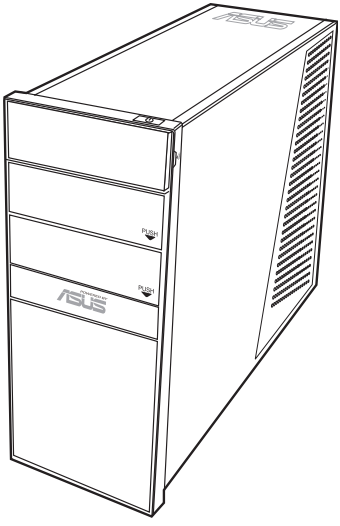
G1-P7P55E

ASUS PC (Desktop Barebone)

User's Manual



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First Edition V1

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Notices

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://green.asus.com/english/REACH.htm

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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 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 devices into the system, carefully read all the documentation that came with the package.
- Before using the product, make sure 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.

Lithium-Ion Battery Warning

CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

VORSICHT: Explosionsgetahr bei unsachgemäßen Austausch der Batterie. Ersatz nur durch denselben oder einem vom Hersteller empfohlenem ähnljchen Typ. Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

LASER PRODUCT WARNING

CLASS 1 LASER PRODUCT

DO NOT throw the desktop PC's components 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.

About this guide

Audience

This guide provides general information and installation instructions about the ASUS G1-P7P55E barebone system. This guide is intended for experienced users and integrators with hardware knowledge of personal computers.

How this guide is organized

This guide contains the following parts:

1. **Chapter 1: System introduction**

   This chapter gives a general description of the ASUS G1-P7P55E. The chapter lists the system features, including introduction on the front and rear panel, and internal components.

2. **Chapter 2: Basic installation**

   This chapter provides step-by-step instructions on how to install components in the system.

3. **Chapter 3: Starting up**

   This chapter helps you power up the system and install drivers and utilities from the support DVD.

4. **Chapter 4: Motherboard info**

   This chapter gives information about the motherboard that comes with the system. This chapter includes the motherboard layout, jumper settings, and connector locations.

5. **Chapter 5: BIOS setup**

   This chapter tells how to change system settings through the BIOS Setup menus and describes the BIOS parameters.

Conventions used in this guide

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 aid in completing a task.

Where to find more information

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

1. **ASUS Websites**

   The ASUS websites worldwide provide 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.

System package contents

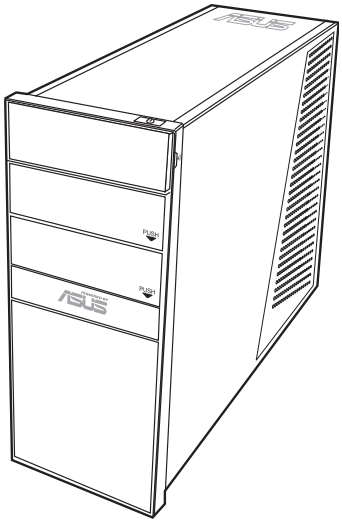
Check your G1-P7P55E system package for the following items.

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

Item description	
1.	ASUS G1-P7P55E barebone system with
	• ASUS motherboard
	• Power supply unit
	• ASUS chassis
2.	Cables
	• AC power cable • Serial ATA signal cable • Graphics card 6-pin power cable
3.	Support DVD
4.	Installation guide

Chapter 1

This chapter gives a general description of the ASUS G1-P7P55E. The chapter lists the system features including introduction on the front and rear panel, and internal components.



System introduction

1.1 Welcome!

Thank you for choosing the ASUS G1-P7P55E!

The ASUS G1-P7P55E is an all-in-one barebone system with a versatile home entertainment feature.

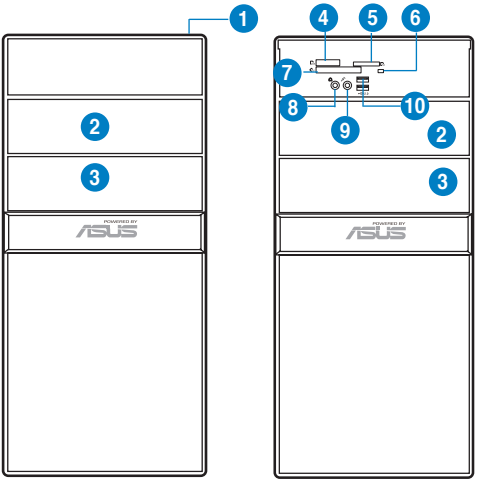
The system comes in a stylish casing and powered by the ASUS motherboard that supports the Intel® Core™ i7/ Core™ i5 processors in the 1156-land package.

The system supports up to 16 GB of system memory using DDR3 1333 /1066MHz DIMMs. High-resolution graphics via PCI Express x16 slot, Serial ATA, USB 2.0, and 8-channel audio feature the system and take you ahead in the world of power computing.

1.2 Front panel

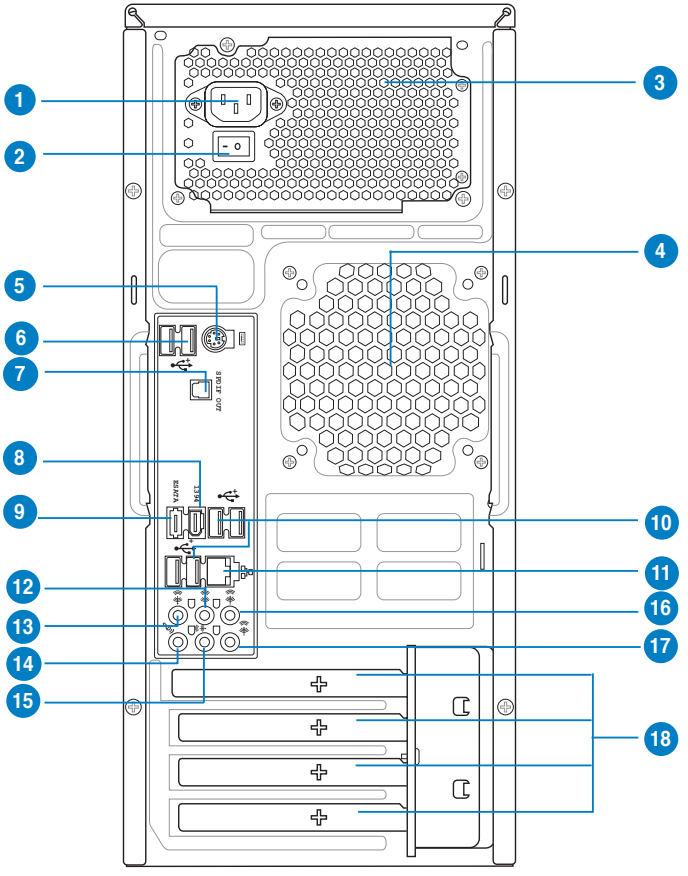
The front panel includes the optical drive bays, power button, and I/O ports.

1. Power button
2. Optical drive bay cover
3. 5.25-inch drive bay cover
4. MemoryStick®/Memory Stick Pro™ card slot
5. Secure Digital™/ Multimedia Card slot
6. Card reader LED
7. CompactFlash®/ Microdrive™ card slot
8. Headphone port
9. Microphone port
10. USB 2.0 ports



1.3 Rear panel

The system rear panel includes the power connector and several I/O ports that allow convenient connection of devices.



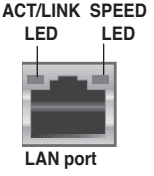
Do NOT cover the rear vent , and the ambience temperature is limited up to 35°C to prevent the system from overheating.

1. **Power connector.** This connector is for the power cable and plug.
2. **Power Switch.** This switch is for switching on/off the power supply unit.
3. **Power supply unit (PSU) fan vent.** This vent is for the PSU fan that provides ventilation inside the power supply unit.
4. **Chassis fan vent.** This vent is for the fan that provides ventilation inside the system chassis.

5. **PS/2 keyboard/mouse port.** This purple 6-pin connector is for a PS/2 keyboard/mouse.
6. **USB 2.0 ports 5~6.** These 4-pin Universal Serial Bus (USB) ports are available for connecting USB 2.0 devices.
7. **Optical S/PDIF Out port.** This port connects an external audio output device via an optical S/PDIF cable.
8. **IEEE1394a port.** This 6-pin IEEE 1394a port provides high-speed connectivity for audio/video devices, storage peripherals, PCs, or portable devices.
9. **External SATA port.** This port connects to an external Serial ATA device.
10. **USB 2.0 ports 1 ~ 4.** These 4-pin Universal Serial Bus (USB) ports are available for connecting USB 2.0 devices.
11. **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		Speed LED	
Status	Description	Status	Description
OFF	No link	OFF	10 Mbps connection
ORANGE	Linked	ORANGE	100 Mbps connection
BLINKING	Data activity	GREEN	1 Gbps connection



12. **Rear Speaker Out port (black).** This port connects the rear speakers in a 4-channel, 6-channel, or 8-channel audio configuration.
13. **Side Speaker Out port (gray).** This port connects the side speakers in an 8-channel audio configuration.
14. **Microphone port (pink).** This port connects a microphone.
15. **Line Out port (lime).** This port connects a headphone or a speaker. In 4-channel, 6-channel, and 8-channel configuration, the function of this port becomes Front Speaker Out.
16. **Center/Subwoofer port (orange).** This port connects the center/subwoofer speakers.
17. **Line In port (light blue).** This port connects the tape, CD, DVD player, or other audio sources.

Refer to the audio configuration table below for the function of the audio ports in 2, 4, 6, or 8-channel configuration.

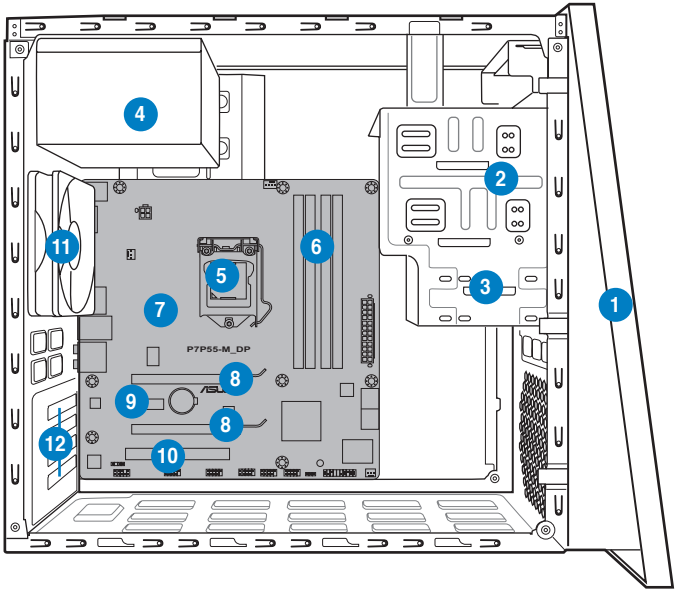
Audio 2, 4, 6, or 8-channel configuration

Port	Headset 2-channel	4-channel	6-channel	8-channel
Light Blue	Line In	Line In	Line In	Line In
Lime	Line Out	Front Speaker Out	Front Speaker Out	Front Speaker Out
Pink	Mic In	Mic In	Mic In	Mic In
Orange	–	–	Center/Subwoofer	Center/Subwoofer
Black	–	Rear Speaker Out	Rear Speaker Out	Rear Speaker Out
Gray	–	–	–	Side Speaker Out

18. **Expansion slot covers.** Remove these covers when installing expansion cards.

1.4 Internal components

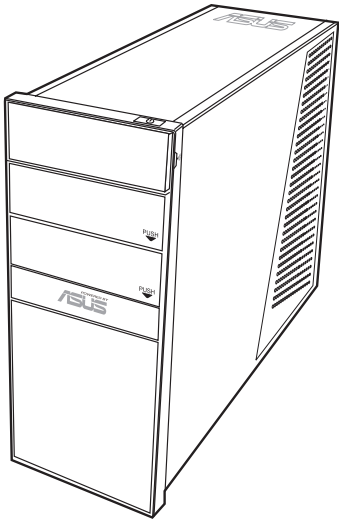
The illustration below is the internal view of the system when you remove the left side cover. The installed components are labeled for your reference. Proceed to Chapter 2 for instructions on installing additional system components.



1. Front panel assembly
2. 5.25-inch optical drive bays
3. Hard disk drive bay
4. Power supply unit
5. CPU socket
6. DIMM sockets
7. ASUS motherboard
8. PCI Express x16 slots
9. PCI Express x1 slot
10. PCI slot
11. Chassis fan
12. Expansion slot metal brackets

Chapter 2

This chapter provides step-by-step instructions on how to install components in the system.



Basic installation

2.1 Preparation

Before you proceed, make sure that you have all the components you plan to install in the system.

Basic components to install

1. Central Processing Unit (CPU)
2. DDR3 Dual Inline Memory Module (DIMM)
3. Expansion card(s)
4. Hard disk drive
5. Optical drive

Tool

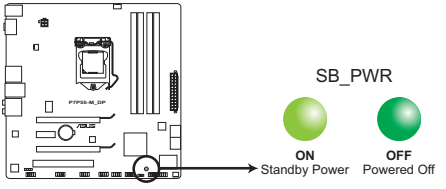
Phillips (cross) screw driver

2.2 Before you proceed

Take note of the following precautions before you install components into the system.

- Use a grounded wrist strap or touch a safely grounded object or a metal object, such as the power supply case, before handling components 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.

The motherboard comes with an onboard standby power LED. This LED lights up to indicate that the system is ON, in sleep mode or in soft-off mode, and not powered OFF. Unplug the power cable from the power outlet and make sure that the standby power LED is OFF before installing any system component.

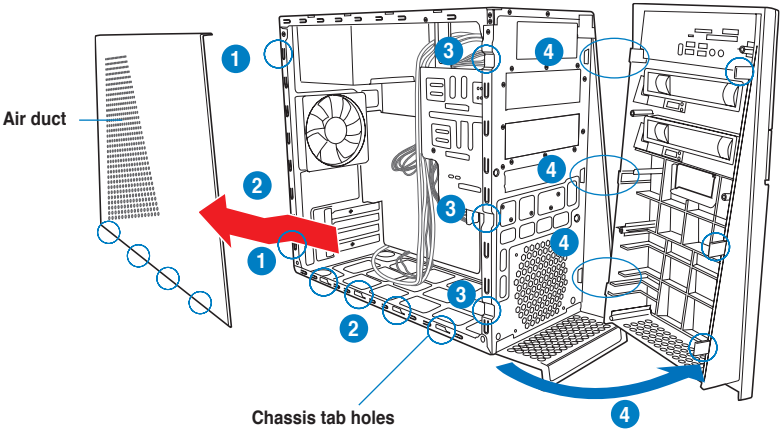


P7P55-M_DP Onboard LED

2.3 Removing the side cover and front panel assembly

Follow the steps below to remove the side cover and front panel assembly.

1. Remove the cover screws on the rear panel.
2. Pull the side cover toward the rear panel until its hooks disengage from the chassis tab holes. Set the side cover aside.
3. Locate the front panel assembly hooks, then lift them until they disengage from the chassis.
4. Swing the front panel assembly to the right, until the hinge-like tabs on the right side of the assembly are exposed.
5. Remove the front panel assembly, then set it aside.



2.4 Central Processing Unit (CPU)

2.4.1 Overview

The motherboard comes with a surface mount LGA1156 socket designed for the Intel® Core™ i7 / Core™ i5 processors.

- Make sure that all power cables are unplugged before installing the CPU.
- Connect the chassis fan cable to the CHA_FAN connector to ensure system stability.

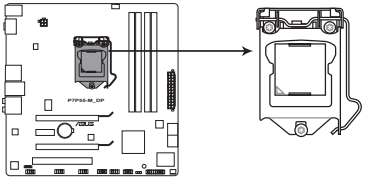
- Upon purchase of the motherboard, make sure that the PnP cap is on the socket and the socket contacts are not bent. Contact your retailer immediately if the PnP cap is missing, or if you see any damage to the PnP cap/socket contacts/motherboard components. ASUS will shoulder the cost of repair only 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 LGA1156 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.

2.4.2 Installing CPU

To install a CPU:

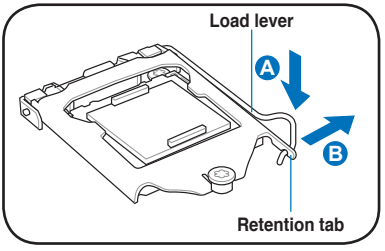
1. Locate the CPU socket on the motherboard.

Before installing the CPU, make sure that the socket box is facing towards you and the load lever is on your left.



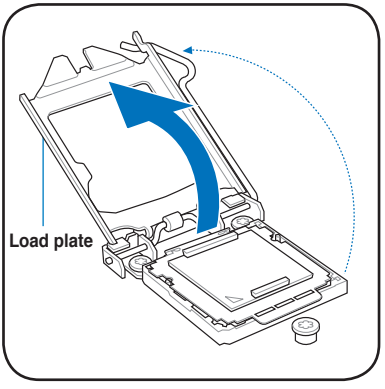
P7P55-M_DP CPU socket LGA1156

2. Press the load lever with your thumb (A), and then move it to the right (B) until it is released from the retention tab.

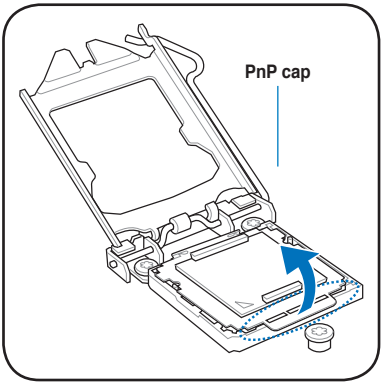


To prevent damage to the socket pins, do not remove the PnP cap unless you are installing a CPU.

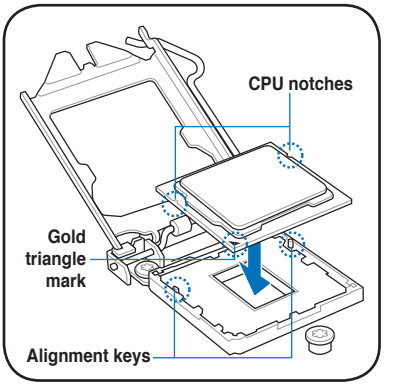
3. Lift the load lever in the direction of the arrow until the load plate is completely lifted.



4. Remove the PnP cap from the CPU socket.

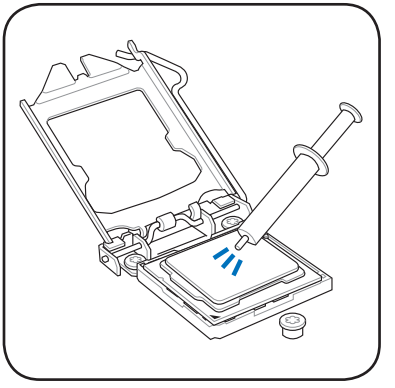


5. Position the CPU over the socket, ensuring that the gold triangle is on the bottom-left corner of the socket, and then fit the socket alignment keys into the CPU notches.



The CPU fits in only one correct orientation. DO NOT force the CPU into the socket to prevent bending the connectors on the socket and damaging the CPU!

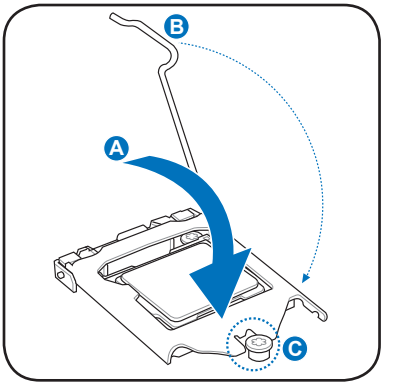
6. Apply some Thermal Interface Material to the exposed area of the CPU that the heatsink will be in contact with, ensuring that it is spread in an even thin layer.



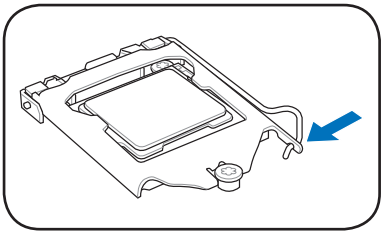
Some heatsinks come with pre-applied thermal paste. If so, skip this step.

The Thermal Interface Material is toxic and inedible. DO NOT eat it. If it gets into your eyes or touches your skin, wash it off immediately, and seek professional medical help.

7. Close the load plate (A), and then push down the load lever (B), ensuring that the front edge of the load plate slides under the retention lock (C).



8. Insert the load lever under the retention tab.



2.4.3 Installing the CPU fan and heatsink assembly

The Intel® LGA1156 processor requires a specially designed heatsink and fan assembly to ensure optimum thermal condition and performance.

- When you buy a boxed Intel® processor, the package includes the CPU fan and heatsink assembly. If you buy a CPU separately, make sure that you use only Intel®-certified multi-directional heatsink and fan.
- Your Intel® LGA1156 heatsink and fan assembly comes in a push-pin design and requires no tool to install.
- Use an LGA1156-compatible CPU heatsink and fan assembly only. The LGA1156 socket is incompatible with the LGA775 and LGA1366 sockets in size and dimension.

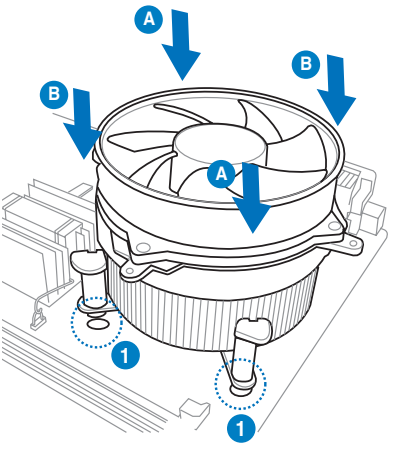
If you purchased a separate CPU heatsink and fan assembly, make sure that the Thermal Interface Material is properly applied to the CPU heatsink or CPU before you install the heatsink and fan assembly.

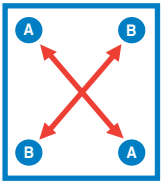
Ensure that you have installed the motherboard to the chassis before you install the CPU fan and heatsink assembly.

To install the CPU heatsink and fan:

1. Place the heatsink on top of the installed CPU, making sure that the four fasteners match the holes on the motherboard.

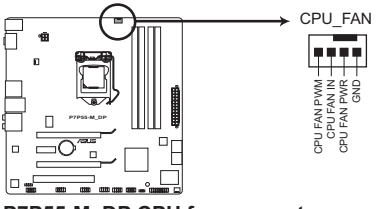
2. Push down two fasteners at a time in a diagonal sequence to secure the heatsink and fan assembly in place.





Orient the heatsink and fan assembly such that the CPU fan cable is closest to the CPU fan connector.

3. When the fan and heatsink assembly is in place, connect the CPU fan cable to the connector on the motherboard.



P7P55-M_DP CPU fan connector

Do not forget to connect the CPU fan connector! Hardware monitoring errors can occur if you fail to plug this connector.

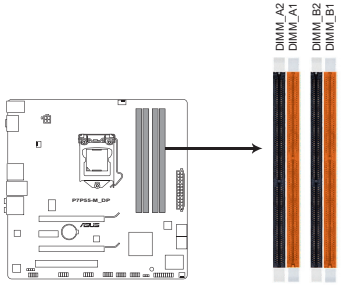
2.5 Installing a DIMM

2.5.1 Overview

The motherboard comes with four Double Data Rate 3 (DDR3) Dual Inline Memory Modules (DIMM) sockets.

A DDR3 module has the same physical dimensions as a DDR3 DIMM but is notched differently to prevent installation on a DDR3 DIMM socket. DDR3 modules are developed for better performance with less power consumption.

The figure illustrates the location of the DDR3 DIMM sockets:



P7P55-M_DP 240-pin DDR3 DIMM sockets

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

2.5.2 Memory configurations

You may install 512 MB, 1 GB, 2 GB, and 4 GB 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.
- According to Intel CPU spec, DIMM voltage below 1.65V is recommended to protect the CPU.
- Always install DIMMs with the same CAS latency. For optimum compatibility, it is recommended that you obtain memory modules from the same vendor.
- 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 when you want to install 4GB or more memory on the motherboard.
- For single-channel configuration, you may:
  - install one double-sided DIMM in any of the four sockets. OR
  - install two single-side DIMMs in DIMM_A1 and DIMM_A2, or in DIMM_B1 and DIMM_B2.
- For dual-channel configuration, you may:
  - install two double-sided DIMMs. OR
    install four single-sided DIMMs.
- This motherboard does not support DIMMs made up of 512Mb (64MB) chips or less (Memory chip capacity counts in Megabit, 8 Megabit/Mb = 1 Megabyte/MB).

- The default memory operation frequency is dependent on its SPD. 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 (4 DIMMs) or overclocking condition.

Qualified Vendors Lists (QVL)
DDR3-1333MHz capability

Vendor	Part No.	Size	SS/ DS	Brand	Chip NO.	Timing DIMM (BIOS)	Voltage	DIMM Support		
								A*	B*	C*
A-Data	AD31333001GOU	1024MB	SS	A-Data	AD30908C8D-151C E0906			•	•	•
A-Data	AD31333G001GOU	3072MB(Kit of 3)	SS	N/A	Heat-Sink Package	8-8-8-24	1.65-1.85V	•	•	•
A-Data	AD31333002GOU	2048MB	DS	A-Data	AD30908C8D-151C E0903			•	•	•
A-Data	AD31333G002GMU	2048MB	DS	N/A	Heat-Sink Package	8-8-8-24	1.65-1.85V	•	•	•
Apacer	78.01GC6.9L0	1024MB	SS	Apacer	AM5D5808AEWSBG0914E	9		•	•	
Apacer	78.A1GC6.9L1	2048MB	DS	Apacer	AM5D5808AEWSBG0908D	9		•	•	•
Corsair	CM3X1024-1333C9DHX	1024MB	SS	N/A	Heat-Sink Package	9-9-9-24	1.60V	•	•	•
Corsair	CM3X1024-1333C9	1024MB	SS	N/A	Heat-Sink Package			•	•	•
Corsair	TR3X3G1333C9	3072MB(Kit of 3)	SS	N/A	Heat-Sink Package	9	1.5V	•	•	•
Corsair	CM3X1024-1333C9DHX	1024MB	DS	Corsair	Heat-Sink Package			•	•	•
Corsair	CM3X2048-1333C9DHX	2048MB	DS	N/A	Heat-Sink Package			•	•	•
CRUCIAL	CT12864BA1339.8FF	1024MB	SS	Micron	9FF22D9KPT	9		•	•	•
Crucial	BL12864TA1336.8SFB1	2048MB(Kit of 2)	SS	N/A	Heat-Sink Package	6-6-6-20	1.8V	•	•	•
Crucial	CT12864BA1339.8SFD	3072MB(Kit of 3)	SS	Micron	8XD22D9JNM	9		•	•	•
CRUCIAL	CT25664BA1339.16FF	2048MB	DS	Micron	9KF27D9KPT	9		•	•	•
Crucial	BL25664ABA1336.16SFB1	4096MB(Kit of 2)	DS	N/A	Heat-Sink Package	6-6-6-20	1.8V	•	•	•
CRUCIAL	BL25664BA1336.16SFB1	4096MB(Kit of 2)	DS	N/A	Heat-Sink Package	6-6-6-20	1.8V	•	•	•
Crucial	CT25664BA1339.16SFD	6144MB(Kit of 3)	DS	Micron	8UD22D9JNM	9		•	•	•
G.SKILL	F3-10600CL8D-2GBHK	1024MB	SS	G.SKILL	Heat-Sink Package			•	•	•
G.SKILL	F3-10600CL9D-2GBPK	1024MB	SS	G.SKILL	Heat-Sink Package			•	•	•
G.SKILL	F3-10666CL7T-3GBPK	3072MB(Kit of 3)	SS	N/A	Heat-Sink Package	7-7-7-18	1.5~1.6V	•	•	•
G.SKILL	F3-10666CL9T-3GBNQ	3072MB(Kit of 3)	SS	N/A	Heat-Sink Package	9-9-9-24	1.5~1.6V	•	•	•
G.SKILL	F3-10600CL7D-2GBPI	1024MB	DS	G.SKILL	Heat-Sink Package			•	•	•
G.SKILL	F3-10600CL9D-2GBNQ	1024MB	DS	G.SKILL	Heat-Sink Package			•	•	•
G.SkiLL	F3-10666CL8D-4GBHK	4096MB(Kit of 2)	DS	N/A	Heat-Sink Package	8-8-8-21	1.5-1.6V	•	•	•
G.SKILL	F3-10666CL7T-6GBPK	6144MB(Kit of 3)	DS	N/A	Heat-Sink Package	7-7-7-18	1.5~1.6V	•	•	•
G.SKILL	F3-10666CL9T-6GBNQ	6144MB(Kit of 3)	DS	N/A	Heat-Sink Package	9-9-9-24	1.5V~1.6V	•	•	•
GEIL	DDR3-1333 CL9-9-9-24	1024MB	SS	N/A	Heat-Sink Package	9		•	•	•
GEIL	GV34GB1333C7DC	2048MB	DS	N/A	Heat-Sink Package	7-7-7-24	1.5V	•	•	•
GEIL	DDR3-1333 CL9-9-9-24	6144MB(Kit of 3)	DS	N/A	Heat-Sink Package	9	1.5V	•	•	•
kingmax	FLFD45F-B8MF9	1024MB	SS	Micron	8HD22D9JNM			•	•	•
kingmax	FLFE85F-B8MF9	2048MB	DS	Micron	8HD22D9JNM			•	•	•
Kingston	KVR1333D3N9/1G	1024MB	SS	elpida	J1108BABG-DJ-E	9	1.5V ± 0.075V	•	•	•

(continued on the next page)

DDR3-1333MHz capability

Vendor	Part No.	Size	SS/ DS	Brand	Chip NO.	Timing DIMM (BIOS)	Voltage	DIMM Support		
								A*	B*	C*
Kingston	KVR1333D3N9/2G	2048MB	DS	Qimonda	IDSH1G-03A1F1C-13H		1.5V	•	•	•
Micron	MT8JTF12864AY-1G4D1	1024MB	SS	Micron	8LD22D9JNM			•	•	•
Micron	MT8JTF12864AZ-1G4F1	1024MB	SS	Micron	9FF22D9KPT	9		•	•	•
Micron	MT8JTF12864AY-1G4D1	3072MB(Kit of 3)	SS	Micron	8XD22D9JNM	9		•	•	•
Micron	MT16JTF25664AY-1G1D1	2048MB	DS	Micron	8LD22 D9JNM			•	•	•
Micron	MT18JTF25664AZ-1G4F1	2048MB	DS	Micron	9KF27D9KPT	9		•	•	•
Micron	MT16JTF25664AY-1G4D1	6144MB(Kit of 3)	DS	Micron	8UD22D9JNM	9		•	•	•
OCZ	OCZ3P13332GK	2048MB(Kit of 2)	SS	N/A	Heat-Sink Package	7-7-7-20	1.8V	•	•	•
OCZ	OCZ3X1333LV3GK(XMP)	3072MB(Kit of 3)	SS	N/A	Heat-Sink Package		1.6V	•	•	•
OCZ	OCZ3P13334GK	4096MB(Kit of 2)	DS	N/A	Heat-Sink Package	7-7-7-20	1.8V	•	•	•
OCZ	OCZ3RPX1333EB4GK	4096MB(Kit of 2)	DS	N/A	Heat-Sink Package	6-5-5-20	1.85V	•	•	
OCZ	OCZ3G1333LV6GK	6144MB(Kit of 3)	DS	N/A	Heat-Sink Package	9-9-9-20	1.65V	•	•	
OCZ	OCZ3P1333LV6GK	6144MB(Kit of 3)	DS	N/A	Heat-Sink Package	7-7-7-20	1.65V	•	•	•
OCZ	OCZ3X1333LV6GK(XMP)	6144MB(Kit of 3)	DS	N/A	Heat-Sink Package	8-8-8-20	1.60V	•	•	•
SAMSUNG	M378B2873DZ1-CH9	1024MB	SS	Samsung	K4B1G0846D-HCH9			•	•	
SAMSUNG	M378B2873DZ1-CH9	1024MB	SS	Samsung	SEC 846 HCH9 K4B1G08460			•	•	•
SAMSUNG	M378B2873EH1-CH9	1024MB	SS	Samsung	SEC 913 HCH9 K4B1G0846E			•	•	•
SAMSUNG	M378B5673DZ1-CH9	2048MB	DS	Samsung	K4B1G0846D-HCH9			•	•	•
SAMSUNG	M378B5673EH1-CH9	2048MB	DS	Samsung	SEC 913 HCH9 K4B1G0846E			•	•	•
Super Talent	W1333X2GB8	1024MB	SS	N/A	Heat-Sink Package			•	•	
Transcend	TS128MLK64V3U	1024MB	SS	N/A	SEC 813HCH9 K4B1G0846D			•	•	•
Transcend	TS256MLK64V3U	2048MB	DS	Micron	9GF27D9KPT			•	•	•
Transcend	TS256MLK64V3U	2048MB	DS	N/A	SEC816HCH9K4B1G0846D			•	•	•
ASINT	SLY3128M8-EDJ	1024MB	SS	ASint	DDRII1208-DJ 0844			•	•	•
Asint	SLY3128M8-EDJE	1024MB	SS	ELPIDA	J1108BASE-DJ-E			•	•	
ASINT	SLY3128M8-EDJ	2048MB	DS	ASint	DDRII1208-DJ 0844			•	•	•
Asint	SLZ3128M8-EDJE	2048MB	DS	ELPIDA	J1108BASE-DJ-E			•	•	
BUFFALO	FSX1333D3G-K2G	1024MB	SS	N/A	Heat-Sink Package	7-7-7-20		•	•	•
Century	PC3-10600 DDR3-1333 9-9-9	1024MB	SS	Micron	8FD22D9JNM			•	•	
Century	PC3-10600 DDR3-1333 9-9-9	2048MB	DS	Micron	8DD22D9JNM			•	•	
Kingtiger	2GB DIMM PC3-10666	2048MB	DS	Samsung	SEC 904 HCH9 K4B1G0846D			•	•	
Kingtiger	KTG2G1333PG3	2048MB	DS	N/A	Heat-Sink Package			•	•	•
PATRIOT	PSD31G13332H	1024MB	DS	N/A	Heat-Sink Package	9		•	•	•
PATRIOT	PSD31G13332	1024MB	DS	Patriot	PM64M8D38U-15			•	•	•
PATRIOT	PSD32G13332H	2048MB	DS	N/A	Heat-Sink Package			•	•	•
SILICON POWER	SP001GBLTU133S02	1024MB	SS	elixir	N2CB1680AN-C6	9		•	•	•
SILICON POWER	SP002GBLTU133S02	2048MB	DS	elixir	N2CB1680AN-C6	9		•	•	•
TAKEMS	TMS1GB364D081-107EY	1024MB	SS	N/A	Heat-Sink Package	7-7-7-20	1.5V	•		
TAKEMS	TMS1GB364D081-138EY	1024MB	SS	N/A	Heat-Sink Package	8-8-8-24	1.5V	•	•	
TAKEMS	TMS2GB364D081-107EY	2048MB	DS	N/A	Heat-Sink Package	7-7-7-20	1.5V	•	•	•
TAKEMS	TMS2GB364D081-138EY	2048MB	DS	N/A	Heat-Sink Package	8-8-8-24	1.5V	•	•	

DDR3 1067(O.C.)MHz capability

Vendor	Part No.	Size	SS/ DS	Brand	Chip NO.	Timing DIMM (BIOS)	Voltage	DIMM Support		
								A*	B*	C*
Crucial	CT12864BA1067.8FF	1024MB	SS	Micron	9GF22D9KPT	7		•	•	•
CRUCIAL	CT25664BA1067.16FF	2048MB	DS	Micron	9HF22D9KPT	7		•	•	•
Elpida	EBJ51UD8BAFA-AC-E	512MB	SS	elpida	J5308BASE-AC-E			•	•	•
Elpida	EBJ51UD8BAFA-AE-E	512MB	SS	elpida	J5308BASE-AC-E			•	•	•
Elpida	EBJ11UD8BAFA-AE-E	1024MB	DS	elpida	J5308BASE-AC-E			•	•	
Kingston	KVR1066D3N7/1G	1024MB	SS	elpida	J1108BABG-DJ-E	7	1.5V ± 0.075V	•	•	•
Kingston	KVR1066D3N7/1G	1024MB	SS	elpida	J5308BASE-AE-E S	7	1.5V	•	•	•
Kingston	KVR1066D3N7/2G	2048MB	DS	elpida	J1108BABG-DJ-E	7	1.5V	•	•	•
Micron	MT8JTF12864AY-1G1D1	1024MB	SS	Micron	8ED22D9JNL			•	•	•
Micron	MT8JTF12864AZ-1G1F1	1024MB	SS	Micron	9GF22D9KPT	7		•	•	•
Micron	MT16JTF25664AY-1G1D1	2048MB	DS	Micron	8LD22D9JNL			•	•	•
Micron	MT16JTF25664AZ-1G1F1	2048MB	DS	Micron	9HF22D9KPT	7		•	•	•
OCZ	OCZ3SOE10662GK	2048MB(Kit of 2)	DS	N/A	Heat-Sink Package	7-7-7-16	1.75V	•	•	•
SAMSUNG	M378B2873EH1-CF8	1024MB	SS	Samsung	SEC 901 HCF8 K4B1G0846E			•	•	•
SAMSUNG	M378B5273BH1-CF8	4096MB	DS	SAMSUNG	846 K4B2G0846B-HCF8			•	•	•
Kingtiger	2GB DIMM PC3-8500	2048MB	DS	Hynix	H5TQ1G83AFP G7C			•	•	•

SS - Single-sided / DS - Double-sided
DIMM support:

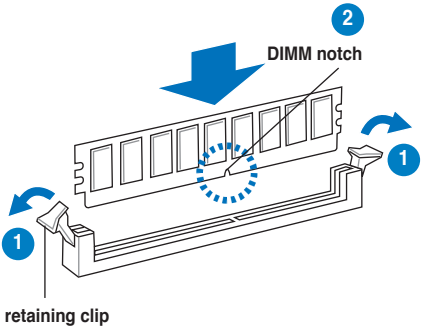
- A*: Supports one module inserted in any slot as Single-channel memory configuration.
- B*: Supports one pair of modules inserted into either the orange slots or the black slots as one pair of Dual-channel memory configuration.
- C*: Supports four modules inserted into both the orange and black slots as two pairs of Dual-channel memory configuration.

Visit the ASUS website at http://support.asus.com for the latest QVL.

2.5.3 Installing a DIMM

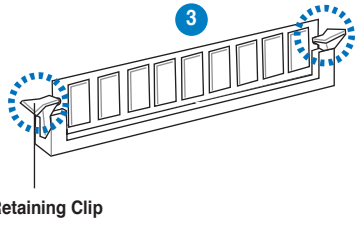
Make sure to unplug the power supply before adding or removing DIMMs or other system components. Failure to do so may cause severe damage to both the motherboard and the components.

1. Unlock a DIMM socket by pressing the retaining clips outward.
2. Align a DIMM on the socket such that the notch on the DIMM matches the break on the socket.



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

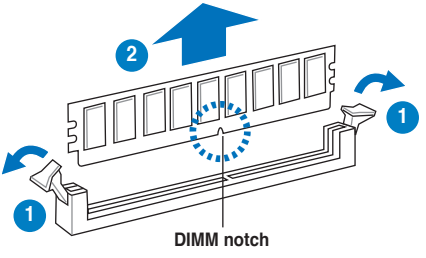
3. Firmly insert the DIMM into the socket until the retaining clips snap back in place and the DIMM is properly seated.



2.5.4 Removing a DIMM

Follow these steps to remove a DIMM.

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



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

2. Remove the DIMM from the socket.

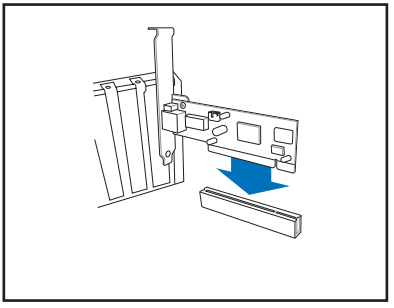
2.6 Expansion slots

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

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

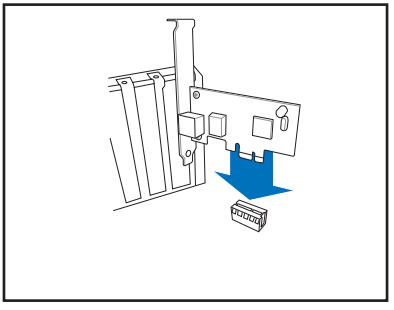
2.6.1 PCI slot

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



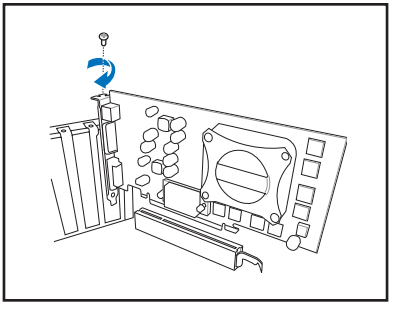
2.6.2 PCI Express x1 slot

This motherboard supports PCI Express x1 network cards, SCSI cards and other cards that comply with the PCI Express specifications. The figure shows a network card installed on the PCI Express x1 slot.



2.6.3 PCI Express x16 slots

This motherboard supports PCI Express x16 graphic cards that comply with the PCI Express specifications. The figure shows a graphics card installed on the PCI Express x16 slot.



2.6.4 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.

2.6.5 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 5 for information on BIOS setup.
2. Assign an IRQ to the card.
3. Install the software drivers for the expansion card.

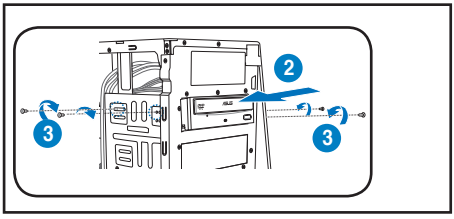
When using PCI cards on shared slots, ensure that the drivers support “Share IRQ” or that the cards do not need IRQ assignments. Otherwise, conflicts will arise between the two PCI groups, making the system unstable and the card inoperable.

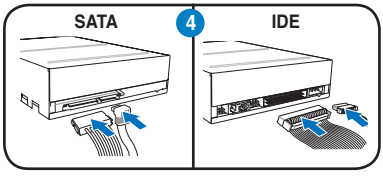
2.7 Installing storage drives

2.7.1 Installing an optical drive

1. Place the chassis upright, then remove the upper 5.25” drive bay metal plate cover.
2. Insert the optical drive to the bay, then carefully push the drive until its screw holes align with the holes on the bay.
3. Secure the optical drive with two screws on both sides of the bay.
4. For SATA ODD: Connect the SATA signal and power plugs to the connectors at the back of the drive.

   For IDE ODD: Connect the IDE signal and power plugs to the connectors at the back of the drive.

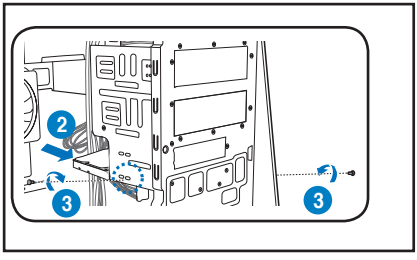


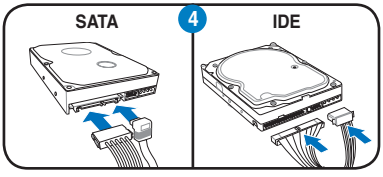


2.7.2 Installing a hard disk drive

1. Locate the 3.5-inch hard disk drive bay.
2. Insert the hard disk drive to the 3.5-inch hard disk drive bay, then carefully push the drive until its screw holes align with the holes on the bracket.
3. Secure the hard disk drive with two screws on both sides of the bay.
4. For SATA HDD: Connect the SATA signal and power plugs to the connectors at the back of the drive.

   For IDE HDD: Connect the IDE signal and power plugs to the connectors at the back of the drive.

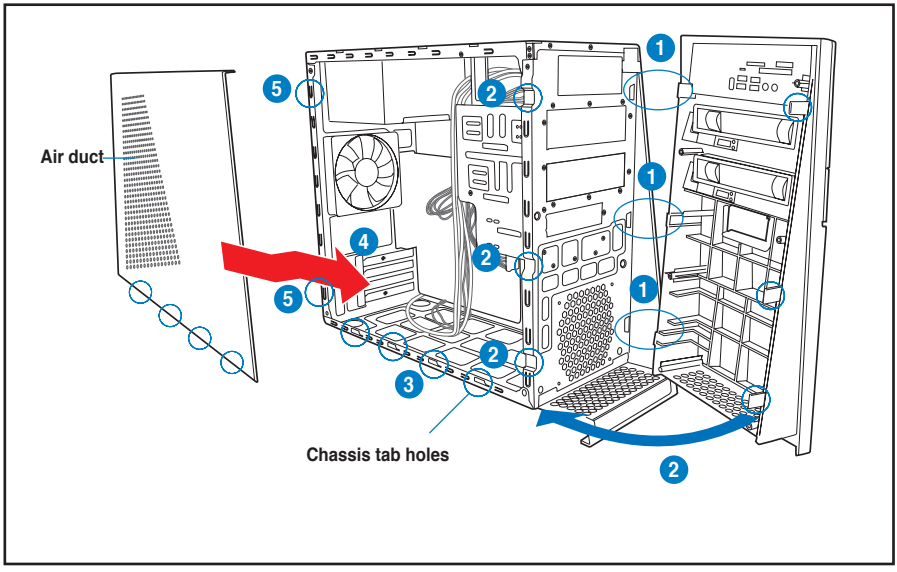




2.8 Reinstalling the front panel assembly and side cover

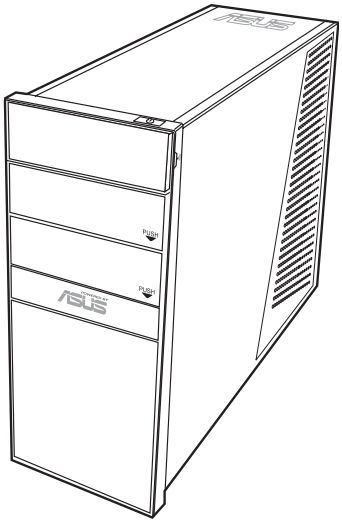
To reinstall the front panel assembly and side cover:

1. Insert the front panel assembly hinge-like tabs to the holes on the right side of the chassis.
2. Swing the front panel assembly to the left, then insert the hooks to the chassis until the front panel assembly fits in place.
3. Insert the six side cover hooks into the chassis tab holes .
4. Push the side cover to the direction of the front panel until it fits in place.
5. Secure the cover with two screws you removed earlier.



Chapter 3

This chapter helps you power up the system and install drivers and utilities from the support DVD.



Starting up

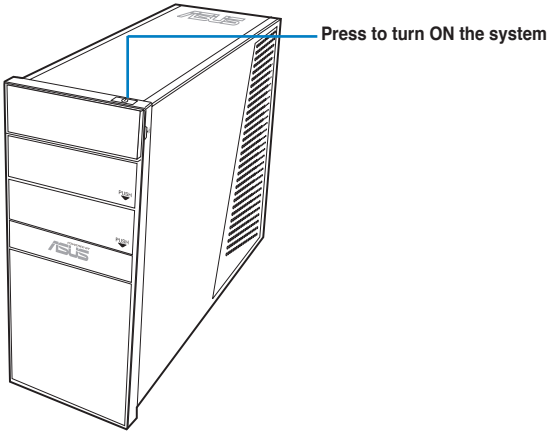
3.1 Installing an operating system

The barebone system supports Windows® XP/Vista/7 operating systems (OS). Always install the latest OS version and corresponding updates so you can maximize the features of your hardware.

- Because motherboard settings and hardware options vary. Refer to your OS documentation for more information.
- Ensure that you install Windows® XP Service Pack 3 /Windows® Vista Service Pack 1 before installing the drivers for better compatibility and system stability.

3.2 Powering up

Press the system power button (⏻) to enter the OS.



3.3 Support DVD information

The support DVD that came with the system contains useful software and several utility drivers that enhance the system features.

- Screen display and driver options may not be the same for different operating system versions.
- 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.

3.3.1 Running the support DVD

To begin using the support DVD, place the DVD in your optical drive. The DVD automatically displays the Drivers menu if Autorun is enabled in your computer.

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.

ASUS InstAll

Launches the ASUS InstAll driver installation wizard.

PC-cillin 2010

Installs the PC-cillin 2010 to protect your system from the latest threats.

Intel Chipset Driver

Installs the Intel® chipset driver.

Realtek Audio Driver

Installs the Realtek audio driver and application.

Atheros L1E Gigabit Ethernet Driver

Installs the Atheros® L1E Gigabit Ethernet Driver.

ASUS EPU-4 Engine

Installs the ASUS EPU-4 Engine.

3.3.2 Utilities menu

The Utilities menu shows the applications and other software that the motherboard supports.

ASUS InstAll

Installs all of the utilities through the Installation Wizard.

ASUS AI Manager

Installs the ASUS AI Manager.

ASUS Update

Allows you to download the latest version of the BIOS from the ASUS website.

Before using the ASUS Update, make sure that you have an Internet connection so you can connect to the ASUS website.

Adobe Reader 9

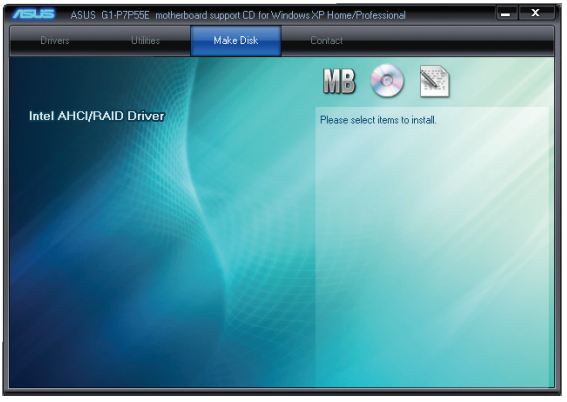
Installs the Adobe® Reader that allows you to open, view, and print documents in Portable Document Format (PDF).

ASUS Express Gate Installer

Installs the ASUS Express Gate.

3.3.3 Make disk menu

The Make Disk menu allows you to make a AHCI/RAID driver disk.



3.3.4 ASUS Contact information

Click the Contact tab to display the ASUS contact information. You can also find this information on the inside front cover of this user guide.

3.3.5 Other information

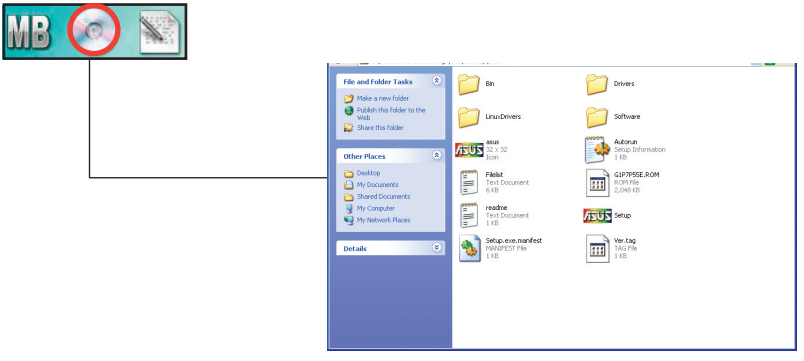
The icons on the top right corner of the screen give additional information on the motherboard and the contents of the support DVD. Click an icon to display the specified information.

Motherboard Info

Displays the general specifications of the motherboard.

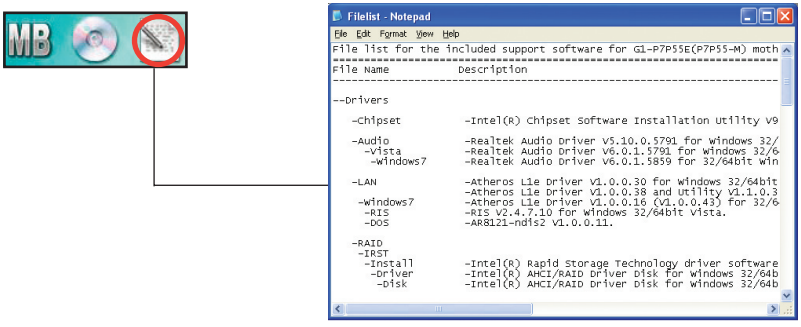
Browse this DVD

Displays the support DVD contents in graphical format.



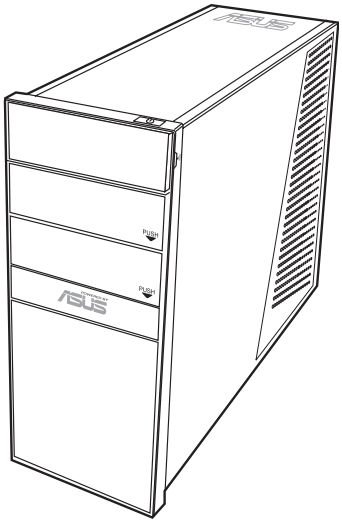
Filelist

Displays the contents of the support DVD and a brief description of each in text format.



Chapter 4

This chapter gives information about he motherboard that comes with the system. This chapter includes the motherboard layout, jumper settings, and connector locations.

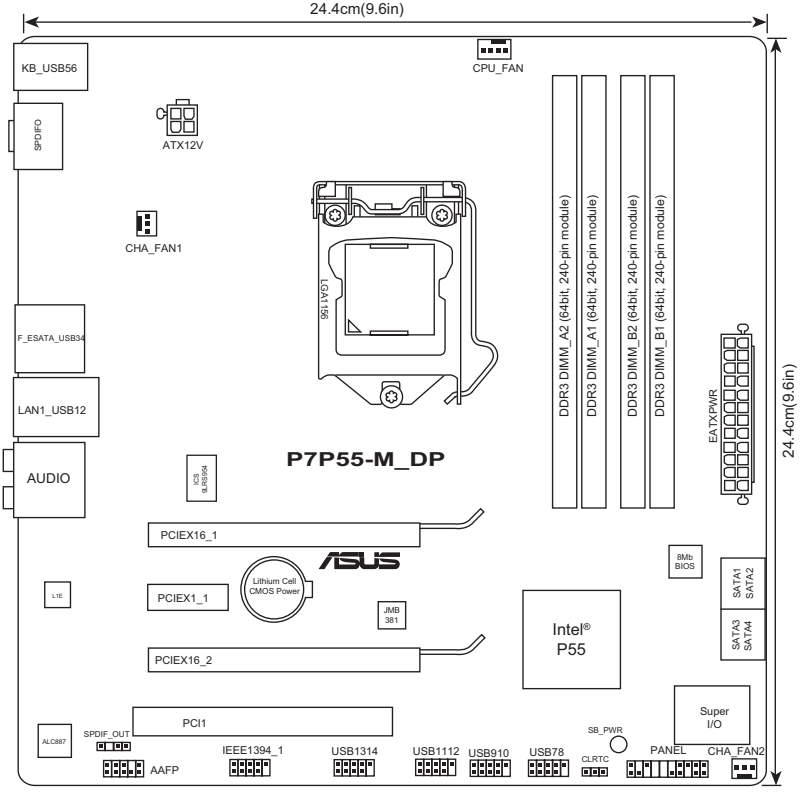


Motherboard info

4.1 Introduction

The G1-P7P55E barebone system comes with an ASUS motherboard. This chapter provides technical information about the motherboard for future upgrades or system reconfiguration.

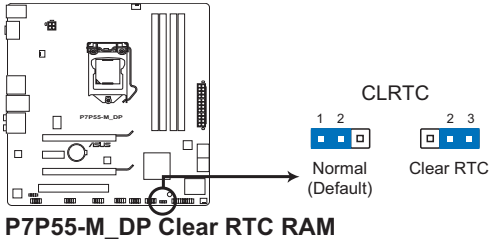
4.2 Motherboard layout



4.3 Jumpers

1. Clear RTC RAM (3-pin CLRTC)

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



P7P55-M_DP Clear RTC RAM

To erase the RTC RAM:

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

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

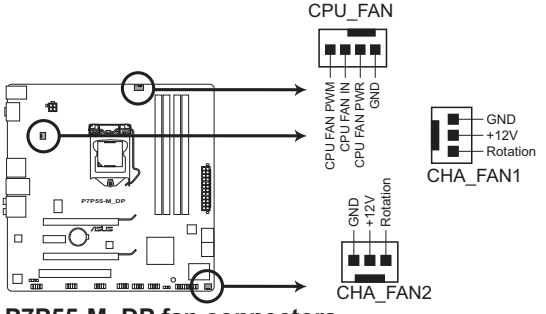
- If the steps above do not help, remove the onboard battery and move the jumper again to clear the CMOS RTC RAM data. After the CMOS clearance, reinstall the battery.
- You do not need to clear the RTC when the system hangs due to overclocking. For system failure due to overclocking, use the CPU Parameter Recall (C.P.R.) feature. Shut down and reboot the system, then the BIOS automatically resets parameter settings to default values.
- Due to the chipset limitation, AC power off is required before you use the C.P.R. function. You must turn off and on the power supply or unplug and plug the power cord before rebooting the system.

4.4 Connectors

1. CPU and chassis fan connectors (4-pin CPU_FAN, 3-pin CHA_FAN1, 3-pin CHA_FAN2)

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.

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!

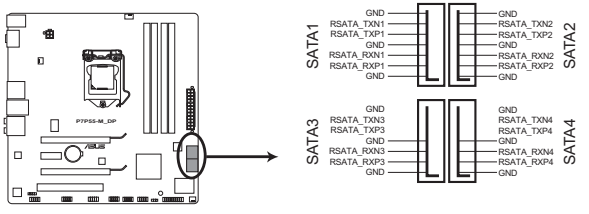


P7P55-M_DP fan connectors

Only the 4-pin CPU fan connector supports the ASUS Q-FAN feature.

2. Serial ATA connectors (7-pin SATA1-6)

These connectors are for the Serial ATA signal cables for Serial ATA hard disk drives.

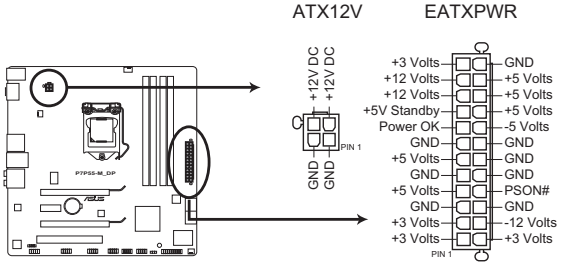


P7P55-M_DP SATA connectors

Install the Windows® XP Service Pack 2 or later version before using Serial ATA.

3. 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.

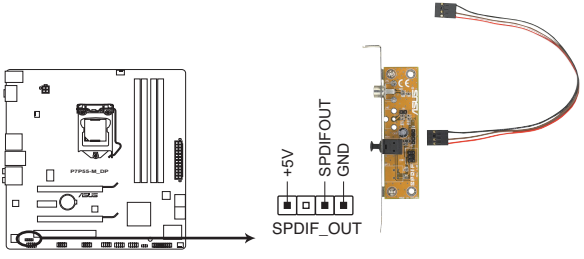


P7P55-M_DP ATX power connectors

- For a fully configured system, we recommend that you use a power supply unit (PSU) that complies with ATX 12 V Specification 2.0 (or later version) and provides a minimum power of 400 W.
- Do not forget to connect the 4-pin ATX12V power plug. Otherwise, the system will not boot.
- We recommend that you use a PSU with a 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.

4. Digital audio connector (4-1 pin SPDIF_OUT)

This connector is for an additional Sony/Philips Digital Interface (S/PDIF) port. Connect the S/PDIF Out module cable to this connector, then install the module to a slot opening at the back of the system chassis.

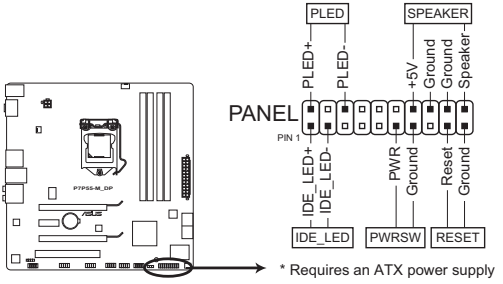


P7P55-M_DP Digital audio connector

The S/PDIF module is purchased separately.

5. System panel connector (20-8 pin PANEL)

This connector supports several chassis-mounted functions.



P7P55-M_DP System panel connector

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

  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 IDE_LED)**

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

- **System warning speaker (4-pin SPEAKER)**

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

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

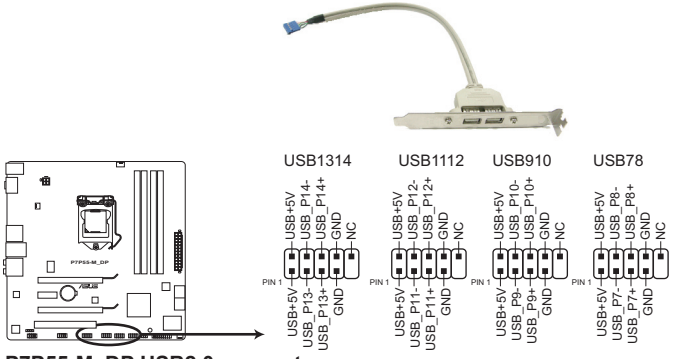
  This connector is for the system power button.

- **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.

6. USB connectors (10-1 pin USB78, USB910, USB1112, USB1314)

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 specification that supports up to 480 Mbps connection speed.



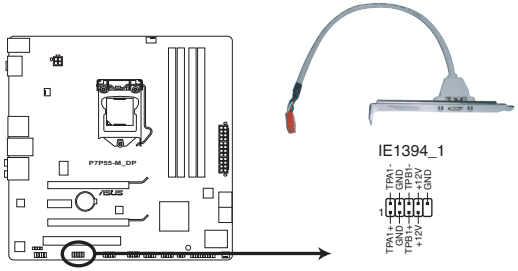
P7P55-M_DP USB2.0 connectors

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

The USB module cable is purchased separately.

7. IEEE 1394a connector (10-1 pin IE1394_1)

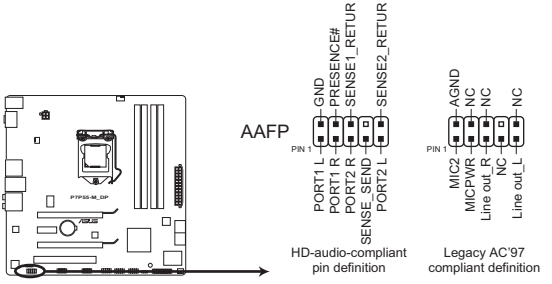
This port is for an IEEE1394a port. Connect the IEEE1394a module cable to this connecter, then install the module to a slot opening at the back of the system chassis.



P7P55-M_DP IEEE 1394a connector

8. 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.

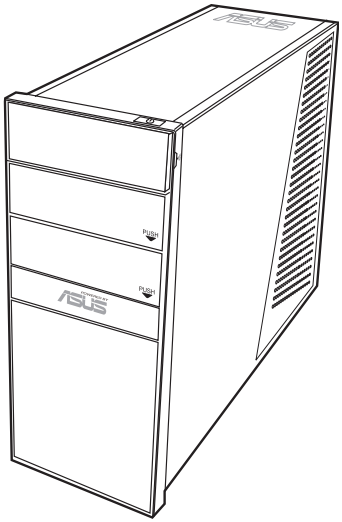


P7P55-M_DP Analog front panel connector

- 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 Audio]. 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 Audio]. See section 5.4.4 Onboard Devices Configuration for details.

Chapter 5

This chapter tells how to change system settings through the BIOS Setup menus and describes the BIOS parameters.



BIOS setup

5.1 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.

5.1.1 ASUS Update utility

The ASUS Update is a utility that allows you to manage, save, and update the motherboard BIOS in Windows® environment.

- ASUS Update requires an Internet connection either through a network or an Internet Service Provider (ISP).
- This utility is available in the support DVD that comes with the motherboard package.

Installing ASUS Update

To install ASUS Update:

1. Place the support DVD in the optical drive. The **Drivers** menu appears.
2. Click the **Utilities** tab, then click **Install ASUS Update**.
3. Follow the onscreen instructions to complete the installation.

Quit all Windows® applications before you update the BIOS using this utility.

Updating the BIOS

To update the BIOS:

1. From the Windows® desktop, click **Start** > **Programs** > **ASUS** > **ASUSUpdate** > **ASUSUpdate** to launch the ASUS Update utility.
2. From the dropdown list, select any of the updating process:
   Updating from the Internet
   a. Select **Update BIOS from the Internet**, then click **Next**.
   b. Select the ASUS FTP site nearest you to avoid network traffic, or click **Auto Select** then click **Next**.
   c. From the FTP site, select the BIOS version that you wish to download then click **Next**.

The ASUS Update utility is capable of updating itself through the Internet. Always update the utility to avail all its features.

Updating from a BIOS file

a. Select **Update BIOS from a file**, then click **Next**.

b. Locate the BIOS file from the **Open** window, then click **Open**.

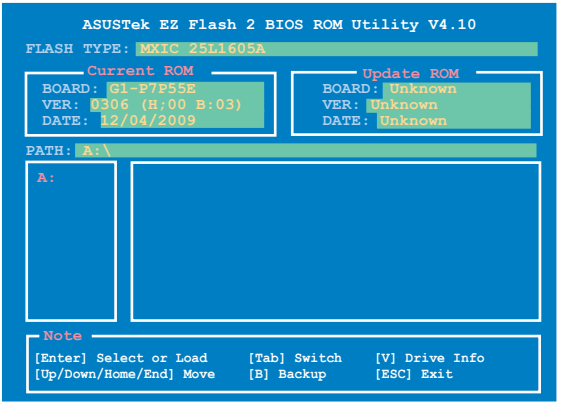
3. Follow the onscreen instructions to complete the updating process.

5.1.2 ASUS EZ Flash 2 utility

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

To update the BIOS using EZ Flash 2:

1. Insert the USB flash disk that contains the latest BIOS file to the USB port, then launch EZ Flash 2 in any of these two ways:
   - Press **<Alt> + <F2>** during POST.
   - Enter the BIOS setup program. Go to the **Tools** menu to select **EZ Flash 2** and press **<Enter>** to enable it.
     Press **<Tab>** to switch between drives until the correct BIOS file is found.



4. When the correct BIOS file is found, EZ Flash 2 performs the BIOS update process and automatically reboots the system when done.

- Only a USB flash disk with **FAT 32/16** format and single partition can support the ASUS EZ Flash 2 utility.
- Do not shut down or reset the system while updating the BIOS to prevent system boot failure!

5.1.3 ASUS CrashFree BIOS

The ASUS CrashFree BIOS 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 removable device that contains the updated BIOS file.

- Before using this utility, rename the BIOS file in the removable device into **G1P7P55E.ROM**.
- 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.
- The removable device that ASUS CrashFree BIOS support vary with motherboard models. For motherboards without the floppy connector, prepare a USB flash disk before using this utility.

Recovering the BIOS

To recover the BIOS:

1. Turn on the system.
2. Insert the support DVD to the optical drive or the removable device that contains the BIOS file to the USB port or to the floppy disk drive, if supported.
3. The utility automatically checks the devices for the BIOS file. When found, the utility reads the BIOS file and starts flashing the corrupted BIOS file.
4. Turn off the system after the utility completes the updating process and turn on again.

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

Ensure to load the BIOS default settings to ensure system compatibility and stability. Select the Load Setup Defaults item under the Exit menu. Refer to section **5.8 Exit Menu** for details.

5.2 BIOS setup program

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

Entering BIOS Setup at startup

To enter BIOS Setup at startup:

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

Entering BIOS Setup after POST

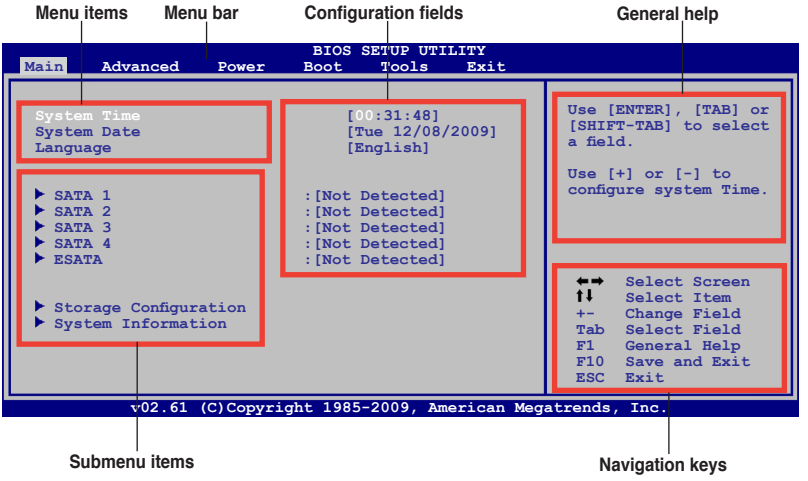
To enter BIOS Setup after POST:

- Press **<Ctrl>+<Alt>+<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 default BIOS settings for this motherboard apply for most conditions to ensure optimum performance. If the system becomes unstable after changing any BIOS settings, load the default settings to ensure system compatibility and stability. Select the **Load Setups Default** item under the Exit Menu. See section **5.8 Exit Menu**.
- 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.

5.2.1 BIOS menu screen



5.2.2 Menu bar

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

Main	For changing the basic system configuration.
Advanced	For changing the advanced system settings.
Power	For changing the advanced power management (APM) configuration.
Boot	For changing the system boot configuration.
Tools	For configuring options for special functions.
Exit	For selecting the exit options and loading default settings.

To select an item on the menu bar, press the right or left arrow key on the keyboard until the desired item is highlighted.

5.2.3 Navigation keys

At the bottom right corner of a menu screen are the navigation keys for that particular menu. Use the navigation keys to select items in the menu and change the settings.

Some of the navigation keys differ from one screen to another.

5.2.4 Menu items

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

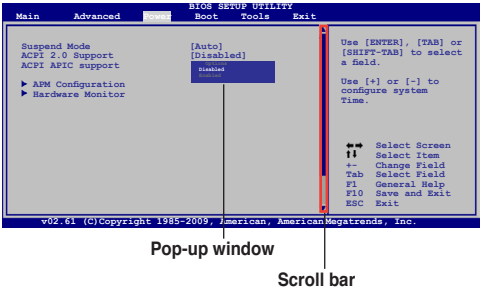
The other items (Advanced, Power, Boot, Tools, and Exit) on the menu bar have their respective menu items.

5.2.5 Submenu items

A solid triangle before each item on any menu screen means that the item has a submenu. To display the submenu, select the item and press **<Enter>**.

5.2.7 Pop-up window

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



5.2.8 Scroll bar

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

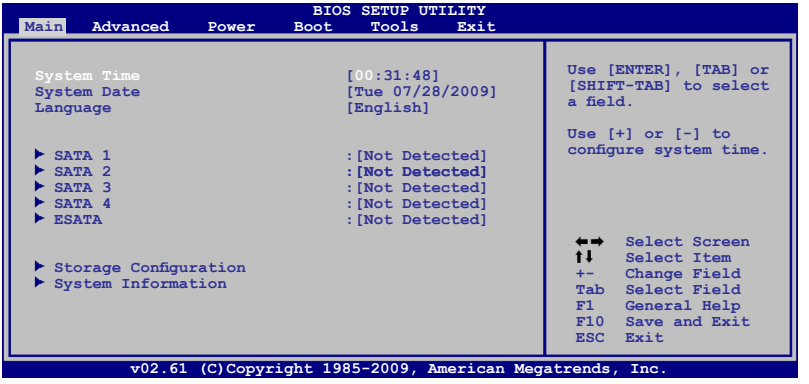
5.2.9 General help

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

5.3 Main menu

When you enter the BIOS Setup program, the **Main** menu screen appears, giving you an overview of the basic system information.

Refer to section **5.2.1 BIOS menu screen** for information on the menu screen items and how to navigate through them.



5.3.1 System Time [xx:xx:xx]

Allows you to set the system time.

5.3.2 System Date [Day xx/xx/xxxx]

Allows you to set the system date.

5.3.3 Language [English]

Allows you to choose the display language in BIOS.
Configuration options: [繁體中文] [简体中文] [日本語] [Français] [Deutsch] [English]

5.3.4 SATA 1-4 and ESATA

While entering Setup, the BIOS automatically detects the presence of SATA devices. There is a separate sub-menu for each SATA device. Select a device item then press <Enter> to display the SATA device information.

The BIOS automatically detects the values opposite the dimmed items (Device, Vendor, Size, LBA Mode, Block Mode, PIO Mode, Async DMA, Ultra DMA, and SMART Monitoring). These values are not user-configurable. These items show N/A if no Serial ATA device is installed in the system.

Type [Auto]

Selects the type of SATA drive. Setting to [Auto] allows automatic selection of the appropriate SATA device type. Select [CDROM] if you are specifically configuring a CD-ROM drive. Select [ARMD] (ATAPI Removable Media Device) if your device is either a ZIP, LS-120, or MO drive. Configuration options: [Not Installed] [Auto] [CDROM] [ARMD]

This item does not appear when you select ESATA.

LBA/Large Mode [Auto]

Enables or disables the LBA mode. Setting to **[Auto]** enables the LBA mode if the device supports this mode, and if the device was not previously formatted with LBA mode disabled. Configuration options: [Disabled] [Auto]

Block (Multi-sector Transfer) M [Auto]

Enables or disables data multi-sectors transfers. When set to **[Auto]**, the data transfer from and to the device occurs multiple sectors at a time if the device supports multi-sector transfer feature. When set to **[Disabled]**, the data transfer from and to the device occurs one sector at a time. Configuration options: [Disabled] [Auto]

PIO Mode [Auto]

Selects the PIO mode. Configuration options: [Auto] [0] [1] [2] [3] [4]

DMA Mode [Auto]

Selects the DMA mode. Configuration options: [Auto]

SMART Monitoring [Auto]

Sets the Smart Monitoring, Analysis, and Reporting Technology. Configuration options: [Auto] [Disabled] [Enabled]

32Bit Data Transfer [Enabled]

Enables or disables 32-bit data transfer. Configuration options: [Disabled] [Enabled]

5.3.5 Storage Configuration

The items in this menu allow you to set or change the configurations for the SATA devices installed in the system. Select an item then press **<Enter>** if you want to configure the item.

SATA Configuration [Enhanced]

Allows you to set the SATA configuration. Configuration options: [Disabled] [Compatible] [Enhanced]

Configure SATA as [IDE]
Sets the configuration for the Serial ATA connectors supported by the Southbridge chip. Configuration options: [IDE] [RAID] [AHCI]

Due to Intel chipset driver support regulation, the AHCI mode is not supported in Windows XP environment. The AHCI mode is only supported by Windows Vista/7 with OS built-in driver.

Hard Disk Write Protect [Disabled]

Disables or enables device write protection. This will be effective only if device is accessed through BIOS. Configuration option: [Disabled] [Enabled]

IDE Detect Time Out (Sec) [35]

Selects the time out value for detecting ATA/ATAPI devices.
Configuration options: [0] [5] [10] [15] [20] [25] [30] [35]

5.3.6 System Information

This menu gives you an overview of the general system specifications. The BIOS automatically detects the items in this menu.

Bios Information

Displays the auto-detected BIOS information.

Processor

Displays the auto-detected CPU specification.

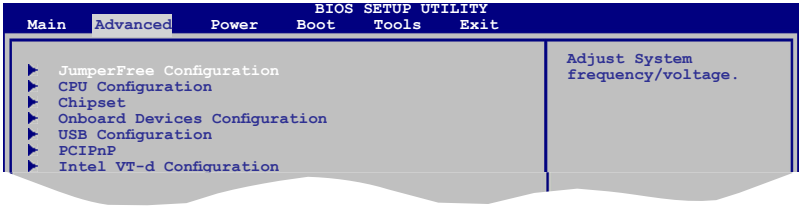
System Memory

Displays the auto-detected system memory.

5.4 Advanced menu

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

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



5.4.1 JumperFree Configuration

The items in this menu allows you to adjust the system frequency/voltage.

Ai Overclock Tuner [Auto]

Allows selection of CPU overclocking options to achieve desired CPU internal frequency. Select either one of the preset overclocking configuration options:

Auto - loads the optimal settings for the system.

Overclock Profile - loads overclocking profiles with optimal parameters for stability when overclocking.

The following item appears only when you set the AI Overclocking item to **[Overclock Profile]**.

Overclock Options [Overclock 5%]

Allows you to select the overclock options. Configuration options: [Overclock 5%]

DRAM Timing Control

Allows you to select the DRAM timing configuration. Configuration options: [Auto] [Manual]

The configuration options for some of the following items vary depending on the DIMMs you install on the motherboard.

1st Information: 9-9-9-24-4-60-10-7-20

DRAM CAS# Latency [Auto]
Configuration options: [3 DRAM Clock] - [11 DRAM Clocks]

DRAM RAS# to CAS# Delay [Auto]
DRAM RAS# PRE Time[Auto]
Configuration options: [Auto] [3 DRAM Clock] - [15 DRAM Clock]

DRAM RAS# ACT Time [Auto]
Configuration options: [3 DRAM Clock] - [17 DRAM Clock]

DRAM RAS# to RAS# Delay [Auto]
Configuration options: [Auto] [1 DRAM Clock] - [7 DRAM Clock]

DRAM REF Cycle Time [Auto]
Configuration options: [Auto] [48 DRAM Clock] ~ [200 DRAM Clock]

DRAM Writer Recovery Time [Auto]
Configuration options: [Auto] [1 DRAM Clock] - [15 DRAM Clock]

DRAM Read to PRE Time [Auto]
Configuration options: [Auto] [3 DRAM Clock] - [15 DRAM Clock]

DRAM FOUR ACT WIN Time [Auto]
Configuration options: [Auto] [1 DRAM Clock] - [15 DRAM Clock]

DRAM Back-To-Back CAS# Delay [Auto]
Configuration options: [Auto] [4 DRAM Clock] - [32 DRAM Clock]

5.4.2 CPU Configuration

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

Ratio CMOS Setting [Auto]

Sets the ration between CPU core clock and the FSB frequency.

If an invalid ratio is set in CMOS, then the actual and set values may differ.

Key in ratio numbers directly.

C1E Support [Enabled]

Allows you to enable or disable C1E Support. Configuration options: [Disabled] [Enabled]

Hardware Prefetcher [Enabled]

Setting this item to [Enabled] allows the processor to fetch data and instructions from the memory into the cache that are likely to be required in the near future. This reduces the latency associated with memory reads. Configuration options: [Disabled] [Enabled]

Adjacent Cache Line Prefetch [Enabled]

When this item is set to [Enabled], the processor fetches the currently requested cache line, as well as the subsequent cache line. This reduces the cache latency by making the next cache line immediately available if the processor requires it as well. When set to [Disabled], the processor fetches only the currently requested cache line. Configuration options: [Disabled] [Enabled]

Max CPUID Value Limit [Disabled]

Setting this item to [Enabled] allows legacy operating systems to boot even without support for CPUs with extended CPUID functions. Configuration options: [Disabled] [Enabled]

Intel® Virtualization Tech [Enabled]

Enables or disables Intel® Virtualization Technology. Virtualization enhanced by Intel® Virtualization Technology allows a platform to run multiple operating systems and applications in independent partitions. With virtualization, one computer system can function as multiple virtual systems. Configuration options: [Enabled] [Disabled]

CPU TM function [Enabled]

Enables or disables Intel® CPU Thermal Monitor (TM) function, a CPU overheating protection function. When enabled, the CPU core frequency and voltage are reduced when the CPU overheats. Configuration options: [Disabled] [Enabled]

Execute-Disable Bit Capability [Enabled]

Allows you to enable or disable the No-Execution Page Protection Technology. Setting this item to [Disabled] forces the XD feature flag to always return to zero (0). Configuration options: [Disabled] [Enabled]

Active Processor Cores [All]

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

A20M [Disabled]

Setting this item to [Enabled] allows Legacy OSes to be compatible with APs. Configuration options: [Disabled] [Enabled]

The following item appears only when you installed an Intel® CPU that supports the Enhanced Intel® SpeedStep® Technology (EIST).

Intel(R) SpeedStep(TM) Tech [Enabled]

When set to [Disabled], the CPU runs at its default speed. When set to [Enabled], the CPU speed is controlled by the operating system. Configuration options: [Disabled] [Enabled]

Intel(R) TurboMode Tech [Enabled]

This item appears only if you set the CPU Ratio Setting item to [Auto]. Turbo mode allows processor cores to run faster than marked frequency in specific condition. Configuration options: [Disabled] [Enabled]

Intel(R) C-STATE Tech [Enabled]

Allows you enable or disable the Intel® C-STATE Technology. When enabled, the CPU idle is set to C2/C3/C4/C6. Configuration options: [Disabled] [Enabled]

C STATE Package limit setting [Auto]

This item appears only when you set the Intel(R) C-STATE Tech item to **[Enabled]**. We recommend that you set this item to [Auto] for BIOS to automatically detect the C-State mode supported by your CPU. Configuration options: [Auto] [C1] [C3] [C6]

5.4.3 Chipset

The **Chipset** menu allows you to change the advanced chipset settings. Select an item then press **<Enter>** to display the submenu.

North Bridge Configuration

Memory Remap Feature [Enabled]

Allows you to enabled or disable the remapping of the overlapped PCI memory above the total physical memory. Enable this option only when you install 64-bit operating system. Configuration options: [Disabled] [Enabled]

5.4.4 Onboard Devices Configuration

HDA Controller [Enabled]

Allows you to enable or disable the high definition audio controller.
Configuration options: [Enabled] [Disabled]

Front Panel Type [HD Audio]

Allows you to select the front panel type. If High Definition Audio Front Panel used, please set HD Audio mode. Configuration options: [HD Audio]

Onboard LAN [Enabled]

Allows you to enable or disable the onboard LAN controller.
Configuration options: [Enabled] [Disabled]

Onboard LAN Boot ROM [Disabled]
Allows you to enable or disable the boot ROM in the onboard LAN controller. This item appears only when the Onboard LAN item is set to Enabled.
Configuration options: [Disabled] [Enabled]

1394 Controller [Enabled]

Allows you to enable or disable the 1394 controller.
Configuration options: [Disabled] [Enabled]

5.4.5 USB Configuration

The items in this menu allows you to change the USB-related features. Select an item then press **<Enter>** to display the configuration options.

The Module Version and USB Devices Enabled items show the auto-detected values. If no USB device is detected, the item shows **None**.

USB Functions [Enabled]

Allows you to disable or enable the USB functions. Configuration options: [Disabled] [Enabled]

Legacy USB Support [Auto]

Allows you to enable or disable support for Legacy USB storage devices, including USB flash drives and USB hard drives. Setting to **[Auto**] allows the system to detect the presence of USB devices at startup. If detected, the USB controller legacy mode is enabled. If no USB device is detected, the legacy USB support is disabled. Configuration options: [Disabled] [Enabled] [Auto]

BIOS EHCI Hand-Off [Enabled]

Allows you to enable or disable the BIOS EHCI Hand-off function. Configuration options: [Disabled] [Enabled]

The following items may only appear when a USB storage device is plugged.

USB Mass Storage Device Configuration

USB Mass Storage Reset Delay [20 Sec]

Allows you to set the maximum time that the BIOS waits for the USB storage device to initialize. Configuration options: [10 Sec] [20 Sec] [30 Sec] [40 Sec]

Emulation Type [Auto]

Allows you to set the emulation type. Configuration options: [Auto] [Floppy] [Forced FDD] [Hard Disk] [CDROM]

5.4.6 PCI PnP

The PCI PnP menu items allow you to change the advanced settings for PCI/PnP devices. The menu includes setting IRQ and DMA channel resources for either PCI/PnP or legacy ISA devices, and setting the memory size block for legacy ISA devices.

Take caution when changing the settings of the PCI PnP menu items. Incorrect field values can cause the system to malfunction.

Plug and Play O/S [No]

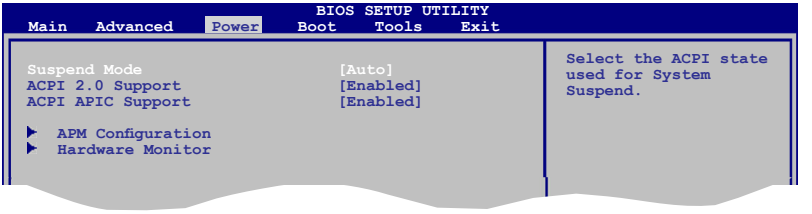
When set to [No], BIOS configures all the devices in the system. When set to [Yes] and if you install a Plug and Play operating system, the operating system configures the Plug and Play devices not required for boot. Configuration options: [No] [Yes]

5.4.7 Intel VT-d [Disabled]

Allows you to enable or disable the Intel® Virtualization Technology for Directed I/O. Configuration options: [Disabled] [Enabled]

5.5 Power menu

The Power menu items allow you to change the settings for the Advanced Power Management (APM). Select an item then press **<Enter>** to display the configuration options.



5.5.1 Suspend Mode [Auto]

Allows you to select the Advanced Configuration and Power Interface (ACPI) state to be used for system suspend. Configuration options: [S1 (POS) Only] [S3 Only] [Auto]

[S1(POS) Only] - Enables the system to enter the ACPI S1 (Power on Suspend) sleep state. In S1 sleep state, the system appears suspended and stays in a low power mode. The system can be resumed at any time.
[S3 Only] - Enables the system to enter the ACPI S3 (Suspend to RAM) sleep state (default). In S3 sleep state, the system appears to be off and consumes less power than in the S1 state. When signaled by a wake-up device or event, the system resumes to its working state exactly where it was left off.

[Auto] - Detected by OS.

5.5.2 ACPI 2.0 Support [Enabled]

Allows you to add more tables for Advanced Configuration and Power Interface (ACPI) 2.0 specifications. Configuration options: [Disabled] [Enabled]

5.5.3 ACPI APIC Support [Enabled]

Allows you to enable or disable the Advanced Configuration and Power Interface (ACPI) support in the Application-Specific Integrated Circuit (ASIC). When set to Enabled, the ACPI APIC table pointer is included in the RSDT pointer list. Configuration options: [Disabled] [Enabled]

5.5.4 APM Configuration

Restore on AC Power Loss [Power Off]

When set to **[Power Off]**, the system goes into off state after an AC power loss. When set to **[Power On]**, the system goes on after an AC power loss. When set to **[Last State]**, the system goes into either off or on state, whatever the system state was before the AC power loss. Configuration options: [Power Off] [Power On] [Last State]

Resume On RTC Alarm [Disabled]

Allows you to enable or disable RTC to generate a wake event. When this item is set to Enabled, the items RTC Alarm Date, RTC Alarm Hour, RTC Alarm Minute, and RTC Alarm Second appear with set values. Configuration options: [Disabled] [Enabled]

Resume On PCI Devices [Disabled]

When set to [Enabled], this parameter allows you to wake the system through a PCI LAN or modem card. This feature requires an ATX power supply that provides at least 1A on the +5VSB lead. Configuration options: [Disabled] [Enabled]

Resume On PCIE Devices [Disabled]

When set to [Enabled], this parameter allows you to wake the system through a PCI Express card. This feature requires an ATX power supply that provides at least 1A on the +5VSB lead. Configuration options: [Disabled] [Enabled]

Power On By PS/2 KB/MS [Disabled]

Allows you to use the keyboard/mouse to turn on the system. This feature requires an ATX power supply that provides at least 1A on the +5VSB lead. Configuration options: [Disabled] [Enabled]

5.5.5 Hardware Monitor

CPU Temperature (PECI) [xxxºC/xxxºF] or [Ignored]

MB Temperature [xxxºC/xxxºF] or [Ignored]

The onboard hardware monitor automatically detects and displays the motherboard and CPU temperatures. Select **Ignored** if you do not wish to display the detected temperatures.

CPU Fan Speed [xxxxRPM] or [Ignored]

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

CPU Q-Fan Control [Enabled]

Allows you to enable or disable the Q-Fan control. Configuration options: [Disabled] [Enabled]

Chassis Fan1/2 Speed [Ignored] or [N/A]

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

Chassis Q-Fan1/2 Control [Enabled]

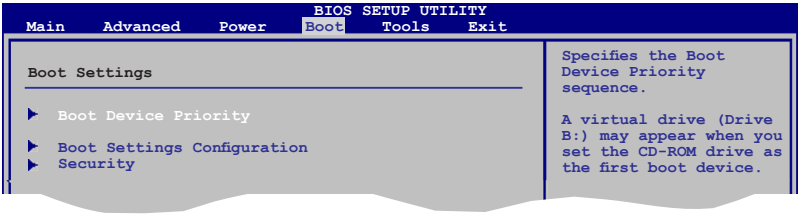
Allows you to enable or disable the Chassis Q-Fan control. Configuration options: [Disabled] [Enabled]

VCORE Voltage, 3.3V Voltage, 5V Voltage, 12V Voltage [xxxV] or [Ignored]

The onboard hardware monitor automatically detects the voltage output through the onboard voltage regulators.

5.6 Boot menu

The **Boot** menu items allow you to change the system boot options. Select an item then press **<Enter>** to display the sub-menu.



5.6.1 Boot Device Priority

1st ~ xxth Boot Device

These items specify the boot device priority sequence from the available devices. The number of device items that appears on the screen depends on the number of devices installed in the system. Configuration options: [Removable Dev] [Hard Drive] [ATAPI CD-ROM] [Disabled]

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

5.6.2 Boot Settings Configuration

Quick Boot [Enabled]

Enabling this item allows the BIOS to skip some power on self tests (POST) while booting to decrease the time needed to boot the system. When set to **[Disabled]**, BIOS performs all the POST items. Configuration options: [Disabled] [Enabled]

Full Screen Logo [Enabled]

This allows you to enable or disable the full screen logo display feature. Configuration options: [Disabled] [Enabled]

Set this item to **[Enabled]** to use the ASUS MyLogo2™ feature.

AddOn ROM Display Mode [Force BIOS]

Sets the display mode for option ROM. Configuration options: [Force BIOS] [Keep Current]

Bootup Num-Lock [On]

Allows you to select the power-on state for the NumLock.
Configuration options: [Off] [On]

Wait For 'F1' If Error [Enabled]

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

Hit 'DEL' Message Display [Enabled]

When set to **[Enabled]**, the system displays the message **Press DEL to run Setup** during POST. Configuration options: [Disabled] [Enabled]

5.6.3 Security

The **Security** menu items allow you to change the system security settings. Select an item then press **<Enter>** to display the configuration options.

Change Supervisor Password

Select this item to set or change the supervisor password. The **Supervisor Password** item on top of the screen shows the default **Not Installed**. After you set a password, this item shows **Installed**.

To set a Supervisor Password:

1. Select the **Change Supervisor Password** item and press **<Enter>**.
2. On the password box, key in a password containing up to six letters, or numbers, or both, then press **<Enter>**.
3. Confirm the password when prompted.

The message **Password Installed** appears after you successfully set your password.

To change the supervisor password, follow the same steps in setting a supervisor password.

To clear the supervisor password, select the **Change Supervisor Password** then press **<Enter>** twice. The message **Password uninstalled** appears.

If you forget your BIOS password, you can clear it by erasing the CMOS Real Time Clock (RTC) RAM. See section **4.3 Jumpers** for information on how to erase the RTC RAM.

After you have set a supervisor password, the other items appear to allow you to change other security settings.

User Access Level [Full Access]

This item allows you to select the access restriction to the Setup items. Configuration options: [No Access] [View Only] [Limited] [Full Access]

[No Access] - prevents user access to the Setup utility.

[View Only] - allows access but does not allow change to any field.

[Limited] - allows changes only to selected fields, such as Date and Time.

[Full Access] - allows viewing and changing all the fields in the Setup utility.

Change User Password

Select this item to set or change the user password. The **User Password** item on top of the screen shows the default **Not Installed**. After you set a password, this item shows **Installed**.

To set a User Password:

1. Select the **Change User Password** item and press **<Enter>**.
2. On the password box, key in a password containing up to six letters, or numbers, or both, then press **<Enter>**.
3. Confirm the password when prompted.

The message **Password Installed** appears after you set your password successfully.

To change the user password, follow the same steps in setting a user password.

Clear User Password

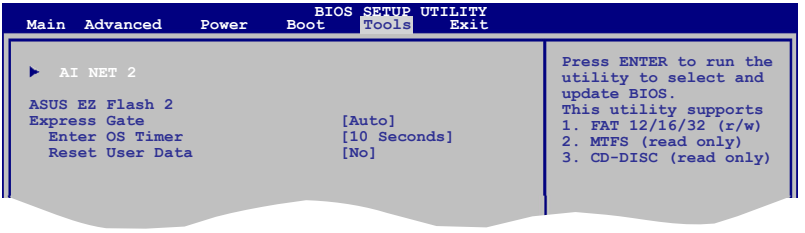
Select this item to clear the user password.

Password Check [Setup]

When set to **[Setup]**, BIOS checks for user password when accessing the Setup utility. When set to **[Always]**, BIOS checks for user password both when accessing Setup and booting the system. Configuration options: [Setup] [Always]

5.7 Tools menu

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



5.7.1 AI NET 2

Check Realtek LAN cable [Disabled]

Enables or disables checking of the Realtek LAN cable during the Power-On Self-Test (POST). Configuration options: [Disabled] [Enabled]

5.7.2 ASUS EZ Flash 2

Allows you to run ASUS EZ Flash 2. When you press **<Enter>**, a confirmation message appears. Use the left/right arrow key to select between **[Yes]** or **[No]**, then press **<Enter>** to confirm your choice. Please see section 5.1.2 for details.

5.7.3 Express Gate [Auto]

Allows you to enable or disable the ASUS Express Gate feature. The ASUS Express Gate feature is a unique instant-on environment that provides quick access to the Internet browser and Skype. Configuration options: [Enabled] [Disabled] [Auto]

Enter OS Timer [10 Seconds]

Sets countdown duration that the system waits at the Express Gate's first screen before starting Windows or other installed OS. Choose [Prompt User] to stay at the first screen of Express Gate for user action.
Configuration options: [Prompt User] [1 second] [3 seconds] [5 seconds] [10 seconds] [15 seconds] [20 seconds] [30 seconds]

Reset User Data [No]

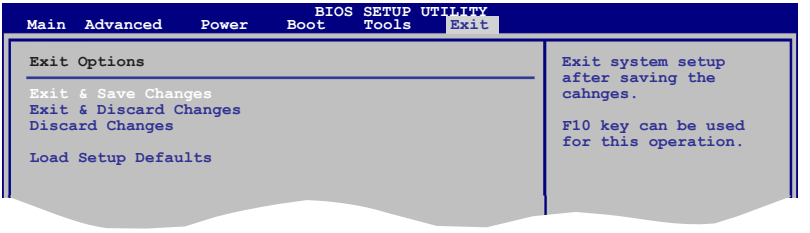
Allows you to clear Express Gate's user data.
Configuration options: [No] [Reset]

When setting this item to [Reset], make sure to save the setting to the BIOS so that the user data will be cleared the next time you enter the Express Gate. User data includes the Express Gate's settings as well as any personal information stored by the web browser (bookmarks, cookies, browsing history, etc.). This is useful in the rare case where corrupt settings prevent the Express Gate environment from launching properly.

The first time wizard will run again when you enter the Express Gate environment after clearing its settings.

5.8 Exit menu

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



Pressing **<Esc>** does not immediately exit this menu. Select one of the options from this menu or **<F10>** from the legend bar to exit.

Exit & Save Changes

Once you are finished making your selections, choose this option from the Exit menu to ensure the values you selected are saved to the CMOS RAM. An onboard backup battery sustains the CMOS RAM so it stays on even when the PC is turned off. When you select this option, a confirmation window appears. Select **OK** to save changes and exit.

Exit & Discard Changes

Select this option only if you do not want to save the changes that you made to the Setup program. If you made changes to fields other than System Date, System Time, and Password, the BIOS asks for a confirmation before exiting.

Discard Changes

This option allows you to discard the selections you made and restore the previously saved values. After selecting this option, a confirmation appears. Select **OK** to discard any changes and load the previously saved values.

Load Setup Defaults

This option allows you to load the default values for each of the parameters on the Setup menus. When you select this option or if you press **<F5>**, a confirmation window appears. Select **OK** to load default values. Select **Exit & Save Changes** or make other changes before saving the values to the non-volatile RAM.