

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.

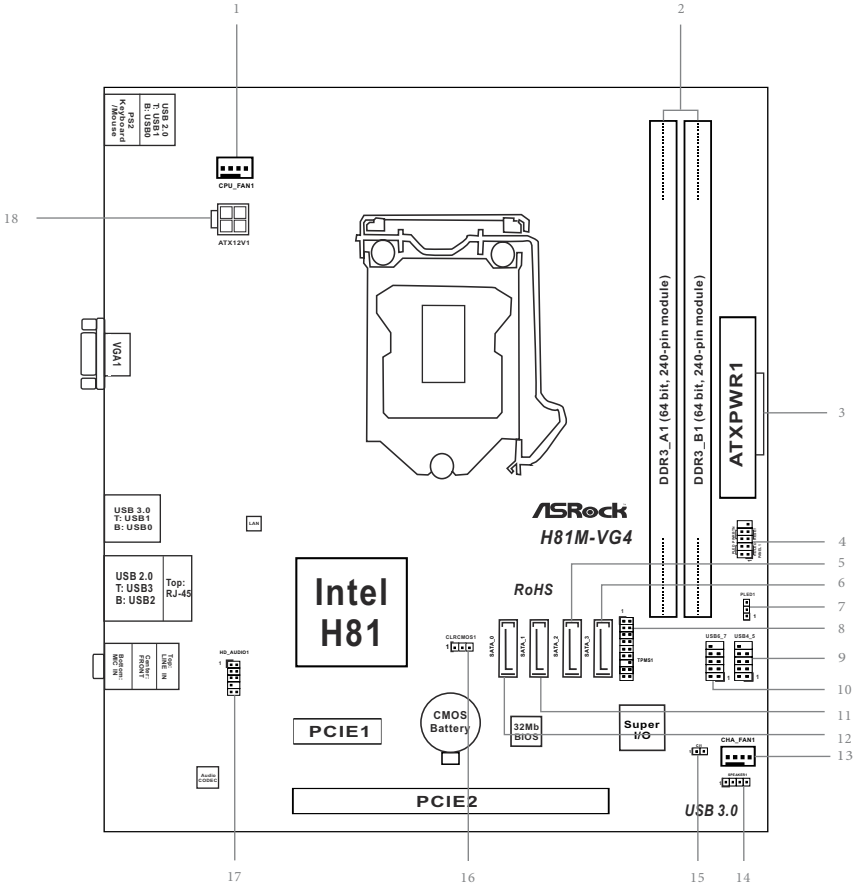
CALIFORNIA, USA ONLY

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”

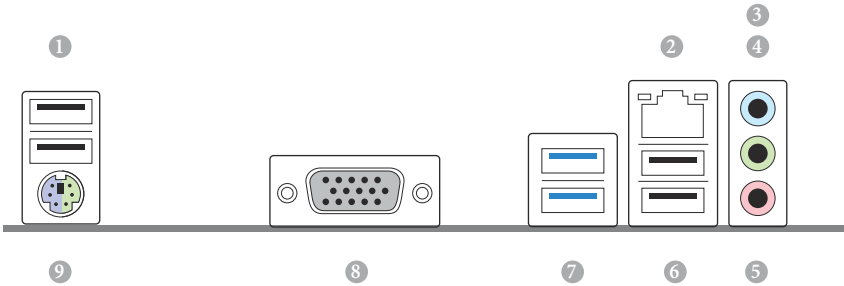
ASRock Website: <http://www.asrock.com>

Motherboard Layout



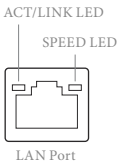
No.	Description
1	CPU Fan Connector (CPU_FAN1)
2	2 x 240-pin DDR3 DIMM Slots (DDR3_A1, DDR3_B1)
3	ATX Power Connector (ATXPWR1)
4	System Panel Header (PANEL1)
5	SATA2 Connector (SATA_2)
6	SATA2 Connector (SATA_3)
7	Power LED Header (PLED1)
8	TPM Header (TPMS1)
9	USB 2.0 Header (USB4_5)
10	USB 2.0 Header (USB6_7)
11	SATA3 Connector (SATA_1)
12	SATA3 Connector (SATA_0)
13	Chassis Fan Connector (CHA_FAN1)
14	Chassis Speaker Header (SPEAKER1)
15	Chassis Intrusion Header (CI1)
16	Clear CMOS Jumper (CLRCMOS1)
17	Front Panel Audio Header (HD_AUDIO1)
18	ATX 12V Power Connector (ATX12V1)

I/O Panel



No.	Description	No.	Description
1	USB 2.0 Ports (USB01)	6	USB 2.0 Ports (USB23)
2	LAN RJ-45 Port*	7	USB 3.0 Ports (USB3_01)
3	Line In (Light Blue)	8	D-Sub Port
4	Front Speaker (Lime)	9	PS/2 Mouse/Keyboard Port
5	Microphone (Pink)		

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



Activity / Link LED		Speed LED	
Status	Description	Status	Description
Off	No Link	Off	10Mbps connection
Blinking	Data Activity	Orange	100Mbps connection
On	Link	Green	1Gbps connection

Chapter 1 Introduction

Thank you for purchasing ASRock H81M-VG4 R2.0 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-VG4 R2.0 Motherboard (Micro ATX Form Factor)
- ASRock H81M-VG4 R2.0 Quick Installation Guide
- ASRock H81M-VG4 R2.0 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
 - High Density Glass Fabric PCB

- CPU**
- Supports New 4th and 4th Generation Intel® Core™ i7/i5/i3/ Xeon®/Pentium®/Celeron® Processors (Socket 1150)
 - 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**
- 1 x PCI Express 2.0 x16 Slot (PCIe2: x16 mode)
 - 1 x PCI Express 2.0 x1 Slot

- 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 4400/4600
 - Pixel Shader 5.0, DirectX 11.1
 - Max. shared memory 1.02MB
 - Supports D-Sub with max. resolution up to 1920x1200 @ 60Hz

- Audio**
- 5.1 CH HD Audio (Realtek ALC662 Audio Codec)
 - Supports Surge Protection (ASRock Full Spike Protection)

LAN

- PCIE x1 Gigabit LAN 10/100/1000 Mb/s
- Realtek RTL8111GR
- Supports Wake-On-WAN
- Supports Wake-On-LAN
- Supports Lightning/ESD Protection (ASRock Full Spike Protection)
- Supports LAN Cable Detection
- Supports Energy Efficient Ethernet 802.3az
- Supports PXE

Rear Panel I/O

- 1 x PS/2 Mouse/Keyboard Port
- 1 x D-Sub Port
- 4 x USB 2.0 Ports (Supports ESD Protection (ASRock Full Spike Protection))
- 2 x USB 3.0 Ports (Supports ESD Protection (ASRock Full Spike Protection))
- 1 x RJ-45 LAN Port with LED (ACT/LINK LED and SPEED LED)
- HD Audio Jack: Line in / Front Speaker / Microphone

Storage

- 2 x SATA3 6.0 Gb/s Connectors, support NCQ, AHCI and Hot Plug
- 2 x SATA2 3.0 Gb/s Connectors, support NCQ, AHCI and Hot Plug

Connector

- 1 x Power LED Header
- 1 x Chassis Intrusion Header
- 1 x TPM Header
- 1 x CPU Fan Connector (4-pin)
- 1 x Chassis Fan Connector (4-pin)
- 1 x 24 pin ATX Power Connector
- 1 x 4 pin 12V Power Connector
- 1 x Front Panel Audio Connector
- 2 x USB 2.0 Headers (Support 4 USB 2.0 ports) (Supports ESD Protection (ASRock Full Spike Protection))

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

Hardware Monitor

- CPU/Chassis temperature sensing
- CPU/Chassis Tachometer
- CPU Quiet Fan (Auto adjust chassis fan speed by CPU temperature)
- CPU/Chassis Fan multi-speed control
- CASE OPEN detection
- Voltage monitoring: +12V, +5V, +3.3V, CPU Vcore

OS

- Microsoft® Windows® 8.1 32-bit / 8.1 64-bit / 8 32-bit / 8 64-bit / 7 32-bit / 7 64-bit

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.

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.

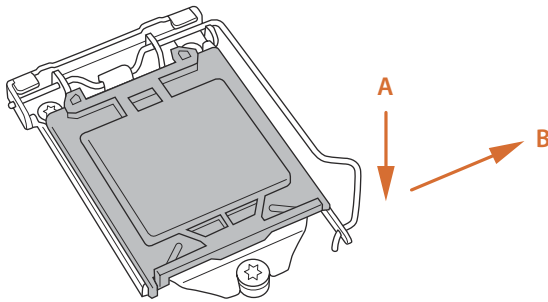
- Make sure to unplug the power cord before installing or removing the motherboard. Failure to do so may cause physical injuries to you and damages to motherboard components.
- In order to avoid damage from static electricity to the motherboard's components, NEVER place your motherboard directly on a 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

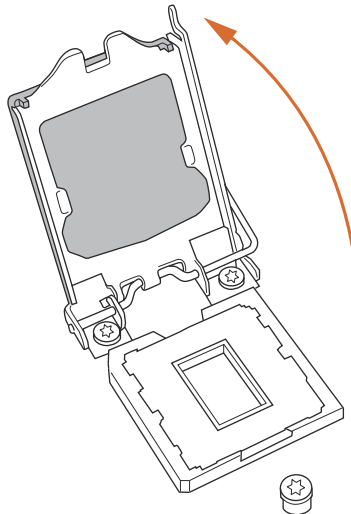


1. Before you insert the 1150-Pin CPU into the socket, please check if the **PnP cap** is on the socket, if the CPU surface is unclean, or if there are any **bent pins** in the socket. Do not force to insert the CPU into the socket if above situation is found. Otherwise, the CPU will be seriously damaged.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

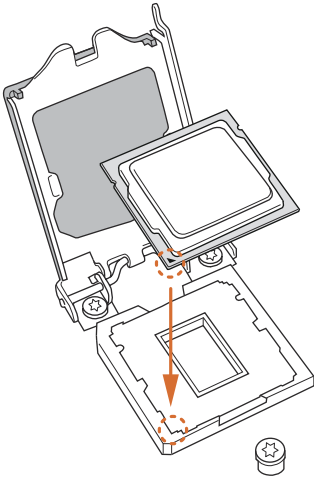
1



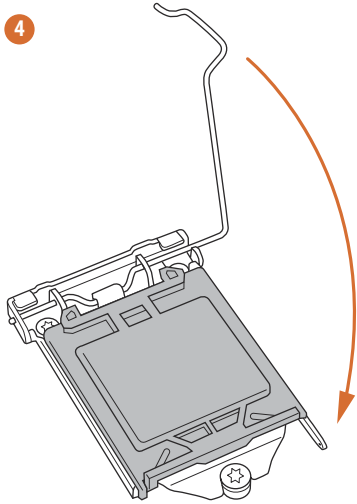
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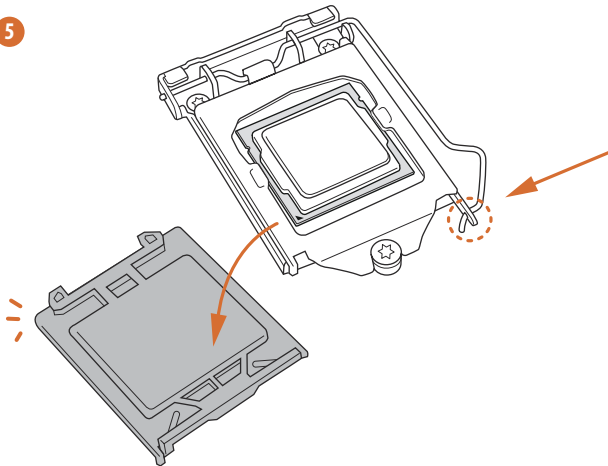
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4



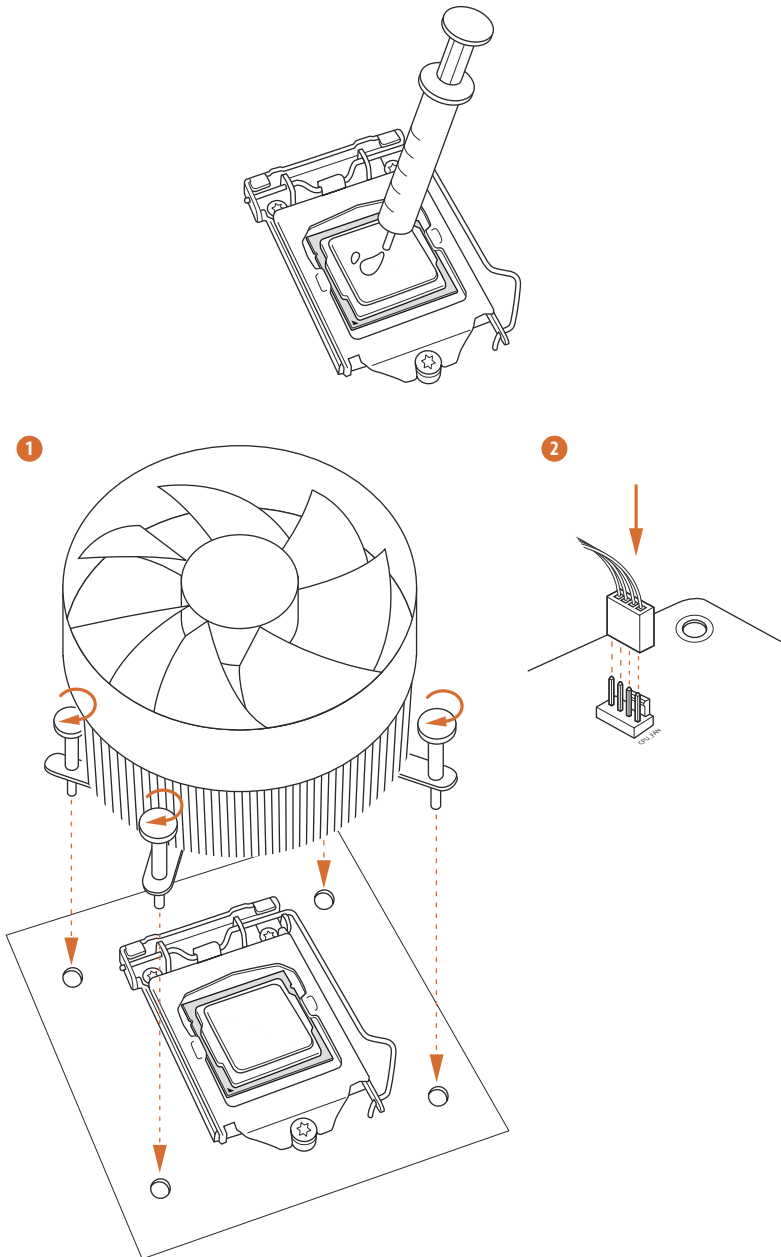
5





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.

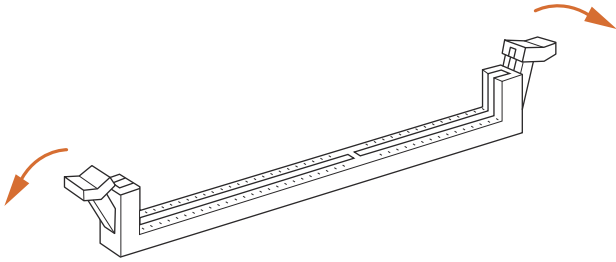


1. For dual channel configuration, you always need to install identical (the same brand, speed, size and chip-type) DDR3 DIMM pairs.
2. It is unable to activate Dual Channel Memory Technology with only one memory module installed.
3. It is not allowed to install a DDR or DDR2 memory module into a DDR3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

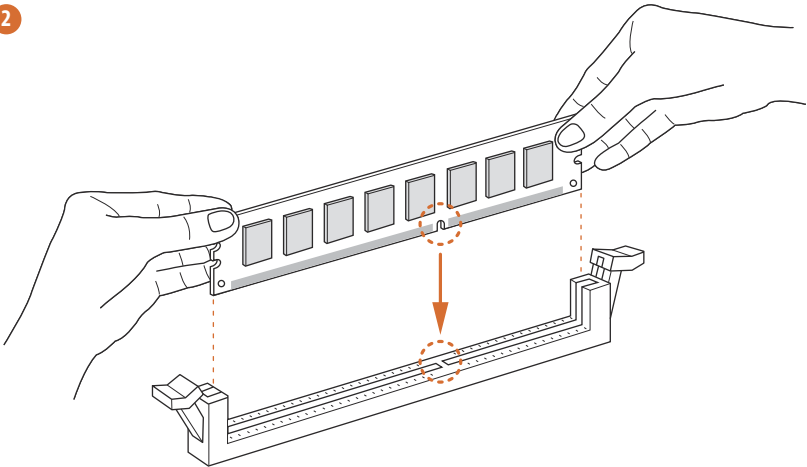


The DIMM only fits in one correct orientation. It will cause permanent damage to the motherboard and the DIMM if you force the DIMM into the slot at incorrect orientation.

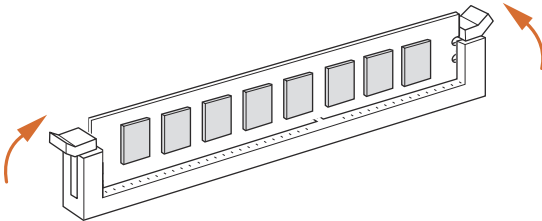
1



2



3



2.4 Expansion Slots (PCI Express Slots)

There are 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.

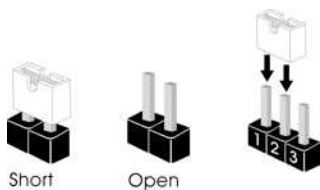
PCIe slots:

PCIE1 (PCIe 2.0 x1 slot) is used for PCI Express x1 lane width graphics cards.

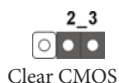
PCIE2 (PCIe 2.0 x16 slot) is used for PCI Express x16 lane width graphics cards.

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
(CLR CMOS1)
(see p.1, No. 16)



CLR CMOS1 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 CLR CMOS1 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.



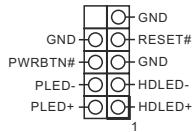
If you clear the CMOS, the case open may be detected. Please adjust the BIOS option “Clear Status” to clear the record of previous chassis intrusion status.

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. 4)



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 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_2:
see p.1, No. 5)
(SATA_3:
see p.1, No. 6)



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

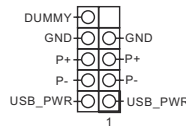
(SATA_0:
see p.1, No. 12)
(SATA_1:
see p.1, No. 11)



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

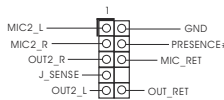
(9-pin USB4_5)
(see p.1, No. 9)
(9-pin USB6_7)
(see p.1, No. 10)



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.

Front Panel Audio Header

(9-pin HD_AUDIO1)
(see p.1, No. 17)

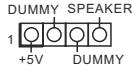


This header is for connecting audio devices to the front audio panel.



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)



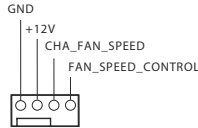
Please connect the chassis speaker to this header.

Power LED Header
(3-pin PLED1)
(see p.1, No. 7)



Please connect the chassis power LED to this header to indicate system power status. The LED is on when the system is operating. The LED keeps blinking in S1 state. The LED is off in S3/S4 state or S5 state (power off).

Chassis Fan Connector
(4-pin CHA_FAN1)
(see p.1, No. 13)



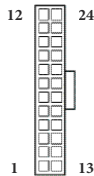
Please connect fan cables to the fan connectors and match the black wire to the ground pin.

CPU Fan Connector
(4-pin CPU_FAN1)
(see p.1, No. 1)



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. 3)



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
(4-pin ATX12V1)
(see p.1, No. 18)



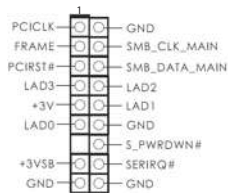
This motherboard provides an 4-pin ATX 12V power connector.

Chassis Intrusion Header
(2-pin CI1)
(see p.1, No. 15)



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

TPM Header
(17-pin TPMS1)
(see p.1, No. 8)



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.

Technische Daten

Plattform	<ul style="list-style-type: none"> • Micro-ATX-Formfaktor • Vollständig solides Kondensatordesign • PCB mit hochverdichtetem Glasfasergewebe
Prozessor	<ul style="list-style-type: none"> • Unterstützt Intel® Core™ i7/i5/i3/Pentium®/Celeron®-Prozessoren (Sockel 1150) der 5., 4. und neuen 4. Generation • Unterstützt Intel® Turbo Boost 2.0-Technologie
Chipsatz	<ul style="list-style-type: none"> • Intel® H81
Speicher	<ul style="list-style-type: none"> • Dualkanal-DDR3-Speichertechnologie • 2 x DDR3-DIMM-Steckplätze • Unterstützt DDR3 1600/1333/1066 non-ECC, ungepufferter Speicher • Systemspeicher, max. Kapazität: 16GB (siehe ACHTUNG) • Unterstützt Intel® Extreme Memory Profile (XMP)1.3/1.2
Erweiterungssteckplatz	<ul style="list-style-type: none"> • 1 x PCI-Express 2,0-x16-Steckplatz (PCI-E2: x16-Modus) • 1 x PCI-Express 2,0-x1-Steckplatz
Grafikkarte	<ul style="list-style-type: none"> • Integrierte Intel® HD Graphics-Visualisierung und VGA-Ausgänge können nur mit Prozessoren unterstützt werden, die GPU-integriert sind. • Unterstützt integrierte Intel® HD Graphics-Visualisierung: Intel® Quick Sync Video mit AVC, MVC (S3D) und MPEG-2 Full HW Encode1, Intel® InTru™ 3D, Intel® Clear Video HD Technology, Intel® Insider™, Intel® HD Graphics 4400/4600 • Pixel Shader 5.0, DirectX 11.1 • Max. geteilter Speicher: 1.02 MB • Unterstützt D-Sub mit maximaler Auflösung von 1920 x 1200 bei 60 Hz
Audio	<ul style="list-style-type: none"> • 5.1-Kanal-HD-Audio (Realtek ALC662-Audiocodec) • Unterstützt Überspannungsschutz (ASRock Full Spike Protection)
LAN	<ul style="list-style-type: none"> • PCIE x1 Gigabit LAN 10/100/1000 Mb/s • Realtek RTL8111GR • Unterstützt Wake-On-WAN

- Unterstützt Wake-On-LAN
- Unterstützt Schutz vor Blitzschlag/elektrostatischer Entladung (ASRocks Komplettschutz vor Spannungsspitzen)
- Unterstützt LAN-Kabelerkennung
- Unterstützt energieeffizientes Ethernet 802.3az
- Unterstützt PXE

Rückblende, E/A

- 1 x PS/2-Maus/Tastaturanschluss
- 1 x D-Sub-Port
- 4 x USB 2.0-Ports (unterstützt Schutz gegen elektrostatische Entladung (ASRock Full Spike Protection))
- 2 x USB 3.0-Ports (unterstützt Schutz gegen elektrostatische Entladung (ASRock Full Spike Protection))
- 1 x RJ-45-LAN-Port mit LED (Aktivität/Verbindung-LED und Geschwindigkeit-LED)
- HD-Audioanschluss: Line-in / Vorderer Lautsprecher / Mikrofon

Speicher

- 2 x SATA-III-6,0-Gb/s-Anschlüsse, unterstützt NCQ, AHCI und „Hot-Plugging“-Funktionen
- 2 x SATA-II-3,0-Gb/s-Anschlüsse, unterstützt NCQ, AHCI und „Hot-Plugging“-Funktionen

Anschluss

- 1 x Betriebs-LED-Header
- 1 x Gehäuseeingriff-Stiftleiste
- 1 x TPM-Stiftleiste
- 1 x CPU-Lüfteranschluss (4-polig)
- 1 x Gehäuselüfteranschluss (4-polig)
- 1 x 24-poliger ATX-Netzanschluss
- 1 x 4-poliger 12-V-Netzanschluss
- 1 x Audioanschluss an Frontblende
- 2 x USB 2.0-Stiftleisten (unterstützt vier USB 2.0-Ports) (unterstützt Schutz gegen elektrostatische Entladung (ASRock Full Spike Protection))

BIOS- Funktion

- 32-Mb-AMI-UEFI-Legal-BIOS mit Unterstützung mehrsprachiger grafischer Benutzerschnittstellen
- ACPI 1.1-konforme Aufweckereignisse
- SMBIOS 2.3.1-Unterstützung
- CPU, DRAM, PCH 1,05 V, PCH 1,5 V / Mehrfachspannungsanpassung

**Hardware-
überwachung**

- CPU-/Gehäusetemperaturerkennung
- CPU/Gehäuse-Lüfertachometer
- Lautloser CPU/Gehäuse(ermöglicht automatische Anpassung der Geschwindigkeit des Gehäuselüfters über die CPU-Temperatur)
- CPU-lüfter-Mehrfachgeschwindigkeitssteuerung
- Gehäuse-offen-Erkennung
- Spannungsüberwachung: +12 V, +5 V, +3,3 V, CPU Vcore

Betriebssystem

- Unterstützt Microsoft® Windows® 8.1 32-Bit / 8.1 64-Bit / 8 32-Bit / 8 64-Bit / 7 32-Bit / 7 64-Bit

Zertifizierungen

- FCC, CE, WHQL
- ErP/EuP ready (ErP/EuP ready-Netzteil erforderlich)

Spécifications

Plateforme

- Facteur de forme Micro ATX
- Conception à condensateurs solides
- PCB en tissu de verre haute densité

Processeur

- Prend en charge les processeurs Intel® Core™ i7/i5/i3/Pentium®/Celeron® 4e, nouvelle 4e et 5e génération (socket 1150)
- Prend en charge la technologie Intel® Turbo Boost 2.0

Chipset

- Intel® H81

Mémoire

- Technologie mémoire double canal DDR3
- 2 x fentes DIMM DDR3
- Prend en charge les mémoires sans tampon non ECC DDR3 1600/1333/1066
- Capacité max. de la mémoire système : 16Go (voir AVERTISSEMENT)
- Prend en charge Intel® Extreme Memory Profile (XMP)1.3/1.2

Fente d'expansion

- 1 x fente PCI Express 2.0 x 16 (PCIe2: mode x16)
- 1 x fente PCI Express 2.0 x 1

Graphiques

- La technologie Intel® HD Graphics Built-in Visuals et les sorties VGA sont uniquement prises en charge par les processeurs intégrant un contrôleur graphique.
- Prend en charge la technologie 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 4400/4600
- Pixel Shader 5.0, DirectX 11.1
- Mémoire partagée max. 1. 02Mo
- Prend en charge le mode D-Sub avec une résolution maximale de 1920x1200 @ 60Hz

Audio

- Audio 5.1 CH HD (codec audio Realtek ALC662)
- Protection contre les surtensions (Protection complète contre les pics ASRock)

Réseau

- PCIE x1 Gigabit LAN 10/100/1000 Mb/s
- Realtek RTL8111GR
- Supporte du Wake-On-WAN
- Supporte du Wake-On-LAN
- Supporte la protection contre la foudre/ESD (protection complète contre surges ASRock)
- Prise en charge de la détection de câble LAN
- Prend en charge la norme Energy Efficient Ethernet (Ethernet à efficacité énergétique) 802.3az
- Supporte PXE

Connectique du panneau arrière

- 1 x port souris/clavier PS/2
- 1 x port D-Sub
- 4 x ports USB 2.0 (Protection contre les décharges électrostatiques (Protection complète contre les pics ASRock))
- 2 x ports USB 3.0 (Protection contre les décharges électrostatiques (Protection complète contre les pics ASRock))
- 1 x port RJ-45 LAN avec LED (LED ACT/LIEN et LED VITESSE)
- Connecteurs jack audio HD : entrée ligne / haut-parleur avant / microphone

Stockage

- 2 x connecteurs SATA3 6,0 Go/s, compatibles avec les fonctions NCQ, AHCI et « Hot Plug »
- 2 x connecteurs SATA2 3,0 Go/s, compatibles avec les fonctions NCQ, AHCI et « Hot Plug »

Connectique

- 1 x LED di accensione
- 1 x embase d'intrusion châssis
- 1 x embase TPM
- 1 x connecteur pour ventilateur de processeur (4 broches)
- 1 x connecteur pour ventilateur de châssis (4 broches)
- 1 x connecteur d'alimentation ATX 24 broches
- 1 x connecteur d'alimentation 12V 4 broches
- 1 x connecteur audio panneau frontal
- 2 x embases USB 2.0 (pour 4 ports USB 2.0) (Protection contre les décharges électrostatiques (Protection complète contre les pics ASRock))

BIOS

- BIOS UEFI AMI 32Mo avec prise en charge d'interface graphique multilingue
- Compatible ACPI 1.1 Wake Up Events
- Prend en charge SMBIOS 2.3.1
- Réglage de la tension CPU, DRAM, PCH 1,05V, PCH 1,5V

**Surveillance
du matériel**

- Détection de la température du processeur/châssis
- Tachéomètre processeur/châssis d'alimentation
- Fonction ventilateur silencieux processeur/châssis Quiet Fan (permet au ventilateur du châssis d'adapter sa vitesse de rotation automatiquement en fonction de la température du processeur)
- Contrôle simultané des vitesses du ventilateur processeur
- Détection CHASSIS OUVERT
- Surveillance de la tension d'alimentation : +12V, +5V, +3,3V, CPU Vcore

**Système
d'exploitation**

- Microsoft® Windows® 8.1 32-bit / 8.1 64-bit / 8 32-bit / 8 64-bit / 7 32-bit / 7 64-bit

Certifications

- FCC, CE, WHQL
- ErP/EuP Ready (alimentation ErP/EuP ready requise)

Specifiche

Piattaforma

- Fattore di forma Micro ATX
- Design di condensatore solido
- Circuito in vetro ad alta densità

CPU

- Supporta processori Intel® Core™ i7/i5/i3/Pentium®/Celeron® di quinta generazione, di nuova quarta e quarta generazione (Socket 1150)
- Supporta la tecnologia Intel® Turbo Boost 2.0

Chipset

- Intel® H81

Memoria

- Tecnologia con memoria DDR3 a doppio canale
- 2 x slot DIMM DDR3
- Supporta la memoria DDR3 1600/1333/1066 non ECC, senza buffer
- Capacità max. della memoria di sistema: 16GB (si veda la sezione ATTENZIONE)
- Supporta Intel® Extreme Memory Profile (XMP)1.3/1.2

Slot di espansione

- 1 x PCI Express 2.0 x16 slot (PCIE2: modalità x16)
- 1 x PCI Express 2.0 x1 slot

Grafica

- La videografica integrata della scheda video HD Intel® e le uscite VGA possono essere supportate soltanto con processori con GPU integrata.
- Supporta la videografica integrata della scheda video HD Intel®: Intel® Quick Sync Video con AVC, MVC (S3D) e MPEG-2 Full HW Encode1, Intel® InTru™ 3D, tecnologia Intel® Clear Video HD, Intel® Insider™, Intel® HD Graphics 4400/4600
- Pixel Shader 5.0, DirectX 11.1
- Memoria condivisa max. 1.02 MB
- Supporta D-Sub con una risoluzione max. fino a 1920 x 1200 a 60 Hz

Audio

- Audio HD a 5.1 canali (codec audio Realtek ALC662)
- Supporto protezione da sovratensione (protezione completa ASRock dai picchi di corrente)

LAN

- PCIE x1 Gigabit LAN 10/100/1000 Mb/s
- Realtek RTL8111GR
- Supporta Wake-On-WAN
- Supporta Wake-On-LAN
- Supporto la protezione da fulmini/scariche elettrostatiche (ESD) (protezione completa ASRock dai picchi di corrente)
- Supporta il rilevamento cavo LAN
- Supporto di Energy Efficient Ethernet 802.3az
- Supporta PXE

I/O pannello posteriore

- 1 x porta PS/2 per mouse/tastiera
- 1 x porta D-Sub
- 4 x porte USB 2.0 (supporto protezione da scariche elettrostatiche (ESD) (protezione completa ASRock dai picchi di corrente))
- 2 x porte USB 3.0 (supporto protezione da scariche elettrostatiche (ESD) (protezione completa ASRock dai picchi di corrente))
- 1 x porta LAN RJ-45 con LED (ACT/LINK LED e SPEED LED)
- Jack audio HD: ingresso linea/altoparlante anteriore/microfono

Archiviazione

- 2 x connettori SATA3 6,0 Gb/s, supporta le funzioni NCQ, AHCI e "Hot Plug"
- 2 x connettori SATA2 3,0 Gb/s, supporta le funzioni NCQ, AHCI e "Hot Plug"

Connettore

- 1 x LED di accensione
- 1 x header di intrusione nello chassis
- 1 x header TPM
- 1 x connettore ventola CPU (4 pin)
- 1 x connettore ventola chassis (4 pin)
- 1 x connettore alimentazione ATX a 24 pin
- 1 x connettore alimentazione da 12 V a 4 pin
- 1 x connettore audio pannello anteriore
- 2 x header USB 2.0 (supporto 4 porte USB 2.0) (supporto protezione da scariche elettrostatiche (ESD) (protezione completa ASRock dai picchi di corrente))

Caratteristiche del BIOS

- BIOS legale 32 Mb AMI UEFI con supporto GUI multilingue
- Eventi di wake up conformi ad ACPI 1.1
- Supporto SMBIOS 2.3.1
- Multiregolazione tensione CPU, DRAM, PCH 1,05 V, PCH 1,5 V

Hardware Monitor

- Sensore temperatura CPU/chassis
- Tachimetro CPU/chassis alimentazione
- Ventola silenziosa CPU/chassis (consente l'autoregolazione della velocità della ventola dello chassis mediante la temperatura della CPU)
- Controllo multivelocità della ventola di CPU
- Rilevamento CASE OPEN
- Monitoraggio tensione: +12 V, +5 V, +3,3 V, CPU Vcore

SO

- Microsoft® Windows® 8.1 32 bit / 8.1 64 bit / 8 32 bit / 8 64 bit / SO 7 32 bit / 7 64 bit

Certificazioni

- FCC, CE, WHQL
- ErP/EuP Ready (è necessaria alimentazione ErP/EuP ready)

Especificaciones

- | | |
|----------------------------|---|
| Plataforma | <ul style="list-style-type: none">• Factor de forma Micro ATX• Diseño de los Condensadores: All Solid• PCB de fibra de vidrio de alta densidad |
| CPU | <ul style="list-style-type: none">• Admite procesadores Intel® Core™ i7/i5/i3/Pentium®/Celeron® (zócalo 1150) de la 5ª generación y de la nueva 4ª y 4ª generación.• Compatible con la tecnología de Intel® Turbo Boost 2.0 |
| Conjunto de chips | <ul style="list-style-type: none">• Intel® H81 |
| Memoria | <ul style="list-style-type: none">• 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 | <ul style="list-style-type: none">• 1 ranura PCI Express 2.0 x16 (PCIE2: modo x16)• 1 ranura PCI Express 2.0 x1 |
| Gráficos | <ul style="list-style-type: none">• 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 4400/4600• Pixel Shader 5.0, DirectX 11.1• Memoria compartida máxima: 1.02MB• Compatible con D-Sub con máxima resolución hasta 1920x1200 @ 60Hz |
| Audio | <ul style="list-style-type: none">• 5.1 Audio CH HD (Realtek ALC662 Audio Codec)• Compatible con protección por sobretensión (protección ASRock Full Spike) |

LAN

- PCIE x1 Gigabit LAN 10/100/1000 Mb/s
- Realtek RTL8111GR
- Soporta Wake-On-WAN
- Soporta Wake-On-LAN
- Supporto la protezione da fulmini/scariche elettrostatiche (ESD) (protezione completa ASRock dai picchi di corrente)
- Admite detección de conexión de cable LAN
- Compatible con Ethernet 802.3az de bajo consumo energético
- Compatible con PXE

Panel trasero I/O

- 1 x puerto de ratón/teclado PS/2
- 1 puerto D-Sub
- 4 puertos USB 2.0 (compatible con protección contra electricidad estática (protección ASRock Full Spike))
- 2 puertos USB 3.0 (compatible con protección contra electricidad estática (protección ASRock Full Spike)) 2 puertos USB 3.0
- 1 puerto LAN RJ-45 con LED (ACT/LINK LED y SPEED LED)
- Conector de audio HD: 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 x cabecera de indicador LED de encendido
- 1 cabezal de intrusión de chasis
- 1 cabezal TPM
- 1 conector de ventilador de la CPU (de 4 pines)
- 1 conector de ventilador del chasis (de 4 pines)
- 1 conector de alimentación ATX de 24 pines
- 1 conector de alimentación de 12V de 4 pines
- 1 conector de audio del panel frontal
- 2 cabezales USB 2.0 (compatibles con 4 puertos USB 2.0) (compatible con protección contra electricidad estática (protección ASRock Full Spike)) 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

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
- Detección de CUBIERTA ABIERTA
- Control del voltaje: +12V, +5V, +3,3V, CPU Vcore

SO

- En conformidad con Microsoft® Windows® 8.1 32 bits / 8.1 64 bits / 8 32 bits / 8 64 bits / 7 32 bits / 7 64 bits

Certificaciones

- FCC, CE, WHQL
- Compatible con ErP/EuP (requiere toma de alimentación compatible con ErP/EuP)

Спецификация

Платформа	<ul style="list-style-type: none"> • Форм-фактор Micro ATX • Использование только твердотельных конденсаторов • High Density Glass Fabric PCB
ЦП	<ul style="list-style-type: none"> • Поддержка процессоров 5-го поколения, нового 4-го и 4-го поколения Intel® Core™ i7/i5/i3/Pentium®/Celeron® (Разъем 1150) • Поддержка технологии Intel® Turbo Boost 2.0
Чипсет	<ul style="list-style-type: none"> • Intel® H81
Память	<ul style="list-style-type: none"> • Двухканальная память DDR3 • 2 x гнездо DDR3 DIMM • Поддержка модулей памяти DDR3 1600/1333/1066 Non-ECC Unbuffered • Максимальный объем системной памяти: 16 Гб (см. «ПРЕДОСТЕРЕЖЕНИЕ») • Поддержка Intel® Extreme Memory Profile (XMP)1.3/1.2
Гнезда расширения	<ul style="list-style-type: none"> • 1 x PCI Express 2.0 x16 гнезд (PCIЕ2: режим x16) • 1 x PCI Express 2.0 x1 гнезд
Графическая система	<ul style="list-style-type: none"> • Поддержка выходных сигналов Intel® HD Graphics Built-in Visuals и VGA возможна только при использовании процессоров со встроенными графическими процессорами. • Поддержка Intel® HD Graphics Built-in Visuals: Intel® Quick Sync Video с AVC, MVC (S3D) и MPEG-2 Full HW Encode1, Intel® InTru™ 3D, Intel® Clear Video HD Technology, Intel® Insider™, Intel® HD Graphics 4400/4600 • Pixel Shader 5.0, DirectX 11.1 • Максимальный объем совместно используемой памяти: 1.02 Мб • Поддержка D-Sub с максимальным разрешением до 1920x1200 при 60 Гц
Аудио	<ul style="list-style-type: none"> • 5.1-канальный звук высокой четкости HD Audio (аудиокодек Realtek ALC662) • Защита от перенапряжения (ASRock Full Spike Protection)

ЛВС

- PCIE x 1 Gigabit LAN 10/100/1000 Mb/s
- Realtek RTL8111GR
- поддержка Wake-On-WAN
- поддержка Wake-On-LAN
- (Поддержка защиты от молнии/ электростатического электричества (Полная защита (ASRock от выбросов напряжения))
- Поддержка определения кабеля ЛВС
- Поддержка энергосберегающего интерфейса Ethernet 802.3az
- Поддержка PXE

Порты ввода-вывода на задней панели

- 1 x порт мыши/клавиатуры PS/2
- 1 x D-Sub
- 4 x USB 2.0 с защитой от электростатического напряжения (ASRock Full Spike Protection)
- 2 x USB 3.0 с защитой от электростатического напряжения (ASRock Full Spike Protection)
- 1 x RJ-45 для ЛВС с СИД (СИД АСТ/LINK и МИД SPEED)
- Разъемы HD Audio: линейный вход / передние динамики / микрофон

Запоминающие устройства

- 2 x разъем SATA3 6,0 Гб/с, поддержка функций NCQ, АНСИ и «горячей» замены
- 2 x разъем SATA2 3,0 Гб/с, поддержка функций NCQ, АНСИ и «горячей» замены

Разъемы

- 1 x разъем Power LED
- 1 x колодка для датчика вскрытия корпуса
- 1 x колодка TPM
- 1 x разъем для вентилятора ЦП (4-контактный)
- 1 x разъем для вентилятора корпуса (4-контактный)
- 1 x разъем питания ATX (24-контактный)
- 1 x 4-контактный разъем питания 12 В
- 1 x аудиоразъем на передней панели
- 2 x колодки USB 2.0 (поддержка 4 портов USB 2.0) с защитой от электростатического напряжения (ASRock Full Spike Protection)

Особенности BIOS

- 32 Мб AMI UEFI Legal BIOS с поддержкой многоязычного ГИП
- Совместимость с управлением энергопотреблением по ACPI 1.1
- Поддержка SMBIOS 2.3.1
- Регулировка напряжений ЦП, DRAM, PCH 1,05 В, PCH 1,5 В

Контроль оборудования

- Датчик температуры ЦП/корпуса питания
- Тахометр вентиляторов ЦП/корпуса питания
- Малошумящий вентилятор ЦП/корпуса (с автоматической регулировкой оборотов по температуре ЦП)
- Управление оборотами вентилятора ЦП
- Технология определения вскрытия корпуса
- Контроль напряжения: +12 В, +5 В, +3,3 В, ЦП Vcore

ОС

- Совместимость с Microsoft® Windows® 8.1 32-bit / 8.1 64-bit / 8 32-bit / 8 64-bit / 7 32-bit / 7 64-bit

Сертификация

- FCC, CE, WHQL
- Совместимость с ErP/EuP (необходим блок питания, соответствующий стандарту ErP/EuP)

Especificações

- | | |
|-----------------------------|---|
| Plataforma | <ul style="list-style-type: none">• Formato Micro ATX• Design de condensador sólido• PCB de Fibra de Vidro de Alta Densidade |
| CPU | <ul style="list-style-type: none">• Suporta Processadores de 5ª Geração, 4ª Geração Nova e 4ª Geração Intel® Core™ i7/i5/i3/Pentium®/Celeron® (Soquete 1150)• Suporta a tecnologia Intel® Turbo Boost 2.0 |
| Chipset | <ul style="list-style-type: none">• Intel® H81 |
| Memória | <ul style="list-style-type: none">• 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 | <ul style="list-style-type: none">• 1 x ranhura PCI Express 2.0 x16 (PCIE2: modo x16)• 1 x ranhura PCI Express 2.0 x1 |
| Gráficos | <ul style="list-style-type: none">• 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 4400/4600• Pixel Shader 5.0, DirectX 11.1• Memória partilhada máxima de 1.02MB• Suporta D-Sub com resolução máxima de até 1920x1200 @ 60Hz |
| Áudio | <ul style="list-style-type: none">• Áudio HD de 5.1 canais (Codec de áudio Realtek ALC662)• Suporta proteção contra sobretensão (Proteção Total Contra Picos ASRock) |

LAN

- PCIE x1 Gigabit LAN 10/100/1000 Mb/s
- Realtek RTL8111GR
- Suporta Wake-On-WAN
- Suporta Wake-On-LAN
- Suporta Proteção contra Relâmpago/ESD (Proteção Total contra Picos ASRock)
- Suporta Detecção de cabo LAN
- Suporta Ethernet com Eficiência Energética 802.3az
- Suporta PXE

E/S do painel traseiro

- 1 x PS/2 Mouse/Keyboard Port
- 1 x Porta D-Sub
- 4 x portas USB 2.0 (Suporta Proteção ESD (Proteção Total Contra Picos ASRock))
- 2 x portas USB 3.0 (Suporta Proteção ESD (Proteção Total Contra Picos ASRock))
- 1 x Porta LAN RJ-45 com LED (LED ACT/LIGAÇÃO e LED DE VELOCIDADE)
- Ficha de áudio HD: Entrada de linha / Altifalante frontal / Microfone

Armazenamento

- 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 Conector para LED de alimentação
- 1 x Terminal de intrusão no chassis
- 1 x Terminal TPM
- 1 x Conector da ventoinha da CPU (4 pinos)
- 1 x Conector da ventoinha do chassis (4 pinos)
- 1 x conector de alimentação de 24 pinos ATX
- 1 x conector de alimentação de 12V de 4 pinos
- 1 x conector de áudio do painel frontal
- 2 x terminais USB 2.0 (suporte para 4 portas USB 2.0) (Suporta Proteção ESD (Proteção Total Contra Picos ASRock))

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

Monitor de Hardware

- Sensor de temperatura de CPU/Chassis
- Taquímetro de ventoinha de CPU/Chassis
- 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
- Detecção de ABERTURA da CAIXA
- Monitorização da tensão: +12V, +5V, +3,3V, CPU Vcore

Sistema Operativo

- Microsoft® Windows® 8.1 de 32 bits / 8.1 de 64 bits / 8 de 32 bits / 8 de 64 bits / 7 de 32 bits / 7 de 64 bits

Certificações

- FCC, CE, WHQL
- Preparada para ErP/EuP (é necessária uma fonte de alimentação preparada para ErP/EuP)

Özellikler

Platform

- Micro ATX Form Faktörü
- Tam Katı Bağlayıcı tasarımı
- Yüksek Yoğunluklu Cam Elyafı Kumaş PCB

CPU

- 5. Nesil, Yeni 4. ve 4. Nesil Intel® Core™ i7/i5/i3/Pentium®/Celeron® İşlemcilerini destekler (Soket 1150)
- Intel® Turbo Boost 2.0 Teknolojisini destekler

Yonga kümesi

- Intel® H81

Bellek

- Çift Kanallı DDR3 Bellek Teknolojisi
- 2 x DDR3 DIMM yuvaları
- DDR3 1600/1333/1066 ECC olmayan, ara belleğe alınmamış belleği destekler
- Maksimum sistem belleği kapasitesi: 16GB (bkz. DİKKAT ikazı)
- Intel® Üstün Bellek Profili (XMP)1.3/1.2 özelliğini destekler

Genişletme

- 1 x PCI Express 2.0 x16 yuva (PCIE2: x16 modu)

Yuvası

- 1 x PCI Express 2.0 x1

Grafikler

- Intel® HD Graphics Dahili Görselleri ile VGA çıktıları, yalnızca GPU entegre edilmiş işlemciler ile desteklenir.
- Intel® HD Graphics Dahili Görsellerini destekler : AVC, MVC (S3D) ve MPEG-2 Full HW Encode1, Intel® InTru™ 3D, Intel® Net Video HD Teknolojisi, Intel® Insider™, Intel® HD Graphics 4400/4600 ile Intel® Quick Sync Video
- Pixel Shader 5.0, DirectX 11.1
- Maksimum paylaşılan bellek 1. 02MB
- 1920x1200 @ 60Hz'ye kadar çözünürlükle D-Sub işlevini destekler

Ses

- 5.1 CH HD Ses (Realtek ALC662 Ses Codec Bileşeni)
- Dalgalanma Koruması Destekler (ASRock Tam Ani Gerilim Koruması)

LAN

- PCIE x1 Gigabit LAN 10/100/1000 Mb/sn
- Realtek RTL8111GR
- WAN'da Uyan özelliğini destekler
- LAN'da Uyan özelliğini destekler
- Yıldırım/ESD Korumasını destekler (ASRock Tam Ani Yükseliş Koruması)
- LAN Kablo Algılama'yı destekler
- Enerji Verimli Ethernet 802.3az desteği
- PXE'yi destekler

Arka Panel I/O

- 1 x PS/2 Fare/Klavye Portu
- 1 x D-Sub Bağlantı Noktası
- 4 x USB 2.0 Bağlantı noktası (ESD Koruması Destekler (ASRock Tam Ani Gerilim Koruması))
- 2 x USB 3.0 Bağlantı noktası (ESD Koruması Destekler (ASRock Tam Ani Gerilim Koruması))
- LED'e sahip 1 x RJ-45 LAN Bağlantı Noktası (ACT/LINK LED ve SPEED LED)
- HD Ses Jakı: Hat Girişi / Ön Hoparlör / Mikrofon

Depolama

- 2 x SATA3 6,0 Gb/s bağlayıcıları NCQ, AHCI ve "Hot Plug" işlevlerini destekler
- 2 x SATA2 3,0 Gb/s bağlayıcıları NCQ, AHCI ve "Hot Plug" işlevlerini destekler

Bağlayıcı

- 1 x Güç LED'i fişi
- 1 x Kasa Yetkisiz Erişim bağlantısı
- 1 x TPM bağlantısı
- 1 x CPU Fan bağlayıcısı (4-pin)
- 1 x Kasa Fanı bağlayıcısı (4-pin)
- 1 x 24 pin ATX güç bağlayıcısı
- 1 x 4 pin 12V güç bağlayıcısı
- 1 x Ön panel ses bağlayıcısı
- 2 x USB 2.0 bağlantısı (4 USB 2.0 bağlantı noktasını destekler) (ESD Koruması Destekler (ASRock Tam Ani Gerilim Koruması))

BIOS Özelliği

- Çok dilli GUI Desteği ile 32Mb AMI UEFI Legal BIOS
- ACPI 1.1 Uyumluluğu Uyandırma Olayları
- SMBIOS 2.3.1 Desteği
- CPU, DRAM, PCH 1,05V, PCH 1,5V Voltaj Çoklu Ayarı

**Donanım
Monitörü**

- CPU/Kasa Sıcaklığı Tespiti
- CPU/Kasa Fanı Devirölçer
- CPU/Kasa Sessiz Fan (Kasa Fan Hızının CPU Sıcaklığına Göre Otomatik olarak Ayarlanmasını Sağlar)
- CPU Fanı Çoklu Hız Kontrolü
- KASA AÇIK algılaması
- Voltaj Denetleme: +12V, +5V, +3,3V, CPU Vcore

OS

- Microsoft® Windows® 8.1 32-bit / 8.1 64-bit / 8 32-bit / 8 64-bit / 7 32-bit / 7 64-bit

Belgeler

- FCC, CE, WHQL
- ErP/EuP için hazır (ErP/EuP için hazır güç beslemesi gereklidir)

규격

플랫폼

- Micro ATX 폼 팩터
- 모든 솔리드 콘덴서 구조
- 고 밀도 유리 직물 PCB

CPU

- 5 세대, 신형 4 세대 및 4 세대 Intel® Core™ i7/i5/i3/Pentium®/Celeron® 프로세서 (소켓 1150) 지원
- Intel® Turbo Boost 2.0 기술 지원

칩세트

- Intel® H81

메모리

- 듀얼 채널 DDR3 메모리 기술
- DDR3 DIMM 슬롯 2 개
- DDR3 1600/1333/1066 비-ECC, 비버퍼링 메모리 지원
- 시스템 메모리 최대 용량 : 16GB
(주의 참조)
- Intel® Extreme Memory Profile (XMP)1.3/1.2 지원

확장 슬롯

- PCI Express 2.0 x16 슬롯 1 개 (PCIe2: x16 모드)
- PCI Express 2.0 x1 슬롯 1 개

그래픽

- Intel® HD 그래픽스 빌트 - 인 비주얼과 VGA 출력은 GPU 통합 프로세서로만 지원할 수 있습니다.
- Intel® HD 그래픽스 빌트 - 인 비주얼 지원 : AVC, MVC (S3D) 및 MPEG-2 풀 HW Encode1 지원 Intel® Quick Sync Video, Intel® InTru™ 3D, Intel® 클리어 비디오 HD 기술, Intel® Insider™, Intel® HD 그래픽스 4400/4600
- Pixel Shader 5.0, DirectX 11.1
- 최대 공유 메모리 1.02MB
- D-Sub 지원 (최대 해상도 1920x1200 @ 60Hz)

오디오

- 5.1 CH HD 오디오 지원 (Realtek ALC662 오디오 코덱)
- 서지 보호 지원 (ASRock 풀 스파이크 보호)

LAN

- PCIE x1 Gigabit LAN 10/100/1000 Mb/s
- Realtek RTL8111GR
- Wake-On-WAN 지원
- 웨이크 - 온 - 랜 지원
- 조명 /ESD 보호 (ASRock 폴 스파이크 보호) 지원
- LAN 케이블 감지 지원
- 절전형 이더넷 802.3az 지원
- PXE 지원

후면 패널 I/O

- 1 개 PS/2 마우스 / 키보드 포트
- D-Sub 포트 1 개
- USB 2 포트 4 개 ASM1042AE) (ESD 보호 지원 (ASRock 폴 스파이크 보호))
- USB 3 포트 2 개 (ESD 보호 지원 (ASRock 폴 스파이크 보호))
- LED 장착 RJ-45 LAN 포트 1 개 (ACT/LINK LED 및 SPEED LED)
- HD 오디오 잭 : 라인 입력 / 전면 스피커 / 마이크

저장 장치

- SATA3 6.0 Gb/s 커넥터 2 개, NCQ, AHCI 및 “핫 플러그” 기능 지원
- SATA2 3.0 Gb/s 커넥터 2 개, NCQ, AHCI 및 “핫 플러그” 기능 지원

커넥터

- 전원 LED 헤더 1 개
- 새시 침입 헤더 1 개
- TPM 헤더 1 개
- CPU 팬 커넥터 1 개 (4 핀)
- 새시 팬 커넥터 1 개 (4 핀)
- 전원 팬 커넥터 1 개 (3 핀)
- 24 핀 ATX 전원 커넥터 1 개
- 4 핀 12V 전원 커넥터 1 개
- 전면 패널 오디오 커넥터 1 개
- USB 2.0 헤더 2 개 (USB 2.0 포트 4 개 지원) (ESD 보호 지원 (ASRock 폴 스파이크 보호))

BIOS 기능

- 다국어 GUI 지원을 제공하는 32Mb AMI UEFI 적합형 BIOS
- ACPI 1.1 준수 웨이크 업 이벤트
- SMBIOS 2.3.1 지원
- CPU, DRAM, PCH 1.05V, PCH 1.5V 전압 다중 조정

하드웨어 모니터

- CPU/ 새시 온도 감지
- CPU/ 새시 타코미터
- CPU/ 새시 저소음 팬 (CPU 온도에 의한 새시 팬 속도 자동 조정)
- CPU 팬 다중 속도 조절
- 케이스 열림 감지
- 전압 모니터링 : +12V, +5V, +3.3V, CPU Vcore

OS

- 마이크로 소프트 Windows® 8.1 32 비트 /8.1 64 비트 /8 32 비트 /8 64 비트 /7 32 비트 /7 64 비트

인증

- FCC, CE, WHQL
- ErP/EuP 사용 가능 (ErP/EuP 사용 가능 전원공급장치 필요)

仕様

- プラットフォーム**
- マイクロ ATX フォームファクター
 - オール固体コンデンサー設計
 - 高密度ガラス繊維 PCB

- CPU**
- 第 5 世代、新第 4 世代および第 4 世代 Intel® Core™ i7/i5/i3/Pentium®/Celeron® プロセッサに対応 (ソケット 1150)
 - Intel® ターボブースト 2.0 テクノロジーをサポート

- チップセット**
- Intel® H81

- メモリ**
- デュアルチャンネル DDR3 メモリテクノロジー
 - 2 x DDR3 DIMM スロット
 - DDR3 1600/1333/1066 ECC なし、アンバッファードメモリをサポート
 - システムメモリの最大容量: 16GB
(注意を参照)
 - Intel® エクストリームメモリプロファイル (XMP) 1.3/1.2 をサポート

- 拡張スロット**
- 1 x PCI Express 2.0 x16 スロット (PCIE2: x16 モード)
 - 1 x PCI Express 2.0 x1 スロット

- グラフィックス**
- Intel®HD グラフィックス内蔵ビジュアルおよび VGA 出力は、GPU に統合されたプロセッサのみでサポートされます。
 - Intel®HD グラフィックス内蔵ビジュアルをサポート: AVC、MVC (S3D)、MPEG-2 フル HW エンコード 1 の Intel® Quick Sync Video、Intel® InTru™ 3D、Intel® クリアビデオ HD テクノロジー、Intel® インサイダー™、Intel® HD グラフィックス 4400/4600
 - ピクセルシェーダー 5.0、DirectX 11.1
 - 最大共有メモリ 1.02MB
 - D-Sub をサポート。最大解像度 1920x1200 @60Hz

- 音声**
- 5.1 CH HD オーディオ (Realtek ALC662 オーディオコーデック)
 - サージ保護に対応 (ASRock 完全スパイク保護)

LAN

- PCIE x1 Gigabit LAN 10/100/1000 Mb/s
- Realtek RTL8111GR
- ウェイクオン WAN をサポートします
- Wake-On-LAN をサポート
- 雷 /ESD 保護 ((ASRock フルスパイク保護) をサポート します
- LAN ケーブル検出をサポート
- Energy Efficient Ethernet 802.3az をサポート
- PXE をサポート

リアパネル I/O

- 1 x PS/2 マウス / キーボードポート
- 1 x PS/2 キーボードポート
- 1 x D-Sub ポート
- 4 x USB 2.0 ポート ASM1042AE (静電気放電 (ESD) 保護に対応 (ASRock 完全スパイク保護))
- 2 x USB 3.0 ポート (静電気放電 (ESD) 保護に対応 (ASRock 完全スパイク保護))
- LED 付き 1 x RJ-45 LAN ポート (ACT/LINK LED と SPEED LED)
- HD オーディオジャック: ラインイン / フロントスピーカー / マイク

ストレージ

- 2 x SATA3 6.0 Gb/ 秒コネクタ、NCQ、AHCI、「ホットプラグ」機能をサポート
- 2 x SATA2 3.0 Gb/ 秒コネクタ、NCQ、AHCI、「ホットプラグ」機能をサポート

コネクタ

- 電源 LED ヘッダー x 1
- 1 x シャーシイントレージョンヘッダー
- 1 x TPM ヘッダー
- 1 x CPU ファインコネクタ (4 ピン)
- 1 x シャーシファンコネクタ (4 ピン)
- 1 x 24 ピン ATX 電源コネクタ
- 1 x 4 ピン 12V 電源コネクタ
- 1 x 前面パネルオーディオコネクタ
- 2 x USB 2.0 ヘッダー (4 つの USB 2.0 ポートをサポート (静電気放電 (ESD) 保護に対応 (ASRock 完全スパイク保護))

BIOS 機能

- 多言語 GUI サポート付きの 32Mb AMI UEFI Legal BIOS
- ACPI 1.1 準拠のウェイクアップイベント
- SMBIOS 2.3.1 をサポート
- CPU、DRAM、PCH 1.05V、PCH 1.5V 複数電圧設定

**ハードウェアモ
ニター**

- CPU/ シャーシ温度センサー
- CPU/ シャーシファンタコメーター
- CPU/ シャーシ静音ファン (CPU 温度によるシャーシファン速度の自動調整可能)
- CPU ファンマルチ速度制御
- ケース開閉検知
- 電圧監視: +12V、+5V、+3.3V、CPU Vcore

OS

- Microsoft® Windows® 8.1 32-bit / 8.1 64-bit / 8 32-bit / 8 64-bit / 7 32-bit / 7 64-bit

認証

- FCC、CE、WHQL
- ErP/EuP Ready (ErP/EuP ready 電源が必要です)

规格

平台

- Micro ATX 规格尺寸
- 全固态电容器设计
- 高密度防潮纖維电路板

CPU

- 支持第 5 代、新款第 4 代和第 4 代 Intel® Core™ i7/i5/i3/Pentium®/Celeron® 处理器 (Socket 1150)
- 支持 Intel® Turbo Boost 2.0 技术

芯片集

- Intel® H81

内存

- 双通道 DDR3 内存技术
- 2 x DDR3 DIMM 槽
- 支持 DDR3 1600/1333/1066 非 ECC，非缓冲内存
- 支持系统内存容量：16GB
(见“注意”)
- 支持 Intel® Extreme Memory Profile (XMP)1.3/1.2

扩充槽

- 1 x PCI Express 2.0 x16 槽 (PCIe2: x16 模式)
- 1 x PCI Express 2.0 x1 槽

图形

- 只有 GPU 集成的处理器才支持 Intel® HD Graphics 内置视效和 VGA 输出。
- 支持 Intel® HD Graphics 内置视效：Intel® 快速同步视频，采用 AVC、MVC (S3D) 和 MPEG-2 Full HW Encode、Intel® InTru™ 3D、Intel® Clear Video HD 技术、Intel® Insider™、Intel® HD Graphics 4400/4600
- Pixel Shader 5.0、DirectX 11.1
- 最大共享内存 1.02MB
- 支持 D-Sub，60Hz 时最大分辨率达 1920x1200

音频

- 5.1 CH 高清音频 (Realtek ALC662 音频编解码器)
- 支持防突波 (华擎全防护)

LAN

- PCIE x1 千兆网卡 10/100/1000 Mb/s
- Realtek RTL8111GR
- 支持廣域网喚醒技術 (Wake-On-WAN)
- 支持网络喚醒功能 (Wake-On-LAN)
- 支持防雷擊 / 防 ESD 靜電 (ASRock 全防護)
- 支持網路線偵測功能
- 支持 Energy Efficient Ethernet 802.3az
- 支持 PXE

后面板 I/O

- 1 個 PS/2 鼠標 / 鍵盤接口
- 1 x D-Sub 端口
- 4 x USB 2.0 端口 (支持防 ESD 靜電 (華擎全防護))
- 2 x USB 3.0 端口 (支持防 ESD 靜電 (華擎全防護))
- 1 x RJ-45 LAN 端口, 帶 LED (ACT/LINK LED 和 SPEED LED)
- 高清晰音頻插孔: 线路输入 / 前扬声器 / 麦克风

存储

- 2 x SATA3 6.0 Gb/s 接口, 支持 NCQ、AHCI 和“热插拔”功能
- 2 x SATA2 3.0 Gb/s 接口, 支持 NCQ、AHCI 和“热插拔”功能

接口

- 1 x 電源指示燈連接排針
- 1 x 机箱侵入接脚
- 1 x TPM 接脚
- 1 x CPU 风扇接口 (4 针)
- 1 x 机箱风扇接口 (4 针)
- 1 x 24 针 ATX 电源接口
- 1 x 4 针 12V 电源接口
- 1 x 前面板音頻接口
- 2 x USB 2.0 接脚(支持 4 个 USB 2.0 端口)(支持防 ESD 靜電 (華擎全防護))

BIOS 功能特点

- 32Mb AMI UEFI Legal BIOS, 具有多语言 GUI 支持
- ACPI 1.1 兼容喚醒事件
- SMBIOS 2.3.1 支持

- CPU、DRAM、PCH 1.05V、PCH 1.5V 电压多次调整 (Voltage Multi-adjustment)

硬件监控

- CPU/ 机箱温度感测
- CPU/ 机箱风扇转速计
- CPU/ 机箱静音风扇 (可以按照 CPU 温度自动调整机箱风扇速度)
- CPU 风扇多种速度控制
- CASE OPEN (机箱打开) 检测
- 电压监控: +12V、+5V、+3.3V、CPU Vcore

操作系统

- Microsoft® Windows® 8.1 32 位元 / 8.1 64 位元 / 8 32 位元 / 8 64 位元 / 7 32 位元 / 7 64 位元

认证

- FCC、CE、WHQL
- ErP/EuP 支持 (需要支持 ErP/EuP 的电源)

電子信息產品污染控制標示

依据中国发布的「电子信息产品污染控制管理办法」及 SJ/T 11364-2006「电子信息产品污染控制标示要求」，电子信息产品应进行标示，藉以向消费者揭露产品中含有的有毒有害物质或元素不致发生外泄或突变从而对环境造成污染或对人身、财产造成严重损害的期限。依上述规定，您可于本产品之印刷电路板上看见图一之标示。图一中之数字为产品之环保使用期限。由此可知此主板之环保使用期限为 10 年。



图一

有毒有害物質或元素的名稱及含量說明

若您欲了解此产品的有毒有害物质或元素的名称及含量说明，请参照以下表格及说明。

部件名称	有害物质或元素					
	铅 (Pb)	镉 (Cd)	汞 (Hg)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
印刷电路板及电子组件	X	O	O	O	O	O
外部信号连接头及线材	X	O	O	O	O	O

O: 表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T 11363-2006 标准规定的限量要求以下。

X: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T 11363-2006 标准规定的限量要求，然该部件仍符合欧盟指令 2002/95/EC 的规范。

备注：此产品所标示之环保使用年限，系指在一般正常使用状况下。

規格

平台	<ul style="list-style-type: none">• Micro ATX 尺寸• 全固態電容設計• 高密度防潮纖維電路板
CPU	<ul style="list-style-type: none">• 支援第 5 代、全新第 4 代及第 4 代 Intel® Core™ i7/i5/i3/Pentium®/Celeron® 處理器 (Socket 1150)• 支援 Intel® Turbo Boost 2.0 技術
晶片組	<ul style="list-style-type: none">• Intel® H81
記憶體	<ul style="list-style-type: none">• 雙通道 DDR3 記憶體技術• 2 x DDR3 DIMM 插槽• 支援 DDR3 1600/1333/1066 非 ECC、無緩衝記憶體• 最大系統記憶體容量：16GB (請參閱「注意」)• 支援 Intel® Extreme Memory Profile (XMP)1.3/1.2
擴充插槽	<ul style="list-style-type: none">• 1 x PCI Express 2.0 x16 插槽 (PCIe2: x16 模式)• 1 x PCI Express 2.0 x1 插槽
顯示卡	<ul style="list-style-type: none">• 僅限整合 GPU 的處理器才可支援 Intel® HD Graphics Built-in Visuals 及 VGA 輸出。• 支援 Intel® HD Graphics Built-in Visuals: 轉換 AVC、MVC (S3D) 及 MPEG-2 Full HW Encode1 的 Intel® 高速影像同步轉檔技術、Intel® InTru™ 3D、Intel® Clear Video HD Technology、Intel® Insider™、Intel® HD Graphics 4400/4600• Pixel Shader 5.0、DirectX 11.1• 支援最高達 1920x1200 @ 60Hz 解析度的 D-Sub
音訊	<ul style="list-style-type: none">• 5.1 CH HD 音訊 (Realtek ALC662 音訊轉碼器) 功能• 支援防突波 (華擎全防護)
LAN	<ul style="list-style-type: none">• PCIe x1 Gigabit LAN 10/100/1000 Mb/s• Realtek RTL8111GR• 支援遠端開機 (Wake-On-WAN)

- 支援網路喚醒 (Wake-On-LAN)
- 支援防雷擊 / 防 ESD 靜電 (ASRock 全防護)
- 支援網路線偵測功能
- 支援 Energy Efficient Ethernet 802.3az
- 支援 PXE

後面板 I/O

- 1 個 PS/2 滑鼠 / 鍵盤接口
- 1 x D-Sub 連接埠
- 4 x USB 2.0 連接埠 (支援防 ESD 靜電 (華擎全防護))
- 2 x USB 3.0 連接埠 (支援防 ESD 靜電 (華擎全防護))
- 1 x RJ-45 LAN 連接埠, 含 LED (ACT/LINK LED 及 SPEED LED)
- HD 音訊插孔: 線路輸入 / 前置喇叭 / 麥克風

儲存裝置

- 2 x SATA3 6.0 Gb/s 接頭, 支援 NCQ、AHCI 及「熱插拔」功能
- 2 x SATA2 3.0 Gb/s 接頭, 支援 NCQ、AHCI 及「熱插拔」功能

接頭

- 1 x 電源指示燈接頭
- 1 x 機殼防護標頭
- 1 x TPM 標頭
- 1 x CPU 風扇接頭 (4-pin)
- 1 x 機殼風扇接頭 (4-pin)
- 1 x 24 pin ATX 電源接頭
- 1 x 4 pin 12V 電源接頭
- 1 x 前面板音訊接頭
- 2 x USB 2.0 標頭 (支援 4 USB 2.0 連接埠) (支援防 ESD 靜電 (華擎全防護))

BIOS 功能

- 32Mb AMI UEFI Legal BIOS 含多語 GUI 支援
- ACPI 1.1 符合喚醒自動開機
- 支援 SMBIOS 2.3.1
- CPU、DRAM、PCH 1.05V、PCH 1.5V 電壓多重調整

硬體監視器

- CPU / 機殼溫度感應
- CPU / 機殼風扇轉速計
- CPU / 機殼靜音風扇 (允許按照 CPU 溫度自動調整機殼風扇速度)
- CPU 風扇多重速度控制

- 機殼開啟偵測
- 電壓監控：+12V、+5V、+3.3V、CPU Vcore

作業系統

- Microsoft® Windows® 8.1 32 位元 /8.1 64 位元 /8 32 位元 /8 64 位元 /7 32 位元 /7 64 位元

認證

- FCC、CE、WHQL
- ErP/EuP Ready (需具備 ErP/EuP ready 電源供應器)

Spesifikasi

Platform

- Bentuk dan Ukuran Micro ATX
- Desain Kapasitor Solid
- PCB Struktur Kaca Kepadatan Tinggi

CPU

- Mendukung Prosesor Intel® Core™ i7/i5/i3/Pentium®/Celeron® Generasi ke-5, ke-4 Baru, dan ke-4 (Soket 1150)
- Mendukung Teknologi Intel® Turbo Boost 2.0

Chipset

- Intel® H81

Memori

- Teknologi Memori DDR3 Kanal Ganda
- 2 x Slot DDR3 DIMM
- Mendukung DDR3 1600/1333/1066 non-ECC, memori tanpa buffer
- Kapasitas maksimum memori sistem: 16GB (lihat PERHATIAN)
- Mendukung Intel® Extreme Memory Profile (XMP)1.3/1.2

Slot Ekspansi

- 1 x Slot PCI Express 2.0 x16 (PCIe2: x16 mode)
- 1 x Slot PCI Express 2.0 x1

Grafis

- Intel® HD Graphics Built-in Visuals dan output VGA hanya didukung dengan prosesor yang terintegrasi GPU.
- Mendukung Intel® HD Graphics Built-in Visuals: Intel® Quick Sync Video dengan AVC, MVC (S3D), dan MPEG-2 Full HW Encode1, Intel® InTru™ 3D, Teknologi Intel® Clear Video HD, Intel® Insider™, Intel® HD Graphics 4400/4600
- Pixel Shader 5.0, DirectX 11.1
- Memori bersama maksimum 1.02MB
- Mendukung D-Sub dengan resolusi maksimum hingga 1920x1200 @ 60Hz

Audio

- Audio HD 5.1 CH (Realtek ALC662 Audio Codec)
- Mendukung Perlindungan Lonjakan Arus (ASRock Full Spike Protection)

LAN

- PCIE x1 Gigabit LAN 10/100/1000 Mb/s
- Realtek RTL8111G
- Mendukung Wake-On-LAN
- Mendukung Deteksi Kabel LAN
- Mendukung Energy Efficient Ethernet 802.3az
- Mendukung PXE

Panel I/O Belakang

- 1 x Port Mouse/Keyboard PS/2
- 1 x Port D-Sub
- 4 x Port USB 2.0 (Mendukung Perlindungan ESD (ASRock Full Spike Protection))
- 2 x Port USB 3.0 (Mendukung Perlindungan ESD (ASRock Full Spike Protection))
- 1 x Port LAN RJ-45 dengan LED (ACT/LINK LED dan SPEED LED)
- Soket Audio HD: Saluran masuk/Speaker Depan/Mikrofon

Penyimpanan

- 2 x Konektor SATA3 6,0 Gb/s, mendukung fungsi NCQ, AHCI, dan "Hot Plug"
- 2 x Konektor SATA2 3,0 Gb/s, mendukung fungsi NCQ, AHCI, dan "Hot Plug"

Konektor

- 1 x header power LED
- 1 x Header Intrusi Chassis
- 1 x Header TPM
- 1 x Konektor kipas CPU (4-pin)
- 1 x Konektor kipas chassis (4-pin)
- 1 x Konektor daya ATX 24 pin
- 1 x Konektor daya 12V 4 pin
- 1 x Konektor audio panel depan
- 2 x Header USB 2.0 (mendukung 4 port USB 2.0) (Mendukung Perlindungan ESD (ASRock Full Spike Protection))

Fitur BIOS

- 32Mb AMI UEFI Legal BIOS dengan dukungan GUI Multibahasa
- ACPI 1.1 Kompatibel dengan Aktivitas Pengaktifan
- Dukungan SMBIOS 2.3.1
- Multipengatur Tegangan CPU, DRAM, PCH 1,05V, PCH 1,5V

**Perangkat
Keras Monitor**

- Sensor Suhu CPU/Chassis
- Takometer CPU/Chassis Daya
- Kipas Hening CPU/Chassis (Memungkinkan Penyesuaian Otomatis Kecepatan Kipas Chassis Berdasarkan Suhu CPU)
- Kontrol Multikecepatan Kipas CPU
- Deteksi CASE OPEN
- Pemantauan Tegangan: +12V, +5V, +3,3V, CPU Vcore

OS

- dapat digunakan Microsoft® Windows® 8.1 32-bit / 8.1 64-bit / 8 32-bit / 8 64-bit / 7 32-bit / 7 64-bit

Sertifikasi

- FCC, CE, WHQL
- Siap untuk ErP/EuP (memerlukan catu daya untuk ErP/EuP)

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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