Version 1.0
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This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

CALIFORNIA, USA ONLY

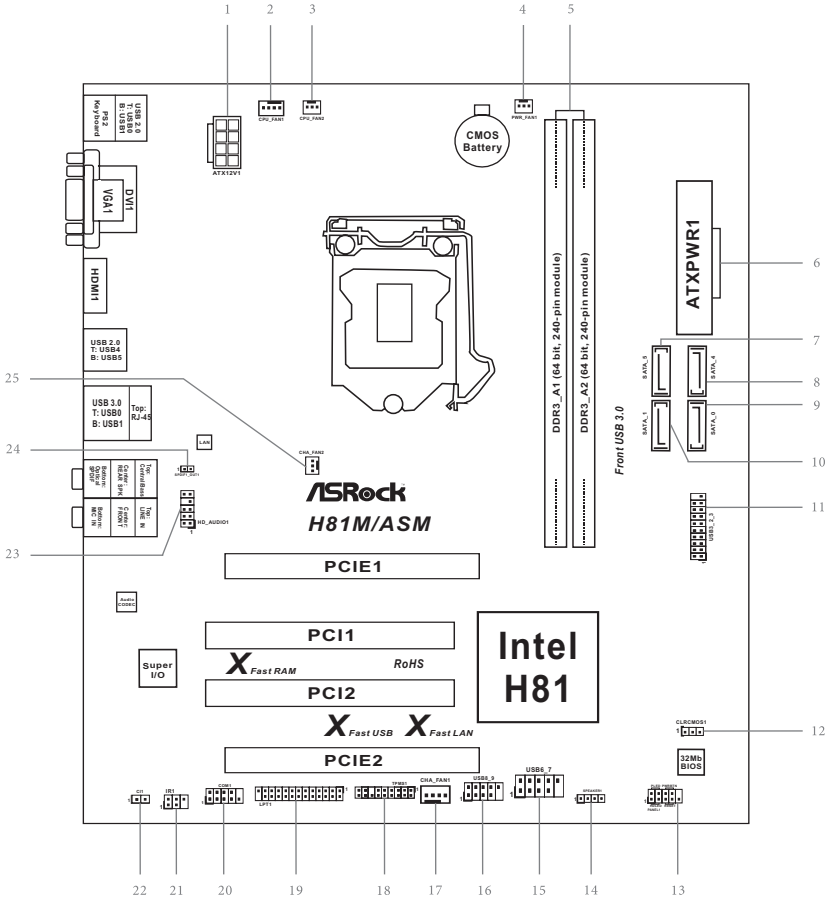
The Lithium battery adopted on this motherboard contains Perchlorate, a toxic substance controlled in Perchlorate Best Management Practices (BMP) regulations passed by the California Legislature. When you discard the Lithium battery in California, USA, please follow the related regulations in advance.
"Perchlorate Material-special handling may apply, see www.dtsc.ca.gov/hazardouswaste/perchlorate"

ASRock Website: http://www.asrock.com

Supplies Guaranteed for One Year

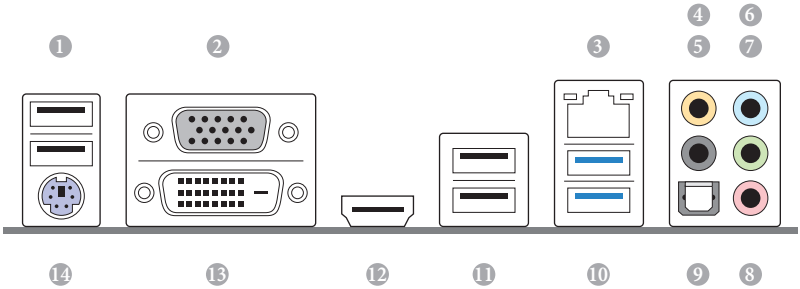
ASRock guarantees immediate brand new replacement from distributors, shipped prior to the return of the defective items with absolutely no questions asked during the first 30 days. Immediate new or buffer replacement from distributors depending on their inventory's availability for the next 11 months. And then regular RMA for the following 2 years.

Motherboard Layout



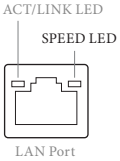
No.	Description
1	ATX 12V Power Connector (ATX12V1)
2	CPU Fan Connector (CPU_FAN1)
3	CPU Fan Connector (CPU_FAN2)
4	Power Fan Connector (PWR_FAN1)
5	2 x 240-pin DDR3 DIMM Slots (DDR3_A1, DDR3_A2)
6	ATX Power Connector (ATXPWR1)
7	SATA2 Connector (SATA_5)
8	SATA2 Connector (SATA_4)
9	SATA3 Connector (SATA_0)
10	SATA3 Connector (SATA_1)
11	USB 3.0 Header (USB3_2_3)
12	Clear CMOS Jumper (CLRCMOS1)
13	System Panel Header (PANEL1)
14	Chassis Speaker Header (SPEAKER1)
15	USB 2.0 Header (USB6_7)
16	USB 2.0 Header (USB8_9)
17	Chassis Fan Connector (CHA_FAN1)
17	TPM Header (TPMS1)
19	Print Port Header (LPT1)
20	COM Port Header (COM1)
21	Infrared Module Header (IR1)
22	Chassis Intrusion Header (CI1)
23	Front Panel Audio Header (HD_AUDIO1)
24	SPDIF Out Connector (SPDIF_OUT)
25	Chassis Fan Connector (CHA_FAN2)

I/O Panel



No.	Description	No.	Description
1	USB 2.0 Ports (USB01)	8	Microphone (Pink)
2	D-Sub Port	9	Optical SPDIF Out Port
3	LAN RJ-45 Port*	10	USB 3.0 Ports (USB3_01)
4	Central / Bass (Orange)	11	USB 2.0 Ports (USB45)
5	Rear Speaker (Black)	12	HDMI Port
6	Line In (Light Blue)	13	DVI-D Port
7	Front Speaker (Lime)**	14	PS/2 Keyboard Port

** There are two LEDs on each LAN port. Please refer to the table below for the LAN port LED indications.*



Activity / Link LED	
Status	Description
Off	No Link
Blinking	Data Activity
On	Link

Speed LED	
Status	Description
Off	10Mbps connection
Orange	100Mbps connection
Green	1Gbps connection

*** If you use a 2-channel speaker, please connect the speaker's plug into "Front Speaker Jack". See the table below for connection details in accordance with the type of speaker you use.*

Audio Output Channels	Front Speaker (No. 7)	Rear Speaker (No. 5)	Central / Bass (No. 4)	Line In (No. 6)
2	V	--	--	--
4	V	V	--	--
6	V	V	V	--
8	V	V	V	V

Chapter 1 Introduction

Thank you for purchasing ASRock H81M/ASM motherboard, a reliable motherboard produced under ASRock's consistently stringent quality control. It delivers excellent performance with robust design conforming to ASRock's commitment to quality and endurance.

Because the motherboard specifications and the BIOS software might be updated, the content of this documentation will be subject to change without notice. In case any modifications of this documentation occur, the updated version will be available on ASRock's website without further notice. If you require technical support related to this motherboard, please visit our website for specific information about the model you are using. You may find the latest VGA cards and CPU support list on ASRock's website as well. ASRock website http://www.asrock.com.

1.1 Package Contents

- ASRock H81M/ASM Motherboard (Micro ATX Form Factor)
- ASRock H81M/ASM Quick Installation Guide
- ASRock H81M/ASM Support CD
- 2 x Serial ATA (SATA) Data Cables (Optional)
- 1 x I/O Panel Shield

1.2 Specifications

Platform	• Micro ATX Form Factor • All Solid Capacitor design
CPU	• Supports 4th Generation Intel® Core™ i7 / i5 / i3 / Xeon® / Pentium® / Celeron® in LGA1150 Package • 4 Power Phase Design • Supports Intel® Turbo Boost 2.0 Technology
Chipset	• Intel® H81
Memory	• Dual Channel DDR3 Memory Technology • 2 x DDR3 DIMM slots • Supports DDR3 1600/1333/1066 non-ECC, un-buffered memory • Max. capacity of system memory: 16GB (see CAUTION) • Supports Intel® Extreme Memory Profile (XMP)1.3/1.2
Expansion Slot	• 2 x PCI Express 2.0 x16 slots (PCIE1: x16 mode; PCIE2: x4 mode) • 2 x PCI slots • Supports AMD Quad CrossFireX™ and CrossFireX™
Graphics	• Intel® HD Graphics Built-in Visuals and the VGA outputs can be supported only with processors which are GPU integrated. • Supports Intel® HD Graphics Built-in Visuals : Intel® Quick Sync Video with AVC, MVC (S3D) and MPEG-2 Full HW Encode1, Intel® InTru™ 3D, Intel® Clear Video HD Technology, Intel® Insider™, Intel® HD Graphics 4600 • Pixel Shader 5.0, DirectX 11.1 • Max. shared memory 1792MB • Three VGA Output options: D-Sub, DVI-D and HDMI • Supports HDMI Technology with max. resolution up to 1920x1200 @ 60Hz

	• Supports DVI-D with max. resolution up to 1920x1200 @ 60Hz • Supports D-Sub with max. resolution up to 1920x1200 @ 60Hz • Supports Auto Lip Sync, Deep Color (12bpc), xvYCC and HBR (High Bit Rate Audio) with HDMI (Compliant HDMI monitor is required) • Supports HDCP function with DVI-D and HDMI ports • Supports Full HD 1080p Blu-ray (BD) playback with DVI-D and HDMI ports
Audio	• 7.1 CH HD Audio with Content Protection (Realtek ALC892 Audio Codec) • Premium Blu-ray audio support
LAN	• PCIE x1 Gigabit LAN 10/100/1000 Mb/s • Qualcomm® Atheros® AR8171 • Supports Qualcomm® Atheros® Security Wake On Internet Technology • Supports Wake-On-LAN • Supports Energy Efficient Ethernet 802.3az • Supports PXE
Rear Panel I/O	• 1 x PS/2 Keyboard Port • 1 x D-Sub Port • 1 x DVI-D Port • 1 x HDMI Port • 1 x Optical SPDIF Out Port • 4 x USB 2.0 Ports • 2 x USB 3.0 Ports • 1 x RJ-45 LAN Port with LED (ACT/LINK LED and SPEED LED) • HD Audio Jack: Rear Speaker / Central / Bass / Line in / Front Speaker / Microphone

Storage	• 2 x SATA3 6.0 Gb/s connectors, support NCQ, AHCI and "Hot Plug" functions • 2 x SATA2 3.0 Gb/s connectors, support NCQ, AHCI and "Hot Plug" functions
Connector	• 1 x IR header • 1 x Print Port header • 1 x COM port header • 1 x Chassis Intrusion header • 1 x TPM header • 2 x CPU Fan connectors (1 x 4-pin, 1 x 3-pin) • 2 x Chassis Fan connectors (1 x 4-pin, 1 x 3-pin) • 1 x Power Fan connector (3-pin) • 1 x 24 pin ATX power connector • 1 x 8 pin 12V power connector • 1 x Front panel audio connector • 1 x SPDIF Out connector • 2 x USB 2.0 headers (support 4 USB 2.0 ports) • 1 x USB 3.0 header by Etron EJ168A (supports 2 USB 3.0 ports)
BIOS Feature	• 32Mb AMI UEFI Legal BIOS with Multilingual GUI support • ACPI 1.1 Compliance Wake Up Events • SMBIOS 2.3.1 Support • CPU, DRAM, PCH 1.05V, PCH 1.5V Voltage Multi-adjustment
Support CD	• Drivers, Utilities, AntiVirus Software (Trial Version), CyberLink MediaEspresso 6.5 Trial, Google Chrome Browser and Toolbar, Start8, Intel® Extreme Tuning Utility (IXTU)
Hardware Monitor	• CPU/Chassis Temperature Sensing • CPU/Chassis/Power Fan Tachometer • CPU/Chassis Quiet Fan (Allow Chassis Fan Speed Auto-Adjust by CPU Temperature) • CPU/Chassis Fan Multi-Speed Control

	• CASE OPEN detection • Voltage Monitoring: +12V, +5V, +3.3V, CPU Vcore
OS	• Microsoft® Windows® 8 / 8 64-bit / 7 / 7 64-bit compliant
Certifications	• FCC, CE, WHQL • ErP/EuP Ready (ErP/EuP ready power supply is required)

** For detailed product information, please visit our website: http://www.asrock.com*

Please realize that there is a certain risk involved with overclocking, including adjusting the setting in the BIOS, applying Untied Overclocking Technology, or using third-party overclocking tools. Overclocking may affect your system's stability, or even cause damage to the components and devices of your system. It should be done at your own risk and expense. We are not responsible for possible damage caused by overclocking.

Due to limitation, the actual memory size may be less than 4GB for the reservation for system usage under Windows® 32-bit operating systems. Windows® 64-bit operating systems do not have such limitations. You can use ASRock XFast RAM to utilize the memory that Windows® cannot use.

1.3 Unique Features

ASRock A-Tuning

A-Tuning is ASRock's multi purpose software suite with a new interface, more new features and improved utilities, including XFast RAM, Dehumidifier, Good Night LED, FAN-Tastic Tuning, OC Tweaker and a whole lot more.

ASRock Instant Flash

ASRock Instant Flash is a BIOS flash utility embedded in Flash ROM. This convenient BIOS update tool allows you to update the system BIOS in a few clicks without preparing an additional floppy diskette or other complicated flash utility. Just save the new BIOS file to your USB storage and launch this tool by pressing <F6> or <F2> during POST to enter the BIOS setup menu to access ASRock Instant Flash. Please be noted that the USB flash drive or hard drive must use FAT32/16/12 file system.

ASRock APP Charger

Simply by installing the ASRock APP Charger makes your iPhone/iPad/iPod Touch charge up to 40% faster than before on your computer. ASRock APP Charger allows you to quickly charge many Apple devices simultaneously and even supports continuous charging when your PC enters into Standby mode (S1), Suspend to RAM (S3), hibernation mode (S4) or power off (S5).

ASRock XFast USB

ASRock XFast USB can boost the performance of your USB storage devices. The performance may depend on the properties of the device.

ASRock XFast LAN

ASRock XFast LAN provides faster internet access, which includes the benefits listed below. LAN Application Prioritization: You can configure your application's priority ideally and add new programs to the list. Lower Latency in Game: After setting online game's priority higher, it can lower the latency in games. Traffic Shaping: You can watch Youtube HD videos and download simultaneously. Real-Time Analysis of Your Data: With the status window, you can easily recognize which data streams you are currently transferring.

ASRock XFast RAM

ASRock XFast RAM is included in A-Tuning. It fully utilizes the memory space that cannot be used under Windows® 32-bit operating systems. ASRock XFast RAM shortens the loading time of previously visited websites, making web surfing faster than ever. And it also boosts the speed of Adobe Photoshop 5 times faster. Another advantage of ASRock XFast RAM is that it reduces the frequency of accessing your SSDs or HDDs in order to extend their lifespan.

ASRock Crashless BIOS

ASRock Crashless BIOS allows users to update their BIOS without fear of failing. If power loss occurs during the BIOS updating process, ASRock Crashless BIOS will automatically finish the BIOS update procedure after regaining power. Please note that BIOS files need to be placed in the root directory of your USB disk. Only USB 2.0 ports support this feature.

ASRock OMG (Online Management Guard)

Administrators are able to establish an internet curfew or restrict internet access at specified times via OMG. You may schedule the starting and ending hours of internet access granted to other users. In order to prevent users from bypassing OMG, guest accounts without permission to modify the system time are required.

ASRock Internet Flash

ASRock Internet Flash downloads and updates the latest UEFI firmware version from our servers for you without entering Windows® OS. Please setup network configuration before using Internet Flash.

ASRock System Browser

ASRock System Browser shows the overview of your current PC and the devices connected.

ASRock Dehumidifier Function

Users may prevent motherboard damages due to dampness by enabling "Dehumidifier Function". When enabling Dehumidifier Function, the computer will power on automatically to dehumidify the system after entering S4/S5 state.

ASRock Interactive UEFI

ASRock Interactive UEFI is a blend of system configuration tools, cool sound effects and stunning visuals. The unprecedented UEFI provides a more attractive interface and more amusment.

ASRock Fast Boot

With ASRock's exclusive Fast Boot technology, it takes less than 1.5 seconds to logon to Windows 8 from a cold boot. No more waiting! The speedy boot will completely change your user experience and behavior.

ASRock Restart to UEFI

Windows® 8 brings the ultimate boot up experience. The lightning boot up speed makes it hard to access the UEFI setup. ASRock Restart to UEFI allows users to enter the UEFI automatically when turning on the PC. By enabling this function, the PC will enter the UEFI directly after you restart.

ASRock On/Off Play Technology

ASRock On/Off Play Technology allows users to enjoy the great audio experience from the portable audio devices, such like MP3 player or mobile phone to your PC, even when the PC is turned off (or in ACPI S5 mode)! This motherboard also provides a free 3.5mm audio cable (optional) that ensures users the most convenient computing environment.

ASRock Good Night LED

ASRock Good Night LED technology offers you a better sleeping environment by extinguishing the unessential LEDs. By enabling Good Night LED in the BIOS, the Power/HDD/LAN LEDs will be switched off when the system is powered on. Good Night LED will automatically switch off the Power and Keyboard LEDs when the system enters into Standby/Hibernation mode as well.

ASRock USB Key

In a world where time is money, why waste precious time everyday typing usernames to log in to Windows? Why should we even bother memorizing those foot long passwords? Just plug in the USB Key and let your computer log in to windows automatically!

ASRock Home Cloud

This motherboard supports Security Wake On Internet Technology with the onboard Qualcomm® Atheros® LAN, so you can connect with your PC from anywhere in the world. You will be able to power your PC on or turn it off, monitor and take control of it remotely with another smartphone, tablet or computer.

ASRock FAN-Tastic Tuning

ASRock FAN-Tastic Tuning is included in A-Tuning. Configure up to five different fan speeds using the graph. The fans will automatically shift to the next speed level when the assigned temperature is met.

ASRock Easy Driver Installer

For users that don't have an optical disk drive to install the drivers from our support CD, Easy Driver Installer is a handy tool in the UEFI that installs the LAN driver to your system via an USB storage device, then downloads and installs the other required drivers automatically.

Chapter 2 Installation

This is a Micro ATX form factor motherboard. Before you install the motherboard, study the configuration of your chassis to ensure that the motherboard fits into it.

Pre-installation Precautions

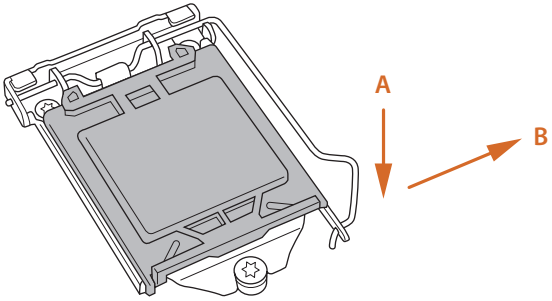
Take note of the following precautions before you install motherboard components or change any motherboard settings.

- Make sure to unplug the power cord before installing or removing the motherboard. Failure to do so may cause physical injuries to you and damages to motherboard components.
- In order to avoid damage from static electricity to the motherboard's components, NEVER place your motherboard directly on a carpet. Also remember to use a grounded wrist strap or touch a safety grounded object before you handle the components.
- Hold components by the edges and do not touch the ICs.
- Whenever you uninstall any components, place them on a grounded anti-static pad or in the bag that comes with the components.
- When placing screws to secure the motherboard to the chassis, please do not over-tighten the screws! Doing so may damage the motherboard.

2.1 Installing the CPU

1. *Before you insert the 1150-Pin CPU into the socket, please check if the **PnP cap** is on the socket, if the CPU surface is unclean, or if there are any **bent pins** in the socket. Do not force to insert the CPU into the socket if above situation is found. Otherwise, the CPU will be seriously damaged.*
2. *Unplug all power cables before installing the CPU.*

1



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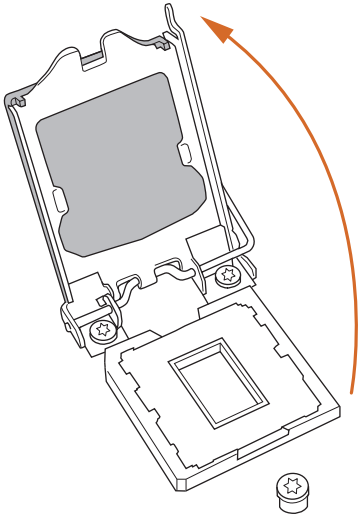

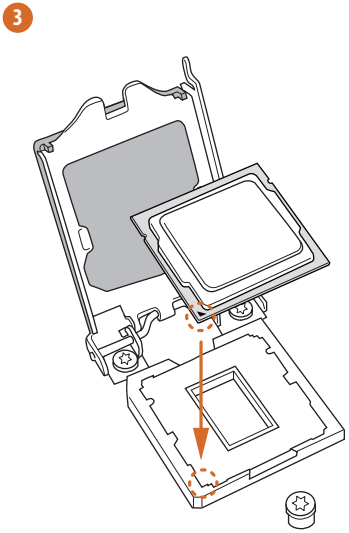
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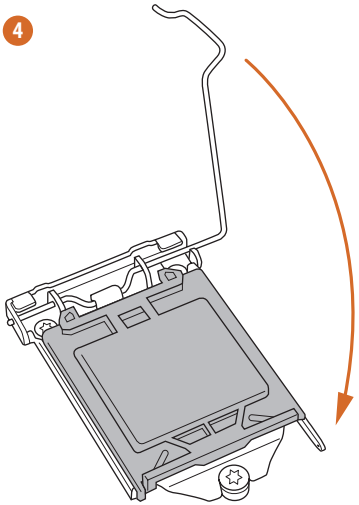
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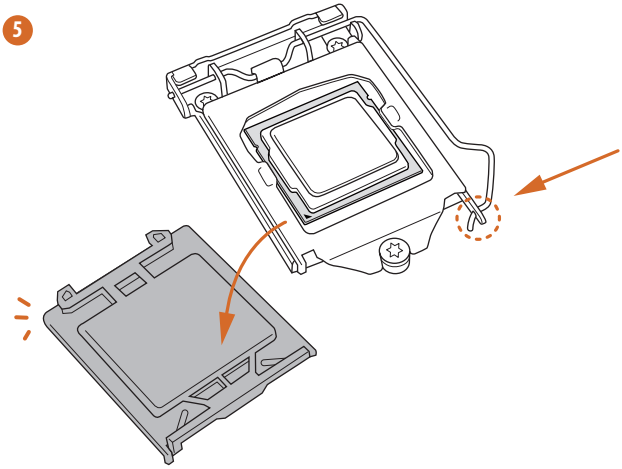
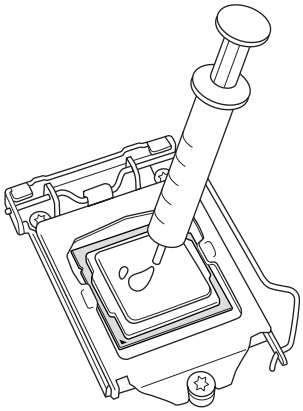
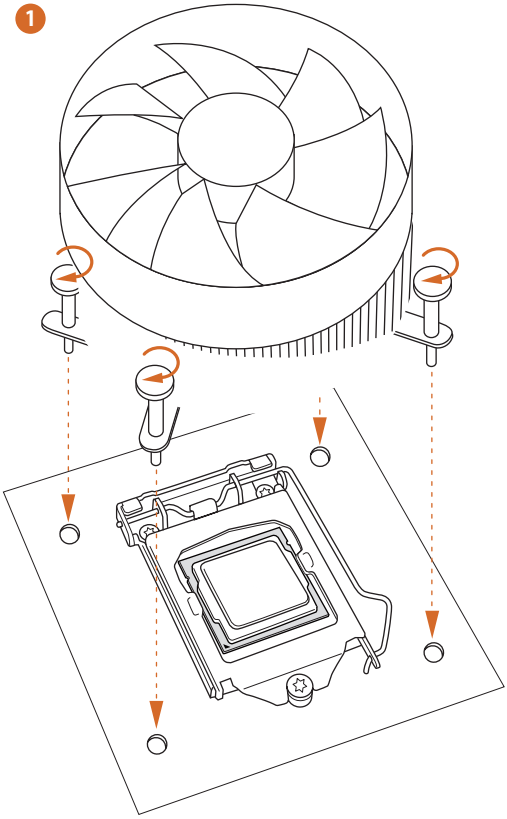
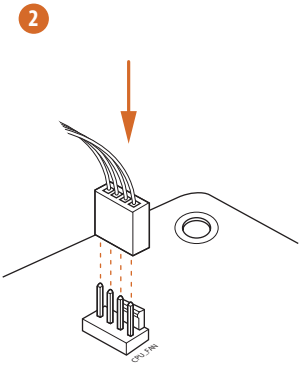

5

Please save and replace the cover if the processor is removed. The cover must be placed if you wish to return the motherboard for after service.

2.2 Installing the CPU Fan and Heatsink







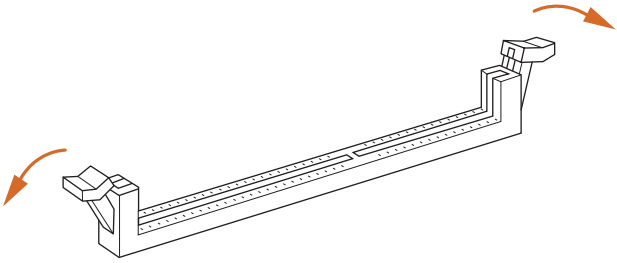
2.3 Installing Memory Modules (DIMM)

This motherboard provides two 240-pin DDR3 (Double Data Rate 3) DIMM slots, and supports Dual Channel Memory Technology.

1. *For dual channel configuration, you always need to install identical (the same brand, speed, size and chip-type) DDR3 DIMM pairs.*
2. *It is unable to activate Dual Channel Memory Technology with only one memory module installed.*
3. *It is not allowed to install a DDR or DDR2 memory module into a DDR3 slot; otherwise, this motherboard and DIMM may be damaged.*

The DIMM only fits in one correct orientation. It will cause permanent damage to the motherboard and the DIMM if you force the DIMM into the slot at incorrect orientation.

1



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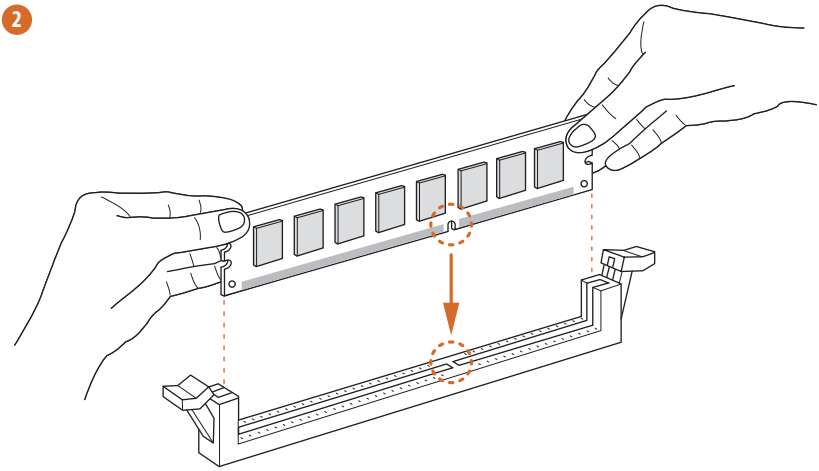

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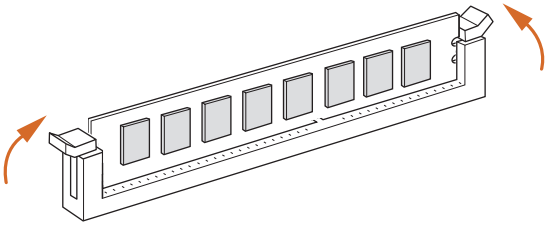


English

2.4 Expansion Slots (PCI and PCI Express Slots)

There are 2 PCI slots and 2 PCI Express slots on the motherboard.

Before installing an expansion card, please make sure that the power supply is switched off or the power cord is unplugged. Please read the documentation of the expansion card and make necessary hardware settings for the card before you start the installation.

PCI slot:

The PCI1 and PCI2 slots are used to install expansion cards that have 32-bit PCI interface.

PCIe slots:

PCIE1 (PCIe 2.0 x16 slot) is used for PCI Express x16 lane width graphics cards.
PCIE2 (PCIe 2.0 x16 slot) is used for PCI Express x4 lane width graphics cards.

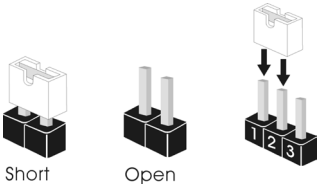
PCIe Slot Configurations

	PCIE1	PCIE2
Single Graphics Card	x16	N/A
Two Graphics Cards in CrossFireX™ Mode	x16	x4

For a better thermal environment, please connect a chassis fan to the motherboard's chassis fan connector (CHA_FAN1 or CHA_FAN2) when using multiple graphics cards.

2.5 Jumpers Setup

The illustration shows how jumpers are setup. When the jumper cap is placed on the pins, the jumper is "Short". If no jumper cap is placed on the pins, the jumper is "Open". The illustration shows a 3-pin jumper whose pin1 and pin2 are "Short" when a jumper cap is placed on these 2 pins.



Clear CMOS Jumper (CLRCMOS1) (see p.1, No. 12)	1_2 Default	2_3 Clear CMOS

CLRCMOS1 allows you to clear the data in CMOS. To clear and reset the system parameters to default setup, please turn off the computer and unplug the power cord from the power supply. After waiting for 15 seconds, use a jumper cap to short pin2 and pin3 on CLRCMOS1 for 5 seconds. However, please do not clear the CMOS right after you update the BIOS. If you need to clear the CMOS when you just finish updating the BIOS, you must boot up the system first, and then shut it down before you do the clear-CMOS action. Please be noted that the password, date, time, and user default profile will be cleared only if the CMOS battery is removed.

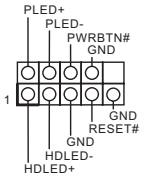
If you clear the CMOS, the case open may be detected. Please adjust the BIOS option "Clear Status" to clear the record of previous chassis intrusion status.

English

2.6 Onboard Headers and Connectors

Onboard headers and connectors are NOT jumpers. Do NOT place jumper caps over these headers and connectors. Placing jumper caps over the headers and connectors will cause permanent damage to the motherboard.

System Panel Header
(9-pin PANEL1)
(see p.1, No. 13)



Connect the power switch, reset switch and system status indicator on the chassis to this header according to the pin assignments below. Note the positive and negative pins before connecting the cables.

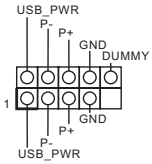
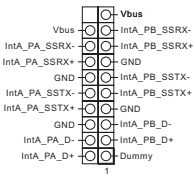
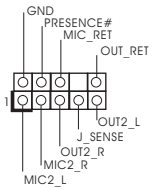
PWRBTN (Power Switch):
Connect to the power switch on the chassis front panel. You may configure the way to turn off your system using the power switch.

RESET (Reset Switch):
Connect to the reset switch on the chassis front panel. Press the reset switch to restart the computer if the computer freezes and fails to perform a normal restart.

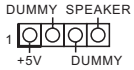
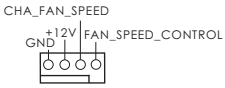
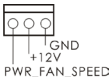
PLED (System Power LED):
Connect to the power status indicator on the chassis front panel. The LED is on when the system is operating. The LED keeps blinking when the system is in S1/S3 sleep state. The LED is off when the system is in S4 sleep state or powered off (S5).

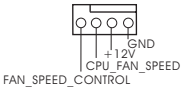
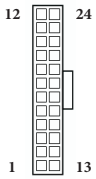
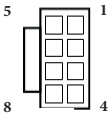
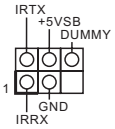
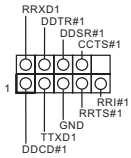
HDLED (Hard Drive Activity LED):
Connect to the hard drive activity LED on the chassis front panel. The LED is on when the hard drive is reading or writing data.

The front panel design may differ by chassis. A front panel module mainly consists of power switch, reset switch, power LED, hard drive activity LED, speaker and etc. When connecting your chassis front panel module to this header, make sure the wire assignments and the pin assignments are matched correctly.

Serial ATA2 Connectors (SATA_4: see p.1, No. 8) (SATA_5: see p.1, No. 7)		These two SATA2 connectors support SATA data cables for internal storage devices with up to 3.0 Gb/s data transfer rate.
Serial ATA3 Connectors (SATA_0: see p.1, No. 9) (SATA_1: see p.1, No. 10)		These two SATA3 connectors support SATA data cables for internal storage devices with up to 6.0 Gb/s data transfer rate.
USB 2.0 Headers (9-pin USB6_7) (see p.1, No. 15) (9-pin USB8_9) (see p.1, No. 16)		Besides four USB 2.0 ports on the I/O panel, there are two headers on this motherboard. Each USB 2.0 header can support two ports.
USB 3.0 Header (19-pin USB3_2_3) (see p.1, No. 11)		Besides two USB 3.0 ports on the I/O panel, there is one header on this motherboard. Each USB 3.0 header can support two ports.
Front Panel Audio Header (9-pin HD_AUDIO1) (see p.1, No. 23)		This header is for connecting audio devices to the front audio panel.

1. *High Definition Audio supports Jack Sensing, but the panel wire on the chassis must support HDA to function correctly. Please follow the instructions in our manual and chassis manual to install your system.*
2. *If you use an AC'97 audio panel, please install it to the front panel audio header by the steps below:*
   A. Connect Mic_IN (MIC) to MIC2_L.
   B. Connect Audio_R (RIN) to OUT2_R and Audio_L (LIN) to OUT2_L.
   C. Connect Ground (GND) to Ground (GND).
   D. MIC_RET and OUT_RET are for the HD audio panel only. You don't need to connect them for the AC'97 audio panel.
   E. To activate the front mic, go to the "FrontMic" Tab in the Realtek Control panel and adjust "Recording Volume".

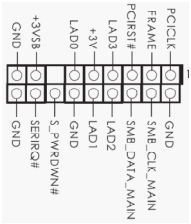
Chassis Speaker Header (4-pin SPEAKER1) (see p.1, No. 14)		Please connect the chassis speaker to this header.
SPDIF Out Connector (2-pin SPDIF_OUT1) (see p.1, No. 24)		Please connect the SPDIF_OUT connector of a HDMI VGA card to this header with a cable.
Chassis and Power Fan Connectors (4-pin CHA_FAN1) (see p.1, No. 197)		Please connect fan cables to the fan connectors and match the black wire to the ground pin.
(3-pin CHA_FAN2) (see p.1, No. 25)		
(3-pin PWR_FAN1) (see p.1, No. 4)		

CPU Fan Connectors (4-pin CPU_FAN1) (see p.1, No. 2) (3-pin CPU_FAN2) (see p.1, No. 3)	 	This motherboard provides a 4-Pin CPU fan (Quiet Fan) connector. If you plan to connect a 3-Pin CPU fan, please connect it to Pin 1-3.
ATX Power Connector (24-pin ATXPWR1) (see p.1, No. 6)		This motherboard provides a 24-pin ATX power connector. To use a 20-pin ATX power supply, please plug it along Pin 1 and Pin 13.
ATX 12V Power Connector (8-pin ATX12V1) (see p.1, No. 1)		This motherboard provides an 8-pin ATX 12V power connector. To use a 4-pin ATX power supply, please plug it along Pin 1 and Pin 5.
Infrared Module Header (5-pin IR1) (see p.1, No. 21)		This header supports an optional wireless transmitting and receiving infrared module.
Serial Port Header (9-pin COM1) (see p.1, No. 20)		This COM1 header supports a serial port module.

Chassis Intrusion Header
(2-pin CI1)
(see p.1, No. 22)

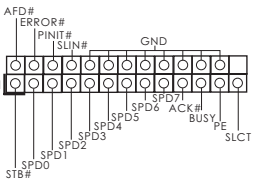
This motherboard supports CASE OPEN detection feature that detects if the chassis cove has been removed. This feature requires a chassis with chassis intrusion detection design.

TPM Header
(17-pin TPMS1)
(see p.1, No. 18)



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

Print Port Header
(25-pin LPT1)
(see p.1, No. 19)



This is an interface for print port cable that allows convenient connection of printer devices.

English

1 Introducción

Gracias por comprar la placa base ASRock H81M/ASM, una placa base fiable fabricada según el rigurosísimo control de calidad de ASRock. Ofrece un rendimiento excelente con un diseño resistente de acuerdo con el compromiso de calidad y resistencia de ASRock.

Ya que las especificaciones de la placa base y el software del BIOS podrán ser actualizados, el contenido que aparece en esta documentación estará sujeto a modificaciones sin previo aviso. Si esta documentación sufre alguna modificación, la versión actualizada estará disponible en el sitio web de ASRock sin previo aviso. Si necesita asistencia técnica relacionada con esta placa base, visite nuestro sitio web para obtener información específica sobre el modelo que esté utilizando. Podrá encontrar las últimas tarjetas VGA, así como la lista de compatibilidad de la CPU, en el sitio web de ASRock. Sitio web de ASRock http://www.asrock.com.

1.1 Contenido del paquete

- Placa base ASRock H81M/ASM (Factor de forma Micro ATX)
- Guía de instalación rápida de ASRock H81M/ASM
- CD de soporte de ASRock H81M/ASM
- 2 cables de datos Serie ATA (SATA) (Opcional)
- 1 escudo panel I/O

1.2 Especificaciones

Plataforma	• Factor de forma Micro ATX • Diseño de los Condensadores: All Solid
CPU	• Compatible con 4.ª Generación de Intel® Core™ i7 / i5 / i3 / Xeon® / Pentium® / Celeron® en paquete LGA1150 • Diseño de 4 fases de alimentación • Compatible con la tecnología de Intel® Turbo Boost 2.0
Conjunto de chips	• Intel® H81
Memoria	• Tecnología de memoria de Doble Canal DDR3 • 2 ranuras DDR3 DIMM • Compatible con memoria no-ECC, sin búfer DDR3 1600/1333/1066 • Capacidad máxima de la memoria del sistema: 16GB (consulte la ADVERTENCIA) • Compatible con Extreme Memory Profile (XMP)1.3/1.2 de Intel®
Ranura de expansión	• 2 ranuras PCI Express 2.0 x16 (PCIE1: modo x16; PCIE2: modo x4) • 2 ranuras PCI • Compatible con AMD Quad CrossFireX™ y CrossFireX™
Gráficos	• La Tecnología visual integrada de gráficos HD de Intel® y las salidas de VGA son compatibles únicamente con procesadores con GPU integrado. • Compatible con la Tecnología visual integrada de gráficos HD de Intel®: Intel® Quick Sync Video con AVC, MVC (S3D) y MPEG-2 Full HW Encode1, Intel® InTru™ 3D, Intel® Clear Video HD Technology, Intel® Insider™, Intel® HD Graphics 4600 • Pixel Shader 5.0, DirectX 11.1 • Memoria compartida máxima: 1792MB • Tres opciones de salida VGA: D-Sub, DVI-D y HDMI • Compatible con Tecnología HDMI con máxima resolución hasta 1920x1200 @ 60Hz • Compatible con DVI-D con máxima resolución hasta 1920x1200 @ 60Hz

	• Compatible con D-Sub con máxima resolución hasta 1920x1200 @ 60Hz • Compatible con Auto Lip Sync, Deep Color (12bpc), xvYCC y HBR (audio de alta velocidad de bits) con HDMI (requiere un monitor compatible con HDMI) • Compatible con función HDCP con puertos DVI-D y HDMI • Compatible con reproducción Blu-ray (BD) Full HD de 1080p con puertos DVI-D y HDMI
Audio	• 7.1 Audio CH HD con Protección de contenido (Realtek ALC892 Audio Codec) • Compatible con audio Blu-ray Premium
LAN	• 1 LAN Gigabit PCIE 10/100/1000 Mb/s • Qualcomm® Atheros® AR8171 • Compatible con la Tecnología de seguridad en internet Wake On Qualcomm® Atheros® • Compatible con Wake-On-LAN • Compatible con Ethernet de consumo eficiente de energía 802.3az • Compatible con PXE
Panel trasero I/O	• 1 puerto de teclado PS/2 • 1 puerto D-Sub • 1 puerto DVI-D • 1 puerto HDMI • 1 puerto de salida SPDIF óptica • 4 puertos USB 2.0 • 2 puertos USB 3.0 • 1 puerto LAN RJ-45 con LED (ACT/LINK LED y SPEED LED) • Conector de audio HD: Altavoz trasero / Central / Graves / Entrada de línea / Altavoz frontal / Micrófono

Almacenamiento	• 2 conectores SATA3 de 6,0 Gb/s, compatibles con las funciones NCQ, AHCI y "Hot Plug" • 2 conectores SATA2 de 3,0 Gb/s, compatibles con las funciones NCQ, AHCI y "Hot Plug"
Conectores	• 1 cabezal IR • 1 cabezal de puerto de impresión • 1 cabezal de puerto COM • 1 cabezal de intrusión de chasis • 1 cabezal TPM • 2 conectores de ventilador de la CPU (1 de 4 pines y 1 de 3 pines) • 2 conectores de ventilador del chasis (1 de 4 pines y 1 de 3 pines) • 1 conector de ventilador de alimentación (de 3 pines) • 1 conector de alimentación ATX de 24 pines • 1 conector de alimentación de 12V de 8 pines • 1 conector de audio del panel frontal • 1 conector de salida SPDIF • 2 cabezales USB 2.0 (compatibles con 4 puertos USB 2.0) • 1 cabezal USB 3.0 de Etron EJ168A (compatible con 2 puertos USB 3.0)
Características del BIOS	• BIOS legal UEFI AMI de 32Mb compatible con interfaz gráfica de usuario multilingüe • Eventos de reactivación conformes con ACPI 1.1 • Compatible con SMBIOS 2.3.1 • Multiajuste de voltaje de CPU, DRAM, PCH 1,05V, PCH 1,5V
CD de soporte	• Controladores, Utilidades, Software AntiVirus (Versión de prueba), Versión de prueba de CyberLink MediaEspresso 6.5, Explorador y Barra de herramientas de Google Chrome y Start8, Intel® Extreme Tuning Utility (IXTU)
Monitor del hardware	• Método de sensor de temperatura de la CPU/Chasis • Tacómetro del ventilador de alimentación/CPU/Chasis • Ventilador silencioso de la CPU/Chasis (permite ajustar automáticamente la velocidad del ventilador del chasis mediante la temperatura de la CPU) • Control multivelocidad del ventilador de la CPU/Chasis

	• Detección de CUBIERTA ABIERTA • Control del voltaje: +12V, +5V, +3,3V, CPU Vcore
SO	• Compatible con Microsoft® Windows® 8 / 8 de 64 bits / 7 / 7 de 64 bits
Certificaciones	• FCC, CE, WHQL • Compatible con ErP/EuP (requiere toma de alimentación compatible con ErP/EuP)

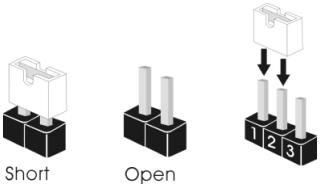
** Para obtener más información acerca del producto, visite nuestro sitio web: http://www.asrock.com*

Tenga en cuenta que existen ciertos riesgos relacionados con el overclocking (sobreaceleración), incluyendo el ajuste de la configuración del BIOS, aplicando la Tecnología overcloking no vinculada o utilizando las herramientas de overclocking de tercera parte. El overclocking podría afectar la estabilidad de su sistema o incluso dañar los componentes y dispositivos de su sistema. Si lo realiza, todos los riesgos y gastos derivados del overclocking serán de su entera responsabilidad. No nos hacemos responsables de posibles daños producidos por el overclocking.

Debido a las limitaciones, el tamaño real de la memoria podrá ser inferior a 4GB para reservar espacio para el uso del sistema en sistemas operativos Windows® de 32 bits. Los sitemas operativos Windows® de 64 bits no tienen estas limitaciones. Podrá utilizar XFast RAM de ASRock para usar la memoria que Windows® no puede utilizar.

1.3 Instalación de los puentes

La instalación muestra cómo deben instalarse los puentes. Cuando la tapa de puente se coloca en los pines, el puente queda "Corto". Si no coloca la tapa de puente en los pines, el puente queda "Abierto". La ilustración muestra un puente de 3 pines cuyo pin 1 y pin 2 son "Cortos" cuando se coloca una tapa de puente en estos 2 pines.



Puente de borrado de CMOS (CLRCMOS1) (consulte la pág.1, N.º 12)	1_2 Predeterminado	2_3 Borrado de CMOS

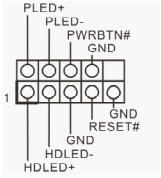
CLRCMOS1 le permite borrar los datos del CMOS. Para borrar y restablecer los parámetros del sistema a los valores predeterminados de instalación, apague el ordenador y desenchufe el cable de alimentación de la toma de alimentación. Después de esperar 15 segundos, utilice un tapa de puente para acortar el pin2 y el pin3 en el CLRCMOS1 durante 5 segundos. Sin embargo, no borre el CMOS justo después de que haya actualizado el BIOS. Si necesita borrar el CMOS cuando acabe de actualizar el BIOS, deberá arrancar el sistema primero y, a continuación, deberá apagarlo antes de que realice el borrado del CMOS. Tenga en cuenta que la contraseña, la fecha, la hora y el perfil de usuario predeterminado serán eliminados únicamente si se retira la pila del CMOS.

Si borra el CMOS, podrá detectarse la cubierta abierta. Ajuste la opción del BIOS "Clear Status" (Borrar estado) para borrar el registro del estado de intrusión anterior del chasis.

1.4 Conectores y cabezales incorporados

Los cabezales y conectores incorporados NO son puentes. NO coloque tapas de puente sobre estos cabezales y conectores. Si coloca tapas de puente sobre los cabezales y conectores dañará de forma permanente la placa base.

Cabezal del panel del sistema
(PANEL1 de 9 pines)
(consulte la pág.1, N.º 13)



Conecte el interruptor de alimentación, restablezca el interruptor y el indicador del estado del sistema del chasis a los valores de este cabezal, según los valores asignados a los pines como se indica a continuación. Cerciórese de cuáles son los pines positivos y los negativos antes de conectar los cables.

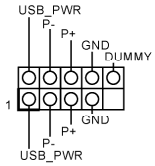
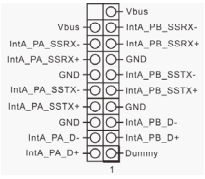
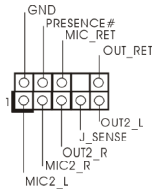
PWRBTN (Interruptor de alimentación):
conéctelo al interruptor de alimentación del panel frontal del chasis. Deberá configurar la forma en la que su sistema se apagará mediante el interruptor de alimentación.

RESET (Interruptor de reseteo):
conéctelo al interruptor de reseteo del panel frontal del chasis. Pulse el interruptor de reseteo para resetear el ordenador si éste está bloqueado y no se puede reiniciar de forma normal.

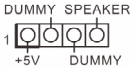
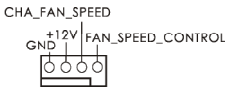
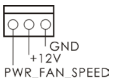
PLED (Indicador LED de alimentación del sistema):
conéctelo al indicador del estado de la alimentación del panel frontal del chasis. El indicador LED permanece encendido cuando el sistema está funcionando. El indicador LED parpadea cuando el sistema se encuentra en estado de suspensión S1/S3. El indicador LED se apaga cuando el sistema se encuentra en estado de suspensión S4 o está apagado (S5).

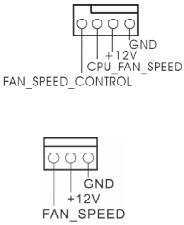
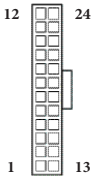
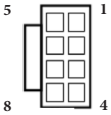
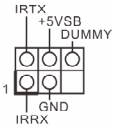
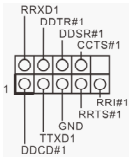
HDLED (Indicador LED de actividad en el disco duro):
conéctelo al indicador LED de actividad en el disco duro del panel frontal del chasis. El indicador LED permanece encendido cuando el disco duro está leyendo o escribiendo datos.

El diseño del panel frontal puede ser diferente dependiendo del chasis. Un módulo de panel frontal consta principalmente de: interruptor de alimentación, interruptor de reseteo, indicador LED de alimentación, indicador LED de actividad en el disco duro, altavoz, etc. Cuando conecte su módulo del panel frontal del chasis a este cabezal, asegúrese de que las asignaciones de los cables y los pines coinciden correctamente.

Conectores Serie ATA2 (SATA_4: consulte la pág.1, N.º 8) (SATA_5: consulte la pág.1, N.º 7)		Estos dos conectores SATA2 son compatibles con cables de datos SATA para dispositivos de almacenamiento interno con una velocidad de transferencia de datos de hasta 3,0 Gb/s.
Conectores Serie ATA3 (SATA_0: consulte la pág.1, N.º 9) (SATA_1: consulte la pág.1, N.º 10)		Estos dos conectores SATA3 son compatibles con cables de datos SATA para dispositivos de almacenamiento interno con una velocidad de transferencia de datos de hasta 6,0 Gb/s.
Cabezales USB 2.0 (USB6_7 de 9 pines) (consulte la pág.1, N.º 15) (USB8_9 de 9 pines) (consulte la pág.1, N.º 16)		Además de cuatro puertos USB 2.0 en el panel I/O, esta placa base contiene dos cabezales. Cada cabezal USB 2.0 admite dos puertos.
Cabezal USB 3.0 (USB3_2_3 de 19 pines) (consulte la pág.1, N.º 11)		Además de dos puertos USB 3.0 en el panel I/O, esta placa base contiene un cabezal. Cada cabezal USB 3.0 admite dos puertos.
Cabezal de audio del panel frontal (HD_AUDIO1 de 9 pines) (consulte la pág.1, N.º 23)		Este cabezal se utiliza para conectar dispositivos de audio al panel de audio frontal.

1. *El Audio de Alta Definición (HDA, en inglés) es compatible con el método de sensor de conectores, sin embargo, el cable del panel del chasis deberá ser compatible con HDA para que pueda funcionar correctamente. Siga las instrucciones que se indican en nuestro manual y en el manual del chasis para instalar su sistema.*
2. *Si utiliza un panel de audio AC'97, instálelo en el cabezal de audio del panel frontal siguiendo los siguientes pasos:*
   A. Conecte Mic_IN (MIC) a MIC2_L.
   B. Conecte Audio_R (RIN) a OUT2_R y Audio_L (LIN) a OUT2_L.
   C. Conecte Ground (conexión a tierra) (GND) a Ground (GND).
   D. MIC_RET y OUT_RET se utilizan únicamente para el panel de audio HD. No es necesario que los conecte en el panel de audio AC'97.
   E. Para activar el micrófono frontal, vaya a la ficha "micrófono frontal" (FrontMic) en el panel de control de Realtek y ajuste el "Volumen de grabación" (Recording Volume).

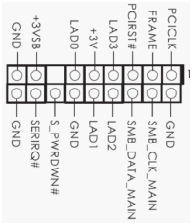
Cabezal de altavoces del chasis (SPEAKER1 de 4 pines) (consulte la pág.1, N.º 14)		Conecte el altavoz del chasis a este cabezal.
Conector de salida SPDIF (SPDIF_OUT1 de 2 pines) (consulte la pág.1, N.º 24)		Conecte el conector SPDIF_OUT de una tarjeta VGA HDMI a este cabezal con un cable.
Conectores del ventilador de alimentación y del chasis (CHA_FAN1 de 4 pines) (consulte la pág.1, N.º 197) (CHA_FAN2 de 3 pines) (consulte la pág.1, N.º 25) (PWR_FAN1 de 3 pines) (consulte la pág.1, N.º 4)	  	Conecte los cables del ventilador a los conectores del ventilador y haga coincidir el cable negro con el pin de conexión a tierra.

Conectores del ventilador de la CPU (CPU_FAN1 de 4 pines) (consulte la pág.1, N.º 2) (CPU_FAN2 de 3 pines) (consulte la pág.1, N.º 3)		Esta placa base contiene un conector de ventilador (ventilador silencioso) de CPU de 4 pines. Si tiene pensando conectar un ventilador de CPU de 3 pines, conéctelo al Pin 1-3.
Conector de alimentación ATX (ATXPWR1 de 24 pines) (consulte la pág.1, N.º 6)		Esta placa base contiene un conector de alimentación ATX de 24 pines. Para utilizar una toma de alimentación ATX de 20 pines, conéctela en los Pines del 1 al 13.
Conector de alimentación ATX de 12V (ATX12V1 de 8 pines) (consulte la pág.1, N.º 1)		Esta placa base contiene un conector de alimentación ATX de 12V y 8 pines. Para utilizar una toma de alimentación ATX de 4 pines, conéctela en los Pines del 1 al 5.
Cabezal de módulo infrarrojo (IR1 de 5 pines) (consulte la pág.1, N.º 21)		Este cabezal admite un módulo infrarrojo opcional de transmisión y recepción inalámbrico.
Cabezal de puerto serie (COM1 de 9 pines) (consulte la pág.1, N.º 20)		Este cabezal COM1 admite un módulo de puerto serie.

Cabezal de intrusión de chasis
(CI1 de 2 pines)
(consulte la pág.1, N.º 22)

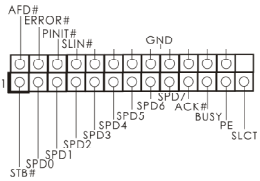
Esta placa base es compatible con la función de detección de CUBIERTA ABIERTA que detecta si se ha retirado la cubierta del chasis. Esta función requiere un chasis diseñado para la detección de intrusión del chasis.

Cabezal TPM
(TPMS1 de 17 pines)
(consulte la pág.1, N.º 18)



Este conector es compatible con el sistema Módulo de Plataforma Segura (TPM, en inglés), que puede almacenar de forma segura claves, certificados digitales, contraseñas y datos. Un sistema TPM también ayuda a aumentar la seguridad en la red, protege identidades digitales y garantiza la integridad de la plataforma.

Cabezal de puerto de impresión
(LPT1 de 25 pines)
(consulte la pág.1, N.º 19)



Ésta es una interfaz para el cable del puerto de impresión que permite una cómoda conexión de dispositivos de impresión.

1 Introdução

Obrigado por ter comprado a placa principal ASRock H81M/ASM, uma placa principal fiável produzida sob os rigorosos critérios de controlo de qualidade da ASRock. Esta placa principal oferece um excelente desempenho com um design robusto em conformidade com o compromisso da ASRock em fabricar produtos de qualidade e resistentes.

Dado que as especificações da placa principal e o software do BIOS poderão ser actualizados, o conteúdo desta documentação estará sujeito a alterações sem aviso prévio. Caso ocorram modificações a esta documentação, a versão actualizada estará disponível no Web site da ASRock sem aviso prévio. Se necessitar de assistência técnica relacionada com esta placa principal, visite o nosso Web site para obter informações específicas acerca do modelo que está a utilizar. Também poderá encontrar a lista de placas VGA e CPU mais recentes suportadas no Web site da ASRock. Web site da ASRock http://www.asrock.com.

1.1 Conteúdo da embalagem

- Placa principal ASRock H81M/ASM (Formato Micro ATX)
- Guia de instalação rápida do ASRock H81M/ASM
- CD de suporte do ASRock H81M/ASM
- 2 x Cabos de dados Serial ATA (SATA) (Opcional)
- 1 x Painel de E/S

1.2 Especificações

Plataforma	• Formato Micro ATX • Design de condensador sólido
CPU	• Suporta processadores Intel® Core™ i7 / i5 / i3 / Xeon® / Pentium® / Celeron® de 4ª geração em socket LGA1150 • Design com 4 fases de alimentação • Suporta a tecnologia Intel® Turbo Boost 2.0
Chipset	• Intel® H81
Memória	• Tecnologia de memória DDR3 de dois canais • 2 x ranhuras DIMM DDR3 • Suporta memória DDR3 1600/1333/1066, não ECC, sem memória intermédia • Capacidade máxima da memória do sistema: 16GB (consultar AVISO) • Suporta Extreme Memory Profile (XMP)1.3/1.2 da Intel®
Ranhuras de expansão	• 2 x ranhuras PCI Express 2.0 x16 (PCIE1: modo x16; PCIE2: modo x4) • 2 x ranhuras PCI • Suporte para AMD Quad CrossFireX™ e CrossFireX™
Gráficos	• Os gráficos incorporados Intel® HD e as saídas VGA apenas podem ser suportados com processadores com GPU integrada. • Suporta gráficos incorporados Intel® HD: Intel® Quick Sync Video com AVC, MVC (S3D) e MPEG-2 Full HW Encode1, Intel® InTru™ 3D, Tecnologia Intel® Clear Video HD, Intel® Insider™, Gráficos Intel® HD 4600 • Pixel Shader 5.0, DirectX 11.1 • Memória partilhada máxima de 1792MB • Três opções de saída VGA: D-Sub, DVI-D e HDMI • Suporta tecnologia HDMI com resolução máxima de até 1920x1200 @ 60Hz • Suporta DVI-D com resolução máxima de até 1920x1200 @ 60Hz

	• Suporta D-Sub com resolução máxima de até 1920x1200 @ 60Hz • Suporta Auto sincronização labial, Deep Color (12bpc), xvYCC e HBR (High Bit Rate Audio) com HDMI (É necessário um monitor compatível com HDMI) • Suporta a função HDCP com portas DVI-D e HDMI • Suporta reprodução Blu-ray (BD) Full HD a 1080p com portas DVI-D e HDMI
Áudio	• Áudio HD de 7.1 canais com protecção de conteúdo (Codec de áudio Realtek ALC892) • Suporte áudio Blu-ray superior
LAN	• LAN Gigabit 10/100/1000 Mb/s PCIE x1 • Qualcomm® Atheros® AR8171 • Suporta a tecnologia Qualcomm® Atheros® Security Wake On Internet • Suporta Wake-On-LAN • Suporta IEEE 802.3az • Suporta PXE
E/S do painel traseiro	• 1 x Porta PS/2 para teclado • 1 x Porta D-Sub • 1 x Porta DVI-D • 1 x porta HDMI • 1 x Porta de saída SPDIF óptica • 4 x portas USB 2.0 • 2 x portas USB 3.0 • 1 x Porta LAN RJ-45 com LED (LED ACT/LIGAÇÃO e LED DE VELOCIDADE) • Ficha de áudio HD: Altifalante traseiro / Central / Graves / Entrada de linha / Altifalante frontal / Microfone
Armazena-mento	• 2 x conectores SATA3 a 6,0 Gb/s, com suporte para NCQ, AHCI e funções “Hot Plug” • 2 x conectores SATA2 a 3,0 Gb/s, com suporte para NCQ, AHCI e funções “Hot Plug”

Conector	• 1 x Terminal IV • 1 x Terminal de porta de impressão • 1 x Terminal de porta COM • 1 x Terminal de intrusão no chassis • 1 x Terminal TPM • 2 x Conectores da ventoinha da CPU (1 x 4 pinos, 1 x 3 pinos) • 2 x Conectores da ventoinha do chassis (1 x 4 pinos, 1 x 3 pinos) • 1 x Conector da ventoinha de alimentação (3 pinos) • 1 x conector de alimentação de 24 pinos ATX • 1 x conector de alimentação de 12V de 8 pinos • 1 x conector de áudio do painel frontal • 1 x Conector de saída SPDIF • 2 x terminais USB 2.0 (suporte para 4 portas USB 2.0) • 1 x terminal USB 3.0 pela Etron EJ168A (suporte para 2 portas USB 3.0)
Funcionalidades da BIOS	• BIOS UEFI oficial da AMI com 32Mb com suporte de interface multilíngue • Eventos de reactivação compatíveis com ACPI 1.1 • Suporta SMBIOS 2.3.1 • Multi-ajuste de tensão de CPU, DRAM, PCH 1,05V, PCH 1,5V
CD de suporte	• Controladores, Utilitários, Software antivírus (versão de avaliação), CyberLink MediaEspresso 6.5 - Versão de avaliação, Navegador e Barra de Ferramentas Google Chrome, Start8, Intel® Extreme Tuning Utility (IXTU)
Monitor de Hardware	• Sensor de temperatura de CPU/Chassis • Taquímetro de ventoinha de CPU/Chassis/Alimentação • Ventoinha de CPU/Chassis silenciosa (Permite o ajuste automático da velocidade da ventoinha do chassis através da temperatura da CPU) • Controlo de velocidade da ventoinha de CPU/Chassis

	• Detecção de ABERTURA da CAIXA • Monitorização da tensão: +12V, +5V, +3,3V, CPU Vcore
Sistema Operativo	• Compatível com Microsoft® Windows® 8 / 8 64-bits / 7 / 7 64-bits
Certificações	• FCC, CE, WHQL • Preparada para ErP/EuP (é necessária uma fonte de alimentação preparada para ErP/EuP)

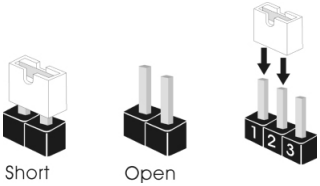
** Para obter informações detalhadas acerca do produto, visite o nosso Web site: http://www.asrock.com*

Tenha em atenção que o overclocking inclui um determinado grau de risco, incluindo o ajuste das definições na BIOS, a aplicação de tecnologia Untied Overclocking ou a utilização de ferramentas de overclocking de terceiros. O overclocking poderá afectar a estabilidade do sistema, ou mesmo causar danos aos componentes e dispositivos do seu sistema. Overclocking deverá ser efectuado por sua conta e risco. Não nos responsabilizamos por possíveis danos causados pelo overclocking.

Devido às limitações, o tamanho real da memória de 4GB reservada para utilização em sistemas operativos Windows® 32-bits poderá ser inferior. Os sistemas operativos Windows® 64-bits não possuem essas limitações. Pode utilizar o ASRock XFast RAM para dar uso à memória que o Windows® não utiliza.

1.3 Configuração dos jumpers

A imagem abaixo ilustra como os jumpers são configurados. Quando a tampa do jumper é colocada nos pinos, o jumper é "Curto". Se não for colocada uma tampa de jumper nos pinos, o jumper é "Aberto". A imagem ilustra um jumper de 3 pinos cujos pino1 e pino2 estão "Curtos" quando a tampa do jumper é colocada nestes 2 pinos.



Jumper para limpar o CMOS (CLRCMOS1) (consultar p.1, N.º 12)	 Predefinição	 Limpar CMOS

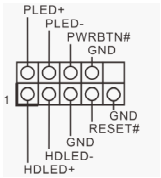
CLRCMOS1 permite-lhe limpar os dados no CMOS. Para limpar e repor os parâmetros do sistema para os valores predefinidos, encerre o computador e desligue a ficha da tomada. Depois de aguardar 15 segundos, utilize uma tampa de jumper para ligar o pino2 e o pino3 no CLRCMOS1 durante 5 segundos. No entanto, não limpe o CMOS logo após ter efectuado a actualização da BIOS. Se precisar de limpar o CMOS logo após ter terminado uma actualização da BIOS, deverá primeiro iniciar o sistema e voltar a encerrá-lo antes de efectuar a acção de limpeza do CMOS. Tenha em atenção que a palavra-passe, data, hora e perfil predefinido de utilizador apenas serão limpos se a pilha do CMOS for retirada.

Se limpar o CMOS, poderá ser detectada a abertura da caixa. Ajuste a opção do BIOS "Limpar estado" para limpar o registo anterior de estado de intrusão no chassis.

1.4 Terminais e conectores integrados

Os terminais e conectores integrados NÃO são jumpers. NÃO coloque tampas de jumpers sobre estes terminais e conectores. Colocar tampas de jumpers sobre os terminais e conectores irá causar danos permanentes à placa principal.

Terminal do painel de sistema
(PAINEL1 de 9 pinos)
(consultar p.1, N.º 13)



Ligue o botão de alimentação, o botão de reposição e o indicador do estado do sistema no chassis a este terminal de acordo com a descrição abaixo. Tenha em atenção os pinos positivos e negativos antes de ligar os cabos.

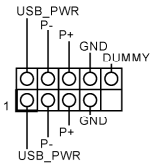
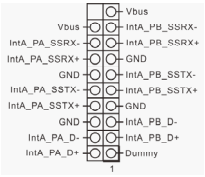
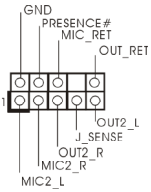
PWRBTN (Botão de alimentação):
Ligue ao botão de alimentação no painel frontal do chassis. Pode configurar a forma para desligar o seu sistema através do botão de alimentação.

RESET (Botão de reposição):
Ligue ao botão de reposição no painel frontal do chassis. Prima o botão de reposição para reiniciar o computador caso este bloqueie e não seja possível reiniciar normalmente.

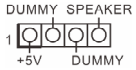
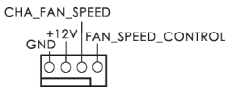
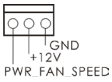
PLED (LED de alimentação do sistema):
Ligue ao indicador do estado da alimentação no painel frontal do chassis. O LED ficará acesso quando o sistema estiver em funcionamento. O LED ficará intermitente quando o sistema estiver nos estados de suspensão S1/S3. O LED ficará desligado quando o sistema estiver no estado de suspensão S4 ou desligado (S5).

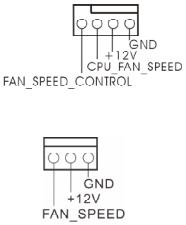
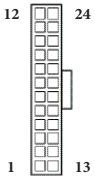
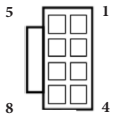
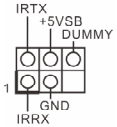
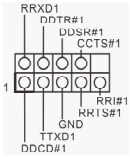
HDLED (LED de actividade do disco rígido):
Ligue ao LED de actividade do disco rígido no painel frontal do chassis. O LED ficará acesso quando o disco rígido estiver a ler ou a escrever dados.

O design do painel frontal poderá variar dependendo do chassis. Um módulo de painel frontal consiste principalmente em um botão de alimentação, um botão de reposição, um LED de alimentação, um LED de actividade do disco rígido, um altifalante, etc. Ao ligar o seu módulo de painel frontal do chassis a este conector, certifique-se de que os fios e os pinos têm uma correspondência exacta.

Conectores ATA2 de série (SATA_4: consultar p.1, N.º 8) (SATA_5: consultar p.1, N.º 7)		Estes dois conectores SATA2 suportam cabos de dados SATA para dispositivos de armazenamento interno com uma velocidade de transferência de dados de até 3,0 Gb/s.
Conectores ATA3 de série (SATA_0: consultar p.1, N.º 9) (SATA_1: consultar p.1, N.º 10)		Estes dois conectores SATA3 suportam cabos de dados SATA para dispositivos de armazenamento interno com uma velocidade de transferência de dados de até 6,0 Gb/s.
Terminais USB 2.0 (USB6_7 de 9 pinos) (consultar p.1, N.º 15) (USB8_9 de 9 pinos) (consultar p.1, N.º 16)		Para além das quatro portas USB 2.0 no painel de E/S, existem dois terminais nesta placa principal. Cada terminal USB 2.0 é capaz de suportar duas portas.
Terminal USB 3.0 (USB3_2_3 de 19 pinos) (consultar p.1, N.º 11)		Para além das duas portas USB 3.0 no painel de E/S, existe um terminal nesta placa principal. Cada terminal USB 3.0 é capaz de suportar duas portas.
Terminal de áudio do painel frontal (HD_AUDIO1 de 9 pinos) (consultar p.1, N.º 23)		Este terminal destina-se à ligação de dispositivos áudio ao painel de áudio frontal.

1. *O Áudio de alta definição suporta Detecção de ficha, mas o cabo de painel no chassis deverá suportar HDA para funcionar correctamente. Siga as instruções no nosso manual e no manual do chassis para instalar o seu sistema.*
2. *Se utilizar um painel de áudio AC'97, instale-o no terminal de áudio do painel frontal de acordo com os passos abaixo:*
   A. Ligue Mic_IN (MIC) a MIC2_L.
   B. Ligue Audio_R (RIN) a OUT2_R e Audio_L (LIN) a OUT2_L.
   C. Ligue Terra (GND) a Terra (GND).
   D. MIC_RET e OUT_RET destinam-se apenas ao painel de áudio HD. Não precisa de os ligar para o painel de áudio AC'97.
   E. Para activar o microfone frontal, aceda ao separador "Microfone Frontal" no painel de controlo Realtek e ajuste o "Volume de gravação".

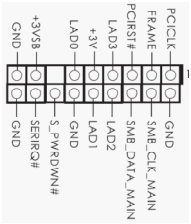
Terminal do altifalante do chassis (SPEAKER1 de 4 pinos) (consultar p.1, N.º 14)		Ligue o altifalante do chassis a este terminal.
Conector de saída SPDIF (SPDIF_OUT1 de 2 pinos) (consultar p.1, N.º 24)		Ligue o conector SPDIF_OUT da placa VGA HDMI a este terminal através de um cabo.
Conectores da ventoinha do chassis e alimentação (CHA_FAN1 de 4 pinos) (consultar p.1, N.º 197)		Ligue os cabos da ventoinha aos conectores da ventoinha colocando o cabo preto no pino de ligação à terra.
(CHA_FAN2 3 pinos) (consultar p.1, N.º 25)		
(PWR_FAN1 de 3 pinos) (consultar p.1, N.º 4)		

Conectores da ventoinha da CPU (CPU_FAN1 de 4 pinos) (consultar p.1, N.º 2) (CPU_FAN2 de 3 pinos) (consultar p.1, N.º 3)		Esta placa principal inclui um conector de ventoinha de CPU (Ventoinha silenciosa) de 4 pinos. Se pretender ligar uma ventoinha de CPU de 3 pinos, ligue-a ao Pino 1-3.
Conector de alimentação ATX (ATXPWR1 de 24 pinos) (consultar p.1, N.º 6)		Esta placa principal inclui um conector de alimentação ATX de 24 pinos. Para utilizar uma fonte de alimentação ATX de 20 pinos, introduza-a no Pino 1 o Pino 13.
Conector de alimentação de 12V ATX (ATX12V1 de 8 pinos) (consultar p.1, N.º 1)		Esta placa principal inclui um conector de alimentação de 12V ATX de 8 pinos. Para utilizar uma fonte de alimentação ATX de 4 pinos, introduza-a no Pino 1 o Pino 5.
Terminal do módulo de infra-vermelhos (IR1 de 5 pinos) (consultar p.1, N.º 21)		Este terminal suporta um módulo de infra-vermelhos opcional para transmissão e recepção sem fios.
Terminal de porta de série (COM1 de 9 pinos) (consultar p.1, N.º 20)		Este terminal COM1 suporta um módulo de porta de série.

Terminal de intrusão do chassis
(CI1 de 2 pinos)
(consultar p.1, N.º 22)

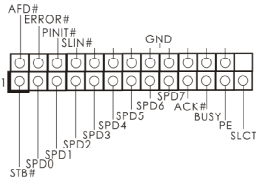
Esta placa principal suporta a função de detecção de ABERTURA da CAIXA que detecta se a tampa do chassis foi removida. Esta função requer um chassis com design de detecção de intrusão.

Terminal TPM
(TPMS1 de 17 pinos)
(consultar p.1, N.º 18)



Este conector suporta um sistema com Módulo de Plataforma Confiável (TPM), que pode armazenar com segurança chaves, certificados digitais, palavras-passe e dados. Um sistema TPM também ajuda a melhorar a segurança de rede, a proteger identidades digitais e a garantir a integridade da plataforma.

Terminal de porta de impressão
(LPT1 de 25 pinos)
(consultar p.1, N.º 19)



Esta é uma interface para cabo de porta de impressão que permite a ligação conveniente de dispositivos de impressão.

Contact Information

If you need to contact ASRock or want to know more about ASRock, you're welcome to visit ASRock's website at http://www.asrock.com; or you may contact your dealer for further information. For technical questions, please submit a support request form at http://www.asrock.com/support/tsd.asp

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