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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.

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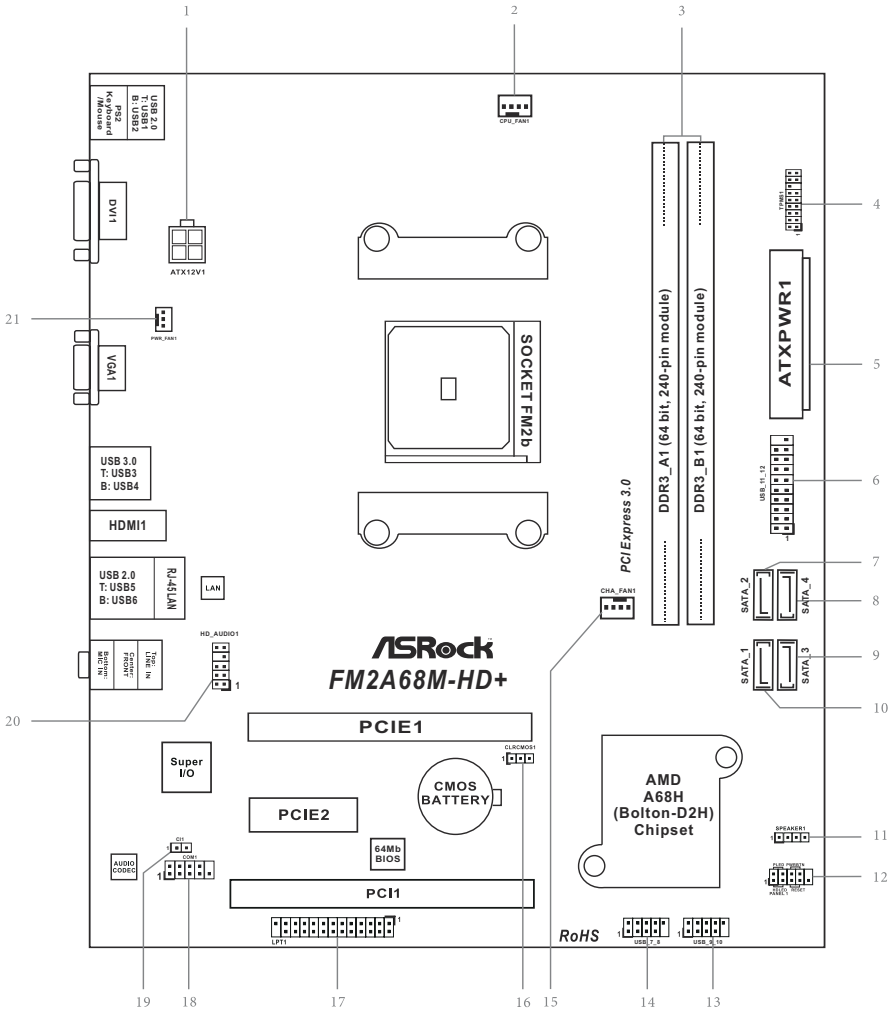
The Lithium battery adopted on this motherboard contains Perchlorate, a toxic substance controlled in Perchlorate Best Management Practices (BMP) regulations passed by the California Legislature. When you discard the Lithium battery in California, USA, please follow the related regulations in advance.

“Perchlorate Material-special handling may apply, see www.dtsc.ca.gov/hazardouswaste/perchlorate”

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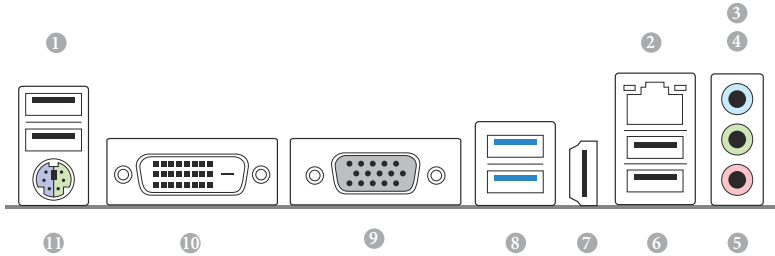
Motherboard Layout



English

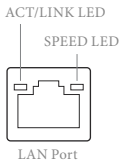
No.	Description
1	ATX 12V Power Connector (ATX12V1)
2	CPU Fan Connector (CPU_FAN1)
3	2 x 240-pin DDR3 DIMM Slots (DDR3_A1, DDR3_B1)
4	TPM Header (TPMS1)
5	ATX Power Connector (ATXPWR1)
6	USB 3.0 Header (USB_11_12)
7	SATA3 Connector (SATA_2)
8	SATA3 Connector (SATA_4)
9	SATA3 Connector (SATA_3)
10	SATA3 Connector (SATA_1)
11	Chassis Speaker Header (SPEAKER1)
12	System Panel Header (PANEL1)
13	USB 2.0 Header (USB_9_10)
14	USB 2.0 Header (USB_7_8)
15	Chassis Fan Connector (CHA_FAN1)
16	Clear CMOS Jumper (CLRCMOS1)
17	Print Port Header (LPT1)
18	COM Port Header (COM1)
19	Chassis Intrusion Header (CI1)
20	Front Panel Audio Header (HD_AUDIO1)
21	Power Fan Connector (PWR_FAN1)

I/O Panel



No.	Description	No.	Description
1	USB 2.0 Ports (USB_1_2)	7	HDMI Port
2	LAN RJ-45 Port*	8	USB 3.0 Ports (USB_3_4)
3	Line In (Light Blue)	9	D-Sub Port
4	Front Speaker (Lime)	10	DVI-D Port
5	Microphone (Pink)	11	PS/2 Mouse/Keyboard Port
6	USB 2.0 Ports (USB_5_6)		

* There are two LEDs on the 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

1. Introduction

Thank you for purchasing ASRock **FM2A68M-HD+** 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.

This Quick Installation Guide contains introduction of the motherboard and step-by-step installation guide. More detailed information of the motherboard can be found in the user manual presented in the Support CD.



Because the motherboard specifications and the BIOS software might be updated, the content of this manual will be subject to change without notice. In case any modifications of this manual occur, the updated version will be available on ASRock website without further notice. You may find the latest VGA cards and CPU support lists on ASRock website as well. ASRock website <http://www.asrock.com>

If you require technical support related to this motherboard, please visit our website for specific information about the model you are using.
www.asrock.com/support/index.asp

1.1 Package Contents

ASRock **FM2A68M-HD+** Motherboard (Micro ATX Form Factor)

ASRock **FM2A68M-HD+** Quick Installation Guide

ASRock **FM2A68M-HD+** 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 Socket FM2+ 95W / FM2 100W processors

- Chipset**
- AMD A68H (Bolton-D2H)

- Memory**
- Dual Channel DDR3 Memory Technology
 - 2 x DDR3 DIMM Slots
 - Supports DDR3 2400+(OC)/2133(OC)/1866 (OC)/1600/1333/1066 non-ECC, un-buffered memory **(see CAUTION 1)**
 - Max. capacity of system memory: 32GB **(see CAUTION 2)**
 - Supports Intel® Extreme Memory Profile (XMP) 1.3 / 1.2
 - Supports AMD Memory Profile Technology (AMP) up to AMP 2400

- Expansion Slot**
- 1 x PCI Express 3.0 x16 Slot (PCIe1@ x16 mode)
* PCIe 3.0 is only supported with FM2+ CPU. With FM2 CPU, it only supports PCIe 2.0.
 - 1 x PCI Express 2.0 x1 Slot
 - 1 x PCI Slot
 - Supports AMD Dual Graphics

- Graphics**
- Integrated AMD Radeon™ R7/R5 Series Graphics in A-series APU
 - DirectX 11.1, Pixel Shader 5.0 with FM2+ CPU. DirectX 11, Pixel Shader 5.0 with FM2 CPU.
 - Max. shared memory 2GB
 - Three graphics output options: D-Sub, DVI-D and HDMI Ports
 - Supports Triple Monitor
 - Supports HDMI with max. resolution up to 4K × 2K (4096x2160) @ 24Hz
 - * Only FM2+ APU can support up to 4096x2160 resolution display via HDMI port

- Supports Dual-link DVI-D with max. resolution up to 2560x1600 @ 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 Port (Compliant HDMI monitor is required) **(see CAUTION 3)**
- Supports Blu-ray Stereoscopic 3D with HDMI Port
- Supports AMD Steady Video™ 2.0: New video post processing capability for automatic jitter reduction on home/online video
- Supports HDCP with DVI-D and HDMI Ports
- Supports Full HD 1080p Blu-ray (BD) playback with DVI-D and HDMI Ports

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
- 1 x DVI-D Port
- 1 x HDMI Port
- 4 x USB 2.0 Ports (Supports ESD Protection (ASRock Full Spike Protection))
- 2 x USB 3.0 Ports (AMD A68H (Bolton-D2H)) (Supports ESD Protection (ASRock Full Spike Protection))
- 1 x RJ-45 LAN Port with LED (ACT/LINK LED and SPEED LED)
- HD Audio Jacks: Line in / Front Speaker / Microphone

- Storage**
- 4 x SATA3 6.0 Gb/s Connectors, support RAID (RAID 0, RAID 1 and RAID 10), NCQ, AHCI and Hot Plug

- Connector**
- 1 x Print Port Header
 - 1 x COM Port 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 Power Fan Connector (3-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))
 - 1 x USB 3.0 Header by ASMedia ASM1042A (Supports 2 USB 3.0 ports) (Supports ESD Protection (ASRock Full Spike Protection))

- BIOS Feature**
- 64Mb AMI UEFI Legal BIOS with GUI support
 - Supports "Plug and Play"
 - ACPI 1.1 Compliant wake up events
 - Supports jumperfree
 - SMBIOS 2.3.1 support
 - DRAM, CPU Voltage multi-adjustment

- Hardware Monitor**
- CPU temperature sensing
 - Chassis temperature sensing
 - CPU Fan Tachometer
 - Chassis Fan Tachometer
 - CPU/Chassis Quiet Fan
 - CPU/Chassis Fan multi-speed control
 - CASE OPEN detection
 - Voltage monitoring: +12V, +5V, +3.3V, Vcore

OS

- Microsoft® Windows® 10 32-bit / 10 64-bit / 8.1 32-bit / 8.1 64-bit / 8 32-bit / 8 64-bit / 7 32-bit / 7 64-bit
- * For the updated Windows® 10 driver, please visit ASRock's website for details: <http://www.asrock.com>
- * Carrizo FM2r2 processor supports Windows® 10 64-bit/ 8.1 64-bit / 7 32-bit / 7 64-bit only.

**Certifica-
tions**

- 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>

WARNING

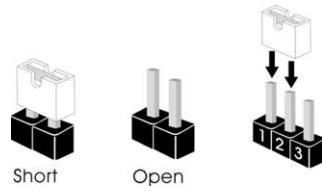
Please realize that there is a certain risk involved with overclocking, including adjusting the setting in the BIOS, applying Untied Overclocking Technology, or using third-party overclocking tools. Overclocking may affect your system's stability, or even cause damage to the components and devices of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


CAUTION!

1. Whether 2400/2133/1866/1600MHz memory speed is supported depends on the CPU you adopt. If you want to adopt DDR3 2400/2133/1866/1600 memory module on this motherboard, please refer to the memory support list on our website for the compatible memory modules.
ASRock website <http://www.asrock.com>
2. Due to the operating system limitation, the actual memory size may be less than 4GB for the reservation for system usage under Windows® 10 / 8.1 / 8 / 7. For Windows® 64-bit OS with 64-bit CPU, there is no such limitation. You can use ASRock XFast RAM to utilize the memory that Windows® cannot use.
3. xvYCC and Deep Color are only supported under Windows® 10 64-bit / 10 / 8.1 64-bit / 8.1 / 8 64-bit / 8 / 7 64-bit / 7. Deep Color mode will be enabled only if the display supports 12bpc in EDID. HBR is supported under Windows® 10 64-bit / 10 / 8.1 64-bit / 8.1 / 8 64-bit / 8 / 7 64-bit / 7.

1.3 Jumpers Setup

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



Jumper	Setting	Description
Clear CMOS Jumper (CLRCMOS1) (see p.1, No. 16)	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>1_2</p>  <p>Default</p> </div> <div style="text-align: center;"> <p>2_3</p>  <p>Clear CMOS</p> </div> </div>	

Note: 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, user default profile, 1394 GUID and MAC address 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.

1.4 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 of the motherboard!

Serial ATA3 Connectors

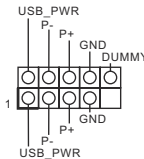
- (SATA_1: see p.1, No. 10)
- (SATA_2: see p.1, No. 7)
- (SATA_3: see p.1, No. 9)
- (SATA_4: see p.1, No. 8)



These four Serial ATA3 (SATA3) connectors support SATA data cables for internal storage devices. The current SATA3 interface allows up to 6.0 Gb/s data transfer rate.

USB 2.0 Headers

- (9-pin USB_7_8)
- (see p.1 No. 14)

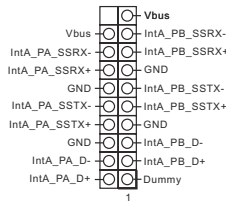


Besides four default USB 2.0 ports on the I/O panel, there are two USB 2.0 headers on this motherboard. Each USB 2.0 header can support two USB 2.0 ports.

- (9-pin USB_9_10)
- (see p.1 No. 13)

USB 3.0 Header

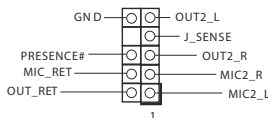
- (19-pin USB_11_12)
- (see p.1, No. 6)



Besides two default USB 3.0 ports on the I/O panel, there is one USB 3.0 header on this motherboard. This USB 3.0 header can support two USB 3.0 ports.

Front Panel Audio Header

- (9-pin HD_AUDIO1)
- (see p.1 No. 20)



This is an interface for the front panel audio cable that allows convenient connection and control of audio devices.



1. High Definition Audio supports Jack Sensing, but the panel wire on the chassis must support HDA to function correctly. Please follow the instruction in our manual and chassis manual to install your system.

2. If you use AC'97 audio panel, please install it to the front panel audio header as 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 HD audio panel only. You don't need to connect them for AC'97 audio panel.
- E. To activate the front mic.

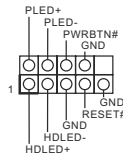
For Windows® 8.1 / 8.1 64-bit / 8 / 8 64-bit / 7 / 7 64-bit 64-bit OS:

Go to the "FrontMic" Tab in the Realtek Control panel. Adjust "Recording Volume".

System Panel Header

(9-pin PANEL1)

(see p.1 No. 12)



This header accommodates several system front panel functions.



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):

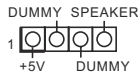
Connect to the hard drive activity LED on the chassis front panel. The LED is on when the hard drive is reading or writing data.

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.

Chassis Speaker Header

(4-pin SPEAKER 1)

(see p.1 No. 11)

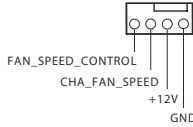


Please connect the chassis speaker to this header.

Chassis and Power Fan Connectors

(4-pin CHA_FAN1)

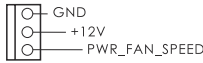
(see p.1 No. 15)



Please connect the fan cable to the fan connector and match the black wire to the ground pin.

(3-pin PWR_FAN1)

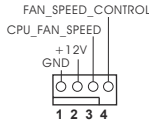
(see p.1 No. 21)



CPU Fan Connector

(4-pin CPU_FAN1)

(see p.1 No. 2)



Please connect the CPU fan cable to the connector and match the black wire to the ground pin.



Though this motherboard provides 4-Pin CPU fan (Quiet Fan) support, the 3-Pin CPU fan still can work successfully even without the fan speed control function. If you plan to connect the 3-Pin CPU fan to the CPU fan connector on this motherboard, please connect it to Pin 1-3.

Pin 1-3 Connected ←

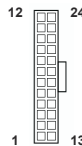


3-Pin Fan Installation

ATX Power Connector

(24-pin ATXPWR1)

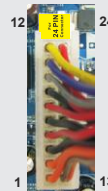
(see p.1 No. 5)



Please connect an ATX power supply to this connector.



Though this motherboard provides 24-pin ATX power connector, it can still work if you adopt a traditional 20-pin ATX power supply. To use the 20-pin ATX power supply, please plug your power supply along with Pin 1 and Pin 13.



20-Pin ATX Power Supply Installation

ATX 12V Power Connector

(4-pin ATX12V1)

(see p.1 No. 1)

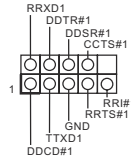


Please connect an ATX 12V power supply to this connector.

Serial port Header

(9-pin COM1)

(see p.1 No. 18)



This COM1 header supports a serial port module.

Chassis Intrusion Header

(2-pin CI1)

(see p.1, No. 19)

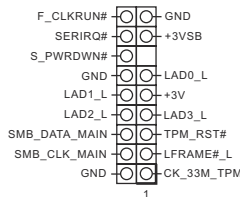


This motherboard supports CASE OPEN detection feature that detects if the chassis cover has been removed. This feature requires a chassis with chassis intrusion detection design.

TPM Header

(17-pin TPMS1)

(see p.1, No. 4)

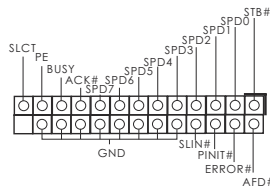


This connector supports Trusted Platform Module (TPM) system, which can securely store keys, digital certificates, passwords, and data. A TPM system also helps enhance network security, protects digital identities, and ensures platform integrity.

Print Port Header

(25-pin LPT1)

(see p.1, No. 17)



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

Spezifikationen

- Plattform**
- Micro-ATX-Formfaktor
 - Alle Feste Kondensator-design
 - PCB mit hochverdichtetem Glasfasergewebe

- CPU**
- Unterstützt Prozessoren für Sockel FM2+ (95 W) / FM2 (100 W)

- Chipsatz**
- AMD A68H (Bolton-D2H)

- Speicher**
- Unterstützung von Dual-Kanal-Speichertechnologie
 - 2 x Steckplätze für DDR3
 - Unterstützt DDR3 2400+(OC)/2133(OC)/1866(OC)/1600/1333/1066 non-ECC, ungepufferter Speicher
 - Max. Kapazität des Systemspeichers: 32GB
 - Unterstützt Intel® Extreme Memory Profile (XMP)1.3/1.2
 - Unterstützt AMDs Memory Profile Technology (AMP) bis AMP 2400

- Erweiterungssteckplätze**
- 1 x PCI Express 3.0 x16-Schlitz (PCIE1: x16-Modus)
- * PCIE 3.0 wird nur mit FM2+-Prozessor unterstützt. FM2-Prozessor unterstützt nur PCIE 2.0.
- 1 x PCI Express 2.0 x1-Steckplätze
 - 1 x PCI -Steckplätze
 - Unterstützt AMD duale Grafikkarten

- Onboard-VGA**
- Integrierte Grafikkarte der AMD Radeon™ R7/R5-Serie in APU der A-Serie
 - DirectX 11.1, Pixel Shader 5.0 mit FM2+-Prozessor. DirectX 11, Pixel Shader 5.0 mit FM2-Prozessor.
 - Maximal gemeinsam genutzter Speicher 2GB
 - Drei VGA-Ausgangsoptionen: D-Sub, DVI-D sowie HDMI - Unterstützt drei Monitore
 - Unterstützt HDMI mit einer maximalen Auflösung von 4K x 2K (4096 x 2160) bei 24 Hz
- * Nur FM2 + APU kann bis zu 4096x2160 Auflösung Anzeige über HDMI-Anschluss unterstützt

- Unterstützt Dual-link DVI-D mit einer maximalen Auflösung von 2560 x 1600 bei 60 Hz
- Unterstützt D-Sub mit einer maximalen Auflösung von 1920 x 1200 bei 60 Hz
- Unterstützt Auto Lip Sync, Deep Color (12bpc), xvYCC und HBR (High Bit Rate-Audio) mit HDMI (kompatibler HDMI-Bildschirm erforderlich)
- Unterstützt stereoskopisches 3D per Blu-ray mit HDMI
- Unterstützt AMD Steady Video™ 2.0: Neuartige Funktion der Videonachbearbeitung für automatische Reduzierung von Bildschwankungen bei Heim-/Online-Videos
- Unterstützt HDCP mit DVI-D- und HDMI-Ports
- Unterstützt 1080p Blu-ray (BD)-Wiedergabe mit DVI-D- und HDMI-Ports

Audio

- 5.1 CH HD Audio (Realtek ALC662 Audio Codec)
- Unterstützt Überspannungsschutz (ASRocks Komplettschutz vor Spannungsspitzen)

LAN

- 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

E/A-Anschlüsse an der Rückseite

- 1 x PS/2-Maus/Tastaturanschluss
- 1 x D-Sub port
- 1 x DVI-D port
- 1 x HDMI port
- 4 x Standard-USB 2.0-Anschlüsse (Unterstützt Rundumschutz vor Spannungsspitzen)
- 2 x Standard-USB 3.0-Anschlüsse (AMD A68H (Bolton-D2H)) (Unterstützt Rundumschutz vor Spannungsspitzen)

- 1 x RJ-45 LAN Port mit LED (ACT/LINK LED und SPEED LED)
- HD Audiobuchse: Audioeingang / Lautsprecher vorne / Mikrofon

Speicher

- 4 x SATA 2-Anschluss mit 3,0 Gb/s, unterstützt RAID-(RAID 0, RAID 1 und RAID 10), NCQ-, AHCI- und „Hot Plugging“-Funktionen

Anschlüsse

- 1 x Druckerport-Anschlussleiste
- 1 x COM-Anschluss-Header
- 1 x Verteiler für Gehäuseeindringversuche
- 1 x TPM-Stiftleiste
- 1 x CPUlüfter-Anschluss (4-pin)
- 1 x Gehäuselüfter-Anschluss (4-pin)
- 1 x Stromlüfter-Anschluss (3-pin)
- 1 x 24-pin ATX-Netz-Header
- 1 x 4-pin anchluss für 12V-ATX-Netzteil
- 1 x Anschluss für Audio auf der Gehäusevorderseite
- 2 x USB 2.0-Anschlüsse (Unterstützung 4 zusätzlicher USB 2.0-Anschlüsse) (Unterstützt Schutz vor elektrostatischer Entladung (ASRocks Komplettschutz vor Spannungsspitzen))
- 1 x USB 3.0-Anschlüsse über ASMedia ASM1042A (Unterstützung 2 zusätzlicher USB 3.0-Anschlüsse) (Unterstützt Schutz vor elektrostatischer Entladung (ASRocks Komplettschutz vor Spannungsspitzen))

BIOS

- 64Mb AMIs Legal BIOS UEFI mit GUI-Unterstützung
- Unterstützung für “Plug and Play”
- ACPI 1.1-Weckfunktionen
- JumperFree-Modus
- SMBIOS 2.3.1
- DRAM, CPU Stromspannung Multianpassung

**Hardware
Monitor**

- CPU-Temperatursensor
- Motherboardtemperaturerkennung
- Drehzahlmessung für CPUlüfter
- Drehzahlmessung für Gehäuselüfter
- Geräuscharmer CPU-/Gehäuselüfter
- Mehrstufige Geschwindigkeitsteuerung für CPU-/Gehäuselüfter
- GEHÄUSE OFFEN-Erkennung
- Spannungsüberwachung: +12V, +5V, +3.3V, Vcore

**Betriebs-
systeme**

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

**Zertifi-
zierungen**

- FCC, CE, WHQL
- Prêt pour ErP/EuP (alimentation Prêt pour ErP/EuP requise)

* Für die ausführliche Produktinformation, besuchen Sie bitte unsere Website:
<http://www.asrock.com>

Spécifications

Format

- Facteur de forme Micro ATX
- Accessoires de Carte mère
- PCB High Density Glass Fabric

CPU

- Prend en charge les processeurs à socket FM2+ 95W / FM2 100W

Chipsets

- AMD A68H (Bolton-D2H)

Mémoire

- Compatible avec la Technologie de Mémoire à Canal Double
- 2 x slots DIMM DDR3
- Supporter DDR3 2400+(OC)/2133(OC)/1866(OC)/1600/1333/1066 non-ECC, sans amortissement mémoire
- Capacité maxi de mémoire système: 32GB
- Prend en charge le profil I de mémoire extrême Intel® (XMP)1.3/1.2
- Prend en charge la technologie AMD Memory Profile (Profil de mémoire AMD - AMP) jusqu'à AMP 2400

Slot d'extension

- 1 x slots PCI Express 3.0 x16 (PCIE1 à mode x16)
* PCIE 3.0 est uniquement pris en charge le processeur FM2+. Avec le processeur FM2, seul PCIE 2.0 est pris en charge.
- 1 x slot PCI Express 2.0 x1
- 1 x slot PCI
- Support de AMD Dual Graphics

VGA sur carte

- APU AMD Radeon™ R7/R5 série graphiques A-series
- DirectX 11.1, Pixel Shader 5.0 avec processeur FM2+. DirectX 11, Pixel Shader 5.0 avec processeur FM2.
- mémoire partagée max 2GB
- Trois options de sortie VGA: D-Sub, DVI-D et HDMI
- Prend en charge la configuration à triple moniteurs

- Prend en charge le HDMI avec une résolution maximale jusqu'à 4K x 2K (4096x2160) @ 24Hz
- * Seuls les APUs FM2+ acceptent une résolution jusqu'à 4096x2160 via le port HDMI.
- Prend en charge le Dual-link DVI-D avec une résolution maximale jusqu'à 2560x1600 @ 60Hz
- Prend en charge le D-Sub avec une résolution maximale jusqu'à 1920x1600 @ 60Hz
- Prend en charge Lip Sync, Deep Color (12bpc), xvYCC et HBR (High Bit Rate Audio: Audio à haut débit binaire) avec HDMI (Moniteur compatible HDMI requis)
- Prend en charge la 3D stéréoscopique Blu-ray avec HDMI
- Supporte AMD Steady Video™ 2.0: Nouvelle fonctionnalité de traitement post-vidéo pour réduction automatique des tremblements dans les clips vidéo en ligne/maison
- Prise en charge de la fonction HDCP avec ports DVI-D et HDMI
- Supporter 1080p Blu-ray(BD) avec ports DVI-D et HDMI

Audio

- 5,1 CH HD Audio (Realtek ALC662 Audio Codec)
- Supporte la protection contre les surtensions (protection complète contre surges ASRock)

LAN

- 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

**Panneau
arrière**

- 1 x port souris/clavier PS/2
- 1 x port D-Sub
- 1 x port DVI-D
- 1 x port HDMI
- 4 x ports USB 2.0 par défaut (Protection intégrale contre les surtensions)
- 2 x ports USB 3.0 par défaut (AMD A68H (Bolton-D2H)) (Protection intégrale contre les surtensions)
- 1 x port LAN RJ-45 avec LED (ACT/LED CLIGNOTANTE et LED VITESSE)
- Prise HD Audio: Entrée Ligne / Haut-parleur frontal / Microphone

Stockage

- 4 x connecteurs 3,0 Gb/s SATA2, prise en charge des fonctions RAID (RAID 0, RAID 1 et RAID 10), NCQ, AHCI et « Connexion à chaud »

Connecteurs

- 1 x embase de port d'impression
- 1 x En-tête de port COM
- 1 x Embase d'intrusion châssis
- 1 x embase TPM
- 1 x Connecteur pour ventilateur de CPU (br. 4)
- 1 x Connecteur pour ventilateur de Châssis (br. 4)
- 1 x Connecteur pour ventilateur de pouvoir (br. 3)
- 1 x br. 24 connecteur d'alimentation ATX
- 1 x br. 4 connecteur d'alimentation 12V ATX
- 1 x Connecteur audio panneau avant
- 2 x En-tête USB 2.0 (prendre en charge 4 ports USB 2.0 supplémentaires) (Supporte la protection ESD (protection complète contre surges ASRock))
- 1 x En-tête USB 3.0 de ASMedia ASM1042A (prendre en charge 2 ports USB 3.0 supplémentaires) (Supporte la protection ESD (protection complète contre surges ASRock))

BIOS

- 64Mb AMI UEFI Legal BIOS avec support GUI
- Support du "Plug and Play"
- Compatible pour événements de réveil ACPI 1.1
- Gestion jumperless
- Support SMBIOS 2.3.1
- DRAM, CPU Tension Multi-ajustement

Surveillance système

- Détection de la température de l'UC
- Mesure de température de la carte mère
- Tachéomètre ventilateur CPU Ventilateur
- Tachéomètre ventilateur Châssis Ventilateur
- Ventilateur silencieux pour unité CPU/boîtier
- Commande de ventilateur CPU/boîtier à plusieurs vitesses
- Détection d'OUVERTURE DE BOÎTIER
- Monitoring de la tension: +12V, +5V, +3.3V, 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
- Prêt pour ErP/EuP (alimentation Prêt pour ErP/EuP requise)

* Pour de plus amples informations sur les produits, s'il vous plaît visitez notre site web: <http://www.asrock.com>

Specifiche

Piattaforma

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

Processore

- Supporto per processori socket FM2+ 95W / FM2 100W

Chipset

- AMD A68H (Bolton-D2H)

Memoria

- Supporto tecnologia Dual Channel Memory
- 2 x slot DDR3 DIMM
- Supporto DDR3 2400+(OC)/2133(OC)/1866(OC)/1600/1333/1066 non-ECC, memoria senza buffer
- Capacità massima della memoria di sistema: 32GB
- Supporto di Intel® XMP (Extreme Memory Profile)1.3/1.2
- Supporta tecnologia AMD Memory Profile (AMP) fino ad AMP 2400

Slot di espansione

- 1 x slot PCI Express 3.0 x16 (PCIE1: modalità x16)
* PCIE 3.0 è supportato solo con CPU FM2+. Con CPU FM2, supporta solo PCIE 2.0.
- 1 x slot PCI Express 2.0 x1
- 1 x slot PCI
- Supporta AMD Dual Graphics

VGA su scheda

- Grafica serie AMD Radeon™ R7/R5 integrata in APU serie A
- DirectX 11.1, Pixel Shader 5.0 con CPU FM2+. DirectX 11, Pixel Shader 5.0 con CPU FM2.
- Memoria massima condivisa 2GB
- Tre opzioni d'output VGA: D-Sub, DVI-D e HDMI
- Supporta il triplo monitor
- Supporta HDMI con risoluzione massima fino a 4K x 2K (4096x2160) @ 24Hz
- * Solo FM2 + APU può supportare la risoluzione fino a 4096x2160 del display tramite la porta HDMI.
- Supporta Dual-link DVI-D con risoluzione massima fino a 2560x1600 @ 60Hz

- Supporta D-Sub con risoluzione massima fino a 1920x1200 @ 60Hz
- Supporto delle funzioni Auto Lip Sync, Deep Color (12bpc), xvYCC e HBR (High Bit Rate Audio) con HDMI (è necessario un monitor compatibile HDMI)
- Supporta Blu-ray Stereoscopico in 3D con HDMI
- Supporta AMD Steady Video™ 2.0: Nuova capacità di post-elaborazione video per la riduzione automatica delle vibrazioni nei video a casa/on-line
- Supporto della funzione HDCP con le porte DVI-D e HDMI
- Supporto 1080p Blu-ray (BD) riproduzione con le porte DVI-D e HDMI

Audio

- 5.1 CH HD Audio (Realtek ALC662 Audio Codec)
- 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

Pannello posteriore I/O

- 1 x porta PS/2 per mouse/tastiera
- 1 x Porta D-Sub
- 1 x Porta DVI-D
- 1 x Porta HDMI
- 4 x porte USB 2.0 già integrate (Supporta protezione completa contro sovratensioni)
- 2 x porte USB 3.0 già integrate (AMD A68H (Bolton-D2H)) (Supporta protezione completa contro sovratensioni)
- 1 x porte LAN RJ-45 con LED (LED azione/collegamento e LED velocità)

- Connettore HD Audio: ingresso linea / cassa frontale / microfono

Archiviazione

- 4 x connettori SATA2 3,0 Gb/s, supporto di RAID (RAID 0, RAID 1 e RAID 10) e delle funzioni NCQ, AHCI e "Hot Plug"

Connettori

- 1 x Collettore porta stampante
- 1 x collettore porta COM
- 1 x header di intrusione dello chassis
- 1 x header TPM
- 1 x Connettore CPU ventola (4-pin)
- 1 x Connettore Chassis ventola (4-pin)
- 1 x Connettore Alimentazione ventola (3-pin)
- 1 x 24-pin collettore alimentazione ATX
- 1 x 4-pin connettore ATX 12V
- 1 x Connettore audio sul pannello frontale
- 2 x Collettore USB 2.0 (supporta 4 porte USB 2.0) (Supporto della protezione da scariche elettrostatiche (ESD) (protezione completa ASRock dai picchi di corrente))
- 1 x Collettore USB 3.0 di AMD ASMedia ASM1042A (supporta 2 porte USB 3.0) (Supporto della protezione da scariche elettrostatiche (ESD) (protezione completa ASRock dai picchi di corrente))

BIOS

- 64Mb AMI UEFI Legal BIOS con interfaccia di supporto
- Supporta "Plug and Play"
- Compatibile con ACPI 1.1 wake up events
- Supporta jumperfree
- Supporta SMBIOS 2.3.1
- Regolazione multi-voltaggio DRAM, CPU

**Monitor-
aggio-
Hardware**

- Sensore per la temperatura del processore
- Sensore temperatura scheda madre
- Indicatore di velocità per la ventola del CPU
- Indicatore di velocità per la ventola del Chassis
- Ventola CPU/chassis silenziosa
- Ventola CPU/chassis con controllo di varie velocità
- Rilevamento CASE APERTO
- Voltaggio: +12V, +5V, +3.3V, Vcore

**Compati-
bilità SO**

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

**Certifica-
zioni**

- FCC, CE, WHQL
- Predisposto ErP/EuP (è necessaria l'alimentazione predisposta per il sistema ErP/EuP)

* Per ulteriori informazioni, prego visitare il nostro sito internet:
<http://www.asrock.com>

Especificación

Plataforma	<ul style="list-style-type: none"> Factor de forma Micro ATX Todo diseño de Capacitor Sólido PCB de fibra de vidrio de alta densidad
Procesador	<ul style="list-style-type: none"> Admite zócalos de procesadores FM2+ 95W / FM2 100W
Chipset	<ul style="list-style-type: none"> AMD A68H (Bolton-D2H)
Memoria	<ul style="list-style-type: none"> Soporte de Tecnología de Memoria de Doble Canal 2 x DDR3 DIMM slots Apoya DDR3 2400+(OC)/2133(OC)/1866(OC)/1600/1333/1066 non-ECC, memoria de un-buffered Máxima capacidad de la memoria del sistema: 32GB Compatible con Intel® Extreme Memory Profile (XMP)1.3/1.2 Admite tecnología de perfil de memoria AMD (AMP, Memory Profile Technology) hasta AMP 2400
Ranuras de Expansión	<ul style="list-style-type: none"> 1 x ranuras PCI Express 3.0 x16 (PCIE1: modo x16) * Solo se admite PCIE 3.0 con FM2+ CPU. Con FM2 CPU, solo se admite PCIE 2.0. 1 x ranura PCI Express 2.0 x1 1 x ranura PCI Admite AMD tarjeta gráfica dual
VGA On-Board	<ul style="list-style-type: none"> Gráficos integrados de serie R7/R5, HD AMD Radeon™ con APU de serie A DirectX 11.1, Sombreador de píxeles 5.0 con FM2+ CPU. DirectX 11, Sombreador de píxeles 5.0 con FM2 CPU. 2GB de Memoria máxima compartida Tres opciones de salida VGA: D-Sub, DVI-D y HDMI Compatible con monitores triples Admite HDMI con una resolución máxima de 4K x 2K (4096x2160) a 24 Hz

- * Sólo FM2 + APU puede soportar hasta 4096x2160 resolución de la pantalla a través del puerto HDMI.
- Admite Dual-link DVI-D con una resolución máxima de 2560x1600 a 60 Hz
- Admite D-Sub con una resolución máxima de 1920x1200 a 60 Hz
- Admite Sincronización automática entre audio y vídeo, Deep Color (12 bpc), xvYCC y HBR (audio de alta tasa de bits) con HDMI (se necesita un monitor compatible con HDMI)
- Admite la función 3D estereoscópica Blu-ray con HDMI
- Admite AMD Steady Video™ 2.0: Nueva capacidad de pospro cesamiento de vídeo para reducción automática de oscilaciones en vídeo doméstico y en línea
- Admite la función HDCP con puertos DVI-D y HDMI
- Apoya la reproducción de Blu-ray de 1080p (BD) con puertos DVI-D y HDMI

Audio

- 5.1 CH HD Audio (Realtek ALC662 Audio Codec)
- Admite protección contra subidas de tensión (Protección Integral contra Picos de ASRock)

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

Entrada/ Salida de Panel Trasero

- 1 x puerto de ratón/teclado PS/2
- 1 x Puerto D-Sub
- 1 x Puerto DVI-D
- 1 x Puerto HDMI

- 4 x puertos USB 2.0 predeterminados (Admite protección ESD (Protección Integral contra Picos de ASRock))
- 2 x puertos USB 3.0 predeterminados (AMD A68H (Bolton-D2H)) (Admite protección ESD (Protección Integral contra Picos de ASRock))
- 1 x Puerto LAN RJ-45 con LED (LED de ACCIÓN/ ENLACE y LED de VELOCIDAD)
- Conexión de audio: Entrada de línea / Altavoz frontal / Micrófono

Almacenamiento

- 4 x conectores SATA2 de 3,0 Gb/s compatibles con funciones RAID (RAID 0, RAID 1 y RAID 10), NCQ, AHCI y de "conexión en caliente"

Conectores

- 1 x cabecera de puerto de impresora
- 1 x En-tête de port COM
- 1 x Conector de detección de intrusión en el chasis
- 1 cabezal TPM
- 1 x Conector de ventilador de CPU (4-pin)
- 1 x Conector de ventilador de chasis (4-pin)
- 1 x Conector de ventilador de alimentación (3-pin)
- 1 x 24-pin cabezal de alimentación ATX
- 1 x 4-pin conector de ATX 12V power
- 1 x Conector de audio de panel frontal
- 2 x Cabezal USB 2.0 (admite 4 puertos USB 2.0 adicionales) (Admite protección ESD (Protección Integral contra Picos de ASRock))
- 1 x Cabezal USB 3.0 de ASMedia ASM1042A (admite 2 puertos USB 3.0 adicionales) (Admite protección ESD (Protección Integral contra Picos de ASRock))

BIOS

- 64Mb AMI BIOS legal UEFI AMI compatible con GUI
- Soporta "Plug and Play"
- ACPI 1.1 compliance wake up events
- Soporta "jumper free setup"
- Soporta SMBIOS 2.3.1
- Múltiple ajuste de DRAM, CPU Voltage

**Monitor
Hardware**

- Sensibilidad a la temperatura del procesador
- Sensibilidad a la temperatura de la placa madre
- Taquímetros de los ventiladores del procesador y del CPU
- Taquímetros de los ventiladores del procesador y del chasis
- Ventilador silencioso del CPU y el chasis
- Control de ajuste de la velocidad del ventilador de la CPU y el chasis
- Control de APERTURA DE CARCASA
- Monitor de Voltaje: +12V, +5V, +3.3V, Vcore

OS

- 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

**Certifica-
ciones**

- FCC, CE, WHQL
- Cumple con la directiva ErP/EuP (se requiere una fuente de alimentación que cumpla con la directiva ErP/EuP)

* Para más información sobre los productos, por favor visite nuestro sitio web:
<http://www.asrock.com>

Спецификации

Платформа	<ul style="list-style-type: none"> • Форм-фактор Micro ATX • Весь Твердый Конденсаторный проект • High Density Glass Fabric PCB
Процессор	<ul style="list-style-type: none"> • Поддержка разъема FM2+ 95 Вт / процессоров FM2 100 Вт
Набор микросхем	<ul style="list-style-type: none"> • AMD A68H (Bolton-D2H)
Память	<ul style="list-style-type: none"> • Поддержка технологии Dual Channel DDR3 Memory Technology • 2 x гнезда DDR3 DIMM • Поддержите DDR3 2400+(OC)/2133(OC)/1866(OC)/1600/1333/1066 не- ECC, безбуферная память/1066/800 не- ECC, безбуферная память • Макс. 32 Гб • поддержка профиля Intel® Extreme Memory Profile (XMP)1.3/1.2 • Поддержка технологии AMD Memory Profile (AMP) до AMP 2400
Гнезда расширения	<ul style="list-style-type: none"> • 1 x слота PCI Express 3.0 x16 (PCIЕ1: режим x16) * PCIЕ 3.0 поддерживается только с процессором FM2+. Спроцессором FM2 поддерживается только PCIЕ 2.0. • 1 x гнезда PCI Express 2.0 x1 • 1 x гнезда PCI • Поддерживаются режимы AMD двойные видеокарты
Графика	<ul style="list-style-type: none"> • Видеоадаптер AMD Radeon™ R7/R5 Поддержка • DirectX 11.1, Pixel Shader 5.0 с процессором FM2+. • DirectX 11, Pixel Shader 5.0 с процессором FM2. • Три VGA-выхода: D-Sub, DVI-D и HDMI • Поддержка работы с тремя мониторами • Поддержка HDMI с максимальным разрешением до 4K x 2K (4096x2160) @ 24 Гц * Разрешение 4096x2160 через порт HDMI поддерживается только процессорами FM2+ APU. • Поддержка Dual-link DVI-D с максимальным разрешением до 2560x1600 @ 60 Гц • Поддержка D-Sub с максимальным разрешением до 1920x1200 @ 60 Гц

- Поддержка Auto Lip Sync, Deep Color (12 бит на цветовой канал), xvYCC и HBR (High Bit Rate Audio) через HDMI (необходим монитор с разъемом HDMI)
- Поддержка стандарта Blu-ray Stereoscopic 3D со спецификацией HDMI
- Поддержка технологии AMD Steady Video™ 2.0: новая функция постобработки видеоизображения для автоматического устранения дрожания при просмотре домашних и онлайн-видеозаписей
- Поддержка функции HDCP через разъемы DVI-D и HDMI
- Поддержка Blu-луч 1080p (КОММУТАЦИОННАЯ ДОСКА) через разъемы DVI-D и HDMI

Аудиосистема

- 5.1 CH HD Аудио HD (Кодер-декодер Аудио Realtek ALC662)
- Поддержка защиты от перенапряжений (Полная защита (ASRock от выбросов напряжения))

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

Разъемы ввода-вывода на задней

- 1 x порт мыши/клавиатуры PS/2
- 1 x D-Sub порт
- 1 x DVI-D порт
- 1 x HDMI порт
- 4 x порта USB 2.0 на задней панели в стандартной конфигурации (Поддержка защиты от электростатического электричества (Полная защита (ASRock от выбросов напряжения))
- 2 x порта USB 3.0 на задней панели в стандартной конфигурации (AMD A68H (Bolton-D2H)) (Поддержка защиты от электростатического электричества (Полная защита (ASRock от выбросов напряжения))

- Разъем 1 x RJ-45 LAN с светодиодным индикатором (индикатор ACT/LINK и индикатор SPEED)
- Соединитель звуковой подсистемы: линейный вход / передняя колонка / микрофон

Запоминающие устройства

- 4 x разъема SATA2 3,0 Гбит/с, поддержка функций RAID (RAID 0, устройства RAID 1 и RAID 10), NCQ, AHCI и «горячего подключения»

Колодки и плате

- 1 x Разъем порта печати
- 1 x Колодка COM
- 1 x разъем датчика открытой крышки
- 1 x колодка TPM
- 1 x соединитель CPU FAN (4-контактный)
- 1 x соединитель Chassis FAN (4-контактный)
- 1 x соединитель Power FAN (3-контактный)
- 1 x 24-контактный Колодка питания ATX
- 1 x 4-контактный Разъем ATX 12 В
- 1 x Аудиоразъем передней панели
- 2 x Колодка USB 2.0 (одна колодка для поддержки 4 дополнительных портов USB 2.0 (Oferece proteção total contra picos)
- 1 x Колодка USB 3.0 (ASMedia ASM1042A) (одна колодка для поддержки 2 дополнительных портов USB 3.0 (Oferece proteção total contra picos)

BIOS

- 64Mb AMI UEFI Legal BIOS с поддержкой графического интерфейса поль зователя
- поддержка "Plug and Play"
- ACPI 1.1, включение по событиям
- поддержка режима настройки без перемычек
- поддержка SMBIOS 2.3.1
- Регулировка напряжений DRAM, CPU

Контроль оборудования

- Датчики температуры процессора
- Датчики температуры корпуса
- Тахометры вентиляторов ЦП FAN
- Тахометры вентиляторов Шасси FAN
- Бесшумный вентилятор ЦП/Шасси блока
- Мультиконтроль скорости вентилятора ЦП/Шасси
- Определение открытой крышки
- Контроль напряжения: +12V, +5V, +3.3V, Vcore

Операцион

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

ные системы**Сертификаты**

- FCC, CE, WHQL
- Совместимость с ErP/EuP Ready (требуется блок питания совместимый с ErP/EuP)

* Для детальной информации продукта, пожалуйста посетите наш вебсайт:
<http://www.asrock.com>

Especificações

Plataforma	<ul style="list-style-type: none"> • Formato Micro ATX • Design de condensadores banhados a ouro de alta qualidade • PCB de Fibra de Vidro de Alta Densidade
CPU	<ul style="list-style-type: none"> • Suporte para processadores com Socket FM2 de 100W
Chipsets	<ul style="list-style-type: none"> • AMD A68H (Bolton-D2H)
Memória	<ul style="list-style-type: none"> • Suporte à tecnologia de memória de duplo canal • 2 x slots de DDR3 DIMM • Suporta memória DDR3 2400+(OC)/2133(OC)/1866(OC)/1600/1333/1066, não ECC, sem tampão • Capacidade máxima de memória do sistema: 32GB • Suporta Extreme Memory Profile (XMP) 1.3/1.2 da Intel® • Suporta Tecnologia de Perfil de Memória AMD (AMP) até AMP 2400
Slots de Expansão	<ul style="list-style-type: none"> • 1 x slots de PCI Express 3.0 x16 (PCIE1: modo x16) * PCIE 3.0 é suportado apenas com CPU FM2+. CPU FM2 suporta apenas PCIE 2.0. • 1 x slot de PCI Express 2.0 x1 • 1 x slot de PCI • Suporta Dual Graphics da AMD
VGA integrado	<ul style="list-style-type: none"> • Placa gráfica integrada AMD Radeon™ série R7/R5 na APU série A • DirectX 11.1, Pixel Shader 5.0 com CPU FM2+. DirectX 11, Pixel Shader 5.0 com CPU FM2. • Memória partilhada máxima 2GB • Três opções de saída VGA: D-Sub, DVI-D e HDMI • Suporta configuração com três monitores • Suporta HDMI Tecnologia com resolução máxima até 4K x 4K (4096x2160) @ 24Hz * Apenas APU FM2+ pode suportar resolução de até 4096x2160 via porta HDMI. • Suporta Dual-link DVI-D com resolução máxima até 2560x1600 @ 60Hz

- Suporta D-Sub com resolução máxima até 1920x1200 @ 60Hz
- Suporta as funções Auto Lip Sync (Sincronização automática do som), Deep Color (Profundidade da cor) (12bpc), xvYCC e HBR (áudio de taxa de bits elevada) com HDMI (é necessário um monitor compatível com a norma HDMI)
- Suporta 3D Estereoscópico Blu-ray com HDMI
- Suporta AMD Steady Video™ 2.0: Nova capacidade de pós-processamento de vídeo para redução automática de vibrações em vídeo local/online
- Suporta função HDCP com portas DVI-D e HDMI
- Suporta a norma Blu-ray de alta definição 1080p (BD) com portas DVI-D e HDMI

Áudio

- Áudio HD de 5.1 canais (Realtek ALC662 Audio Codec)
- Suporta Proteção Contra Surto (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

Entrada/ Saída pelo painel

- 1 x porta para teclado/mouse PS/2
- 1 x porta D-Sub
- 1 x porta DVI-D
- 1 x porta HDMI
- 4 x portas USB 2.0 padrão (Tam Gerilim Korumasını Destekler)
- 2 x portas USB 3.0 padrão (AMD A68H (Bolton-D2H)) (Tam Gerilim Korumasını Destekler)
- 1 x porta LAN RJ-45 com LED (LED ACT/LIG e LED VELOCIDADE)
- Ficha de áudio HD: Entrada de linha / Altifalante frontal Microfone

Armazenamento

- 4 x conectores SATA2 a 3,0 Gb/s, com suporte para RAID (RAID 0, RAID 1 e RAID 10), NCQ, AHCI e funções Hot Plug

Conectores

- 1 x Conector de Porta de Impressão
- 1 x conector de porta COM
- 1 x Conector de intrusão no chassis
- 1 x Terminal TPM
- 1 x Conector do ventilador da CPU (4 pinos)
- 1 x Conector do ventilador da chassis (4 pinos)
- 1 x Conector do ventilador da energia (3 pinos)
- 1 x Conector de força do ATX de 24 pinos
- 1 x Conector ATX 12 V de 4 pinos
- 1 x Conector Áudio do painel frontal
- 2 x cabezal USB 2.0 (suporta 4 portas USB 2.0) (Suporta Proteção ESD (Proteção Total contra Picos ASRock))
- 1 x cabezal USB 3.0 pela ASMedia ASM1042A (suporta 2 portas USB 3.0) (Suporta Proteção ESD (Proteção Total contra Picos ASRock))

BIOS

- 64Mb BIOS UEFI oficial da AMI com suporte para GUI
- Suporta dispositivos "Plug and Play"
- ACPI 1.1 atendendo a eventos de "wake up"
- Suporta dispositivos sem jumper
- Suporte para SMBIOS 2.3.1
- DRAM, CPU Voltage Multi-adjustment

Monitor do HW

- Sensores de temperatura do processador
- Medição de temperatura da placa-mãe
- Tacômetros de ventilador do Processador
- Tacômetros de ventilador do chassis
- Ventoinha silenciosa para a CPU/Chassis
- CPU/Chassis Fan Controle Multi-Velocidade
- Detecção de CAIXA ABERTA
- Monitoramento de voltagem : +12 V, +5 V, +3.3 V, Vcore

Sistema Operacional

- 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
- “ErP/EuP Ready” (é necessária alimentação eléctrica “ErP/ EuP Ready”)

* Para informações mais detalhadas por favor visite o nosso sítio Web:
<http://www.asrock.com>

Özellikler

Platform

- Micro ATX Form Faktörü
- Tüm Katı Kapasitör tasarımı
- Yüksek Yoğunluklu Cam Elyafı Kumaş PCB

CPU

- Yuva FM2+ 95W / FM2 100W işlemciler için destek

Yonga seti

- AMD A68H (Bolton-D2H)

Bellek

- Çift Kanallı DDR3 Belleği Teknolojisi
- 2 x DDR3 DIMM yuva
- DDR3 2400+(OC)/2133(OC)/1866(OC)/1600/1333/1066 ECC olmayan, ara belleksiz bellek
- Sistem belleğinin maks. kapasitesi: 32 GB
- Intel® Extreme Bellek Profili lini (XMP)1.3/1.2 destekler
- AMP 2400'e kadar AMD Bellek Profili Teknolojisini (AMP) destekler

Genişletme Yuvası

- 1 x PCI Express 3.0 x16 yuva (PCIE1: x16 modu)
* PCIE 3.0 yalnızca FM2+ İşlemci ile desteklenir.
FM2 İşlemciyle, yalnızca PCIE 2.0 destekler.
- 1 x PCI Express 2.0 x1 yuva
- 1 x PCI yuva
- AMD Dual Graphics'i destekler

Grafikler

- A serisi APU'da tümleşik AMD Radeon R7/R5 serisi grafikler
- FM2+ İşlemciyle DirectX 11.1, Pixel Shader 5.0. FM2 İşlemciyle DirectX 11, Pixel Shader 5.0.
- Maks. paylaşılan bellek 2GB
- 3 VGA 3-çıkış seçeneği: D-Sub, DVI-D ve HDMI
- Üçlü Monitör Desteği
- 24Hz'de 4K x 2K (4096x2160)'e kadar maks. çözünürlükle HDMI Teknolojisini destekler
- * Sadece FM2+ APU HDMI portu üzerinden 4096x2160 çözünürlüklü ekrana kadar destekler
- 60Hz'de 2560x1600'e kadar maks. çözünürlükle Dual-link DVI-D'ye destekler
- 60Hz'de 1920x1600'ya kadar maks. çözünürlükle D-Sub'e destekler

- Auto Lip Sync, Deep Color (12bpc), HDMI ile xvYCC ve HBR'yi (Yüksek Bit Hızlı Ses) destekler (Uyumlu HDMI monitör gerekir)
- HDMI bulunan Blu-Ray stereoskopik 3D'yi desteklemektedir
- AMD Steady Video™ 2.0'yu destekler: Ev/çevrimiçi videoda otomatik titreşim azaltma için yeni video işleme sonrası özelliği
- DVI-D ve HDMI portlarıyla HDCP işlevini destekler
- DVI-D ve HDMI portlarıyla Tam HD 1080p Blu-ray (BD) oynatma desteği

Ses

- (Realtek ALC662 Ses Codec'i) 5,1 Kanal HD Ses
- Dalgalanma Korumasını destekler (ASRock Tam Ani Yükseliş 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 G/3

- 1 x PS/2 Fare/Klavye Portu
- 1 x D-Sub Portu
- 1 x DVI-D Portu
- 1 x HDMI Portu
- 4 x Kullanıma Hazır USB 2.0 Portu (Tam Gerilim Korumasını Destekler)
- 2 x Kullanıma Hazır USB 3.0 Portu (AMD A68H (Bolton-D2H)) (Tam Gerilim Korumasını Destekler)
- 1 x RJ-45 LAN Portu, LED'li (AKT/L3NK LED'i ve HIZ LED)
- HD Ses Jakı: Hat Girişi / Ön Hoparlör / Mikrofon

Depolama

- 4 x SATA2 3,0Gb/sn konektör, donanım RAID (RAID 0, RAID 1 ve RAID 10), NCQ, AHCI ve "Sistem Azalırken Bileşen Takma" işlevlerini

- Konektör**
- 1 x Yazdırma Portu fişi
 - 1 x COM portu fişi
 - 1 x Kasaya Yetkisiz Erişim fişi
 - 1 x TPM bağlantısı
 - 1 x Conector do ventilador da CPU (4 pinos)
 - 1 x Conector do ventilador da chassis (4 pinos)
 - 1 x Conector do ventilador da energia (3 pinos)
 - 1 x 24 pin ATX güç konektörü
 - 1 x 4 pin 12V güç konektörü
 - 1 x Ön panel ses konektörü
 - 2 x USB 2.0 fiş (4 USB 2.0 portu destekler) (ESD Korumasını destekler (ASRock Tam Ani Yükseliş Koruması))
 - 1 x ASMedia ASM1042A ile USB 3.0 bağlantısı (2 USB 3.0 portu destekler) (ESD Korumasını destekler (ASRock Tam Ani Yükseliş Koruması))

- BIOS Özellikleri**
- 64 Mb AMI BIOS
 - GUI destekli AMI UEFI Geçerli BIOS
 - "Tak Çalıştır"ı destekler
 - ACPI 1.1 Uyumlu Uyandırma Olayları
 - Jumpersiz ayarlamayı destekler
 - AMBIOS 2.3.1 Desteği
 - DRAM, CPU Voltaj Çoklu ayarı

- Donanım Monitör**
- CPU Sıcaklık Duyarlılığı
 - Kasa Sıcaklık Duyarlılığı
 - CPU Fan Takometresi
 - Kasa Fan Takometresi
 - CPU/Kasa Sessiz Fanı
 - CPU/Kasa Fan Çoklu-Hız Kontrolü
 - KASA AÇIK algılaması
 - Voltaj İzleme: +12V, +5V, +3,3V, CPU Vcore

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

- Sertifika- lar**
- FCC, CE, WHQL
 - ErP/EuP Hazır (ErP/EuP hazır güç kaynağı gerekli)

설명서

플랫폼

- Micro ATX 폼 팩터
- 완전 교체 축전지 디자인
- 고 밀도 유리 직물 PCB

CPU

- 소켓 FM2+ 95W / FM2 100W 프로세서에 대한 지원

칩셋

- AMD A68H (Bolton-D2H)

메모리

- 듀얼 채널 메모리 기술 지원
- DDR3 DIMM 슬롯 2 개
- DDR3 2400+(OC)/2133(OC)/1866(OC)/1600/ 1333/1066
- 비 -ECC, 언버퍼드 메모리를 지원
- 최대 시스템 메모리 용량 : 32GB
- Intel® 익스트림 메모리 프로파일 (XMP)1.3/1.2 지원
- 최대 AMP 2400 의 AMD 메모리 프로파일 기술 (AMP) 지원

확장 슬롯

- 1 x PCI Express 3.0 x16 슬롯 (PCIe1: x16 모드)
* PCIe 3.0 은 FM2+ CPU 에서만 지원됩니다 . FM2 CPU 의
- 경우 PCIe 2.0 만 지원합니다 .
- 1 개의 PCI Express 2.0 x1 슬롯
- 1 개의 PCI 슬롯
- AMD 듀얼 그래픽 지원

온보드 VGA

- A 시리즈 APU 에 통합된 AMD Radeon™ R7/R5 시리즈 그래픽
- FM2+ CPU 의 경우 DirectX 11.1, Pixel Shader 5.0 탑재 . FM2 CPU 의 경우 DirectX 11, Pixel Shader 5.0 탑재 .
- 최대 공유 메모리 2GB
- 3 개의 VGA 출력 옵션 : D-Sub, DVI-D 및 HDMI
- 삼중 모니터 지원
- 최대 해상도 4K x 2K (4096x2160) @ 24Hz 까지 HDMI 지원
- * HDMI 를 통한 4096x2160 해상도 출력은 FM2+ APU 에서만 지원됩니다 .
- 최대 해상도 2560x1600 @ 60Hz 까지 Dual-link DVI-D 지원
- 최대 해상도 1920x1200 @ 60Hz 까지 D-Sub 지원
- 자동 립 싱크 (Auto Lip Sync), 딥 컬러 (Deep Color) (12bpc), xvYCC, HBR(고비트율 오디오), HDMI 지원 (HDMI 호환 모니터 필요)
- HDMI 로 블루레이 스테레오스코픽 3D 를 지원합니다

- AMD Steady Video™ 2.0 지원 : 홈 / 온라인 비디오의 자동 떨림감소를 위한 새로운 비디오 포스트 프로세싱 능력
- DVI-D 및 HDMI 포트를 이용한 HDCP 기능 지원
- DVI-D 및 HDMI 포트를 이용한 1080p Blu-ray (BD) 지원

오디오

- 5.1 CH HD Audio (Realtek ALC662 Audio Codec)
- 서지 보호 지원 (ASRock 폴 스파이크 보호)

랜

- 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

후면판 I/O

- 1 개 PS/2 마우스 / 키보드 포트
- 1 개의 D-Sub 포트
- 1 개의 DVI-D 포트
- 1 개의 HDMI 포트
- 4 개디폴트 USB 2.0 포트 (ESD 보호 (ASRock 폴 스파이크 보호) 지원)
- 2 개디폴트 USB 3.0 포트 (AMD A68H (Bolton-D2H)) (ESD 보호 (ASRock 폴 스파이크 보호) 지원)
- 1 개 LED(ACT/LINK LED 및 SPEED LED)가 있는 RJ-45 LAN 포트
- 오디오 잭 : 라인 인 / 전방 스피커 / 마이크

저장 장치

- 4 개의 SATA2 3.0Gb/s 커넥터, RAID (RAID 0, RAID 1 및 RAID 10), NCQ, AHCI 및 “ 핫 플러그 ” 기능 지원

온보드 헤더
및 커넥터

- 프린트 포트 헤더 1 개
- COM 포트 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 헤더 1 개
- 4 핀 ATX 12V 파워 콘넥터 1 개
- 전면부 오디오 콘넥터 1 개
- USB 2.0 헤더 2 개 (4 개의 추가 USB 2.0 포트를 지원하는 헤더 2 개) (ESD 보호 (ASRock 폴 스파이크 보호) 지원)
- ASMedia ASM1042A 의 USB 3.0 헤더 1 개 (USB 3.0 포트 2 개 지원) (ESD 보호 지원 (ASRock 폴 스파이크 보호))

- BIOS
- 64Mb GUI 지원을 제공하는 AMI UEFI 적합형 BIOS
 - “플러그 앤 플레이” 지원
 - ACPI 1.1 웨이크 - 업 이벤트와의 호환
 - 점퍼 프리 지원
 - 점퍼 프리 지원 ; SMBIOS 2.3.1 지원
 - DRAM, CPU 전압 멀티 조절

하드웨어 모니터링

- CPU 온도 감지
- 마더보드 온도 감지
- CPU 회전 속도계 : 샤프시 (케이스) 팬 회전 속도계
- 샤프시 회전 속도계 : 샤프시 (케이스) 팬 회전 속도계
- CPU/ 샤프시 저소음 팬
- CPU/ 샤프시 팬 멀티스피드 컨트롤
- 케이스 열림 감지
- 전압 감시 기능 : +12V,+5V,+3.3V,Vcore

- OS
- 마이크로 소프트웨어 Windows® 8.1 32 비트 /8.1 64 비트 /8.32 비트 /8.64 비트 /7.32 비트 /7.64 비트

- 인증서
- FCC, CE, WHQL
 - ErP/EuP 지원 (ErP/EuP 지원 전원 공급기가 요구됨)

* 상세한 제품정보는 당사의 웹사이트를 방문할수있습니다 .
<http://www.asrock.com>

仕様

- プラットフォーム
- マイクロ ATX フォームファクター
 - 全ソリッド・キャパシター設計
 - 高密度ガラス繊維 PCB

- CPU
- Socket FM2+ 95W / FM2 100W プロセッサのサポート

- チップセット
- AMD A68H (Bolton-D2H)

- メモリー
- デュアルチャンネル DDR3 メモリーテクノロジー
 - DDR3 DIMM スロット x 2
 - DDR3 2400+(OC)/2133(OC)/1866(OC)/1600/1333/1066 non-ECC, un-buffered メモリーに対応
 - システムメモリの最大容量: 32GB
 - Intel® Extreme Memory Profile(XMP)1.3/1.2 をサポート
 - 最大 AMP 2400 までの AMD メモリプロファイルテクノロジー(AMP)に対応

- 拡張スロット
- 1 x PCI Express 3.0 x16 スロット(PCIe1: x16 モード)
* PCIe 3.0 は FM2+ CPU でのみサポートされます。FM2 CPU では、PCIe 2.0 のみをサポートします。
 - 1 x PCI Express 2.0 x1 スロット
 - 1 x PCI スロット
 - AMD DualGraphics に対応

- グラフィック
- A シリーズ APU に統合された AMD Radeon™ R7/R5 シリーズグラフィックス
 - FM2+ CPU を搭載した DirectX 11.1、Pixel Shader 5.0。FM2 CPU を搭載した DirectX 11、Pixel Shader 5.0。
 - 最大の共有メモリ 2GB
 - 3 つの VGA 出力オプション :D-Sub、DVI-D、HDMI
 - 3 台のモニターをサポート
 - 4K x 2K (4096x2160) @ 24Hz の最大解像度で HDMI をサポート
 - * HDMI ポート経由で最大 4096x2160 の解像度ディスプレイに対応できるのは FM2+ APU だけです
 - 2560x1600 @ 60Hz の最大解像度で Dual-link DVI-D をサポート
 - 1920x1200 @ 60Hz の最大解像度で D-Sub をサポート
 - オートリップシンク、ディープカラー(12bpc)、xvYCC、HBR(High Bit Rate)オーディオ、HDMI (HDMI 準拠モニタが必要)をサポート

- HDMI 搭載 Blu-ray Stereoscopic 3D 対応
- AMD Steady Video™ 2.0 のサポート: 家庭 / オンラインビデオの自動ジッター低減用の新しいビデオポストの処理機能
- HDCP 機能、DVI-D ポートおよび HDMI ポートをサポート 1080p Blu-ray (BD)
- 再生サポート、DVI-D ポートおよび HDMI ポートをサポート

オーディオ

- 5.1 CH HD オーディオ (Realtek ALC662 オーディオ Codec)
- スパイク保護をフルサポート

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

- PS/2 マウス / キーボードポート x 1
- D-Sub ポート x 1
- DVI-D ポート x 1
- HDMI ポート x 1
- USB 2.0 ポート x 4 (スパイク保護をフルサポート)
- USB 3.0 ポート x 2 (AMD A68H (Bolton-D2H)) (スパイク保護をフルサポート)
- LED(ACT/LINK LED および SPEED LED)付き RJ-45 LAN ポート x 1
- オーディオジャック: 入力、前部スピーカー、マイク入力

ストレージ

- 4 x SATA2 3.0Gb/ 秒コネクタが、RAID (RAID 0、RAID 1 および RAID 10)、NCQ、AHCI および “Hot Plug” (ホットプラグ) 機能をサポート

コネクタ

- プリントポートヘッダ x 1
- COM ポートヘッダ x 1
- シャーシ侵入ヘッダ x 1
- TPM ヘッダー x 1
- CPU ファンコネクタ x 1 (4 ピン)
- シャーシファンコネクタ x 1 (4 ピン)
- 電源ファンコネクタ x 1 (3 ピン)
- 24 ピン ATX 電源コネクタ x 1
- 4 ピン 12V 電源コネクタ x 1
- フロントパネルオーディオコネクタ x 1

- USB 2.0 ヘッダー (USB 2.0 用 4 ポートをサポート) x 2 (ESD 保護(ASRock フルスパイク保護)をサポートします)
- ASMedia ASM1042A の USB 3.0 ヘッダー (USB 3.0 用 2 ポートをサポート) x 1 (ESD 保護(ASRock フルスパイク保護)をサポートします)

BIOS 関連 機能

- 64Mb AMI UEFI Legal BIOS(GUI サポート)
- プラグ&プレイをサポート
- ACPI 1.1 準拠ウェイクアップイベント
- jumperfree モードサポート
- SMBIOS 2.3.1 サポート
- DRAM、CPU プリッジ電圧

モニタ

- CPU 温度検知
- マザーボード温度検知
- CPU ファンタコメータ
- シャーシファンタコメータ
- CPU/ マザーボード静音ファン
- CPU/ シャーシファンマルチ速度制御
- ケースオープン検出
- 電源モニター: +12V, +5V, +3.3V, 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, Microsoft® WHQL 認証済み
- ErP/EuP 対応(ErP/EuP 対応の電源装置が必要です)

* 製品の詳細については、<http://www.asrock.com> を御覧ください。

详细规格

规格尺寸

- Micro ATX 规格
- 全固态电容设计
- 高密度防潮纤维电路板

处理器

- 支持 Socket FM2+ 95W / FM2 100W 处理器

芯片组

- AMD A68H (Bolton-D2H)

内存

- 双通道 DDR3 内存技术
- 2 x DDR3 内存插槽
- 支持 DDR3 2400+(OC)/2133(OC)/1866(OC)/1600/1333/1066 non-ECC, un-buffered 内存
- 系统内存最大容量 :32GB
- 支持 Intel® Extreme Memory Profile(XMP)1.3/1.2
- 支持最高 AMP 2400 的 AMD Memory Profile(AMP) 技术

扩充插槽

- 1 x PCI Express 3.0 x16 插槽 (PCIe1: x16 模式)
*FM2+ CPU 支持 PCIe 3.0, FM2 CPU 只支持 PCIe 2.0.
- 1 x PCI Express 2.0 x1 插槽
- 1 x PCI 插槽
- 支持 AMD Dual Graphics

显卡

- A 系列 APU 上集成 AMD Radeon™ R7/R5 显示核心
- FM2+ 为 DirectX 11、Pixel Shader 5.6; FM2 为 DirectX 11、Pixel Shader 5.0
- 最大共享显示内存 2GB
- 支持三个 VGA 输出选项 :D-Sub、DVI-D 和 HDMI
- 支持三显示器
- 支持 HDMI, 最高分辨率达 4K x 2K (4096x2160) @ 24Hz
* 只有 FM2+ APU 可以通过 HDMI 端口支持高达 4096x2160 分辨率的显示器
- 支持 Dual-link DVI-D, 最高分辨率达 2560x1600 @ 60Hz
- 支持 D-Sub, 最高分辨率达 1920x1200 @ 60Hz
- 支持 HDMI, 可支持 Auto Lip Sync、Deep Color (12bpc)、xvYCC 与 HBR (高位速音频) (需配备兼容 HDMI 的显示器)
- 支持蓝光立体 3D 和 HDMI
- 支持 AMD Steady Video™ 2.0: 最新视频后处理能力, 可为家庭 / 在线视频提供自动降低抖动的功能
- 通过 DVI-D 和 HDMI 接口支持 HDCP 功能
- 通过 DVI-D 和 HDMI 接口可播放 1080 线蓝光光盘 (BD)

音效

- 5.1 声道高保真音频 (Realtek ALC662 音频编解码器)
- 支持防突波 (ASRock 全防护)

网络

- PCIE x1 千兆网卡 10/100/1000 Mb/s
- Realtek RTL8111GR
- 支持广域网唤醒技术 (Wake-On-WAN)
- 支持网上唤醒功能 (Wake-On-LAN)
- 支持防雷击 / 防 ESD 静电 (ASRock 全防护)
- 支持网线侦测
- 支持 Energy Efficient Ethernet 802.3az
- 支持 PXE

背板 I/O

- 1 个 PS/2 鼠标 / 键盘接口
- 1 个 D-Sub 接口
- 1 个 DVI-D 接口
- 1 个 HDMI 接口
- 4 x USB 2.0 接口 (支持防 ESD 静电 (ASRock 全防护))
- 2 x USB 3.0 接口 (AMD A68H (Bolton-D2H)) (支持防 ESD 静电 (ASRock 全防护))
- 1 个网卡接口 LED 指示灯 (ACT/LINK LED 和 SPEED LED)
- HD 音频插孔: 线性输入 / 前置喇叭 / 麦克风

存储

- 4 x SATA2 接口 (3.0 Gb/s), 支持 RAID (RAID 0, RAID 1 和 RAID 10), NCQ, AHCI 和热插拔功能

板载接口

- 1 x 打印机端口接针
- 1 x COM 端口接针
- 1 x 机箱开启警告功能接针
- 1 x TPM 接针
- 1 x CPU 风扇接口 (4-pin)
- 1 x 机箱风扇接口 (4-pin)
- 1 x 电源风扇接口 (3-pin)
- 1 x 24 针 ATX 电源接口
- 1 x 4 针 12V 电源接口
- 1 x 前面板音频接口
- 2 x USB 2.0 针状接头 (支持 4 个 USB 2.0 接口) (支持防 ESD 静电 (ASRock 全防护))
- 1 x ASMedia ASM1042A 的 USB 3.0 接针 (可支持 2 个额外的 USB 3.0 接口) (支持防 ESD 静电 (华擎全防护))

BIOS 特性

- 支持图形界面的 64Mb AMI UEFI Legal BIOS
- 支持 “即插即用”
- 符合 ACPI 1.1, 支持唤醒与自动开机 (Wake Up Events)
- 支持免跳线
- 支持 SMBIOS 2.3.1
- DRAM, CPU 电压多功能调节器

硬件监控

- CPU 温度检测
- 机箱温度侦测
- CPU 风扇转速计
- 机箱风扇转速计
- CPU/ 机箱静音风扇（可根据处理器温度自动调节机箱风扇转速）
- CPU/ 机箱风扇多速控制
- 机箱开启侦测
- 电压实时监控：+12V, +5V, +3.3V, 核心电压

操作系统

- 支持 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
- 支持 ErP/EuP（需要搭配支持 ErP/EuP 的电源供应器）

* 请参阅华擎网站了解详细的产品信息：<http://www.asrock.com>

电子信息产品污染控制标示

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

有毒有害物质或元素的名称及含量说明

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。

主機板規格

架構	<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
華擎雲	<ul style="list-style-type: none">• 支援插座 FM2+ 95W / FM2 100W 處理器
晶片組	<ul style="list-style-type: none">• AMD A68H (Bolton-D2H)
系統記憶體	<ul style="list-style-type: none">• 支援雙通道 DDR3 記憶體技術• 2 個 DDR3 DIMM 插槽• 支援 DDR3 2400+(OC)/2133(OC)/1866(OC)/1600/1333/1066 non-ECC、un-buffered 記憶體• 最高支援 32GB 系統容量• 支援 Intel® Extreme Memory Profile(XMP)1.3/1.2• 支援 AMD Memory Profile(AMP) 記憶體模組技術，可高達 AMP 2400
擴充插槽	<ul style="list-style-type: none">• 2 x PCI Express 3.0 x16 插槽 (PCIe1: x16 模式) * PCIe 3.0 僅支援 FM2+ CPU。使用 FM2 CPU 時，僅支援 PCIe 2.0。• 1 x PCI Express 2.0 x1 插槽• 1 x PCI 插槽• 支援 AMD 雙顯卡技術
內建顯示	<ul style="list-style-type: none">• A 系列 APU 整合 AMD Radeon™ R7/R5 系列顯示晶片• FM2+ CPU 採用 DirectX 11.1、Pixel Shader 5.0。FM2 CPU 採用 DirectX 11、Pixel Shader 5.0。• 最大共享記憶體 2GB• 支援三個 VGA 輸出選項：D-Sub、DVI-D 和 HDMI• 支援三台顯示器• 支援 HDMI，最高解析度達 4K x 2K (4096x2160) @ 24Hz * 只有 FM2+ APU 可以透過 HDMI 埠支援高達 4096x2160 解析度的顯示器• 支援 Dual-link DVI-D，最高解析度達 2560x1600 @ 60Hz• 支援 D-Sub，最高解析度達 1920x1200 @ 60Hz• 支援 HDMI，可支援 Auto Lip Sync、Deep Color (12bpc)、xvYCC 與 HBR(高位元率音效)(需具備相容 HDMI 的銀幕)• 支援使用 HDMI 播放藍光立體 3D 影像• 支援 AMD Steady Video™ 2.0：最新影像後處理能力，可為家庭 / 線上影像提供自動降低手震的功能• DVI-D 和 HDMI 接口支援 HDCP 功能• DVI-D 和 HDMI 接口可播放 1080p 藍光光碟 (BD)

- 音效
- 5.1 聲道高清晰音效 (Realtek ALC662 音效編解碼器)
 - 支援防突波 (ASRock 全防護)

- 網路功能
- PCIE xl 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

- Rear Panel
I/O(後背
板輸入/輸
出接口)
- 1 個 PS/2 滑鼠 / 鍵盤接口
 - 1 個 D-Sub 接口
 - 1 個 DVI-D 接口
 - 1 個 HDMI 接口
 - 4 個可直接使用的 USB 2.0 接口 (支援全防護)
 - 2 個可直接使用的 USB 3.0 接口 (AMD A68H (Bolton-D2H))(支援全防護)
 - 1 個 RJ-45 區域網接口與 LED 指示燈 (ACT/LINK LED 和 SPEED LED)
 - 高清晰音效插孔: 音效輸入 / 前置喇叭 / 麥克風

- 儲存裝置
- 4 x SATA2 3.0Gb/s 接頭, 支援 RAID (RAID 0, RAID 1 和 RAID 10), NCQ, AHCI 和熱插拔功能

- 接頭
- 1 x 印表機接針
 - 1 x 序列埠
 - 1 x 機殼開啟警告功能接頭
 - 1 x TPM 標頭
 - 1 x CPU 風扇接頭 (4 針)
 - 1 x 機箱風扇接頭 (4 針)
 - 1 x 電源風扇接頭 (3 針)
 - 1 x 24 針 ATX 電源接頭
 - 1 x 4 針 12V 電源接頭
 - 1 x 前置音效接頭
 - 2 x USB 2.0 接頭 (可支援 4 個額外的 USB 2.0 接口) (支援全防護)
 - 1 x ASMedia ASM1042A 的 USB 3.0 接頭 (可支援 2 個額外的 USB 3.0 接口) (支援防 ESD 靜電 (華擎全防護))

- BIOS
- 64Mb AMI BIOS
 - AMI UEFI Legal BIOS (支援 GUI)
 - 支援即插即用 (Plug and Play, PnP)
 - ACPI 1.1 電源管理
 - 支援喚醒功能
 - 支援 jumperfree 免跳線模式
 - DRAM、CPU 電壓多功能調節

硬體監控

- CPU 溫度偵測
- 主機板溫度偵測
- CPU 風扇轉速計
- 機箱風扇轉速計
- CPU/ 機箱靜音風扇
- CPU/ 機箱風扇多速控制
- 機殼開啟偵測
- 電壓範圍：+12V, +5V, +3.3V, 核心電壓

操作系統

- 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
- 支援 ErP/EuP(需要同時使用支援 ErP/EuP 的電源供應器)

* 請參閱華擎網站了解詳細的產品訊息：<http://www.asrock.com>

Spesifikasi

- Podium**
- Bentuk dan Ukuran Micro ATX
 - Desain All Solid Capacitor
 - PCB Struktur Kaca Kepadatan Tinggi

- CPU**
- Didukung untuk prosesor Socket FM2+ 95W/FM2 100W

- Grup Chip**
- AMD A68H (Bolton-D2H)

- Ingatan**
- Teknologi ingatan DDR3 dwisaluran
 - 2 x Alur DDR3 DIMM
 - Menggunakan DDR3 2400+(OC)/2133(OC)/1866(OC)/1600/1333/1066
 - Kapasitas paling banyak: 32GB
 - Mendukung Intel® Extreme Memory Profile (XMP)1.3/1.2
 - Mendukung Teknologi AMD Memory Profile (AMP) hingga AMP 2400

- Alur Ekspansi**
- 1 x PCI Express 3.0 x16 slots (PCIE1: x16 mode)
* PCIE 3.0 hanya didukung dengan FM2+ CPU. Dengan FM2 CPU, hanya mendukung PCIE 2.0.
 - 1 x PCI Express 2.0 x1 slot
 - 1 x Alur PCI
 - Mendukung AMD Dual Graphics

- Diagram**
- Grafis seri AMD Radeon™ R7/R5 terintegrasi di APU seri A
 - DirectX 11.1, Pixel Shader 5.0 dengan FM2+ CPU. DirectX 11, Pixel Shader 5.0 dengan FM2 CPU.
 - Ingatan sama Max. 2GB
 - Tiga pilihan VGA Output: D-Sub, DVI-D dan HDMI
 - Mendukung Triple Monitor
 - Mendukung HDMI Technology dengan resolusi maksimal hingga 4K x 2K (4096x2160) @ 24Hz
* Hanya FM2 + APU dapat mendukung hingga 4096x2160 resolusi layar melalui port HDMI

- Mendukung Dual-link DVI-D dengan resolusi maksimal hingga 2560x1600 @ 60Hz
- Mendukung D-Sub dengan resolusi maksimal hingga 1920x1200 @ 60Hz
- Mendukung Auto Lip Sync, Deep Color (12bpc), xvYCC dan HBR (High Bit Rate Audio) dengan HDMI (memerlukan monitor HDMI yang kompatibel)
- Mendukung Blu-ray Stereoscopic 3D dengan HDMI
- Mendukung AMD Video™ 2.0 Tenang: Baru video pasca kemampuan pengolahan untuk pengurangan jutter otomatis pada rumah / online video
- Mendukung fungsi HDCP dengan port DVI-D dan HDMI
- Mendukung pemutaran 1080p Blu-ray (BD) dengan port DVI-D dan HDMI

Audio

- 5.1 CH HD Audio (Realtek ALC662 Audio Codec)
- Mendukung Perlindungan Lonjakan Tegangan (Perlindungan Penuh Lonjakan Tegangan ASRock)

LAN

- PCIE x1 Gigabit LAN 10/100/1000 Mb/s
- Realtek RTL8111GR
- Mendukung Wake-On-WAN
- Menggunakan Wake-On-LAN
- Mendukung Perlindungan Petir/ESD (Perlindungan Penuh Lonjakan Tegangan ASRock)
- Mendukung Deteksi Kabel LAN
- Mendukung Energy Efficient Ethernet 802.3az
- Mendukung PXE

Papan Belakang I/O

- 1 x Port Mouse/Keyboard PS/2
- 1 x Port D-Sub
- 1 x Port DVI-D
- 1 x Port HDMI
- 4 x Port USB 2.0 siap-dipakai (Mendukung Perlindungan ESD (Perlindungan Penuh Lonjakan Tegangan ASRock))
- 2 x Port USB 3.0 siap-dipakai (AMD A68H (Bolton-D2H)) (Mendukung Perlindungan ESD (Perlindungan Penuh Lonjakan Tegangan ASRock))

- 1 x RJ-45 LAN Port LED (ACT/LINK LED dan SPEED LED)
- HD Audio Jack: Line in / Penyuaran Depan / mikropon

Penyimpanan

- 4 x penghubung SATA2 3.0Gb/s, dapat digunakan RAID (RAID 0, RAID 1 dan RAID 10), NCQ, AHCI dan fungsi-fungsi "Hot Plug"

Penghubung

- 1 x port header Print
- 1 x port header COM
- 1 x Chassis Intrusion header
- 1 x Header TPM
- 1 x Penghubung KIPAS CPU (4 pin)
- 1 x Penghubung KIPAS casing (4 pin)
- 1 x Penghubung KIPAS Power (3 pin)
- 1 x Penghubung power 24 pin ATX
- 1 x Penghubung power 4 pin 12V
- 1 x Penghubung audio panel depan
- 2 x USB 2.0 header (menggunakan 4 port USB 2.0) (Mendukung Full Spike Protection)
- 1 x USB 3.0 header melalui ASMedia ASM1042A (menggunakan 2 port USB 3.0) (Mendukung Perlindungan ESD (ASRock Full Spike Protection))

Ciri-ciri BIOS

- 64Mb AMI UEFI Legal BIOS dengan dukungan GUI
- Menggunakan "Plug and Play"
- ACPI 1.1 Compliance Wake Up Events
- Menggunakan jumperfree
- Penyokong AMBIOS 2.3.1
- Penyesuaian berbagai tegangan DRAM, CPU

Penjaga Hardware

- Perasa Suhu CPU
- Perasa Suhu Casing
- Pengukur Kipas CPU
- Pengukur Kipas casing
- Kipas diam CPU/casing
- Kontrol Multi-Kecepatan Kipas CPU/casing
- Deteksi CASING TERBUKA
- Penjagaan voltasi: +12V, +5V, +3.3V, Vcore

OS

- Kompatibel dengan 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
- ErP/EuP Ready (memerlukan catu daya ErP/EuP ready)

* Untuk informasi rinci, silakan kunjungi website kami: <http://www.asrock.com>

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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