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# GA-Z170X-Gaming 7  (rev. 1.0)

Intel® Z170 Chipset
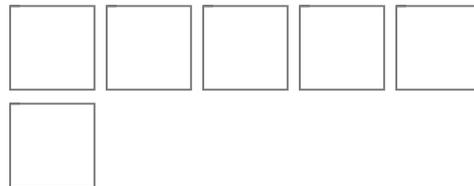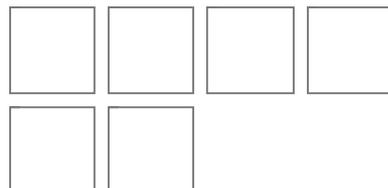
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Overview    Specification    Support & Downloads    FAQ    News/Awards

Print

- Intel® Thunderbolt™ 3 Certified Motherboard
- Supports 6th Generation Intel® Core™ Processor
- Dual Channel DDR4, 4 DIMMs
- Intel® USB 3.1 with USB Type-C™ - The World's Next Universal Connector
- 3-Way Graphics Support with Exclusive Ultra Durable Metal Shielding over the PCIe Slots
- Dual PCIe Gen3 x4 M.2 Connectors with up to 32Gb/s Data Transfer (PCIe NVMe & SATA SSD support)
- 3 SATA Express Connectors for up to 16Gb/s Data Transfer
- Integrated HDMI 2.0 support
- Creative SoundCore™ 3D Gaming Audio
- Killer™ E2400 and Intel® Gaming Networks
- LED Trace Path with Multi-Color Choice
- APP Center Including EasyTune™ and Cloud Station™ Utilities
- GIGABYTE UEFI DualBIOS™ Technology

▶ GIGABYTE Z170X-Gaming 7 Unboxing Video

## Next Generation 40 Gb/s Thunderbolt™ 3

**Thunderbolt™ 3 – The fastest 40Gb/s single-wire connection**

## Intel® Thunderbolt™ 3 Certified Motherboard

Powered by Intel's own Thunderbolt controller the new Thunderbolt™ 3 protocol, which is available over a USB Type-C™ connector on the back I/O of the GIGABYTE Z170X-Gaming 7, brings an unprecedented single-wire bandwidth of up to 40 Gb/s -- twice more than the previous generation of Thunderbolt! This incredible increase in bandwidth is also accompanied with support for different protocols such as DisplayPort 1.2 and USB 3.1, which is backwards compatible with USB 3.0 and USB 2.0, opening up a world of new possibilities.

To upgrade the Z170X-Gaming 7, go to: http://www.gigabyte.com/products/product-page.aspx?pid=5481#utility
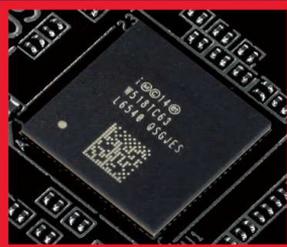
## Daisy-chain Multiple Devices

Support for DisplayPort 1.2 makes Thunderbolt™ 3 a must have for any enthusiast. The Z170X-Gaming 7 is able to support a display in 4K resolution at 60 FPS. In addition, Thunderbolt™ 3 over USB Type-C™ has revolutionary industry-first features such as Power Delivery 2.0, and the ability to daisy-chain up to 6 devices thanks to the Z170X-Gaming 7's USB Type-C™ port.

Compatibility may vary according to system configuration and device specifications.

The Intel® USB 3.1 controller utilizes 4 PCIe Gen3 lanes, offering up to 32 Gb/s total bandwidth, for uncompromised transfer speeds of up to 10 Gb/s per USB 3.1. With twice the bandwidth compared to its previous generation, and backwards compatibility with USB 2.0 and 3.0, the much improved USB 3.1 protocol is available over the new reversible USB Type-C™ and the traditional USB Standard-A connector for better compatibility over a wider range of devices.



## Connecting the Future - USB Type-C™:

**The World's Next Universal Connector**
Reversible USB Type-C™ with USB 3.1

The USB Type-C™ is a new reversible connector that is loaded with useful features such as USB 3.1 support for 10Gb/s transfer speed. Powered by the Intel® USB 3.1 controller, this little port provides the best USB Type-C™ experience possible.

* Display feature may vary by model.

to experience crisp, ultra-realistic sound effects while gaming, and the richest possible sound experience when listening to their favorite music and movies.
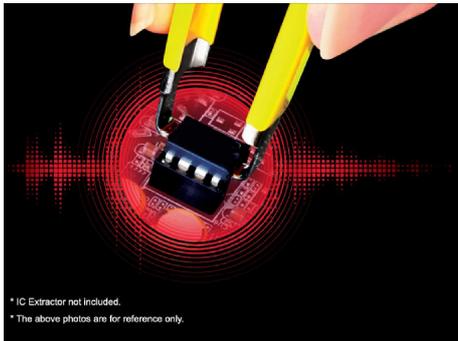


# Creative® Sound Core3D™ Quad-Core Audio Processor

Combining world's first Quad-Core Creative Sound Core3D Audio Processor Plus Advanced Creative SBX PROSTUDIO Audio Suite.

+ Harnessing the power of a Dedicated Audio Processor to offload workload from CPU

+ Total solution from Creative (Hardware +Software)

+ Richer overall audio experience

# Creative SBX Pro Studio™ Audio Suite

SBX Pro Studio™ suite of audio playback technologies deliver a new level of audio immersion. Realistic surround sound, the ability to clearly hear specific sounds in a gaming environment are just a few elements of SBX Pro Studio that enhances the overall experience, be it movies, games or music.





# GIGABYTE Exclusive : Upgradable OP-AMP

## Customizable

+ Users can choose audio quality based on individual listening preferences.
+ Wide availability of additional OP-AMPs.

## Low Cost way to dramatically improve audio quality

+ Improve audio dynamics and overall sound-quality with little cost.
+ No need for expensive speakers or high-end audio equipment.



### Exclusive onboard 'Gain Boost' selector switches

+ Select either standard 2.5x or high-amplification 6x mode.
+ 6x mode is ideal for high impedance speakers and headphones

# High End Audio Capacitors

GIGABYTE G1™ Gaming motherboards use high end, Japanese branded Nichicon audio capacitors. These professional audio capacitors deliver the highest quality sound resolution and sound expansion to create the most realistic sound effects for professional gamers.
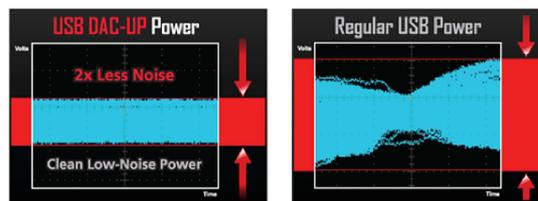
## USB DAC-UP

### Clean, low-noise power for your Digital-to-Analog Audio converter

GIGABYTE USB DAC-UP provides clean, noise-free power delivery to your Digital-to-Analog Converter. DACs can be sensitive to fluctuations in power from the other USB ports, which is why GIGABYTE USB DAC-UP takes advantage of an isolated power source that minimizes potential fluctuations and ensures the best audio experience possible.

**The above photos are for reference only.**

### HDMI 2.0 for 4K/60P/21:9/HDCP 2.2 Support

HDMI 2.0, which is backwards compatible with HDMI 1.4, offers 18 Gb/s of bandwidth – nearly twice that of the previous generation. This unlocks the potential for users to transfer multiple video streams, as well as a native cinematic 21:9 ratio (which most movies are shot in), offering the best visual experience for viewers.
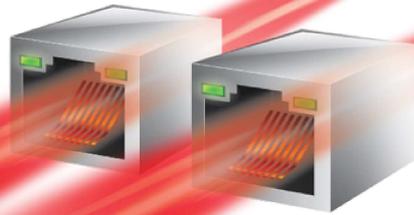
Requires the latest Intel® Graphic Driver from GIGABYTE website.

## Killer™ E2400 Gaming Network / Intel® Gigabit LAN

Killer™ E2400 is a high-performance, adaptive gigabit Ethernet controller that offers better online gaming and media performance compared to standard solutions.
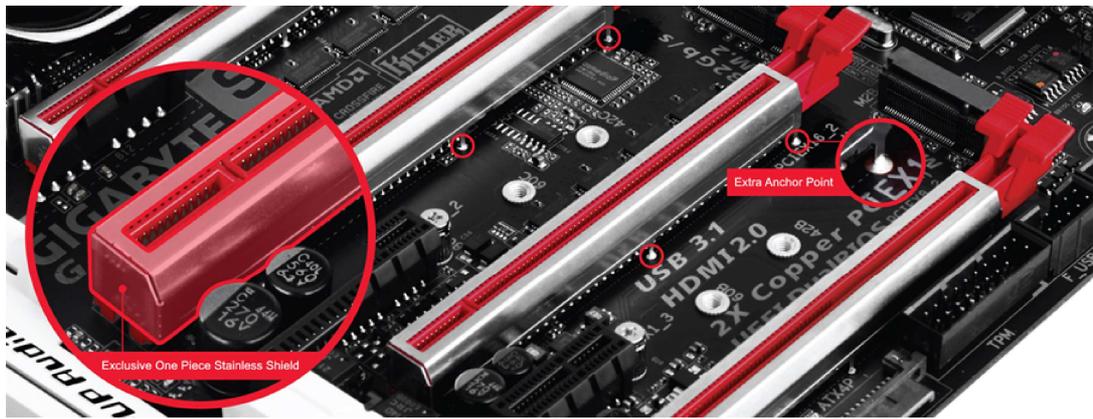
Intel® Gigabit LAN networking, a popular choice with gamers, delivers several performance-enhancing features such as advanced interrupt handling to help reduce CPU overhead and Jumbo Frame support for extra large data packets.

## 2-Way SLI™/3-Way CrossFire™ Multi-Graphics

Multi-graphics configuration offers better graphics performance for gaming enthusiasts who demand the highest frame rates without compromising on resolution.
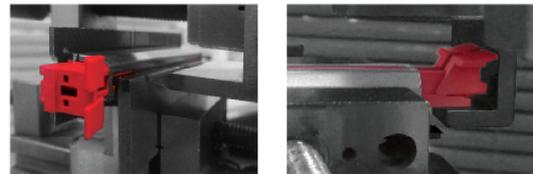
The above photos are for reference only.



# Industry Leading Ultra Durable™ PCIe Metal Shielding

The innovative one piece stainless steel shielding design from GIGABYTE reinforces the PCIe connectors to provide the extra strength required to support heavy graphics cards.





# Dual PCIe Gen3 x4 M.2

With two PCIe Gen3 x4 M.2 connectors onboard, GIGABYTE brings to the user PCI-Express connectivity for SSD devices. Delivering up to 32 Gb/s data transfer speed per connector, the dual M.2 provides an ideal storage solution as it also supports RAID modes.



The above photos are for reference only.



# Turbo B-Clock:
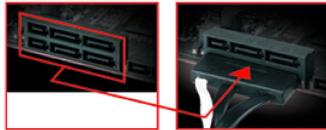
**Built-in Advanced Performance Tuning IC**

Thanks to the onboard TURBO B-Clock Tuning IC, GIGABYTE Motherboards enable Overclockers to have the ability to change their BCLK Frequency to a desired value of their choice. With the new linear range adjustment option of the Tuning IC, ranges from 90MHz to 500MHz are now possible, so that overclockers are not limited to the 5% ranges of traditional straps.

* Turbo B-Clock overclocking range may vary according to CPU capabilities.

# Next Generation SATA Express

SATA Express combines the benefits of PCI Express and SATA to provide much higher bandwidth, featuring data transfer rates of up to 16Gb/s.

The above photos are for reference only.

# All New GIGABYTE™ App Center Including EasyTune™, Cloud Station™ Utilities and More…

GIGABYTE's EasyTune™ is a simple and easy-to-use interface that allows users to fine-tune their system settings or adjust system and memory clocks and voltages in a Windows environment. With Smart Quick Boost, one click is all it takes to automatically overclock your system, giving an added performance boost when you need it the most.

## APP Center

GIGABYTE APP Center gives you easy access to a wealth of GIGABYTE apps that help you get the most from your GIGABYTE motherboard. Using a simple, unified user interface, GIGABYTE APP Center allows you to launch all GIGABYTE apps installed on your system.
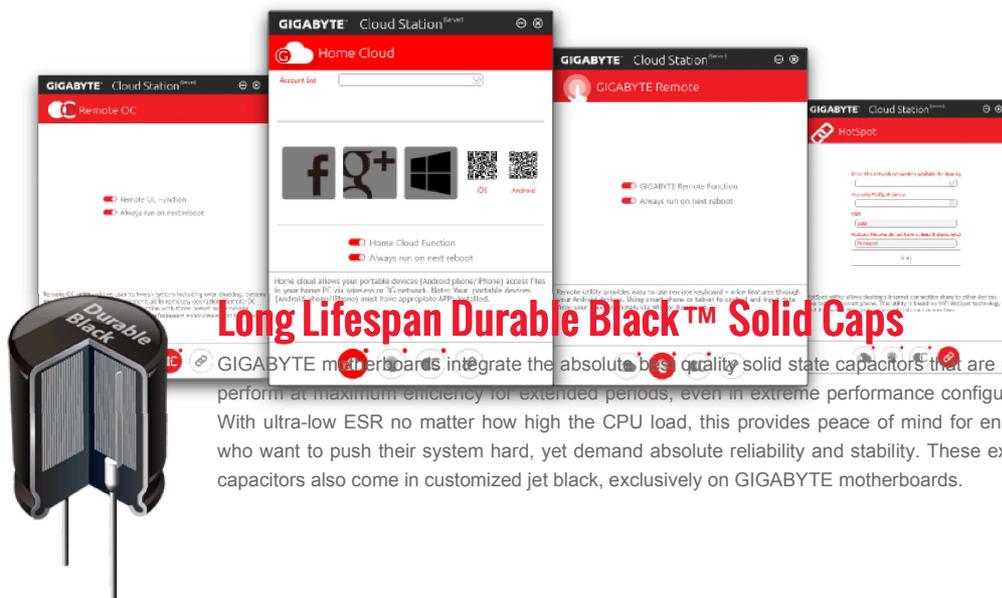
## Easy Tune™

Get the highest levels of performance from your PC with easy to use GIGABYTE overclocking features.

## Cloud Station™

GIGABYTE™ Cloud Station™ is composed of several GIGABYTE unique apps that allow your smart phones/tablet devices to communicate, share resources, and control your desktop PC via a wireless connection.

## Long Lifespan Durable Black™ Solid Caps

GIGABYTE motherboards integrate the absolute best quality solid state capacitors that are rated to perform at maximum efficiency for extended periods, even in extreme performance configurations. With ultra-low ESR no matter how high the CPU load, this provides peace of mind for end users who want to push their system hard, yet demand absolute reliability and stability. These exclusive capacitors also come in customized jet black, exclusively on GIGABYTE motherboards.

## EKWB Water Cooling Ready

Designed and engineered in co-operation with GIGABYTE®, this monoblock uses award winning EK-Supremacy EVO cooling engine to ensure best possible CPU cooling. This water block directly cools Intel LGA-1151 socket type CPU and power regulation (MOSFET) module as water flows directly over all critical areas. It is a very high flow water block that can be easily used with the system using weaker water pumps. Unlike other solution on the market, this is a true one-piece, sturdy and reliable liquid cooling product which requires only two connector fittings for proper operation.

Note: EKWB water block and it's accessories are not included with the motherboard and are not covered by the motherboard warranty. For more information about EK's water block, please visit: https://shop.ekwb.com/ek-fb-ga-z170x-monoblock-nickel

## 4K Ultra HD Support

4K resolution is the next technological milestone in high-definition content delivery, utilizing approximately 4,000 pixels on the horizontal axis, more than four times today's standard HD pixel density. GIGABYTE motherboards provide native 4K support with integrated Intel® HD Graphics via HDMI.

## HDMI™ - The Next Generation Multimedia Interface

HDMI™ is a High-Definition Multimedia Interface which provides up to 5Gb/s video transmitting bandwidth and 8-channel high quality audio all through a single cable. Able to transmit superior, uncompressed digital video and audio, HDMI™ ensures the crispest rendering of digital content up to 1080p without the quality losses associated with analog interfaces and their digital-to-analog conversion. In addition, HDMI™ is compatible with HDCP (High-bandwidth Digital Content Protection), allowing the playback of Blu-ray/HD DVD and other protected media content.

performance may vary by system configuration.

* All trademarks and logos are the properties of their respective holders.

* Due to standard PC architecture, a certain amount of memory is reserved for system usage and therefore the actual memory size is less than the stated amount.

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