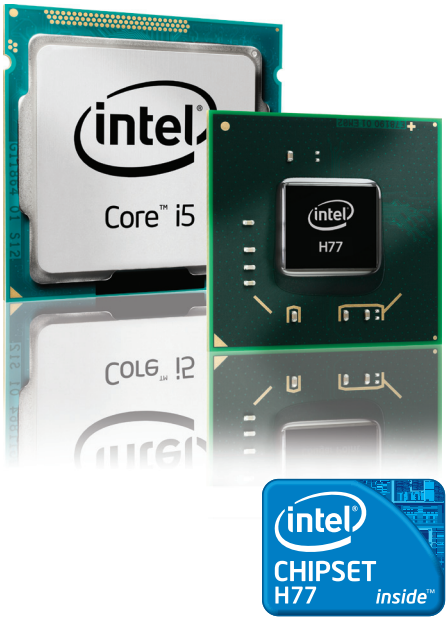
PRODUCT BRIEF
Intel® H77 Express Chipset – Everyday Performance and Responsiveness

Get Smarter Performance and Responsiveness

Intel® H77 Express Chipset and 3rd Generation Intel® Core™ Processors



The Intel® H77 Express Chipset

For smarter performance and responsiveness, look for the PC platform with the 3rd generation Intel® Core™ processor family and the new Intel® H77 Express Chipset. This new chipset features improved responsiveness that provides quicker access to your digital life. From music, video, and social media, to frequently used applications, this platform delivers the computing performance and response you need to access your favorite content for an enjoyable and entertaining PC experience.

Smarter Performance

The combination of the Intel H77 Express Chipset and 3rd generation Intel® Core™ processors delivers increased desktop performance for an incredible PC experience. You'll get maximum power for whatever you do, thanks to the combination of smart features like Intel® Turbo Boost Technology 2.0[1] and Intel® Hyper-Threading Technology,[2] which together activate full processing power exactly where and when you need it.

Increased Responsiveness

While providing SSD-like performance and large HDD capacity at lower costs, Intel® Smart Response Technology[3] performs intelligent memory caching for faster system boot time and application load time. Intel® Smart Connect Technology[4] enables instant access to your data by allowing your content to be refreshed in the standby power state—all while minimizing power consumption. In addition to faster boot and resume times, Intel® Rapid Start Technology[5] provides energy efficiency without sacrificing user experience.

Improved Built-In Visuals

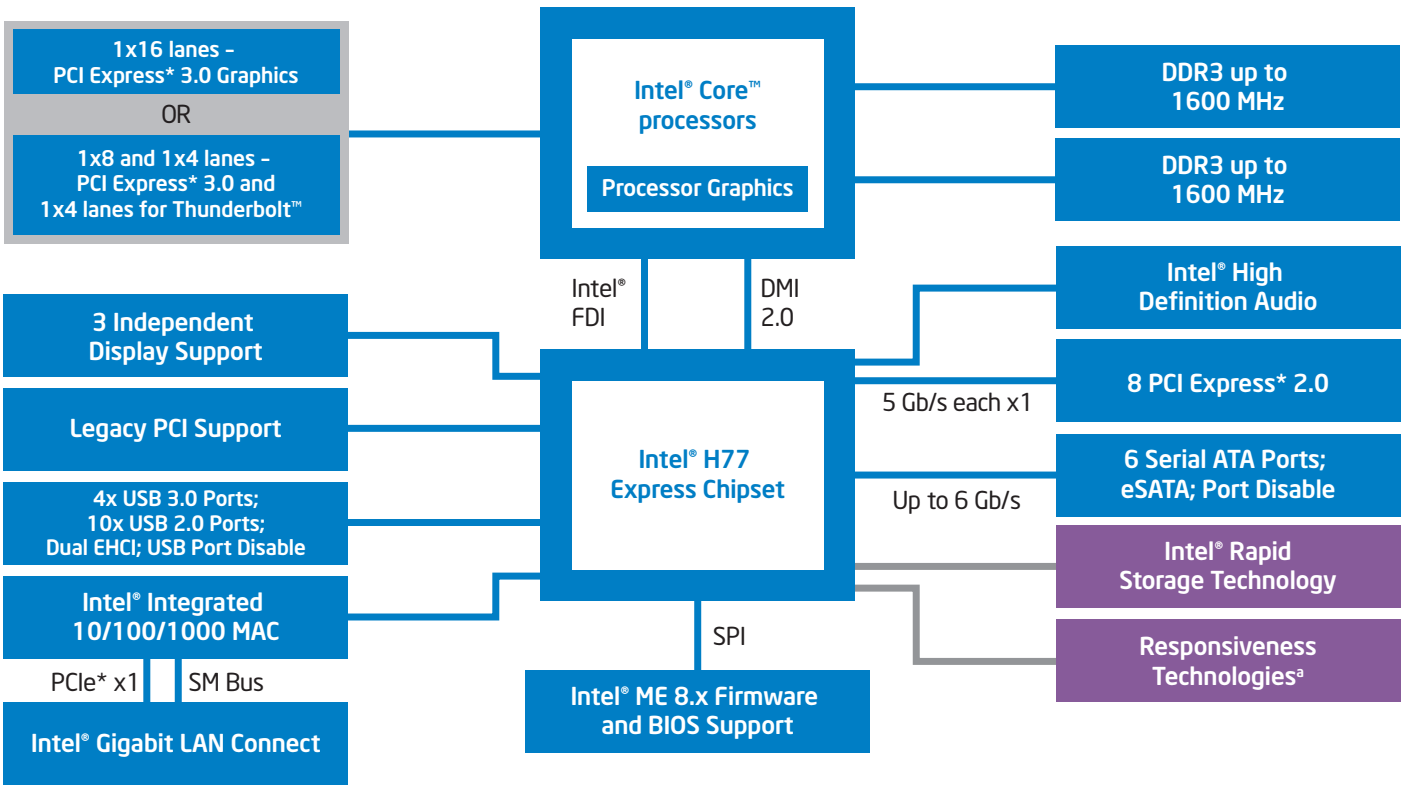
With smart performance and built-in 3D visual and graphics support, the 3rd generation Intel Core processor family will add a new dimension to your PC experience.[6] Intel® Quick Sync Video technology, our built-in hardware acceleration technology in all 3rd generation Intel Core processors, delivers astonishing video transcoding performance, enabling your PC to edit, burn, and share your content faster—without the need for add-in hardware. InTru™ 3D Technology[7] delivers 3D movie playback without interruption. The Intel H77 Express Chipset and 3rd generation Intel Core processors now come with built-in Intel® Wireless Display (Intel® WiDi),[8] allowing users to view content from their desktop PC to an Intel® WiDi-enabled TV screen. The Intel H77 Express Chipset also supports up to three displays.[9]

The Intel H77 Express Chipset delivers the latest platform features for superb system performance

Platforms based on the Intel H77 Express Chipset and 3rd generation Intel Core processors deliver the must-have capabilities for mainstream platforms. The Intel H77 Express Chipset integrates several capabilities to provide flexibility for connecting I/O devices. Integrated USB 3.0 support provides faster device connectivity for faster data access. The latest Intel® Rapid Storage Technology[10] enables the full Serial ATA (SATA) interface speed of up to 6 Gb/s to support next-generation Solid State Drives (SSDs) and traditional Hard Disk Drives (HDDs). In addition, the Intel H77 Express Chipset drives lower power through enhanced link power management of the Advanced Host Controller Interface (AHCI), enables easier expandability with support for native hot plug, and enhance boot and multitasking performance with Native Command Queuing (NCQ).

Intel® Rapid Recover Technology (part of the Intel Rapid Storage Technology suite) provides a fast, easy-to-use method for the end user to recover their data and return their system to an operational status.

Intel® H77 Express Chipset Block Diagram



[a]Includes Intel® Smart Response Technology, Intel® Rapid Start Technology and Intel® Smart Connect Technology.

Intel® H77 Express Chipset Features at a Glance

Features	Benefits
Support for 2nd and 3rd Generation Intel® Core™ processors	▪ Support for 2nd and 3rd generation Intel® Core™ processors with Turbo Boost Technology 2.0,[1] Intel® Pentium® processor, and Intel® Celeron® processor.
Intel® Rapid Storage Technology[10]	▪ With additional hard drives added, provides quicker access to digital photo, video and data files with RAID 0, 5, and 10, and greater data protection against a hard disk drive failure with RAID 1, 5, and 10. ▪ Support for external SATA (eSATA) enables the full SATA interface speed outside the chassis, up to 3 Gb/s.
Intel® Rapid Recover Technology	▪ Intel's latest data protection technology provides a recovery point that can be used to quickly recover a system should a hard drive fail or if there is data corruption. The clone can also be mounted as a read-only volume to allow a user to recover individual files.
Intel® High Definition Audio[11]	▪ Integrated audio support enables premium digital surround sound and delivers advanced features such as multiple audio streams and jack re-tasking.
Intel® Smart Response Technology[3]	▪ Implements storage I/O caching for faster response times of application startup and quicker access to user data.
Intel® Smart Connect Technology[4]	▪ Provides faster application refresh by allowing applications to be updated in a low power state.
Intel® Rapid Start Technology[5]	▪ Allows quick system resumes from the hibernate state.
Universal Serial Bus 3.0	▪ Integrated USB 3.0 support, provides greater enhancement in performance with a design data rate of up to 5 gigabits per second (Gbps) with up to 4 USB 3.0 ports.
Universal Serial Bus 2.0	▪ Hi-Speed USB 2.0 support with a design data rate of up to 480 megabits per second (Mbps) with up to 14 USB 2.0 ports.
USB 2.0 Rate Matching Hub	▪ Enables lower power requirements and manages the transition of the communication data rate from the high speed of the host controller to the lower speed of USB full-speed/low-speed devices.
Serial ATA (SATA) 6 Gb/s	▪ Next-generation high-speed storage interface supporting up to 6 Gb/s transfer rates for optimal data access with up to 2 SATA ports.
Serial ATA (SATA) 3 Gb/s	▪ High-speed storage interface supporting up to 4 SATA ports.
eSATA	▪ SATA interface designed for use with external SATA devices. Provides a link for 3 Gb/s data speeds to eliminate bottlenecks found with current external storage solutions.
SATA Port Disable	▪ Enables individual SATA ports to be enabled or disabled as needed. This feature provides added protection of data by preventing malicious removal or insertion of data through SATA ports. Especially targeted for eSATA ports.
PCI Express 2.0* Interface	▪ Offers up to 5 GT/s for fast access to peripheral devices and networking with up to 8 PCI Express 2.0 x1 ports, configurable as x2 and x4 depending on motherboard designs.
USB Port Disable	▪ Enables individual USB ports to be enabled or disabled as needed. This feature provides added protection of data by preventing malicious removal or insertion of data through USB ports.
Intel® Integrated 10/100/1000 MAC	▪ Support for the Intel® 82578DC Gigabit Network Connection.
Green Technology	▪ Manufactured with lead-free and halogen-free component packages.

For more information, visit the Intel Web site: **www.intel.com/content/www/us/en/chipsets/mainstream-chipsets/laptop-desktop-mainstream-chipsets.html**

[1] Requires a system with Intel® Turbo Boost Technology capability. Intel Turbo Boost Technology 2.0 is the next generation of Turbo Boost Technology and is only available on 2nd gen Intel® Core™ processors. Consult your PC manufacturer. Performance varies depending on hardware, software, and system configuration. For more information, visit http://www.intel.com/technology/turboboost.

[2] Requires an Intel® HT Technology enabled system, check with your PC manufacturer. Performance will vary depending on the specific hardware and software used. Not available on Intel® Core™ i5-750. For more information including details on which processors support HT Technology, visit http://www.intel.com/info/hyperthreading.

[3] Requires a select Intel® processor, Intel® software and BIOS update, Intel® wireless adapter, and Internet connectivity. Solid state memory or drive equivalent may be required. Depending on system configuration, your results may vary. Contact your system manufacturer for more information.

[4] Requires a select Intel® processor, enabled chipset, Intel Rapid Storage Technology software, and a properly configured hybrid drive (HDD + small SSD). Depending on system configuration, your results may vary. Contact your system manufacturer for more information. Intel® Smart Response Technology is not available on the Intel® Z75 Express Chipset.

[5] Requires a select Intel® processor, Intel® software and BIOS update, and Intel® Solid-State Drive (SSD). Depending on system configuration, your results may vary. Contact your system manufacturer for more information.

[6] Built-in visual features are not enabled on all PCs and optimized software may be required. Check with your system manufacturer. Learn more at http://www.intel.com/go/biv.

[7] Viewing stereo 3D content requires 3D glasses and a 3D-capable display. Physical risk factors may be present when viewing 3D material.

[8] Requires an Intel® Wireless Display-enabled system, compatible adapter, and TV. 1080p and Blu ray* or other protected content playback only available on 2nd or 3rd gen Intel® Core™ processor-based PCs with built-in visuals enabled, a compatible adapter and media player, and supporting Intel WiDi software and graphics driver installed. Consult your PC manufacturer. For more information, see www. intel.com/go/widi.

[9] Requires the use of a 3rd Generation Intel® Core™ processor. This feature is dependent on your system configuration.

[10] Intel® Rapid Storage Technology requires the computer have an Intel RST-enabled Intel chipset, RAID controller in the BIOS enabled and the Intel Rapid Storage Technology software driver installed. Please consult your system vendor for more information.

[11] Requires an Intel® HD Audio enabled system. Consult your PC manufacturer for more information. Sound quality will depend on equipment and actual implementation. For more information about Intel® HD Audio, refer to http://www.intel.com/design/chipsets/hdaudio.htm.

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