

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.

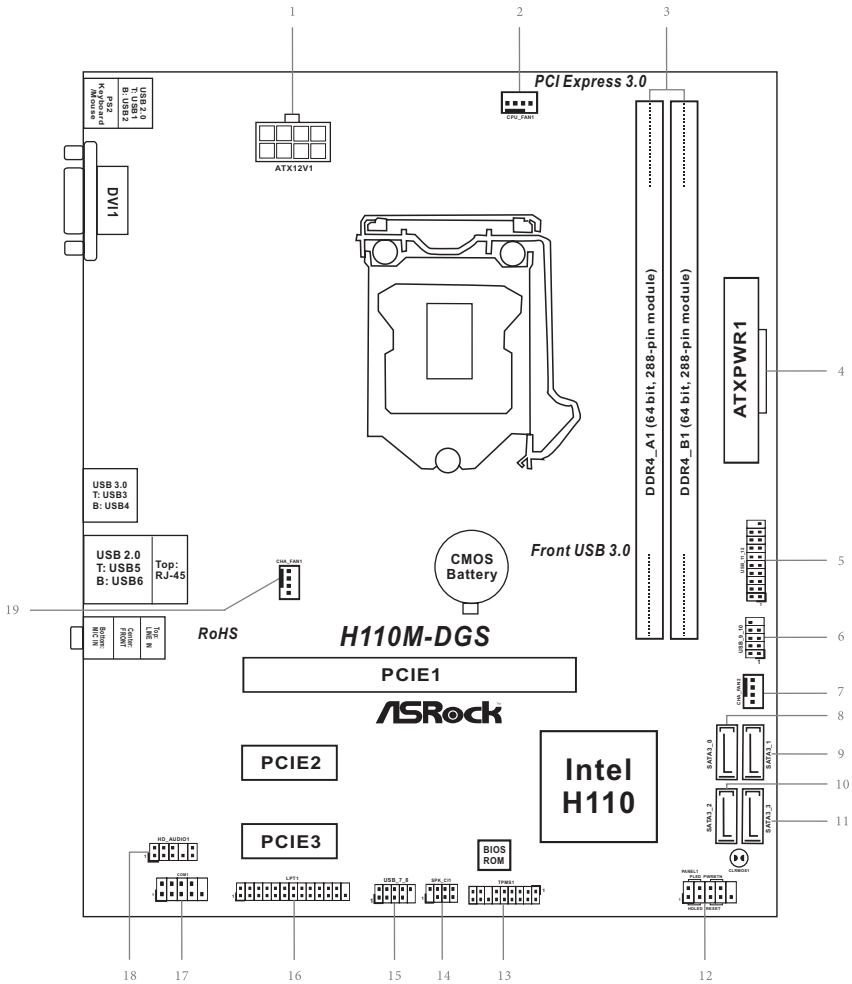
“Perchlorate Material-special handling may apply, see www.dtsc.ca.gov/hazardouswaste/perchlorate”

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

AUSTRALIA ONLY

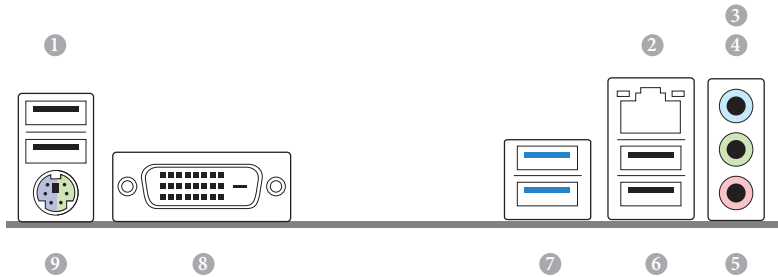
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Motherboard Layout



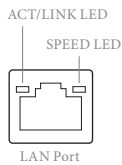
No.	Description
1	ATX 12V Power Connector (ATX12V1)
2	CPU Fan Connector (CPU_FAN1)
3	2 x 288-pin DDR4 DIMM Slots (DDR4_A1, DDR4_B1)
4	ATX Power Connector (ATXPWR1)
5	USB 3.0 Header (USB_11_12)
6	USB 2.0 Header (USB_9_10)
7	Chassis Fan Connector (CHA_FAN2)
8	SATA3 Connector (SATA3_0)
9	SATA3 Connector (SATA3_1)
10	SATA3 Connector (SATA3_2)
11	SATA3 Connector (SATA3_3)
12	System Panel Header (PANEL1)
13	TPM Header (TPMS1)
14	Chassis Intrusion and Speaker Header (SPK_C11)
15	USB 2.0 Header (USB_7_8)
16	Print Port Header (LPT1)
17	COM Port Header (COM1)
18	Front Panel Audio Header (HD_AUDIO1)
19	Chassis Fan Connector (CHA_FAN1)

I/O Panel



No.	Description	No.	Description
1	USB 2.0 Ports (USB_12)***	6	USB 2.0 Ports (USB_56)***
2	LAN RJ-45 Port*	7	USB 3.0 Ports (USB_34)***
3	Line In (Light Blue)**	8	DVI-D Port
4	Front Speaker (Lime)**	9	PS/2 Keyboard/Mouse Port
5	Microphone (Pink)**		

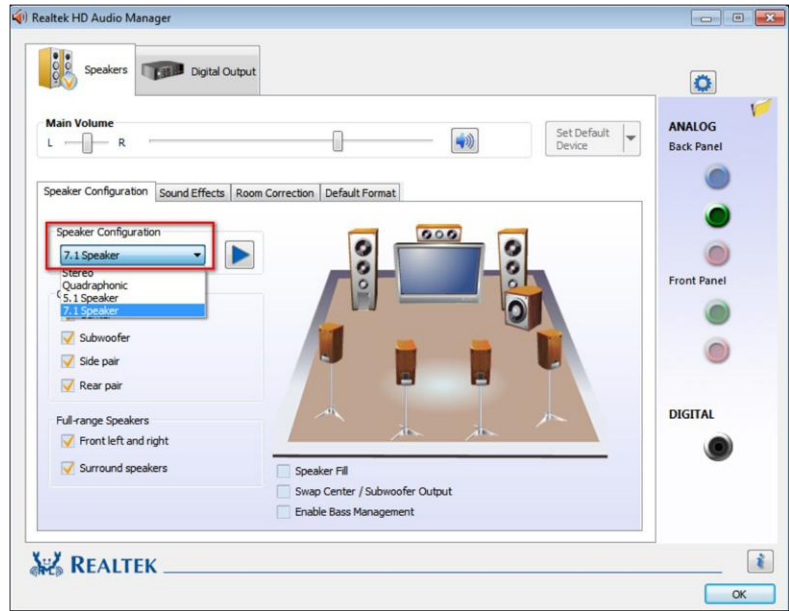
* There are two LEDs on the LAN port. Please refer to the table below for the LAN port LED indications.



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

*** To configure 7.1 CH HD Audio, it is required to use an HD front panel audio module and enable the multi-channel audio feature through the audio driver.*

Please set Speaker Configuration to “7.1 Speaker” in the Realtek HD Audio Manager.



Function of the Audio Ports in 7.1-channel Configuration:

Port	Function
Light Blue (Rear panel)	Rear Speaker Out
Lime (Rear panel)	Front Speaker Out
Pink (Rear panel)	Central /Subwoofer Speaker Out
Lime (Front panel)	Side Speaker Out

**** ACPI wake-up function is supported on the rear USB ports only.*

1 Introduction

Thank you for purchasing ASRock H110M-DGS 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 H110M-DGS R2.0 Motherboard (Micro ATX Form Factor)
- ASRock H110M-DGS R2.0 Quick Installation Guide
- ASRock H110M-DGS 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
 - Solid Capacitor design

- CPU**
- Supports 6th Generation Intel® Core™ i7/i5/i3/Pentium®/Celeron® Processors (Socket 1151)
 - Supports CPU up to 91W
 - Digi Power design
 - 5 Power Phase design
 - Supports Intel® Turbo Boost 2.0 Technology

- Chipset**
- Intel® H110

- Memory**
- Dual Channel DDR4 Memory Technology
 - 2 x DDR4 DIMM Slots
 - Supports DDR4 2133 non-ECC, un-buffered memory
 - Supports ECC UDIMM memory modules (operate in non-ECC mode)
 - Max. capacity of system memory: 32GB
 - Supports Intel® Extreme Memory Profile (XMP) 2.0

- Expansion Slot**
- 1 x PCI Express 3.0 x16 Slot (PCIe1: x16 mode)*
 - * Supports NVMe SSD as boot disks
 - 2 x PCI Express 2.0 x1 Slots

- 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 510/530
 - Pixel Shader 5.0, DirectX 12
 - Max. shared memory 1024MB
- * The size of maximum shared memory may vary from different operating systems.

- Supports DVI-D with max. resolution up to 1920x1200 @ 60Hz
- Supports Accelerated Media Codecs: HEVC, VP8, VP9
- Supports HDCP with DVI-D Port
- Supports Full HD 1080p Blu-ray (BD) playback with DVI-D Port

Audio

- 7.1 CH HD Audio (Realtek ALC887 Audio Codec)
- * To configure 7.1 CH HD Audio, it is required to use an HD front panel audio module and enable the multi-channel audio feature through the audio driver.
- Supports Surge Protection (ASRock Full Spike Protection)
- ELNA Audio Caps

LAN

- PCIE x1 Gigabit LAN 10/100/1000 Mb/s
- Realtek RTL8111GR/RTL8111C
- Supports Wake-On-LAN
- Supports Lightning/ESD Protection (ASRock Full Spike Protection)
- Supports LAN Cable Detection
- Supports PXE

Rear Panel I/O

- 1 x PS/2 Mouse/Keyboard Port
- 1 x DVI-D 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))*
- * ACPI wake-up function is supported on the rear USB ports only.
- 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 NCQ, AHCI and Hot Plug

- Connector**
- 1 x Print Port Header
 - 1 x COM Port Header
 - 1 x TPM Header
 - 1 x Chassis Intrusion and Speaker Header
 - 1 x CPU Fan Connector (4-pin)
 - 2 x Chassis Fan Connectors (4-pin)
- * The CPU Fan Connector supports the CPU fan of maximum 1A (12W) fan power.
- 1 x 24 pin ATX Power Connector
 - 1 x 8 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 (Supports 2 USB 3.0 ports) (Supports ESD Protection (ASRock Full Spike Protection))
- * USB_11_12 is shared with USB_9_10.

- BIOS Feature**
- AMI UEFI Legal BIOS with multilingual GUI support
 - ACPI 5.0 Compliant wake up events
 - SMBIOS 2.7 Support
 - CPU, DRAM, PCH 1.0V, VCCIO Voltage Multi-adjustment

- Hardware Monitor**
- CPU/Chassis temperature sensing
 - CPU/Chassis Fan Tachometer
 - CPU/Chassis 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, DRAM, VPPM, PCH 1.0V, VCCIO

OS

- Microsoft® Windows® 10 64-bit / 8.1 64-bit / 7 32-bit / 7 64-bit

* To install Windows® 7 OS, a modified installation disk with xHCI drivers packed into the ISO file is required. Please refer to page 54 for more detailed instructions.

* For the updated Windows® 10 driver, please visit ASRock's website for details: <http://www.asrock.com>

Certifications

- FCC, CE, WHQL

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



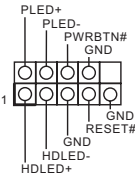
Please realize that there is a certain risk involved with overclocking, including adjusting the setting in the BIOS, applying Untied Overclocking Technology, or using third-party overclocking tools. Overclocking may affect your system's stability, or even cause damage to the components and devices of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

1.3 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. 12)



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



PWRBTN (Power Switch):

Connect to the power switch on the chassis front panel. You may configure the way to turn off your system using the power switch.

RESET (Reset Switch):

Connect to the reset switch on the chassis front panel. Press the reset switch to restart the computer if the computer freezes and fails to perform a normal restart.

PLED (System Power LED):

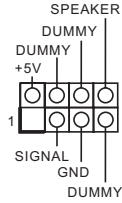
Connect to the power status indicator on the chassis front panel. The LED is on when the system is operating. The LED keeps blinking when the system is in S1/S3 sleep state. The LED is off when the system is in S4 sleep state or powered off (S5).

HDLED (Hard Drive Activity LED):

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

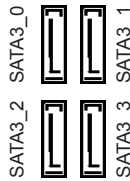
The front panel design may differ by chassis. A front panel module mainly consists of power switch, reset switch, power LED, hard drive activity LED, speaker and etc. When connecting your chassis front panel module to this header, make sure the wire assignments and the pin assignments are matched correctly.

Chassis Intrusion and
Speaker Header
(7-pin SPK_C11)
(see p.1, No. 14)



Please connect the
chassis intrusion and the
chassis speaker to this
header.

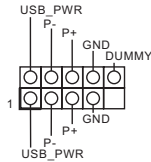
Serial ATA3 Connectors
(SATA3_0:
see p.1, No. 8)
(SATA3_1:
see p.1, No. 9)
(SATA3_2:
see p.1, No. 10)
(SATA3_3:
see p.1, No. 11)



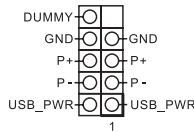
These four SATA3
connectors support SATA
data cables for internal
storage devices with up to
6.0 Gb/s data transfer rate.

USB 2.0 Headers
(9-pin USB_7_8)
(see p.1, No. 15)

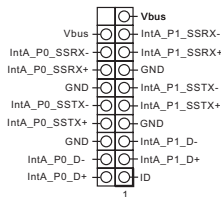
(9-pin USB_9_10)
(see p.1, No. 6)



There are two headers
on this motherboard.
Each USB 2.0 header can
support two ports.



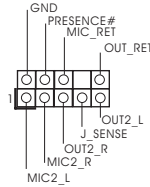
USB 3.0 Header
(19-pin USB_11_12)
(see p.1, No. 5)



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

* USB_11_12 is shared with
USB_9_10.

Front Panel Audio Header
(9-pin HD_AUDIOI1)
(see p.1, No. 18)

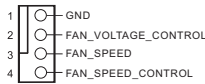


This header is for connecting audio devices to the front audio panel.



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".

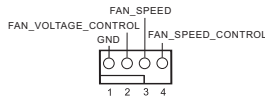
Chassis Fan Connectors
(4-pin CHA_FAN1)
(see p.1, No. 19)



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

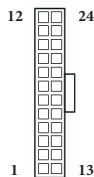
(4-pin CHA_FAN2)
(see p.1, No. 7)

CPU Fan Connector
(4-pin CPU_FAN1)
(see p.1, No. 2)



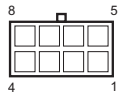
This motherboard provides a 4-Pin CPU fan (Quiet Fan) connector. If you plan to connect a 3-Pin CPU fan, please connect it to Pin 1-3.

ATX Power Connector
(24-pin ATXPWR1)
(see p.1, No. 4)



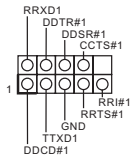
This motherboard provides a 24-pin ATX power connector. To use a 20-pin ATX power supply, please plug it along Pin 1 and Pin 13.

ATX 12V Power
Connector
(8-pin ATX12V1)
(see p.1, No. 1)



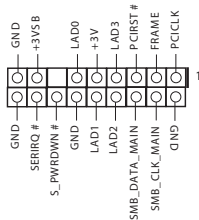
This motherboard provides an 8-pin ATX 12V power connector. To use a 4-pin ATX power supply, please plug it along Pin 1 and Pin 5.

Serial Port Header
(9-pin COM1)
(see p.1, No. 17)



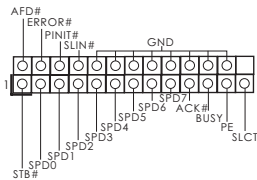
This COM1 header supports a serial port module.

TPM Header
(17-pin TPMS1)
(see p.1, No. 13)



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. 16)



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

Technische Daten

Plattform

- Micro-ATX-Formfaktor
- Feststoffkondensator-Design

Prozessor

- Unterstützt die Prozessoren Intel® Core™ i7/i5/i3/Pentium®/Celeron® der 6. Generation (Sockel 1151)
- Unterstützt CPU bis 91W
- Digi Power design
- 5-Leistungsphasendesign
- Unterstützt Intel® Turbo Boost 2.0-Technologie

Chipsatz

- Intel® H110

Speicher

- Dualkanal-DDR4-Speichertechnologie
- 2 x DDR4-DIMM-Steckplätze
- Unterstützt DDR4 2133 non-ECC, ungepufferter Speicher
- Unterstützt ECC-UDIMM-Speichermodule (Betrieb im Non-ECC-Modus)
- Systemspeicher, max. Kapazität: 32GB
- Unterstützt Intel® Extreme Memory Profile (XMP) 2.0

Erweiterungssteckplatz

- 1 x PCI-Express 3.0-x16-Steckplatz (PCIe1: x16-Modus)*
- * Unterstützt NVMe-SSD als Bootplatte
- 2 x PCI-Express 2.0-x1-Steckplatz

Grafikkarte

- 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 510/530
- Pixel Shader 5.0, DirectX 12
- Max. geteilter Speicher: 1024 MB
- * Die Größe des maximalen Freigabespeichers kann je nach Betriebssystem variieren.

- Unterstützt DVI-D mit maximaler Auflösung von 1920 x 1200 bei 60 Hz
- Unterstützt beschleunigte Mediacodecs: HEVC, VP8, VP9
- Unterstützt HDCP mit DVI-D-Ports
- Unterstützt Blu-ray- (BD) Wiedergabe (Full HD/1080p) mit DVI-D-Ports

Audio

- 7.1-Kanal-HD-Audio (Realtek ALC887-Audiocodec)
- * Zur Konfiguration von 7.1-Kanal-HD-Audio müssen Sie ein HD-Frontblenden-Audiomodul nutzen und den Mehrkanalton über den Audiotreiber aktivieren.
- Unterstützt Überspannungsschutz (ASRock Full Spike Protection)
 - ELNA-Audiokondensatoren

LAN

- PCIE x1 Gigabit LAN 10/100/1000 Mb/s
- Realtek RTL8111GR/RTL8111C
- Unterstützt Wake-On-LAN
- Unterstützt Blitzschutz/Schutz gegen elektrostatische Entladung (ASRock Full Spike Protection)
- Unterstützt LAN-Kabelerkennung
- Unterstützt PXE

Rückblende, E/A

- 1 x PS/2-Maus-/Tastaturanschluss
 - 1 x DVI-D-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))*
- * Die ACPI-Weckfunktion wird nur an rückseitigen USB-Ports unterstützt.
- 1 x RJ-45-LAN-Port mit LED (Aktivität/Verbindung-LED und Geschwindigkeit-LED)
 - HD-Audioanschlüsse: Line-in / Vorderer Lautsprecher / Mikrofon

Speicher

- 4 x SATA-III-6,0-Gb/s-Anschlüsse, unterstützt NCQ, AHCI und Hot-Plugging

Anschluss

- 1 x Druckanschluss-Stiftleiste
- 1 x COM-Anschluss-Stiftleiste
- 1 x TPM-Stiftleiste
- 1 x Gehäuseeingriff- und Lautsprecher-Stiftleiste
- 1 x CPU-Lüfteranschluss (4-polig)
- 2 x Gehäuselüfteranschluss (4-polig)

* Der CPU-Lüfteranschluss unterstützt einen CPU-Lüfter mit maximal 1 A (12 W) Leistung.

- 1 x 24-poliger ATX-Netzanschluss
- 1 x 8-poliger 12-V-Netzanschluss
- 1 x Audioanschluss an Frontblende
- 2 x USB 2.0-Stiftleisten (unterstützen 4 USB 2.0-Ports)
(unterstützt Schutz gegen elektrostatische Entladung (ASRock Full Spike Protection))
- 1 x USB 3.0-Stiftleiste (unterstützt 2 USB 3.0-Ports)
(unterstützt Schutz gegen elektrostatische Entladung (ASRock Full Spike Protection))

* USB_11_12-Anschluss wird mit USB_9_10-Anschluss geteilt.

BIOS-Funktion

- AMI-UEFI-Legal-BIOS mit Unterstützung mehrsprachiger grafischer Benutzerschnittstellen
- ACPI 5.0-konforme Aufweckereignisse
- SMBIOS 2.7-Unterstützung
- CPU, DRAM, PCH 1,0V, VCCIO Mehrfachspannungsanpassung

Hardwareüberwachung

- CPU-/Gehäusetemperaturerkennung
- CPU-/Gehäuselüftertachometer
- Lautloser CPU-/Gehäuselüfter (automatische Anpassung der Gehäuselüftergeschwindigkeit durch CPU-Temperatur)
- CPU-/Gehäuselüfter-Mehrfachgeschwindigkeitssteuerung
- Gehäuse-offen-Erkennung
- Spannungsüberwachung: +12 V, +5 V, +3,3 V, CPU Vcore, DRAM, VPPM, PCH 1.0V, VCCIO

Betriebssystem

- Microsoft® Windows® 10, 64 Bit / 8.1, 64 Bit / 7, 32 Bit / 7, 64 Bit

* Zur Installation des Windows® 7-Betriebssystems wird ein modifiziertes Installationslaufwerk mit xHCI-Treibern in der ISO-Datei benötigt. Detaillierte Anweisungen finden Sie auf Seite 54.

* Einzelheiten zum aktualisierten Windows® 10-Treiber entnehmen Sie bitte der ASRock-Webseite:
<http://www.asrock.com>

Zertifizierungen

- FCC, CE, WHQL

Spécifications

Plateforme

- Facteur de forme Micro ATX
- Conception à condensateurs solides

Processeur

- Prend en charge les processeurs 6^e génération Intel® Core™ i7/i5/i3/Pentium®/Celeron® (Socket 1151)
- Supporte les processeurs jusqu'à 91W
- Digi Power design
- Alimentation à 5 phases
- Prend en charge la technologie Intel® Turbo Boost 2.0

Chipset

- Intel® H110

Mémoire

- Technologie mémoire double canal DDR4
- 2 x fentes DIMM DDR4
- Prend en charge les mémoires sans tampon non ECC DDR4 2133
- Prend en charge les modules mémoire UDIMM ECC (fonctionne en mode non-ECC)
- Capacité max. de la mémoire système : 32Go
- Prend en charge Intel® Extreme Memory Profile (XMP) 2.0

Fente

d'expansion

- 1 x fente PCI Express 3.0 x 16 (PCIe1 :mode x16)*
- * Prend en charge les SSD NVMe comme disques de démarrage
- 2 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 avec AVC, MVC (S3D) et MPEG-2 Full HW Encode1, Intel® InTru™ 3D, Intel® Clear Video HD Technology, Intel® Insider™, Intel® HD Graphics 510/530
- Pixel Shader 5.0, DirectX 12
- Mémoire partagée max. 1024Mo
- * La taille maximale de mémoire partagée peut varier en fonction du système d'exploitation.

- Prend en charge le mode DVI-D avec une résolution maximale de 1920x1200 @ 60Hz
- Prend en charge les codecs multimédias accélérés : HEVC, VP8, VP9
- Prend en charge HDCP via port DVI-D
- Prend en charge la lecture Blu-ray (BD) Full HD 1080p via port DVI-D

Audio

- Audio 7.1 CH HD (codec audio Realtek ALC887)
- * Pour configurer l'audio 7.1 CH HD, il est nécessaire d'utiliser un module audio HD pour panneau frontal et d'activer la fonction audio multicanal via le pilote audio.
- Protection contre les surtensions (Protection complète contre les pics ASRock)
- Capuchons ELNA Audio

Réseau

- PCIE x1 Gigabit LAN 10/100/1000 Mo/s
- Realtek RTL8111GR/RTL8111C
- Prend en charge la fonction Wake-On-LAN
- Protection contre les orages/décharges électrostatiques (Protection complète contre les pics ASRock)
- Prend en charge la détection de câble LAN
- Prend en charge PXE

Connectique du panneau arrière

- 1 x port souris/clavier PS/2
- 1 x port DVI-D
- 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))*
- * La fonction de réveil par ACPI est uniquement prise en charge sur les ports USB arrière.
- 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

- 4 x connecteurs SATA3 6,0 Gb/s, compatibles avec les fonctions NCQ, AHCI et « Hot Plug »

Connecteur

- 1 x embase pour port d'impression
 - 1 x embase pour port COM
 - 1 x embase TPM
 - 1 x prise DEL d'alimentation et emplacement sur châssis
 - 1 x connecteur pour ventilateur de processeur (4 broches)
 - 2 x connecteur pour ventilateur de châssis (4 broches)
- * Le connecteur du ventilateur de l'unité centrale CPU prend en charge un ventilateur CPU d'une puissance maximale de 1A (12W).
- 1 x connecteur d'alimentation ATX 24 broches
 - 1 x connecteur d'alimentation 12 V 8 broches
 - 1 x connecteur audio panneau frontal
 - 2 x embases USB 2.0 (4 ports USB 2.0 pris en charge)
(Protection contre les décharges électrostatiques (Protection complète contre les pics ASRock))
 - 1 x embase USB 3.0 (2 ports USB 3.0 pris en charge)
(Protection contre les décharges électrostatiques (Protection complète contre les pics ASRock))
- * le connecteur USB_11_12 est partagé avec le connecteur USB_9_10.

Caractéristiques du BIOS

- BIOS UEFI AMI avec prise en charge d'interface graphique multilingue
- Compatible ACPI 5.0 Wake Up Events
- Prend en charge SMBIOS 2.7
- Réglage de la tension CPU, DRAM, PCH 1,0V, VCCIO

Surveillance du matériel

- Détection de la température du processeur/châssis
- Tachéomètre ventilateur processeur/châssis
- Ventilateur silencieux processeur/châssis (réglage automatique de la vitesse du ventilateur du châssis d'après la température du processeur)
- Contrôle simultané des vitesses des ventilateurs processeur/châssis
- Détection CHASSIS OUVERT
- Surveillance de la tension d'alimentation : +12V, +5V, +3,3V, CPU Vcore, DRAM, VPPM, PCH 1,0V, VCCIO

**Système
d'exploitation**

- Microsoft® Windows® 10 64 bits / 8.1 64 bits / 7 32 bits / 7 64 bits

* Pour installer Windows® 7, un disque d'installation modifié avec les pilotes xHCI intégrés au fichier ISO est requis.

Reportez-vous à la page 54 pour des instructions plus détaillées.

* Pour le pilote mis à jour pour Windows® 10, veuillez visiter le site Web d'ASRock pour plus de détails : <http://www.asrock.com>

**Certifica-
tions**

- FCC, CE, WHQL

Specifiche

Piattaforma

- Fattore di forma Micro ATX
- Design condensatore solido

CPU

- Supporta processori 6th Generation Intel® Core™ i7/i5/i3/Pentium®/Celeron® (Socket 1151)
- Supporta CPU fino a 91 W
- Digi Power design
- Potenza a 5 fasi
- Supporta la tecnologia Intel® Turbo Boost 2.0

Chipset

- Intel® H110

Memoria

- Tecnologia con memoria DDR4 a doppio canale
- 2 x alloggi DIMM DDR4
- Supporta la memoria DDR4 2133 non ECC, senza buffer
- Supporto di moduli di memoria ECC UDIMM (funzionamento in modalità non-ECC)
- Capacità max. della memoria di sistema: 32 GB
- Supporta Intel® Extreme Memory Profile (XMP) 2.0

Alloggio d'espansione

- 1 x Alloggio PCI Express 3.0 x16 (PCIE1:modalità x16)*
- * Supporto di SSD NVMe come disco d'avvio
- 2 x Alloggio PCI Express 2.0 x1

Grafica

- La videografia integrata della scheda video HD Intel® e le uscite VGA possono essere supportate soltanto con processori con GPU integrata.
- Supporta la videografia 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 510/530
- Pixel Shader 5.0, DirectX 12
- Memoria condivisa max. 1024 MB

* Le dimensioni della memoria massima condivisa variano in base ai vari sistemi operativi.

- Supporta DVI-D con una risoluzione max. fino a 1920 x 1200 a 60 Hz

- Supporto accelerazione codec multimediale: HEVC, VP8, VP9
- Supporto di HDCP con le porta DVI-D
- Supporto di riproduzione Full HD 1080p Blu-ray (BD) con le porta DVI-D

Audio

- Audio HD a 7.1 canali (codec audio Realtek ALC887)
- * Per configurare l'audio HD 7.1 canali, è necessario utilizzare un modulo pannello frontale audio HD ed attivare la funzione audio multicanale tramite il driver audio.
- Supporto protezione da sovratensione (protezione completa ASRock dai picchi di corrente)
- Cappucci audio ELNA

LAN

- PCIE x 1 LAN Gigabit 10/100/1000 Mb/s
- Realtek RTL8111GR/RTL8111C
- Supporta Wake-On-LAN
- Supporto la protezione da fulmini/scariche elettrostatiche (ESD) (protezione completa ASRock dai picchi di corrente)
- Supporta il rilevamento cavo LAN
- Supporta PXE

I/O pannello posteriore

- 1 x porta mouse/tastiera PS/2
- 1 x porta DVI-D
- 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))*

* La funzione di riattivazione ACPI è supportata solo dalle porte USB sulla parte posteriore.

- 1 x porta LAN RJ-45 con LED (ACT/LINK LED e SPEED LED)
- Connettori audio HD: Ingresso linea / altoparlante frontale / microfono

Archiviazione

- 4 x connettori SATA3 6,0 Gb/s supportano NCQ, AHCI e Hot Plug

Connettore

- 1 x header porta stampa
 - 1 x header porta COM
 - 1 x Collettore TMP
 - 1 x collegamento altoparlante e intrusione telaio
 - 1 x Connettore ventola CPU (4 pin)
 - 2 x connettore ventola telaio (4 pin)
- * Il connettore della ventola della CPU supporta ventole della CPU con una potenza massima di 1 A (12 W).
- 1 x connettore alimentazione ATX 24 pin
 - 1 x Connettore alimentazione 12V 8-pin
 - 1 x connettore audio pannello frontale
 - 2 x Collettori USB 2.0 (supporto di 4 porte USB 2.0) (supporto protezione da scariche elettrostatiche (ESD) (protezione completa ASRock dai picchi di corrente))
 - 1 x Collettore USB 3.0 (supporta 2 porte USB 3.0) (supporto protezione da scariche elettrostatiche (ESD) (protezione completa ASRock dai picchi di corrente))
- * il connettore USB_11_12 è condiviso con la connettore USB_9_10.

Funzionalità BIOS

- AMI UEFI Legal BIOS con interfaccia di supporto multilingue
- Eventi di riattivazione conformi a ACPI 5.0
- Supporto SMBIOS 2.7
- Regolazione variabile tensione CPU, DRAM, PCH 1,0V, VC-CIO

Hardware Monitor

- Rilevamento temperatura CPU/telaio
- Tachimetro ventola CPU/telaio
- Ventola silenziosa CPU/telaio (regolazione automatica velocità in base alla temperatura della CPU)
- Ventola CPU/telaio con controllo di varie velocità
- Rilevamento CASE OPEN
- Monitoraggio tensione: +12 V, +5 V, +3,3 V, CPU Vcore, DRAM, VPPM, PCH 1,0V, VCCIO

SO

- Microsoft® Windows® 10 64-bit / 8.1 64-bit / 7 32-bit / 7 64-bit
- * Per installare Windows® 7, è necessario un disco di installazione modificato con i driver xHCI integrati nel file ISO. Fare riferimento a pagina 54 per altre istruzioni dettagliate.
- * Per il driver aggiornato di Windows® 10, visitare il sito ASRock all'indirizzo: <http://www.asrock.com>

Certificazioni

- FCC, CE, WHQL

Especificaciones

Plataforma	• Factor de forma Micro ATX • Diseño de condensador sólido
CPU	• Admite la familia de procesadores Intel® Core™ i7/i5/i3/ Pentium®/Celeron® (zócalo 1151) de la 6ª generación • Compatible con CPU de hasta 91W • Digi Power design • Diseño de 5 fases de alimentación • Compatible con la tecnología de Intel® Turbo Boost 2.0
Conjunto de chips	• Intel® H110
Memoria	• Tecnología de memoria de Doble Canal DDR4 • 2 ranuras DDR4 DIMM • Compatible con memoria no-ECC, sin búfer DDR4 2133 • Admite módulos de memoria UDIMM ECC (funcionamiento en modo no ECC) • Capacidad máxima de la memoria del sistema: 32GB • Compatible con Extreme Memory Profile (XMP) 2.0 de Intel®
Ranura de expansión	• 1 ranura PCI Express 3.0 x16 (PCI-E1:modo x16)* * Admite unidad de estado sólido de NVMe como disco de arranque • 2 ranura PCI Express 2.0 x1
Gráficos	• La Tecnología visual integrada de gráficos HD de Intel® y las salidas de VGA son compatibles únicamente con procesadores con GPU integrado. • Compatible con la Tecnología visual integrada de gráficos HD de Intel®: Intel® Quick Sync Video con AVC, MVC (S3D) y MPEG-2 Full HW Encode1, Intel® InTru™ 3D, Intel® Clear Video HD Technology, Intel® Insider™, Intel® HD Graphics 510/530 • Pixel Shader 5.0, DirectX 12 • Memoria compartida máxima: 1024MB * El tamaño de memoria compartida máxima puede variar en función de los sistemas operativos. • Compatible con DVI-D con máxima resolución hasta 1920x1200 @ 60Hz • Admite códecs multimedia acelerados: HEVC, VP8, VP9

- Compatible con función HDCP con puerto DVI-D
- Compatible con reproducción Blu-ray (BD) Full HD de 1080p con puerto DVI-D

Audio

- 7.1 Audio CH HD (Realtek ALC887 Audio Codec)
- * Para configurar 7.1 Audio CH HD, deberá utilizar un módulo del panel frontal de audio HD y habilitar la característica de audio multicanal a través del controlador de audio.
- Compatible con protección por sobretensión (protección ASRock Full Spike)
 - Tapas de audio ELNA

LAN

- LAN Gigabit PCIE x1 10/100/1000 Mb/s
- Realtek RTL8111GR/RTL8111C
- Compatible con Wake-On-LAN
- Compatible con protección contra rayos y electricidad electrostática (protección ASRock Full Spike)
- Admite la detección de cable LAN
- Compatible con PXE

Panel trasero I/O

- 1 puerto de ratón/teclado PS/2
 - 1 puerto DVI-D
 - 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))*
- * La función de reactivación ACPI solo se admite en los puertos USB traseros.
- 1 puerto LAN RJ-45 con LED (ACT/LINK LED y SPEED LED)
 - Conector de audio HD: Entrada de línea / Altavoz frontal / Micrófono

Almacenamiento

- 4 conectores SATA3 de 6,0 Gb/s, compatibles con las funciones NCQ, AHCI y "Hot Plug"

Conector

- 1 cabezal de puerto de impresión
- 1 cabezal de puerto COM

- 1 cabezal TPM
 - 1 x cabezal de intrusión de chasis y de altavoces
 - 1 Conector (4 contactos) para el ventilador de la CPU
 - 2 Conectores (4 contactos) para el ventilador del chasis
- * El conector de ventilador de la CPU admite el ventilador de la CPU con una potencia de ventilador máxima de 1 A (12 W).
- 1 Conector de alimentación ATX de 24 pines
 - 1 conector de alimentación de 12V de 8 pines
 - 1 Conector de audio del panel frontal
 - 2 cabezales USB 2.0 (compatible con 4 puertos USB 2.0) (compatible con protección contra electricidad estática (protección ASRock Full Spike))
 - 1 cabezal USB 3.0 (compatible con 2 puertos USB 3.0) (compatible con protección contra electricidad estática (protección ASRock Full Spike))
- * el conector USB_11_12 se comparte con el conector USB_9_10.

Función del BIOS

- BIOS legal UEFI AMI de compatible con interfaz gráfica de usuario multilingüe
- Eventos de reactivación conformes con ACPI 5.0
- Compatible con SMBIOS 2.7
- Multi-ajuste de voltaje de CPU, DRAM, PCH 1,0V, VCCIO

Monitor del hardware

- Método de sensor de temperatura de la CPU/Chasis
- Tacómetro del ventilador de la CPU/Chasis
- CPU/Chasis Ventilador silencioso (Ajuste automático de velocidad del ventilador del chasis por temperatura de la CPU)
- Control multivelocidad del ventilador de la CPU/Chasis
- Detección de CUBIERTA ABIERTA
- Control de voltaje: +12V, +5V, +3,3V, CPU Vcore, DRAM, VPPM, PCH 1,0V, VCCIO

SO

- Microsoft® Windows® 10 de 64 bits, 8.1 de 64 bits, 7 de 32 bits y 7 de 64 bits
- * Para instalar el sistema operativo Windows® 7, se necesita un disco de instalación modificado con los controladores xHCI empaquetados en el archivo ISO. Consulte la página 54 para obtener información más detallada.
- * Para obtener el controlador actualizado para Windows® 10, visite el sitio Web desde ASRock para obtener detalles:
<http://www.asrock.com>

Certificaciones

- FCC, CE, WHQL

Спецификация

Платформа

- Форм-фактор Micro ATX
- Схема на основе твердотельных конденсаторов

Процессор

- Поддержка процессоров 6-^{го} поколения Intel® Core™ i7/i5/i3/Pentium®/Celeron® (Socket 1151)
- Поддержка процессоров мощностью до 91 Вт
- Digi Power design
- Система питания 5
- Поддержка технологии Intel® Turbo Boost 2.0

Чипсет

- Intel® H110

Память

- Двухканальная память DDR4
- 2 гнезда DDR4 DIMM
- Поддержка модулей памяти DDR4 2133 Non-ECC Unbuffered
- Поддерживаются модули памяти UDIMM с ECC (работают в режиме без ECC)
- Максимальный объем системной памяти: 32 Гб
- Поддержка Intel® Extreme Memory Profile (XMP) 2.0

Слот расширения

- 1 x Слот PCI Express 3.0 x16 (PCIe1:режим x16)*

* Поддерживаются в качестве загрузочных SSD-диски типа NVMe.

- 2 x Слот PCI Express 2.0 x1

Графическая система

- Поддержка выходных сигналов Intel® HD Graphics Built-in Visuals и VGA возможна только при использовании процессоров со встроенными графическими процессорами.
- Поддержка встроенных технологий визуализации Intel® HD Graphics: 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 510/530
- Pixel Shader 5.0, DirectX 12
- Максимальный объем совместно используемой памяти: 1024 Мб

* Максимальный объем общей памяти зависит от операционной системы.

- Поддержка DVI-D с максимальным разрешением до 1920x1200 при 60 Гц
- Поддержка ускоренных медиа кодеков: HEVC, VP8, VP9
- Поддержка функции защиты HDCP через порты DVI-D
- Поддержка воспроизведения в режиме Full HD 1080p Blu-ray (BD) через порты DVI-D

Аудио

- 7.1-канальный звук высокой четкости (аудиокодек Realtek ALC887)

* Для настройки 7.1-канального звук высокой четкости HD Audio используйте переднюю аудиопанель HD и активируйте функцию многоканального звука в аудиодрайвере.

- Защита от перенапряжения (ASRock Full Spike Protection)
- Конденсаторы для аудиосистем ELNA

LAN

- PCIE x1 Gigabit LAN 10/100/1000 Мб/с
- Realtek RTL8111GR/RTL8111C
- Поддержка Wake-On-LAN
- Молниезащита и защита электростатического напряжения (ASRock Full Spike Protection)
- Поддержка определения кабеля LBC
- Поддержка PXE

Порты ввода-вывода на задней панели

- 1 x PS/2 мышь/для клавиатуры
- 1 x DVI-D
- 4 x Порт USB 2.0 с защитой от электростатического напряжения (ASRock Full Spike Protection)*
- 2 x Порт USB 3.0 с защитой от электростатического напряжения (ASRock Full Spike Protection)*

* Функция пробуждения ACPI поддерживается только для портов USB на задней панели.

- 1 x RJ-45 для LBC с СИД (СИД ACT/LINK и МИД SPEED)
- Разъемы HD Audio: Линейный вход / передние динамики / микрофон

Запоминающие устройства

- 4 x разъемы SATA3 6,0 Гб/с, поддержка функций NCQ, AHCI и «горячей» замены

Разъемы

- 1 x колодка порта принтера
- 1 x колодка COM-порта
- 1 x Колодка TPM
- 1 колодка с разъемами датчика вскрытия корпуса и динамика
- 1 x Разъем для вентилятора охлаждения процессора (4-контактный)
- 2 x Разъем для корпусного вентилятора (4-контактный)

* Разъем вентилятора ЦП поддерживает потребляемый ток не более 1 А (мощность 12 Вт).

- 1 x разъем питания ATX (24-контактный)
- 1 x 8-контактный разъем питания 12 В
- 1 x аудиоразъем на передней панели
- 2 x Колодки USB 2.0 (до 4 портов USB 2.0) с защитой от электростатического напряжения (ASRock Full Spike Protection)
- 1 x Колодка USB 3.0 (до 2 портов USB 3.0) с защитой от электростатического напряжения (ASRock Full Spike Protection)

* портов USB_11_12 используется с портов USB_9_10.

Параметры BIOS

- AMI UEFI Legal BIOS с поддержкой многоязычного графического интерфейса
- Совместимость с функцией энергопотребления в стандарте ACPI 5.0
- Поддержка SMBIOS 2.7
- Регулировка напряжений ЦП, DRAM, PCH 1,0 В, VCCIO

Контроль оборудования

- Датчик температуры процессора/корпуса
- Тахометр вентилятора процессора/корпуса
- Бесшумный вентилятор охлаждения процессора/корпуса (с автоматической регулировкой скорости вращения в зависимости от температуры нагрева процессора)
- Управление скоростью вращения вентилятора охлаждения процессора/корпуса
- Технология определения вскрытия корпуса
- Контроль напряжения: +12 В, +5 В, +3,3 В, ЦП Vcore, DRAM, VPPM, PCH 1.0 В, VCCIO

ОС

- Microsoft® Windows® 10 64-разрядная /
8.1 64-разрядная/ 7 32-разрядная/ 7 64-разрядная

* Для установки ОС Windows® 7 потребуется измененный установочный диск с драйверами xHCI, упакованными в файл ISO. Более подробные инструкции представлены на стр. 54.

* Подробные сведения об обновлении драйвера Windows® 10 представлены на веб-сайте ASRock: <http://www.asrock.com>

Сертификация

- FCC, CE, WHQL

Especificações

Plataforma

- Formato Micro ATX
- Design de condensador sólido

CPU

- Supports Processadores Intel® 6ª Geração Core™ i7/i5/i3/Pentium®/Celeron® (Soquete 1151)
- Suporta CPU até 91W
- Digi Power design
- Design com 5 fases de alimentação
- Suporta a tecnologia Intel® Turbo Boost 2.0

Chipset

- Intel® H110

Memória

- Tecnologia de memória DDR4 de dois canais
- 2 x Slots DIMM DDR4
- Suporta memória DDR4 2133, não ECC, sem memória intermédia
- Suporta módulos de memória ECC UDIMM (opera em modo não ECC)
- Capacidade máxima da memória do sistema: 32GB
- Suporta Extreme Memory Profile (XMP) 2.0 da Intel®

Slot de expansão

- 1 x Slot PCI Express 3.0 x16 (PCIe1:modo x16)*
- * Suporta NVMe SSD nos discos de inicialização
- 2 x Slot PCI Express 2.0 x1

Gráficos

- Os gráficos incorporados Intel® HD e as saídas VGA só 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 510/530
- Pixel Shader 5.0, DirectX 12
- Memória compartilhada máxima de 1024MB
- * O tamanho da memória compartilhada máxima pode variar em sistemas operacionais diferentes.

- Suporta DVI-D com resolução máxima de até 1920x1200 @ 60Hz
- Suporta Codecs de Mídia Acelerada: HEVC, VP8, VP9
- Suporta HDCP com Porta DVI-D
- Suporta reprodução Full HD 1080p Blu-ray (BD) com Porta DVI-D

Áudio

- Áudio 7.1 CH HD (Codec de áudio Realtek ALC887)
- * Para configurar Áudio 7.1 CH HD, é necessário usar um módulo de áudio de painel frontal HD e habilitar o recurso de áudio multi-canal pelo driver de áudio.
- Suporta proteção contra sobretensão (Proteção Total Contra Picos ASRock)
 - Fones de Áudio ELNA

LAN

- LAN Gigabit 10/100/1000 Mb/s PCIE x1
- Realtek RTL8111GR/RTL8111C
- Suporta Wake-On-LAN
- Suporta Proteção contra Relâmpago/EDS (Proteção Total Contra Picos ASRock)
- Suporta Detecção de Cabo LAN
- Suporta PXE

E/S do painel posterior

- 1 x Porta PS/2 para mouse/teclado
 - 1 x porta DVI-D
 - 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))*
- * A função de alerta de ACPI é suportada somente nas portas USB traseiras.
- 1 x Porta LAN RJ-45 com LED (LED ACT/LINK e LED DE VELOCIDADE)
 - Fichas de áudio HD: Entrada de Linha / Autofalante Frontal / Microfone

Armazenamento

- 4 x Conectores SATA3 6,0 Gb/s, suporte NCQ, AHCI, Conector a Quente

Conector

- 1 x Terminal de porta de impressão
- 1 x Terminal de porta COM
- 1 x Plataforma TPM
- 1 x Intrusão do Chassi e Cabeçote de Autofalante
- 1 x Conector de Ventoinha de CPU (4 pinos)
- 2 x Conector de Ventoinha de Chassi (4 pinos)

* O Conector de Ventoinha da CPU suporta a ventoinha da CPU de potência máxima de 1A (12W).

- 1 x conector alimentação ATX 24 pinos
- 1 x Conector de energia 8-pinos 12V
- 1 x conector de áudio do painel frontal
- 2 x Plataformas USB 2.0 (Suporta 4 portas USB 2.0) (Suporta Proteção ESD (Proteção Total Contra Picos ASRock))
- 1 x Plataforma USB 3.0 (Suporta 2 portas USB 3.0) (Suporta Proteção ESD (Proteção Total Contra Picos ASRock))

* O conector USB_11_12 é compartilhada com a conector USB_9_10.

Funções da BIOS

- AMI Legal UEFI BIOS com suporte multilíngue GUI
- ACPI 5.0 compatível com eventos de despertar
- Suporta SMBIOS 2.7
- CPU, DRAM, PCH 1,0V, VCCIO Multi ajuste de tensão

Monitor de hardware

- Sensor de temperatura da CPU/Gabinete
- Tacômetro da Ventoinha da CPU/Gabinete
- Ventoinha silenciosa da CPU/Gabinete (Auto ajusta velocidade da ventoinha do gabinete pela temperatura da CPU)
- Controle de multi velocidade da Ventoinha da CPU/Gabinete
- Detecção de ABERTURA da CAIXA
- Monitoramento da tensão: +12V, +5V, +3,3V, CPU Vcore, DRAM, VPPM, PCH 1,0V, VCCIO

SO

- Microsoft® Windows® 10 64-bit / 8.1 64-bit / 7 32-bit / 7 64-bit

*Para instalar o SO Windows 7, um disco de instalação modificado com condutores xHCI no arquivo ISO é necessário. Favor consultar a página 54 para mais instruções detalhadas.

* Para o driver atualizado do Windows® 10, por favor, visite o website da ASRock para mais detalhes: <http://www.asrock.com>

Certificações

- FCC, CE, WHQL

Özellikler

Platform	• Micro ATX Form Faktörü • Yekpare Kapasitör tasarımı
CPU	• 6. Nesil Intel® Core™ i7/i5/i3/Pentium®/Celeron® İşlemcileri destekler (Yuva 1151) • 91W'ye kadar CPU'yu destekler • Digi Power design • 5 Güç Safhası tasarımı • Intel® Turbo Boost 2.0 Teknolojisini destekler
Yonga kümesi	• Intel® H110
Bellek	• Çift Kanallı DDR4 Bellek Teknolojisi • 2 x DDR4 DIMM Yuvası • DDR4 2133 ECC olmayan, ara belleğe alınmamış belleği destekler • Admite módulos de memoria UDIMM ECC (funcionamiento en modo no ECC) • Maksimum sistem belleği kapasitesi: 32GB • Intel® Üstün Bellek Profili (XMP) 2.0 özelliğini destekler
Genişletme Yuvası	• 1 x PCI Express 3.0 x16 Yuva (PCIEx16 modu)* * Önyükleme diskleri olarak NVMe SSD destekler • 2 x PCI Express 2.0 x1 Yuva
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 510/530 ile Intel® Quick Sync Video • Pixel Shader 5.0, DirectX 12 • Maksimum paylaşılan bellek 1024MB * En fazla paylaşımlı bellek boyutu farklı işletim sistemlerine göre değişiklik gösterebilir. • 1920x1200 @ 60Hz'ye kadar maksimum çözünürlükte DVI-D işlevini destekler

- Hızlandırılmış Medya Kodlayıcıları-Kod Çözücüleri Destekler HEVC, VP8, VP9
- DVI-D Bağlantı Noktalarıyla HDCP destekler
- DVI-D Bağlantı Noktalarıyla Tam HD 1080p Blu-ray (BD) kayıttan yürütme destekler

Ses

- 7.1 CH HD Ses (Realtek ALC887 Ses Codec Bileşeni)
- * 7.1 CH HD Ses konfigürasyonu için bir HD ön panel ses modülü kullanılmalı ve çok kanallı ses özelliği ses sürücüsüsü ile etkinleştirilmelidir.
- Dalgalanma Koruması Destekler (ASRock Tam Ani Gerilim Koruması)
- ELNA Ses Kapakları

LAN

- PCIE x1 Gigabit LAN 10/100/1000 Mb/s
- Realtek RTL8111GR/RTL8111C
- LAN Açılışını Destekler
- Yıldırım/ESD Koruması Destekler (ASRock Tam Ani Gerilim Koruması)
- LAN Kablo Algilama destekler
- PXE özelliğini destekler

Arka Panel I/O

- 1 x PS/2 Fare/Klavye Bağlantı Noktası
- 1 x DVI-D Bağlantı Noktası
- 4 x Bağlayıcısı USB 2.0 Bağlantı Noktası (ESD Koruması Destekler (ASRock Tam Ani Gerilim Koruması))*
- 2 x Bağlayıcısı USB 3.0 Bağlantı Noktası (ESD Koruması Destekler (ASRock Tam Ani Gerilim Koruması))*
- * ACPI uyandırma işlevi yalnızca arka USB bağlantı noktalarında desteklenir.
- LED'e sahip 1 x RJ-45 LAN Bağlantı Noktası (ACT/LINK LED ve SPEED LED)
- HD Ses Jakları: Hat Girişi / Ön Hoparlör / Mikrofon

Depolama

- 4 x SATA3 6,0 Gb/sn Bağlayıcı, NCQ, AHCI ve Tak Çalıştır destekler

Bağlayıcı

- 1 x Yazdırma Bağlantı noktası bağlantısı
- 1 x COM Bağlantı noktası bağlantısı
- 1 x TPM Bağlantısı
- 1 x Kasa Yetkisiz Erişim ve Hoparlör Bağlantısı
- 1 x İşlemci Fanı Bağlayıcısı (4 pimli)
- 2 x Kasa Fanı Bağlayıcı (4 pimli)

* İşlemci Fanı Bağlayıcı, en fazla 1 A (12 W) fan gücüne sahip işlemci fanını destekler.

- 1 x 24 pim ATX Güç Bağlayıcısı
- 1 x 8 pim 12V Güç Bağlayıcısı
- 1 x Ön Panel Ses Bağlayıcısı
- 2 x USB 2.0 Bağlantısı (4 USB 2.0 bağlantı noktası destekler) (ESD Koruması Destekler (ASRock Tam Ani Gerilim Koruması))
- 1 x USB 3.0 Bağlantısı (2 USB 3.0 bağlantı noktası destekler) (ESD Koruması Destekler (ASRock Tam Ani Gerilim Koruması))

* USB_11_12 bağlayıcısı USB_9_10 bağlantı noktasıyla paylaşılır.

**BIOS
Özelliği**

- Çok dilli GUI desteği ile AMI UEFI Legal BIOS
- ACPI 5.0 Uyumlu uyandırma olayları
- SMBIOS 2.7 Desteği
- CPU, DRAM, PCH 1,0V, VCCIO Gerilimi Çoklu Ayarlama

**Donanım
Monitörü**

- CPU/Kasa sıcaklığı tespiti
- CPU/Kasa Fanı Devirölçer
- CPU/Kasa Sessiz Fan (İşlemci sıcaklığıyla otomatik ayarlı kasa fanı hızı)
- CPU/Kasa Fanı çoklu hız kontrolü
- KASA AÇIK algılaması
- Voltaj izleme: +12V, +5V, +3,3V, CPU Vcore, DRAM, VPPM, PCH 1,0V, VCCIO

OS

- Microsoft® Windows® 10 64 bit / 8.1 64 bit / 7 32 bit / 7 64 bit
- * Windows® 7 işletim sistemini yüklemek için, ISO dosyasında sıkıştırılmış xHCI sürücülerine sahip değiştirilmiş yükleme diski gereklidir. Daha ayrıntılı talimatlar için lütfen 54. sayfaya başvurun.
- * Güncellenmiş Windows® 10 sürücüsü konusunda ayrıntılar için lütfen ASRock web sitesini ziyaret edin: <http://www.asrock.com>

Belgeler

- FCC, CE, WHQL

규격

- 플랫폼
- Micro ATX 폼 팩터
 - 솔리드 콘덴서 구조

- CPU
- 6 세대 Intel® Core™ i7/i5/i3/Pentium®/Celeron® 프로세서 (소켓 1151) 지원
 - 최대 91W 까지 CPU 지원
 - Digi Power design
 - 5 개 전원 위상 구조
 - Intel® Turbo Boost 2.0 기술 지원

- 칩세트
- Intel® H110

- 메모리
- 듀얼 채널 DDR4 메모리 기술
 - DDR4 DIMM 슬롯 2 개
 - DDR4 2133 비 ECC, 비버퍼링 메모리 지원
 - ECC UDIMM 메모리 모듈 지원 (비 -ECC 모드에서 작동)
 - 시스템 메모리 최대 용량 : 32GB
 - Intel® Extreme Memory Profile (XMP) 2.0 지원

- 확장 슬롯
- PCI Express 3.0 x16 슬롯 1 개 (PCIe1:x16 모드)*
 - * NVMe SSD 를 부팅 디스크로 사용 가능하도록 지원
 - PCI Express 2.0 x1 슬롯 2 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 510/530
 - Pixel Shader 5.0, DirectX 12
 - 최대 공유 메모리 1024MB
 - * 공유된 최대 메모리 크기는 운영 체제에 따라 다를 수 있습니다 .
 - DVI-D 지원 (최대 해상도 1920x1200 @ 60Hz)

- 가속화된 미디어 코덱 지원 : HEVC, VP8, VP9
- DVI-D 포트를 이용한 HDCP 지원
- DVI-D 포트를 이용한 Full HD 1080p Blu-ray (BD) 재생 지원

오디오

- 7.1 CH HD 오디오 (Realtek ALC887 오디오 코덱)
- * 7.1 CH HD 오디오를 구성하려면 HD 전면 패널 오디오 모듈을 사용하고 다채널 오디오 기능을 오디오 드라이버로 활성화해야 합니다.
- 서지 보호 지원 (ASRock 풀 스파이크 보호)
- ELNA 오디오 캡

LAN

- PCIE 1 개, Gigabit LAN 10/100/1000 Mb/s
- Realtek RTL8111GR/RTL8111C
- Wake-On-LAN 지원
- 번개 /ESD 보호 지원 (ASRock 풀 스파이크 보호)
- LAN 케이블 감지 지원
- PXE 지원

후면 패널 I/O

- PS/2 마우스 / 키보드 포트 1 개
- DVI-D 포트 1 개
- USB 2.0 포트 4 개 (ESD 보호 지원 (ASRock 풀 스파이크 보호))*
- USB 3.0 포트 2 개 (ESD 보호 지원 (ASRock 풀 스파이크 보호))*
- * ACPI 절전 모드 해제 기능은 후면 USB 포트에서만 지원됩니다.
- 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 4 개, NCQ, AHCI 및 “핫 플러그” 지원

커넥터

- 인체 포트 헤더 1 개
- COM 포트 헤더 1 개
- TPM 헤더 1 개
- 새시 침입 및 스피커 헤더 1 개
- CPU 팬 커넥터 (4 핀) 1 개
- 새시 팬 커넥터 (4 핀) 2 개

* CPU 팬 커넥터는 팬 출력이 최대 1A(12W) 인 CPU 팬을 지원 합니다 .

- 24 핀 ATX 전원 커넥터 1 개
- 8 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))
- USB 3.0 헤더 1 개 (USB 3.0 포트 2 개 지원)(ESD 보호 지원 (ASRock 폴 스파이크 보호))

* USB_11_12 커넥터가 USB_9_10 포트와 공유됨 .

BIOS 기능

- 다국어 GUI 지원을 제공하는 AMI UEFI 적합형 BIOS
- ACPI 5.0 준수 웨이크 업 이벤트
- SMBIOS 2.7 지원
- CPU, DRAM, PCH 1.0V, VCCIO 전압 다중 조절

하드웨어 모니터

- CPU/ 새시 온도 감지
- CPU/ 새시 팬 타코미터
- CPU/ 새시 저소음 팬 (CPU 온도에 의한 새시 팬 속도 자동 조절)
- CPU/ 새시 팬 다중 속도 조절
- 케이스 열림 감지
- 전압 모니터링 : +12V, +5V, +3.3V, CPU Vcore, DRAM, VPPM, PCH 1.0V, VCCIO

OS

- Microsoft® Windows® 10 64 비트 / 8.1 64 비트 / 7 32 비트 / 7 64 비트

* Windows® 7 OS 를 설치하려면 , xHCI 드라이버를 ISO 파일에 포함시킨 수정된 설치 디스크가 필요합니다 . 자세한 사용법은 54 페이지를 참조하십시오 .

* 업데이트된 Windows® 10 드라이브의 자세한 내용은 다음의 ASRock 웹사이트를 참조하십시오 .<http://www.asrock.com>

인증

- FCC, CE, WHQL

仕様

プラットフォーム

- マイクロ ATX フォームファクター
- 固体コンデンサ設計

CPU

- 第6世代 Intel® Core™ i7/i5/i3/Pentium®/Celeron® プロセッサに対応(ソケット 1151)
- 91W まで CPU をサポート
- Digi Power design
- 5 電源フェーズ設計
- 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® H110

メモリ

- デュアルチャンネル DDR4 メモリテクノロジー
- 2 x DDR4 DIMM スロット
- DDR4 2133 ノン ECC、アンバッファードメモリをサポート
- ECC UDIMM メモリモジュールに対応(non-ECC モードで動作)
- システムメモリの最大容量: 32GB
- Intel® エクストリームメモリプロファイル(XMP) 2.0 をサポート

拡張スロット

- 1 x PCI Express 3.0 x16 スロット(PCIe1:x16 モード)*
- * 起動ディスクとして NVMe SSD に対応
- 2 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 510/530
- Pixel Shader 5.0, DirectX 12
- 最大共有メモリ 1024MB
- * 最大共有メモリのサイズはオペレーティングシステムによって異なることがあります。

- DVI-D をサポート。最大解像度 1920x1200 @60Hz
- アクセラレイテッド・メディア・コーデックに対応 : HEVC, VP8, VP9
- DVI-D ポートで HDCP に対応
- DVI-D ポートで Full HD 1080p Blu-ray (BD) 再生に対応

オーディオ

- 7.1 CH HD オーディオ (Realtek ALC887 Audio Codec)
- * 7.1 CH HD オーディオを設定するためには、HD フロントパネルのオーディオモジュールを使用し、オーディオドライバを通してマルチチャンネルオーディオ機能を有効にする必要があります。
- サージ保護に対応 (ASRock 完全スパイク保護)
- ELNA 製オーディオコンデンサ

LAN

- PCIE x1 ギガビット LAN 10/100/1000 Mb/ 秒
- Realtek RTL8111GR/RTL8111C
- Wake-On-LAN (ウェイク・オン・ラン) に対応
- 雷 / 静電気放電 (ESD) 保護に対応 (ASRock 完全スパイク保護)
- LAN ケーブル検出に対応
- 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 DVI-D ポート
- 4 x USB 2.0 ポート (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)) *
- * ACPI ウェイクアップ機能に対応するのは背面 USB ポート上だけです。
- 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

- 4 x SATA3 6.0 Gb/s コネクタ, NCQ, AHCI, および、ホットプラグ機能に対応

コネクタ

- 1 x プリントポートヘッダー
- 1 x COM ポートヘッダー
- 1 x TPM ヘッダー
- 1 x シャーシイントルージョンとスピーカーヘッダー
- 1 x CPU ファンコネクタ(4 ピン)
- 2 x シャーシファンコネクタ(4 ピン)

* CPU ファンコネクタは最大 1A (12W) の出力の CPU ファンに対応します。

- 1 x 24 ピン ATX 電源コネクタ
- 1 x 8 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 個の USB 2.0 ポートに対応)(静電気放電(ESD)保護に対応(ASRock 完全スパイク保護))
- 1 x USB 3.0 ヘッダー(2 個の USB 3.0 ポートに対応)(静電気放電(ESD)保護に対応(ASRock 完全スパイク保護))

* USB_11_12 コネクタは USB_9_10 ポートと共有。

BIOS 機能

- AMI UEFI Legal BIOS、多言語 GUI サポート付き
- ACPI 5.0 準拠ウェイクアップイベント
- SMBIOS 2.7 をサポート
- CPU、DRAM、PCH 1.0V、VCCIO 電圧マルチ調整

**ハードウェア
モニター**

- CPU/ シャーシ温度センシング
- CPU / シャーシファンタコメータ
- CPU/ シャーシクワイエットファン(CPU 温度に従ってシャーシファン速度を自動調整)
- CPU/ シャーシ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、DRAM、VPPM、PCH 1.0V、VCCIO

OS

- Microsoft® Windows® 10 64-bit / 8.1 64-bit / 7 32-bit / 7 64-bit
- * Windows® 7 OS をインストールするために、xHCI ドライバが ISO ファイルに含まれる変更されたインストールディスクが必要です。詳しい説明については 54 ページを参照してください。
- * 更新された Windows® 10 ドライバについては、ASRock のウェブサイトの詳細をご確認ください : <http://www.asrock.com>

認証

- FCC、CE、WHQL

规格

平台

- Micro ATX 规格尺寸
- 稳固的电容器设计

CPU

- 支持第 6 代 Intel® Core™ i7/i5/i3/Pentium®/Celeron® 处理器 (Socket 1151)
- 支持高达 91W 的 CPU
- Digi Power design
- 5 电源相设计
- 支持 Intel® Turbo Boost 2.0 技术

芯片集

- Intel® H110

内存

- 双通道 DDR4 内存技术
- 2 x DDR4 DIMM 槽
- 支持 DDR4 2133 非 ECC，非缓冲内存
- 支持 ECC UDIMM 内存模块（非 ECC 模式下操作）
- 支持系统内存最大容量：32GB
- 支持 Intel® Extreme Memory Profile (XMP) 2.0

扩充槽

- 1 x PCI Express 3.0 x16 插槽（PCIe1：x16 模式）*
- * 支持 NVMe SSD 用作启动盘
- 2 x PCI Express 2.0 x1 插槽

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 Encode1、Intel® InTru™ 3D、Intel® Clear Video HD 技术、Intel® Insider™、Intel® HD Graphics 510/530
- Pixel Shader 5.0、DirectX 12
- 最大共享内存 1024MB
- * 最大共享内容的容量根据操作系统的不同而有所差异。
- 支持 DVI-D，60Hz 时最大分辨率达 1920x1200

- 支持“加速媒体编解码器”：HEVC, VP8, VP9
- 通过 DVI-D 端口支持 HDCP
- 通过 DVI-D 端口支持全高清 1080p Blu-ray (BD) 播放

音频

- 7.1 CH 高清音频（Realtek ALC887 音频编解码器）
- * 要配置 7.1 CH 高清音频，需要使用高清前面板模块和通过音频驱动程序启用多通道音频功能。
- 支持电涌保护（华擎全防护）
- ELNA 音频电容

LAN

- PCIE x1 Gigabit LAN 10/100/1000 Mb/s
- Realtek RTL8111GR/RTL8111C
- 支持 Wake-On-LAN（网上唤醒）
- 支持雷电 /ESD 保护（华擎全防护）
- 支持 LAN 线缆检测
- 支持 PXE

后面板 I/O

- 1 x PS/2 鼠标 / 键盘端口
- 1 x DVI-D 端口
- 4 x USB 2.0 端口（支持 ESD 保护，即华擎全防护）*
- 2 x USB 3.0 端口（支持 ESD 保护，即华擎全防护）*
- * 仅在后部 USB 端口上支持 ACPI 唤醒功能。
- 1 x RJ-45 LAN 端口，带 LED（ACT/LINK LED 和 SPEED LED）
- 高清音频插孔：线路输入 / 前扬声器 / 麦克风

存储

- 4 x SATA3 6.0 Gb/s 接口，支持 NCQ、AHCI 和热插拔

接口

- 1 x 打印端口接针
- 1 x COM 端口接针
- 1 x TPM 接脚
- 1 x 机箱侵入和扬声器接脚
- 1 x CPU 风扇接口（4 针）
- 2 x 机箱风扇接口（4 针）
- * CPU 风扇接口支持最大 1A (12W) 功率的 CPU 风扇。
- 1 x 24 针 ATX 电源接口

- 1 x 8 针 12V 电源接口
- 1 x 前面板音频接口
- 2 x USB 2.0 接脚（支持 4 个 USB 2.0 端口，支持 ESD 保护，即华擎全防护）
- 1 x USB 3.0 接脚（支持 2 个 USB 3.0 端口，支持 ESD 保护，即华擎全防护）

* USB_11_12 接口与 USB_9_10 接口共用。

BIOS 功能特点

- AMI UEFI Legal BIOS，支持多语言 GUI
- ACPI 5.0 兼容唤醒事件
- SMBIOS 2.7 支持
- CPU、DRAM、PCH 1.0V、VCCIO 电压多次调整

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（根据 CPU 温度自动调整机箱风扇速度）
- CPU/ 机箱风扇多种速度控制
- CASE OPEN（机箱打开）检测
- 电压监控：+12V、+5V、+3.3V、CPU Vcore、DRAM、VPPM、PCH 1.0V、VCCIO

操作系统

- Microsoft® Windows® 10 64-bit / 8.1 64-bit / 7 32-bit / 7 64-bit
- * 要安装 Windows® 7 OS，需要 xHCI 驱动程序已封装到 ISO 文件的经修改的安装盘。请参考第 54 页了解详情。
- * 有关已更新的 Windows® 10 驱动程序，请访问华擎网站了解详情：<http://www.asrock.com>

认证

- FCC、CE、WHQL

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体、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。

規格

平台

- Micro ATX 尺寸
- 固態電容設計

CPU

- 支援第 6 代 Intel® Core™ i7/i5/i3/Pentium®/Celeron® 處理器 (插座 1151)
- 支援高達 91W 的 CPU
- Digi Power design
- 5 電源相位設計
- 支援 Intel® Turbo Boost 2.0 技術

晶片組

- Intel® H110

記憶體

- 雙通道 DDR4 記憶體技術
- 2 x DDR4 DIMM 插槽
- 支援 DDR4 2133 非 ECC、無緩衝記憶體
- 支援 ECC UDIMM 記憶體模組 (在非 ECC 模式下運作)
- 最大系統記憶體容量：32GB
- 支援 Intel® Extreme Memory Profile (XMP) 2.0

擴充插槽

- 1 x PCI Express 3.0 x16 插槽 (PCIe1：x16 模式)*
- * 支援 NVMe SSD 作為開機磁碟
- 2 x PCI Express 2.0 x1 插槽

顯示卡

- 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 510/530
- Pixel Shader 5.0，DirectX 12
- 最大共用記憶體 1024MB
- * 最大共用記憶體的大小可能因作業系統而有不同。
- 支援最高達 1920x1200 @ 60Hz 解析度的 DVI-D

- 支援加速媒體轉碼器：HEVC, VP8, VP9
- 支援含 DVI-D 連接埠的 HDCP
- 支援透過 DVI-D 連接埠的 Full HD 1080p 藍光 (BD) 播放

音訊

- 7.1 CH HD 音訊 (Realtek ALC887 音訊轉碼器) 功能
- * 若要設定 7.1 CH HD 音訊，必須使用 HD 前面板音訊模組，並透過音訊驅動程式啟用多聲道音訊功能。
- 支援突波保護 (華擎全防護)
- ELNA 音響級電容

LAN

- PCIE x1 Gigabit LAN 10/100/1000 Mb/s
- Realtek RTL8111GR/RTL8111C
- 支援網路喚醒
- 支援雷擊／靜電保護 (華擎全防護技術)
- 支援 LAN 纜線偵測
- 支援 PXE

後面板 I/O

- 1 x PS/2 滑鼠 / 鍵盤連接埠
- 1 x DVI-D 連接埠
- 4 x USB 2.0 連接埠 (支援靜電保護 (華擎全防護)) *
- 2 x USB 3.0 連接埠 (支援靜電保護 (華擎全防護)) *
- * 僅後置 USB 連接埠支援 ACPI 喚醒功能。
- 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

- 4 x SATA3 6.0 Gb/s 接頭，支援 NCQ、AHCI 及「熱插拔」

接頭

- 1 x 列印連接埠標頭
- 1 x COM 連接埠標頭
- 1 x TPM 排針
- 1 x 機殼防護排針
- 1 x CPU 風扇接頭 (4-pin)
- 2 x 機殼風扇接頭 (4-pin)
- * CPU 風扇連接器支援最高 1A (12W) 風扇功率的 CPU 風扇。
- 1 x 24 pin ATX 電源接頭
- 1 x 8 pin 12V 電源接頭

- 1 x 前面板音訊接頭
- 2 x USB 2.0 排針（支援 4 個 USB 2.0 連接埠）（支援靜電保護（華擎全防護技術））
- 1 x USB 3.0 排針（支援 2 個 USB 3.0 連接埠）（支援靜電保護（華擎全防護））

* USB_11_12 接頭與 USB_9_10 接頭共用。

BIOS 功能

- AMI UEFI Legal BIOS 含多語 GUI 支援
- ACPI 5.0 符合喚醒自動開機
- 支援 SMBIOS 2.7
- CPU、DRAM、PCH 1.0V、VCCIO 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（依 CPU 溫度自動調整機殼風扇速度）
- CPU / 機殼風扇多重速度控制
- 機殼開啟偵測
- 電壓監控：+12V、+5V、+3.3V、CPU Vcore、DRAM、VPPM、PCH 1.0V、VCCIO

作業系統

- Microsoft® Windows® 10 64 位元 / 8.1 64 位元 / 7 32 位元 / 7 64 位元

* 若要安裝 Windows® 7 作業系統，需要使用修改過的安裝光碟（已將 xHCI 驅動程式封裝至 ISO 檔案）。如需詳細說明，請查看第 54 頁。

* 關於最新 Windows® 10 驅動程式的詳細資訊，請瀏覽華擎網站：<http://www.asrock.com>

認證

- FCC、CE、WHQL

Spesifikasi

Platform

- Bentuk dan Ukuran Micro ATX
- Desain Kapasitor Solid

CPU

- Mendukung Prosesor i7/i5/i3/Pentium®/Celeron® (Soket 1151) Intel® Core™ Generasi ke-6
- Mendukung CPU hingga 91 W
- Digi Power design
- Desain 5 Fase Daya
- Mendukung Teknologi Intel® Turbo Boost 2.0

Chipset

- Intel® H110

Memori

- Teknologi Memori DDR4 Kanal Ganda
- 2 x Slot DDR4 DIMM
- Mendukung DDR4 2133 non-ECC, memori tanpa buffer
- Mendukung modul memori ECC UDIMM (beroperasi dalam mode non-ECC)
- Kapasitas maksimum memori sistem: 32GB
- Mendukung Intel® Extreme Memory Profile (XMP) 2.0

Slot Ekspansi

- 1 x Slot PCI Express 3.0 x16 (PCIEx16 mode)*
- * Mendukung NVMe SSD sebagai disk boot
- 2 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 510/530
- Pixel Shader 5.0, DirectX 12
- Memori bersama maksimum 1024MB
- * Ukuran maksimum memori bersama dapat berbeda, tergantung pada sistem operasi yang digunakan.
- Mendukung DVI-D dengan resolusi maksimum hingga 1920x1200 @ 60Hz

- Mendukung Codec Media Terakselerasi HEVC, VP8, VP9
- Mendukung HDCP dengan port DVI-D
- Mendukung pemutaran 1080p Blu-ray HD Penuh (BD) dengan Port DVI-D

Audio

- Audio HD 7.1 CH (Realtek ALC887 Audio Codec)
- * Untuk mengkonfigurasi Audio HD 7.1 CH, modul audio panel depan HD harus digunakan dan fitur audio multisaluran harus diaktifkan melalui driver audio.
- Mendukung Perlindungan Lonjakan Arus (ASRock Full Spike Protection)
- ELNA Audio Caps

LAN

- PCIE x1 Gigabit LAN 10/100/1000 Mb/s
- Realtek RTL8111GR/RTL8111C
- Mendukung Wake-On-LAN
- Mendukung Perlindungan Petir/ESD (ASRock Full Spike Protection)
- Mendukung Deteksi Kabel LAN
- Mendukung PXE

Panel I/O Belakang

- 1 x Port Mouse/Keyboard PS/2
- 1 x Port DVI-D
- 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))*
- * Fungsi pengaktifan ACPI hanya didukung pada port USB belakang.
- 1 x Port LAN RJ-45 dengan LED (ACT/LINK LED dan SPEED LED)
- Soket Audio HD: Saluran Masuk/Speaker Depan/Mikrofon

Penyimpanan

- 4 x Konektor SATA3 6,0 Gb/s, mendukung NCQ, AHCI, dan Hot Plug

Konektor

- 1 x Header port Cetak
 - 1 x Header port COM
 - 1 x Header TPM
 - 1 x Intrusi Chassis dan Header Speaker
 - 1 x Konektor Kipas CPU (4-pin)
 - 2 x Konektor Kipas Chassis (4-pin)
- * Konektor Kipas CPU mendukung kipas CPU dengan daya kipas maksimum 1A (12W).
- 1 x Konektor Daya ATX 24 pin
 - 1 x Konektor Daya 8 pin 12V
 - 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))
 - 1 x Header USB 3.0 (Mendukung 2 port USB 3.0) (Mendukung Perlindungan ESD (ASRock Full Spike Protection))
- * konektor USB_11_12 digunakan dengan port USB_9_10.

Fitur BIOS

- AMI UEFI Legal BIOS dengan dukungan GUI multibahasa
- ACPI 5.0 Kompatibel dengan aktivitas pengaktifan
- Dukungan SMBIOS 2.7
- Multipengatur Tegangan CPU, DRAM, PCH 1,0V, VCCIO

Monitor Perangkat Keras

- Sensor suhu CPU/Chassis
- Takometer Kipas CPU/Chassis
- Kipas Hening CPU/Chassis (Penyesuaian otomatis kecepatan kipas berdasarkan suhu CPU)
- Kontrol mulikecepatan Kipas CPU/Chassis
- Deteksi CASE OPEN
- Pemantauan tegangan: +12V, +5V, +3,3V, CPU Vcore, DRAM, VPPM, PCH 1,0V, VCCIO

OS

- Microsoft® Windows® 10 64-bit/8.1 64-bit/7 32-bit/7 64-bit
- * Untuk menginstal OS Windows® 7, diperlukan disk instalasi termodifikasi dengan driver xHCI dalam file ISO. Untuk petunjuk lebih rinci, lihat halaman 54.
- * Untuk driver Windows® 10 terbaru, kunjungi situs web ASRock untuk mendapatkan info rinci: <http://www.asrock.com>

Sertifikasi

- FCC, CE, WHQL

Enabling USB Ports for Windows® 7 Installation

Intel® Braswell and Skylake has removed their support for the Enhanced Host Controller Interface (EHCI – USB2.0) and only kept the eXtensible Host Controller Interface (XHCI – USB3.0). Due to that fact that XHCI is not included in the Windows 7 inbox drivers, users may find it difficult to install Windows 7 operating system because the USB ports on their motherboard won't work. In order for the USB ports to function properly, please create a Windows® 7 installation disk with the Intel® USB 3.0 eXtensible Host Controller (xHCI) drivers packed into the ISO file.

Requirements

- A Windows® 7 installation disk or USB drive
- USB 3.0 drivers (included in the ASRock Support CD or website)
- A Windows® PC
- Win7 USB Patcher (included in the ASRock Support CD or website)

Scenarios

You have an ODD and PS/2 ports:

If there is an optical disc drive, PS/2 ports and PS/2 Keyboard or mouse on your computer, you can skip the instructions below and go ahead to install Windows® 7 OS.

You only have an ODD *(For Intel Skylake platforms only):*

If there is an optical disc drive but no PS/2 ports on your computer, please enable the “PS/2 Simulator” option in *UEFI SETUP UTILITY > Advanced > USB Configuration*, which allows the USB port to function as a PS/2 port, and then you can install the Windows® 7 OS. Please set PS/S Simulator back to disabled after the installation.

You've got nothing:

If you do not have an optical disc drive, please find another computer and follow the instructions below to create a new ISO file with the “Win7 USB Patcher”. Then use the new patched Windows® 7 installation USB drive to install Windows® 7 OS.

Instructions

Step 1

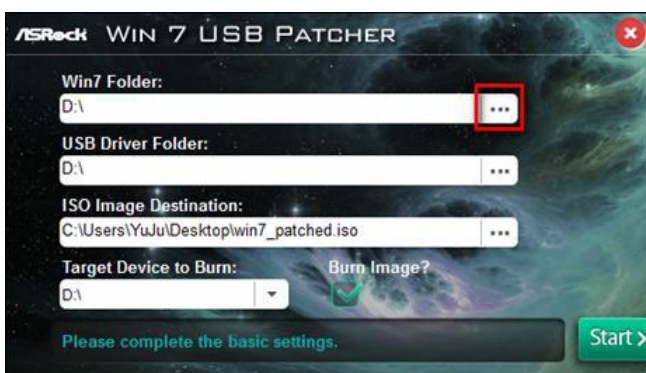
Insert the Windows® 7 installation disk or USB drive to your system.

Step 2

Extract the tool (Win7 USB Patcher) and launch it.

Step 3

Select the “Win7 Folder” from Step1 by clicking the red circle as shown as the picture below.



Step 4

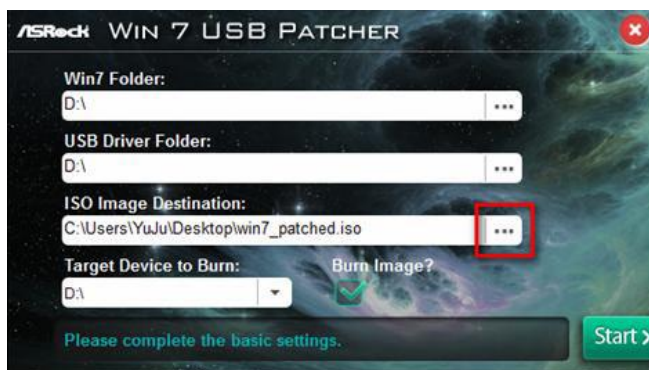
Select the “USB Driver Folder” by clicking the red circle as shown as the picture below.



If you are using ASRock’s Support CD for the USB 3.0 driver, please select your CD-ROM.

Step 5

Select where to save the ISO file by pressing the red circle as shown as the picture below.



Step 6

If you want to burn the patched image to a CD, please check “Burn Image” and select “Target Device to Burn”. If not, the patched ISO image will be exported to the destination selected in Step5. Then Press “Start” to proceed.

Step 7

Now you are able to install Windows® 7 on Braswell or Skylake with the new burned CD. Or please use the patched ISO image to make an OS USB drive to install the OS.

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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U.S.A.

Phone: +1-909-590-8308

Fax: +1-909-590-1026



EC-Declaration of Conformity

For the following equipment:

Motherboard

(Product Name)

H110M-DGS R2.0 / ASRock

(Model Designation / Trade Name)

ASRock Incorporation

(Manufacturer Name)

2F, No.37, Sec. 2, Zhongyang S. Rd., Beitou District, Taipei City 112, Taiwan (R.O.C.)

(Manufacturer Address)

is herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility Directive (2004/108/EC) and Safety Directive (2006/95/EC), the following standards are applied:

- ☒ EN 55022: 2006+A1:2007
- ☒ EN 61000-3-2: 2009
- ☒ EN 61000-3-3: 2008
- ☒ EN 55024: 1998 + A1:2001 + A2:2003
 - IEC 61000-4-2: 2008;
 - IEC 61000-4-3: 2010; IEC 61000-4-4: 2010;
 - IEC 61000-4-5: 2005; IEC 61000-4-6: 2008;
 - IEC 61000-4-8: 2009; IEC 61000-4-11: 2004;
- ☒ EN 60950-1: 2005 + A1:2009
 - IEC 60950-1: 2006 + A11:2009 + A1:2010 + A12:2011

The following manufacturer / importer or authorized representative established within the EUT is responsible for this declaration:

ASRock EUROPE B.V.

(Company Name)

Bijsterhuizen 1111 6546 AR Nijmegen The Netherlands

(Company Address)

Person responsible for making this declaration:

(Name, Surname)

A.V.P

(Position / Title)

May 13, 2016

(Date)