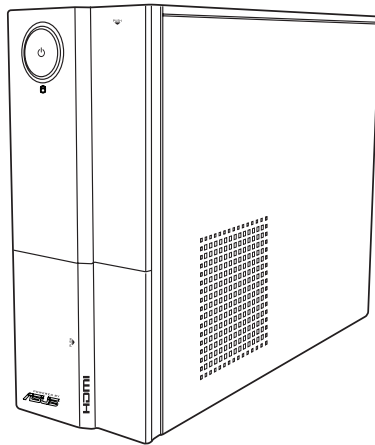


ASUS[®]

P6-P7H55E

ASUS PC (Desktop Barebone)

User's Manual



E5455

First Edition V1

March 2010

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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.



WARNING! 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.

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.

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>.

Safety information

Electrical safety

- To prevent electric shock hazard, disconnect the power cable from the electric 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 that 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.



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.



CAUTION: Risk of explosion if the RTC battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.



Test Data:

- Motherboard (ASUSTeK Computer Inc / P7H5510LT / P6-P7H55E / DP_MB), Power Supply (Delta Electronics Inc. / GPS-200AB A), one CPU fan (DELTA / AUC0512DB), one ODD (LITEON / DH-20A6L32C), one HDD (HITACHI / HDT721050SLA360.SATA 3.0 Gb/s RPM: 7200RPM).
-

About this guide

Audience

This guide provides general information and installation instructions about the ASUS P6-P7H55E 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 P6-P7H55E. The chapter lists the system features, including introduction on the front and rear panel, and internal components.

2. Chapter 2: Starting up

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

3. Chapter 3: 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.

4. Chapter 4: 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 P6-P7H55E system package for the following items.

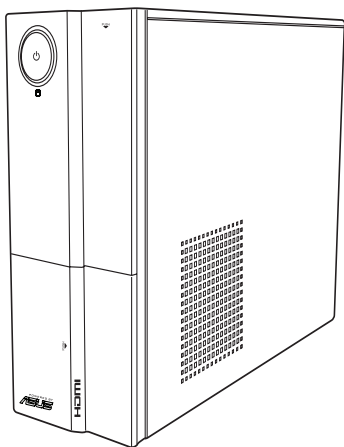


If any of the items is damaged or missing, contact your retailer immediately.

Item description	
1.	ASUS P6-P7H55E barebone system with <ul style="list-style-type: none">• ASUS motherboard• Power supply unit• ASUS chassis• CPU cooler• Fan duct
2.	Cable <ul style="list-style-type: none">• AC power cable
3.	Support DVD
4.	Quick Installation Guide

Chapter 1

This chapter gives a general description of the ASUS P6-P7H55E. 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 P6-P7H55E!

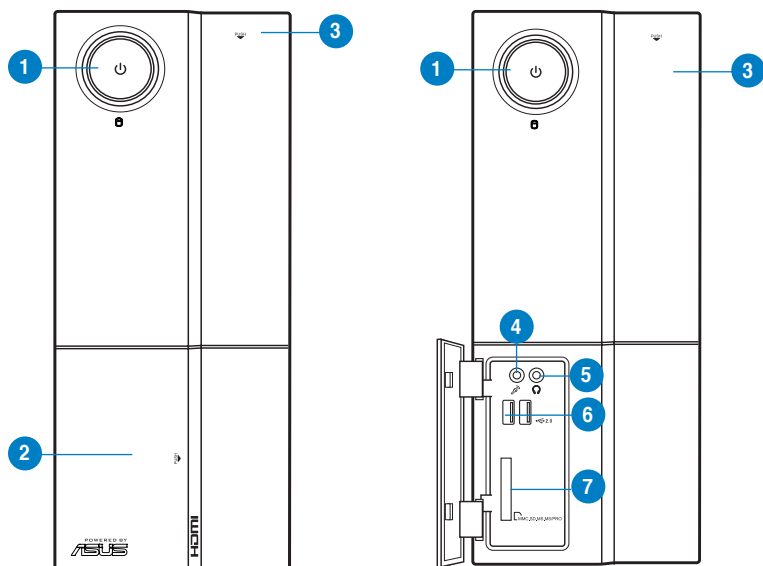
The ASUS P6-P7H55E is an all-in-one barebone system with a versatile home entertainment feature.



The system comes in a stylish casing and powered by the ASUS motherboard that supports the Intel® Lynnfield/Clarkdale Dual-Core / Quad-Core processors in the 1156-land package.

The system supports up to 8 GB of system memory using DDR3 DIMMs. High-resolution graphics via integrated graphics controller or 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

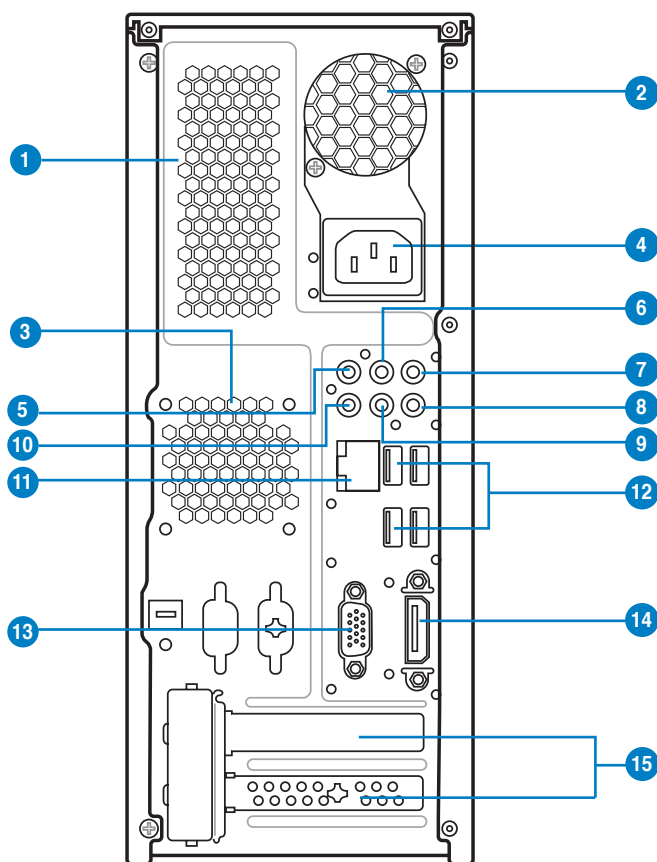
The front panel includes the optical drive bays, power button, and several I/O ports are located at the front panel.



1. **Power button.** Press this button to turn the system on.
2. **Front panel cover.** Push  to open the front panel cover.
3. **Optical disk drive cover.** Push  to eject the optical disk drive.
4. **Microphone port.** This Mic (pink) port connects a microphone.
5. **Headphone port.** This Line out (lime) port connects a headphone with a stereo mini-plug.
6. **USB 2.0 ports.** These Universal Serial Bus 2.0 (USB 2.0) ports are available for connecting USB 2.0 devices such as a mouse, printer, scanner, camera, PDA, and others.
7. **Multimedia Card / Secure Digital™ / MemoryStick® / Memory Stick Pro™ card slot.**

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 ambient temperature is limited up to 35°C to prevent the system from overheating.

1. **Chassis air vent.** The vent is for ventilation inside the system chassis.
2. **Power supply unit fan vent.** This vent is for the PSU fan that provides ventilation inside the power supply unit.
3. **Chassis fan vent.** This vent is for the fan that provides ventilation inside the system chassis.
4. **Power connector.** This connector is for the power cable and plug.

5. **Line In port (light blue).** This port connects the tape, CD, DVD player, or other audio sources.
6. **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.
7. **Microphone port (pink).** This port connects a microphone.
8. **Side Speaker Out port (gray).** This port connects the side speaker in an 8-channel audio configuration.
9. **Rear Speaker Out port (black).** This port connects the rear speakers in a 4-channel, 6-channel, or 8-channel audio configuration.
10. **Center / Subwoofer port (orange).** This port connects the center/subwoofer speakers.



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

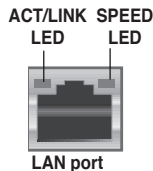
Audio 2, 4, 6, or 8-channel configuration

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

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

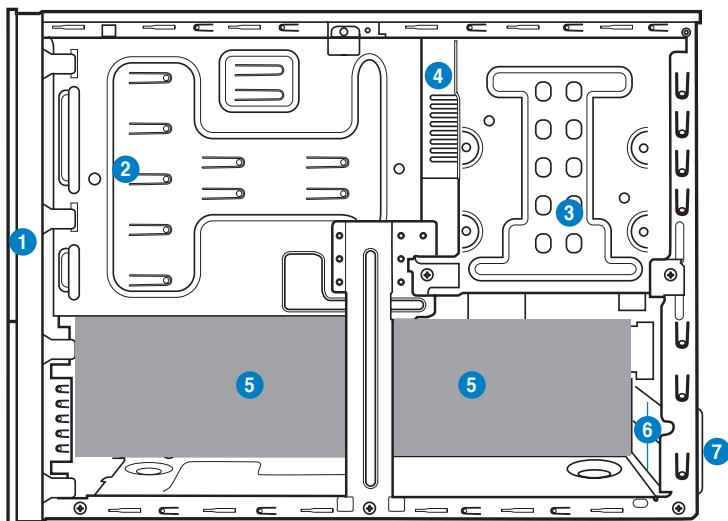
Activity/Link		Speed LED	
Status	Description	Status	Description
OFF	No link	OFF	10 Mbps connection
ORANGE	Linked	ORANGE	100 Mbps connection
BLINKING	Data activity	GREEN	1 Gbps connection



12. **USB 2.0 ports 1 ~ 4.** These 4-pin Universal Serial Bus (USB) ports are available for connecting USB 2.0 devices.
13. **Video Graphics Adapter (VGA) port.** This 15-pin port is for a VGA monitor or other VGA-compatible devices.
14. **HDMI port.** This is a High-Definition Multimedia Interface (HDMI) connector, and is HDCP compliant allowing playback of HD DVD, Blu-Ray discs, and other protected content.
15. **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 side cover and the power supply unit. The installed components are labeled for your reference.



- | | |
|--|----------------------------------|
| 1. Front panel cover | 5. ASUS motherboard |
| 2. 5.25-inch optical drive bays | 6. Expansion slot metal brackets |
| 3. Hard disk drive bay | 7. Metal bracket lock |
| 4. Power supply unit (under the HDD bay) | |



- Refer to the bundled Quick Installation Guide for installing additional system components and get assistance from professionals when you disassemble or assemble the system.
- Refer to the Chapter 4 in this user guide for motherboard details.

1.5 Qualified Vendors Lists (QVL)

DDR3-1333 MHz capability for Lynnfield CPU (2.66 GHz, 2.8 GHz, & 2.93 GHz)

Vendor	Part No.	Size	SS/ DS	Chip Brand	Chip NO.	Timing	Voltage	DIMM socket support (Optional)	
								A*	B*
A-Data	AD31333001GOU	1024MB	SS	A-Data	AD30908C8D-151C E0906	-	-	*	*
A-Data	AD31333G001GOU	3072MB(Kit of 3)	SS	-	-	8-8-8-24	1.65- 1.85V	*	*
A-Data	AD31333002GOU	2048MB	DS	A-Data	AD30908C8D-151C E0903	-	-	*	*
A-Data	AD31333G002GMU	2048MB	DS	-	-	8-8-8-24	1.65- 1.85V	*	*
Apacer	78.A1GC6.9L1	2048MB	DS	APACER	AM5D5808DEWSBG	-	-	*	*
CORSAIR	CM3X1024-1333C9DHX	1024MB	SS	-	-	9-9-9-24	1.60V	*	*
CORSAIR	CM3X1024-1333C9	1024MB	SS	-	-	9-9-9-24	1.60V	*	*
CORSAIR	TR3X3G1333C9 G	3072MB(Kit of 3)	SS	-	-	9-9-9-24	1.50V	*	*
CORSAIR	TR3X3G1333C9 G	3072MB(Kit of 3)	SS	-	-	9-9-9-24	1.50V	*	*
CORSAIR	TR3X3G1333C9	3072MB(Kit of 3)	SS	-	-	9	1.5V	*	*
CORSAIR	CM3X1024-1333C9DHX	1024MB	DS	Corsair	-	-	-	*	*
CORSAIR	CM3X2048-1333C9DHX	2048MB	DS	-	-	-	-	*	*
CORSAIR	TW3X4G1333C9 G	4096MB(Kit of 2)	DS	-	-	9-9-9-24	1.50V	*	*
CORSAIR	CMX8GX3M4A1333C9	8192MB(Kit of 4)	DS	-	-	9-9- 9-24	1.50V	*	*
Crucial	CT12864BA1339.8FF	1024MB	SS	Micron	9FF22D9KPT	9	-	*	*
Crucial	BL12864TA1336.8SFB1	2048MB(Kit of 2)	SS	-	-	6-6-6-20	1.8V	*	*
Crucial	CT25664BA1339.16FF	2048MB	DS	Micron	9KF27D9KPT	9	-	*	*
Crucial	BL25664ABA1336.16SFB1	4096MB(Kit of 2)	DS	-	-	6-6-6-20	1.8V	*	*
Crucial	BL25664BA1336.16SFB1	4096MB(Kit of 2)	DS	-	-	6-6-6-20	1.8V	*	*
Crucial	BL25664BN1337.16FF (XMP)	6144MB(Kit of 3)	DS	-	-	7-7-7-24	1.65V	*	*
ELPIDA	EBJ10UE8EDF0-DJ-F	1024MB	SS	ELPIDA	J1108EDSE-DJ-F	-	1.35V(low voltage)	*	*
ELPIDA	EBJ21UE8EDF0-DJ-F	2048MB	DS	ELPIDA	J1108EDSE-DJ-F	-	1.35V(low voltage)	*	*
G.SKILL	F3-10600CL7D-2GBPI(XMP)	1024MB	SS	G.SKILL	-	-	-	*	*
G.SKILL	F3-10600CL8D-2GBHK	1024MB	SS	G.SKILL	-	-	-	*	*
G.SKILL	F3-10600CL9D-2GBPK	1024MB	SS	G.SKILL	-	-	-	*	*
G.SKILL	F3-10666CL7T-3GBPK	3072MB(Kit of 3)	SS	-	-	7-7-7-18	1.5~1.6V	*	*
G.SKILL	F3-10666CL9T-3GBNQ	3072MB(Kit of 3)	SS	-	-	9-9-9-24	1.5~1.6V	*	*
G.SKILL	F3-10600CL9D-2GBNQ	1024MB	DS	G.SKILL	-	-	-	*	*
G.SKILL	F3-10666CL8D-4GBECO(XMP)	4096MB(Kit of 2)	DS	-	-	8-8-8-24	1.35V(low voltage)	*	*
G.SKILL	F3-10666CL8D-4GBHK(XMP)	4096MB(Kit of 2)	DS	-	-	8-8-8-21	1.5~1.6V	*	*
G.SKILL	F3-10666CL7T-6GBPK(XMP)	6144MB(Kit of 3)	DS	-	-	7-7-7-18	1.5~1.6V	*	*
G.SKILL	F3-10666CL9T-6GBNQ	6144MB(Kit of 3)	DS	-	-	9-9-9-24	1.5V~1.6V	*	*
GEIL	GV32GB1333C9DC	2048MB(Kit of 2)	DS	-	-	9-9-9-24	1.5V	*	*
GEIL	GV34GB1333C7DC	2048MB	DS	-	-	7-7-7-24	1.5V	*	*
GEIL	GG34GB1333C9DC	4096MB(Kit of 2)	DS	GEIL	GL1L128M88BA12N	9-9-9-24	1.3V(low voltage)	*	*
GEIL	GV34GB1333C9DC	4096MB(Kit of 2)	DS	-	-	9-9-9-24	1.5V	*	*
Kingmax	FLFD45F-B8MF9	1024MB	SS	Micron	8HD22D9JNM	-	-	*	*
Kingmax	FLFD45F-B8MH9 MAES	1024MB	SS	Micron	9CF22D9KPT	-	-	*	*
Kingmax	FLFE85F-B8MF9	2048MB	DS	Micron	8HD22D9JNM	-	-	*	*
Kingmax	FLFE85F-B8MH9 MEES	2048MB	DS	Micron	9GF27D9KPT	-	-	*	*
KINGSTON	KVR1333D3N9/1G	1024MB	SS	KTC	D1288JELDPGD9U	-	-	*	*
KINGSTON	KVR1333D3N9/2G	2048MB	DS	Qimonda	IDSH1G-03A1F1C-13H	-	1.5V	*	*
KINGSTON	KVR1333D3N9/4G	4096MB	DS	Hynix	H5TQ2G83AFR	-	-	*	*
Micron	MT8JTF12864AZ-1G4F1	1024MB	SS	Micron	9FF22D9KPT	9	-	*	*
Micron	MT16JTF25664AZ-1G4F1	2048MB	DS	Micron	9KF27D9KPT	9	-	*	*

continued on the next page

DDR3-1333 MHz capability for Lynnfield CPU (2.66 GHz, 2.8 GHz, & 2.93 GHz)

Vendor	Part No.	Size	SS/ DS	Chip Brand	Chip NO.	Timing	Voltage	DIMM socket support (Optional)	
								A*	B*
OCZ	OCZ3P13332GK	2048MB(Kit of 2)	SS	-	-	7-7-7-20	1.8V	*	*
OCZ	OCZ3X1333LV3GK(XMP)	3072MB(Kit of 3)	SS	-	-	-	1.6V	*	*
OCZ	OCZ3G13334GK	4096MB(Kit of 2)	DS	-	-	-	1.7V	*	*
OCZ	OCZ3P13334GK	4096MB(Kit of 2)	DS	-	-	7-7-7-20	1.8V	*	*
OCZ	OCZ3P1333LV4GK	4096MB(Kit of 2)	DS	-	-	7-7-7-20	1.65V	*	*
OCZ	OCZ3P1333LV4GK	4096MB(Kit of 2)	DS	-	-	7-7-7-20	1.65V	*	*
OCZ	OCZ3X13334GK(XMP)	4096MB(Kit of 2)	DS	-	-	7-7-7-20	1.75V	*	*
OCZ	OCZ3G1333LV6GK	6144MB(Kit of 3)	DS	-	-	9-9-9-20	1.65V	*	*
OCZ	OCZ3P1333LV6GK	6144MB(Kit of 3)	DS	-	-	7-7-7-20	1.65V	*	*
OCZ	OCZ3X1333LV6GK(XMP)	6144MB(Kit of 3)	DS	-	-	8-8-8-20	1.60V	*	*
PSC	AL7F8G73D-DG1	1024MB	SS	PSC	A3P1GF3DGF928M9B05	8-8-8-24	1.5V	*	*
PSC	AL8F8G73D-DG1	2048MB	DS	PSC	A3P1GF3DGF928M9B05	8-8-8-24	1.5V	*	*
SAMSUNG	M378B2873DZ1-CH9	1024MB	SS	Samsung	K4B1G0846D-HCH9	-	-	*	*
SAMSUNG	M378B2873DZ1-CH9	1024MB	SS	SAMSUNG	SEC 846 HCH9 K4B1G0846D	-	-	*	*
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	W13332GB8(XMP)	1024MB	SS	-	-	-	-	*	*
Transcend	TS256MLK64V3U	2048MB	DS	Micron	9GF27D9KPT	-	-	*	*
ASINT	SLY3128M8-EDJ	1024MB	SS	ASINT	DDR11208-DJ 0844	-	-	*	*
ASINT	SLY3128M8-EDJE	1024MB	SS	ELPIDA	J1108BASE-DJ-E	-	-	*	*
ASINT	SLZ3128M8-EDJE	2048MB	DS	ELPIDA	J1108BASE-DJ-E	-	-	*	*
BUFFALO	FSX1333D3G-K2G	1024MB	SS	-	-	7-7-7-20	-	*	*
BUFFALO	FSX1333D3G-2G	2048MB	DS	-	-	7-7-7-20	-	*	*
Century	PC3-10600 DDR3-1333 9-9-9	1024MB	SS	Micron	8FD22D9JNM	-	-	*	*
Elixir	M2Y2G64CB8HA9N-CG	2048MB	DS	-	-	7-7-7-20	-	*	*
Elixir	M2Y2G64CB8HC9N-CG	2048MB	DS	Elixir	-	-	-	*	*
Kingtiger	2GB DIMM PC3-10666	2048MB	DS	Samsung	SEC 904 HCH9 K4B1G0846D	-	-	*	*
Kingtiger	KTG2G1333PG3	2048MB	DS	-	-	-	-	*	*
PATRIOT	PSD31G13332H	1024MB	DS	-	-	9	-	*	*
PATRIOT	PSD31G13332	1024MB	DS	Patriot	PM64M8D38U-15	-	-	*	*
PATRIOT	PSD32G13332H	2048MB	DS	-	-	-	-	*	*
SILICON POWER	SP001GBLTU133S01	1024MB	SS	NANYA	NT5CB128M8AN-CG	9	-	*	*
SILICON POWER	SP001GBLTU133S02	1024MB	SS	elixir	N2CB1680AN-C6	9	-	*	*
SILICON POWER	SP002GBLTU133S02	2048MB	DS	elixir	N2CB1680AN-C6	9	-	*	*
TAKEMS	TMS1GB364D081-107EY	1024MB	SS	-	-	7-7-7-20	1.5V	*	*
TAKEMS	TMS1GB364D081-138EY	1024MB	SS	-	-	8-8-8-24	1.5V	*	*
TAKEMS	TMS2GB364D081-107EY	2048MB	DS	-	-	7-7-7-20	1.5V	*	*
TAKEMS	TMS2GB364D081-138EY	2048MB	DS	-	-	8-8-8-24	1.5V	*	*
TAKEMS	TMS2GB364D082-138EW	2048MB	DS	-	-	8-8-8-24	1.5V	*	*
UMAX	E41302GP0-73BDB	2048MB	DS	UMAX	U2524D30TP-13	-	-	*	*

DDR3-1066 MHz capability for Lynnfield CPU (2.66 GHz, 2.8 GHz, & 2.93 GHz)

Vendor	Part No.	Size	SS/DS	Chip Brand	Chip NO.	Timing	Voltage	DIMM socket support (Optional)	
								A*	B*
Crucial	CT12864BA1067.8FF	1024MB	SS	Micron	9GF22D9KPT	7	-	•	•
Crucial	CT25664BA1067.16FF	2048MB	DS	Micron	9HF22D9KPT	7	-	•	•
ELPIDA	EBJ10UE8EDF0-AE-F	1024MB	SS	ELPIDA	J1108EDSE-DJ-F	-	1.35V(low voltage)	•	•
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	-	-	•	•
ELPIDA	EBJ21UE8EDF0-AE-F	2048MB	DS	ELPIDA	J1108EDSE-DJ-F	-	1.35V(low voltage)	•	•
KINGSTON	KVR1066D3N7/1G	1024MB	SS	Kingston	D1288JEKAPGA7U	7	1.5V	•	•
KINGSTON	KVR1066D3N7/2G	2048MB	DS	Kingston	D1288JEKAPGA7U	7	1.5V	•	•
KINGSTON	KVR1066D3N7/4G	4096MB	DS	Hynix	H5TQ2G83AFR	7	1.5V	•	•
Micron	MT8JTF12864AZ-1G1F1	1024MB	SS	Micron	9GF22D9KPT	7	-	•	•
Micron	MT16JTF25664AZ-1G1F1	2048MB	DS	Micron	9HF22D9KPT	7	-	•	•
SAMSUNG	M378B2873EH1-CF8	1024MB	SS	Samsung	SEC 901 HCF8 K4B1G0846E	-	-	•	•
SAMSUNG	M378B5273BH1-CF8	4096MB	DS	SAMSUNG	846 K4B2G0846B-HCF8	-	-	•	•
Elixir	M2Y2G64CB8HC5N-BE	2048MB	DS	Elixir	N2CB1G80CN-BE	-	-	•	•
Elixir	M2Y2G64CBHA9N-BE	2048MB	DS	-	-	7-7-7-20	-	•	•
Elixir	M2Y2G64CBHC9N-BE	2048MB	DS	Elixir	-	-	-	•	•
Kingtiger	2GB DIMM PC3-8500	2048MB	DS	Hynix	H5TQ1G83AFP G7C	-	-	•	•

DDR3-1066 MHz capability for Clarkdale CPU (2.00 GHz)

Vendor	Part No.	Size	SS/DS	Chip Brand	Chip NO.	Timing	Voltage	DIMM socket support (Optional)	
								A*	B*
Crucial	CT12864BA1067.8FF	1024MB	SS	Micron	9GF22D9KPT	7	-	•	
Crucial	CT25664BA1067.16FF	2048MB	DS	Micron	9HF22D9KPT	7	-	•	
ELPIDA	EBJ10UE8EDF0-AE-F	1024MB	SS	ELPIDA	J1108EDSE-DJ-F	-	1.35V(low voltage)	•	
ELPIDA	EBJ51UD8BAFA-AC-E	512MB	SS	Elpida	J5308BASE-AC-E	-	-	•	
ELPIDA	EBJ11UD8BAFA-AE-E	1024MB	DS	Elpida	J5308BASE-AC-E	-	-	•	
ELPIDA	EBJ21UE8EDF0-AE-F	2048MB	DS	ELPIDA	J1108EDSE-DJ-F	-	1.35V(low voltage)	•	
KINGSTON	KVR1066D3N7/2G	2048MB	DS	Kingston	D1288JEKAPGA7U	7	1.5V	•	
KINGSTON	KVR1066D3N7/4G	4096MB	DS	Hynix	H5TQ2G83AFR	7	1.5V	•	
Micron	MT8JTF12864AZ-1G1F1	1024MB	SS	Micron	9GF22D9KPT	7	-	•	
Micron	MT16JTF25664AZ-1G1F1	2048MB	DS	Micron	9HF22D9KPT	7	-	•	
SAMSUNG	M378B2873EH1-CF8	1024MB	SS	Samsung	SEC 901 HCF8 K4B1G0846E	-	-	•	
SAMSUNG	M378B5273BH1-CF8	4096MB	DS	SAMSUNG	846 K4B2G0846B-HCF8	-	-	•	
Elixir	M2Y2G64CB8HC5N-BE	2048MB	DS	Elixir	N2CB1G80CN-BE	-	-	•	
Elixir	M2Y2G64CBHA9N-BE	2048MB	DS	-	-	7-7-7-20	-	•	
Elixir	M2Y2G64CBHC9N-BE	2048MB	DS	Elixir	-	-	-	•	
Kingtiger	2GB DIMM PC3-8500	2048MB	DS	Hynix	H5TQ1G83AFP G7C	-	-	•	•

DDR3-1333 MHz capability for Clarkdale CPU (2.00 GHz)

Vendor	Part No.	Size	SS/ DS	Chip Brand	Chip NO.	Timing	Voltage	DIMM socket support (Optional)	
								A*	B*
A-Data	AD31333001GOU	1024MB	SS	A-Data	AD30908C8D-151C E0906	-	-	*	
A-Data	AD31333G001GOU	3072MB(Kit of 3)	SS	-	-	8-8-8-24	1.65-1.85V	*	
A-Data	AD31333002GOU	2048MB	DS	A-Data	AD30908C8D-151C E0903	-	-	*	
A-Data	AD31333G002GMU	2048MB	DS	-	-	8-8-8-24	1.65-1.85V	*	
Apacer	78.A1GC6.9L1	2048MB	DS	APACER	AM505808DEWSBG	-	-	*	
CORSAIR	CM3X1024-1333C9DHX	1024MB	SS	-	-	9-9-9-24	1.60V	*	
CORSAIR	CM3X1024-1333C9	1024MB	SS	-	-	9-9-9-24	1.60V	*	
CORSAIR	TR3X3G1333C9 G	3072MB(Kit of 3)	SS	-	-	9-9-9-24	1.50V	*	
CORSAIR	TR3X3G1333C9 G	3072MB(Kit of 3)	SS	-	-	9-9-9-24	1.50V	*	
CORSAIR	TR3X3G1333C9	3072MB(Kit of 3)	SS	-	-	9	1.5V	*	*
CORSAIR	CM3X1024-1333C9DHX	1024MB	DS	Corsair	-	-	-	*	*
CORSAIR	CM3X2048-1333C9DHX	2048MB	DS	-	-	-	-	*	*
CORSAIR	TW3X4G1333C9 G	4096MB(Kit of 2)	DS	-	-	9-9-9-24	1.50V	*	*
CORSAIR	CMX8GX3M4A1333C9	8192MB(Kit of 4)	DS	-	-	9-9-9-24	1.50V	*	*
Crucial	CT12864BA1339.8FF	1024MB	SS	Micron	9FF22D9KPT	9	-	*	*
Crucial	BL12864TA1336.8SFB1	2048MB(Kit of 2)	SS	-	-	6-6-6-20	1.8V	*	*
Crucial	CT25664BA1339.16FF	2048MB	DS	Micron	9KF27D9KPT	9	-	*	*
Crucial	BL25664ABA1336.16SFB1	4096MB(Kit of 2)	DS	-	-	6-6-6-20	1.8V	*	*
Crucial	BL25664BA1336.16SFB1	4096MB(Kit of 2)	DS	-	-	6-6-6-20	1.8V	*	*
Crucial	BL25664BN1337.16FF (XMP)	6144MB(Kit of 3)	DS	-	-	7-7-7-24	1.65V	*	*
ELPIDA	EBJ10UE8EDF0-DJ-F	1024MB	SS	ELPIDA	J1108EDSE-DJ-F	-	1.35V(low voltage)	*	*
ELPIDA	EBJ21UE8EDF0-DJ-F	2048MB	DS	ELPIDA	J1108EDSE-DJ-F	-	1.35V(low voltage)	*	*
G.SKILL	F3-10600CL7D-2GBPI(XMP)	1024MB	SS	G.SKILL	-	-	-	*	*
G.SKILL	F3-10600CL8D-2GBHK	1024MB	SS	G.SKILL	-	-	-	*	*
G.SKILL	F3-10600CL9D-2GBPK	1024MB	SS	G.SKILL	-	-	-	*	*
G.SKILL	F3-10666CL7T-3GBPK	3072MB(Kit of 3)	SS	-	-	7-7-7-18	1.5~1.6V	*	*
G.SKILL	F3-10666CL9T-3GBNQ	3072MB(Kit of 3)	SS	-	-	9-9-9-24	1.5~1.6V	*	*
G.SKILL	F3-10600CL9D-2GBNQ	1024MB	DS	G.SKILL	-	-	-	*	*
G.SKILL	F3-10666CL8D-4GBECO(XMP)	4096MB(Kit of 2)	DS	-	-	8-8-8- 24	1.35V(low voltage)	*	*
G.SKILL	F3-10666CL8D-4GBHK(XMP)	4096MB(Kit of 2)	DS	-	-	8-8-8-21	1.5-1.6V	*	*
G.SKILL	F3-10666CL7T-6GBPK(XMP)	6144MB(Kit of 3)	DS	-	-	7-7-7-18	1.5~1.6V	*	*
G.SKILL	F3-10666CL9T-6GBNQ	6144MB(Kit of 3)	DS	-	-	9-9-9-24	1.5V~1.6V	*	*
GEIL	GV32GB1333C9DC	2048MB(Kit of 2)	DS	-	-	9-9-9-24	1.5V	*	*
GEIL	GV34GB1333C7DC	2048MB	DS	-	-	7-7-7-24	1.5V	*	*
GEIL	GG34GB1333C9DC	4096MB(Kit of 2)	DS	GEIL	GL1L128M88BA12N	9-9-9-24	1.3V(low voltage)	*	*
GEIL	GV34GB1333C9DC	4096MB(Kit of 2)	DS	-	-	9-9-9-24	1.5V	*	*
Kingmax	FLFD45F-B8MF9	1024MB	SS	Micron	8HD22D9JNM	-	-	*	*
Kingmax	FLFD45F-B8MH9 MAES	1024MB	SS	Micron	9CF22D9KPT	-	-	*	*
Kingmax	FLFE85F-B8MF9	2048MB	DS	Micron	8HD22D9JNM	-	-	*	*
Kingmax	FLFE85F-B8MH9 MEES	2048MB	DS	Micron	9GF27D9KPT	-	-	*	*

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DDR3-1333 MHz capability for Clarkdale CPU (2.00 GHz)

Vendor	Part No.	Size	SS/ DS	Chip Brand	Chip NO.	Timing	Voltage	DIMM socket support (Optional)	
								A*	B*
KINGSTON	KVR1333D3N9/1G	1024MB	SS	KTC	D1288JELDPGD9U	-	-	*	*
KINGSTON	KVR1333D3N9/2G	2048MB	DS	Qimonda	IDSH1G-03A1F1C-13H	-	1.5V		
KINGSTON	KVR1333D3N9/4G	4096MB	DS	Hynix	H5TQ2G83AFR	--	-		
Micron	MT8JTF12864AZ-1G4F1	1024MB	SS	Micron	9FF22D9KPT	9	-		
Micron	MT16JTF25664AZ-1G4F1	2048MB	DS	Micron	9KF27D9KPT	9	-		
OCZ	OCZ3P13332GK	2048MB(Kit of 2)	SS	-	-	7-7-7-20	1.8V		
OCZ	OCZ3X1333LV3GK(XMP)	3072MB(Kit of 3)	SS	-	-	-	1.8V		
OCZ	OCZ3G13334GK	4096MB(Kit of 2)	DS	-	-	-	1.7V	*	*
OCZ	OCZ3P13334GK	4096MB(Kit of 2)	DS	-	-	7-7-7-20	1.8V	*	*
OCZ	OCZ3P1333LV4GK	4096MB(Kit of 2)	DS	-	-	7-7-7-20	1.65V	*	*
OCZ	OCZ3P1333LV4GK	4096MB(Kit of 2)	DS	-	-	7-7-7-20	1.65V	*	*
OCZ	OCZ3RPX1333EB4GK	4096MB(Kit of 2)	DS	-	-	6-5-5-20	1.85V	*	*
OCZ	OCZ3X13334GK(XMP)	4096MB(Kit of 2)	DS	-	-	7-7-7-20	1.75V	*	*
OCZ	OCZ3G1333LV6GK	6144MB(Kit of 3)	DS	-	-	9-9-9-20	1.65V	*	*
OCZ	OCZ3P1333LV6GK	6144MB(Kit of 3)	DS	-	-	7-7-7-20	1.65V	*	*
OCZ	OCZ3X1333LV6GK(XMP)	6144MB(Kit of 3)	DS	-	-	8-8-8-20	1.60V	*	*
PSC	AL7F8G73D-DG1	1024MB	SS	PSC	A3P1GF3DGF928M9B05	8-8-8-24	1.5V	*	*
PSC	AL8F8G73D-DG1	2048MB	DS	PSC	A3P1GF3DGF928M9B05	8-8-8-24	1.5V	*	*
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(XMP)	1024MB	SS	-	-	-	-	*	*
Transcend	JM1333KLU-1G	1024MB	SS	Transcend	TK243EDF3	9	-	*	*
Transcend	JM1333KLU-2G	2048MB	DS	Transcend	TK243EAF3	9	-	*	*
Transcend	TS256MLK64V3U	2048MB	DS	Micron	9GF27D9KPT	-	-	*	*
ASINT	SLY3128M8-EDJ	1024MB	SS	ASINT	DDR11208-DJ 0844	-	-	*	*
ASINT	SLY3128M8-EDJE	1024MB	SS	ELPIDA	J1108BASE-DJ-E	-	-	*	*
ASINT	SLY3128M8-EDJ	2048MB	DS	ASINT	DDR11208-DJ 0844	-	-	*	*
ASINT	SLZ3128M8-EDJE	2048MB	DS	ELPIDA	J1108BASE-DJ-E	-	-	*	*
BUFFALO	FSX1333D3G-K2G	1024MB	SS	-	-	7-7-7-20	-	*	*
BUFFALO	FSX1333D3G-2G	2048MB	DS	-	-	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	-	-	*	*
Elixir	M2Y2G64CB8HA9N-CG	2048MB	DS	-	-	7-7-7-20	-	*	*
Elixir	M2Y2G64CB8HC9N-CG	2048MB	DS	Elixir	-	-	-	*	*
Kingtiger	2GB DIMM PC3-10666	2048MB	DS	Samsung	SEC 904 HCH9 K4B1G0846D	-	-	*	*
Kingtiger	KTG2G1333PG3	2048MB	DS	-	-	-	-	*	*
PATRIOT	PSD31G13332H	1024MB	DS	-	-	9	-	*	*
PATRIOT	PSD31G13332	1024MB	DS	Patriot	PM64M8D38U-15	-	-	*	*
PATRIOT	PSD32G13332H	2048MB	DS	-	-	-	-	*	*
PATRIOT	PDC34G1333ELK	4096MB(Kit of 2)	DS	-	-	9-9-9-24	1.5V	*	*

continued on the next page

DDR3-1333 MHz capability for Clarkdale CPU (2.00 GHz)

Vendor	Part No.	Size	SS/ DS	Chip Brand	Chip NO.	Timing	Voltage	DIMM socket support (Optional)	
								A*	B*
SILICON POWER	SP001GBLTU133S01	1024MB	SS	NANYA	NT5CB128M8AN-CG	9	-	•	•
SILICON POWER	SP001GBLTU133S02	1024MB	SS	elixir	N2CB1680AN-C6	9	-	•	•
SILICON POWER	SP002GBLTU133S02	2048MB	DS	elixir	N2CB1680AN-C6	9	-	•	•
TAKEMS	TMS1GB364D081-107EY	1024MB	SS	-	-	7-7-7-20	1.5V	•	•
TAKEMS	TMS1GB364D081-138EY	1024MB	SS	-	-	8-8-8-24	1.5V	•	•
TAKEMS	TMS2GB364D081-107EY	2048MB	DS	-	-	7-7-7-20	1.5V	•	•
TAKEMS	TMS2GB364D081-138EY	2048MB	DS	-	-	8-8-8-24	1.5V	•	•
TAKEMS	TMS2GB364D082-138EW	2048MB	DS	-	-	8-8-8-24	1.5V	•	•
UMAX	E41302GP0-73BDB	2048MB	DS	UMAX	U2S24D30TP-13	-	-	•	•



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 both slots as one pair of Dual-channel memory configuration.

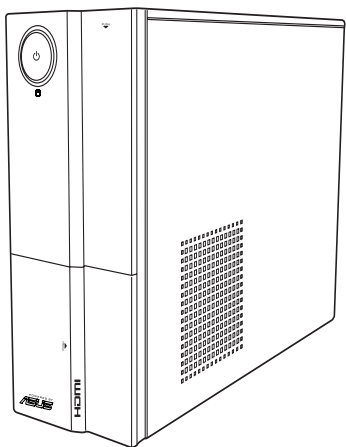


Visit the ASUS website at www.asus.com for the latest QVLs.

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Chapter 2

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



Starting up

2.1 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.



Motherboard settings and hardware options vary. Use the setup procedures presented in this chapter for general reference only. Refer to your OS documentation for more information.



- Windows XP OS setup cannot recognize Serial ATA hard drives in a RAID set without the necessary drivers. Use a RAID driver disk when installing Windows XP OS to a Serial ATA hard drive included in a RAID set.
- From the Windows XP setup screen, press F6 when prompted then follow succeeding screen instructions to install the SATA drivers.

2.2 Powering up

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

Press to turn ON the system



2.3 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.

2.3.1 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.

Realtek RTL8111B/C LAN Driver

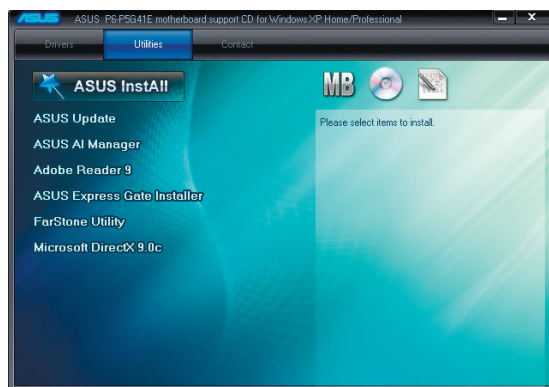
Installs the Realtek® RTL8111B/C LAN driver.

Intel Graphics Accelerator Driver

Installs the Intel® Graphics Accelerator Driver.

2.3.2 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 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.

ASUS AI Manager

Installs the ASUS AI Manager.

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.

Microsoft DirectX 9.0c

Installs the Microsoft® DirectX 9.0c driver. The Microsoft DirectX® 9.0c is a multimedia technology that enhances computer graphics and sound. DirectX® improves the multimedia features of your computer so you can enjoy watching TV and movies, capturing videos, or playing games in your computer. Visit the Microsoft website (www.microsoft.com) for updates.

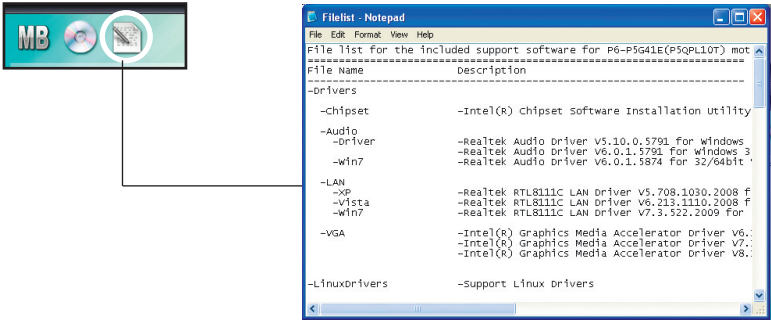
2.3.3 ASUS Contact information

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.



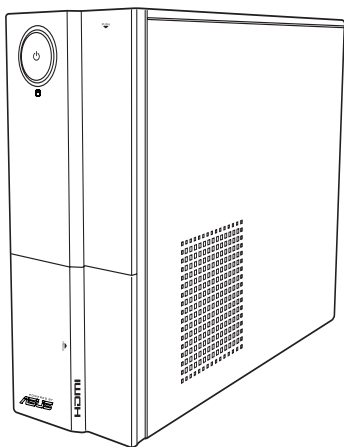
Filelist

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



Chapter 3

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

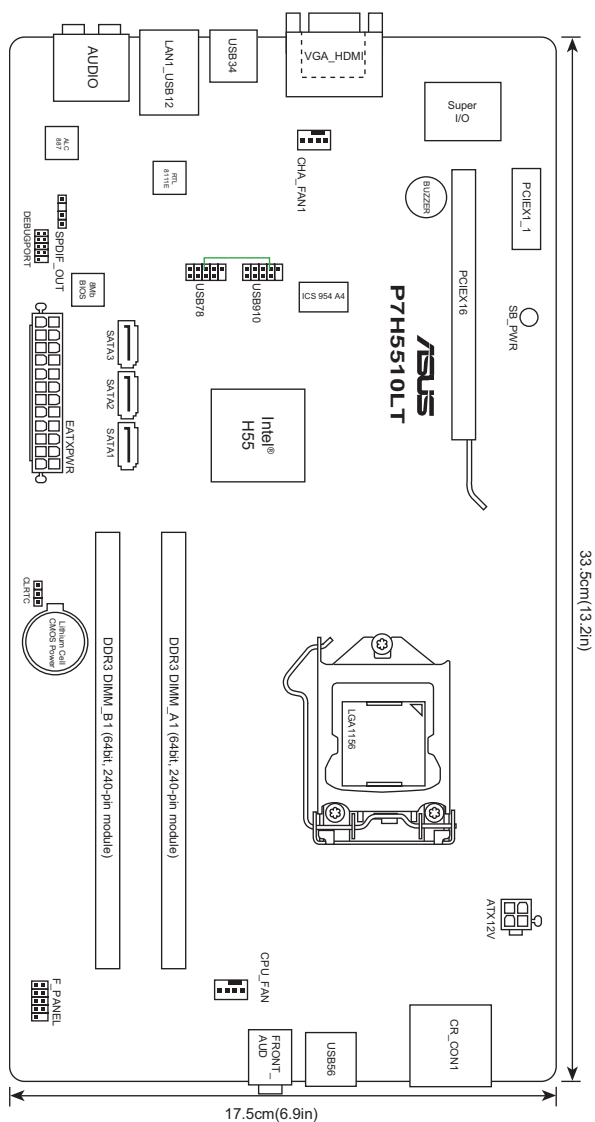


Motherboard info

3.1 Introduction

The P6-P7H55E barebone system comes with an ASUS motherboard. This chapter provides technical information about the motherboard for future upgrades or system reconfiguration.

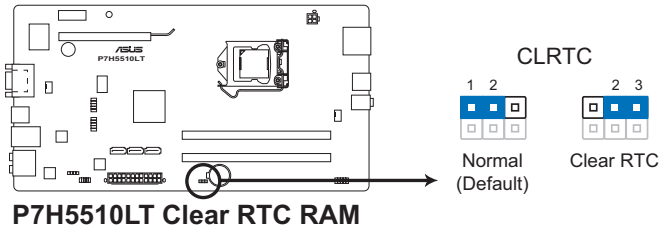
3.2 Motherboard layout



3.3 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.



To erase the RTC RAM:

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



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

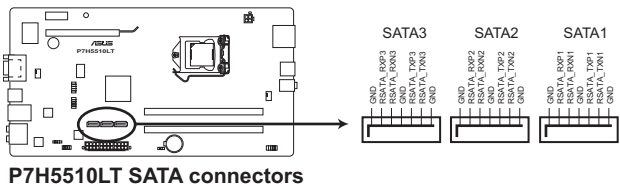


- If the steps above do not help, remove the onboard battery and move the jumper again to clear the CMOS RTC RAM data. After clearing the CMOS, reinstall the battery.
- You do not need to clear the RTC when the system hangs due to overclocking. For system failure due to overclocking, use the CPU Parameter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

3.4 Connectors

1. Serial ATA connectors (7-pin SATA1, SATA2, SATA3, SATA4)

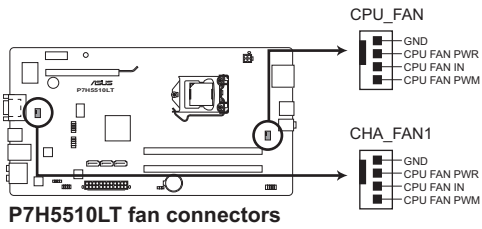
These connectors are for the Serial ATA signal cables for Serial ATA hard disk drives.



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

2. CPU and chassis fan connectors (4-pin CPU_FAN, 4-pin CHA_FAN1)

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.



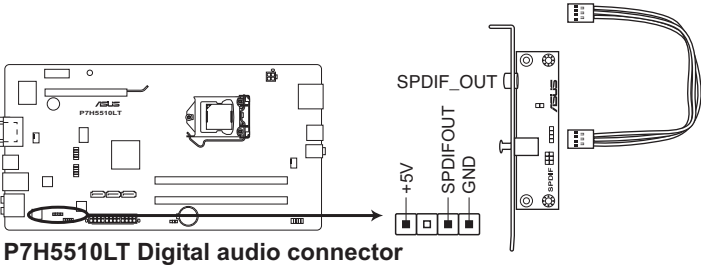
DO NOT forget to connect the fan cables to the fan connectors. Insufficient air flow inside the system may damage the motherboard components. These are not jumpers! **DO NOT** place jumper caps on the fan connectors!



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

3. **Digital Audio connector (4-1 pin SPDIF_OUT)**

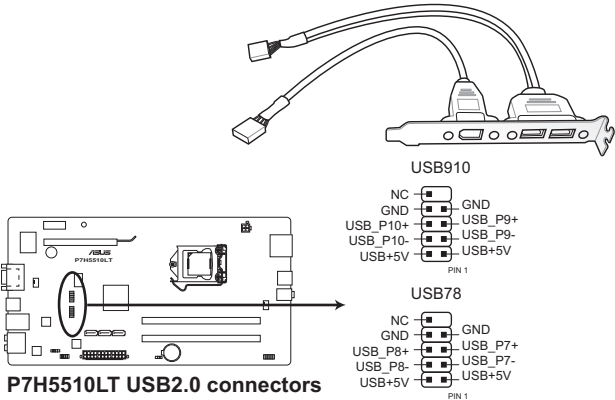
This connector is for the S/PDIF audio module to allow digital sound output. Connect one end of the S/PDIF audio cable to this connector and the other end to the S/PDIF module.



The S/PDIF out module is purchased separately.

4. **USB connectors (10-1 pin USB78, USB910, USB1112)**

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



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

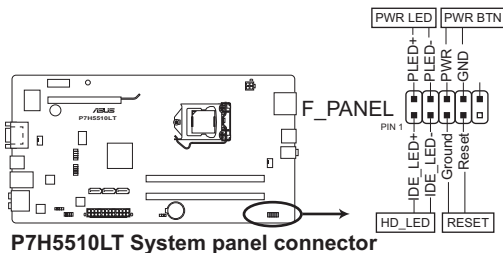


The USB 2.0 module is purchased separately.

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

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

This connector supports several chassis-mounted functions.



- **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 HDLED)**

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.

- **Power/Soft-off button (2-pin PWRBTN)**

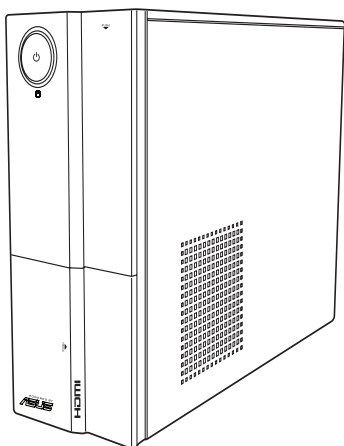
This 2-pin connector is for the system power button.

- **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.

Chapter 4

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



BIOS setup

4.1 Managing and updating your BIOS

BIOS (Basic Input and Output System) stores system settings such as storage device configuration, overclocking settings, advanced power management, and boot device configuration that are needed for system startup in the motherboard CMOS. In normal circumstances, the default BIOS settings apply to most conditions to ensure optimum performance. **DO NOT** change the default BIOS settings except in the following circumstances:

- An error message appears on the screen during the system startup and requests you to run the BIOS setup.
- You have installed a new system component that requires further BIOS settings or update.



-
- Inappropriate BIOS settings may result to system instability or boot failure. We strongly recommend that you change the BIOS settings with the help of a trained service personnel.
 - BIOS updating is potentially risky. If there is no problem in using the current BIOS version, **DO NOT** manually update the BIOS. Inappropriate BIOS updating may result to system boot failure.
-



-
- 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.
 - Download the latest BIOS file from the ASUS website at www.asus.com.
-

4.1.1 ASUS Update

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**.



ASUS Update 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.

4.1.2 ASUS EZ Flash 2

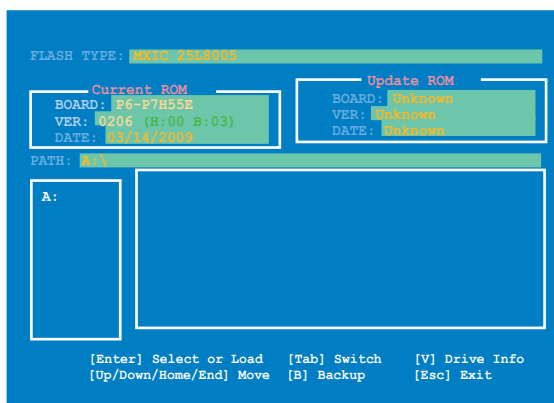
The ASUS EZ Flash 2 feature allows you to update the BIOS without using an OS-based utility.



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, then launch EZ Flash 2 in any of these two ways:
 - Press **<Alt> + <F2>** during POST.
 - Enter the BIOS setup. Go to the **Tools** menu, select **EZ Flash 2**, and press **<Enter>** to enable it.
2. Press **<Tab>** to switch between drives until the correct BIOS file is found, then press **<Enter>**. EZ Flash 2 performs the BIOS updating process and automatically reboots the system when done.



- This function supports USB flash disks with FAT 32/16 format and single partition only.
- DO NOT shut down or reset the system while updating the BIOS to prevent system boot failure!

4.1.3 ASUS CrashFree BIOS 3

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 update a corrupted BIOS file using the motherboard support DVD or a USB flash disk that contains the updated BIOS file.



-
- Ensure that you rename the BIOS file in the USB flash disk to **P7H55E.ROM**.
 - Prepare the motherboard support DVD or the USB flash disk containing the updated motherboard BIOS before using this utility.
-

Recovering the BIOS

To recover the BIOS:

1. Turn on the system.
2. Insert the support DVD or USB flash disk with the BIOS file to the optical drive or USB port.
3. The utility automatically checks the devices for the BIOS file. When the BIOS file is found, the utility reads and starts flashing the corrupt BIOS file.
4. Turn off the system after the utility completes the updating process and turn it 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 **4.8 Exit menu** for details.

4.2 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, do any of the following:

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

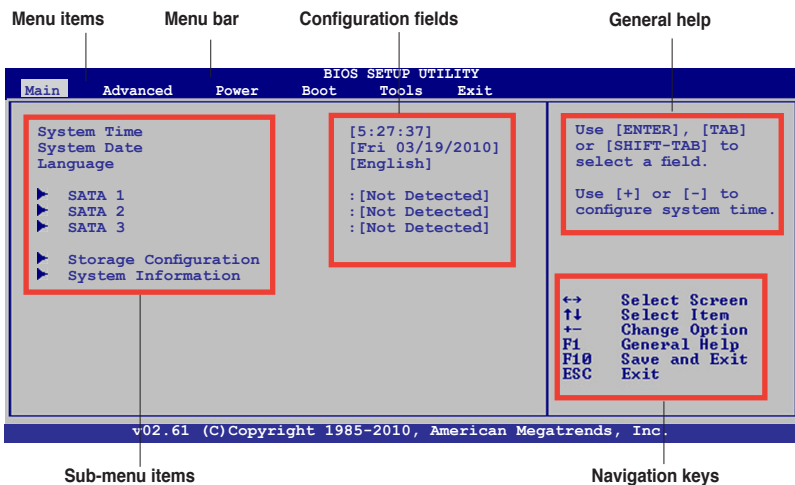


Using the **power button**, **reset button**, or the **<Ctrl>+<Alt>+** keys to force reset from a running operating system can cause damage to your data or system. We recommend to always shut-down the system properly from the operating system.



-
- 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 Default Settings** item under the Exit Menu. See section **4.8 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.
-

4.2.1 BIOS menu screen



4.2.2 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.

4.2.3 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.

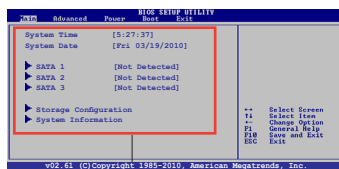


Some of the navigation keys differ from one screen to another.

4.2.4 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, Tool, and Exit) on the menu bar have their respective menu items.



Main menu items

4.2.5 Sub-menu items

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

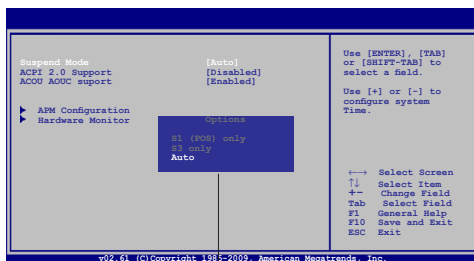
4.2.6 Configuration fields

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

A configurable field is enclosed in brackets, and is highlighted when selected. To change the value of a field, select it then press <Enter> to display a list of options. Refer to “2.2.7 Pop-up window.”

4.2.7 Pop-up window

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



Pop-up window

4.2.8 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.

4.2.9 General help

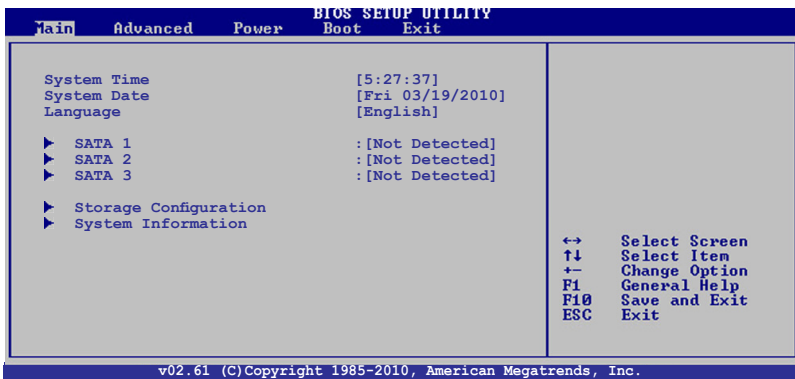
At the top right corner of the menu screen is a brief description of the selected item.

4.3 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 “4.2.1 BIOS menu screen” for information on the menu screen items and how to navigate through them.



4.3.1 System Time [xx:xx:xx]

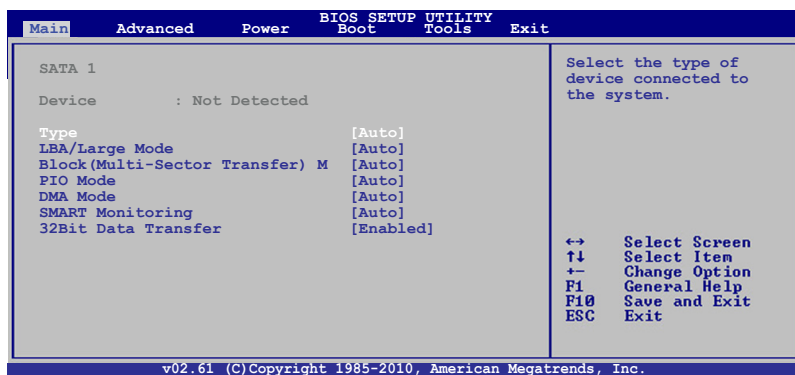
Allows you to set the system time.

4.3.2 System Date [Day xx/xx/xxxx]

Allows you to set the system date.

4.3.3 SATA1~3

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 SATA device is installed in the system.

Type [Auto]

Allows you to select the type of device connected to the system.

Configuration options: [Auto] [CDROM] [ARMD]

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]

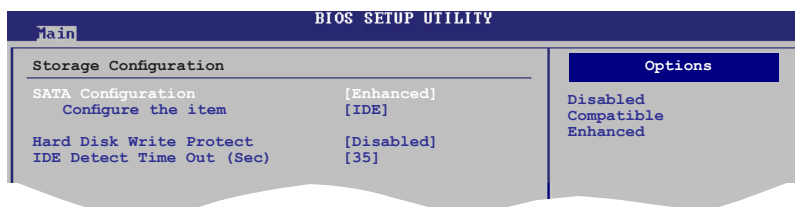
32Bit Data Transfer [Enabled]

Enables or disables 32-bit data transfer.

Configuration options: [Disabled] [Enabled]

4.3.4 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 wish to configure the item.



SATA Configuration [Enhanced]

Allows you to configure SATA. Configuration options: [Disabled] [Compatible] [Enhanced]

Hard Disk Write Protect [Disabled]

Enables or disables the hard disk drive's write protect function.

Configuration options: [Disabled] [Enabled]

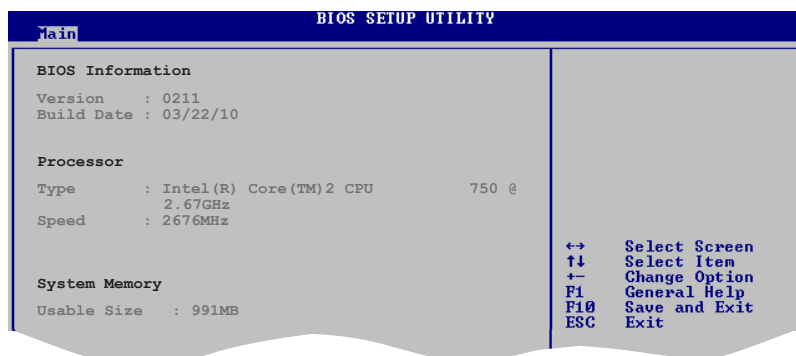
IDE Detect Time Out [35]

Selects the time out value for detecting ATA/ATAPI devices.

Configuration options: [0] [5] [10] [15] [20] [25] [30] [35]

4.3.5 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

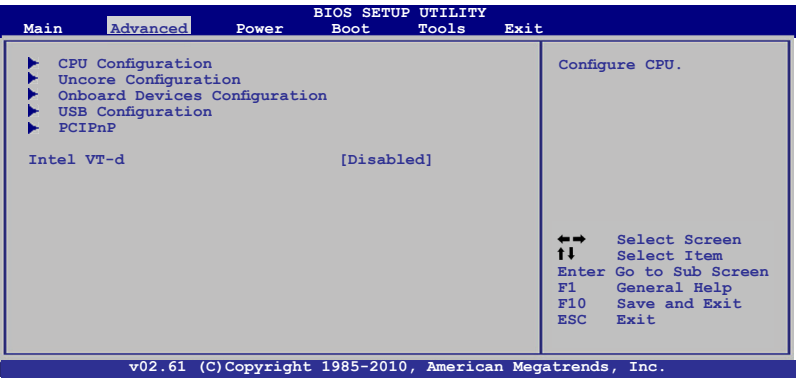
Displays the auto-detected system memory.

4.4 Advanced menu

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

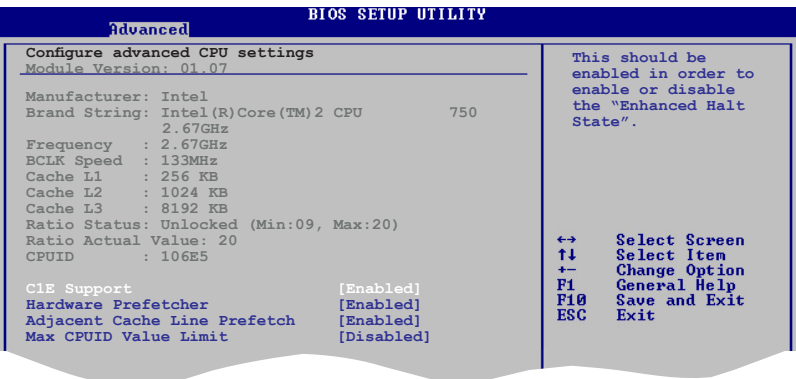


Be cautious when changing the settings of the Advanced menu items. Incorrect field values can cause the system to malfunction.



4.4.1 CPU Configuration

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



C1E Support [Enabled]

Allows you to enable or disable Inter CPU Enhanced Halt (C1E) function, a CPU power-saving function in system halt state. When enable, the CPU core frequency and voltage will be reduced during the system halt state to decrease power consumption. Configuration options: [Disabled] [Enabled]

Hardware Prefetcher [Enabled]

Enables or disables the L2 cache (MLC) Streamer Prefetcher function for tuning the performance of a specific application.

Configuration options: [Disabled] [Enabled]

Adjacent Cache Line Prefetch [Enabled]

Enables or disables the L2 cache (MLC) Spatial Prefetcher function for tuning the performance of a specific application. Configuration options: [Disabled] [Enabled]

Max CPUID Value Limit [Disabled]

Allows you to determine whether to limit CPUID maximum value. Set this item to [Disabled] for Windows XP operating system; set this item to [Enabled] for legacy operating system such as Windows NT4.0. (Default: Disabled)

Configuration options: [Disabled] [Enabled]

Intel(R) 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]

Enables or disables Intel® Execute Disable Bit function. This function enhance protection of your computer, reducing exposure to viruses and malicious buffer overflow attacks when working with its supporting software and system.

Configuration options: [Disabled] [Enabled]

Execute-Disable Bit Capability [Enabled]

Enables or disables Intel® Hyper-Threading technology.

Configuration options: [Disabled] [Enabled]

Active Processor Cores [All]

Shows the number of cores you can enable in each processor package.
Configuration options: [All] [1] [2]

A20M [Disabled]

Enables or disables legacy operating systems and applications.
Configuration options: [Disabled] [Enabled]

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

Allows you to use the Enhanced Intel® SpeedStep® Technology. When set to [Enabled], you can adjust the system power settings in the operating system to use the EIST feature. Set this item to [Disabled] if you do not want to use the EIST.
Configuration options: [Enabled] [Disabled]

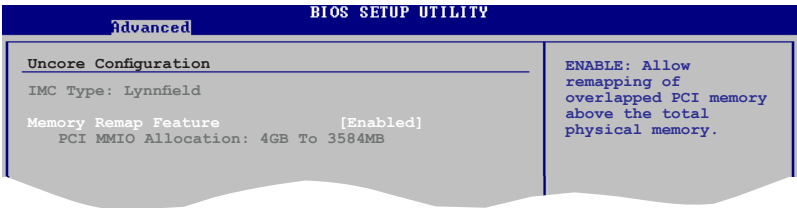
Intel(R) C-STATE Tech [Disabled]

Enables or disables the CPU idle state.
Configuration options: [Enabled] [Disabled]

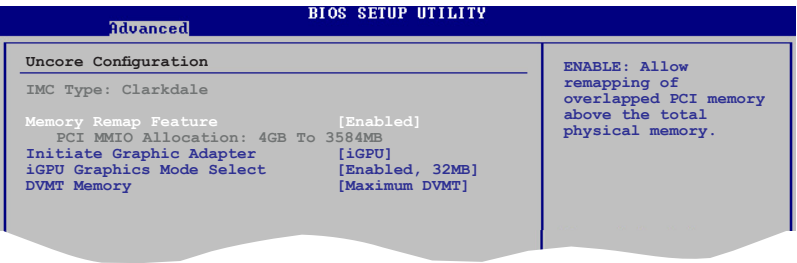
4.4.2 Uncore Configuration

The Uncore Configuration menu allows you to configure the uncore features.

Intel® Lynnfield CPU



Intel® Clarkdale CPU



Memory Remap Feature [Enabled]

Allows you to enable or disable the remapping of overlapped PCI memory above the total physical memory. Configuration options: [Enabled] [Disabled]



The following item appears only when you are using Clarkdale CPU.

Initiate Graphic Adapter [iGPU]

Allows you to select the graphics controller as the primary boot device.
Configuration options: [iGPU]

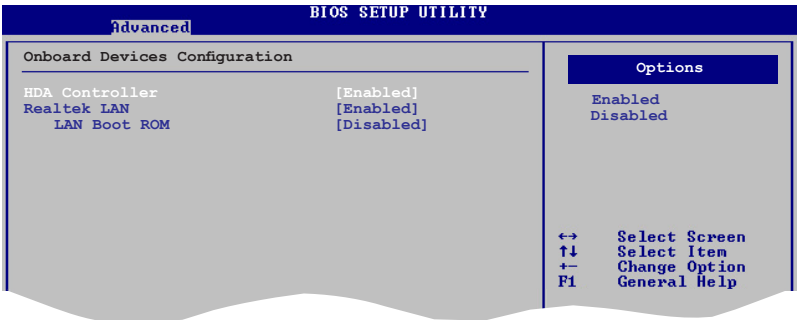
iGPU Graphics Mode Select [Enabled, 32MB]

Allows you to select the amount of system memory used by the Internal graphics device. Configuration options: [Disabled] [Enabled, 32MB] [Enabled, 64MB] [Enabled, 128MB]

DVMT Memory [256MB]

Allows you to set the DVMT memory.
Configuration options: [128MB] [256MB] [Maximum]

4.4.3 Onboard Devices Configuration



HDA Controller [Enabled]

Enables or disables the HDA controller.
Configuration options: [Enabled] [Disabled]

Realtek LAN [Enabled]

Enables or disables the Realtek LAN controller.
Configuration options: [Enabled] [Disabled]



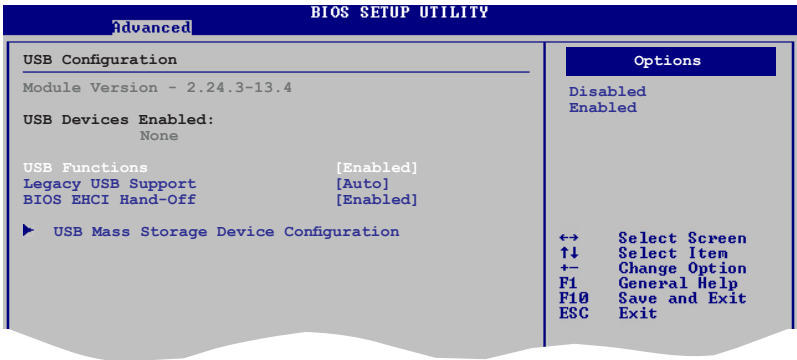
The following item appears only when you enable the Realtek LAN controller.

LAN Boot ROM [Disabled]

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

4.4.4 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 enable or disable the USB functions.
Configuration options: [Disabled] [Enabled]

Legacy USB Support [Auto]

Allows you to enable or disable support for USB devices on legacy operating systems (OS). 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]

Enables or disables the BIOS EHCI hand-off support feature.
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]

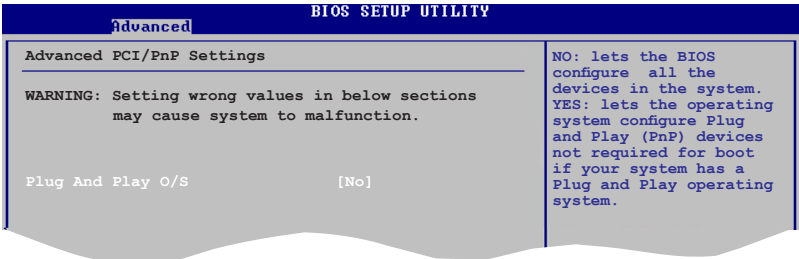
Allows you to set the emulation type. Configuration options: [Auto] [Floppy] [Forced FDD] [Hard Disk] [CDROM]

4.4.5 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.



Be cautious 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]

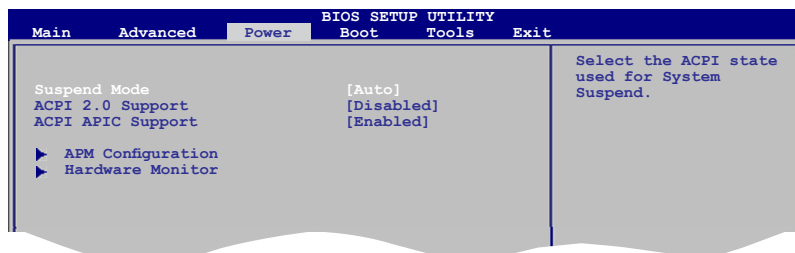
When set to [No], BIOS configures all the devices in the system. When set to [Yes] and if you install a Plug and Play operating system, the operating system configures the Plug and Play devices not required for boot.
Configuration options: [No] [Yes]

4.4.6 Intel VT-d [Disabled]

Allows you to enable or disable the Intel Virtualization technology.
Configuration options: [Enabled] [Disabled]

4.5 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.



4.5.1 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]

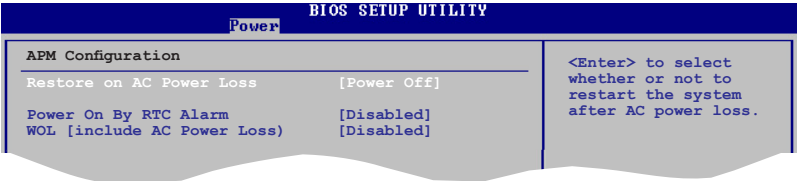
4.5.2 ACPI 2.0 Support [Disabled]

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

4.5.3 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]

4.5.4 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]

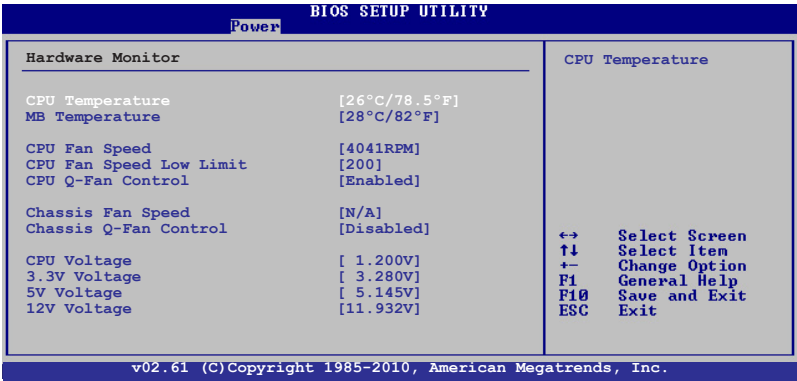
Power On By RTC Alarm [Disabled]

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]

WOL (include AC Power Loss) [Disabled]

Enables or disables PCIe to generate a wake event. Configuration options: [Disabled] [Enabled]

4.5.5 Hardware Monitor



CPU/MB Temperature [xxx°C/xxx°F] or [Ignored]

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

CPU/Chassis Fan Speed (RPM) [xxxxRPM] or [N/A] or [Ignored]

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

CPU Fan Speed Low Limit [200]

Allows you to set the maximum CPU fan speed in rotations per minute (RPM) and display a warning message when it reached the preset maximum CPU speed limit. Configuration options: [100] [200] [300] [400] [500] [Ignored]

CPU/Chassis Q-Fan Control [Enabled]

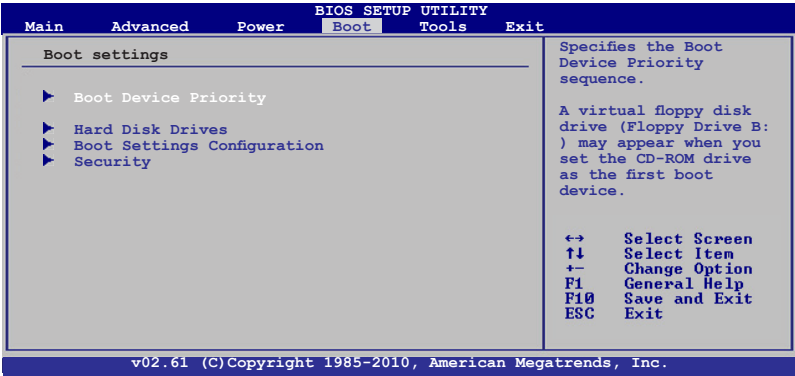
Enables or disables the CPU Q-Fan Control feature. Configuration options: [Enabled] [Disabled]

CPU Voltage, 3.3V Voltage, 5V Voltage, 12V Voltage

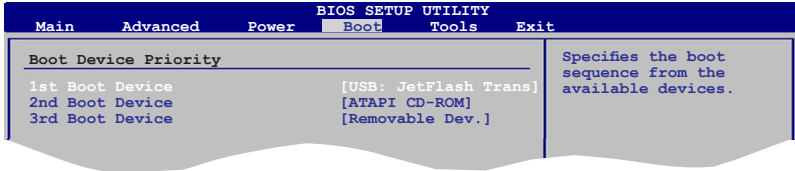
The onboard hardware monitor automatically detects the voltage output through the onboard voltage regulators.

4.6 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.



4.6.1 Boot Device Priority



1st ~ xxth Boot Device [Removable Dev.]

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: [USB: JetFlash Trans] [ATAPI CD-ROM] [Removable Dev.]



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

4.6.2 Hard Disk Drives

BIOS SETUP UTILITY		
Boot		
Hard Disk Drives		Specifies the boot sequence from the available devices.
1st Drive	[USB: JetFlash Trans]	
2nd Drive	[USB: Kingston DataT]	

1st /2nd Drive [USB: JetFlash Trans]

These items specify the boot 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: [USB: JetFlash Trans] [USB: Kingston DataT]

4.6.3 Boot Settings Configuration

BIOS SETUP UTILITY		
Boot		
Boot Settings Configuration		Allows BIOS to skip certain tests while booting. This will decrease the time needed to boot the system.
Quick Boot	[Enabled]	
Full Screen Logo	[Enabled]	
AddOn ROM Display Mode	[Force BIOS]	
Startup Num-Lock	[On]	
Wait For 'F1' If Error	[Enabled]	
Hit 'DEL' Message Display	[Enabled]	

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.

Add On 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]

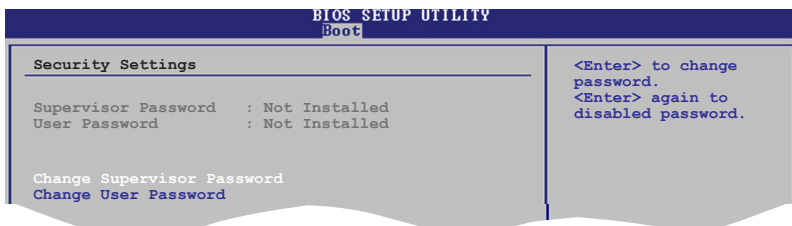
When set to [Enabled], the system waits for the F1 key to be pressed when error occurs. Configuration options: [Disabled] [Enabled]

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]

4.6.4 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.

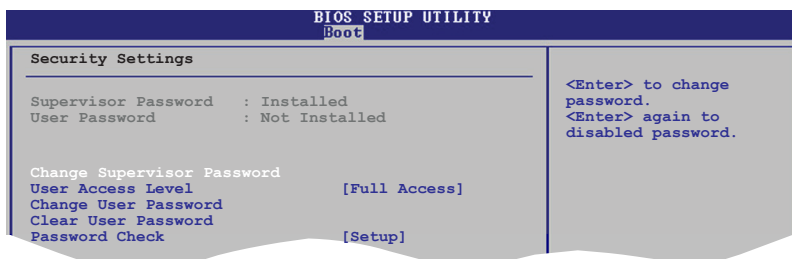
To change the supervisor password, follow the same steps as in setting a user password.

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 Jumper” 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 as in setting a user password.

Clear User Password

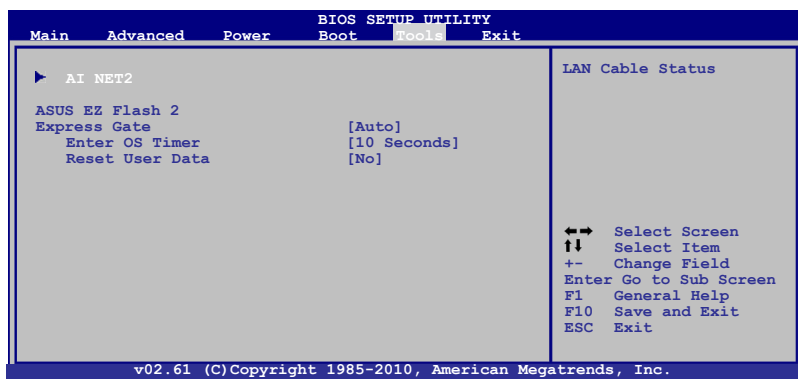
Select this item to clear the user password.

Password Check [Setup]

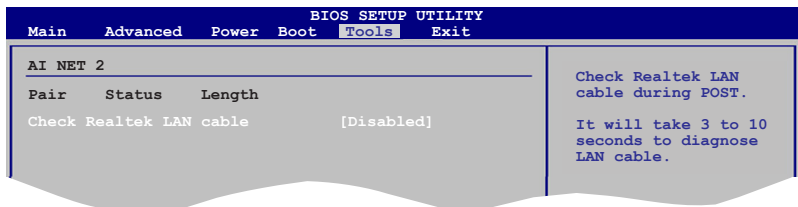
When set to [Setup], BIOS checks for user password when accessing the Setup utility. When set to [Always], BIOS checks for user password both when accessing Setup and booting the system. Configuration options: [Setup] [Always]

4.7 Tools menu

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



4.7.1 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]

4.7.2 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. See section 4.1.2 for details.

4.7.3 Express Gate [Auto]

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

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]

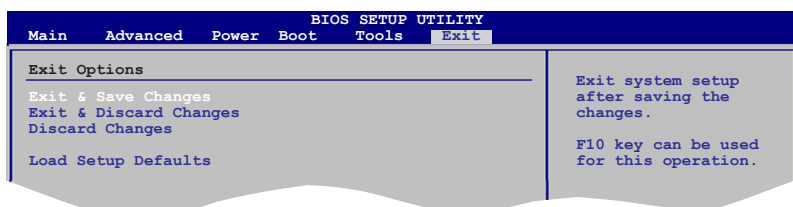
When setting this item to **[Reset]**, ensure to save the setting to the BIOS so that the user data will be cleared the next time you enter the Express Gate. User data includes the Express Gate's settings as well as any personal information stored by the web browser (bookmarks, cookies, browsing history, 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.

4.8 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.



If you attempt to exit the Setup program without saving your changes, the program prompts you with a message asking if you want to save your changes before exiting. Press <Enter> to save the changes while exiting.

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.

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* EUR 0.14/minute from a German fixed landline; EUR 0.42/minute from a mobile phone.

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