



# Beebox

*Small, Fast, Quiet*

User Manual



Version 1.0

Published April 2016

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- (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](http://www.dtsc.ca.gov/hazardouswaste/perchlorate)”

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

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## Important Safety Instructions

Pay close attention to the following safety instructions before performing any of the operation. Basic safety precautions should be followed to protect yourself from harm and the product from damage:

- Operation of the product should be carried out by suitably trained, qualified, and certified personnel only to avoid risk of injury from electrical shock or energy hazard.
- Disconnect the power cord from the wall outlet when installing or removing main system components, such as the motherboard and power supply unit.
- Place the system on a stable and flat surface.
- Use extreme caution when working with high-voltage components.
- When handling parts, use a grounded wrist strap designed to prevent static discharge.
- Keep the area around the system clean and clutter-free.
- Keep all components and printed circuit boards (PCBs) in their antistatic bags when not in use.
- Handle a board by its edges only; do not touch its components, peripheral chips, memory modules or contacts.

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# Chapter 1 Introduction

Thank you for purchasing Beebox series, a reliable barebone system 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 hardware specifications 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 product, please visit our website for specific information about the model you are using. ASRock website: <http://www.asrock.com>.*

## 1.1 Package Contents

- Beebox series Barebone System with:
  - Beebox series Chassis
  - Motherboard (pre-installed)
  - M.2 WiFi Module (pre-installed)

\*The barebone system does not include memory, hard drive and M.2 SSD.
- Power Adapter (65W/19V) & Power Cord
- SATA Data and Power Cable
- M.2 Screw
  - \*Plug type depends on region
- Extended Bracket
- VESA Mount Bracket & Screw Package
- Remote Controller
- Support CD
- Quick Installation Guide



*If any items are missing or appear damaged, contact your authorized dealer.*

## 1.2 Product Specifications

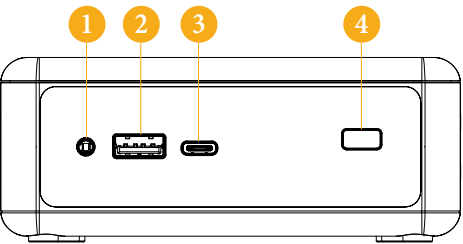
| Beebox series     | Barebone                                                                                                                                                                                    |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CPU</b>        | Intel® Core i3-6100U<br>(3M Cache, up to 2.30 GHz) /<br>Intel® Core i5-6200U<br>(3M Cache, up to 2.80 GHz)/                                                                                 |
| <b>Chipset</b>    | Intel® Skylake U                                                                                                                                                                            |
| <b>Memory</b>     | Supports DDR4 2133MHz, 2 x SO-DIMM slots, Max. 32GB                                                                                                                                         |
| <b>M.2 slot</b>   | Supports 1 x M.2 SSD slot<br>(Support PCIe 3.0x4/SATA3 type 2260/2280 M.2 SSD)                                                                                                              |
| <b>HDD</b>        | Supports 1 x 2.5" HDD/SSD (7mm/9.5mm)                                                                                                                                                       |
| <b>LAN</b>        | Gigabit LAN                                                                                                                                                                                 |
| <b>WiFi (M.2)</b> | Intel Dual Band Wireless-AC 3160 (802.11ac + BT 4.0)                                                                                                                                        |
| <b>Audio</b>      | Realtek ALC283                                                                                                                                                                              |
| <b>Front I/O</b>  | 1 x USB 3.0, 1 x USB 3.1(Type C) , 1 x IR , 1 x Head phone with<br>MIC-IN                                                                                                                   |
| <b>Rear I/O</b>   | 1 x HDMI (4K/2K@60Hz) , 1 x HDMI (4K/2K@30Hz)*,<br>1 x DP (1.2)* , 2 x USB 3.0, 1 x LAN , 1 x Kensington lock<br>*HDMI(4K/2K@30Hz) & DisplayPort ports don't support Hot<br>Plug function . |
| <b>Power Unit</b> | Input : AC 100-240V<br>Output : DC 19V /3.42A<br>65W power adapter                                                                                                                          |

|                       |                                                      |
|-----------------------|------------------------------------------------------|
| Dimension             | 110mm (W) x 46mm (H) x 118.5mm (L)                   |
| Controller            | Remote Controller                                    |
| VESA                  | Bracket included , supports 75 x 75 and 100 x 100 mm |
| Volume (Liters)       | 0.6L                                                 |
| Operating Temperature | 0°C~35°C                                             |

# Chapter 2 Product Overview

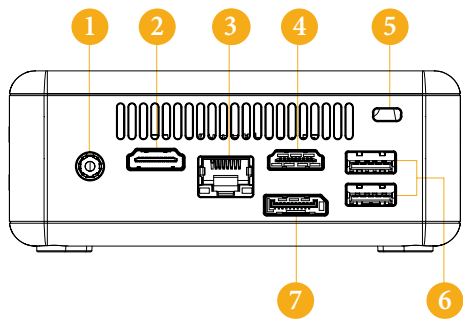
This chapter provides diagrams showing the location of important components of the Beebox series.

## 2.1 Front View



| No. | Description            |
|-----|------------------------|
| 1   | Headphone & Microphone |
| 2   | USB 3.0 (Type A)       |
| 3   | USB 3.1 (Type C)       |
| 4   | IR Sensor Window       |

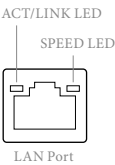
2.2 Rear View



| No. | Description          |
|-----|----------------------|
| 1   | DC-In                |
| 2   | *HDMI (4K/2K@60Hz)   |
| 3   | RJ-45                |
| 4   | *HDMI (4K/2K@30Hz)   |
| 5   | Kensington Lock Slot |
| 6   | USB 3.0 (Type A)     |
| 7   | *DisplayPort 1.2     |

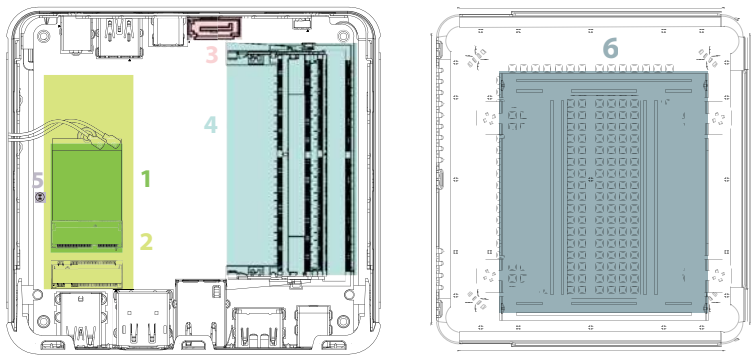
\*The Beebox series support dual display video output.  
You can use HDMI (4K/2K@60Hz) and DisplayPort or HDMI (4K/2K@60Hz) and HDMI (4K/2K@30Hz) ports at the same time.

\* 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   |

## 2.3 Inside View



| No. | Description                                                                                                                                             |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | M.2 WiFi Module                                                                                                                                         |
| 2   | M.2 SSD slot (PCIe/SATA, type 2260/2280)                                                                                                                |
| 3   | SATA 3.0 Connector                                                                                                                                      |
| 4   | DDR4 SO-DIMM Slots                                                                                                                                      |
| 5   | Clear CMOS Pad<br><i>*Clear CMOS Pad allows you to clear the data in CMOS. To clear CMOS, disconnect the power supply and short the Clear CMOS Pad.</i> |
| 6   | Hard disk drive tray<br><i>*HDD support: 2.5" SATA hard drive (7mm and 9.5mm)</i>                                                                       |



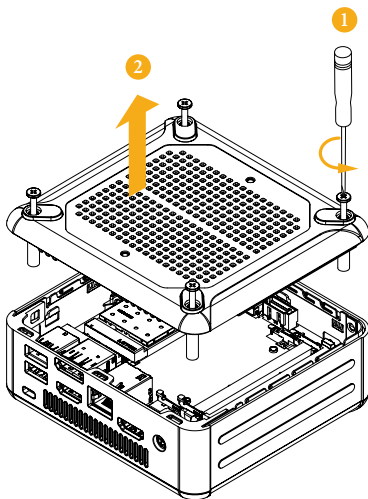
SO-DIMM memory, hard drive and M.2 SSD are not included with this system.

## Chapter 3 Hardware Installation

This chapter helps you install or remove important components.

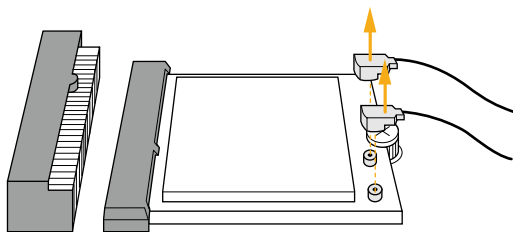
### 3.1 How to Remove the Bottom Case

1. Remove the four screws on the bottom case.
2. Then lift up and remove the bottom panel..

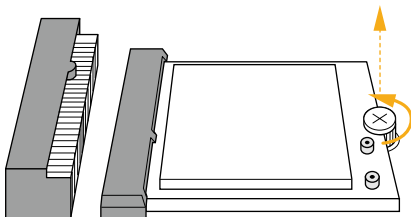


## 3.2 How to Remove the M.2 WiFi Module

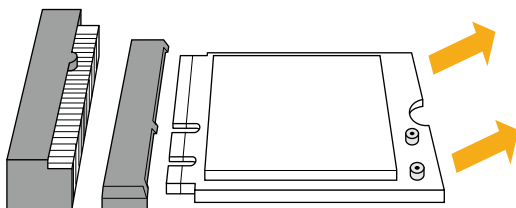
1. Disconnect the two antenna cables from the M.2 WiFi Module by lifting the clips.



2. Remove the screw that holds the M.2 WiFi Module in place.

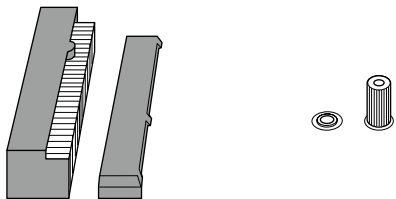


3. Carefully pull the M.2 WiFi Module from the slot and remove it.

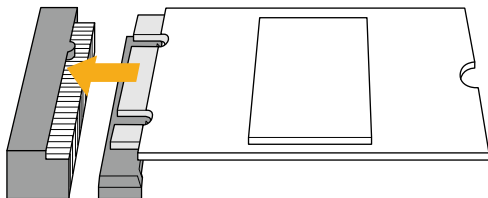


### 3.3 How to Install the M.2 SSD (Type 2260)

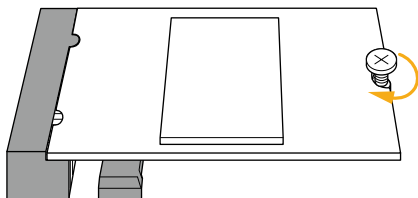
1. Locate the M.2 slot on the motherboard.



2. Carefully insert the M.2 SSD into the slot.

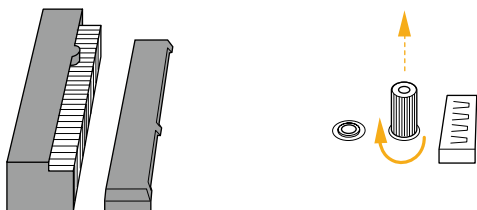


3. Tighten the screw to secure the M.2 SSD to the motherboard.

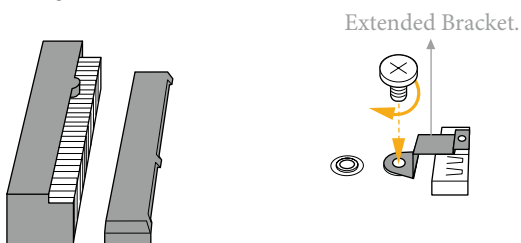


### 3.4 How to Install the M.2 SSD (Type 2280)

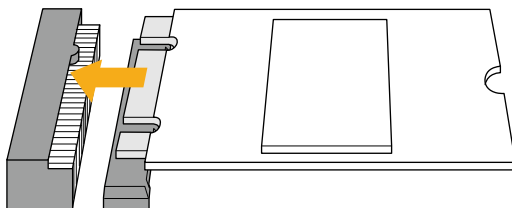
1. Remove the standoff screw.



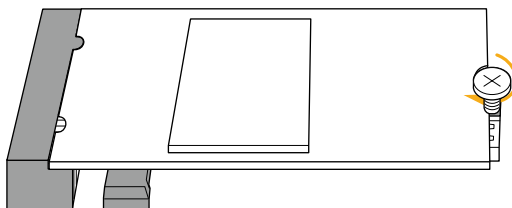
2. Tighten the screw to secure the extended bracket to the motherboard.



3. Carefully insert the M.2 SSD into the slot.

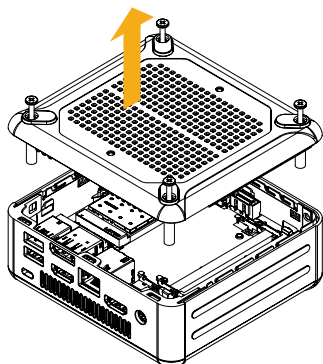


4. Tighten the screw to secure the M.2 SSD to the motherboard.

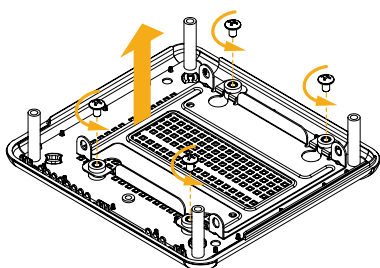


## 3.5 How to Install the 2.5-inch Hard Drive

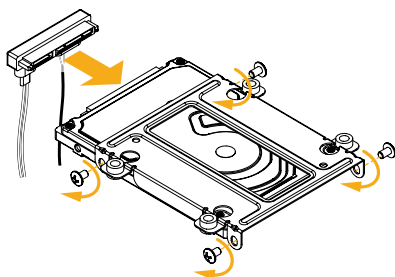
1. Remove the four screws on the bottom case. Then lift up and remove the bottom panel.



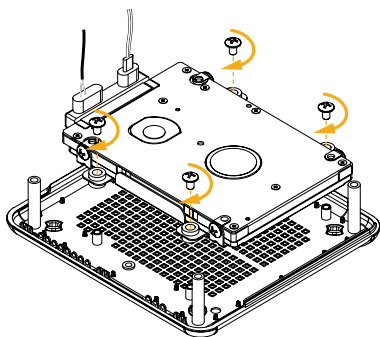
2. Unscrew the four screws that hold the HDD cage in place.



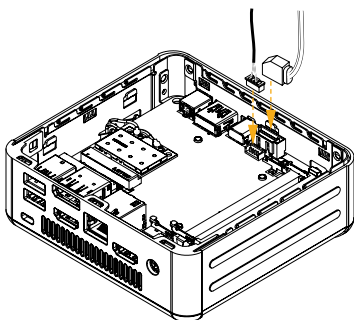
3. Install the HDD in the cage using the four screws. Then connect the SATA cable to the HDD.



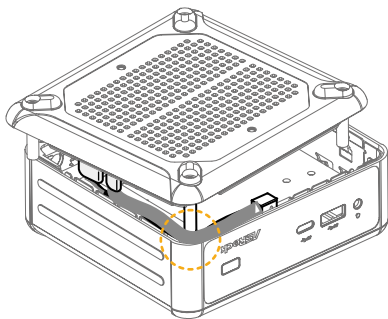
4. Attach the HDD cage to the bottom panel and secure it using the four screws.



5. Connect the SATA Data and Power Cable to the motherboard.

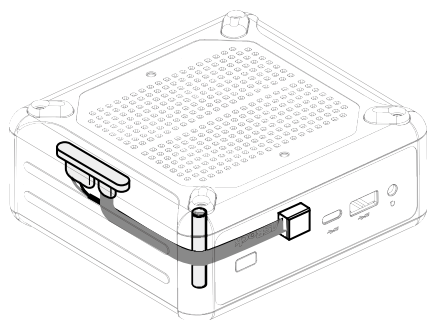


6. Route the SATA cables along the case edge and position the bottom panel as illustrated below.



7. Reinstall the bottom panel until it clicks into place.

The following illustration shows the internal routing for the SATA cables.



## 3.6 How to Install the Memory Modules

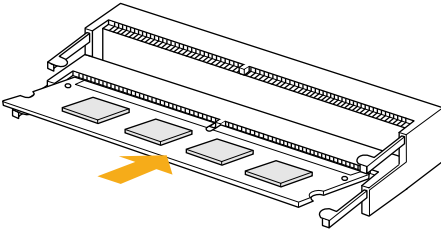


1. The Beebox series requires DDR4 SO-DIMM.
2. For dual channel configuration, you always need to install identical (the same brand, speed, size and chip-type) DDR4 SO-DIMM pairs.

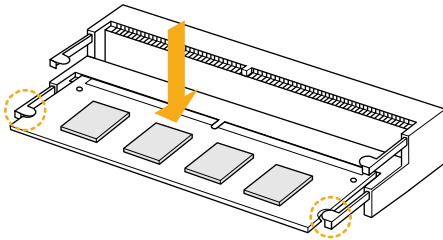


*The SO-DIMM only fits in one correct orientation. It will cause permanent damage to the motherboard and the DIMM if you force the DIMM into the slot at incorrect orientation.*

1. Carefully insert the SO-DIMM memory modules into the slot at a 30-degree angle.

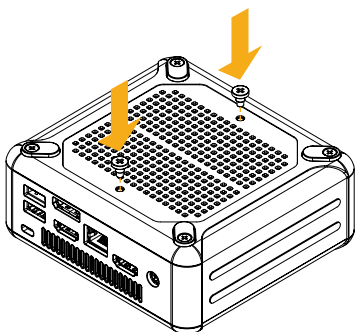


2. Push down until the modules snap into place.



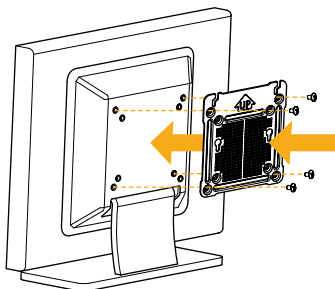
### 3.7 How to Install the VESA Bracket

1. Attach the two screws to the base of the Beebox series.

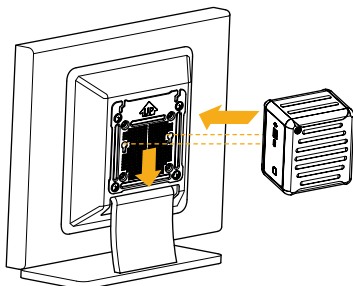


2. Attach the VESA Bracket to the rear of a compatible display using the four screws.

\*Choose mounting holes depending on the mounting hole pattern of your LCD screen (75 mm × 75 mm or 100 mm × 100 mm).

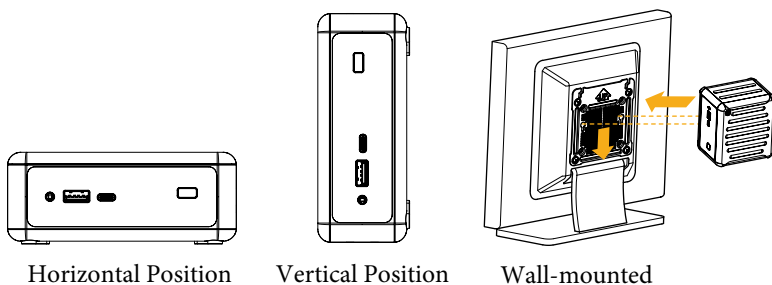


3. Mount the Beebox series by sliding it into place.



## 3.8 Positions of the Beebox series

The Beebox series can be placed in vertical or horizontal position.



\*Please note that keeping the Beebox series in a vertical position will ensure better cooling performance.

### USB Power On Function:

USB Power On Function allows system power on via USB keyboard/mouse.

This function is useful when the Beebox series is mounted behind your display/TV.

\*You can also easily power on/off the Beebox series by using the remote controller.

To enable USB Power On Function:

1. Enter BIOS by pressing <F2> or <Del> during device startup.
2. Select “Advanced > ACPI Configuration” from the menu.
3. Set “USB Keyboard/ Remote Power On” and “USB Mouse Power On” settings to “Enabled”.
4. Press F10 to Save and Exit.



## Chapter 4 Software and Utilities Operation

### 4.1 Installing Drivers

The Support CD that comes with the motherboard contains necessary drivers and useful utilities that enhance the motherboard's features.

#### Running The Support CD

To begin using the support CD, insert the CD into your CD-ROM drive. The CD automatically displays the Main Menu if "AUTORUN" is enabled in your computer. If the Main Menu does not appear automatically, locate and double click on the file "ASRSETUP.EXE" in the Support CD to display the menu.

#### Drivers Menu

The drivers compatible to your system will be auto-detected and listed on the support CD driver page. Please click **Install All** or follow the order from top to bottom to install those required drivers. Therefore, the drivers you install can work properly.

#### Utilities Menu

The Utilities Menu shows the application software that the motherboard supports. Click on a specific item then follow the installation wizard to install it.



*To improve Windows 7 compatibility, please download and install the following hot fix provided by Microsoft.*

*"KB2720599": <http://support.microsoft.com/kb/2720599/en-us>*

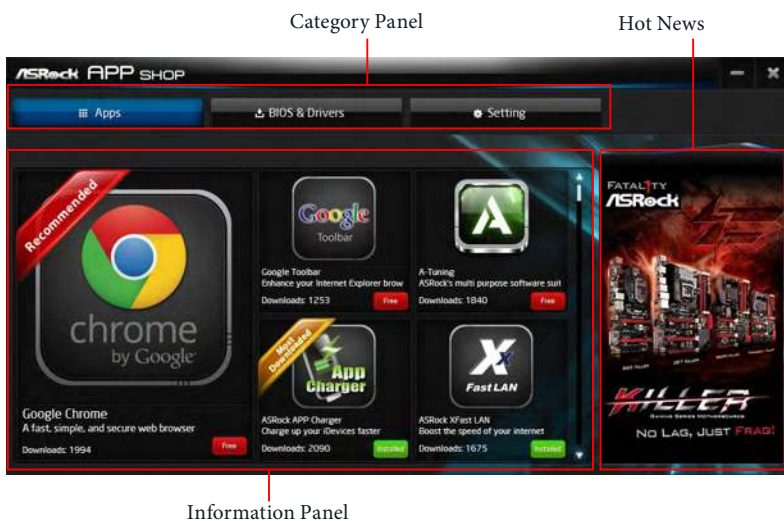
## 4.2 ASRock Live Update & APP Shop

The ASRock Live Update & APP Shop is an online store for purchasing and downloading software applications for your ASRock computer. You can quickly and easily install various apps and support utilities, such as USB Key, XFast LAN, XFast RAM and more. With ASRock APP Shop, you can optimize your system and keep your motherboard up to date simply with a few clicks.

Double-click  on your desktop to access ASRock Live Update & APP Shop utility.

*\*You need to be connected to the Internet to download apps from the ASRock Live Update & APP Shop.*

### 4.2.1 UI Overview



**Category Panel:** The category panel contains several category tabs or buttons that when selected the information panel below displays the relative information.

**Information Panel:** The information panel in the center displays data about the currently selected category and allows users to perform job-related tasks.

**Hot News:** The hot news section displays the various latest news. Click on the image to visit the website of the selected news and know more.

## 4.2.2 Apps

When the "Apps" tab is selected, you will see all the available apps on screen for you to download.

### Installing an App

#### Step 1

Find the app you want to install.



The most recommended app appears on the left side of the screen. The other various apps are shown on the right. Please scroll up and down to see more apps listed.

You can check the price of the app and whether you have already installed it or not.

- Free - The red icon displays the price or "Free" if the app is free of charge.
- Installed - The green "Installed" icon means the app is installed on your computer.

#### Step 2

Click on the app icon to see more details about the selected app.

### Step 3

If you want to install the app, click on the red icon **Free** to start downloading.



### Step 4

When installation completes, you can find the green "Installed" icon appears on the upper right corner.



To uninstall it, simply click on the trash can icon .

\*The trash icon may not appear for certain apps.

## Upgrading an App

You can only upgrade the apps you have already installed. When there is an available new version for your app, you will find the mark of "New Version"  appears below the installed app icon.



### Step 1

Click on the app icon to see more details.

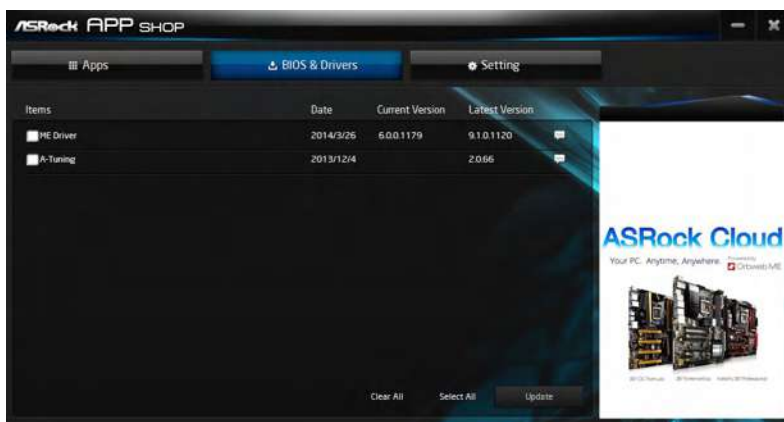
### Step 2

Click on the yellow icon  to start upgrading.

## 4.2.3 BIOS & Drivers

### Installing BIOS or Drivers

When the "BIOS & Drivers" tab is selected, you will see a list of recommended or critical updates for the BIOS or drivers. Please update them all soon.



#### **Step 1**

Please check the item information before update. Click on  to see more details.

#### **Step 2**

Click to select one or more items you want to update.

#### **Step 3**

Click Update to start the update process.

## 4.2.4 Setting

In the "Setting" page, you can change the language, select the server location, and determine if you want to automatically run the ASRock Live Update & APP Shop on Windows startup.



### 3.3 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
- A Windows® PC
- Win7 USB Patcher (included in the ASRock Support CD or downloaded from website)

## 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 "Create a Windows 7 installation disk with a USB device".



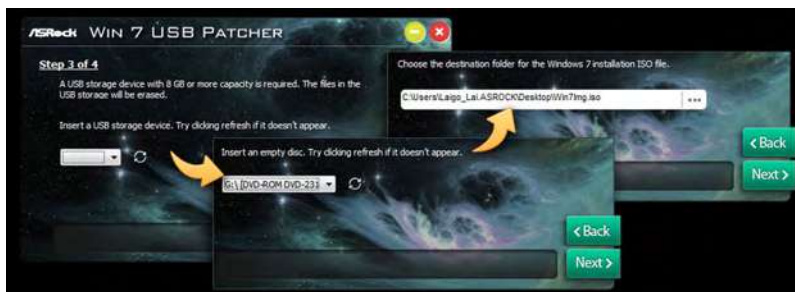
### Step 4

Locate your Win7 source folder or your ISO file.



### Step 5

Select the USB storage, compact disk or destination folder for the new Windows 7 installation file.



### Step 6

Click "Start" to begin.



### 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.

## Chapter 4 UEFI SETUP UTILITY

### 4.1 Introduction

This section explains how to use the UEFI SETUP UTILITY to configure your system. You may run the UEFI SETUP UTILITY by pressing <F2> or <Del> right after you power on the computer, otherwise, the Power-On-Self-Test (POST) will continue with its test routines. If you wish to enter the UEFI SETUP UTILITY after POST, restart the system by pressing <Ctl> + <Alt> + <Delete>, or by pressing the reset button on the system chassis. You may also restart by turning the system off and then back on.



*Because the UEFI software is constantly being updated, the following UEFI setup screens and descriptions are for reference purpose only, and they may not exactly match what you see on your screen.*

#### 4.1.1 UEFI Menu Bar

The top of the screen has a menu bar with the following selections:

|                    |                                                   |
|--------------------|---------------------------------------------------|
| <b>Main</b>        | For setting system time/date information          |
| <b>OC Tweaker</b>  | For overclocking configurations                   |
| <b>Advanced</b>    | For advanced system configurations                |
| <b>Tool</b>        | Useful tools                                      |
| <b>H/W Monitor</b> | Displays current hardware status                  |
| <b>Boot</b>        | For configuring boot settings and boot priority   |
| <b>Security</b>    | For security settings                             |
| <b>Exit</b>        | Exit the current screen or the UEFI Setup Utility |

## 4.1.2 Navigation Keys

Use <←> key or <→> key to choose among the selections on the menu bar, and use <↑> key or <↓> key to move the cursor up or down to select items, then press <Enter> to get into the sub screen. You can also use the mouse to click your required item.

Please check the following table for the descriptions of each navigation key.

| Navigation Key(s) | Description                                        |
|-------------------|----------------------------------------------------|
| + / -             | To change option for the selected items            |
| <Tab>             | Switch to next function                            |
| <PGUP>            | Go to the previous page                            |
| <PGDN>            | Go to the next page                                |
| <HOME>            | Go to the top of the screen                        |
| <END>             | Go to the bottom of the screen                     |
| <F1>              | To display the General Help Screen                 |
| <F5>              | Add / Remove Favorite                              |
| <F7>              | Discard changes and exit the SETUP UTILITY         |
| <F9>              | Load optimal default values for all the settings   |
| <F10>             | Save changes and exit the SETUP UTILITY            |
| <F12>             | Print screen                                       |
| <ESC>             | Jump to the Exit Screen or exit the current screen |

## 4.2 Main Screen

When you enter the UEFI SETUP UTILITY, the Main screen will appear and display the system overview.



### My Favorite

Display your collection of BIOS items. Press F5 to add/remove your favorite items.

## 4.3 OC Tweaker Screen

In the OC Tweaker screen, you can set up overclocking features.



*Because the UEFI software is constantly being updated, the following UEFI setup screens and descriptions are for reference purpose only, and they may not exactly match what you see on your screen.*

## CPU Configuration

### Intel SpeedStep Technology

Intel SpeedStep technology allows processors to switch between multiple frequencies and voltage points for better power saving and heat dissipation.

### Intel Turbo Boost Technology

Intel Turbo Boost Technology enables the processor to run above its base operating frequency when the operating system requests the highest performance state.

\*Please note that the Intel Core i3-6100U CPU does not support this function.

## DRAM Configuration

### DRAM Tweaker

Fine tune the DRAM settings by leaving marks in checkboxes. Click OK to confirm and apply your new settings.

### DRAM Timing Configuration

#### CAS# Latency (tCL)

The time between sending a column address to the memory and the beginning of the data in response.

#### RAS# to CAS# Delay and Row Precharge (tRCDtRP)

RAS# to CAS# Delay : The number of clock cycles required between the opening of a row of memory and accessing columns within it.

Row Precharge: The number of clock cycles required between the issuing of the precharge command and opening the next row.

#### RAS# Active Time (tRAS)

The number of clock cycles required between a bank active command and issuing the precharge command.

#### Command Rate (CR)

The delay between when a memory chip is selected and when the first active command can be issued.

#### Refresh Cycle Time (tRFC)

The number of clocks from a Refresh command until the first Activate command to the same rank.

#### Save User Default

Type a profile name and press enter to save your settings as user default.

---

## Load User Default

Load previously saved user defaults.

## 4.4 Advanced Screen

In this section, you may set the configurations for the following items: CPU Configuration, Chipset Configuration, Storage Configuration, Super IO Configuration, ACPI Configuration and USB Configuration.



*Setting wrong values in this section may cause the system to malfunction.*

### UEFI Configuration

#### Active Page on Entry

Select the default page when entering the UEFI setup utility.

## 4.4.1 CPU Configuration



### Intel Hyper Threading Technology

Intel Hyper Threading Technology allows multiple threads to run on each core, so that the overall performance on threaded software is improved.

### Active Processor Cores

Select the number of cores to enable in each processor package.

### CPU C States Support

Enable CPU C States Support for power saving. It is recommended to keep C3, C6 and C7 all enabled for better power saving.

### Enhanced Halt State (C1E)

Enable Enhanced Halt State (C1E) for lower power consumption.

### Package C State Support

Enable CPU, PCIe, Memory, Graphics C State Support for power saving.

## CPU Thermal Throttling

Enable CPU internal thermal control mechanisms to keep the CPU from overheating.

## No-Execute Memory Protection

Processors with No-Execution Memory Protection Technology may prevent certain classes of malicious buffer overflow attacks.

## Intel Virtualization Technology

Intel Virtualization Technology allows a platform to run multiple operating systems and applications in independent partitions, so that one computer system can function as multiple virtual systems.

## Hardware Prefetcher

Automatically prefetch data and code for the processor. Enable for better performance.

## Adjacent Cache Line Prefetch

Automatically prefetch the subsequent cache line while retrieving the currently requested cache line. Enable for better performance.

## SW Guard Extensions (SGX)

Intel SGX is a set of new CPU instructions that can be used by applications to set aside private regions of code and data.

## DPTF

Enable/disable Intel Dynamic Platform Thermal Framework.

## 4.4.2 Chipset Configuration



### Primary Graphics

Select a primary VGA.

### Top of Lower Usable DRAM

Set the maximum value of TOLUD. Set this item to Dynamic to allow TOLUD to adjust automatically based on the largest MMIO length of the installed graphic controller.

### VT-d

Intel® Virtualization Technology for Directed I/O helps your virtual machine monitor better utilize hardware by improving application compatibility and reliability, and providing additional levels of manageability, security, isolation, and I/O performance.

### IOAPIC 24-119 Entries

I/O APICs contain a redirection table, which is used to route the interrupts it receives from peripheral buses to one or more local APICs. Enable/disable IOAPIC 24-119 Entries to expand to PIROI-PIROX.

## Share Memory

Configure the size of memory that is allocated to the integrated graphics processor when the system boots up.

## Inte(R) Ethernet Connection I219-V

Enable or disable the onboard network interface controller (Intel® I219V).

## Onboard HD Audio

Enable/disable onboard HD audio. Set to Auto to enable onboard HD audio and automatically disable it when a sound card is installed.

## WAN Radio

Enable/disable the WiFi module's connectivity.

## Deep Sleep

Configure deep sleep mode for power saving when the computer is shut down.

## Restore on AC/Power Loss

Select the power state after a power failure. If [Power Off] is selected, the power will remain off when the power recovers. If [Power On] is selected, the system will start to boot up when the power recovers.

## Good Night LED

By enabling Good Night LED, the Power LED will be switched off when the system is on. It will also automatically switch off the Power and Keyboard LEDs when the system enters into Standby/Hibernation mode.

## 4.4.3 Storage Configuration



### SATA Controller(s)

Enable/disable the SATA controllers.

### SATA Mode Selection

AHCI: Supports new features that improve performance.

RAID: Combine multiple disk drives into a logical unit.



*AHCI (Advanced Host Controller Interface) supports NCQ and other new features that will improve SATA disk performance but IDE mode does not have these advantages.*

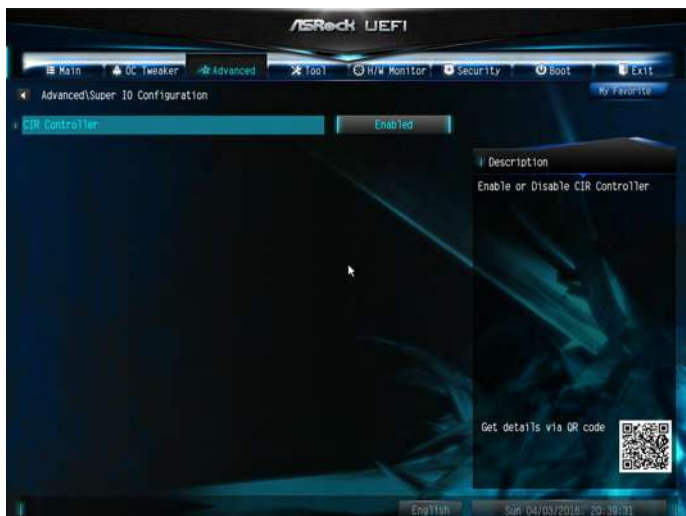
### SATA Aggressive Link Power Management

SATA Aggressive Link Power Management allows SATA devices to enter a low power state during periods of inactivity to save power. It is only supported by AHCI mode.

## Hard Disk S.M.A.R.T.

S.M.A.R.T stands for Self-Monitoring, Analysis, and Reporting Technology. It is a monitoring system for computer hard disk drives to detect and report on various indicators of reliability.

## 4.4.4 Super IO Configuration



### CIR Controller

Use this item to enable or disable the CIR controller. The default value is [Enabled].

## 4.4.5 ACPI Configuration



### Suspend to RAM

It is recommended to select auto for ACPI S3 power saving.

### ACPI HEPT Table

Enable the High Precision Event Timer for better performance.

### PCIE Devices Power On

Allow the system to be waked up by a PCIE device and enable wake on LAN.

### CIR Power On

Use this item to enable or disable CIR to power on the system.

### RTC Alarm Power On

Allow the system to be waked up by the real time clock alarm. Set it to By OS to let it be handled by your operating system.

### USB Keyboard/Remote Power On

---

Allow the system to be waked up by an USB keyboard or remote controller.

### USB Mouse Power On

Allow the system to be waked up by an USB mouse.

## 4.4.6 USB Configuration



### Legacy USB Support

Enable or disable Legacy OS Support for USB 2.0 devices. If you encounter USB compatibility issues it is recommended to disable legacy USB support. Select UEFI Setup Only to support USB devices under the UEFI setup and Windows/Linux operating systems only.

### PS/2 Simulator

Enable this item for the complete USB keyboard legacy support for non-USB aware operating system.

### Third Party USB 3.1 Controller

Enable or disable all of the USB 3.1 ports controlled by Third Party chips.

## 4.5 Tools



### OMG (Online Management Guard)

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

### UEFI Tech Service

Contact ASRock Tech Service if you are having trouble with your PC. Please setup network configuration before using UEFI Tech Service.

### Easy RAID Installer

Easy RAID Installer helps you to copy the RAID driver from the support CD to your USB storage device. After copying the drivers please change the SATA mode to RAID, then you can start installing the operating system in RAID mode.

### Easy Driver Installer

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

## ASRock Diagnostic Tool

Use this tool to check if the motherboard functions properly.

## Instant Flash

Save UEFI files in your USB storage device and run Instant Flash to update your UEFI.

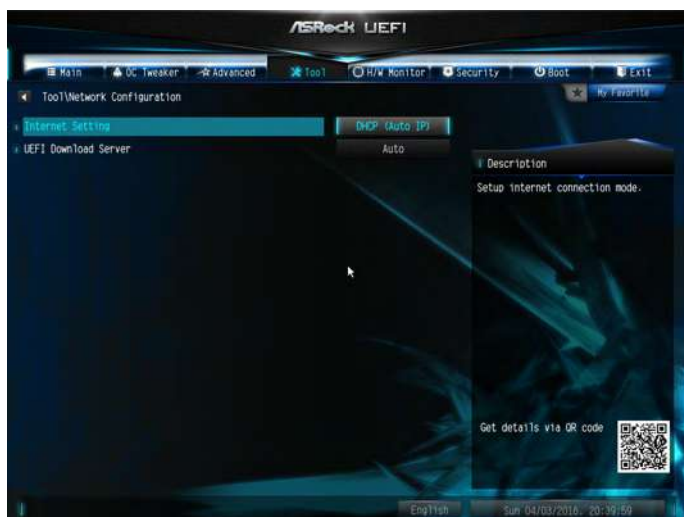
## Internet Flash - DHCP (Auto IP), Auto

ASRock Internet Flash downloads and updates the latest UEFI firmware version from our servers for you. Please setup network configuration before using Internet Flash.

\*For BIOS backup and recovery purpose, it is recommended to plug in your USB pen drive before using this function.

## Network Configuration

Use this to configure internet connection settings for Internet Flash.



## Internet Setting

Enable or disable sound effects in the setup utility.

## UEFI Download Server

Select a server to download the UEFI firmware.

## 4.6 Hardware Health Event Monitoring Screen

This section allows you to monitor the status of the hardware on your system, including the parameters of the CPU temperature, motherboard temperature, fan speed and voltage.



### CPU Fan 1 Setting

Select a fan mode for CPU Fans 1. This option is set to set to Standard Mode by default.

## 4.7 Security Screen

In this section you may set or change the supervisor/user password for the system. You may also clear the user password.



### Supervisor Password

Set or change the password for the administrator account. Only the administrator has authority to change the settings in the UEFI Setup Utility. Leave it blank and press enter to remove the password.

### User Password

Set or change the password for the user account. Users are unable to change the settings in the UEFI Setup Utility. Leave it blank and press enter to remove the password.

### Secure Boot

Use this item to enable or disable support for Windows 8.1 Secure Boot.

### Intel(R) Platform Trust Technology

Enable/disable Intel® Platform Trust Technology (Intel® PTT) in ME.

## 4.8 Boot Screen

This section displays the available devices on your system for you to configure the boot settings and the boot priority.



### Fast Boot

Fast Boot minimizes your computer's boot time. In fast mode you may not boot from an USB storage device. Ultra Fast mode is only supported by Windows 8.1 and the VBIOS must support UEFI GOP if you are using an external graphics card. Please notice that Ultra Fast mode will boot so fast that the only way to enter this UEFI Setup Utility is to Clear CMOS or run the Restart to UEFI utility in Windows.

### Boot From Onboard LAN

Allow the system to be waked up by the onboard LAN.

### Setup Prompt Timeout

Configure the number of seconds to wait for the setup hot key.

### Bootup Num-Lock

Select whether Num Lock should be turned on or off when the system boots up.

## Full Screen Logo

Enable to display the boot logo or disable to show normal POST messages.

## AddOn ROM Display

Enable AddOn ROM Display to see the AddOn ROM messages or configure the AddOn ROM if you've enabled Full Screen Logo. Disable for faster boot speed.

## Boot Failure Guard

If the computer fails to boot for a number of times the system automatically restores the default settings.

## Boot Failure Guard Count

Configure the number of attempts to boot until the system automatically restores the default settings.

## CSM (Compatibility Support Module)



## CSM

Enable to launch the Compatibility Support Module. Please do not disable unless you're running a WHCK test. If you are using Windows 8.1 64-bit and all of your devices support UEFI, you may also disable CSM for faster boot speed.

## Launch PXE OpROM Policy

Select UEFI only to run those that support UEFI option ROM only. Select Legacy only to run those that support legacy option ROM only. Select Do not launch to not execute both legacy and UEFI option ROM.

## Launch Video OpROM Policy

Select UEFI only to run those that support UEFI option ROM only. Select Legacy only to run those that support legacy option ROM only. Select Do not launch to not execute both legacy and UEFI option ROM.

## 4.9 Exit Screen



### Save Changes and Exit

When you select this option the following message, “Save configuration changes and exit setup?” will pop out. Select [OK] to save changes and exit the UEFI SETUP UTILITY.

### Discard Changes and Exit

When you select this option the following message, “Discard changes and exit setup?” will pop out. Select [OK] to exit the UEFI SETUP UTILITY without saving any changes.

### Discard Changes

When you select this option the following message, “Discard changes?” will pop out. Select [OK] to discard all changes.

### Load UEFI Defaults

Load UEFI default values for all options. The F9 key can be used for this operation.

### Launch EFI Shell from filesystem device

Copy shellx64.efi to the root directory to launch EFI Shell.

## 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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