intel.

The Future of Desktop Performance

The Intel® B660 Chipset & 12th Gen Intel® Core™ Desktop Processors

Experience the future of desktop performance with the Intel® B660 Chipset and 12th Generation Intel® Core™ Desktop Processors. For the first time ever, this chipset supports Intel's breakthrough performance hybrid design: Performance-cores (P-cores) to power the most demanding workloads, and Efficient-cores (E-cores) to enable smooth, seamless multi-tasking. With these processors and the B660 Chipset's full suite of technologies for performance and throughput, ultra-fast connectivity and next-generation storage, you can take control and immerse in gaming, productivity, creation and more.

Incredible Performance, Intelligent Flexibility

Whether you are designing, editing, or gaming, the B660 Chipset delivers the responsiveness, flexibility, and performance required for the most demanding workloads. To push performance of heavy-duty workloads even further, the B660 Chipset paired with the 12ᵗʰ Gen Intel® Core™ desktop processors give you features like Intel® Turbo Boost Max Technology 3.0 and Intel® Hyper-Threading Technology.[1] The B660 Chipset supports up to 14 PCIe Gen 4.0 and PCIe 3.0 lanes, increased DMI throughput from 3.0 to 4.0 for quality performance, and increased bandwidth with USB 3.2 Gen 2x2 (20G).
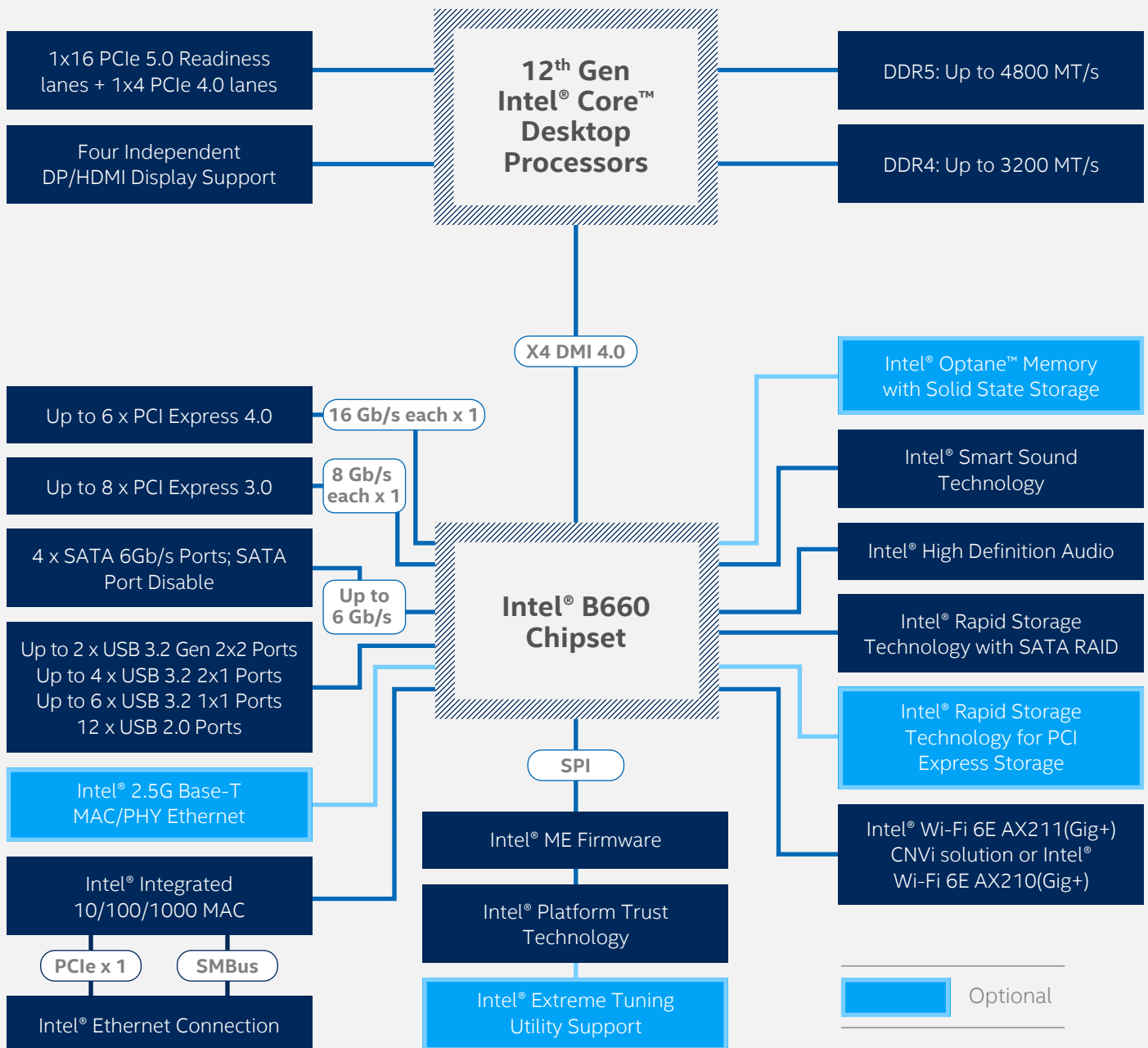
Seamless Connectivity & Storage

Maximize gaming, collaboration and creativity with the B660 Chipset's advanced connectivity and storage. The chipset supports integrated Intel® Wi-Fi 6E (Gig+) solutions,[2] which enables fast and reliable connections across new 6 GHz Wi-Fi channels. For fast, easy storage, Intel® Rapid Storage Technology provides Advanced Host Controller Interface (AHCI) support and low-power management of your SATA devices,[1] and Intel® Optane™ SSDs support storage-demanding workloads.[3] You can also tap Intel® VMD (Volume Management Device) to easily manage your storage devices.[1]

INTEL® B660 CHIPSET FEATURES AT A GLANCE

FEATURE	BENEFIT
Support for 12ᵗʰ Generation Intel® Core™ desktop processors	Supports 12ᵗʰ Generation Intel® Core™ desktop processors, Intel® Pentium® processors, and Intel® Celeron® processors.
Intel® Volume Management Device	User friendly way to manage your storage devices that allows direct control and management of NVMe SSDs from the PCIe bus without additional hardware adaptors.
Intel® Rapid Storage Technology[1]	Provides Advanced Host Controller Interface (AHCI) support and low power management of your SATA devices.
Intel® Rapid Storage Technology for SATA storage[1]	With additional SSDs and hard drives added, helps provide quick access to digital photo, video, and data files, and data protection against a hard disk drive failure with RAID 0, 1, 5, and 10.
Intel® Rapid Storage Technology for PCI Express* Storage[1]	Enables boot support and management of PCI Express*-based NVMe* SSDs with Intel® Rapid Storage Technology.
Intel® Optane™ Memory H20 with SSD (Pyramid Glacier) Support[3]	Provides performance improvements as well as fast app response times for system acceleration and responsiveness when paired with an Intel Optane memory module.
Intel® Wi-Fi 6E Support[2]	Integrated Intel® Wi-Fi 6E AX211(Gig+) CNVi solution or Intel® Wi-Fi 6E AX210(Gig+) solution allowing you to connect up to Gigabit Wi-Fi speeds.[2]
Intel® Smart Sound Technology[1]	Integrated digital signal processor (DSP) for audio offload and audio/voice features.
Intel® High Definition Audio[1]	Integrated audio support enables premium digital surround sound and delivers advanced features such as multiple audio streams and jack re-tasking.
USB 3.2 Gen 2x2	Integrated USB 3.2 Gen 2x2 support provides data transfer performance with a design data rate of up to 20 Gb/s.
USB 3.2 Gen 2x1	Integrated USB 3.2 Gen 2x1 support provides data transfer performance with a design data rate of up to 10 Gb/s.
USB 3.2 Gen 1x1	Integrated USB 3.2 Gen 1x1 support provides data transfer performance with a design data rate of up to 5 Gb/s.
USB 2.0	High-Speed USB 2.0 support with a design data rate of up to 480 Mb/s.
USB Port Disable	Enables individual USB ports to be enabled or disabled as needed. This feature helps provide added protection of data by preventing malicious removal or insertion of data through USB ports.
Serial ATA (SATA) 6 Gb/s	High-speed storage interface supporting up to 6 Gb/s transfer rates for optimal data access.
SATA Port Disable	Enables individual SATA ports to be enabled or disabled as needed. This feature helps provide added protection of data by preventing malicious removal or insertion of data through SATA ports.
Intel® Platform Trust Technology[1]	Integrated chipset hardware and firmware solution that delivers a trusted element of the platform execution to provide enhanced security by verifying the boot portion of the boot sequence which helps protect against viruses and malicious SW attacks.
PCI Express 3.0 Interface	Offers up to 8 GT/s for fast access to peripheral devices and networking with up to 8 PCI Express 3.0 lanes, configurable as x1, x2, and x4 depending on desktop motherboard designs.
PCI Express 4.0 Interface	Offers up to 16 GT/s for fast access to peripheral devices and networking with up to 6 PCI Express 4.0 lanes, configurable as x1, x2, and x4 depending on desktop motherboard designs.
Intel® Integrated 10/100/1000 MAC	Support for the Intel® Ethernet Connection I219-V.

Intel® B660 Chipset
Block Diagram

1x16 PCIe 5.0 Readiness lanes + 1x4 PCIe 4.0 lanes

Four Independent DP/HDMI Display Support

12th Gen Intel® Core™ Desktop Processors

DDR5: Up to 4800 MT/s

DDR4: Up to 3200 MT/s

X4 DMI 4.0

Up to 6 x PCI Express 4.0

16 Gb/s each x 1

Up to 8 x PCI Express 3.0

8 Gb/s each x 1

4 x SATA 6Gb/s Ports; SATA Port Disable

Up to 6 Gb/s

Intel® B660 Chipset

Up to 2 x USB 3.2 Gen 2x2 Ports
Up to 4 x USB 3.2 2x1 Ports
Up to 6 x USB 3.2 1x1 Ports
12 x USB 2.0 Ports

Intel® 2.5G Base-T MAC/PHY Ethernet

Intel® Integrated 10/100/1000 MAC

PCIe x 1

SMBus

Intel® Ethernet Connection

SPI

Intel® ME Firmware

Intel® Platform Trust Technology

Intel® Extreme Tuning Utility Support

Intel® Optane™ Memory with Solid State Storage

Intel® Smart Sound Technology

Intel® High Definition Audio

Intel® Rapid Storage Technology with SATA RAID

Intel® Rapid Storage Technology for PCI Express Storage

Intel® Wi-Fi 6E AX211(Gig+) CNVi solution or Intel® Wi-Fi 6E AX210(Gig+)

Optional

Product Brief Intel® B660 Chipset & 12th Gen Intel® Core™ Desktop Processors

Notices & Disclaimers

[1]Intel technologies' features and benefits depend on system configuration and may require enabled hardware, software or service activation. Performance varies depending on system configuration. No computer system can be absolutely secure. Check with your system manufacturer or retailer or learn more at www.intel.com.

[2]Gigabit Wi-Fi speeds based on IEEE theoretical maximum bandwidth enabled by 2x2 802.11ac 160MHz (1.733Mbps) and requires the use of similarly configured router.

[3]Intel® Optane memory requires specific hardware and software configuration. Visit www.intel.com/OptaneMemory for configuration requirements.

Performance varies by use, configuration and other factors. Learn more at www.Intel.com/PerformanceIndex.

Performance results are based on testing as of dates shown in configurations and may not reflect all publicly available updates. See backup for configuration details. No product or component can be absolutely secure.

Your costs and results may vary. Intel technologies may require enabled hardware, software or service activation.

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