you always shut down the system properly from the operating system.



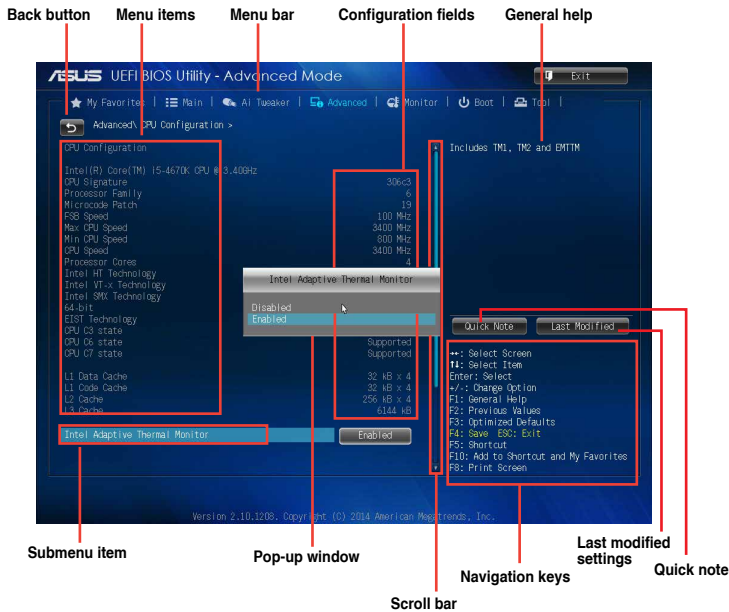
- The BIOS setup screens shown in this section are for reference purposes only, and may not exactly match what you see on your screen.
 - Visit the ASUS website at www.asus.com to download the latest BIOS file for this motherboard.
 - Ensure that a USB mouse is connected to your motherboard if you want to use the mouse to control the BIOS setup program.
 - If the system becomes unstable after changing any BIOS setting, load the default settings to ensure system compatibility and stability. Select the **Load Optimized Defaults** item under the Exit menu or press hotkey F5. See section 2.10 Exit Menu for details.
 - If the system fails to boot after changing any BIOS setting, try to clear the CMOS and reset the motherboard to the default value. See section 1.6 Jumpers for information on how to erase the RTC RAM.
-

BIOS menu screen

The BIOS setup program can be used under two modes: **EZ Mode** and **Advanced Mode**. You can change modes from the **Exit** menu or from the Exit/Advanced Mode button in the EZ Mode/Advanced Mode screen.

Advanced Mode

The Advanced Mode provides advanced options for experienced end-users to configure the BIOS settings. The figure below shows an example of the **Advanced Mode**. Refer to the following sections for the detailed configurations.



Menu bar

The menu bar on top of the screen has the following main items:

My Favorites	For saving the frequently-used system settings and configuration
Main	For changing the basic system configuration
AI Tweaker	For changing the overclocking settings
Advanced	For changing the advanced system settings
Monitor	For displaying the system temperature, power status, and changing the fan settings
Boot	For changing the system boot configuration
Tool	For configuring options for special functions
Exit	For selecting the exit options and loading default settings

Menu items

The highlighted item on the menu bar displays the specific items for that menu. For example, selecting **Main** shows the Main menu items.

The other items (Ai Tweaker, Advanced, Monitor, Boot, Tool, and Exit) on the menu bar have their respective menu items.

Back button

This button appears when entering a submenu. Press <Esc> or use the USB mouse to click this button to return to the previous menu screen.

Submenu items

A greater than sign (>) before each item on any menu screen means that the item has a submenu. To display the submenu, select the item and press <Enter>.

Pop-up window

Select a menu item and press <Enter> to display a pop-up window with the configuration options for that item.

Scroll bar

A scroll bar appears on the right side of a menu screen when there are items that do not fit on the screen. Press the Up/Down arrow keys or <Page Up> / <Page Down> keys to display the other items on the screen.

Navigation keys

At the bottom right corner of the menu screen are the navigation keys for the BIOS setup program. Use the navigation keys to select items in the menu and change the settings.



For the navigation key, it's only available in English. If you delete the default shortcuts, they will appear on your next system bootup.

General help

At the top right corner of the menu screen is a brief description of the selected item.

Configuration fields

These fields show the values for the menu items. If an item is user-configurable, you can change the value of the field opposite the item. You cannot select an item that is not user-configurable.

A configurable field is highlighted when selected. To change the value of a field, select it and press <Enter> to display a list of options.

Quick Note button

This button allows you to enter notes of the activities that you have done in BIOS.



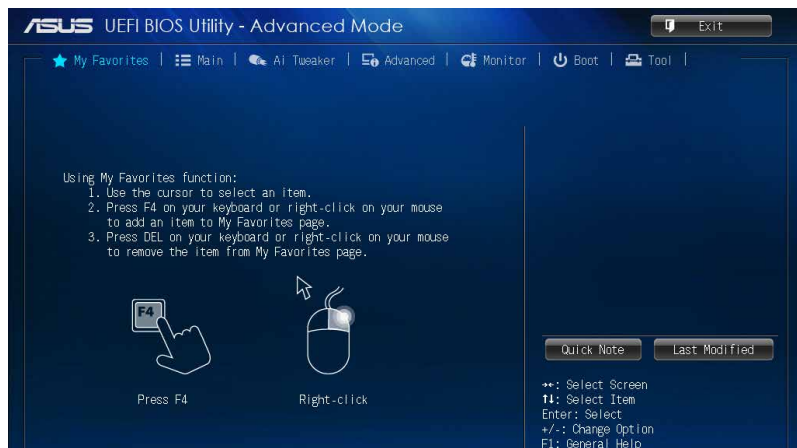
-
- The Quick Note function does not support the following keyboard functions: delete, cut, copy and paste.
 - You can only use the English letters to type your notes.
-

Last Modified button

This button shows the items that you last modified and saved in BIOS Setup.

2.3 My Favorites

MyFavorites is your personal space where you can easily save and access your favorite BIOS items.



Adding items to My Favorites

To add frequently-used BIOS items to My Favorites:

1. Use the arrow keys to select an item that you want to add. When using a mouse, hover the pointer to the item.
2. Press <F4> on your keyboard or right-click on your mouse to add the item to My Favorites page.

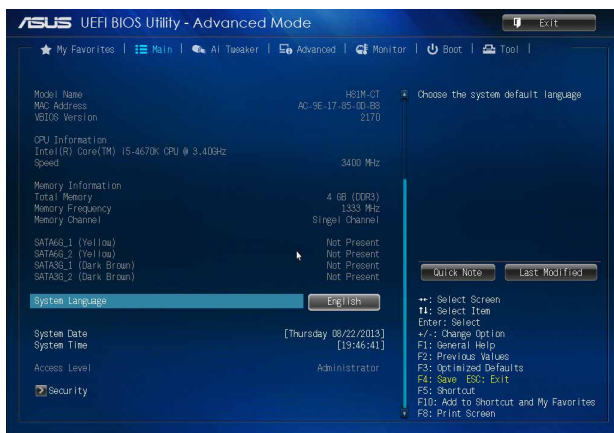


You cannot add the following items to My Favorites:

- Items with submenu options
- User-configurable items such as language and boot device order
- Configuration items such as Memory SPD Information, system time and date

2.4 Main menu

The Main menu screen appears when you enter the Advanced Mode of the BIOS Setup program. The Main menu provides you an overview of the basic system information, and allows you to set the system date, time, language, and security settings.



2.4.1 System Language [English]

Allows you to choose the BIOS language version from the options. Configuration options: [English] [Français] [Deutsch] [简体中文] [繁體中文] [日本語] [Español] [Русский] [한국어]

2.4.2 System Date [Day xx/xx/xxxx]

Allows you to set the system date.

2.4.3 System Time [xx:xx:xx]

Allows you to set the system time.

2.4.4 Security

The Security menu items allow you to change the system security settings.



- If you have forgotten your BIOS password, erase the CMOS Real Time Clock (RTC) RAM to clear the BIOS password. See section 1.6 Jumpers for information on how to erase the RTC RAM.
- The **Administrator** or **User Password** items on top of the screen show the default **Not Installed**. After you set a password, these items show **Installed**.

Administrator Password

If you have set an administrator password, we recommend that you enter the administrator password for accessing the system. Otherwise, you might be able to see or change only selected fields in the BIOS setup program.

To set an administrator password:

1. Select the **Administrator Password** item and press <Enter>.
2. From the **Create New Password** box, key in a password, then press <Enter>.
3. Confirm the password when prompted.

To change an administrator password:

1. Select the **Administrator Password** item and press <Enter>.
2. From the **Enter Current Password** box, key in the current password, then press <Enter>.
3. From the **Create New Password** box, key in a new password, then press <Enter>.
4. Confirm the password when prompted.

To clear the administrator password, follow the same steps as in changing an administrator password, but press <Enter> when prompted to create/confirm the password. After you clear the password, the **Administrator Password** item on top of the screen shows **Not Installed**.

User Password

If you have set a user password, you must enter the user password for accessing the system. The **User Password** item on top of the screen shows the default **Not Installed**. After you set a password, this item shows **Installed**.

To set a user password:

1. Select the **User Password** item and press <Enter>.
2. From the **Create New Password** box, key in a password, then press <Enter>.
3. Confirm the password when prompted.

To change a user password:

1. Select the **User Password** item and press <Enter>.
2. From the **Enter Current Password** box, key in the current password, then press <Enter>.
3. From the **Create New Password** box, key in a new password, then press <Enter>.
4. Confirm the password when prompted.

To clear the user password, follow the same steps as in changing a user password, but press <Enter> when prompted to create/confirm the password. After you clear the password, the **User Password** item on top of the screen shows **Not Installed**.

2.5 Ai Tweaker menu

The Ai Tweaker menu items allow you to configure overclocking-related items.

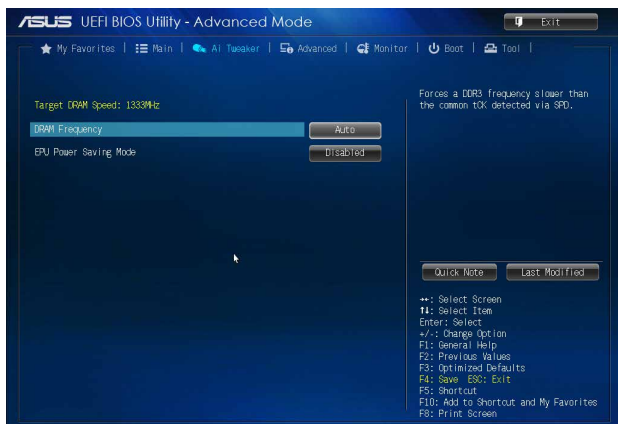


Be cautious when changing the settings of the Ai Tweaker menu items. Incorrect field values can cause the system to malfunction.



The configuration options for this section vary depending on the CPU and DIMM model you installed on the motherboard.

Scroll down to display the other items.



2.5.1 DRAM Frequency [Auto]

Allows you to set the memory operating frequency. The configuration options vary with the BCLK/PEG Frequency item settings.



Selecting a very high memory frequency may cause the system to become unstable! If this happens, revert to the default setting.

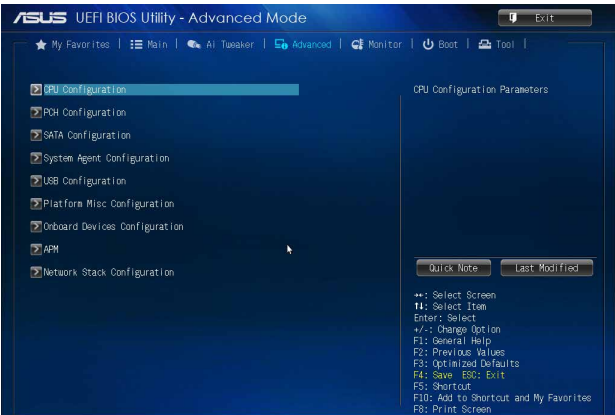
2.5.2 EPU Power Saving Mode [Auto]

2.6 Advanced menu

The Advanced menu items allow you to change the settings for the CPU and other system devices.



Be cautious when changing the settings of the Advanced menu items. Incorrect field values can cause the system to malfunction.



2.6.1 CPU Configuration

The items in this menu show the CPU-related information that the BIOS automatically detects.



The items shown in submenu may be different due to the CPU you installed.

Intel® Adaptive Thermal Monitor [Enabled]

- [Enabled] Enables the overheated CPU to throttle its clock speed to cool down.
- [Disabled] Disables the CPU thermal monitor function.

Active Processor Cores [All]

Allows you to choose the number of CPU cores to activate in each processor package.
Configuration options: [All] [1] [2] [3]

Limit CPUID Maximum [Disabled]

- [Enabled] Allows legacy operating systems to boot even without support for CPUs with extended CPUID functions.
- [Disabled] Disables this function.

Execute Disable Bit [Enabled]

- [Enabled] Enables the No-Execution Page Protection Technology.
- [Disabled] Forces the XD feature flag to always return to zero (0).

Intel Virtualization Technology [Disabled]

- [Enabled] Allows a hardware platform to run multiple operating systems separately and simultaneously, enabling one system to virtually function as several systems.
- [Disabled] Disables this function.

Hardware Prefetcher [Enabled]

- [Enabled] Allows a hardware platform to automatically analyze the requirements and prefetch data and codes for the CPU.
- [Disabled] Disables this function.

Adjacent Cache Line Prefetch [Enabled]

- [Enabled] Allows a hardware platform to perform adjacent cache line prefetching.
- [Disabled] Disables this function.

Boot performance mode [Max Non-Tu...]

This item allows you to select the boot performance mode. Configuration options: [Max Non-Turbo Performance] [Max battery] [Turbo Performance]

CPU Power Management Configuration

This item allows you to manage and configure the CPU's power.

EIST [Enabled]

Allows you to enable or disable the Enhanced Intel® SpeedStep Technology (EIST).

- [Disabled] The CPU runs at its default speed.
- [Enabled] The operating system controls the CPU speed.

Turbo Mode [Enabled]

Allows you to set the processor cores to run faster than the marked frequency in a specific condition. Configuration options: [Enabled] [Disabled]



Turbo Mode is only available on selected CPU models only.

CPU C states [Auto]

- [Auto] Automatic configuration.
- [Enabled] Enables the CPU C states.
- [Disabled] Disables the CPU C states.



The following items appear only when you set the CPU C states to **[Enabled]**.

Enhanced C1 state [Enabled]

- [Enabled] Enables enhanced C1 state.
- [Disabled] Disables enhanced C1 state.

CPU C3 Report [Enabled]

Allows you to disable or enable the CPU C3 report to OS. Configuration options: [Enabled] [Disabled]

CPU C6 report [Enabled]

Allows you to disable or enable the CPU C6 report to OS. Configuration options: [Enabled] [Disabled]

C6 Latency [Short]

Allows you to choose short or long latency for C6. Configuration options: [Short] [Long]

CPU C7 report [CPU C7s]

Allows you to disable or enable the CPU C7 report to OS. Configuration options: [Disabled] [CPU C7] [CPU C7s]

C7 Latency [Long]

Allows you to choose short or long latency for C6. Configuration options: [Short] [Long]

Package C State Support [Auto]

Allows you to disable or enable the whole C-State package support. Configuration options: [Auto] [Enabled] [C0/C1] [C2] [C3] [C6] [CPU C7] [CPU C7s]

2.6.2 PCH Configuration

PCI Express Configuration

DMI Link ASPM Control [Auto]

Allows you to control the Active State Power Management on both NB and SB side of the DMI Link. Configuration options: [Auto] [Enabled] [Disabled]

ASPM Support [Disabled]

Allows you to set the ASPM support. Configuration options: [Disabled] [Auto] [L0s] [L1] [L0sL1].

PCIe Speed [Auto]

Allows you to select the PCI Express port speed. Configuration options: [Auto] [Gen1] [Gen2]

Intel® Rapid Start Technology

Intel® Rapid Start Technology [Disabled]

Allows you to enable or disable Intel® Rapid Start Technology. Configuration options: [Enabled] [Disabled]



The following items appear only when you set the Intel® Rapid Start Technology to **[Enabled]**.

Entry on S3 RTC Wake [Enabled]

The system automatically wakes up and set to Rapid Start Technology S4 mode. Configuration options: [Enabled] [Disabled]

Entry After [x]

Allows you to set the wake-up time. The values range from 0 (immediately) to 120.

Active Page Threshold Support [Enabled]

The system automatically set itself to sleep when the partition size is not enough for Rapid Start Technology to work. Configuration options: [Enabled] [Disabled]

Active Memory Threshold [0]

Key in the value for the additional partition size for Rapid Start Technology to work.



Ensure that the caching partition size is larger than the total memory size.

Hybrid Hard Disk Support [Disabled]

Allows you to enable or disable hybrid hard disk support.

Configuration options: [Enabled] [Disabled]

Intel® Smart Connect Technology [Disabled]

ISCT Support [Disabled]

Allows you to enable or disable the ISCT support. Configuration options: [Enabled] [Disabled]

2.6.3 SATA Configuration

While entering Setup, the BIOS automatically detects the presence of SATA devices. The SATA Port items show Not Present if no SATA device is installed to the corresponding SATA port.

SATA Mode Selection [AHCI]

Allows you to set the SATA configuration.

- | | |
|------------|--|
| [Disabled] | Disables the SATA function. |
| [IDE] | Set to [IDE] when you want to use the Serial ATA hard disk drives as Parallel ATA physical storage devices. |
| [AHCI] | Set to [AHCI] when you want the SATA hard disk drives to use the AHCI (Advanced Host Controller Interface). The AHCI allows the onboard storage driver to enable advanced Serial ATA features that increases storage performance on random workloads by allowing the drive to internally optimize the order of commands. |

Aggressive LPM Support [Auto]

This item appears only when you set the previous item to [AHCI] and allows you to enable or disable PCH entering link power state aggressively. Configuration options: [Auto] [Disabled] [Enabled]

IDE Legacy / Native Mode Selection [Native]

This item appears only when you set the SATA Mode Selection item to [IDE]. Configuration options: [Native] [Legacy]

S.M.A.R.T. Status Check [Enabled]

S.M.A.R.T. (Self-Monitoring, Analysis and Reporting Technology) is a monitor system. When read/write of your hard disk errors occur, this feature allows the hard disk to report warning messages during the POST. Configuration options: [Enabled] [Disabled]

Hot Plug [Disabled]

These items appear only when you set the SATA Mode Selection item to [AHCI] and allow you to enable/disable SATA Hot Plug Support. Configuration options: [Disabled] [Enabled]

2.6.4 System Agent Configuration

CPU Audio Device [Disabled]

Allows you to enable or disable CPU SA Audio Device. Configuration options: [Enabled] [Disabled]

Graphics Configuration

Allows you to select a primary display from iGPU, and PCIe graphical devices.

Primary Display [Auto]

Allows you to select which of the iGPU/PCIe Graphics device should be the Primary Display. Configuration options: [Auto] [iGPU] [PCIe] [PCI]

iGPU Memory [Auto]

Allows you to select the amount of system memory allocated to DVMT 5.0 used by the iGPU. Configuration options: [Auto] [32M] [64M] [96M] [128M] [160M] [192M] [224M] [256M] [288M] [320M] [352M] [384M] [416M] [448M] [480M] [512M] [1024M]

DVMT Total Gfx Mem [Auto]

Allows you to select the DVMT 5.0 total graphics memory size used by the iGPU. Configuration options: [128M] [256M] [MAX]

Render Standby [Auto]

Allows you to enable or disable Intel® Graphics Render Standby support to reduce iGPU power use when the system is idle. Configuration options: [Auto] [Disabled] [Enabled]

iGPU Multi-Monitor [Disabled]

Set this item to [Enabled] to empower both integrated and discrete graphics for multiple-monitor output. The iGPU shared system memory size will be fixed at 64MB. Configuration options: [Disabled] [Enabled]

DMI Configuration

Allows you to control various DMI functions.

DMI Gen 2 [Auto]

Allows you to enable or disable DMI Gen 2. Configuration options: [Auto] [Enabled] [Disabled]

NB PCIe Configuration

Allows you to configure the NB PCI Express settings.

PCIEX16_1 Link Speed [Auto]

Allows you to configure the PCIEX16_1 speed. Configuration options: [Auto] [Gen1] [Gen2]

DMI Link ASPM Control [Auto]

Allows you to enable or disable the control of Active State Power Management on SA side of the DMI Link. Configuration options: [Auto] [Disabled] [L0s] [L1] [L0sL1]

PEG - ASPM [Disabled]

Allows you to control ASPM support for the PEG Device. The setting takes no effect if PEG is not the active device at present. Configuration options: [Disabled] [Auto] [ASPM L0s] [ASPM L1] [ASPM L0sL1]

Memory Configuration

Memory Scrambler [Enabled]

Allows you to enable or disable Memory Scrambler support.

Memory Remap [Enabled]

Allows you to enable or disable remapping the memory above 4GB.

[Enabled] Enables the function.

[Disabled] Disables this function.

2.6.5 USB Configuration

The items in this menu allow you to change the USB-related features.



The **USB Devices** item shows the auto-detected values. If no USB device is detected, the item shows None.

Legacy USB Support [Enabled]

[Disabled] The USB devices can be used only for the BIOS setup program.

[Enabled] Enables the support for USB devices on legacy operating systems (OS).

[Auto] Allows the system to detect the presence of USB devices at startup. If detected, the USB controller legacy mode is enabled. If no USB device is detected, the legacy USB support is disabled.

Intel xHCI Mode [Smart Auto]

[Smart Auto] Enables the operation of xHCI controller.

[Auto] Keeps the last operation of xHCI controller in OS during bootup.

[Enabled] Enables the function.

[Disabled] Disables the function.

EHCI Hand-off [Disabled]

- [Enabled] Enables the support for operating systems without an EHCI hand-off feature.
- [Disabled] Disables the function.

USB Single Port Control

USB3_1~2 [Enabled]

Allows you to enable or disable an individual USB port. Refer to the section **1.2.3 Motherboard layout** in this user manual for the locations of the USB ports.
Configuration options: [Enabled] [Disabled].

USB_3~6, 9~12 [Enabled]

Allows you to enable or disable an individual USB port. Refer to the section **1.2.3 Motherboard layout** in this user manual for the locations of the USB ports.
Configuration options: [Enabled] [Disabled].

2.6.6 Platform Misc Configuration

The items in this menu allow you to configure the Platform Misc.

PCI Express Native Power Management [Disabled]

Allows you to enhance the power saving feature of PCI Express and perform ASPM operations in the operating system. Configuration options: [Disabled] [Enabled]

2.6.7 Onboard Devices Configuration

HD Audio Controller [Enabled]

- [Enabled] Enables the HD Audio Device.
- [Disabled] Disables the HD Audio Device.



The following two items appear only when you set the **HD Audio Controller** item to [Enabled].

Front Panel Type [HD]

Allows you to set the front panel audio connector (AAFP) mode to legacy AC'97 or high-definition audio depending on the audio standard that the front panel audio module supports.

- [HD] Sets the front panel audio connector (AAFP) mode to high definition audio.
- [AC97] Sets the front panel audio connector (AAFP) mode to legacy AC'97

Realtek LAN Controller [Enabled]

- [Enabled] Enables the Realtek LAN controller.
- [Disabled] Disables the controller.

Realtek PXE Option Rom [Disabled]

This item appears only when you set the previous item to [Enabled] and allows you to enable or disable the PXE OptionRom of the Realtek LAN controller. Configuration options: [Enabled] [Disabled]

Serial Port / Serial Port 1 Configuration

The sub-items in this menu allow you to set the serial port configuration.

Serial Port [Enabled]

Allows you to enable or disable the serial port (COM). Configuration options: [Enabled] [Disabled]

Change Settings [IO=3F8h; IRQ=4]

This item appears only when you set the **Serial Port** to [Enabled] and allows you to select the Serial Port base address. Configuration options: [IO=3F8h; IRQ=4] [IO=2F8h; IRQ=3] [IO=3E8h; IRQ=4] [IO=2E8h; IRQ=3]

Parallel Port Configuration

The sub-items in this menu allow you to set the parallel port configuration.

Parallel Port [Enabled]

Allows you to enable or disable the parallel port (LPT/LPTE). Configuration options: [Enabled] [Disabled]



The following items appear only when you set the **Parallel Port Configuration** item to [Enabled].

Change Settings [Auto]

Allows you to select an optimal setting for Super I/O devices. Configuration options: [Auto] [IO=378h; IRQ=5;] [IO=378h; IRQ=5,6,7,9,10,11,12;] [IO=278h; IRQ=5,6,7,9,10,11,12;] [IO=3BCh; IRQ=5,6,7,9,10,11,12;]

Device Mode [STD Printe...]

Allows you to select the Printer Port mode. Configuration options: [STD Printer Mode] [SPP Mode] [EPP-1.9 and SPP Mode] [EPP-1.7 and SPP Mode] [ECP Mode] [ECP and EPP 1.9 Mode] [ECP and EPP 1.7 Mode]

2.6.8 APM

Restore AC Power Loss [Power Off]

- | | |
|--------------|--|
| [Power On] | The system goes into on state after an AC power loss. |
| [Power Off] | The system goes into off state after an AC power loss. |
| [Last State] | The system goes into either off or on state, whatever the system state was before the AC power loss. |

Power On By PCIE/PCI [Disabled]

[Disabled] Disables the PCIE/PCI devices to generate a wake-on-LAN feature of the Intel®/Realtek LAN device.

[Enabled] Enables the PCIE/PCI devices to generate a wake-on-LAN feature of the Intel®/Realtek LAN device.

Power On By RTC [Disabled]

[Disabled] Disables RTC to generate a wake event.

[Enabled] When set to [Enabled], the items **RTC Alarm Date (Days)** and **Hour/Minute/Second** will become user-configurable with set values.

Power On By RTC [S1 only (CPU Stop Clock)]

Select the ACPI sleep state the system will enter when the suspend button is pressed.

Configuration options: [S1 only (CPU Stop Clock)] [S3 only (Suspend to RAM)]

Support G3 Wakeup [Disabled]

Allows you to enable or disable the G3 wakeup support. Configuration options: [Enabled]

[Disabled]

2.6.9 Network Stack Configuration

Network Stack [Disabled]

This item allows user to disable or enable the UEFI network stack. Configuration options:

[Disabled] [Enabled]



The following two items appear only when you set the previous item to [Enabled].

Ipv4 PXE Support [Enabled]

This item allows user to disable or enable the Ipv4 PXE Boot support. Configuration options:

[Disabled] [Enabled]

Ipv6 PXE Support [Enabled]

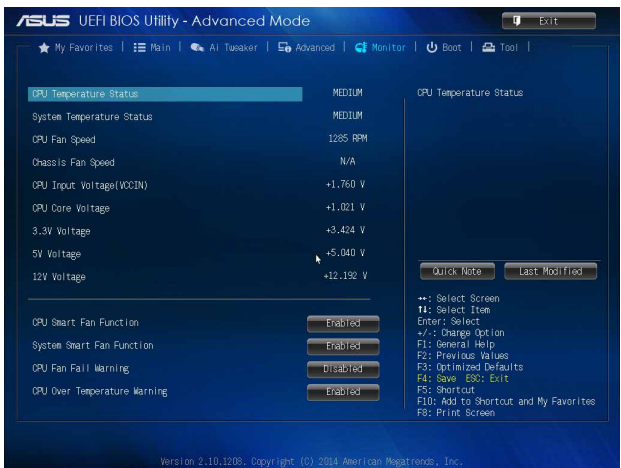
This item allows user to disable or enable the Ipv6 PXE Boot support. Configuration options:

[Disabled] [Enabled]

2.7 Monitor menu

The Monitor menu displays the system temperature/power status, and allows you to change the fan settings.

Scroll down to display the other items.



2.7.1 CPU / System Temperature Status

The onboard hardware monitor automatically detects and displays the CPU/system temperature status. Select **Ignore** if you do not wish to display the cpu/system temperature status.

2.7.2 CPU / Chassis Fan Speed [xxxx RPM] or [Ignore] / [N/A]

The onboard hardware monitor automatically detects and displays the CPU / chassis fan speeds in rotations per minute (RPM). If the fan is not connected to the motherboard, the field shows N/A. Select Ignore if you do not wish to display the detected speed.

2.7.3 CPU Input Voltage (VCCIN), 3.3V Voltage, 5V Voltage, 12V Voltage

The onboard hardware monitor automatically detects the voltage output through the onboard voltage regulators. Select Ignore if you do not want to detect this item.

2.7.4 CPU / System Smart Fan Function

Allows you to enable or disable the Smart Fan function. Configuration options: [Disabled] [Enabled]

2.7.5 CPU Fan Fail Warning

Allows you to enable or disable the CPU fan fail warning function. Configuration options: [Disabled] [Enabled]

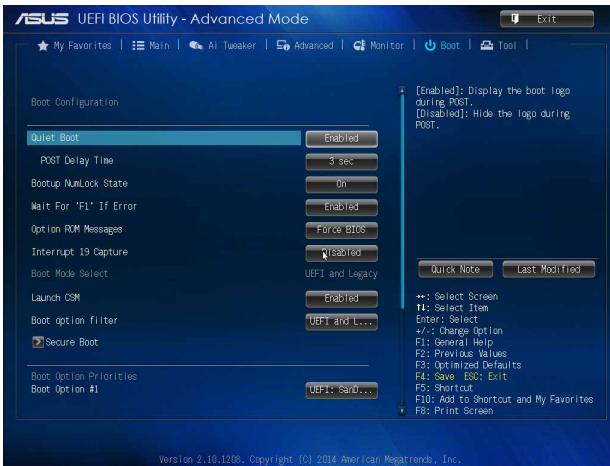
2.7.6 CPU Over Temperature Warning

Allows you to enable or disable the CPU over temperature warning function. Configuration options: [Disabled] [Enabled]

2.8 Boot menu

The Boot menu items allow you to change the system boot options.

Scroll down to display the other items.



2.8.1 Quiet Boot [Enabled]

[Enabled] Displays the boot logo during POST.

[Disabled] Hides the boot logo during POST.

POST Delay Time [3 sec]

This item appears only when you set **Quiet Boot** to [Enabled]. This item allows you to select the desired additional POST waiting time to easily enter the BIOS setup. You can only execute the POST delay time during Normal Boot. The values range from 0 to 10 seconds.



This feature will only work under normal boot.

Post Report [5 sec]

This item appears only when you set **Quiet Boot** to [Disabled]. This item allows you to select a desired post report waiting time. Configuration options: [1 sec] ~ [10 sec] [Until Press ESC].

2.8.2 Bootup NumLock State [On]

[On] Sets the power-on state of the NumLock to [On].

[Off] Sets the power-on state of the NumLock to [Off].

2.8.3 Wait for 'F1' If Error [Enabled]

When this item is set to [Enabled], the system waits for the F1 key to be pressed when error occurs. Configuration options: [Disabled] [Enabled]

2.8.4 Option ROM Messages [Force BIOS]

[Force BIOS] The third-party ROM messages will be forced to display during the boot sequence.

[Keep Current] The third-party ROM messages will be displayed only if the third-party manufacturer had set the add-on device to do so.

2.8.5 Interrupt 19 Capture [Disabled]

[Enabled] Allows the option ROMs to trap Interrupt 19.

[Disabled] Disables this function.

2.8.6 Launch CSM [Enabled]

[Enabled] For better compatibility, enable the CSM to fully support the non-UEFI driver add-on devices or the Windows® UEFI mode.

[Disabled] Disable the CSM to fully support the Windows® Security Update and Security Boot.



The following item appears when you set Launch CSM to [Enabled].

Boot option filter [Enabled]

Allows you to select the type of devices that you want to boot up. Configuration options: [UEFI and Legacy] [Legacy only] [UEFI only]

2.8.7 Secure Boot

Allows you to configure the Windows® Secure Boot settings and manage its keys to protect the system from unauthorized access and malwares during POST.

Secure Boot [Enabled]

Allows you to select your installed operating system.

[Enabled] Executes the Microsoft® Secure Boot check. Only select this option when booting on Windows® UEFI mode or other Microsoft® Secure Boot compliant OS.

[Disabled] Get the optimized function when booting on Windows® non-UEFI mode, Windows® Vista/XP, or other Microsoft® Secure Boot non-compliant OS. Only on Windows® UEFI mode that Microsoft® Secure Boot can function properly.



The following item appears when **Secure Boot** is set to **[Enabled]**.

Secure Boot Mode [Standard]

This is the Secure Boot mode selector. Setting this item to **[Custom]** allows for more flexibility in changing the Image Execution Policy and Secure Boot Key management. Configuration options: **[Enabled]** **[Disabled]**



The following item appears when **Secure Boot Mode** is set to **[Custom]**.

Key Management

This item appears only when you set OS Type to **[Windows UEFI Mode]**. It allows you to manage the Secure Boot keys.

Install Default Secure Boot keys

Allows you to immediately load the default Security Boot keys, Platform key (PK), Key-exchange Key (KEK), Signature database (db), and Revoked Signatures (dbx). When the default Secure boot keys are loaded, the PK state will change from Unloaded mode to loaded mode.

Clear Secure Boot keys

This item appears only when you load the default Secure Boot keys. This item allows you to clear all default Secure Boot keys.

Save Secure Boot Keys

Allows you to save the PK (Platform Keys) to a USB storage device.

PK Management

The Platform Key (PK) locks and secures the firmware from any non-permissible changes. The system verifies the PK before your system enters the OS.

Delete PK

Allows you to delete the PK from your system. Once the PK is deleted, all the system's Secure Boot keys will not be active. Configuration options: **[Yes]** **[No]**

Load PK from File

Allows you to load the downloaded PK from a USB storage device.



The PK file must be formatted as a UEFI variable structure with time-based authenticated variable.

KEK Management

The KEK (Key-exchange Key or Key Enrollment Key) manages the Signature database (db) and Revoked Signature database (dbx).



Key-exchange Key (KEK) refers to Microsoft® Secure Boot Key-Enrollment Key (KEK).

Load KEK from File

Allows you to load the downloaded KEK from a USB storage device.

Append KEK from file

Allows you to load the additional KEK from a storage device for an additional db and dbx loaded management.



The KEK file must be formatted as a UEFI variable structure with time-based authenticated variable.

DB Management

The db (Authorized Signature database) lists the signers or images of UEFI applications, operating system loaders, and UEFI drivers that you can load on the single computer.

Delete the db

Allows you to delete the db file from your system. Configuration options:
[Yes] [No]

Load db from File

Allows you to load the downloaded db from a USB storage device.

Append db from file

Allows you to load the additional db from a storage device so that more images can be loaded securely.



The DB file must be formatted as a UEFI variable structure with time-based authenticated variable.

DBX Management

The dbx (Revoked Signature database) lists the forbidden images of db items that are no longer trusted and cannot be loaded.

Delete the DBX

Allows you to delete the DBX file from your system. Configuration options:
[Yes] [No]

Load DBX from File

Allows you to load the downloaded DBX from a USB storage device.

Append DBX from file

Allows you to load the additional DBX from a storage device so that more db's images cannot be loaded.



The DBX file must be formatted as a UEFI variable structure with time-based authenticated variable.

2.8.8 Boot Option Priorities

These items specify the boot device priority sequence from the available devices. The number of device items that appears on the screen depends on the number of devices installed in the system.



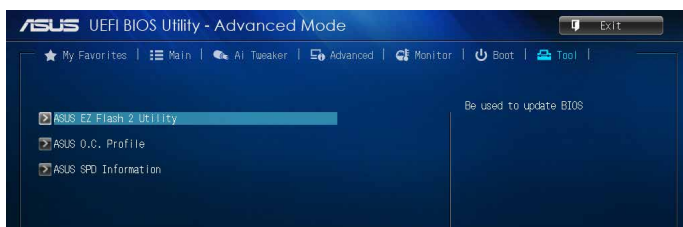
- To select the boot device during system startup, press <F8> when ASUS Logo appears.
- To access Windows OS in Safe Mode, do any of the following:
 - Press <F5> when ASUS Logo appears.
 - Press <F8> after POST.

2.8.9 Boot Override

These items displays the available devices. The number of device items that appears on the screen depends on the number of devices installed in the system. Click an item to start booting from the selected device.

2.9 Tools menu

The Tools menu items allow you to configure options for special functions. Select an item then press <Enter> to display the submenu.



2.9.1 ASUS EZ Flash 2 Utility

Allows you to run ASUS EZ Flash 2. Press [Enter] to launch the ASUS EZ Flash 2 screen.



For more details, see section **2.1.2 ASUS EZ Flash 2**.

2.9.2 ASUS O.C. Profile

This item allows you to store or load multiple BIOS settings.



The **Setup Profile Status** items show **Not Installed** if no profile is created.

Label

Allows you to input the label of the setup profile.

Save to Profile

Allows you to save the current BIOS settings to the BIOS Flash, and create a profile. Key in a profile number from one to eight, press <Enter>, and then select **Yes**.

Load from Profile

Allows you to load the previous BIOS settings saved in the BIOS Flash. Key in the profile number that saved your CMOS settings, press <Enter>, and then select **Yes**.



- DO NOT shut down or reset the system while updating the BIOS to prevent the system boot failure!
 - We recommend that you update the BIOS file only coming from the same memory/CPU configuration and BIOS version.
-

Load/Save CMOS Profile from/to USB Drive

Allows you to load/save CMOS profile from/to USB drive.

2.9.3 ASUS SPD Information

DIMM Slot Number [DIMM_A1]

Displays the Serial Presence Detect (SPD) information of the DIMM module installed on the selected slot. Configuration options: [DIMM_A1] [DIMM_B1]

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Appendices

Notices

Federal Communications Commission Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with manufacturer's instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



The use of shielded cables for connection of the monitor to the graphics card is required to assure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

IC: Canadian Compliance Statement

Complies with the Canadian ICES-003 Class B specifications. This device complies with RSS 210 of Industry Canada. This Class B device meets all the requirements of the Canadian interference-causing equipment regulations.

This device complies with Industry Canada license exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil numérique de la Classe B est conforme à la norme NMB-003 du Canada.

Cet appareil numérique de la Classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Cet appareil est conforme aux normes CNR exemptes de licence d'Industrie Canada. Le fonctionnement est soumis aux deux conditions suivantes :

- (1) cet appareil ne doit pas provoquer d'interférences et
- (2) cet appareil doit accepter toute interférence, y compris celles susceptibles de provoquer un fonctionnement non souhaité de l'appareil.

Canadian Department of Communications Statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

This class B digital apparatus complies with Canadian ICES-003.

VCCI: Japan Compliance Statement

VCCI Class B Statement

この装置は、クラスB 情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。
取扱説明書に従って正しい取り扱いをして下さい。

VCCI-B

This is a Class B product based on the standard of the VCCI Council. If this is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and use the equipment according to the instruction manual.

KC: Korea Warning Statement

B급 기기 (가정용 방송통신기자재)

이 기기는 가정용(B급) 전자파적합기기로서 주로 가정에서 사용하는 것을 목적으로 하며, 모든 지역에서 사용할 수 있습니다.

*당해 무선설비는 전파혼신 가능성이 있으므로 인명안전과 관련된 서비스는 할 수 없습니다.

REACH

Complying with the REACH (Registration, Evaluation, Authorisation, and Restriction of Chemicals) regulatory framework, we published the chemical substances in our products at ASUS REACH website at <http://csr.asus.com/english/REACH.htm>.



DO NOT throw the motherboard in municipal waste. This product has been designed to enable proper reuse of parts and recycling. This symbol of the crossed out wheeled bin indicates that the product (electrical and electronic equipment) should not be placed in municipal waste. Check local regulations for disposal of electronic products.



DO NOT throw the mercury-containing button cell battery in municipal waste. This symbol of the crossed out wheeled bin indicates that the battery should not be placed in municipal waste.

ASUS Recycling/Takeback Services

ASUS recycling and takeback programs come from our commitment to the highest standards for protecting our environment. We believe in providing solutions for you to be able to responsibly recycle our products, batteries, other components as well as the packaging materials. Please go to <http://csr.asus.com/english/Takeback.htm> for detailed recycling information in different regions.

Google™ License Terms

Copyright© 2014 Google Inc. All Rights Reserved.

Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at:

<http://www.apache.org/licenses/LICENSE-2.0>

Unless required by applicable law or agreed to in writing, software distributed under the License is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.

See the License for the specific language governing permissions and limitations under the License.

English AsusTek Inc. hereby declares that this device is in compliance with the essential requirements and other relevant provisions of CE Directives. Please see the CE Declaration of Conformity for more details.

Français AsusTek Inc. déclare par la présente que cet appareil est conforme aux critères essentiels et autres clauses pertinentes des directives européennes. Veuillez consulter la déclaration de conformité CE pour plus d'informations.

Deutsch AsusTek Inc. erklärt hiermit, dass dieses Gerät mit den wesentlichen Anforderungen und anderen relevanten Bestimmungen der CE-Richtlinien übereinstimmt. Weitere Einzelheiten entnehmen Sie bitte der CE-Konformitätserklärung.

Italiano AsusTek Inc. con la presente dichiara che questo dispositivo è conforme ai requisiti essenziali e alle altre disposizioni pertinenti alle direttive CE. Per maggiori informazioni fate riferimento alla dichiarazione di conformità CE.

Компания ASUS заявляет, что это устройство соответствует основным требованиям и другим соответствующим условиям европейских директив. Подробную информацию, пожалуйста, смотрите в декларации соответствия.

Български С настоящото AsusTek Inc. декларира, че това устройство е в съответствие със съществени изисквания и другите приложими постановления на директивите CE. Вижте CE декларацията за съвместимост за повече информация.

Hrvatski AsusTek Inc. ovim izjavljuje da je ovaj uređaj skladan s bitnim zahtjevima i ostalim odgovarajućim odredbama CE direktiva. Više pojedinosti potražite u CE izjavi o skladnosti.

Čeština Společnost AsusTek Inc. tímto prohlašuje, že toto zařízení splňuje základní požadavky a další příslušná ustanovení směrnice CE. Další podrobnosti viz Prohlášení o shodě CE.

Dansk AsusTek Inc. Erklærer hermed, at denne enhed er i overensstemmelse med hovedkravene and andre relevante bestemmelser i CE-direktiverne. Du kan læse mere i CE-overensstemmelseserklæring.

Nederlands AsusTek Inc. verklaart hierbij dat dit apparaat compatibel is met de essentiële vereisten en andere relevante bepalingen van CE-richtlijnen. Raadpleeg de CE-verklaring van conformiteit voor meer details.

Eesti Käesolevaga kinnitab AsusTek Inc., et see seade vastab CE direktiivide olulistele nõuetele ja teistele asjakohastele sätetele. Vt üksikasju CE vastavusdeklaratsioonist.

Suomi AsusTek Inc. vakuuttaa täten, että tämä laite on CE-direktiivien olennaisista vaatimusten ja muiden asiaan kuuluvien lisäysten mukainen. Katso lisätietoja CE-vaatimustenmukaisuusvakuutuksesta.

Ελληνικά Με το παρόν, η AsusTek Inc. δηλώνει ότι αυτή η συσκευή συμμορφώνεται με τις θεμελιώδεις απαιτήσεις και άλλες σχετικές διατάξεις των Οδηγιών της ΕΕ. Για περισσότερες λεπτομέρειες ανατρέξτε στην Δήλωση Συμμόρφωσης ΕΕ.

Magyar Az AsusTek Inc. ezennel kijelenti, hogy a készülék megfelel a CE-irányelvek alapvető követelményeinek és ide vonatkozó egyéb rendelkezéseinek. További részletekért tekintse meg a CE-megfelelőségi nyilatkozatot.

Latviski Līdz ar šo AsusTek Inc. paziņo, ka šī ierīce atbilst būtiskajām prasībām un citiem saistošajiem nosacījumiem, kas norādīti CE direktīvā. Lai uzzinātu vairāk, skatiet CE Atbilstības deklarāciju.

Lietuviai Šiuo dokumentu bendrovė „AsusTek Inc.“ pareiškia, kad šis įrenginys atitinka pagrindinius CE direktyvų reikalavimus ir kitas susijusias nuostatas. Daugiau informacijos rasite CE atitikties deklaracijoje.

Norsk AsusTek Inc. erklærer herved at denne enheten er i samsvar med hovedsaklige krav og andre relevante bestemmelser i CE-direktiver. Du finner mer informasjon i CE-samsvarserklæringen.

Polski Niniejszym AsusTek Inc. deklaruje, że to urządzenie jest zgodne z istotnymi wymaganiami oraz innymi powiązanymi zaleceniami Dyrektyw CE. W celu uzyskania szczegółów, sprawdź Deklarację zgodności CE.

Português A AsusTek Inc. declara que este dispositivo está em conformidade com os requisitos essenciais e outras disposições relevantes das Diretivas da CE. Para mais detalhes, consulte a Declaração de Conformidade CE.

Română Prin prezenta, AsusTek Inc. declară faptul că acest dispozitiv respectă cerințele esențiale și alte prevederi relevante ale directivelor CE. Pentru mai multe detalii, consultați declarația de conformitate CE.

Srpski AsusTek Inc. ovim izjavljuje da je ovaj uređaj u saglasnosti sa ključnim zahtevima i drugim relevantnim odredbama CE Direktiva. Molimo vas, pogledajte CE Deklaraciju o uskladenosti za više detalja.

Slovensky Spoločnosť AsusTek Inc. týmto prehlasuje, že toto zariadenie vyhovuje príslušným požiadavkám a ďalším súvisiacim ustanoveniam smerníc ES. Viac podrobností si pozrite v prehlásení o zhode ES.

Slovenščina AsusTek Inc. tukaj izjavlja, da je ta naprava skladna s temeljnimi zahtevami in drugimi relevantnimi določili direktiv CE. Za več informacij glejte Izjavo CE o skladnosti.

Español Por la presente, AsusTek Inc. declara que este dispositivo cumple los requisitos básicos y otras disposiciones relevantes de las directivas de la CE. Consulte la Declaración de conformidad de la CE para obtener más detalles.

Svenska AsusTek Inc. förklarar härmed att denna enhet är i överensstämmelse med de grundläggande kraven och andra relevanta bestämmelser i CE-direktiven. Se CE-försäkran om överensstämmelse för mer information.

Українська AsusTek Inc. заявляє, що цей пристрій відповідає основним вимогам відповідних Директив ЄС. Будь ласка, див. більше подробиць у Декларації відповідності нормам ЄС.

Türkçe AsusTek Inc., bu aygıtın temel gereksinimlerle ve CE Yönergelerinin diğer ilgili koşullarıyla uyumlu olduğunu beyan eder. Daha fazla ayrıntı için lütfen CE Uygunluk Beyanına bakın.

Bosanski AsusTek Inc. ovim potvrđuje da je ovaj uređaj uskladen s osnovnim zahtjevima i drugim relevantnim propisima Direktiva EK. Za više informacija molimo pogledajte Deklaraciju o uskladenosti EK.

ASUS contact information

ASUSTeK COMPUTER INC.

Address	15 Li-Te Road, Peitou, Taipei, Taiwan 11259
Telephone	+886-2-2894-3447
Fax	+886-2-2890-7798
E-mail	info@asus.com.tw
Web site	http://www.asus.com

Technical Support

Telephone	+86-21-3842-9911
Fax	+86-21-5866-8722 ext. 9101#
Online support	http://support.asus.com/techserv/techserv.aspx

ASUS COMPUTER INTERNATIONAL (America)

Address	800 Corporate Way, Fremont, CA 94539, USA
Telephone	+1-510-739-3777
Fax	+1-510-608-4555
Web site	http://www.asus.com/us/

Technical Support

Support fax	+1-812-284-0883
General support	+1-812-282-2787
Online support	http://www.service.asus.com/

ASUS COMPUTER GmbH (Germany and Austria)

Address	Harkort Str. 21-23, D-40880 Ratingen, Germany
Fax	+49-2102-959931
Web site	http://www.asus.com/de
Online contact	http://eu-rma.asus.com/sales

Technical Support

Telephone	+49-2102-5789555
Support Fax	+49-2102-959911
Online support	http://www.asus.com/de/support/

