H81M-P-SI

Motherboard

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Contents

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 devices on it, 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 become wet.
- 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.

- **Chapter 2: BIOS information**

  This chapter tells how to change 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 trying to complete a task.

CAUTION: Information to prevent damage to the components when trying to complete 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-P-SI motherboard
Cables	2 x Serial ATA 6.0 Gb/s cables
Accessories	1 x I/O Shield
Application DVD	Support DVD

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

H81M-P-SI specifications summary

CPU	LGA1150 socket for the 4th Generation and New 4th Generation Intel® Core™ i7/ i5 / i3, Pentium® and Celeron® Processors
	Supports 22nm CPU
	Supports Intel® Turbo Boost Technology 2.0*
	* **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 DIMMs, max. 16GB DDR3 1600/1333/1066MHz, non-ECC, unbuffered memory modules
	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 Memory QVL for details.**
	** **Refer to www.asus.com for the latest Memory QVL (Qualified Vendors List).**
	*** **Due to Intel® chipset limitations, DDR3 1600MHz and higher memory modules on XMP mode will run at the maximum transfer rate of DDR3 1600MHz.**
Graphics	Integrated Graphics Processor - Intel® HD Graphics support
	Multi-VGA output support: DVI-D, D-Sub port
	- Supports DVI-D with max. resolution up to 1920 x1200@60Hz
	- Supports D-Sub with max. resolution 1920x1200@60Hz
	- Maximum shared memory of 1024MB
Expansion slots	1 x PCI Express x16 slot
	1 x PCI Express x1 slot
Storage	**Intel® H81 Express Chipset:**
	- 2 x Serial ATA 6.0 Gb/s connectors (yellow)
	- 2 x Serial ATA 3.0 Gb/s connectors (dark brown)
	- Supports Intel® Rapid Start Technology* and Intel® Smart Connect Technology**
	* **Due to the limitation of the Intel® H81 chipset, Intel® Rapid Start Technology can be configured only from the BIOS Setup program.**
	** **These functions will work depending on the CPU installed.**

(continued on the next page)

H81M-P-SI specifications summary

LAN	Realtek® RTL8111GR Gigabit LAN Controller
Audio	Realtek® ALC887 8-Channel High Definition Audio CODEC - Supports Jack-Detection and Front Panel Jack-Retasking
	* Use a chassis with HD audio module in the front panel to support an 8-channel audio output
USB	4 x USB 3.0 ports at rear panel (2 ports at mid-board, 2 ports at the rear panel)
	6 x USB 2.0 ports (4 ports at mid-board, 2 ports at the rear panel)

ASUS unique features	**ASUS Exclusive Features:**
	   - ASUS EPU
	   - ASUS UEFI BIOS EZ Mode featuring a friendly graphical user interface
	   - ASUS GPU Boost
	   - ASUS Ai Charger+
	   - ASUS AI Suite 3
	   - ASUS Anti-surge Protection
	   - ASUS ESD
	
	ASUS Quiet Thermal Solution
	   - ASUS Fan Xpert
	
	ASUS EZ DIY:
	   - ASUS CrashFree BIOS 3
	   - ASUS EZ Flash 2

Back Panel I/O ports	1 x PS/2 keyboard port (purple)
	1 x PS/2 mouse port (green)
	2 x USB 3.0 ports
	2 x USB 2.0 ports
	1 x DVI port
	1 x D-Sub port
	1 x LAN (RJ-45) port
	3 x Audio jacks support 8-channel audio output
Internal I/O connectors/ buttons/switches	2 x USB 2.0 connectors support additional 4 USB 2.0 ports
	1 x USB 3.0 connectors support additional 2 USB 3.0 ports
	2 x SATA 6.0Gb/s connectors
	2 x SATA 3.0Gb/s connectors
	1 x 4-pin CPU fan connector (PWM mode)
	1 x 4-pin Chassis fan connector (PWM mode)
	1 x Front panel audio connector
	1 x 24-pin EATX power connector
	1 x 4-pin EATX 12V power connector
	1 x COM header
	1 x LPT header
	1 x TPM header
	1 x CLRTC header
	1 x Chassis Intrusion header
	1 x Speaker connector
	1 x System panel connector
	1 x MONO OUT header with AMP

(continued on the next page)

H81M-P-SI specifications summary

BIOS features	64 Mb Flash ROM, UEFI AMI BIOS, PnP, DMI2.0, WfM2.0, SM BIOS 2.7, ACPI 2.0a, Multi-language BIOS, ASUS EZ Flash 2, ASUS CrashFree BIOS 3, My Favorites, Quick Note, Last Modified log, F12 PrintScreen, F3 Shortcut functions and ASUS DRAM SPD (Serial Presence Detect) memory information
Manageability	WfM 2.0, DMI 2.0, WOL by PME, PXE
Support DVD	Drivers
	ASUS utilities
	EZ Update
	Anti-virus software (OEM version)
Operating System Support	Windows® 8.1
	Windows® 8
	Windows® 7
Form factor	uATX form factor: 7.5 in x 7.0 in (19 cm x 17.7 cm)

Specifications are subject to change without notice.

Product introduction

<div style="text-align: right; font-size: 4em; color: #cc6699;">1</div>

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 into it.

⚡

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

1.2.1 Placement direction

When installing the motherboard, ensure that you 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 below.

1.2.2 Screw holes

Place four 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.

Place this side towards the rear of the chassis

H81M-P-SI
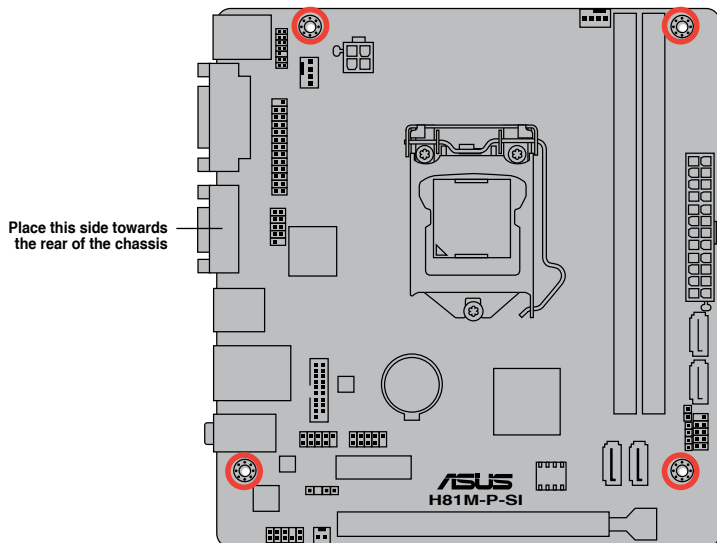
1.2.3   Motherboard layout
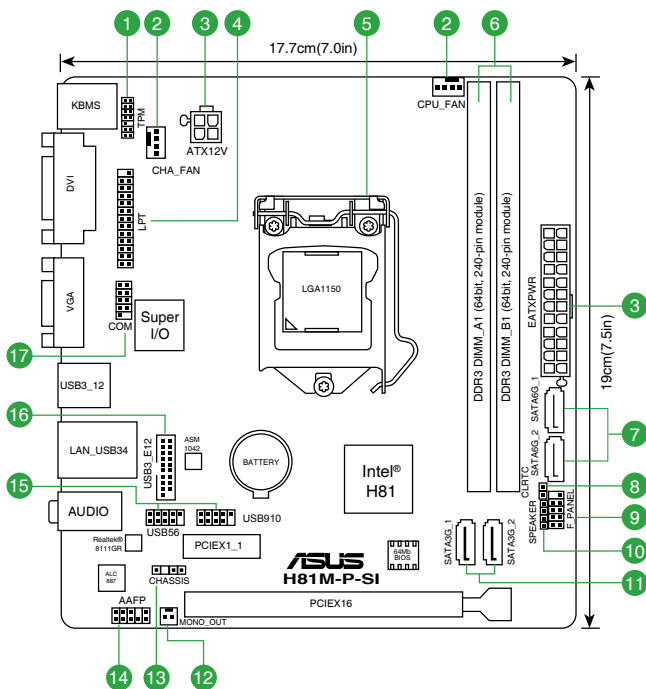
1.2.4   Layout contents

Connectors/Jumpers/Slots/LED	Page
1. TPM header (14-1 pin TPM)	1-19
2. CPU and chassis fan connectors (4-pin CPU_FAN, 4-pin CHA_FAN)	1-14
3. ATX power connectors (24-pin EATXPWR, 4-pin ATX12V)	1-16
4. LPT connector (26-1 pin LPT)	1-18
5. Intel® LGA1150 CPU socket	1-4
6. DDR3 DIMM slots	1-7
7. Intel® H81 Serial ATA 6.0Gb/s connector (7-pin SATA6G_1~2 [yellow])	1-17
8. Clear RTC RAM (2-pin CLRTC)	1-11
9. System panel connector (10-1 pin F_PANEL)	1-19
10. Speaker connector (4-pin SPEAKER)	1-18
11. Intel® H81 Serial ATA 3.0Gb/s connector (7-pin SATA3G_1~2 [dark brown])	1-17
12. Mono out header (2-pin MONO_OUT)	1-18
13. Chassis intrusion connector (4-1 pin CHASSIS)	1-16
14. Front panel audio connector (10-1 pin AAFP)	1-14
15. USB 2.0 connectors (10-1 pin USB910, USB56)	1-15
16. USB 3.0 connectors (20-1 pin USB3_E12)	1-15
17. Serial port connectors (10-1 pin COM)	1-13

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® and Celeron® processors.
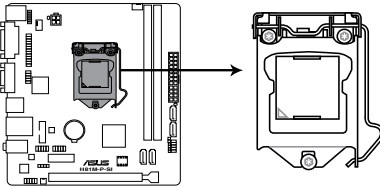
H81M-P-SI CPU socket LGA1150

Unplug all power cables before installing the CPU.

- 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
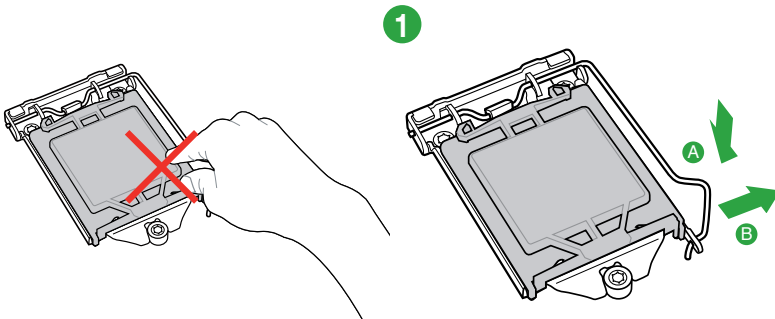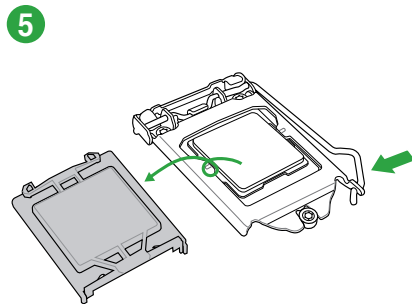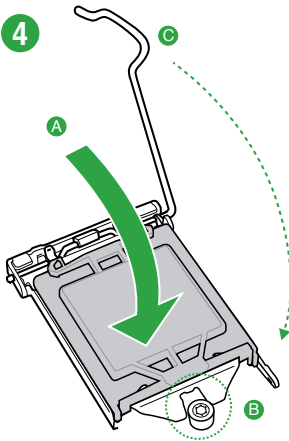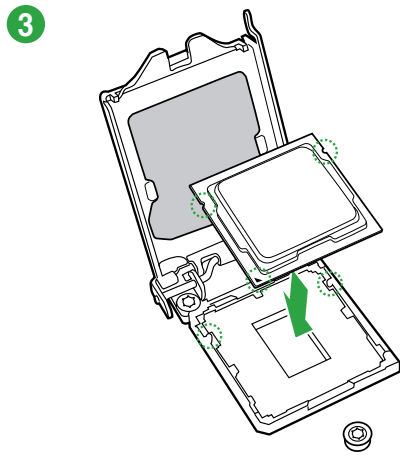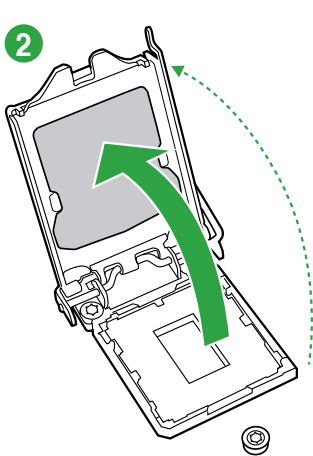
1.3.2   CPU heatsink and fan assembly installation
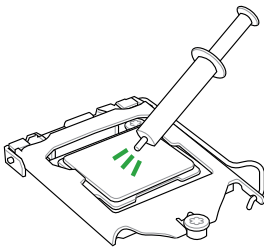
⚠ Apply the Thermal Interface Material to the CPU heatsink and CPU before you install the heatsink and fan if necessary.

To install the CPU heatsink and fan assembly
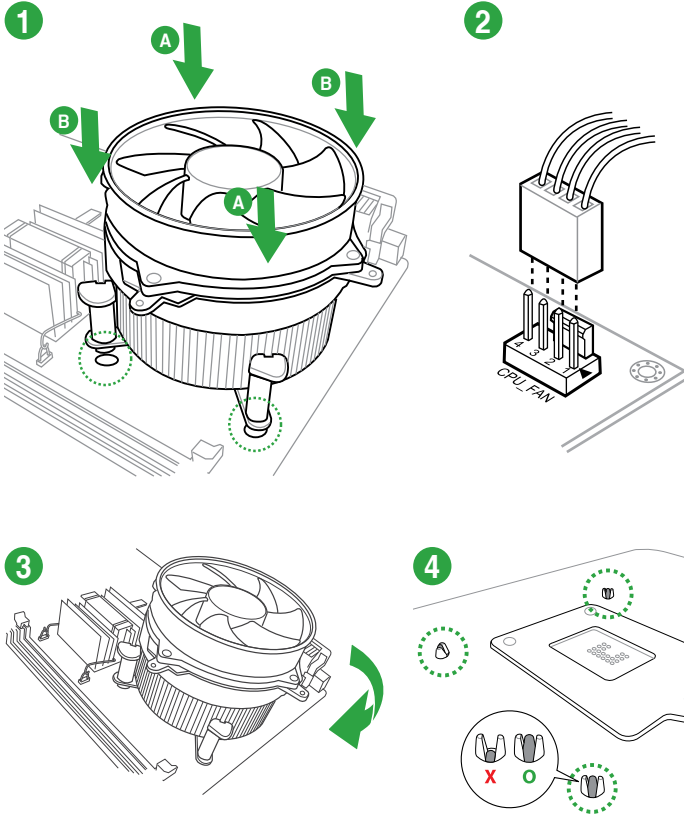
To uninstall the CPU heatsink and fan assembly
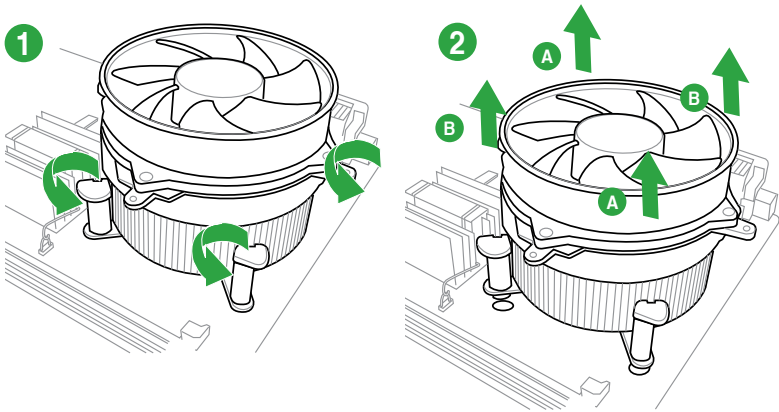
1.4 System memory

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.

Channel	Sockets
Channel A	DIMM_A1
Channel B	DIMM_B1

H81M-P-SI 240-pin DDR3 DIMM sockets
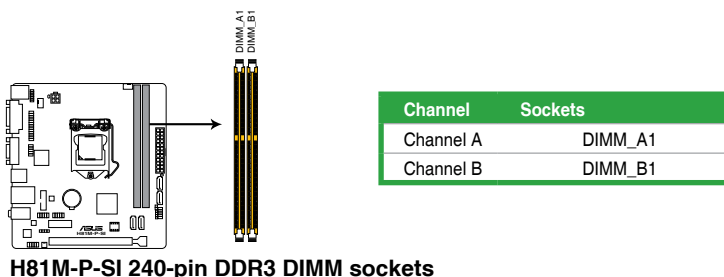
1.4.2 Memory configurations

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 limitations, 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 512 megabits (Mb) chips or less.

- Memory modules with memory frequency higher than 2133 MHz and its corresponding timing or the loaded X.M.P. Profile is not the JEDEC memory standard. The stability and compatibility of these memory modules depend on the CPU's capabilities and other installed devices.

- The maximum 16GB memory capacity can be supported with 8GB or above DIMMs. ASUS will update the memory QVL once the DIMMs are available in the market.

- 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.

- For system stability, use a more efficient memory cooling system to support a full memory load (2 DIMMs) or overclocking condition.

- Refer to www.asus.com for the latest Memory QVL (Qualified Vendors List)

1.4.3   Installing a DIMM
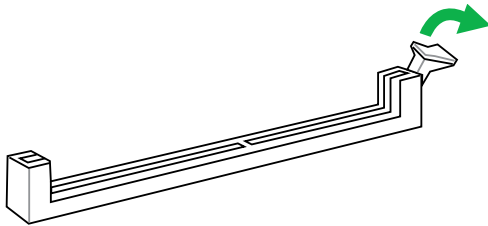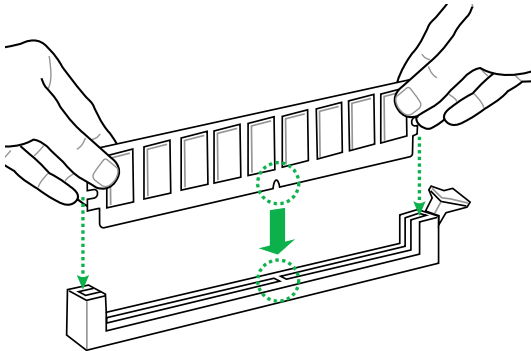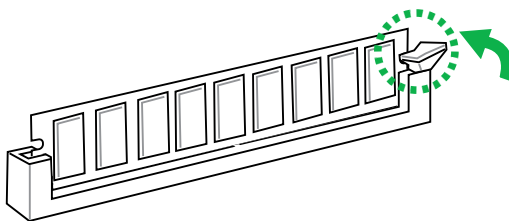
To remove a DIMM
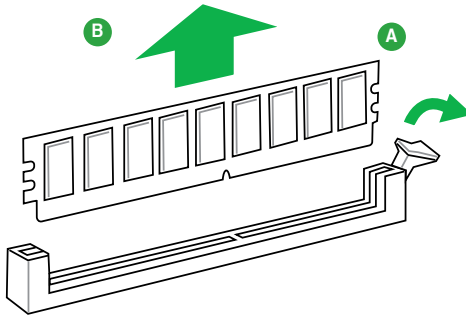
1.5.1   Installing an expansion card

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 x1 slot

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

1.5.4   PCI Express x16 slot

This motherboard supports one PCI Express x16 graphics card that complies with the PCI Express specifications.

IRQ assignments for this motherboard

	A	B	C	D	E	F	G	H
LAN	-	-	shared	-	-	-	-	-
PCIE x16	shared	-	-	-		-	-	-
PCIE x1_1	shared	-	-	-	-	-	-	-
PCIE x1_2	-	shared	-	-	-	-	-	-
Intel PCH SATA Controller	-	-	-	shared	-	-	-	-
HD Audio	-	-	-	-	-	-	shared	-
USB2.0_1	-	-	-	-	-	-	-	shared
USB2.0_2	-	-	-	-	shared	-	-	-
USB3.0	-	-	-	-	-	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.

CLRTC

GND

+3V_BAT

PIN 1
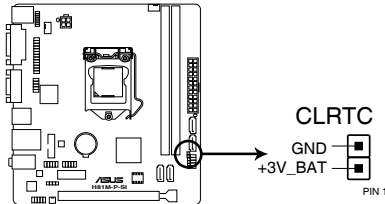
H81M-P-SI Clear RTC RAM

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 <**Del**> 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.

1.7 Connectors

1.7.1 Rear panel connectors
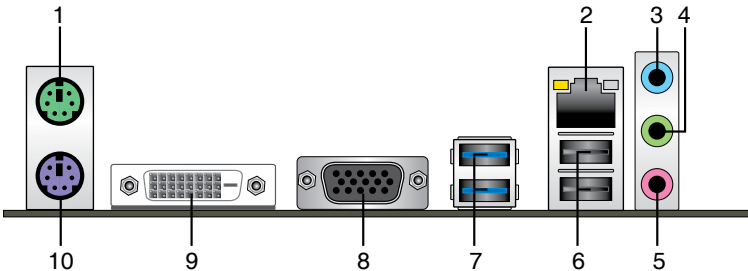
1. **PS/2 Mouse port (green).** This port is for a PS/2 mouse.

2. **LAN (RJ-45) port.** This port allows Gigabit connection to a Local Area Network (LAN) through a network hub. Refer to the table below for the LAN port LED indications.

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		
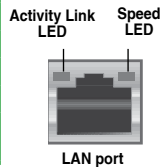
3. **Line In port (light blue)**. This port connects the tape, CD, DVD player, or other audio sources.

4. **Line Out port (lime)**. This port connects a headphone or a speaker. In 4-channel, 6-channel, and 8-channel configurations, the function of this port becomes Front Speaker Out.

5. **Microphone port (pink)**. This port connects a microphone.

> **To configure an 8-channel audio output:**
>
> Use a chassis with HD audio module in the front panel to support an 8-channel audio output.

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

For an 8-channel speaker setup, refer to the 7.1-channel configuration in the table.

6.   **USB 2.0 ports 3 and 4.** These two 4-pin Universal Serial Bus (USB) ports are for USB 2.0/1.1 devices.

7.   **USB 3.0 ports 1 and 2.** These two 9-pin Universal Serial Bus (USB) ports connect to USB 3.0/2.0 devices.

• Due to USB 3.0 controller limitations, USB 3.0 devices can only be used under a Windows® OS environment and after USB 3.0 driver installation.

• The plugged USB 3.0 device may run on xHCI or EHCI mode, depending on the operating system's setting.

• 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.

8.   **Video Graphics Adapter (VGA) port.** This 15-pin port is for a VGA monitor or other VGA-compatible devices.

9.   **DVI-D port.** This port is for any DVI-D compatible device. DVI-D can't be converted to output RGB Signal to CRT and isn't compatible with DVI-I.

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

1.7.2   Internal connectors

1.   **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.
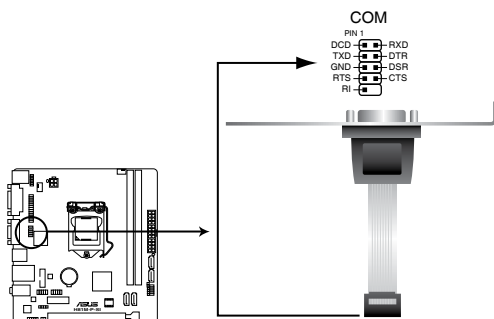
H81M-P-SI Serial port connectors

The COM module is purchased separately.

2. **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.
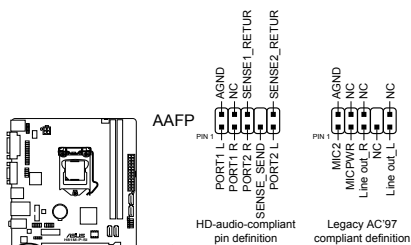
H81M-P-SI Front panel audio connector

- 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].

3. **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.
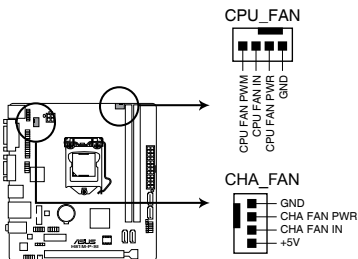
H81M-P-SI Fan connectors

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 support the ASUS Fan Xpert feature.

4. **USB 2.0 connectors (10-1 pin USB910, USB56)**

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.

USB56   **USB910**

H81M-P-SI USB2.0 connectors
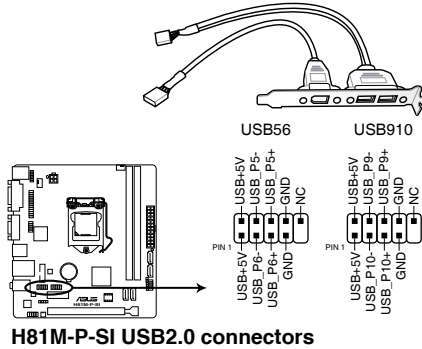
Never connect a 1394 cable to the USB connectors. Doing so will damage the motherboard!

The USB 2.0 module is purchased separately.

5. **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 up to 5Gbps, faster charging time for USB-chargeable devices, optimized power efficiency, and backward compatibility with USB 2.0.

USB3_E12

GND	IntA_P2_D+
IntA_P1_D+	IntA_P2_D-
IntA_P1_D-	GND
GND	IntA_P2_SSTX+
IntA_P1_SSTX+	IntA_P2_SSTX-
IntA_P1_SSTX-	GND
GND	IntA_P2_SSRX+
IntA_P1_SSRX+	IntA_P2_SSRX-
IntA_P1_SSRX-	USB3+5V
USB3+5V	

H81M-P-SI USB3.0 Front panel connector
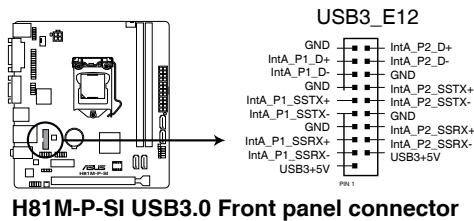
The USB 3.0 module is purchased separately.

6.   **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.

ATX12V   EATXPWR

+3 Volts	GND
+12 Volts	+5 Volts
+12 Volts	+5 Volts
+5V Standby	+5 Volts
Power OK	-5 Volts
GND	GND
+5 Volts	GND
GND	GND
+5 Volts	PSON#
GND	GND
+3 Volts	-12 Volts
+3 Volts	+3 Volts

H81M-P-SI ATX power connectors
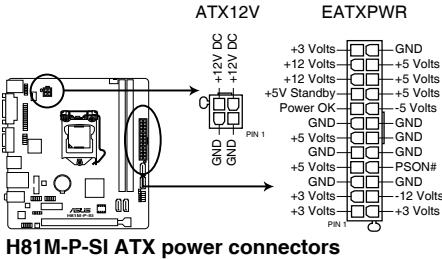
- We recommend that you use an ATX 12V Specification 2.0-compliant power supply unit (PSU) with a minimum of 300W power rating. This PSU type has 24-pin and 4-pin power plugs.

- 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.

7.   **Chassis intrusion connector (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.

CHASSIS

+5VSB_MB   Chassis Signal   GND

PIN 1

H81M-P-SI Chassis intrusion connector
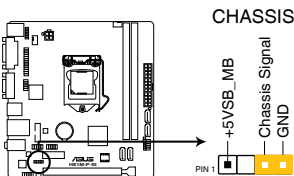
8. Intel® H81 Serial ATA 3.0 Gb/s connectors (7-pin SATA3G 1~2 [dark brown])

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

SATA3G_1   SATA3G_2

GND   GND
RSATA_TXP1   RSATA_TXP2
RSATA_TXN1   RSATA_TXN2
GND   GND
RSATA_RXN1   RSATA_RXN2
RSATA_RXP1   RSATA_RXP2
GND   GND
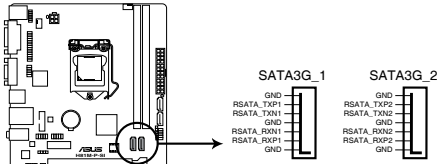
H81M-P-SI SATA 3.0Gb/s connectors

When using hot-plug and NCQ, set the SATA Mode Selection item in the BIOS to [AHCI].

9. Intel® H81 Serial ATA 6.0Gb/s connectors (7-pin SATA6G_1~2 [yellow])

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

SATA6G_1

GND
RSATA_TXP1
RSATA_TXN1
GND
RSATA_RXN1
RSATA_RXP1
GND

SATA6G_2

GND
RSATA_TXP2
RSATA_TXN2
GND
RSATA_RXN2
RSATA_RXP2
GND
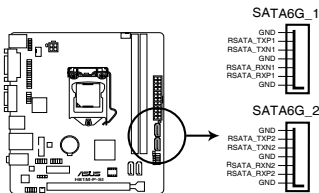
H81M-P-SI SATA 6.0Gb/s connectors

When using hot-plug and NCQ, set the **SATA Mode Selection** item in the BIOS to [AHCI].

10. Speaker connector (4-pin SPEAKER)

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

SPEAKER

Speaker Out
GND
GND
+5V

PIN 1
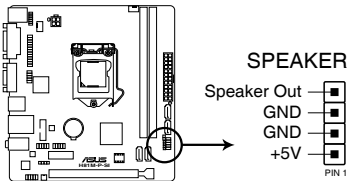
H81M-P-SI System panel connector

11. 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.

LPT

SLCT
GND — PE
GND — BUSY
GND — ACK#
GND — PD7
GND — PD6
GND — PD5
GND — PD4
GND — PD3
SLIN# — PD2
INIT# — PD1
ERR# — PD0
AFD — STB#

PIN 1
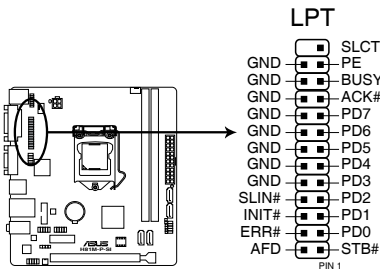
H81M-P-SI Parallel Port connector

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).

MONO_OUT

PIN 1

R_OUT-
R_OUT+
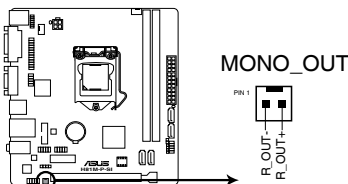
H81M-P-SI MONO_OUT connector

13. System panel connector (10-1 pin F_PANEL)

This connector supports several chassis-mounted functions.

F_PANEL

```
        PWR BTN                                RESET
              (NC)
       GND    HWRST#
       PWR    Ground
    PWR_LED-  HDD_LED-
    PWR_LED+  HDD_LED+
        PWR LED    PIN 1        HDD LED
```
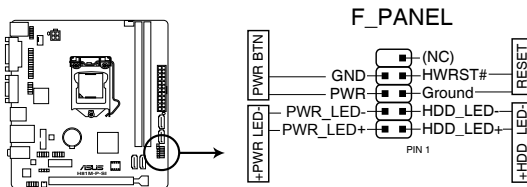
H81M-P-SI System panel connector

- **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.

14. 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.

TPM

```
          PIN 1
   F_LAD0        +3V
   F_LAD1        +3V
   F_LAD2        C_PCICLK_TPM
   F_LAD3        GND
   F_FRAME#
   F_SERIRQ      S_PCIRST#_TBD
   F_CLKRUN      +3VSB
```
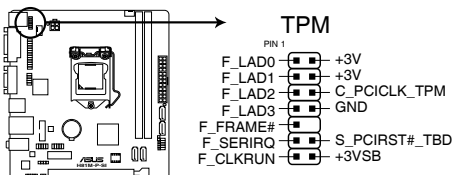
H81M-P-SI TPM connector

The TPM module is purchased separately.

1.9 Software support

1.9.1 Installing an operating system

This motherboard supports Windows® 7 (32bit/64bit) and Windows® 8 (32bit/64bit) and Windows® 8.1 (32/64bit) 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.

2 BIOS information

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 utlity, 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.

Click to automatically update your motherboard's driver, software and firmware

Click to find and select the BIOS from file

Click to select a boot logo

Click to update the BIOS
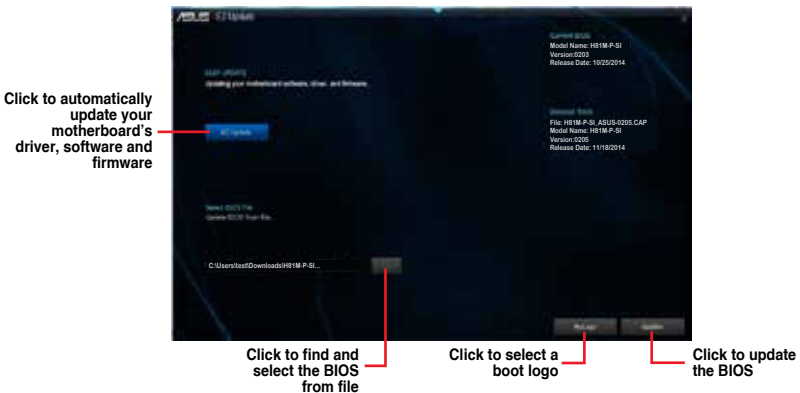
EZ Update requires an Internet connection either through a network or an ISP (Internet Service Provider).

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 2 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 to **H81MPST. 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 setting. 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.

```
Please select boot device:
↑ and ↓ to move selection
ENTER to select boot device
ESC to boot using defaults

P2: ST3808110AS  (76319MB)
aigo miniking (250MB)
UEFI: (FAT)  ASUS   DRW-2014L1T(4458MB)
P1:  ASUS   DRW-2014L1T(4458MB)
UEFI: (FAT)  aigo miniking (250MB)
Enter Setup
```

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:**.

```
         ASUSTeK BIOS Updater for DOS V1.30 [2014/01/01]


           Current ROM                          Update ROM
   BOARD: H81M-P-SI                      BOARD: Unknown
   VER: 0302 (H :00 B :00)               VER: Unknown
   DATE: 10/25/2014                      DATE: Unknown

   PATH:  C:\


   C:                 FORMAN~1        <DIR>
   D:                 H81MPS.CAP      8390656  2014-11-15     21:14:34





      Note
         [Enter] Select or Load     [Tab] Switch    [V] Drive Info
         [Up/Down/Home/End] Move    [Esc] Exit
```

Drives panel — (left)

Files panel — (right)
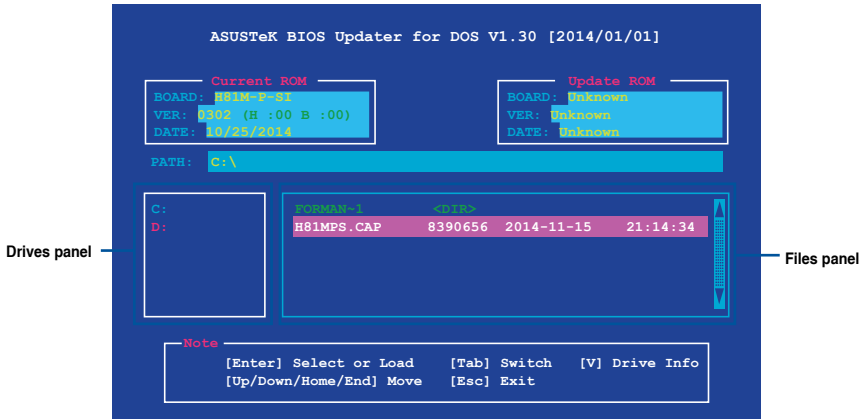
3. Press <Tab> to switch from Drives panel to Files panel then press <Up/Down or Home/ End> keys to select the BIOS file and press <Enter>.

4. After the BIOS Updater checks the selected BIOS file, select **Yes** to confirm the BIOS update.

```
   Are you sure you want to update the BIOS?

                    Yes      No
```

> 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.

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>, POST continues with its routines.

Entering BIOS Setup after POST

To enter BIOS Setup after POST:

• Press <**Ctrl**>+<**Alt**>+<**Del**> 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**>+<**Del**> keys to force reset from a running operating system can cause damage to your data or system. We recommend to 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.
>
> • 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**. You can change modes from the **Exit** menu or from the **Advanced Mode(F7) / EzMode(F7)** button in the EZ Mode/Advanced Mode screen.

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 and boot device priority. To access the Advanced Mode, click Exit/Advanced Mode, then select Advanced Mode.

The default screen for entering the BIOS setup program can be changed.

Selects the display language of the BIOS setup program

Displays the CPU/motherboard temperature, CPU core voltage, DRAM information, CPU/chassis fan speed

Exits the BIOS setup program without saving the changes, saves the changes and resets the system, or enters the Advanced Mode

Power Saving mode

Selects the Advanced mode functions

Displays the Advanced mode menus

Selects the boot device priority

Normal mode

SATA Information

ASUS Optimal mode

Selects the boot device priority

Loads optimized default

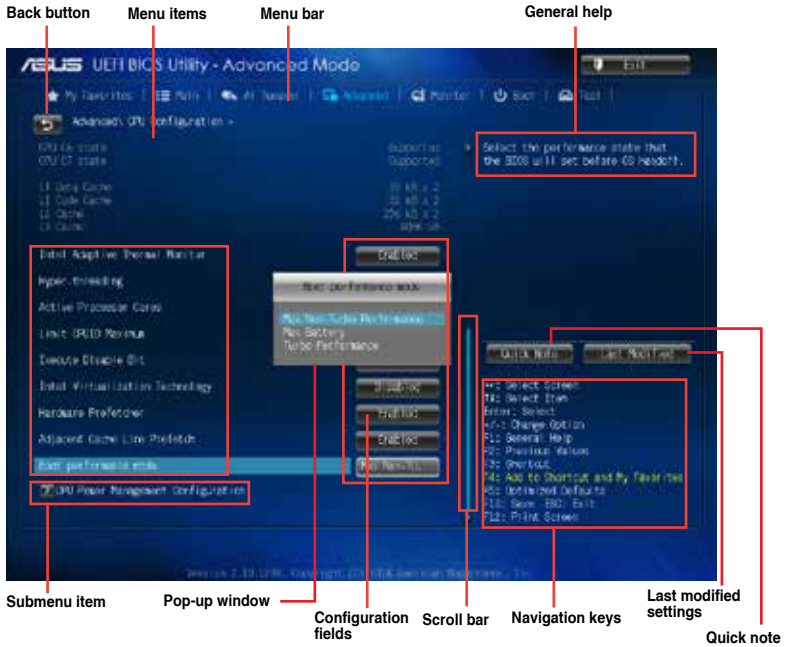**Displays the system properties of the selected mode on the right hand side**

• 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 **Exit**, then select **ASUS EZ Mode**.

Back button   **Menu items**   **Menu bar**   **General help**

Submenu item   **Pop-up window**   **Configuration fields**   **Scroll bar**   **Navigation keys**   **Last modified settings**   **Quick note**

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

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.

- If you have forgotten your BIOS password, erase the CMOS Real Time Clock (RTC) RAM to clear the BIOS password. See section **1.6 Headers** 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**.

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:
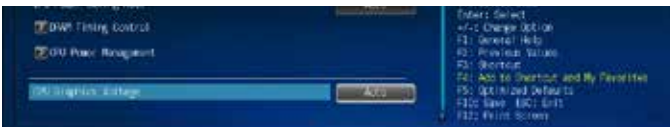
2.6 Advanced menu

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.
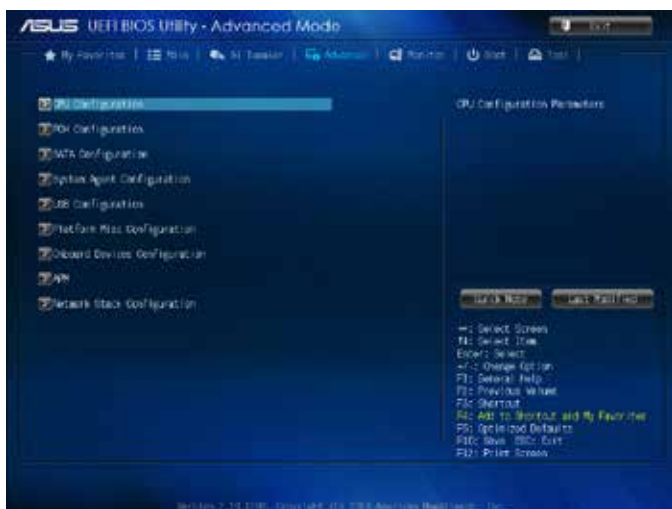
2.7 Monitor menu

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

Scroll down to display the following items:

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. You can access the EZ Mode from the **Exit** menu.

Appendices

Notices

Federal Communications Commission Statement

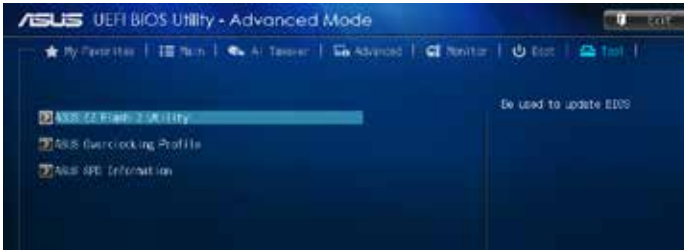This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 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.

Cut 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

情報処理装置等電波障害自主規制について
この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスB情報技術装置です。この装置は家庭環境で使用され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。

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.

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	www.asus.com/

Technical Support

Telephone	+86-21-38429911
Fax	+86-21-58668722, ext.9101#
Online support	http://www.asus.com/tw/support/

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

General support	+1-812-282-2787
Support fax	+1-812-284-0883
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://www.asus.de/sales

Technical Support

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

Manufacturer:	ASUSTeK Computer Inc.
Address:	4F, No. 150, LI-TE RD., PEITOU, TAIPEI 112, TAIWAN R.O.C.
Authorised representative in Europe:	ASUS Computer GmbH
Address:	HARKORT STR. 21-23, 40880 RATINGEN, GERMANY

EC Declaration of Conformity

We, the undersigned,

Manufacturer:	ASUSTeK COMPUTER INC.
Address:	4F, No. 150, LI-TE 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 :	**H81M-P-SI**

conform with the essential requirements of the following directives:

☒2004/108/EC-EMC Directive

☒ EN 55022:2010+AC:2011	☒ EN 55024:2010
☒ EN 61000-3-2:2006+A2:2009	☒ EN 61000-3-3:2008
☐ EN 55013:2001+A1:2003+A2:2006	☐ EN 55020:2007+A11:2011

☐1999/5/EC-R&TTE Directive

☐ EN 300 328 V1.7.1(2006-10)	☐ EN 301 489-1 V1.9.2(2011-09)
☐ EN 300 440-1 V1.6.1(2010-08)	☐ EN 301 489-3 V1.4.1(2002-08)
☐ EN 300 440-2 V1.4.1(2010-08)	☐ EN 301 489-4 V1.4.1(2009-05)
☐ EN 301 511 V9.0.2(2003-03)	☐ EN 301 489-7 V1.3.1(2005-11)
☐ EN 301 908-1 V5.2.1(2011-05)	☐ EN 301 489-9 V1.4.1(2007-11)
☐ EN 301 908-2 V5.2.1(2011-07)	☐ EN 301 489-17 V2.2.1(2012-09)
☐ EN 301 893 V1.6.1(2011-11)	☐ EN 301 489-24 V1.5.1(2010-09)
☐ EN 302 544-2 V1.1.1(2009-01)	☐ EN 302 326-2 V1.2.2(2007-06)
☐ EN 50360:2001	☐ EN 302 326-3 V1.3.1(2007-09)
☐ EN 62479:2010	☐ EN 301 357-2 V1.4.1(2008-11)
☐ EN 50385:2002	☐ EN 302 291-1 V1.1.1(2005-07)
☐ EN 62311:2008	☐ EN 302 291-2 V1.1.1(2005-07)

☒2006/95/EC-LVD Directive

☒ EN 60950-1 / A12:2011	☐ EN 60065:2002 / A12:2011

☐2009/125/EC-ErP Directive

☐ Regulation (EC) No. 1275/2008	☐ Regulation (EC) No. 278/2009
☐ Regulation (EC) No. 642/2009	☐ Regulation (EC) No. 617/2013

☒2011/65/EU-RoHS Directive

☒CE marking

(EC conformity marking)

CE

Declaration Date: 01/12/2014

Year to begin affixing CE marking: 2014

Position : **CEO**

Name : **Jerry Shen**

Signature : _____

Ver. 140331

DECLARATION OF CONFORMITY

Per FCC Part 2 Section 2. 1077(a)

FC

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 : H81M-P-SI

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 : _____

Date : ___**Dec. 01, 2014**___

Ver. 140331