

H110M2 D3



Motherboard

E10537

First Edition
September 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

H110M2 D3 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..... 1-10

1.6 Headers 1-11

1.7 Connectors 1-13

1.8 Software support..... 1-21

1.9 Installing an operating system 1-22

Chapter 2: BIOS information

2.1 Managing and updating your BIOS 2-1

2.2 BIOS setup program 2-6

2.3 My Favorites 2-11

2.4 Main menu 2-12

2.5 Ai Tweaker menu..... 2-13

2.6 Advanced menu 2-14

2.7 Monitor menu 2-14

2.8 Boot menu 2-15

2.9 Tool menu 2-15

2.10 Exit menu 2-16

Appendices

Notices.....A-1

ASUS contact informationA-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 for 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 H110M2 D3 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.

H110M2 D3 specifications summary

CPU	LGA1151 socket for 6th Generation Intel® Core™ i7/ i5/ i3/Pentium®/ Celeron® Processors* Supports 14nm 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® H110 Express Chipset
Memory	4 x DIMM, max. 32GB, DDR3 1600/1333/1066MHz, non-ECC, un-buffered memory** Support Intel® Extreme Memory Profile (XMP) * Due to Intel® chipset limitation, this motherboard can only support single-side memories when four modules are installed and they will run at the maximum transfer rate of DDR3 1066 MHz. ** Due to Intel® chipset limitation, DDR3 1600 MHz and higher memory modules on XMP mode will run at the maximum transfer rate of DDR3 1600 MHz. *** Hyper DIMM support is subject to the physical characteristics of individual CPUs. Please refer to Memory QVL for details. **** To prevent system instability, either install DDR3L DIMMs or DDR3 DIMMs with voltage lower than 1.5V. ***** Refer to www.asus.com for the latest Memory QVL (Qualified Vendors List).
Graphics	Integrated graphics processor Multi-VGA output support: HDMI/DVI-I ports - Supports HDMI with max. resolution of 4096x2160 @24Hz / 2560x1600@60Hz - Supports DVI-I with max. resolution of 2560x1080 / 1920x1200 @60Hz Support up to two displays simultaneously Maximum shared memory of 1024 MB
Expansion slots	1 x PCI Express 3.0/2.0 x16 slot 1 x PCI Express 2.0 x1 slot 2 x PCI slots
Storage	Intel® H110 Express Chipset: - 4 x Serial ATA 6.0 Gb/s connectors

(continued on the next page)

H110M2 D3 specifications summary

LAN	Realtek® RTL8111F Gigabit LAN Controller
Audio	Realtek® ALC887 8-channel High Definition Audio CODEC - Supports jack-detection and front panel jack-retasking
USB	6 x USB 2.0 ports (2 ports at midboard, 4 ports at back panel) 4 x USB 3.0 ports (2 ports at midboard, 2 ports at back panel)
ASUS unique features	Dependable stability: ASUS 5X PROTECTION II: - ASUS LANGuard - Surge-protected networking - ASUS Overvoltage Protection - World-class circuit-protecting power design - ASUS DRAM Overcurrent Protection - Enhanced DRAM overcurrent protection - ASUS Stainless Steel Back I/O - 3X more durable - ESD Guards - Electrostatic discharge protection Superb performance: UEFI BIOS: - Most advanced options with fast response time EZ PC DIY: Safe motherboard mounting - Component-free areas to minimize damage risk Q-Design - ASUS Q-DIMM - ASUS Q-Slot UEFI BIOS EZ Mode - featuring friendly graphics user interface - ASUS CrashFree BIOS 3 - ASUS EZ Flash 3 Optimized Cooling - ASUS Fan Xpert One Stop Control AI Suite 3 Push Notice - Monitor your PC status with smart devices in real time Mobo Connect Media Streamer - Pipe music or movies from your PC to a smart TV - Media Streamer app for portable smartphone/tablet, supporting iOS7 and Android 4.0 system Ai Charger

(continued on the next page)

H110M2 D3 specifications summary

Rear panel I/O ports	1 x PS/2 keyboard port (purple) 1 x PS/2 mouse port (green) 1 x DVI-I port 1 x HDMI port 1 x LAN (RJ-45) port 4 x USB 2.0/1.1 ports 2 x USB 3.0/2.0 ports 3 x 8-channel audio jacks * Use a chassis with HD audio module in the front panel to support an 8-channel audio output.
Internal connectors/switches/buttons	1 x USB 3.0/2.0 connector supports additional 2 USB 3.0 ports 1 x USB 2.0/1.1 connector supports additional 2 USB 2.0 ports 4 x SATA 6.0 Gb/s connectors 1 x CPU fan connector 1 x Chassis fan connector 1 x Front panel audio connector (AAFP) 1 x System panel connector 1 x Speaker connector 1 x LPT connector 1 x COM connector 1 x 14-1 pin TPM connector 1 x MONO-out header 1 x Chassis intrusion header 1 x Clear CMOS header 1 x 24-pin ATX power connector 1 x 4-pin ATX 12V power connector
BIOS features	128 Mb Flash ROM, UEFI AMI BIOS, PnP, DMI3.0, WfM2.0, SM BIOS 3.0, ACPI 5.1, Multi-language BIOS, ASUS EZ Flash 3, CrashFree BIOS 3, F3 My Favorites, Quick Note, Last Modified log, F12 PrintScreen, and ASUS DRAM SPD (Serial Presence Detect) memory information, F6 Qfan Control
Manageability	WfM 2.0, DMI 3.0, WOL by PME, WOR by PME, PXE
Support DVD	Drivers ASUS utilities ASUS Update Anti-virus software (OEM version)
Operating systems	Windows® 10 (64-bit) Windows® 8.1 (64-bit) Windows® 7 (64-bit/32-bit) * Please refer to chapter 1.9 or ASUS official website to download Windows® 7 installation Guide and EZ Installer to install Windows® 7.
Form factor	MicroATX form factor: 9.6"x 8.2" (24.4cm x 20.8cm)



Specifications are subject to change without notice.

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.
- 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

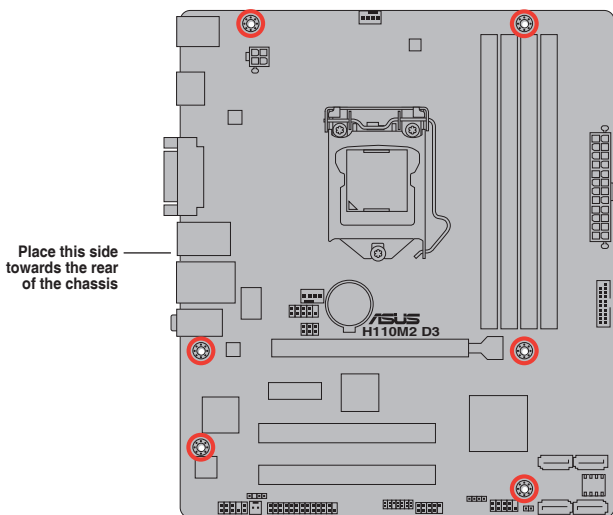
When installing the motherboard, place it into the chassis in the correct orientation. The edge with external ports goes to the rear part of the chassis as indicated in the image.

1.2.2 Screw holes

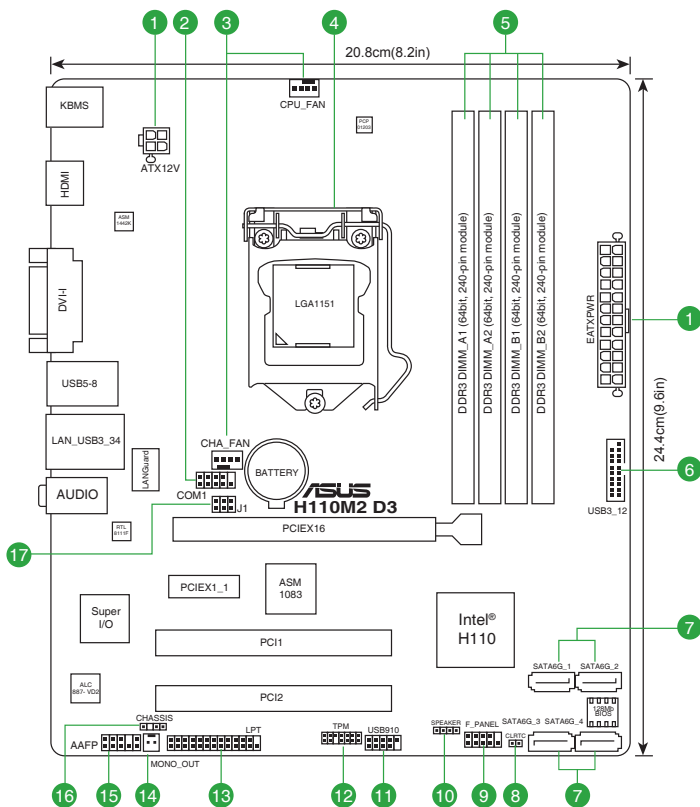
Place six screws into the holes indicated by circles to secure the motherboard to the chassis.



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



1.2.3 Motherboard layout

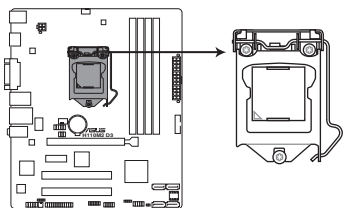


1.2.4 Layout contents

Connectors/Jumpers/Slots/LED	Page
1. ATX power connectors (24-pin EATXPWR, 4-pin ATX12V)	1-15
2. Serial port connector (10-1 pin COM1)	1-18
3. CPU and chassis fan connectors (4-pin CPU_FAN, 4-pin CHA_FAN)	1-17
4. Intel® LGA1151 CPU socket	1-3
5. DDR3 DIMM slots	1-7
6. USB 3.0 connector (20-1 pin USB3_12)	1-19
7. Intel® H110 Serial ATA 6.0Gb/s connectors (7-pin SATA6G_1~4)	1-18
8. Clear RTC RAM (2-pin CLRTC)	1-11
9. System panel connector (10-1 pin F_PANEL)	1-20
10. Speaker connector (4-pin SPEAKER)	1-17
11. USB 2.0 connector (10-1 pin USB910)	1-19
12. TPM connector (14-1 pin TPM)	1-16
13. LPT connector (26-1 pin LPT)	1-15
14. Mono out header (2-pin MONO_OUT)	1-20
15. Front panel audio connector (10-1 pin AAFP)	1-16
16. Chassis intrusion header (4-1 pin CHASSIS)	1-12
17. COM1 Ring/+5/+12V selector (6-pin J1)	1-12

1.3 Central Processing Unit (CPU)

This motherboard comes with a surface mount LGA1151 socket designed for the 6th Generation Intel® Core™ i7 / Core™ i5 / Core™ i3, Pentium® and Celeron® processors.



H110M2 D3 CPU socket LGA1150

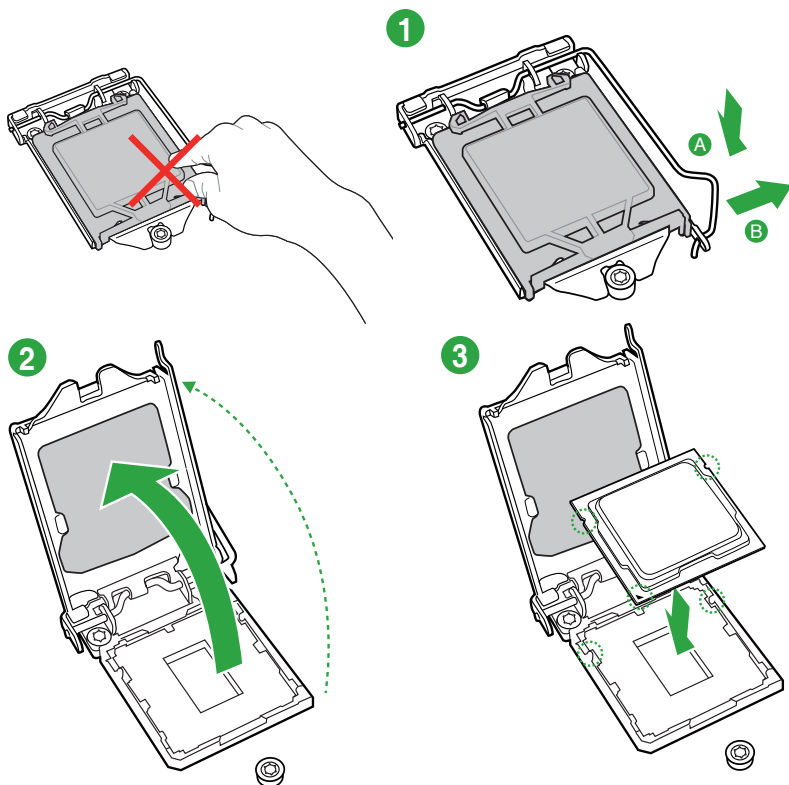


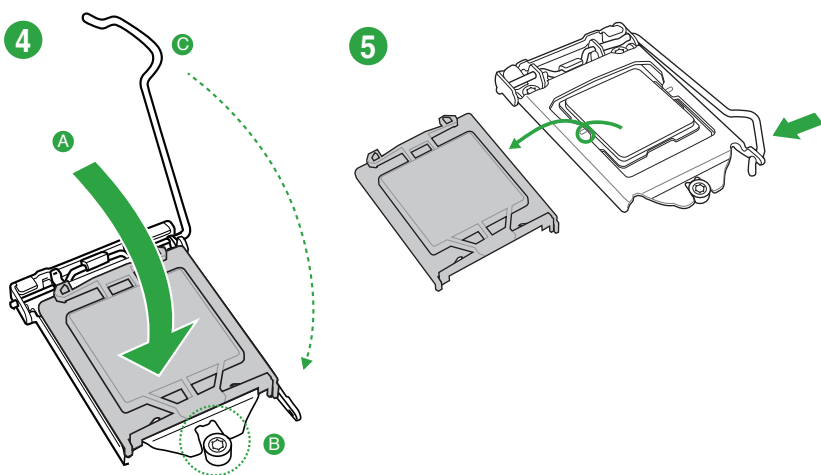
Unplug all power cables before installing the CPU.



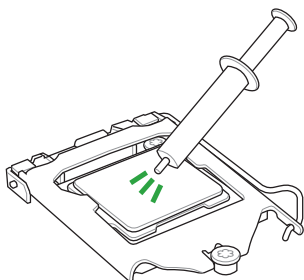
- Ensure that you install the correct CPU designed for the LGA1151 socket only. DO NOT install a CPU designed for LGA1150, LGA1155 and LGA1156 sockets on the LGA1151 socket.
- Upon purchase of the motherboard, ensure that the PnP cap is on the socket and the socket contacts are not bent. Contact your retailer immediately if the PnP cap is missing, or if you see any damage to the PnP cap/socket contacts/motherboard components.
- 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 LGA1151 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



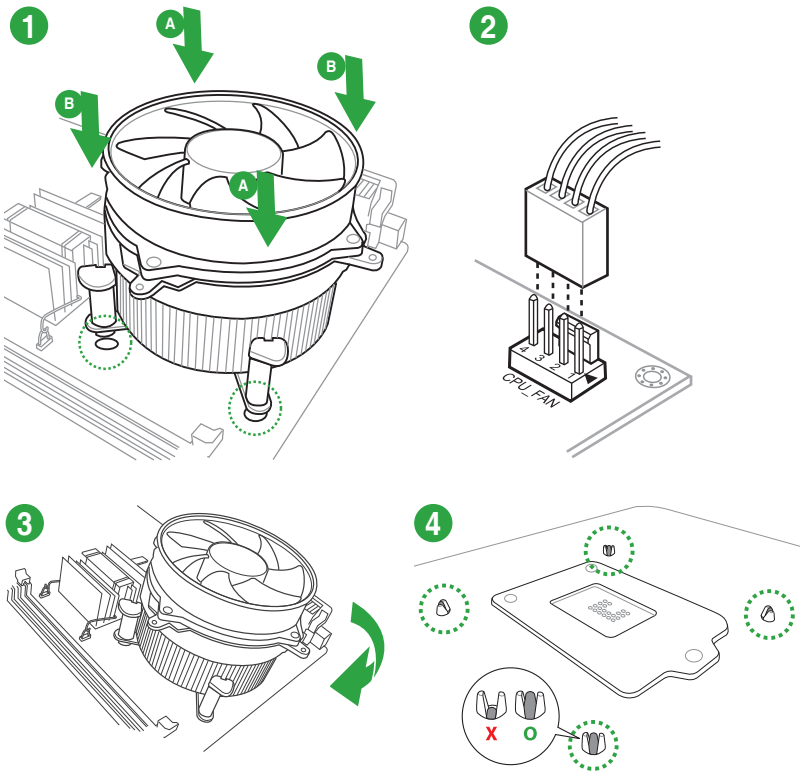


1.3.2 CPU heatsink and fan assembly installation

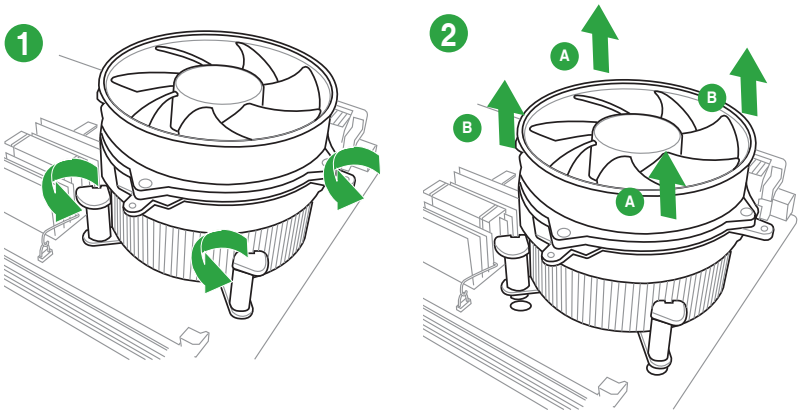


Apply the Thermal Interface Material to the CPU heatsink and CPU before you install the heatsink and fan if necessary.

To install the CPU heatsink and fan assembly



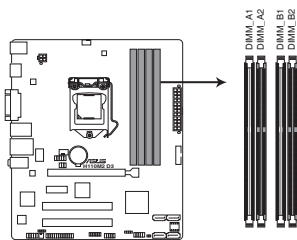
To uninstall the CPU heatsink and fan assembly



1.4 System memory

1.4.1 Overview

This motherboard comes with four Double Data Rate 3 (DDR3) Dual Inline Memory Module (DIMM) sockets. The figure illustrates the location of the DDR3 DIMM sockets:



Channel	Sockets
Channel A	DIMM_A1 & DIMM_A2
Channel B	DIMM_B1 & DIMM_B2

H110M2 D3 240-pin DDR3 DIMM sockets

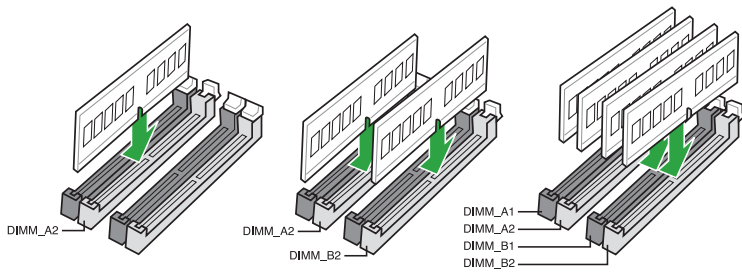
1.4.2 Memory configurations

You may install 2 GB, 4 GB, 8 GB, and 16 GB unbuffered non-ECC DDR3 DIMMs into the DIMM sockets. You can refer to the recommended memory population below.



To prevent system instability, either install DDR3L DIMMs or DDR3 DIMMs with voltage lower than 1.5V.

Recommended memory configurations





-
- 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, this motherboard can only support single-side memories when four modules are installed and they will run at the maximum transfer rate of DDR3 1066 MHz.
 - Due to Intel® chipset limitation, DDR3 1600 MHz and higher memory modules on XMP mode will run at the maximum transfer rate of DDR3 1600 MHz.
 - 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 3 GB 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.
 - For more details, refer to the Microsoft® support site at <http://support.microsoft.com/kb/929605/en-us>.
-

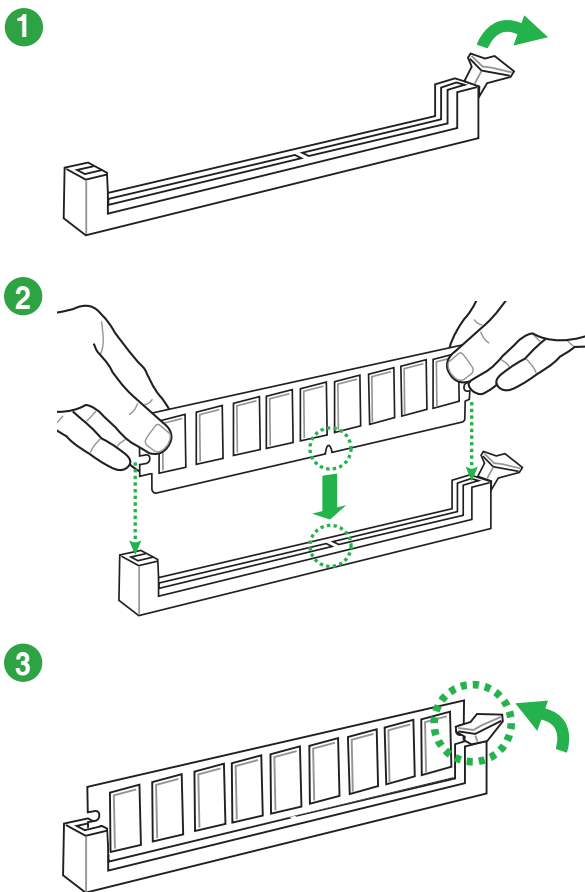


-
- The default memory operation frequency is dependent on its Serial Presence Detect (SPD), which is the standard way of accessing information from a memory module. Under the default state, some memory modules for overclocking may operate at a lower frequency than the vendor-marked value. To operate at the vendor-marked or at a higher frequency, refer to section **2.5 Ai Tweaker menu** for manual memory frequency adjustment.
 - Always install the DIMMs with the same CAS Latency. For an optimum compatibility, we recommend that you install memory modules of the same version or data code (D/C) from the same vendor. Check with the vendor to get the correct memory modules.
-

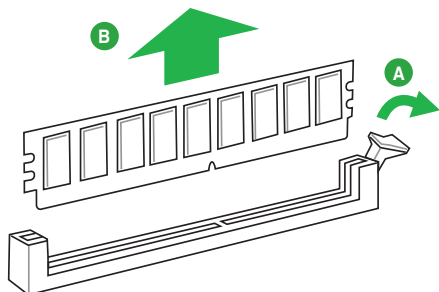


Visit the ASUS website at www.asus.com for the latest QVL.

1.4.3 Installing a DIMM



1.4.4 Removing a DIMM



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 slot

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

1.5.4 PCI Express 2.0 x1 slot

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

1.5.5 PCI Express 3.0/2.0 x16 slot

This motherboard supports PCI Express x16 network cards, SCSI cards, and other cards that comply with the PCI Express specifications.

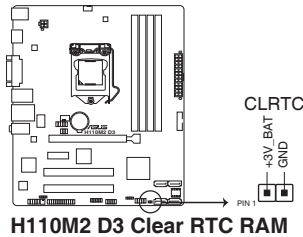
IRQ assignments for this motherboard

	A	B	C	D
PCIe x1_1	shared	–	–	–
PCIe x16_1	–	shared	–	–
Realtek 8111F controller	–	–	shared	–
USB 3.0 controller	shared	–	–	–
SATA controller	shared	–	–	–
HD Audio	shared	–	–	–
PCI Slot 1	shared	–	–	–
PCI Slot 2	–	shared	–	–

1.6 Headers

1. Clear RTC RAM (2-pin CLRTC)

This header 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.



To erase the RTC RAM:

1. Turn OFF the computer and unplug the power cord.
2. Use a metal object such as a screwdriver to short the two pins.
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.

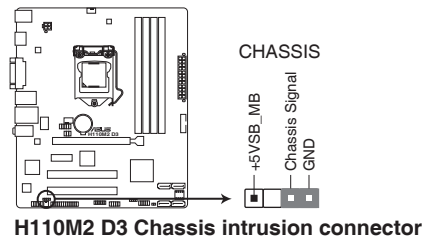


- If the steps above do not help, remove the onboard battery and short the two pins again to clear the CMOS RTC RAM data. After clearing the CMOS, reinstall the battery.
- You do not need to clear the RTC when the system hangs due to overclocking. For system failure due to overclocking, use the CPU Parameter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

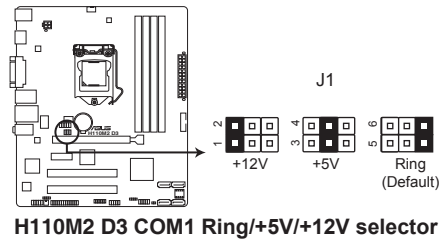
2. Chassis intrusion header (4-1 pin CHASSIS)

This connector is for a chassis-mounted intrusion detection sensor or switch. Connect one end of the chassis intrusion sensor or switch cable to this connector. The chassis intrusion sensor or switch sends a high-level signal to this connector when a chassis component is removed or replaced. The signal is then generated as a chassis intrusion event.

By default, the pin labeled “Chassis Signal” and “Ground” are shorted with a jumper cap. Remove the jumper caps only when you intend to use the chassis intrusion detection feature.



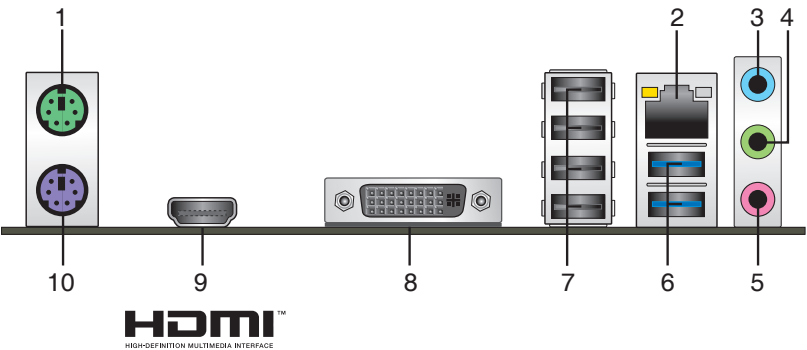
3. COM1 Ring/+5/+12V selector (6-pin J1)



Setting	Pins
+12V	1-2
+5V	3-4
Ring (Default)	5-6

1.7 Connectors

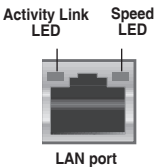
1.7.1 Rear panel connectors



1. **PS/2 mouse port (green).** This port is for a PS/2 mouse.
2. **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	100Mbps connection
Orange (Blinking)	Data activity	GREEN	1Gbps connection
Orange (Blinking then steady)	Ready to wake up from S5 mode	—	—



3. **Line In port (light blue).** This port connects to the tape, CD, DVD player, or other audio sources.
4. **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.
5. **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
Lime (Rear panel)	Line Out	Front Speaker Out	Front Speaker Out	Front Speaker Out
Pink (Rear panel)	Mic In	Mic In	Bass/Center	Bass/Center
Lime (Front panel)	-	-	-	Side Speaker Out



To configure a 7.1-channel audio output:

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

6. USB 3.0 ports. These 9-pin Universal Serial Bus (USB) ports are for USB 3.0 devices.



- USB 3.0 devices can only be used for data storage.
- We strongly recommend that you connect USB 3.0 devices to USB 3.0 ports for faster and better performance from your USB 3.0 devices.
- Due to the design of the Intel® 100 series chipset, all USB devices connected to the USB 2.0 and USB 3.0 ports are controlled by the xHCI controller. Some legacy USB devices must update their firmware for better compatibility.

7. USB 2.0 ports. These 4-pin Universal Serial Bus (USB) ports are for USB 2.0/1.1 devices.

8. DVI-I port. This port is for any DVI-I compatible device and is HDCP compliant, allowing playback of HD DVD, Blu-ray, and other protected content.

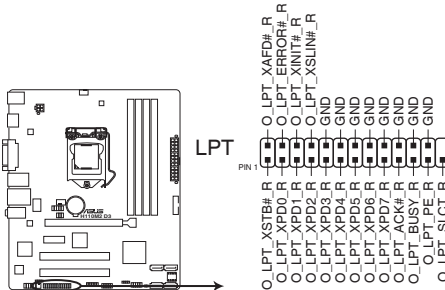
9. HDMI port. This port is for a High-Definition Multimedia Interface (HDMI) connector, and is HDCP compliant allowing playback of HD DVD, Blu-ray, and other protected content.

10. PS/2 keyboard port (purple). This port is for a PS/2 keyboard.

1.7.2 Internal connectors

1. LPT connector (26-1 pin LPT)

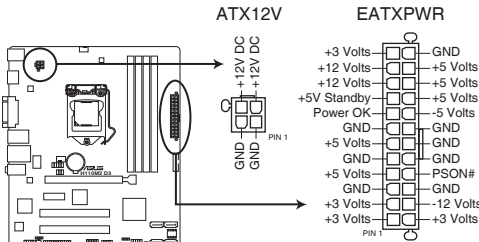
The LPT (Line Printing Terminal) connector supports devices such as a printer. LPT standardizes as IEEE 1284, which is the parallel port interface on IBM PC-compatible computers.



H110M2 D3 Parallel port connector

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.



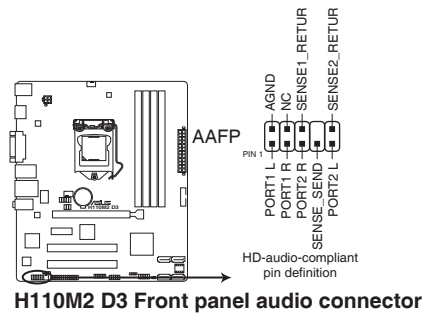
H110M2 D3 ATX power connectors



- We recommend that you use an ATX 12V Specification 2.0-compliant or later version power supply unit (PSU) with a minimum of 350W power rating. This PSU type has 24-pin and 4-pin power plugs.
- 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. **Front panel audio connector (10-1 pin AAFP)**

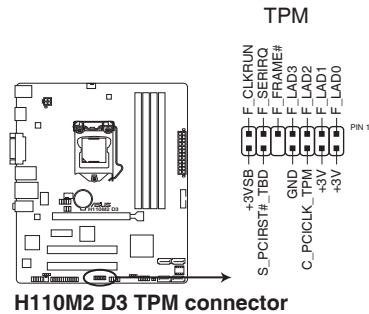
This connector is for a chassis-mounted front panel audio I/O module that supports HD Audio. Connect one end of the front panel audio I/O module cable to this connector.



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.

4. **TPM connector (14-1 pin TPM)**

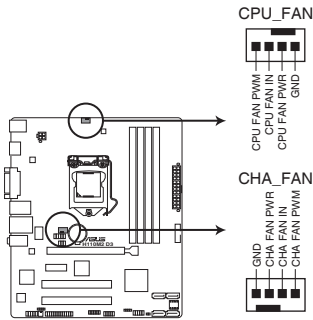
This connector supports a Trusted Platform Module (TPM) system, which can securely store keys, digital certificates, passwords, and data. A TPM system also helps enhance network security, protects digital identities, and ensures platform integrity.



The TPM module is purchased separately.

5. **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.



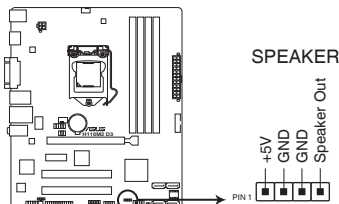
H110M2 D3 Fan connectors



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.

6. **Speaker connector (4-pin SPEAKER)**

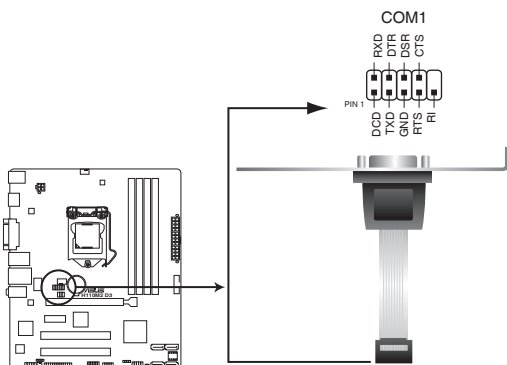
The 4-pin connector is for the chassis-mounted system warning speaker. The speaker allows you hear system beeps and warnings.



H110M2 D3 Speaker connector

7. 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.



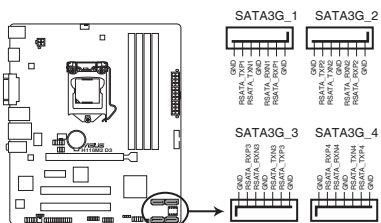
H110M2 D3 Serial port connector



The COM module is purchased separately.

8. Intel® H110 Serial ATA 6.0Gb/s connectors (7-pin SATA6G_1~4 [gray])

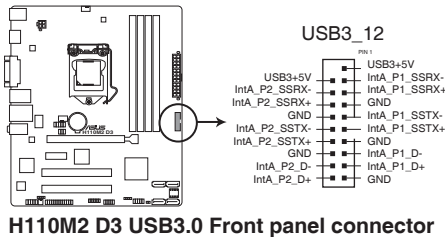
These connectors connect to Serial ATA 6.0 Gb/s hard disk drives via Serial ATA 6.0 Gb/s signal cables.



H110M2 D3 SATA 6.0Gb/s connectors

9. **USB 3.0 connector (20-1 pin USB_{3_12})**

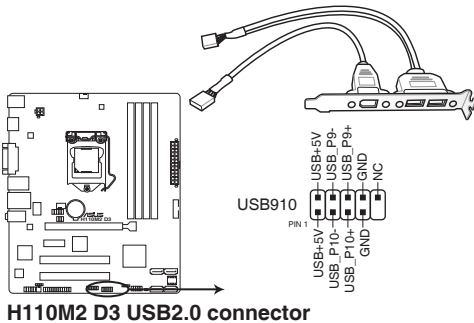
This connector allows you to connect a USB 3.0 module for additional USB 3.0 front or rear panel ports. With an installed USB 3.0 module, you can enjoy all the benefits of USB 3.0 including faster data transfer speeds of up to 5Gbps, faster charging time for USB-chargeable devices, optimized power efficiency,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



The USB 3.0 module is purchased separately.

10. **USB 2.0 connector (10-1 pin USB₉₁₀)**

This connector is for USB 2.0 ports. Connect the USB module cable to this connector, then install the module to a slot opening at the back of the system chassis. This USB connector complies with USB 2.0 specifications and supports up to 480Mbps connection speed.



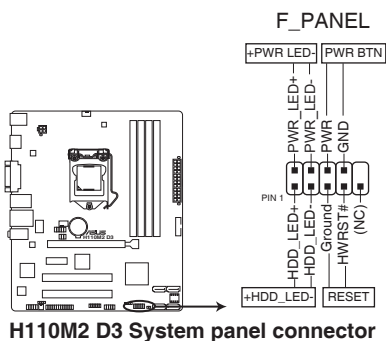
Never connect a 1394 cable to the USB connector. Doing so will damage the motherboard!



The USB 2.0 module is purchased separately.

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

This connector supports several chassis-mounted functions.



- **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)**

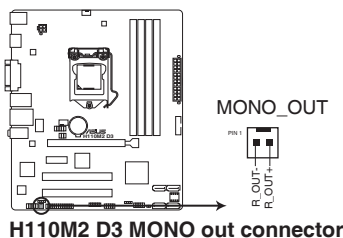
This connector is for the system power button.

- **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.

12. 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).



1.8 Software support

1.8.1 Installing an operating system

This motherboard supports Windows® 7 (32-bit/64-bit), Windows® 8.1 (64-bit) and Windows® 10 (64-bit) 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.

1.8.2 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, Manual and Special tabs to display their respective menus.



The following screen is for reference only.

ASUS H110M2 D3 motherboard support CD

Automatic Installation

Driver	Status	Available Version	Installed Version	Restart
☒ Special Offers				
☒ Google Chrome Browser	Not installed	38.0.2125.92	None	No
☒ Google Toolbar	Not installed	7.5.4301.1852	None	No
☐ Driver				
☐ Microsoft .NET Framework	Updated	4.5.51650	4.5.51650	No
☐ Intel Chipset Driver	Updated	10.1.1.7	10.1.1.7	No
☒ Realtek Audio Driver	Outdated	6.0.1.7576	6.0.1.7543	No
☐ Realtek LAN Driver	Updated	8.38.115.2015	8.38.115.2015	No
☐ Intel Rapid Storage Technology Driver so...	Updated	14.5.0.1081	14.5.0.1081	No
☐ Intel USB 3.0 Host Controller Adaptation ...	Updated	1.0.0.42	1.0.0.42	No
☒ APRP Utility	Not installed	1.0.030	None	No
☒ Norton Security	Not installed	22.5.1.7	None	No

Click an icon to display a tab

Tick an item and click Install to install it

Click to install



If Autorun is NOT enabled in your computer, browse the contents of the Support DVD to locate the file Setup.exe in the root folder. Double-click the Setup.exe to run the DVD.

1.9 Installing an operating system



Motherboard settings and hardware options vary. The setup procedures presented in this chapter are for reference only. Refer to Windows® operating system documentation for detailed information.

Windows® 7 and USB 3.0 driver for 100 Series

Based on the chipset specification, the 100 series requires USB 3.0 drivers to be preloaded in order to use USB keyboard/mouse during Windows® 7 installation. This section is a guide on preloading USB 3.0 drivers and installing Windows® 7.

Method 1: Using SATA ODD & USB devices

Load USB 3.0 drivers using the ASUS support DVD and install Windows® 7 using a USB device.

Requirement:

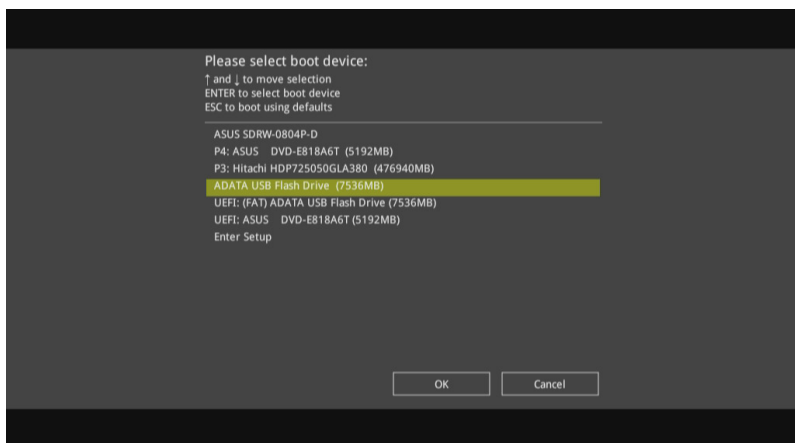
- 1 x ASUS support DVD
- 1 x Windows® 7 installation source
- 1 x SATA ODD
- 1 x USB device (ODD or storage)



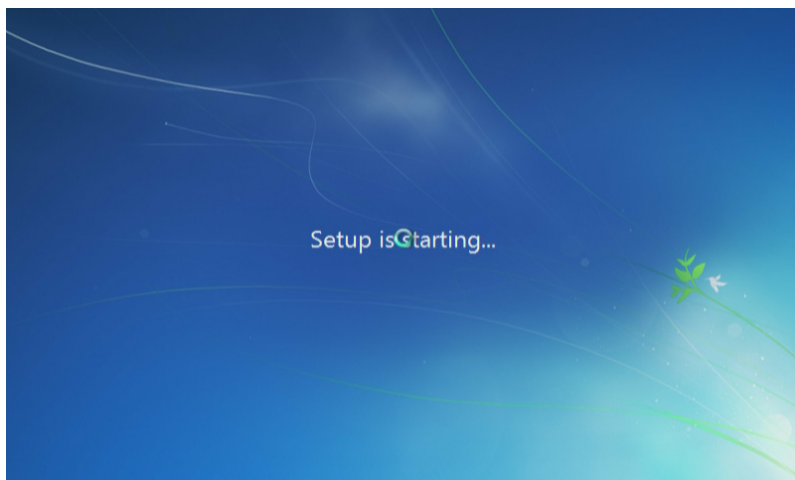
- The USB storage device requires 8 GB or more capacity. It is recommended to format the storage device before use.
- Use both a USB ODD and a SATA ODD if you want to install Windows® 7 64-bit UEFI mode.

1. Insert the Windows® 7 installation DVD into a USB ODD, or copy all files on the Windows® 7 installation DVD to a USB storage device on a working system.
2. Connect the USB ODD or USB storage device to your 100 series platform.
3. Insert the ASUS support DVD into a SATA ODD on your 100 series platform.
4. Power on your system and press F8 during POST (Power-On Self Test) to enter the boot screen.

5. Select the USB ODD or USB storage device as the boot device.



6. The USB 3.0 driver will be loaded automatically during installation startup.



The "Setup is starting..." screen will show up if the USB 3.0 driver is loaded correctly.

7. Follow the onscreen instructions to complete the Windows® 7 installation.

Method 2: Using a modified Windows® 7 ISO

Load USB 3.0 drivers and install Windows® 7 using a modified Windows® 7 installation DVD.

Requirement:

- 1 x ASUS support DVD
 - 1 x Windows® 7 installation source
 - 1 x Working system (PC or notebook)
 - 1 x SATA ODD
1. On your working system, create an ISO image file of the Windows® 7 installation source using a third-party ISO software.
 2. Copy both "Auto_Unattend.xml" and "Auto_Unattend" folder from the root directory of the ASUS supporting DVD to your system.
 3. Edit the ISO file and add both "Auto_Unattend.xml" and "Auto_Unattend" folder into the ISO file.
 4. Burn this ISO file onto an empty DVD to create a modified Windows® 7 installation DVD.
 5. Insert the modified Windows® 7 installation DVD into an ODD on your 100 series platform.
 6. Power on your system and press F8 during POST (Power-On Self Test) to enter the boot screen.
 7. Select the ODD as the boot device.
 8. The USB 3.0 driver will be loaded automatically during installation startup.



The "Setup is starting..." screen will show up if the USB 3.0 driver is loaded correctly.

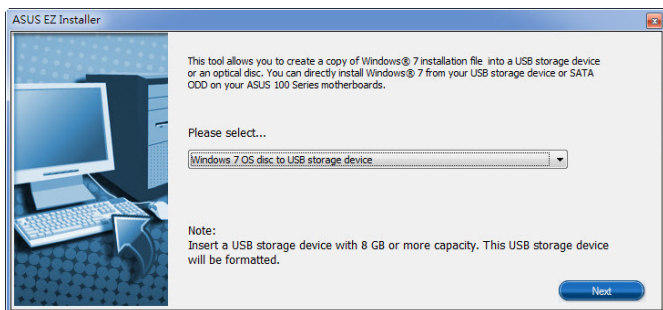
9. Follow the onscreen instructions to complete the Windows® 7 installation.

Method 3: Using ASUS EZ Installer

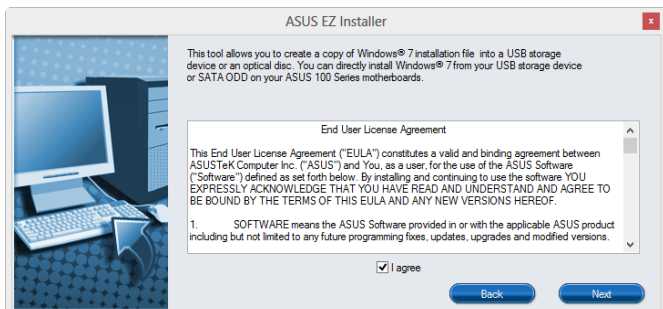
Use the ASUS EZ Installer to create a modified Windows® 7 installation source.

Requirement:

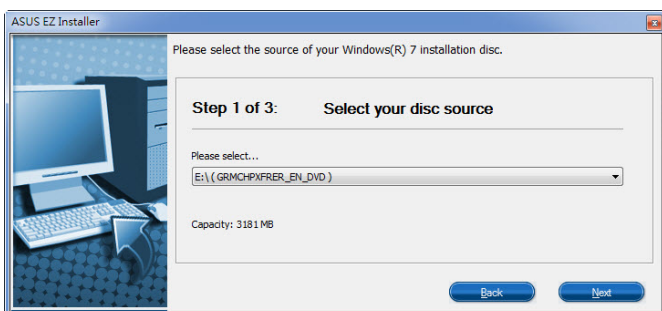
- 1 x ASUS support DVD
 - 1 x Windows® 7 installation DVD
 - 1 x Working system (PC or notebook)
 - 1 x SATA ODD
 - 1 x USB storage device (8 GB or more)
1. Insert the Windows® 7 installation DVD.
 2. Launch the ASUS EZ Installer located on the ASUS support DVD.
 3. Select a method of creating a modified Windows® 7 installation file:
 - Windows® 7 OS disk to USB storage device
 - Select **Windows 7 OS disk to USB storage device** then click **Next**.



- Check **I agree** and then click **Next**.



- Select the source of the Windows® 7 installation disk then click **Next**.



- Select the USB storage device and click **next**.



Click the refresh icon  if the USB storage device is not displayed.

- Click **Yes** to clear the contents on the USB storage device and create a bootable USB device.



Make sure to backup contents on the USB storage device, as it will be formatted.

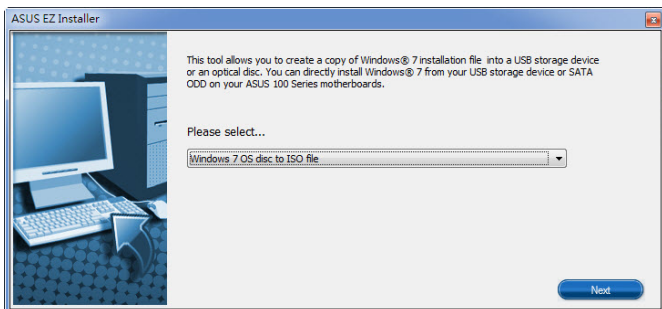
- Once completed, click **OK** to finish.

- Windows® 7 OS disk to ISO file

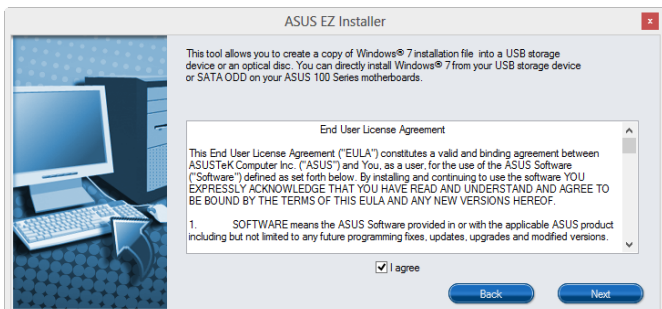
Before using this method to install Windows® 7:

- If you are using only one SATA HDD, ensure that your SATA HDD has more than twice the storage space (ISO file size +500MB).
- If you are using two or more SATA HDDs, ensure that at least two of your SATA HDDs have more than the storage space (ISO file size +500Mb).

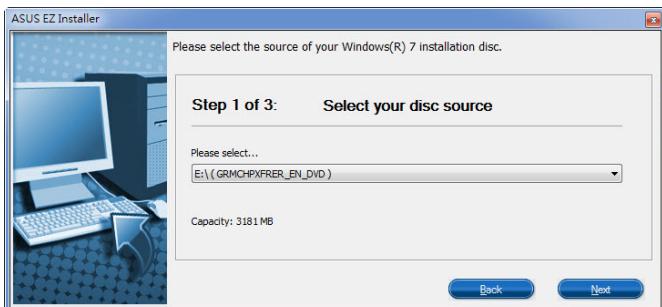
- Select **Windows 7 OS disk to ISO file** then click **Next**.



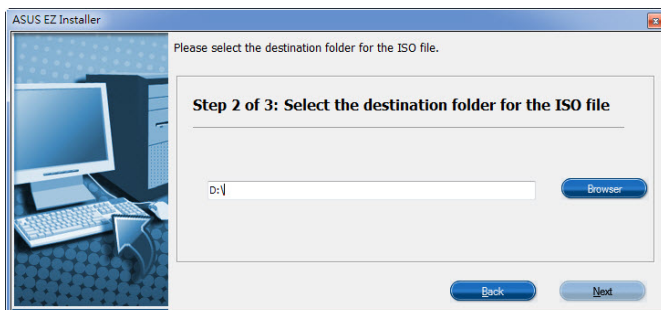
- Check **I agree** and then click **Next**.



- Select the source of the Windows® 7 installation disk then click **Next**.



- Select the folder to save the modified Windows® 7 installation ISO file and click **Next**.



- Once completed, click OK to finish.
 - Burn this ISO file onto an empty DVD to create a modified Windows® 7 installation DVD.
4. Insert the modified Windows® 7 installation DVD into an ODD or connect the USB storage device with modified Windows® 7 installation files onto your 100 series platform.
 5. Power on your system and press F8 during POST (Power-On Self Test) to enter the boot screen.
 6. Select the ODD or USB storage device as the boot device.
 7. The USB 3.0 driver will be loaded automatically during installation startup.



The "Setup is starting..." screen will show up if the USB 3.0 driver is loaded correctly.

8. Follow the onscreen instructions to complete the Windows® 7 installation.

BIOS information

2

2.1 Managing and updating your BIOS

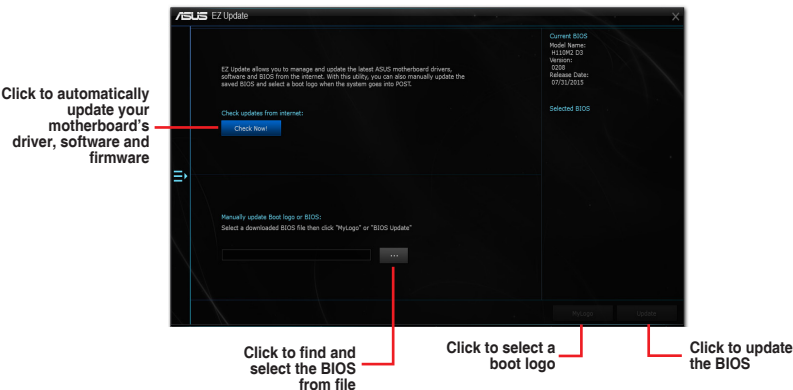


Save a copy of the original motherboard BIOS file to a USB flash disk in case you need to restore the BIOS in the future. Copy the original motherboard BIOS using the ASUS Update utility.

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.



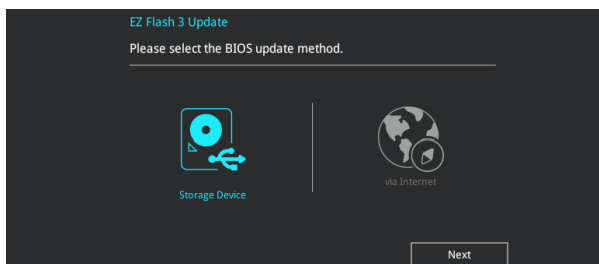
EZ Update requires an Internet connection either through a network or an ISP (Internet Service Provider).

2.1.2 ASUS EZ Flash 3

The ASUS EZ Flash 3 feature allows you to update the BIOS without using an OS-based utility.



- Ensure to load the BIOS default settings to ensure system compatibility and stability. Select the Load Optimized Defaults item under the Exit menu. See section **2.10 Exit Menu** for details.
- Check your local Internet connection before updating through the Internet.



To update the BIOS using EZ Flash 3:

1. Enter the **Advanced Mode** of the BIOS setup program. Go to the **Tool** menu to select ASUS EZ Flash 3 and press <Enter> to enable it.
2. Follow the steps below to update the BIOS via a storage device or Internet.

Via a storage device

- a) Insert the USB flash disk that contains the latest BIOS file to the USB port, then select **Storage Device**.
- b) Press <Tab> to switch to the **Drive** field.
- c) Press the Up/Down arrow keys to find the USB flash disk that contains the latest BIOS, and then press <Enter>.
- d) Press <Tab> to switch to the **Folder Info** field.
- e) Press the Up/Down arrow keys to find the BIOS file, and then press <Enter> to perform the BIOS update process.

Via the Internet

- a) Select **via Internet**.
 - b) Press the Left/Right arrow keys to select an Internet connection method, and then press <Enter>.
 - c) Follow the onscreen instructions to complete the update.
3. Reboot the system when the update process is done.



- ASUS EZ Flash 3 supports USB devices, such as a USB flash disk, with FAT 32/16 format and single partition only.
- 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 **H110M2D3.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 3 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

ASUS BIOS Updater allows you to update the BIOS in DOS environment.



The screen captures used in this section are for reference only and may not be exactly the same as actually shown on your computer screen.

Before updating BIOS

- Prepare the motherboard support DVD and a USB flash drive.
- Download the latest BIOS file and BIOS Updater from <http://support.asus.com> and save them in your USB flash drive.



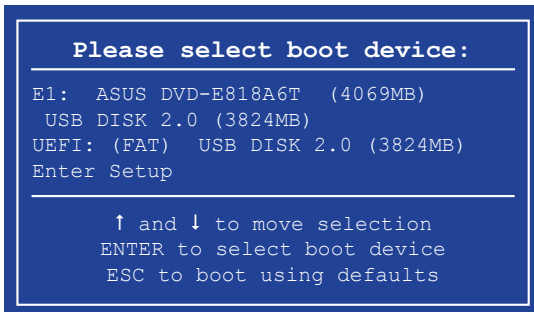
NTFS is not supported under FreeDOS environment. Ensure that your USB flash drive is in single partition and in FAT32/16 format.

- Turn off the computer.
- Ensure that your computer has a DVD optical drive.

Booting the system in DOS environment

To boot the system in DOS:

1. Insert the USB flash drive with the latest BIOS file and BIOS Updater to the USB port.
2. Boot your computer then press <F8> to launch the select boot device screen.
3. When the select boot device screen appears, insert the Support DVD into the optical drive then select the optical drive as the boot device.



4. When the booting message appears, press <Enter> within five (5) seconds to enter FreeDOS prompt.

```

ISOLINUX 3.20 2006-08-26 Copyright (C) 1994-2005 H. Peter Anvin
A Bootable DVD/CD is detected. Press ENTER to boot from the DVD/CD.
If no key is pressed within 5 seconds, the system will boot next priority
device automatically. boot:
  
```

5. On the FreeDOS prompt, type **d:** then press <Enter> to switch the disk from Drive C (optical drive) to Drive D (USB flash drive).

```

Welcome to FreeDOS (http://www.freedos.org) !
C: /> d:
D: />
  
```

Updating the BIOS file

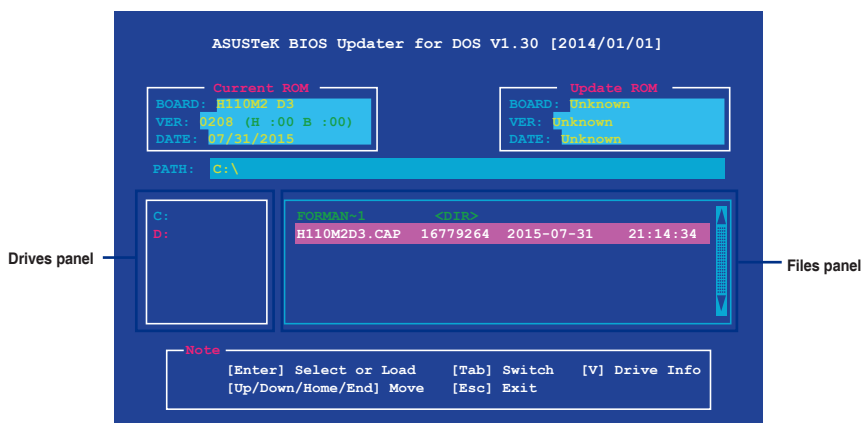
To update the BIOS file:

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

```

D: /> bupdater /pc /g
  
```

2. On the BIOS Updater screen, press <Tab> to switch from Files panel to Drives panel then select **D:**.



3. Press <Tab> to switch from Drives panel to Files panel then press <Up/Down or Home/End> keys to select the BIOS file and press <Enter>.
4. After the BIOS Updater checks the selected BIOS file, select **Yes** to confirm the BIOS update.



The BIOS Backup feature is not supported due to security regulations.

5. Select **Yes** then press <Enter>. When BIOS update is done, press <ESC> to exit BIOS Updater.
6. Restart your computer.



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



Ensure to load the BIOS default settings to ensure system compatibility and stability. Select the **Load Optimized Defaults** item under the **Exit BIOS** menu. See Chapter 2 of your motherboard user guide for details.

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> or <F2> during the Power-On Self Test (POST). If you do not press <Delete> or <F2>, 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 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. 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 Headers** 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**. Press <F7> to change between the two modes.

EZ Mode

By default, the EZ Mode screen appears when you enter the BIOS setup program. The EZ Mode provides you an overview of the basic system information, and allows you to select the display language, system performance mode, fan profile and boot device priority. To access the Advanced Mode, click **Advanced Mode(F7)** or press <F7>.



The default screen for entering the BIOS setup program can be changed. Refer to the **Setup Mode** item in section **2.8 Boot menu** for details.

The screenshot shows the ASUS EZ Mode BIOS interface. Annotations with red lines point to various features:

- Displays the CPU/motherboard temperature, CPU voltage output, CPU/chassis fan speed, and SATA information**: Points to the 'Information' and 'CPU Temperature' sections.
- Displays the system properties of the selected mode. Click <Enter> to switch EZ System Tuning modes**: Points to the 'EZ System Tuning' section.
- Selects the display language of the BIOS setup program**: Points to the 'English' language selector.
- Displays the CPU Fan's speed. Click the button to manually tune the fans**: Points to the 'FAN Profile' section and the 'QFan Control' button.
- Saves the changes and resets the system**: Points to the 'Save & Exit(F10)' button.
- Shows the bootable devices**: Points to the 'Boot Priority' section.
- Searches FAQ**: Points to the 'Search on FAQ' button.
- Selects the boot device priority**: Points to the 'Boot Menu(F8)' button.
- Displays the Advanced mode menus**: Points to the 'Advanced Mode(F7)' button.
- Loads optimized default settings**: Points to the 'Default(F5)' button.



- The boot device options vary depending on the devices you installed to the system.
- The **Boot Menu(F8)** button is available only when the boot device is installed to the system.

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.



To access the EZ Mode, click **EzMode(F7)** or press <F7>.

The screenshot shows the ASUS UEFI BIOS Utility in Advanced Mode. The interface is dark-themed with blue and white text. At the top, there's a menu bar with options: My Favorites, Main, Ai Tweaker, Advanced, Monitor, Boot, Tool, and Exit. The 'Ai Tweaker' tab is selected. On the right, there's a 'Hardware Monitor' section showing CPU and memory status. The main area displays various configuration fields for CPU and memory, including frequency, voltage, and ratios. Red lines and boxes highlight specific features and labels:

- Menu bar**: Points to the top navigation bar.
- Language**: Points to the language selection dropdown.
- MyFavorite**: Points to the 'My Favorites' button.
- Q-Fan control**: Points to the 'Q Fan Control(F6)' button.
- Quick Note**: Points to the 'Quick Note(F9)' button.
- Hot Keys**: Points to the 'Hot Keys' button.
- Sub-menu item**: Points to the 'Main' menu item.
- Menu items**: Points to the 'My Favorites' menu item.
- General help**: Points to the 'Help' icon.
- Popup Window**: Points to the 'DRAM Odd Ratio Mode' popup.
- Scroll bar**: Points to the scroll bar in the 'DRAM Frequency' section.
- Last modified settings**: Points to the 'Last Modified' button.
- Goes back to EZ Mode**: Points to the 'EzMode(F7)' button.
- Searches FAQ**: Points to the 'Search on FAQ' button.
- Configuration fields**: Points to the 'CPU Core Ratio' and 'BCLK Frequency' fields.
- Displays the CPU/motherboard temperature, CPU and memory voltage output**: Points to the 'Hardware Monitor' section.

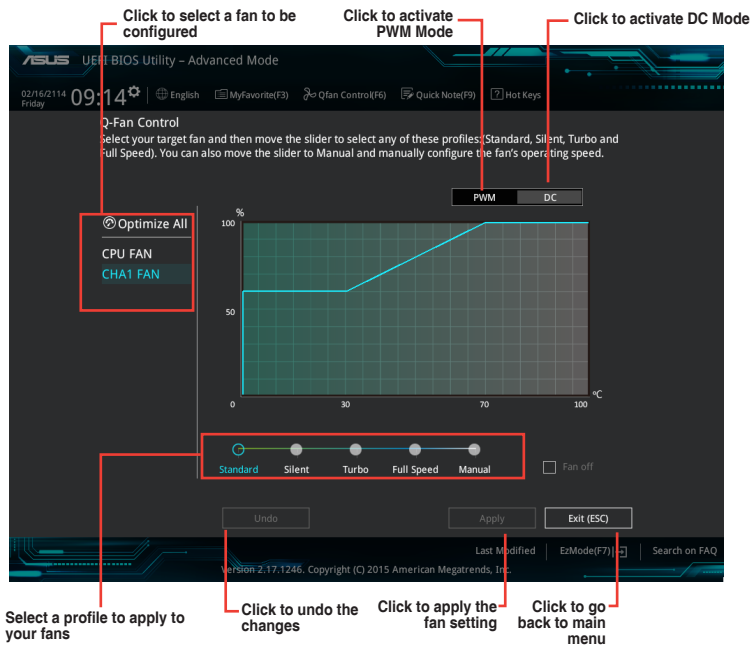
Menu bar

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

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

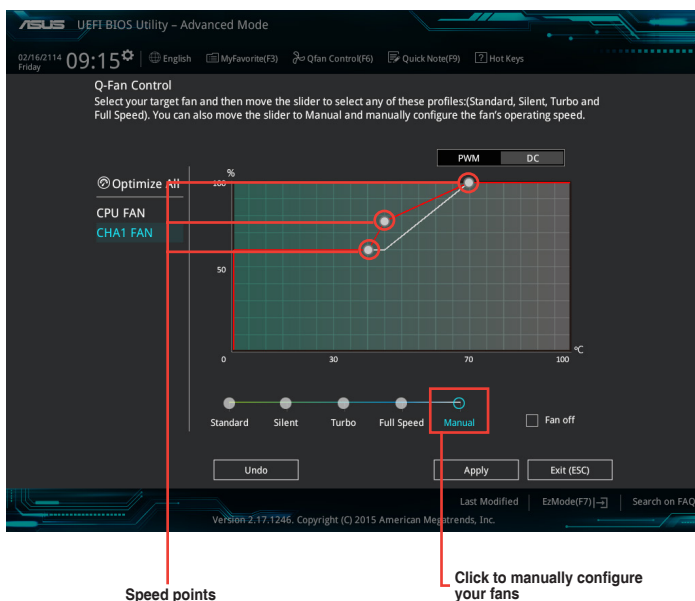
QFan Control

The QFan Control allows you to set a fan profile or manually configure the operating speed of your CPU and chassis fans.



Configuring fans manually

Select **Manual** from the list of profiles to manually configure your fans' operating speed.

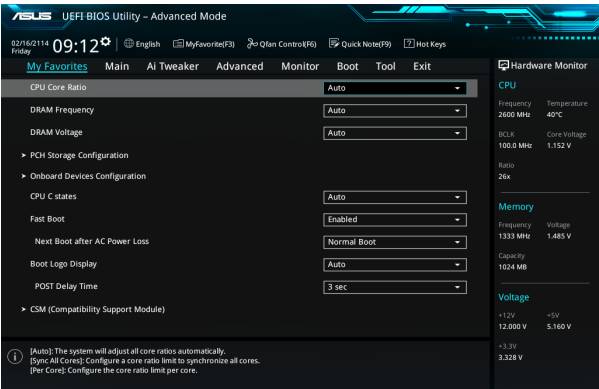


To configure your fans:

1. Select the fan that you want to configure and to view its current status.
2. Click and drag the speed points to adjust the fans' operating speed.
3. Click **Apply** to save the changes then click **Exit (ESC)**.

2.3 My Favorites

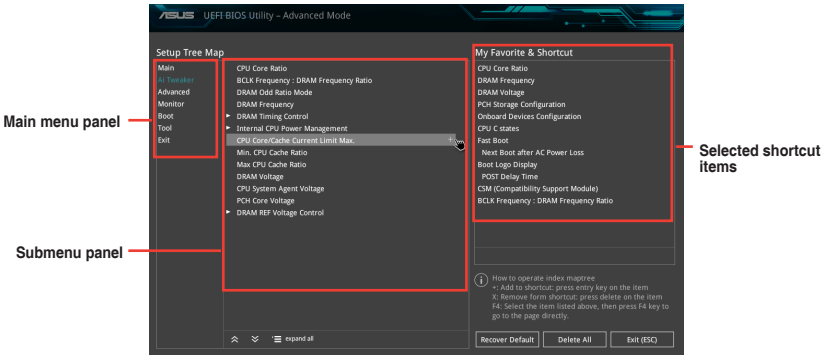
MyFavorites is your personal space where you can easily save and access your favorite BIOS items.



Adding items to My Favorites

To add BIOS items:

1. Press <F3> on your keyboard or click  (F3)MyFavorite from the BIOS screen to open Setup Tree Map screen.
2. On the Setup Tree Map screen, select the BIOS items that you want to save in MyFavorites screen.



3. Select an item from main menu panel, then click the submenu that you want to save as favorite from the submenu panel and click .



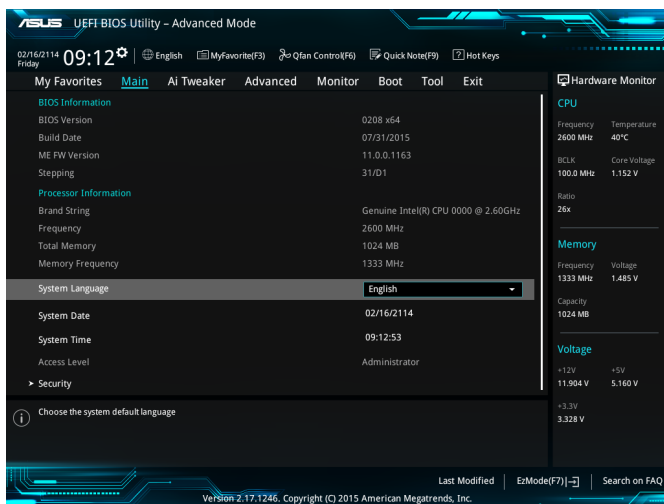
You cannot add the following items to My Favorite items:

- User-managed items such as language and boot order

4. Click **Exit (ESC)** or press <esc> key to close Setup Tree Map screen.
5. Go to My Favorites menu to view the saved BIOS items.

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.



2.5 Ai Tweaker menu

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

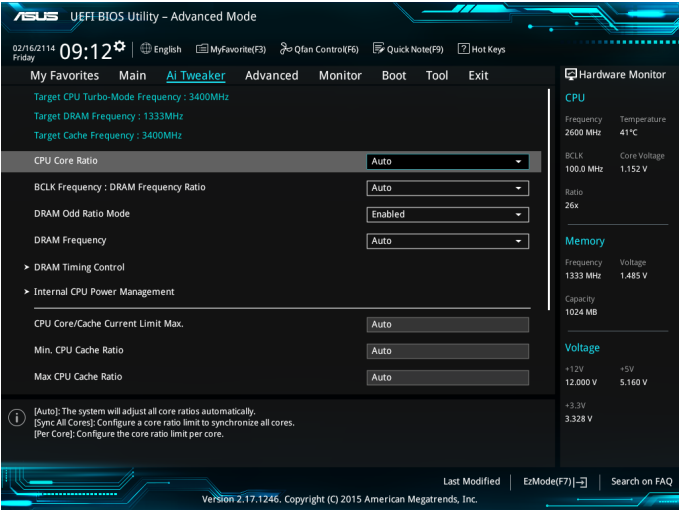


Be cautious when changing the settings of the Ai Tweaker menu items. Incorrect field values can cause the system to malfunction.



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

Scroll down to display the following items:

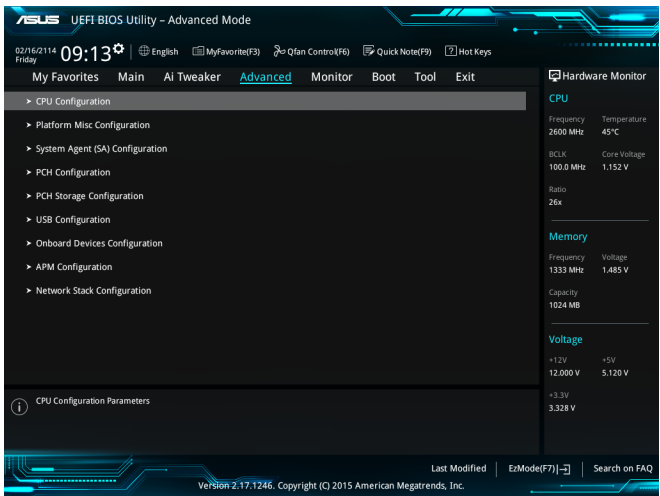


2.6 Advanced menu

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

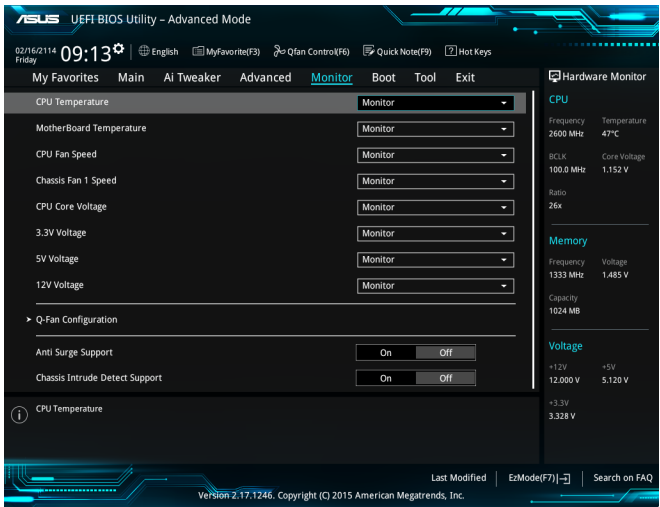


Be cautious when changing the settings of the Advanced menu items. Incorrect field values can cause the system to malfunction.



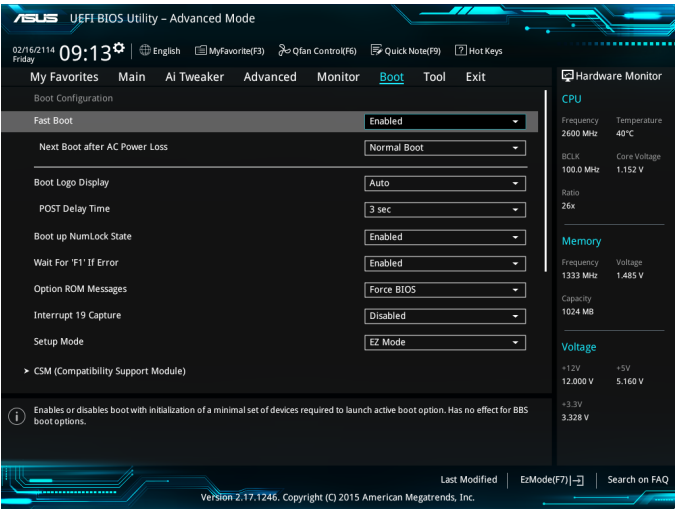
2.7 Monitor menu

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



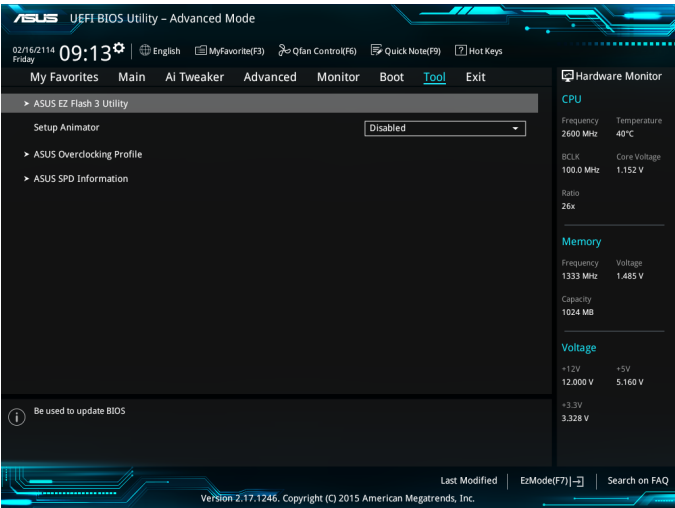
2.8 Boot menu

The Boot menu items allow you to change the system boot options. Scroll down to display the following items:



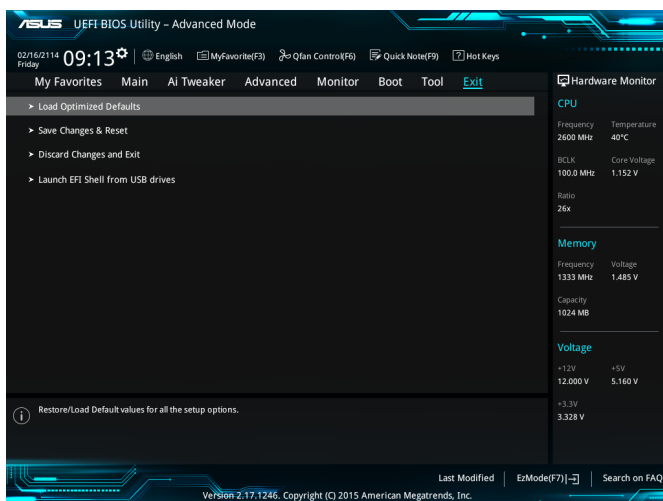
2.9 Tool menu

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



2.10 Exit menu

The Exit menu items allow you to load the optimal default values for the BIOS items, and save or discard your changes to the BIOS items.



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 приложения 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 vastavusdeklaratsioonis.

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 būstikājam 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 forskrifter 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 usklađenosti 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 usklađen s osnovnim zahtjevima i drugim relevantnim propisima Direktiva EK. Za više informacija molimo pogledajte Deklaraciju o usklađenosti 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/

DECLARATION OF CONFORMITY

Per FCC Part 2 Section 2.107.7(a)



Responsible Party Name: Asus Computer International

Address: 800 Corporate Way, Fremont, CA 94539.

Phone/Fax No: (510)739-3777/(510)608-4555

hereby declares that the product

Product Name : Motherboard

Model Number :H110M2 D3

Conforms to the following specifications:

☒ FCC Part 15, Subpart B, Unintentional Radiators

Supplementary Information:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Representative Person's Name : Steve Chang / President

Signature :

Steve Chang

Date : Aug. 21, 2015

Ver: 14.0331

EC Declaration of Conformity



We, the undersigned,

Manufacturer:

ASUSTeK COMPUTER INC.

Address:

4F, No. 150, Li-Ter Rd., PEITOU, TAIPEI 112, TAIWAN

Authorized representative in Europe:

ASUS COMPUTER GmbH

Address, City:

HARKORT STR. 21-23, 40880 RATINGEN

Country:

GERMANY

declare the following apparatus:

Product name :

Motherboard

Model name :

H110M2 D3

conform with the essential requirements of the following directives:

89/2004/EEC EMC Directive

☒ EN 55022:2010 AC 2011
☒ EN 55024:2010
☒ EN 55025:2010
☒ EN 55020:2010 A1 2009 A2 2006

89/2005/EEC R&TE Directive

☐ EN 300 338 V1.6.1 (2011-06-01)
☐ EN 300 440-1 V1.6.1 (2010-08-01)
☐ EN 300 440-2 V1.6.1 (2010-08-01)
☐ EN 301 119 V1.6.1 (2010-08-01)
☐ EN 301 119-1 V1.6.1 (2010-08-01)
☐ EN 301 119-2 V1.6.1 (2010-08-01)
☐ EN 301 119-3 V1.6.1 (2010-08-01)
☐ EN 301 119-4 V1.6.1 (2010-08-01)
☐ EN 301 119-5 V1.6.1 (2010-08-01)
☐ EN 301 119-6 V1.6.1 (2010-08-01)
☐ EN 301 119-7 V1.6.1 (2010-08-01)
☐ EN 301 119-8 V1.6.1 (2010-08-01)
☐ EN 301 119-9 V1.6.1 (2010-08-01)
☐ EN 301 119-10 V1.6.1 (2010-08-01)
☐ EN 301 119-11 V1.6.1 (2010-08-01)
☐ EN 301 119-12 V1.6.1 (2010-08-01)
☐ EN 301 119-13 V1.6.1 (2010-08-01)
☐ EN 301 119-14 V1.6.1 (2010-08-01)
☐ EN 301 119-15 V1.6.1 (2010-08-01)
☐ EN 301 119-16 V1.6.1 (2010-08-01)
☐ EN 301 119-17 V1.6.1 (2010-08-01)
☐ EN 301 119-18 V1.6.1 (2010-08-01)
☐ EN 301 119-19 V1.6.1 (2010-08-01)
☐ EN 301 119-20 V1.6.1 (2010-08-01)
☐ EN 301 119-21 V1.6.1 (2010-08-01)
☐ EN 301 119-22 V1.6.1 (2010-08-01)
☐ EN 301 119-23 V1.6.1 (2010-08-01)
☐ EN 301 119-24 V1.6.1 (2010-08-01)
☐ EN 301 119-25 V1.6.1 (2010-08-01)
☐ EN 301 119-26 V1.6.1 (2010-08-01)
☐ EN 301 119-27 V1.6.1 (2010-08-01)
☐ EN 301 119-28 V1.6.1 (2010-08-01)
☐ EN 301 119-29 V1.6.1 (2010-08-01)
☐ EN 301 119-30 V1.6.1 (2010-08-01)
☐ EN 301 119-31 V1.6.1 (2010-08-01)
☐ EN 301 119-32 V1.6.1 (2010-08-01)
☐ EN 301 119-33 V1.6.1 (2010-08-01)
☐ EN 301 119-34 V1.6.1 (2010-08-01)
☐ EN 301 119-35 V1.6.1 (2010-08-01)
☐ EN 301 119-36 V1.6.1 (2010-08-01)
☐ EN 301 119-37 V1.6.1 (2010-08-01)
☐ EN 301 119-38 V1.6.1 (2010-08-01)
☐ EN 301 119-39 V1.6.1 (2010-08-01)
☐ EN 301 119-40 V1.6.1 (2010-08-01)
☐ EN 301 119-41 V1.6.1 (2010-08-01)
☐ EN 301 119-42 V1.6.1 (2010-08-01)
☐ EN 301 119-43 V1.6.1 (2010-08-01)
☐ EN 301 119-44 V1.6.1 (2010-08-01)
☐ EN 301 119-45 V1.6.1 (2010-08-01)
☐ EN 301 119-46 V1.6.1 (2010-08-01)
☐ EN 301 119-47 V1.6.1 (2010-08-01)
☐ EN 301 119-48 V1.6.1 (2010-08-01)
☐ EN 301 119-49 V1.6.1 (2010-08-01)
☐ EN 301 119-50 V1.6.1 (2010-08-01)
☐ EN 301 119-51 V1.6.1 (2010-08-01)
☐ EN 301 119-52 V1.6.1 (2010-08-01)
☐ EN 301 119-53 V1.6.1 (2010-08-01)
☐ EN 301 119-54 V1.6.1 (2010-08-01)
☐ EN 301 119-55 V1.6.1 (2010-08-01)
☐ EN 301 119-56 V1.6.1 (2010-08-01)
☐ EN 301 119-57 V1.6.1 (2010-08-01)
☐ EN 301 119-58 V1.6.1 (2010-08-01)
☐ EN 301 119-59 V1.6.1 (2010-08-01)
☐ EN 301 119-60 V1.6.1 (2010-08-01)
☐ EN 301 119-61 V1.6.1 (2010-08-01)
☐ EN 301 119-62 V1.6.1 (2010-08-01)
☐ EN 301 119-63 V1.6.1 (2010-08-01)
☐ EN 301 119-64 V1.6.1 (2010-08-01)
☐ EN 301 119-65 V1.6.1 (2010-08-01)
☐ EN 301 119-66 V1.6.1 (2010-08-01)
☐ EN 301 119-67 V1.6.1 (2010-08-01)
☐ EN 301 119-68 V1.6.1 (2010-08-01)
☐ EN 301 119-69 V1.6.1 (2010-08-01)
☐ EN 301 119-70 V1.6.1 (2010-08-01)
☐ EN 301 119-71 V1.6.1 (2010-08-01)
☐ EN 301 119-72 V1.6.1 (2010-08-01)
☐ EN 301 119-73 V1.6.1 (2010-08-01)
☐ EN 301 119-74 V1.6.1 (2010-08-01)
☐ EN 301 119-75 V1.6.1 (2010-08-01)
☐ EN 301 119-76 V1.6.1 (2010-08-01)
☐ EN 301 119-77 V1.6.1 (2010-08-01)
☐ EN 301 119-78 V1.6.1 (2010-08-01)
☐ EN 301 119-79 V1.6.1 (2010-08-01)
☐ EN 301 119-80 V1.6.1 (2010-08-01)
☐ EN 301 119-81 V1.6.1 (2010-08-01)
☐ EN 301 119-82 V1.6.1 (2010-08-01)
☐ EN 301 119-83 V1.6.1 (2010-08-01)
☐ EN 301 119-84 V1.6.1 (2010-08-01)
☐ EN 301 119-85 V1.6.1 (2010-08-01)
☐ EN 301 119-86 V1.6.1 (2010-08-01)
☐ EN 301 119-87 V1.6.1 (2010-08-01)
☐ EN 301 119-88 V1.6.1 (2010-08-01)
☐ EN 301 119-89 V1.6.1 (2010-08-01)
☐ EN 301 119-90 V1.6.1 (2010-08-01)
☐ EN 301 119-91 V1.6.1 (2010-08-01)
☐ EN 301 119-92 V1.6.1 (2010-08-01)
☐ EN 301 119-93 V1.6.1 (2010-08-01)
☐ EN 301 119-94 V1.6.1 (2010-08-01)
☐ EN 301 119-95 V1.6.1 (2010-08-01)
☐ EN 301 119-96 V1.6.1 (2010-08-01)
☐ EN 301 119-97 V1.6.1 (2010-08-01)
☐ EN 301 119-98 V1.6.1 (2010-08-01)
☐ EN 301 119-99 V1.6.1 (2010-08-01)
☐ EN 301 119-100 V1.6.1 (2010-08-01)

89/2006/EEC LVD Directive

☐ EN 60950-1:2006 / A12: 2011
☒ EN 60950-1:2006 / A2: 2013

2006/125/EC RoHS Directive

☐ Regulation (EC) No. 1275/2008
☐ Regulation (EC) No. 642/2008

89/2001/EEC CE marking

☐ Regulation (EU) No. 617/2013



(EC conformity marking)

Position : CEO
Name : Jerry Shen

Jerry Shen

Signature : _____

Declaration Date: 21/08/2015
Year to begin affixing CE marking: 2015

Ver: 150328