

Version 1.1

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This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

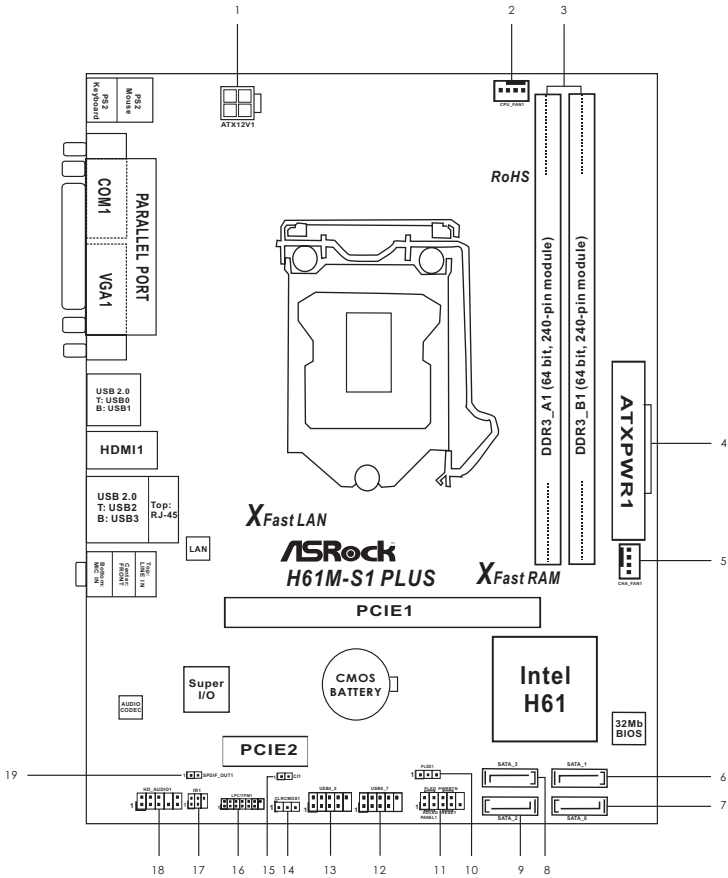
CALIFORNIA, USA ONLY

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

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

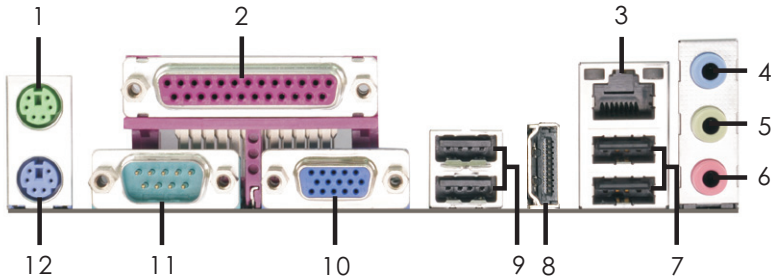
ASRock Website: <http://www.asrock.com>

Motherboard Layout



- | | | | |
|---|---|----|--------------------------------------|
| 1 | ATX 12V Power Connector (ATX12V1) | 10 | Power LED Header (PLED1) |
| 2 | CPU Fan Connector (CPU_FAN1) | 11 | System Panel Header (PANEL1) |
| 3 | 2 x 240-pin DDR3 DIMM Slots
(Dual Channel: DDR3_A1, DDR3_B1) | 12 | USB 2.0 Header (USB6_7) |
| 4 | ATX Power Connector (ATXPWR1) | 13 | USB 2.0 Header (USB4_5) |
| 5 | Chassis Fan Connector (CHA_FAN1) | 14 | Clear CMOS Jumper (CLR_CMOS1) |
| 6 | SATA2 Connector (SATA_1) | 15 | Chassis Intrusion Header (CI1) |
| 7 | SATA2 Connector (SATA_0) | 16 | LPC / TPM Header (LPC/TPM1) |
| 8 | SATA2 Connector (SATA_3) | 17 | Infrared Module Header (IR1) |
| 9 | SATA2 Connector (SATA_2) | 18 | Front Panel Audio Header (HD_AUDIO1) |
| | | 19 | SPDIF Out Connector (SPDIF_OUT1) |

I/O Panel

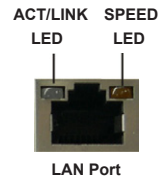


- | | |
|---------------------------|--------------------------------|
| 1 PS/2 Mouse Port (Green) | 7 USB 2.0 Ports (USB23) |
| 2 Parallel Port (LPT1) | 8 HDMI Port (HDMI1) |
| 3 LAN RJ-45 Port* | 9 USB 2.0 Ports (USB01) |
| 4 Line In (Light Blue) | 10 D-Sub Port (VGA1) |
| 5 Front Speaker (Lime) | 11 Serial Port (COM1) |
| 6 Microphone (Pink) | 12 PS/2 Keyboard Port (Purple) |


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

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 enable Multi-Streaming function, you need to connect a front panel audio cable to the front panel audio header. Please refer to below steps for the software setting of Multi-Streaming.
For Windows® XP:

After restarting your computer, you will find "Mixer" tool on your system. Please select "Mixer ToolBox" , click "Enable playback multi-streaming", and click "ok". Choose "2CH" or

"4CH" and then you are allowed to select "Realtek HDA Primary output" to use Rear Speaker and Front Speaker, or select "Realtek HDA Audio 2nd output" to use front panel audio. Then reboot your system.

For Windows® 8.1 / 8 / 7 / Vista™:

After restarting your computer, please double-click "Realtek HD Audio Manager" on the system tray. Set "Speaker Configuration" to "Quadraphonic" or "Stereo". Click "Device advanced settings", choose "Make front and rear output devices playbacks two different audio streams simultaneously", and click "ok". Then reboot your system.

1. Introduction

Thank you for purchasing ASRock **H61M-S1 PLUS** 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 **H61M-S1 PLUS** Motherboard (Micro ATX Form Factor)

ASRock **H61M-S1 PLUS** Quick Installation Guide

ASRock **H61M-S1 PLUS** Support CD

2 x Serial ATA (SATA) Data Cables (Optional)

1 x I/O Panel Shield



ASRock Reminds You...

To get better performance in Windows® 8.1 / 8.1 64-bit / 8 / 8 64-bit / 7 / 7 64-bit / Vista™ / Vista™ 64-bit, it is recommended to set the BIOS option in Storage Configuration to AHCI mode. For the BIOS setup, please refer to the "User Manual" in our support CD for details.

1.2 Specifications

Platform	<ul style="list-style-type: none"> - Micro ATX Form Factor - All Solid Capacitor design
CPU	<ul style="list-style-type: none"> - Supports 3rd and 2nd Generation Intel® Core™ i7 / i5 / i3 / Xeon® / Pentium® / Celeron® in LGA1155 Package - Supports Intel® Turbo Boost 2.0 Technology - Supports K-Series unlocked CPU
Chipset	<ul style="list-style-type: none"> - Intel® H61 - Supports Intel® Rapid Start Technology and Smart Connect Technology
Memory	<ul style="list-style-type: none"> - Dual Channel DDR3 Memory Technology - 2 x DDR3 DIMM slots - Supports DDR3 1600/1333/1066 non-ECC, un-buffered memory (DDR3 1600 with Intel® Ivy Bridge CPU, DDR3 1333 with Intel® Sandy Bridge CPU) - Max. capacity of system memory: 16GB (see CAUTION 1) - Supports Intel® Extreme Memory Profile (XMP) 1.3 / 1.2 with Intel® Ivy Bridge CPU
Expansion Slot	<ul style="list-style-type: none"> - 1 x PCI Express 3.0 x16 slot (blue @ x16 mode) * PCIE 3.0 is only supported with Intel® Ivy Bridge CPU. With Intel® Sandy Bridge CPU, it only supports PCIE 2.0. - 1 x PCI Express 2.0 x1 slot
Graphics	<ul style="list-style-type: none"> * 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 2.0, Intel® InTru™ 3D, Intel® Clear Video HD Technology, Intel® Insider™, Intel® HD Graphics 2500/4000 with Intel® Ivy Bridge CPU - Supports Intel® HD Graphics Built-in Visuals: Intel® Quick Sync Video, Intel® InTru™ 3D, Intel® Clear Video HD Technology, Intel® HD Graphics 2000/3000, Intel® Advanced Vector Extensions (AVX) with Intel® Sandy Bridge CPU - Pixel Shader 5.0, DirectX 11 with Intel® Ivy Bridge CPU. Pixel Shader 4.1, DirectX 10.1 with Intel® Sandy Bridge CPU. - Max. shared memory 1760MB with Intel® Ivy Bridge CPU. Max. shared memory 1759MB with Intel® Sandy Bridge CPU.

	<ul style="list-style-type: none"> - Dual Graphics Output: support HDMI and D-Sub ports by independent display controllers - Supports HDMI Technology with max. resolution up to 1920x1200 @ 60Hz - Supports D-Sub with max. resolution up to 2048x1536 @ 75Hz - Supports Auto Lip Sync, Deep Color (12bpc), xvYCC and HBR (High Bit Rate Audio) with HDMI (Compliant HDMI monitor is required) - Supports HDCP function with HDMI port - Supports Full HD 1080p Blu-ray (BD) playback with HDMI port
Audio	- 5.1 CH HD Audio (Realtek ALC662 Audio Codec)
LAN	<ul style="list-style-type: none"> - PCIE x1 Gigabit LAN 10/100/1000 Mb/s - Realtek RTL8111E - Supports Wake-On-LAN - Supports LAN Cable Detection - Supports Energy Efficient Ethernet 802.3az - Supports PXE
Rear Panel I/O	<p>I/O Panel</p> <ul style="list-style-type: none"> - 1 x PS/2 Mouse Port - 1 x PS/2 Keyboard Port - 1 x Serial Port: COM1 - 1 x Parallel Port (ECP/EPP support) - 1 x D-Sub Port - 1 x HDMI Port - 4 x USB 2.0 Ports - 1 x RJ-45 LAN Port with LED (ACT/LINK LED and SPEED LED) - HD Audio Jack: Line in/Front Speaker/Microphone
Storage	- 4 x SATA2 3.0 Gb/s connectors, support NCQ, AHCI and Hot Plug functions
Connector	<ul style="list-style-type: none"> - 1 x IR header - 1 x Power LED header - 1 x Chassis Intrusion header - 1 x LPC/TPM header - 1 x CPU Fan connectors (4-pin) - 1 x Chassis Fan connector (4-pin) - 1 x 24 pin ATX power connector - 1 x 4 pin 12V power connector - 1 x Front panel audio connector

	<ul style="list-style-type: none"> - 1 x SPDIF Out connector - 2 x USB 2.0 headers (support 4 USB 2.0 ports)
BIOS Feature	<ul style="list-style-type: none"> - 32Mb AMI UEFI Legal BIOS with GUI support - Supports "Plug and Play" - ACPI 1.1 Compliance Wake Up Events - Supports jumperfree - SMBIOS 2.3.1 Support
Support CD	<ul style="list-style-type: none"> - Drivers, Utilities, AntiVirus Software (Trial Version), Google Chrome Browser and Toolbar, Start8 (30 days trial)
Hardware Monitor	<ul style="list-style-type: none"> - CPU/Chassis Temperature Sensing - CPU/Chassis Fan Tachometer - CPU Quiet Fan (Allow Chassis Fan Speed Auto-Adjust by CPU Temperature) - CPU/Chassis Fan Multi-Speed Control - CASE OPEN detection - Voltage Monitoring: +12V, +5V, +3.3V, CPU Vcore
OS	<ul style="list-style-type: none"> - Microsoft® Windows® 8.1 32-bit / 8.1 64-bit / 8 32-bit / 8 64-bit / 7 32-bit / 7 64-bit / Vista™ 32-bit / Vista™ 64-bit / XP 32-bit / XP 64-bit (Windows® 8.1 is supported with Intel® Ivy Bridge CPU for onboard VGA.)
Certifications	<ul style="list-style-type: none"> - FCC, CE, WHQL

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

WARNING

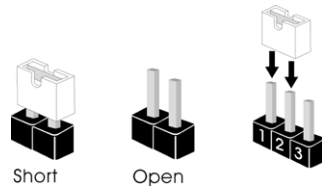
Please realize that there is a certain risk involved with overclocking, including adjusting the setting in the BIOS, applying Untied Overclocking Technology, or using third-party overclocking tools. Overclocking may affect your system's stability, or even cause damage to the components and devices of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



CAUTION!

1. Due to the operating system limitation, the actual memory size may be less than 4GB for the reservation for system usage under Windows® 8.1 / 8 / 7 / Vista™ / XP. For Windows® OS with 64-bit CPU, there is no such limitation. You can use ASRock XFast RAM to utilize the memory that Windows® cannot use.

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.2, No. 14)	<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 and user default profile will be cleared only if the CMOS battery is removed.



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

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!

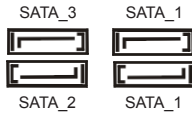
Serial ATA2 Connectors

(SATA_0: see p.2, No. 7)

(SATA_1: see p.2, No. 6)

(SATA_2: see p.2, No. 9)

(SATA_3: see p.2, No. 8)



These four Serial ATA2 (SATA2) connectors support SATA data cables for internal storage devices. The current SATA2 interface allows up to 3.0 Gb/s data transfer rate.

Serial ATA (SATA) Data Cable (Optional)

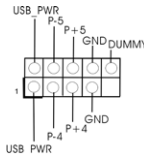


Either end of the SATA data cable can be connected to the SATA / SATA2 hard disk or the SATA2 connector on this motherboard.

USB 2.0 Headers

(9-pin USB4_5)

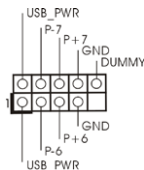
(see p.2 No. 13)



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 USB6_7)

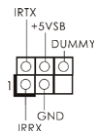
(see p.2 No. 12)



Infrared Module Header

(5-pin IR1)

(see p.2 No. 17)

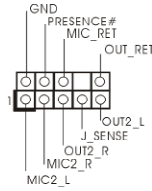


This header supports an optional wireless transmitting and receiving infrared module.

Front Panel Audio Header

(9-pin HD_AUDIO1)

(see p.2 No. 18)



This is an interface for 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® XP / XP 64-bit OS:

Select "Mixer". Select "Recorder". Then click "FrontMic".

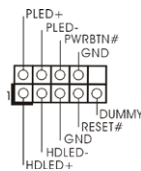
For Windows® 8.1 / 8.1 64-bit / 8 / 8 64-bit / 7 / 7 64-bit / Vista™ / Vista™ 64-bit OS:

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

System Panel Header

(9-pin PANEL1)

(see p.2 No. 11)



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 S1 sleep state. The LED is off when the system is in S3/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.

Power LED Header

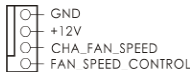
(3-pin PLED1)
(see p.2 No. 10)



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

Chassis Fan Connector

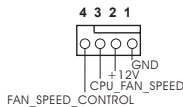
(4-pin CHA_FAN1)
(see p.2 No. 5)



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

CPU Fan Connectors

(4-pin CPU_FAN1)
(see p.2 No. 2)



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



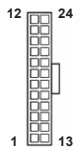
Though this motherboard provides 4-Pin CPU fan (Quiet Fan) support, the 3-Pin CPU fan still can work successfully even without the fan speed control function. If you plan to connect the 3-Pin CPU fan to the CPU fan connector on this motherboard, please connect it to Pin 1-3.

Pin 1-3 Connected ←

3-Pin Fan Installation



ATX Power Connector
(24-pin ATXPWR1)
(see p.2 No. 4)



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.2 No. 1)



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

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



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

SPDIF Out Connector
(2-pin SPDIF_OUT1)
(see p.2, No. 19)



Please connect the SPDIF_OUT connector of a HDMI VGA card to this header with a cable.

LPC/TPM Header

(13-pin LPC/TPM1)

(see p.2, No. 16)



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.

PIN	Signal Name	PIN	Signal Name
14	+3V	13	No pin
12	+3V	11	+3V
10	GND	9	GND
8	LAD3	7	LAD2
6	LAD1	5	LAD0
4	LFRAME#	3	RESET#
2	GND	1	CLK

2. BIOS Information

The Flash Memory on the motherboard stores BIOS Setup Utility. When you start up the computer, please press <F2> or during the Power-On-Self-Test (POST) to enter BIOS Setup utility; otherwise, POST continues with its test routines. If you wish to enter BIOS Setup after POST, please restart the system by pressing <Ctl> + <Alt> + <Delete>, or pressing the reset button on the system chassis. The BIOS Setup program is designed to be user-friendly. It is a menu-driven program, which allows you to scroll through its various sub-menus and to select among the pre-determined choices. For the detailed information about BIOS Setup, please refer to the User Manual (PDF file) contained in the Support CD.

3. Software Support CD information

This motherboard supports various Microsoft® Windows® operating systems: 8.1 / 8.1 64-bit / 8 / 8 64-bit / 7 / 7 64-bit / Vista™ / Vista™ 64-bit / XP / XP 64-bit. The Support CD that came with the motherboard contains necessary drivers and useful utilities that will enhance motherboard features. To begin using the Support CD, insert the CD into your CD-ROM drive. It will display the Main Menu automatically if "AUTO-RUN" is enabled in your computer. If the Main Menu does not appear automatically, locate and double-click on the file "ASRSETUP.EXE" from the BIN folder in the Support CD to display the menus.

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>

ASRock Incorporation

2F., No.37, Sec. 2, Jhongyang S. Rd., Beitou District,

Taipei City 112, Taiwan (R.O.C.)

ASRock EUROPE B.V.

Bijsterhuizen 3151

6604 LV Wijchen

The Netherlands

Phone: +31-24-345-44-33

Fax: +31-24-345-44-38

ASRock America, Inc.

13848 Magnolia Ave, Chino, CA91710

U.S.A.

Phone: +1-909-590-8308

Fax: +1-909-590-1026



EC-Declaration of Conformity

For the following equipment:

Motherboard

(Product Name)

H61M-S1 PLUS / 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 3151 6604 LV Wijchen The Netherlands

(Company Address)

Person responsible for making this declaration:

(Name, Surname)

A.V.P

(Position / Title)

Feb. 21, 2014

(Date)