

The background of the entire page is a photograph of a gaming scene. In the foreground, a man with a beard is wearing large, black and red gaming headphones and looking intently at a screen. Behind him, a woman is also wearing headphones and looking at a screen. The scene is lit with blue and red ambient light, typical of a gaming environment.

Breakthrough Desktop Performance The Intel® H670 Chipset & 12th Gen Intel® Core™ Desktop Processors

The Intel® H670 Chipset and 12th Gen Intel® Core™ desktop processors bring together advanced technologies to supercharge your desktop. For the first time, 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. Together with massive throughput, next-generation storage support, and ultra-fast connectivity, the Intel® H670 Chipset offers all the capabilities you need for responsive, immersive and engaging PC experiences.

Faster, Smoother, Stronger

Supercharge performance for gaming, productivity, photo and video editing, and more. Beyond the all-new P-cores and E-cores, the Intel® H670 Chipset paired with 12th Gen Intel® Core™ desktop processors offer features like Intel® Turbo Boost Max Technology 3.0 and Intel® Hyper-Threading Technology to tackle heavy-duty workloads.¹ The H670 Chipset supports up to 24 PCIe Gen 4.0 and PCIe Gen 3.0 lanes and increased DMI throughput from 3.0 to 4.0 for quality performance. For fast, easy storage, Intel® Rapid Storage Technology provides Advanced Host Controller Interface (AHCI) support and low-power management of your SATA devices;¹ Intel® Optane™ SSDs support storage-demanding workloads;² and Intel® VMD (Volume Management Device) can help easily manage your storage devices.¹

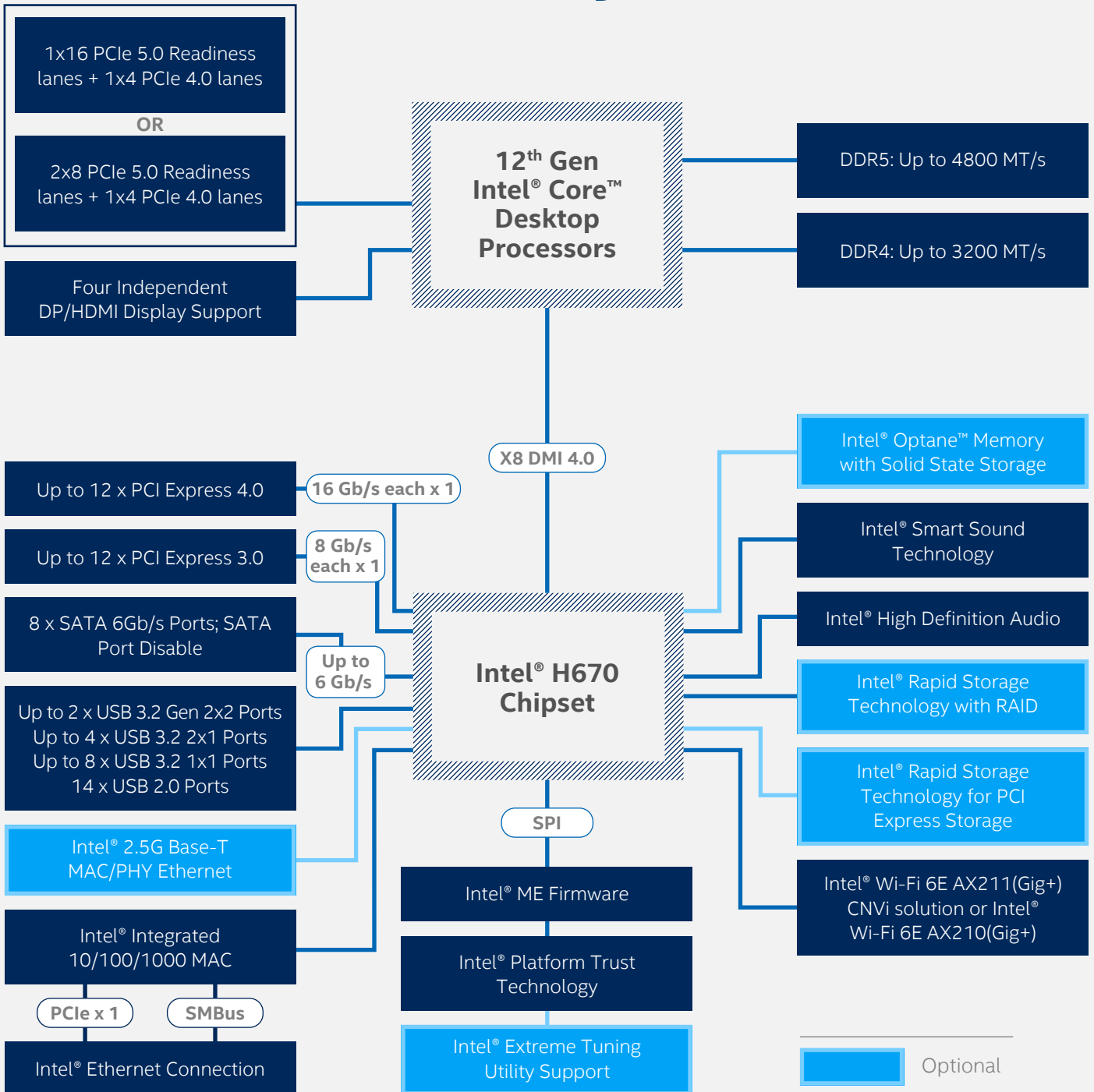
Immersive Graphics & Connectivity

The Intel® H670 Chipset brings together ultra-fast Wi-Fi with jaw-dropping visuals, so you can enjoy more immersive experiences. The chipset supports integrated Intel® Wi-Fi 6E (Gig+) solutions, which offer faster and more reliable connections across new 6 GHz Wi-Fi channels.³ Intel® UHD graphics featuring Intel® Xe^e architecture enables you to view stunning up to 5K60 HDR video in billions of colors across up to four simultaneous 4K60 displays. Now, you can achieve exceptional gaming, creation and collaboration more easily than ever.

INTEL® H670 CHIPSET FEATURES AT A GLANCE

FEATURE	BENEFIT
Support for 12 th Generation Intel® Core™ desktop processors	Supports 12 th 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 Intel® Rapid Storage Technology features such as RAID 0, 1, 5, and 10 with PCI Express*-based NVMe SSDs.
Intel® Optane™ Memory H20 with SSD (Pyramid Glacier) Support ²	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 ³	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. ³
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 12 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 12 PCI Express 4.0 lanes, configurable as x1, x2, and x4 depending on desktop motherboard designs.
12 th Generation Intel® Core™ processor PCI Express 5.0 Interface	Intel® H670 chipset-based platforms enable the processor PCI Express 5.0 lanes to be configurable as 1x16 or 2x8 depending on motherboard design.
Intel® Integrated 10/100/1000 MAC	Support for the Intel® Ethernet Connection I219-V.

Intel® H670 Chipset Block Diagram



Product Brief The Intel® H670 Chipset & 12th Gen Intel® Core™ Desktop Processors

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¹Intel 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.

²Intel® Optane memory requires specific hardware and software configuration. Visit www.intel.com/OptaneMemory for configuration requirements.

³Gigabit 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.

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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