ASUS

M2N68-AM SE

Motherboard

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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, and
- This device must accept any interference received including interference that may cause undesired operation.

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

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

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

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.

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.

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 flat and stable surface.
- If you encounter technical problems with the product, contact a qualified service technician or your retailer.

About this guide

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

How this guide is organized

This guide contains the following parts:

- **Chapter 1: Product introduction**

   This chapter describes the features of the motherboard and the new technology it supports.

- **Chapter 2: BIOS information**

   This chapter tells how to change system settings through the BIOS setup menus. Detailed descriptions of the BIOS parameters are also provided.

Conventions used in this guide

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

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

CAUTION: Information to prevent damage to the components when trying to complete a task.

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

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

Where to find more information

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

1. **ASUS websites**

    The ASUS website provides updated information on ASUS hardware and software products.

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.

Typography

Bold text	Indicates a menu or an item to select.
Italics	Used to emphasize a word or a phrase.
<Key>	Keys enclosed in the less-than and greater-than sign means that you must press the enclosed key. Example: <Enter> means that you must press the Enter or Return key.
<Key1>+<Key2>+<Key3>	If you must press two or more keys simultaneously, the key names are linked with a plus sign (+). Example: <Ctrl>+<Alt>+<D>

`Command`	Means that you must type the command exactly as shown, then supply the required item or value enclosed in brackets.
	Example: At the DOS prompt, type the command line:
	`afudos /i[filename]`
	`afudos /iM2NAMSE.ROM`

M2N68-AM SE specifications summary

CPU	AMD® Socket AM2+ / AM2 for AMD Phenom™FX / Phenom / Athlon™ / Sempron™ processors AMD Cool 'n' Quiet™ Technology Supports CPU up to 95W AMD64 architecture enables simultaneous 32-bit and 64-bit computing
Chipset	NVIDIA® GeForce 7050PV/nForce 630a (MCP68PVNT)
System bus	2000 / 1600 MT/s
Memory	Dual-channel memory architecture 2 x 240-pin DIMM slots support unbuffered non-ECC DDR2 1066/800/667/533MHz memory modules Supports up to 4GB system memory * Due to AM2+ CPU limitation, only one DDR2 1066 is supported per channel. Refer to www.asus.com for the AM2+ CPU models. ** Refer to www.asus.com for the latest Memory QVL (Qualified Vendors List). *** When you install a total memory of 4GB or more, Windows® 32-bit operating system may only recognize less than 3GB. Hence, a total installed memory of less than 3GB is recommended if you are using a Windows 32-bit operating system.
Graphics	Integrated NVIDIA® GeForce 7 Series Shader model 3.0 DirectX 9 graphics processor Maximum shared memory of 256MB Supports RGB with max. resolution 1920 x 1440 @ 70MHz*32bpp/75MHz*16bpp * Due to the chipset limitation, only MPEG 2 and WMV offload support HD format 1920 x 1080p. ** The recommended system configuration when playing HD DVD and Blu-ray disc: DDR2 800 1GB x 2 / Athlon 64 x 2 4400+ / Graphic shared memory 256MB / Purevideo HD support
Expansion slots	1 x PCIe x16 slot 1 x PCIe x1 slot 1 x PCI slot
Storage	1 x UltraDMA 133/100 connector 2 x Serial ATA 3Gb/s connectors
Audio	ALC662 High Definition Audio 6-channel CODEC Supports Jack-detection and Multi-streaming
USB	Supports up to 10 USB 2.0/1.1 ports (6 ports at mid-board, 4 ports at back panel)
LAN	Realtek PHY 10/100 LAN

M2N68-AM SE specifications summary

ASUS special features	ASUS Express Gate ASUS Q-Fan ASUS CrashFree BIOS3 ASUS EZ Flash2 ASUS MyLogo2

ASUS overclocking features	SFS (Stepless Frequency Selection):
	  - HT tuning from 200MHz to 300MHz at 1MHz increment
	  - Memory tuning from 533MHz to 1066MHz
	  - PCIe frequency tuning from 100MHz to 150MHz at 1MHz increment
	     Adjustable CPU voltage at 0.05V increment
	Overclocking protection:
	  - ASUS C.P.R. (CPU Parameter Recall)

Back panel I/O ports	1 x PS/2 Keyboard port 1 x PS/2 Mouse port 1 x RJ45 port 1 x VGA port 4 x USB 2.0/1.1 ports 6-channel audio I/O ports 1 x COM port
Internal I/O connectors	3 x USB 2.0/1.1 connectors support additional 6 USB 2.0/1.1 ports 1 x IDE connector 2 x SATA connectors 1 x system panel connector 1 x CD audio-in connector 1 x Internal speaker connector 1 x Front panel audio connector 1 x CPU can connector 1 x 24-pin EATX power connector 1 x 4-pin ATX 12V power connector
BIOS	8Mb Flash ROM, AMI BIOS, PnP, DMI2.0, WfM2.0, ACPI2.0, SM BIOS 2.5, ASUS EZ Flash2
Accessories	1 x Serial ATA cable 1 x UltraDMA 133/100/66 cable 1 x IO Shield User Manual
Form Factor	MicroATX form factor: 9.6 in x 8.0 in
Support DVD	Drivers ASUS Update ASUS PC Probe II Anti-Virus software (OEM version)

Specifications are subject to change without notice.

Chapter 1

Product introduction

Thank you for buying an ASUS® M2N68-AM SE motherboard!

Before you start installing the motherboard, and hardware devices on it, check the items in your motherboard package. Refer to page ix for the list of accessories.

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

1.1   Before you proceed

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

- Unplug the power cord from the wall socket before touching any component.

- Before handling components, use a grounded wrist strap or touch a safely grounded object or a metal object, such as the power supply case, to avoid damaging them due to static electricity

- Hold components by the edges to avoid touching the ICs on them.

- Whenever you uninstall any component, place it on a grounded antistatic pad or in the bag that came with the component.

- Before you install or remove any component, ensure that the ATX power supply is switched off or the power cord is detached from the power supply. Failure to do so may cause severe damage to the motherboard, peripherals, or components.

Onboard LED

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

SB_PWR

ON
Standby Power

OFF
Powered Off
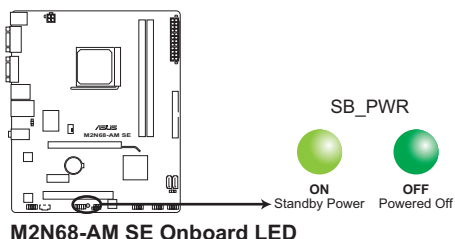
M2N68-AM SE Onboard LED

1.2 Motherboard overview

1.2.1 Motherboard layout

Ensure that you install the motherboard into the chassis in the correct orientation. The edge with external ports goes to the rear part of the chassis.

Place this side towards the rear of the chassis.
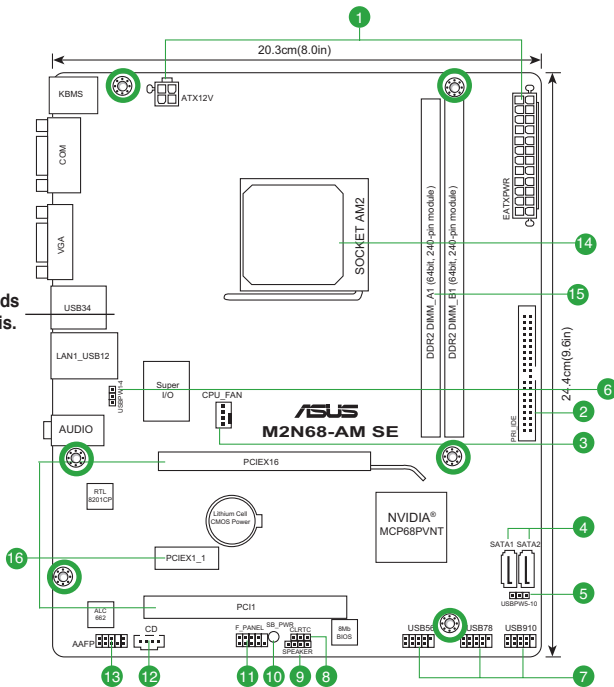
Place six screws into the holes indicated by circles to secure the motherboard to the chassis. DO NOT overtighten the screws! Doing so can damage the motherboard.

1.2.2 Layout contents

Connectors/Jumpers/Slots/LED	Page	Connectors/Jumpers/Slots/LED	Page
1. ATX power connectors (24-pin EATXPWR, 4-pin ATX12V)	1-13	9. Internal speaker connector (4-pin SPEAKER)	1-13
2. IDE connector (40-1 pin PRI_IDE)	1-11	10. Standby power LED (SB_PWR)	1-1
3. CPU fan connector (4-pin CPU_FAN)	1-12	11. System panel connector (10-1 pin F_PANEL)	1-14
4. Serial ATA connectors (7-pin SATA1, SATA2)	1-10	12. Optical drive audio connector (4-pin CD)	1-11
5. USB device wake-up (3-pin USBPW 5-10)	1-8	13. Front panel audio connector (10-1 pin AAFP)	1-14
6. Keyboard/mouse power (3-pin PS2_USBPW 1-4)	1-9	14. AM2 CPU Socket	1-3
7. USB connectors (10-1 pin USB56, USB 78, USB910)	1-12	15. DDR2 DIMM slots	1-3
8. Clear RTC RAM (3-pin CLRTC)	1-8	16. PCIe x16/PCIe x1/PCI slot	1-7

1.3 Central Processing Unit (CPU)

This motherboard comes with a 940-pin AM2+ / AM2 socket designed for AMD® Phenom™FX / Phenom™ / Athlon™ / Sempron™ processors.

> ⚠️ The AM2+ / AM2 socket has a different pinout from the 940-pin socket designed for the AMD Opteron™ processor. Use a CPU that is designed for the AM2+ / AM2 socket.

1.4 System memory

1.4.1 Overview

This motherboard comes with two Double Data Rate 2 (DDR2) Dual Inline Memory Modules (DIMM) sockets. A DDR2 DIMM has the same physical dimensions as a DDR DIMM but has a 240-pin footprint compared to the 184-pin DDR DIMM. DDR2 DIMMs are notched differently to prevent installation on a DDR DIMM socket. The figure illustrates the location of the DDR2 DIMM sockets:
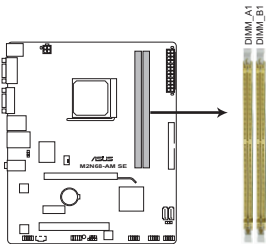
M2N68-AM SE 240-pin DDR2 DIMM sockets

Channel	Sockets
Channel A	DIMM_A1
Channel B	DIMM_B1

1.4.2 Memory configurations

You may install 256MB, 512MB, 1GB, and 2GB unbuffered non-ECC DDR2 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 the single-channel operation.
>
> • Always install DIMMs with the same CAS latency. For optimum compatibility, we recommend that you obtain memory modules from the same vendor.
>
> • Due to the memory address limitation on the 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 either of the following:
>
>   - Install a maximum of 3GB system memory if you are using a 32-bit Windows® OS.
>   - Use a 64-bit Windows® OS if you want to install 4GB or more memory on the motherboard.
>
> • This motherboard does not support DIMMs made up of 256 megabits (Mb) chips or less.

> This motherboard supports up to 4GB memory modules on Windows XP Professional x64 and Vista x64 editions. You may install a maximum of 2GB DIMMs on each slot.

M2N68-AM SE Motherboard Qualified Vendors Lists (QVL)

DDR2-533MHz capability

Size	Vendor	Model	CL	Brand	SS/DS	Component	DIMM support	
							A*	B*
256MB	Kingston	KVR533D2N4/256	N/A	Elpida	SS	E5116AF-5C-E	•	•
512MB	Kingston	KVR533D2N4/512	N/A	Infineon	SS	HYB18T512800AF3733336550	•	•
1G	Kingston	KVR533D2N4/1G	N/A	Kingston	DS	D6408TLRAGL37U	•	•
256MB	Samsung	M378T3253FG0-CD5	N/A	Samsung	SS	K4T56083QF-GCD5	•	•
512MB	Samsung	M378T6553BG0-CD5	4	Samsung	SS	K4T51083QB-GCD5	•	•
256MB	HY	HYMP532U64CP6-C4 AB	4	Hynix	SS	HY5PS121621CFP-C4	•	•
1G	HY	HYMP512U64CP8-C4 AB	4	Hynix	DS	HY5PS12821CFP-C4	•	•
512MB	Micron	MT 16HTF6464AG-53EB2	4	Micron	DS	D9BOM	•	•
512MB	Micron	MT 16HTF6464AG-53EB2	4	Micron	DS	Z9BQT	•	•
1G	Micron	MT 16HTF12864AY-53EA1	4	Micron	DS	D9CRZ	•	•
512MB	Corsair	VS512MB533D2	N/A	Corsair	DS	MIII0052532M8CEC	•	•
512MB	Corsair	VS512MB533D2	N/A	Corsair	DS	MI110052532M8CEC	•	•
1G	Corsair	VS1GB533D2	N/A	Corsair	DS	64M8CFEGQIB0900718	•	•
512MB	Elpida	EBE51UD8ABFA-5C-E	N/A	Elpida	SS	E5108AB-5C-E	•	•
512MB	Transcend	512MB DDR2 533 ECC	N/A	Micron	SS	6ND22D9GCT(ECC)	•	•
512MB	Kingmax	KLBC28F-A8KB4	N/A	Kingmax	SS	KKEA88B4IAK-37	•	•
256MB	Kingmax	KLBB68F-36EP4	N/A	Elpida	SS	E5116AB-5C-E	•	•
512MB	Kingmax	KLBC28F-A8EB4	N/A	Elpida	SS	E5108AE-5C-E	•	•
512MB	ADATA	M2OAD2G3H3166I1B52	N/A	ADATA	SS	AD29608A8A-37DG20719	•	•
2G	ADATA	M20AD2H3J4170I1B53	N/A	ADATA	DS	AD20908A8A-37DG30721	•	•

DDR2-667MHz capability

Size	Vendor	Model	CL	Brand	SS/DS	Component	DIMM support	
							A*	B*
512MB	Kingmax	KLCC28F-A8KB5	N/A	Kingmax	SS	KKEA88B4LAUG-29DX	•	•
1G	Kingmax	KLCD48F-A8KB5	N/A	Kingmax	DS	KKEA88B4LAUG-29DX	•	•
512MB	Apacer	78.91092.420		Elpida	SS	E5108AE-6E-E	•	•
512MB	Apacer	AU512E667C5KBGC	5	Apacer	SS	AM4B5708MIJS7E0627B	•	•
512MB	Apacer	AU512E667C5KBGC	5	Apacer	SS	AM4B5708GQJS7E06332F	•	•
512MB	Apacer	78.91G92.9KC	5	Apacer	SS	AM4B5708GQJS7E0706F	•	•
1G	Apacer	AU01GE667C5KBGC	N/A	Apacer	DS	AM4B5708GQJS7E0636B	•	•
1G	Apacer	78.01092.420	5	Elpida	DS	E5108AE-6E-E	•	•
1G	Apacer	AU01GE667C5KBGC	5	Apacer	DS	AM4B5708MIJS7E0627B	•	•
512MB	ADATA	M20EL5G3H3160B1C0Z	N/A	Elpida	SS	E5108AE-6E-E	•	•
512MB	ADATA	M20AD5G3H3166I1C52	N/A	ADATA	SS	AD29608A8A-3EG20648	•	•
512MB	ADATA	M20AD5G3H3166I1C52	N/A	ADATA	SS	AD29608A8A-3EG20718	•	•
1G	ADATA	M2OAD5G3I4176I1C52	N/A	ADATA	DS	AD29608A8A-3EG20645	•	•
2G	ADATA	M2OAD5H3J4170I1C53	N/A	ADATA	DS	AD20908A8A-3EG 30724	•	•
512MB	VDATA	M2GVD5G3H31A4I1C52	N/A	VDATA	SS	VD29608A8A-3EC20615	•	•
512MB	VDATA	M2YVD5G3H31P4I1C52	N/A	VDATA	SS	VD29608A8A-3EG20627	•	•
512MB	VDATA	M2GVD5G3H166I1C52	N/A	VDATA	SS	VD29608A8A-3EG20637	•	•
1G	VDATA	M2GVD5G3I41P6I1C52	N/A	VDATA	DS	VD29608A8A-3EG20627	•	•
1G	VDATA	M2GVD5G3I41C4I1C52	N/A	VDATA	DS	VD29608A8A-3EC20620	•	•
1G	VDATA	M2GVD5G3I4176I1C52	N/A	VDATA	DS	VD29608A8A-3EG20641	•	•
512MB	PSC	AL6E8E63B-6E1K	5	PSC	SS	A3R12E3GEF637BLC5N	•	•
512MB	PSC	AL6E8E63J-6E1	5	PSC	SS	A3R12E3JFF717B9A00	•	•
1G	PSC	AL7E8E63B-6E1K	5	PSC	DS	A3R12E3GEF637BLC5N	•	•
1G	PSC	AL7E8E63J-6E1	5	PSC	DS	A3R12E3JFF717B9A01	•	•
256MB	Nanya	NT256T64UH4A1FY-3C	N/A	Nanya	SS	NT5TU32M16AG-3C	•	•
512MB	Nanya	NT512T64U88A1BY-3C	N/A	Nanya	SS	NT5TU64M8AE-3C	•	•
256MB	Kingston	KVR667D2N5/256	N/A	Kingston	SS	D3216TLSAKL3U	•	•
256MB	Kingston	KVR667D2N5/256	N/A	Infineon	SS	HYB18T256800AF3SW65 33154	•	•
512MB	Kingston	KVR667D2N5/512	N/A	Elpida	SS	E5108AGBG-6E-E	•	•
1G	Kingston	KVR667D2N5/1G	N/A	Kingston	DS	D6408TEBGGL3U	•	•
1G	Kingston	KVR667D2N5/1G	N/A	Elpida	DS	E5108AGBG-6E-E	•	•
512MB	Samsung	KR M378T6553CZ0-CE6	N/A	Samsung	SS	K4T51083QC	•	•
512MB	Samsung	KR M378T6453FZ0-CE6	N/A	Samsung	DS	K4T56083QF-ZCE6	•	•
512MB	Samsung	M378T6553CZ3-CE6	N/A	Samsung	SS	K4T51083QC-ZCE6	•	•
1G	Samsung	M378T2953CZ3-CE6	N/A	Samsung	DS	K4T51083QC-ZCE6	•	•
1G	Samsung	KR M378T2953CZ0-CE6	N/A	Samsung	DS	K4T51083QC-ZCE6	•	•
512MB	Qimonda	HYS64T64000EU-3S-B2	5	Qimonda	SS	HYB18T512B00B2F3SFSS28171	•	•
1G	Qimonda	HYS64T128020EU-3S-B2	5	Qimonda	DS	HYB18T512B00B2F3SFSS28171	•	•
2G	Qimonda	HYS64T256020EU-3S-B	5	Qimonda	DS	HTB18T1G800BF-3S3VV10907	•	•
512MB	Corsair	VS512MB667D2	N/A	Corsair	SS	64M8CFEGPS0900647	•	•
512MB	Corsair	VS512MB667D2	N/A	Corsair	DS	MIII0052532M8CEC	•	•
1G	Corsair	VS1GB667D2	N/A	Corsair	DS	MID095D62864M8CEC	•	•
1G	Corsair	XMS2-5400	4	Corsair	DS	Heat-Sink Package	•	•
256MB	HY	HYMP532U64CP6-Y5 AB	5	Hynix	SS	HY5PS121621CFP-Y5	•	•
512MB	HY	HYMP564U64AP8-Y4 AA	N/A	Hynix	SS	HY5PS12821AFP-Y4	•	•
512MB	HY	HYMP564U64AP8-Y5 AA	N/A	Hynix	SS	HY5PS12821AFP-Y5	•	•
512MB	HY	HYMP564U72AP8-Y4	N/A	Hynix	SS	HY5PS12821AFP-Y4(ECC)	•	•
512MB	HY	HYMP564U72AP8-Y5	N/A	Hynix	SS	HY5PS12821AFP-Y5(ECC)	•	•
1G	HY	HYMP512U72AP8-Y5	N/A	Hynix	DS	HY5PS12821AFP-Y5(ECC)	•	•
1G	HY	HYMP512U64AP8-Y5 AB	N/A	Hynix	DS	HY5PS12821AFP-Y5	•	•
1G	HY	HYMP512U64CP8-Y5 AB	5	Hynix	DS	HY5PS12521CFP-Y5	•	•
512MB	Kingmax	KLCC28F-A8EB5	N/A	Elpida	SS	E5108AE-6E-E	•	•

DDR2-800MHz capability

Size	Vendor	Model	CL	Brand	SS/DS	Component	DIMM support	
							A*	B*
1G	Kingston	KVR800D2N5/1G	N/A	Samsung	DS	K4T51083QC-ZCE7	•	•
1G	Kingston	KHX6400D2LL/1G	N/A	Kingston	DS	Heat-Sink Package	•	•
512MB	Kingston	KHX6400D2LLK2/1GN	N/A	Kingston	SS	Heat-Sink Package	•	•
512MB	Kingston	KVR800D2N5/512	N/A	Promos	SS	V59C1512804QCF25SY032406PECPA	•	•
1G	Kingston	KHX6400D2K2/2G	N/A	Kingston	DS	Heat-Sink Package	•	•
1G	Kingston	KVR800D2N5/1G	N/A	Promos	DS	V59C1512804QCF25S0061904PECJA	•	•
512MB	Samsung	KR M378T6553CZ3-CE7	N/A	Samsung	DS	K4T51083QC-ZCE7	•	•
1G	Samsung	KR M378T2953CZ3-CE7	N/A	Samsung	DS	K4T51083QC-ZCE7	•	•
512MB	Samsung	KR M391T6553CZ3-CE7	N/A	Samsung	DS	K4T51083QC-ZCE7(ECC)	•	•
1G	Samsung	KR M391T2953CZ3-CE7	N/A	Samsung	DS	K4T51083QC-ZCE7(ECC)	•	•
512MB	Qimonda	HYS64T64000EU-2.5-B2	6	Qimonda	SS	HYB18T512800B2F25FSS28380	•	•
1G	Qimonda	HYS64T128020EU-2.5-B2	6	Qimonda	DS	HYB18T512800B2F25FSS28380	•	•
512MB	Micron	MT9HTF6472AY-80ED4	5	Micron	SS	6ED22D9GKX(ECC)	•	•
1G	Micron	MT18HTF12872AY-80ED4	5	Micron	DS	6TD22D9GKX(ECC)	•	•
1G	Corsair	CM2X1024-6400	5	Corsair	DS	Heat-Sink Package	•	•
1G	Corsair	XMS2-6400	4	Corsair	DS	Heat-Sink Package	•	•
1G	Corsair	XMS2-6400	5	Corsair	DS	Heat-Sink Package	•	•
512MB	HY	HYMP564U64AP8-S6 AA	N/A	Hynix	SS	HY5PS12821AFP-S6	•	•
512MB	HY	HYMP564U64BP8-S5 AB	N/A	Hynix	SS	HY5PS12821BFP-S5	•	•
512MB	HY	HYMP564U64CP8-S5 AB	5	Hynix	SS	HY5PS12821CFP-S5	•	•
1G	HY	HYMP512U64AP8-S6 AA	N/A	Hynix	DS	HY5PS12821AFP-S6	•	•
1G	HY	HYMP512U64BP8-S5 AB	5	Hynix	DS	HY5PS12821BFP-S5	•	•
1G	HY	HYMP512U64CP8-S5 AB	5	Hynix	DS	HY5PS12821CFPS5	•	•
512MB	ADATA	M20AD6G3H3160I1E58	N/A	ADATA	SS	AD29608A8A-25EG80720	•	•
512MB	VDATA	M2GVD6G3H3160I1E53	N/A	VDATA	SS	VD29608A8A-25EG30648	•	•
1G	VDATA	M2GVD6G3I4170I1E53	N/A	VDATA	DS	VD29608A8A-25EG30647	•	•
512MB	PSC	AL6E8E63B-8E1K	5	PSC	SS	A3R12E3HEF641B9A05	•	•
1G	PSC	AL7E8E63B-8E1K	5	PSC	DS	A3R12E3HEF641B9A05	•	•

DDR2-1066MHz capability

Size	Vendor	Model	CL	Brand	SS/DS	Component	DIMM support	
							A*	B*
1G	Kingston	KHX8500D2K2/2GN	N/A	Kingston	SS	Heat-Sink Package	•	•
1G	Corsair	CM2X1024-8500C5	N/A	Corsair	DS	Heat-Sink Package	•	•
1G	Corsair	CM2X1024-8500C5D	5	Corsair	DS	Heat-Sink Package	•	•
512MB	ADATA	M2OMIDG3H3160INC5Z	5	ADATA	SS	Heat-Sink Package	•	•
1G	ADATA	M2OMIDG314720INC5Z	5	ADATA	DS	Heat-Sink Package	•	•

- DDR2 1066 is supported by AM2+ CPU only.

- The default DIMM frequency depends on its Serial Presence Detect (SPD), which is the standard way of accessing information from a memory module. Under the default state, some memory modules for overclocking may operate at a lower frequency than the vendor-marked value.

SS: Single-sided / DS: Double-sided
DIMM support:
- **A*:** Supports one module inserted into either slot as the single-channel memory configuration.
- **B*:** Supports one pair of modules inserted into both the yellow slots as one pair of dual-channel memory configuration.

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

1.5   Expansion slots

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

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

1.5.1   Installing an expansion card

To install an expansion card:

1.   Before installing the expansion card, read the documentation that comes with it and make the necessary hardware settings for the card.

2.   Remove the chassis cover (if your motherboard is already installed in a chassis).

3.   Remove the bracket opposite the slot that you intend to 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.

6.   Replace the chassis cover.

1.5.2   Configuring an expansion card

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

1.   Turn on the system and change the necessary BIOS settings, if any. See Chapter 2 for information on BIOS setup.

2.   Assign an IRQ to the card.

3.   Install the software drivers for the expansion card.

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

1.5.3   PCI slot

The PCI slots support cards such as LAN cards, SCSI cards, USB cards, and other cards that comply with the PCI specifications.

1.5.4   PCI Express x1 slot

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

1.5.5   PCI Express x16 slot

This motherboard supports PCI Express x16 graphics cards that comply with the PCI Express specifications.

1.6   Jumpers

1. **Clear RTC RAM (3-pin CLRTC)**

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

    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 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.
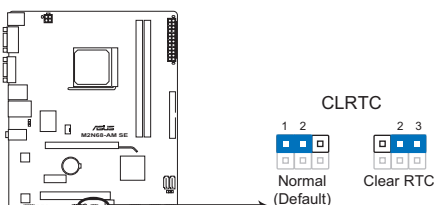
    M2N68-AM SE Clear RTC RAM

2. **USB device wake-up (3-pin USBPW5-10)**

   Set these jumpers to +5V to wake up the computer from S1 sleep mode (CPU stopped, DRAM refreshed, system running in low power mode) using the connected USB devices. Set to +5VSB to wake up from S3 and S4 sleep modes (no power to CPU, DRAM in slow refresh, power supply in reduced power mode). The USBPW5-10 jumper is for the internal USB connectors that you can connect to additional USB ports.
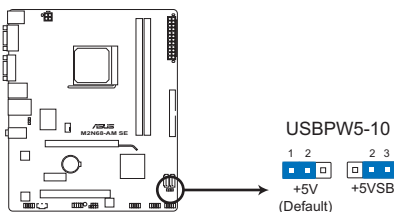
    M2N68-AM SE USB Device Wake Up

3. **Keyboard/mouse power (3-pin PS2_USBPW1-4)**

This jumper allows you to enable or disable the keyboard/mouse and USB port 1-4 wake-up feature. When you set this jumper to pins 2-3 (+5VSB), you can wake up the computer by pressing a key on the keyboard (the default is the Space Bar), clicking the mouse, or using a USB device. This feature requires an ATX power supply that can supply at least 1A on the +5VSB lead, and a corresponding setting in the BIOS. The PS2_USBPW1-4 jumper is for the rear USB ports.
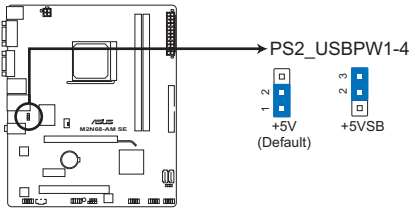
M2N68-AM SE Keyboard/mouse power

1.7 Connectors

1.7.1 Rear panel ports
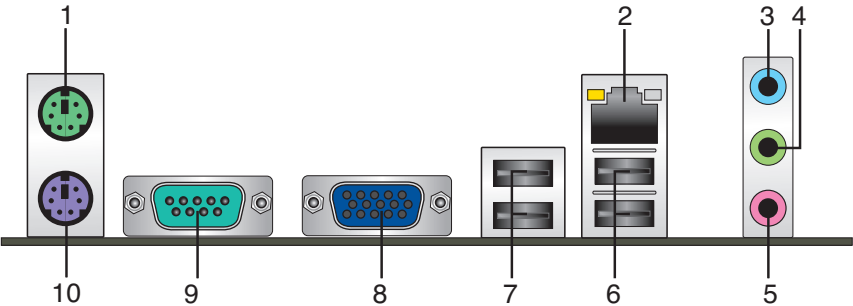
1. **PS/2 Mouse port.** This port is for a PS/2 mouse.

2. **LAN (RJ-45) port.** This port allows 10/100 PHY connection to a Local Area Network (LAN) through a network hub.

LAN port LED indications

LED (Orange)		LED (green)	
Status	Description	Status	Description
OFF	No link	OFF	No link
ORANGE	100Mbps connection	GREEN	10Mbps connection

LED
(Orange)

LED
(Green)

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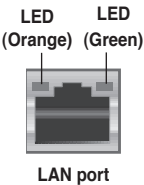
3. **Line In port (light blue).** This port connects to the tape, CD, DVD player, or other audio sources.

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

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

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

Audio 2, 4, 6-channel configuration

Port	Headset 2-channel	4-channel	6-channel
Light Blue	Line In	Rear Speaker Out	Rear Speaker Out
Lime	Line Out	Front Speaker Out	Front Speaker Out
Pink	Mic In	Mic In	Bass / Center

6. **USB 2.0 ports 1 and 2.** These two 4-pin Universal Serial Bus (USB) ports connect to USB 2.0 devices.

7. **USB 2.0 ports 3 and 4.** These two 4-pin Universal Serial Bus (USB) ports connect to USB 2.0 devices.

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

9. **COM port.** This 9-pin COM1 port is for pointing devices or other serial devices.

10. **PS/2 Keyboard port.** This port is for a PS/2 keyboard.

1.7.2   Internal connectors

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

    These connectors are for the Serial ATA signal cables for Serial ATA 3Gb/s hard disk and optical disk drives. The Serial ATA 3Gb/s is backward compatible with Serial ATA 1.5Gb/s specification. The data transfer rate of the Serial ATA 3Gb/s is faster than the standard parallel ATA with 133MB/s (Ultra DMA133).

M2N68-AM SE SATA connectors
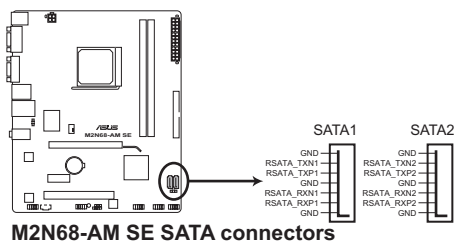
> Install the Windows® XP Service Pack 1 before using Serial ATA.

2.	**IDE connector (40-1 pin PRI_IDE)**

The onboard IDE connector is for an Ultra DMA 133/100/66 signal cable. There are three connectors on each Ultra DMA 133 / 100 / 66 signal cable: blue, black, and gray. Connect the blue connector to the motherboard's IDE connector, then select one of the following modes to configure your devices.

	Drive jumper setting	Mode of device(s)	Cable connector
Single device	Cable-Select or Master	-	Black
Two devices	Cable-Select	Master	Black
		Slave	Gray
	Master	Master	Black or gray
	Slave	Slave	

Pin 20 on the IDE connector is removed to match the covered hole on the Ultra DMA cable connector. This prevents incorrect insertion when you connect the IDE cable.

- If any device jumper is set as "Cable-Select", ensure that all other device jumpers have the same setting.

- Use the 80-conductor IDE cable for Ultra DMA 133/100/66 IDE devices.

PRI_IDE

PIN1

NOTE: Orient the red markings on the IDE ribbon cable to PIN 1.
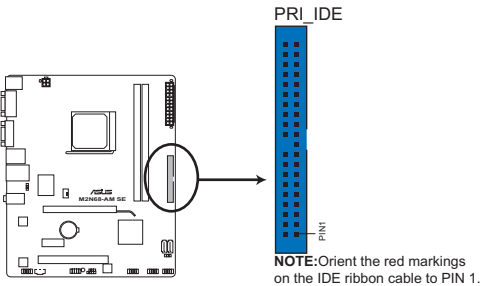
M2N68-AM SE IDE connector

3.	**Optical drive audio in connector (4-pin CD)**

This connector allows you to receive stereo audio input from sound sources such as a CD-ROM, TV tuner, or MPEG card.

CD

Left Audio Channel
GND
GND
Right Audio Channel
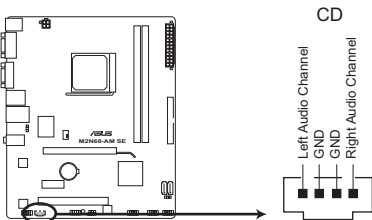
M2N68-AM SE Internal audio connector

4. **USB connectors (10-1 pin USB56, USB78, USB910)**

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 the USB 2.0 specification that supports up to 480Mbps connection speed.

M2N68-AM SE USB2.0 connectors
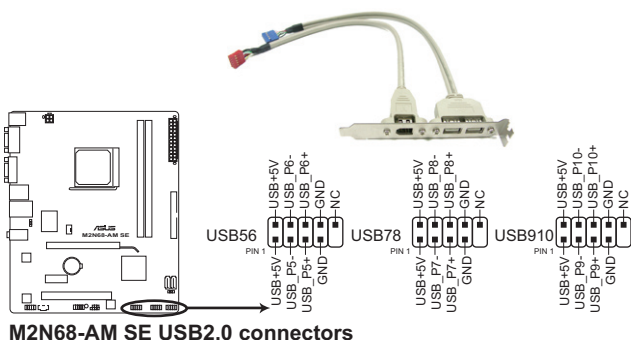
Never connect a 1394 cable to the USB connectors. Doing so will damage the motherboard!

The USB 2.0 module is purchased separately.

5. **CPU fan connector (4-pin CPU_FAN)**

The CPU fan connector supports cooling fans of 350mA~740mA (8.88W max.) or a total of 1A~2.22A (26.64W max.) at +12V. Connect the CPU fan cable to the CPU fan connector on the motherboard, ensuring that the black wire of each cable matches the ground pin of the connector.

DO NOT forget to connect the CPU fan cable to the CPU fan connector. Insufficient air flow inside the system may damage the motherboard components. It is not a jumper! DO NOT place a jumper cap on the CPU fan connector.

Only the CPU fan supports the ASUS Q-Fan feature.

CPU_FAN

CPU FAN PWM
CPU FAN IN
CPU FAN PWR
GND

M2N68-AM SE CPU fan connector
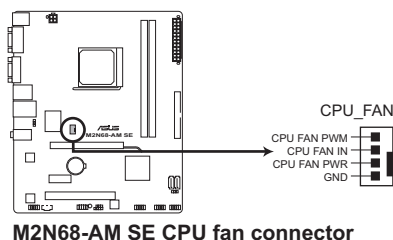
6.   ATX power connectors (24-pin EATXPWR, 4-pin ATX12V)

These connectors are for an ATX power supply. The plugs from the power supply are designed to fit these connectors in only one orientation. Find the proper orientation and push down firmly until the connectors completely fit.
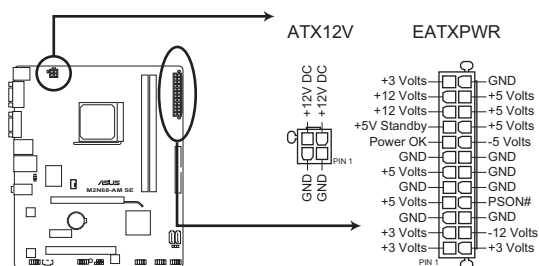
M2N68-AM SE ATX power connectors

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

- If you intend to use a PSU with 20-pin and 4-pin power plugs, ensure that the 20-pin power plug can provide at least 15A on +12V and that the PSU has a minimum power rating of 300W. The system may become unstable or may not boot up if the power is inadequate.

- DO NOT forget to connect the 4-pin ATX +12 V power plug; otherwise, the system will not boot up.

- We recommend that you use a PSU with higher power output when configuring a system with more power-consuming devices or when you intend to install additional devices. The system may become unstable or may not boot up if the power is inadequate.

- If you are uncertain about the minimum power supply requirement for your system, refer to the Recommended Power Supply Wattage Calculator at http://support.asus. com/PowerSupplyCalculator/PSCalculator.aspx?SLanguage=en-us for details.

7.   Speaker connector (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.
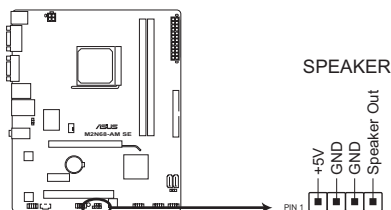
M2N68-AM SE Speaker Out Connector

8. **System panel connector (10-1 pin F_PANEL)**

This connector supports several chassis-mounted functions.
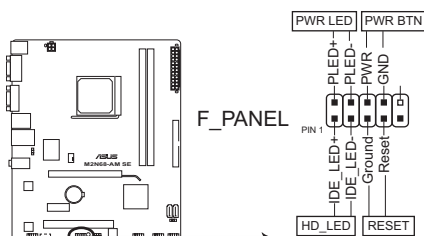
M2N68-AM SE System panel connector

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

  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. Pressing the power button turns the system ON or puts the system in SLEEP or SOFT-OFF mode depending on the BIOS settings. Pressing the power switch for more than four seconds while the system is ON turns the system OFF.

- **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.

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

This connector is for a chassis-mounted front panel audio I/O module that supports either High Definition Audio or AC`97 audio standard. Connect one end of the front panel audio I/O module cable to this connector.
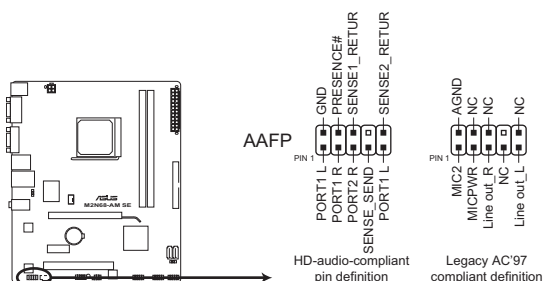
M2N68-AM SE Analog front panel connector

If you want to connect a high-definition front panel audio module to this connector, ensure that the **Front Panel Select** item in the BIOS is set to **[HD Audio]**. If you want to connect an AC97 front panel audio module to this connector, set the item to **[AC97]**. See page 2-10 for details.

1.8 Software support

1.8.1 Installing an operating system

This motherboard supports Windows® XP/Vista Operating Systems (OS). Always install the latest OS version and corresponding updates to maximize the features of your hardware.

> • Motherboard settings and hardware options vary. Refer to your OS documentation for detailed information.
>
> • Ensure that you install Windows® XP Service Pack 3 or later versions / Windows® Vista Service Pack 1 or later versions before installing the drivers for better compatibility and system stability.

1.8.2 Support DVD information

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

To run the Support DVD

Place the Support DVD into the optical drive. The DVD automatically displays the **Drivers** menu if the Autorun function is enabled on your computer.

> 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.
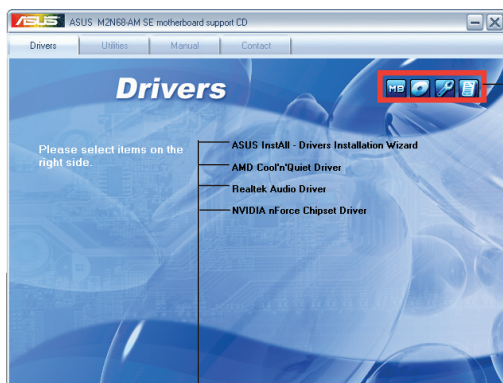
Click an icon to display Support DVD/ motherboard information

Click an item to install

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

1.8.3 ASUS Express Gate

ASUS Express Gate is an instant-on environment that gives you quick access to the Internet. Five seconds after bootup, you can instantly surf the Internet, use Skype or other Express Gate applications.

Installing ASUS Express Gate

- ASUS Express Gate supports SATA HDDs in IDE mode only.

- ASUS Express Gate supports HDDs connected to **motherboard chipset-controlled onboard SATA ports** only. All onboard extended SATA ports and external SATA ports are NOT supported. See section **1.2.1 Motherboard layout** for the exact location of the onboard SATA ports.

To install Express Gate on your computer:

1. Place the Support DVD into the optical drive. The **Drivers** menu appears if Autorun is enabled on your computer.

2. Click the **Utilities** tab, then click **ASUS Express Gate**.

3. Select your preferred language, then click **OK**.
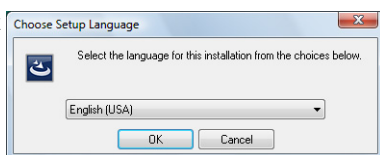
4. The InstallShield Wizard for Express Gate appears. Click **Next** to continue.
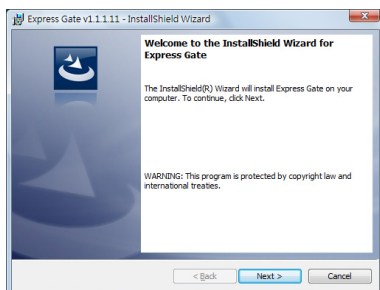
5. Select the target drive where you want to install Express Gate. If you have multiple partitions installed on your computer, it is recommended to install Express Gate in **Drive C**. Click **Next** to continue.

6. Follow the onscreen instructions to complete the installation.
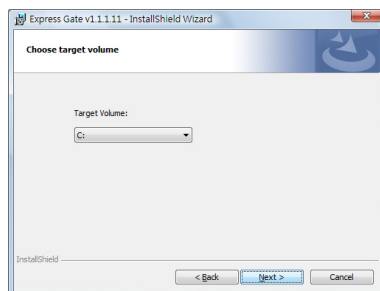
The Splash Screen

Express Gate's splash screen appears within a few seconds after bootup. From here, immediately start surfing the Internet, chat on Skype, enter the OS or BIOS, or power off your computer.

If you do not make any selection, Express Gate automatically closes and boots to your OS after some time. The timer countdown is shown inside the **Enter OS** button. As you move the mouse or press a key, the countdown stops and the timer disappears, so you can take your time to make a selection.

Splash screen hot keys

Key	Function
<PAUSE/BREAK>	Power-off
<ESC>	Continue to boot OS
<DEL>	Enter BIOS setup
<F8>	Enter Boot selection pop-up

The Express Gate Environment

The very first time you enter the Express Gate environment, either through launching the web or Skype from the splash screen, a first time wizard appears. The first time wizard guides you in configuring the basic Express Gate settings such as the language, date and time, and screen resolution.
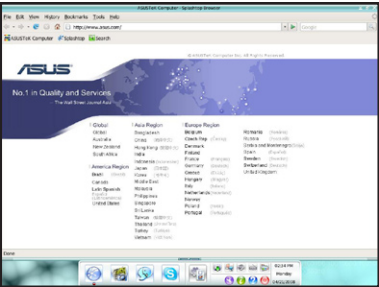
Express Gate hot keys

Key	Function
<Alt> + <Tab>	Switch between applications
<Ctrl> + <Alt> + <Del>	Bring the Power-Off dialog box
<Ctrl> + <Alt> + <Print Screen>	Save screen snapshots

TO	DO THIS
Launch or switch between applications	Click the icons on the LaunchBar located at the bottom of the screen. On your computer's keyboard, press **<Alt> + <Tab>**.
Bring a window to the foreground	Click within the window or click its icons.
Resize a window	Drag any of the window's four corners.
Move a window	Drag the window's title bar.
Bring a menu of applications	Right-click anywhere on your desktop.

The red triangle on a LaunchBar icon indicates that the application is running, which means that you can switch to this application without delay. If the application stops responding, right-click its icon to force it to close.

Using the Configuration Panel

Use the configuration panel to change the Express Gate settings.
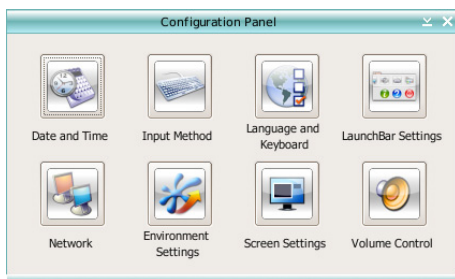
Click an icon to open a particular configuration tool. The following tools are available:

- **Date and Time:** This allows you to set the date, time, and time zone.
- **Input Method:** This allows you to choose your favorite input method.
- **Language and Keyboard:** This allows you to choose your language and keyboard preferences.
- **LaunchBar Settings:** This allows you to customize your LaunchBar settings.
- **Network:** This allows you to specify how your computer connects to the Internet. Enable all the network ports that you may use.

  Also specify whether each port uses DHCP (most common) or static IP. For PPPoE and wireless, set the login credentials such as the username, password, and SSID.

- The number of the LAN ports may differ from motherboards.
- You can connect the LAN cable to any RJ-45 port, and Express Gate automatically uses the available port.

- **Environment Settings:** This function allows you to clear the Express Gate settings and any information saved by the web browser such as bookmarks, cookies, and history. The user data is restored to the original default configurations.

    After you click **Restore System**, a confirmation dialog box appears. If you click Yes in the confirmation dialog box, your system immediately restarts. Re-launch the Express Gate environment to finish clearing the settings. This is useful in the rare case when settings might become corrupted.

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

- **Screen Settings:** This allows you to choose the screen resolution.
- **Volume Control:** This allows you to control the volume for your speaker and microphone.

Using the LaunchBar

Click an icon on the LaunchBar to launch the corresponding application.

Launches the **Web Browser** for quick access to the Internet.

Launches the **Photo Manager** album / organizer tool.

Launches the **Chat** instant messaging tool.

Launches the **Skype** application which allows you to chat with or call other people on Skype.

Launches the **Configuration Panel** which allows you to specify network settings.

> If an application stops responding, right-click its icon then select **Close** to force it to close.

The smaller icons on the right side of the LaunchBar are:

Launches **File Manager** which allows you to access files on a USB drive. If a USB device is detected, the icon contains a green arrow.

ASUS Express Gate supports file uploading from SATA HDDs, ODDs, and USB drives. It supports file downloading to USB drives only.

Configures the network.

Adjusts the volume.

Sets the input language and keyboard shortcuts (Ctrl-Space by default).

Configures the LaunchBar settings such as auto-hide mode and docking position.

Displays the **ASUS Utility** panel.

Displays your Express Gate version.

Launches the help file.

Launches the Power Off window where you may choose to enter OS, restart the computer, or power off the computer. This window also appears when you press **Ctrl-Alt-Del** on the keyboard.
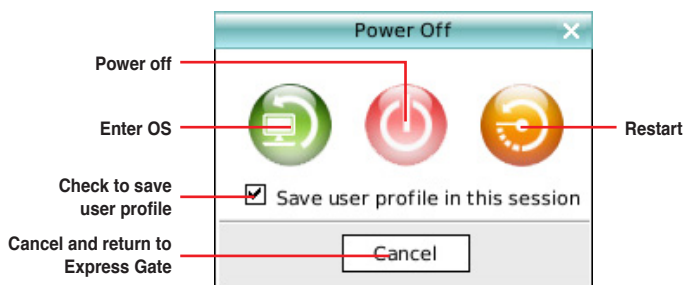
Accessing the Internet

If you cannot access the Internet in the Express Gate environment, check the following:

1. **Open the Configuration Panel.**

Configuration Panel

2.   **Open Network.**
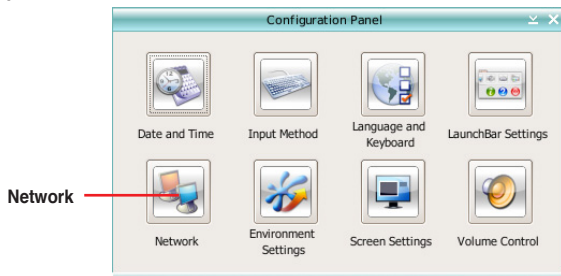
Network

3.   **Make the proper network configurations.**

Each network interface is enabled immediately after you tick the **Enable** checkbox.
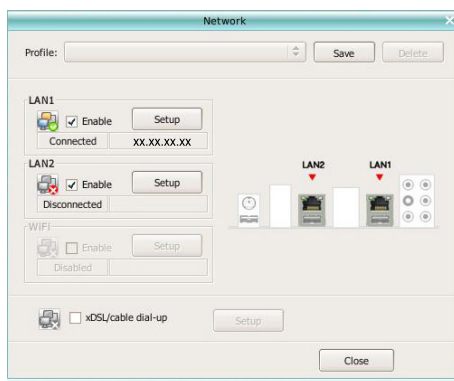
• If you use a network cable connected to a home router that is connected to your DSL/ cable modem, enable all the LAN ports. Express Gate automatically uses the available port.

✎   • The number of the LAN ports vary with the motherboard.

• If you plug the network cable into a different port while Express Gate is running (e.g. move the cable from LAN1 to LAN2), press the **Refresh** button to activate the new setting.

• If your computer does not automatically get network settings from a DHCP server, click **Setup** to configure the static IP settings manually. If your computer automatically gets network settings from a DHCP server, skip this step.

- If you want to connect to a wireless network, click **Setup** to configure the WiFi options. In the **WiFi** tab of the **Advanced Network Settings** box, key in the network name of your wireless access point in the **SSID** field. If Security is enabled on your wireless access point, select the corresponding security algorithm from the dropdown list such as WEPAUTO in the **Encryption Type** field, and key in the password.

   Click **OK** to enable WiFi and establish the wireless connection.

- If you use a network cable connected directly to your DSL/cable modem, click **Setup** for xDSL/cable dial-up which is referred to as PPPoE. Choose whether the DSL/cable modem is connected to your computer's LAN port. Key in the username and password for your account.

   Click **OK** to enable xDSL/cable dial-up and establish the PPPoE connection. When PPPoE is enabled, the port it uses will automatically be unchecked.

Using the Photo Manager

Photo Manager allows you to view pictures saved on your hard drive or external storage devices. You can view pictures in thumbnail view, in an enlarged view individually, in a filename/data list view, or play them in a slideshow with background music and fancy transition effects. JPEG, GIF, BMP, and PNG formats are supported. Refer to the online Help for details.
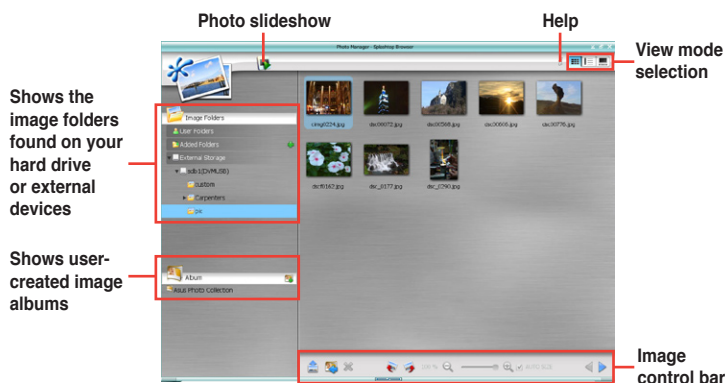
Photo slideshow

Help

View mode selection

Shows the image folders found on your hard drive or external devices

Shows user-created image albums

Image control bar

ASUS Express Gate supports HDDs connected to **motherboard chipset-controlled onboard SATA ports** only. All onboard extended SATA ports and external SATA ports are NOT supported.

Configuring Express Gate in BIOS Setup

To enter the BIOS Setup program, press **<DEL>** during POST or click the BIOS Setup button on the Express Gate's splash screen. Go to the Tools menu to configure Express Gate.

```
                        BIOS SETUP UTILITY
  Main    Ai Tweaker    Advanced    Power    Boot    Tools    Exit

                                                Press ENTER to run
   ASUS EZ Flash 2                              the utility to select
                                                and update BIOS.
   Express Gate           [Enabled]             This utility doesn't
    Enter OS Timer        [10 Seconds]          support :
    Reset User Data       [No]                  1.NTFS format
```
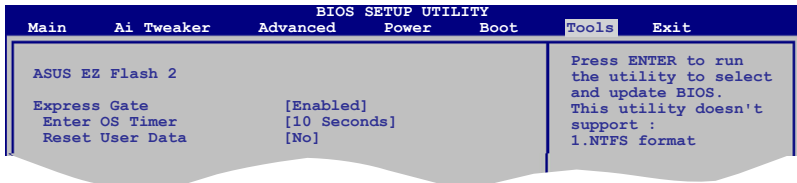
Updating Express Gate

To update Express Gate:

1. Double-click the Express Gate setup file to start the software update.

2. A software update confirmation dialog box appears. Click **Yes** to continue.

3. The InstallShield Wizard for Express Gate appears. Click **Next** to continue.

4. Follow the onscreen instructions to complete the updating process.
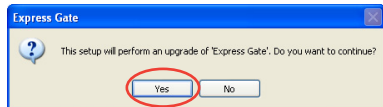
Download the latest Express Gate version from the ASUS website at www.asus.com.

Repairing Express Gate

In case Express Gate does not start normally, reinstall the software or use the repair utility to repair Express Gate.

To repair Express Gate:

•   Click **Start > All Programs > Express Gate > Express Gate Installer > Repair this software.**

•   You may also double-click the Express Gate setup file, choose **Repair**, and click **Next** to continue.
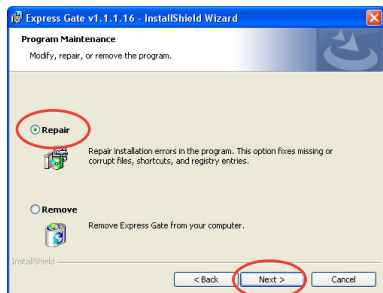
Chapter 2

BIOS information

2.1 Managing and updating your BIOS

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

2.1.1 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:

1. Place the Support DVD into 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 > ASUS Update > ASUS Update** to launch the ASUS Update utility.
2. From the dropdown list, select either of the following methods:

   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 you want to download then click **Next**.

The ASUS Update utility is capable of updating itself through the Internet. Always update the utility to get 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.

2.1.2   ASUS EZ Flash 2 utility

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

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 a USB port, then launch EZ Flash 2 in either of these two ways.

•   Press **<Alt> + <F2>** during POST to display the following:

```
         ASUSTek EZ Flash 2 BIOS ROM Utility V3.06
  FLASH TYPE: MXIC 25L8005
     Current ROM                        Update ROM
  BOARD: M2N68-AM SE              BOARD: Unknown
  VER: 0203                       VER: Unknown
  DATE: 10/20/2008                DATE: Unknown
  PATH: A:\
  A:




  Note
  [Enter] Select or Load [B] Backup    [ESC] Exit
  [Tab] Switch                    [Up/Down/Home/End] Move
```
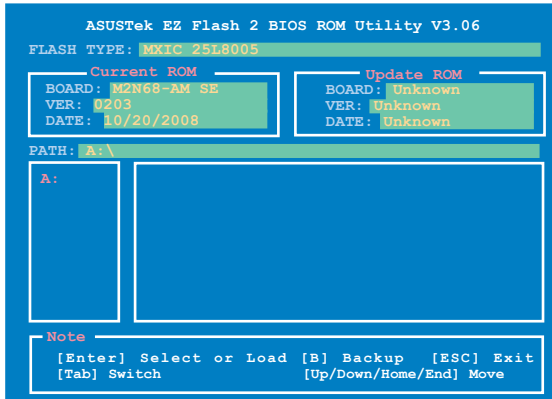
•   Enter the BIOS setup program. Go to the **Tools** menu to select **EZ Flash 2** then press **<Enter>** to enable it.

2.   Press **<Tab>** to locate the correct file. Press **<Enter>**.

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

•   Only a USB flash disk with **FAT 32/16** format and single partition supports the ASUS EZ Flash 2 utility.

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

2.1.3   ASUS CrashFree BIOS 3 utility

The ASUS CrashFree BIOS 3 utility 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.

- Prepare the motherboard Support DVD or a USB flash disk containing the updated motherboard BIOS before using this utility.

- Always connect the SATA cable to the SATA1/2 connector; otherwise, the utility will not function.

Recovering the BIOS

To recover the BIOS:

1. Turn on the system.

2. Insert the Support DVD or USB flash disk containing the BIOS file to the optical disk drive or a USB port.

    The utility displays the following message and automatically checks the Support DVD or the USB flash disk for the BIOS file.

```
Bad BIOS checksum. Starting BIOS recovery...
Checking for CD-ROM...
```

When the BIOS file is found, the utility reads it and starts erasing the corrupted BIOS file.

```
Bad BIOS checksum. Starting BIOS recovery...
Checking for CD-ROM...
CD-ROM found!
Reading file "M2NAMSE.ROM". Completed.
Start Erasing...
Start Programming...
```

3. Restart the system after the utility completes the updating process.

- Only a USB flash disk with FAT 32/16 format and single partition supports ASUS CrashFree BIOS 3. The device size should be smaller than 8GB.

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

The recovered BIOS may not be the latest BIOS version for this motherboard. Download the latest BIOS file from the ASUS website at www.asus.com.

2.2 BIOS setup program

Use the BIOS Setup program when you are installing a motherboard, reconfiguring your system, or prompted to "Run Setup." This section explains how to configure your system using this utility.

If you want to enter Setup after POST, reboot the system by doing any of the following procedures:

- Restart using the OS standard shut-down procedure.
- 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.

> ⚠ 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 that you always shut down the system properly from the operating system.

> ✎
> - The default BIOS settings for this motherboard apply to 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 Setup Defaults** item under the **Exit** menu. See section **2.8 Exit menu**.
> - The BIOS setup screens in this section are for reference only. They 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.

2.3 Main menu

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

```
                          BIOS SETUP UTILITY
  Main      Advanced      Power      Boot      Tools      Exit

                                                   Use [ENTER], [TAB]
                                                   or [SHIFT-TAB] to
  System Time            [19:34:30]               select a field.
  System Date            [Wed 08/27/2008]
                                                   Use [+] or [-] to
  ▶  IDE Configuration                            configure system Time.

  ▶  Primary IDE Master    :[Not Detected]
  ▶  Primary IDE Slave     :[Not Detected]
  ▶  SATA1                 :[Not Detected]
  ▶  SATA2                 :[Not Detected]        ←→    Select Screen
                                                  ↑↓    Select Item
  ▶  System Information                           +-    Change Field
                                                  Tab   Select Field
```

2.3.1 System Time [xx:xx:xx]

Allows you to set the system time.

2.3.2 System Date [Day xx/xx/xxxx]

Allows you to set the system date.

2.3.3   IDE Configuration

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

Onboard IDE Controller [Enabled]

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

Serial ATA Devices [Enabled]

Enables or disables the Serial ATA devices. Configuration options: [Enabled] [Disabled]

SATA Mode Select [SATA Mode]

Selects the SATA mode. Configuration options: [SATA Mode]

2.3.4   Primary IDE Master/Slave

While entering Setup, the BIOS automatically detects the presence of IDE devices. There is a separate submenu for each IDE device. Select a device item then press **<Enter>** to display the IDE 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 **Not Detected** if no IDE device is installed in the system.

Type [Auto]

Selects the type of IDE drive. Setting to **[Auto]** allows automatic selection of the appropriate IDE 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]

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]

2.3.5   SATA 1-2

While entering Setup, the BIOS automatically detects the presence of SATA devices. There is a separate submenu 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 **Not Detected** if no SATA device is installed in the system.

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]

2.3.6   System Information

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

AMI BIOS

Displays the auto-detected BIOS information

Processor

Displays the auto-detected CPU specification

System Memory

Displays the auto-detected system memory

2.4   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.

```
                          BIOS SETUP UTILITY
    Main    Advanced    Power    Boot    Tools    Exit

    ▶  JumperFree Configuration
    ▶  CPU Configuration                              Adjust System
    ▶  Chipset                                        Frequency etc.
    ▶  Onboard Devices Configuration
    ▶  PCIPnP
    ▶  USB Configuration
```
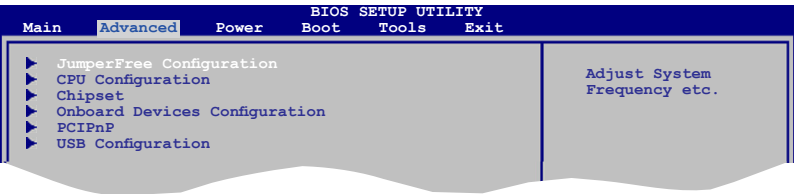
2.4.1   JumperFree Configuration

CPU Overclocking [Auto]

Selects the CPU overclocking options to achieve desired CPU internal frequency.

[Manual] - Allows you to manually set overclocking parameters.

[Auto] - Loads the optimal settings for the system.

[Overclock Profile] - Loads overclocking profiles with optimal parameters for stability when overclocking.

[Standard] - Load the standard settings for the system.

📝 The following item appears only when the **CPU Overclocking** item is set to **[Manual]**.

CPU Frequency [200.0]
Allows you to set the CPU frequency. Configuration options: [200.0] [201.0] - [299.0] [300.0]

📝 The following item appears only when the **CPU Overclocking** item is set to **[Overclock Profile]**.

Overcloking Options [Auto]
Allows you to select the overclocking profile. Configuration options: [Auto] [Overclock 3%] [Overclock 5%] [Overclock 7%]

PCIE Overclocking [Auto]

Configures the PCIE overclocking options. Configuration options: [Auto] [Manual]

📝 The following item appears only when the **PCIE Overclocking** item is set to **[Manual]**.

PCIE Frequency [100]
Allows you to set the PCIE frequency. Configuration options: [100] [101] - [149] [150]

Processor Frequency Multiplier [Auto]

Allows you to select the processor frequency. Configuration options: [Auto] [x4.0 800MHz] [x5.0 1000MHz] [x6.0 1200MHz] [x7.0 1400MHz] [x8.0 1600MHz] [x9.0 1800MHz]

Processor Voltage [Standard]

Allows you to set the processor voltage. Configuration options: [Power Saving Mode] [Standard] [+50mv] [+100mv]

Memory Clock Mode [Auto]

Allows you to select the memory clock mode. Configuration options: [Auto] [Manual]

The following item appears only when the **Memory Clock Mode** item is set to **[Manual]**.

Memclock Value [200MHz]
Allows you to set the memory clock value.
Configuration options: [200MHz] [266MHz] [333MHz] [400MHz] [533MHz]

DRAM Timing Mode [Auto]

Allows you to set the DRAM timing mode. Configuration options: [Auto] [DCT 0]

The following sub-items appear only when you set the **DRAM Timing Mode** item to **[DCT 0]**.

CAS Latency (CL) [Auto]
Configuration options: [Auto] [3 CLK] ~ [6 CLK] [7 CLK DH_Only]
TRCD [Auto]
Configuration options: [Auto] [3 CLK] ~ [6 CLK]
TRP [Auto]
Configuration options: [3 CLK] ~ **[6 CLK] [Auto]**
tRTP [Auto]
Configuration options: [Auto] [2-4 CLK] [3-5 CLK]
TRAS [Auto]
Configuration options: [Auto] [5 CLK] ~ [18 CLK]
TRC [Auto]
Configuration options: [Auto]
tWR [Auto]
Configuration options: [Auto] [3 CLK] ~ [6 CLK]
TRRD [Auto]
Configuration options: [Auto] [2 CLK] ~ [5 CLK]
tRWTTO [Auto]
Configuration options: [Auto] [2 CLK] ~ [9 CLK]
tWRRD [Auto]
Configuration options: [Auto] [0 CLK] ~ [3 CLK]
tWTR [Auto]
Configuration options: **[Auto] [1 CLK] [2 CLK] [3 CLK]**
tWRWR [Auto]
Configuration options: [Auto] [1 CLK] [2 CLK] [3 CLK]

> *tRDRD [Auto]*
> Configuration options: [Auto] [2 CLK] ~ [5 CLK]
> *tRFCO [Auto]*
> Configuration options: [Auto] [75ns] [105ns] [127.5ns] [195ns] [327.5ns]
> *tRFC1 [Auto]*
> Configuration options: [Auto] [75ns] [105ns] [127.5ns] [195ns] [327.5ns]
> *tRFC2 [Auto]*
> Configuration options: [Auto] [75ns] [105ns] [127.5ns] [195ns] [327.5ns]
> *tRFC3 [Auto]*
> Configuration options: [Auto] [75ns] [105ns] [127.5ns] [195ns] [327.5ns]

Memory Voltage [Auto]

Allows you to set the memory voltage. Configuration options: [Auto] [2.050V] [2.150V] [2.250V]

Chipset Voltage [Auto]

Allows you to set the chipset voltage. Configuration options: [Auto] [1.35V]

2.4.2   CPU Configuration

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

GART Error Reporting [Disabled]

This option should remain disabled for the normal operation. The driver developer may enable it for testing purpose. Configuration options: [Disabled] [Enabled]

Microcode Updation [Enabled]

Allows you to enable or disable the microcode updation. Configuration options: [Disabled] [Enabled]

Secure Virtual Machine Mode [Enabled]

Allows you to enable or disable the AMD Secure Virtual Machine mode. Configuration options: [Disabled] [Enabled]

Cool 'n' Quiet [Disabled]

Allows you to enable or disable the generation of ACPI_PPC, _PSS, and _PCT objects. Configuration options: [Disabled] [Enabled]

CPU Prefetching [Enabled]

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

C1E Configuration [Auto]

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

2.4.3 Chipset

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

NorthBridge Configuration

Memory Configuration

Bank Interleaving [Disabled]
Allows you to enable the bank memory interleaving.
Configuration options: [Disabled] [Auto]

Channel Interleaving [Disabled]
Allows you to enable the channel memory interleaving.
Configuration options: [Disabled] [Address bits 6] [Address bits 12]
[XOR of Address bits [20:16, 6]] [XOR of Address bits [20:16, 9]]

Enable Clock to All DIMMs [Disabled]
Enables or disables clock to all DIMMs. Configuration options: [Disabled] [Enabled]

MemClk Tristate C3/ATLVID [Disabled]
Enables or disables the MemClk Tristate C3/ALTVID.
Configuration options: [Disabled] [Enabled]

Memory Hole Remapping [Enabled]
Enables or disables the memory remapping around memory hole. Configuration options: [Disabled] [Enabled]

DCT Unganged Mode [Auto]
Allows you to enable or disable Unganed mode.
Configuration options: [Auto] [Always]

Power Down Enable [Enabled]
Enables or disables the DDR power down mode.
Configuration options: [Disabled] [Enabled]

ECC Configuration

ECC Mode [Disabled]
Enables or disables the DRAM ECC that allows the hardware to report and correct memory errors automatically. Configuration options: [Disabled] [Basic] [Good] [Super] [Max] [User]

SouthBridge Configuration

Primary Graphics Adapter [PCIE -> PCI -> IGP]

Allows you to select the primary graphics adapter.
Configuration options: [PCIE -> PCI -> IGP] [IGP -> PCI-> PCIE]

iGPU Frame Buffer Detect [Auto]

Sets the iGPU frame buffer detect. Configuration options: [Auto] [Disabled]

AZALIA AUDIO [Enabled]

Allows you to enable or disable the HD audio mode. Configuration options: [Disabled] [Enabled]

Front Panel Select [HD Audio]

Allows you to set the HD audio mode. Configuration options: [AC97] [HD Audio]

Onboard LAN [Auto]

Allows you to set or disable the Onboard LAN. Configuration options: [Auto] [Disabled]

Onboard LAN Boot ROM [Disabled]
Allows you to enable or disable the Onboard LAN boot ROM.
Configuration options: [Enabled] [Disabled]

SouthBridge ACPI HPET TABLE [Enabled]

Allows you to enable or disable SouthBridge ACPI HPET TABLE.
Configuration options: [Disabled] [Enabled]

2.4.4   Onboard Devices Configuration

Serial Port1 Address [3F8/IRQ4]

Allows you to select the Serial Port1 base address.
Configuration options: [Disabled] [3F8/IRQ4][2F8/IRQ3] [3E8/IRQ4] [2E8/IRQ3]

2.4.5   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.

> 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]

PCI Latency Timer [64]

Allows you to select the value in units of PCI clocks for the PCI device latency timer register. Configuration options: [32] [64] [96] [128] [160] [192] [224] [248]

Allocate IRQ to PCI VGA [Yes]

When set to **[Yes]**, BIOS assigns an IRQ to PCI VGA card if the card requests for an IRQ. When set to **[No]**, BIOS does not assign an IRQ to the PCI VGA card even if requested. Configuration options: [Yes] [No]

Palette Snooping [Disabled]

When set to **[Enabled]**, the palete snooping feature informs the PCI devices that an ISA graphics device is installed in the system so that the latter can function correctly. Configuration options: [Disabled] [Enabled]

IRQ-xx assigned to [PCI Device]

When set to **[PCI Device]**, the specific IRQ is free for use of PCI/PnP devices. When set to **[Reserved]**, the IRQ is reserved for legacy ISA devices. Configuration options: [PCI Device] [Reserved]

2.4.6 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]

Enables or disables the USB functions. Configuration options: [Enabled] [Disabled]

USB 2.0 Controller [Enabled]

Enables or disables the USB 2.0 Controller. Configuration options: [Enabled] [Disabled]
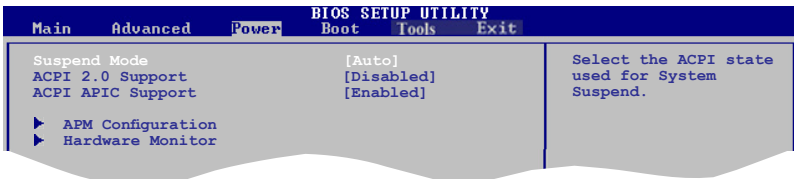
Legacy USB Support [Auto]

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]

USB 2.0 Controller Mode [HiSpeed]

Allows you to configure the USB 2.0 controller in HiSpeed (480 Mbps) or Full Speed (12 Mbps). Configuration options: [FullSpeed] [HiSpeed]

2.5 Power menu

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

```
                         BIOS SETUP UTILITY
    Main    Advanced    Power    Boot   Tools    Exit

    Suspend Mode                [Auto]              Select the ACPI state
    ACPI 2.0 Support            [Disabled]          used for System
    ACPI APIC Support           [Enabled]           Suspend.

    ▶  APM Configuration
    ▶  Hardware Monitor
```

2.5.1 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.

2.5.2 ACPI Version Features [Disabled]

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

2.5.3 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]

2.5.4 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.
Configuration options: [Power On] [Power Off]

Power On By PCI/PCIE Device [Disabled]

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

Power On By Ring [Disabled]

Enable or disable RI to generate a wake event. Configuration options: [Disabled] [Enabled]

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

Enable or disable PS/2 Keyboard/Mouse to generate a wake event.
Configuration options: [Disabled] [Enabled]

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]

2.5.5 Hardware Monitor

CPU Temperature [xxxºC/xxxºF]
MB Temperature [xxxºC/xxxºF]

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 want the detected speed to be displayed.

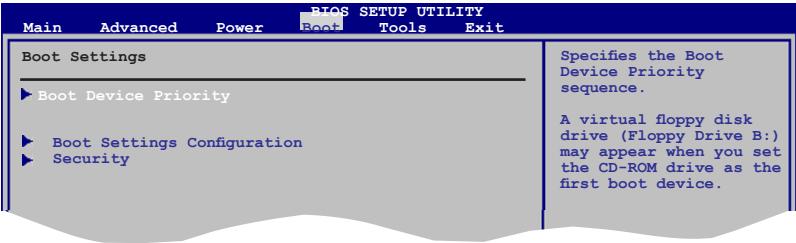### VCORE Voltage, 3.3V Voltage, 5V Voltage, 12V Voltage

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

Smart Q-Fan Function [Disabled]

Allows you to enable or disable the ASUS Q-Fan feature that smartly adjusts the CPU fan speeds for more efficient system operation. Configuration options: [Disabled] [Enabled]

2.6　　　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.

```
                          BIOS  SETUP UTILITY
    Main    Advanced    Power    Boot    Tools    Exit

    Boot Settings                                    Specifies the Boot
                                                     Device Priority
    ▶ Boot Device Priority                           sequence.

    ▶  Boot Settings Configuration                   A virtual floppy disk
    ▶  Security                                      drive (Floppy Drive B:)
                                                     may appear when you set
                                                     the CD-ROM drive as the
                                                     first boot device.
```

2.6.1   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 Device] [Hard Drive] [ATAPI CD-ROM] [Disabled]

2.6.2   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 MyLogo 2™ 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]

PS/2 Mouse Support [Auto]

Allows you to enable or disable support for PS/2 mouse. Configuration options: [Disabled] [Enabled] [Auto]

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]

Interrupt 19 Capture [Disabled]

When set to **[Enabled]**, this function allows the option ROMs to trap Interrupt 19. Configuration options: [Disabled] [Enabled]

2.6.3   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 then press **<Enter>**.

2.   From the password box, type a password composed of at least six letters and/or numbers, 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 **1.6 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.

2. From the password box, type a password composed of at least six letters and/or numbers, then press **<Enter>**.

3. Confirm the password when prompted.

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

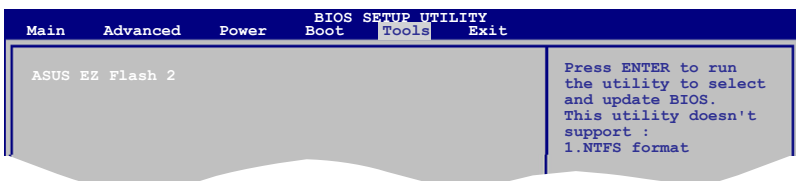To change the user password, follow the same steps in setting a user password.

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]

2.7   Tools menu

```
                         BIOS SETUP UTILITY
    Main     Advanced     Power     Boot    Tools    Exit

                                                    Press ENTER to run
     ASUS EZ Flash 2                                the utility to select
                                                    and update BIOS.
                                                    This utility doesn't
                                                    support :
                                                    1.NTFS format
```
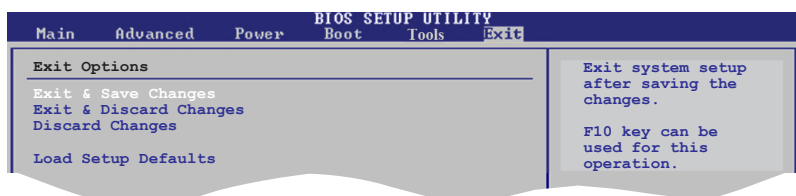
ASUS EZ Flash 2

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

2.8   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.

```
                         BIOS SETUP UTILITY
    Main     Advanced     Power     Boot    Tools    Exit

     Exit Options                                   Exit system setup
                                                    after saving the
     Exit & Save Changes                            changes.
     Exit & Discard Changes
     Discard Changes                                F10 key can be
                                                    used for this
     Load Setup Defaults                            operation.
```

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