

Intel® P31 Express Chipset

Flexibility and scalability for essential computing

The Intel® P31 Express Chipset supports Intel's upcoming 45nm processors, enabling a scalable discrete platform for value conscious consumers.

The Intel P31 Express Chipset

Desktop PC platforms, combined with either the Intel® Core™2 Duo or the Intel® Core™2 Quad processor, deliver new technologies and innovating capabilities for consumers. With a 1333MHz system bus and DDR2 memory technology, the Intel® P31 Express chipset enables a scalable discrete platform for essential computing. Support for 45nm processor technology and Intel® Fast Memory Access (Intel® FMA) provide increased system performance for today's computing needs.

Intel® Viiv™ processor technology

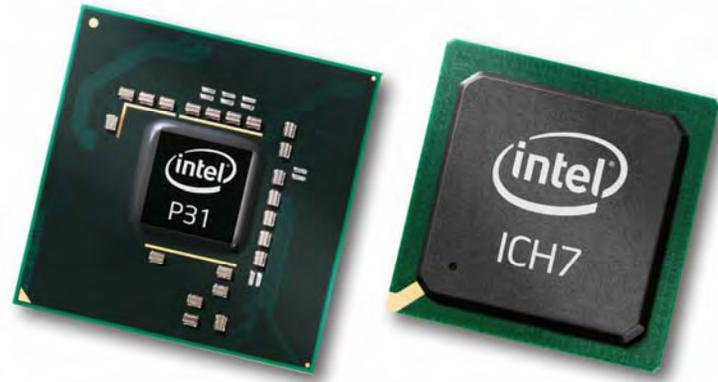
Intel® Viiv™ processor technology¹ is a set of PC technologies designed for the enjoyment of digital entertainment in the home. The Intel P31 Express Chipset supports Intel Viiv processor technology with the Intel® ICH7DH SKU.

Faster System Performance

The Intel® P31 Express Chipset Memory Controller Hub (MCH) incorporates an updated MCH backbone architecture to increase overall system performance. It supports Intel Fast Memory Access, which reduces memory access latency. This updated MCH also includes support for the next-generation 45nm Intel® Core™ processor family.

Graphics Scalability

The Intel P31 Express Chipset supports PCI Express* x16 Graphics capability, which enables scalable graphics solutions.

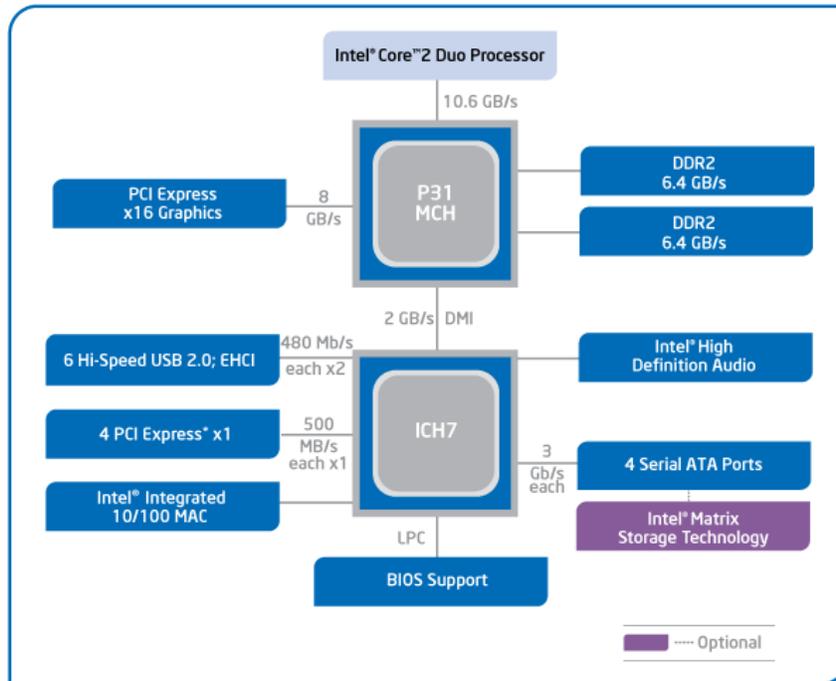


Intel® I/O Controller Hub (Intel® ICH7/R)

The Intel P31 Express Chipset elevates storage performance with Serial ATA (SATA) and enhancements to Intel® Matrix Storage Technology². This chipset has four integrated SATA ports for transfer rates up to 3 Gb/s (300 MB/s) to SATA hard drives or optical devices. Support for RAID 0, 1, 5 and 10 allows for different RAID capabilities that address specific needs and usages. For example, critical data can be stored on one array designed for high reliability, while performance-intensive applications like games can reside on a separate array designed for maximum performance. The Advanced Host Controller Interface (AHCI) provides native hot plug and boosts performance with Native Command Queuing (NCQ) for faster boot times and file transfers.

The Intel P31 Express Chipset integrates Intel® High Definition Audio³ (Intel® HD Audio) enabling premium home theater sound and delivers advanced features such as multiple audio streams and jack re-tasking.





Intel® P31 Express Chipset Block Diagram

Intel® P31 Express Chipset Features at a Glance

Feature	Benefit
1066/800 MHz System Bus	<ul style="list-style-type: none"> Supports the Intel® Core™2 Duo and the Intel® Core™2 Quad processors. Note: 1333 FSB is supported with Intel® Core™2 Duo processors only. Intel® Core™2 Quad processors are supported up to 1066MHz FSB speeds.
PCI Express* 1.1 Interface	<ul style="list-style-type: none"> The PCI Express 1.1 provides 8GB/s bandwidth for platform graphics.
Intel® Fast Memory Access	<ul style="list-style-type: none"> Updated Memory Controller Hub (MCH) backbone architecture that improves system performance by optimizing the use of available memory bandwidth and reducing the latency of the memory accesses.
Dual-Channel DDR2 Memory Support	<ul style="list-style-type: none"> Delivers up to 12.8GB/s (DDR2 800 dual 6.4GB/s) of bandwidth and 4GB memory addressability for faster system responsiveness and support of 64-bit computing.
Intel® Flex Memory Technology	<ul style="list-style-type: none"> Facilitates easier upgrades by allowing different memory sizes to be populated and remain in dual-channel mode.
Intel® High Definition Audio	<ul style="list-style-type: none"> Integrated audio support enables premium digital surround sound and delivers advanced features such as multiple audio streams and jack re-tasking
Intel® Matrix Storage	<ul style="list-style-type: none"> With a second hard drive 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.



For more information, visit the Intel Web site: www.intel.com/products/desktop/chipsets

¹ Home networking capability and many Intel® Viiv™ technology-based usage models will require additional hardware devices, software, or services. Functionality of Intel Viiv technology verified devices will vary; check product details for desired features. System and component performance and functionality will vary depending on your specific hardware and software configurations. See www.intel.com/go/viiv_info for more information.

² Intel® Matrix Storage Technology requires the computer have an MST-enabled Intel chipset, RAID controller in the BIOS enabled and the Intel Matrix Storage Technology software driver installed. Please consult your system vendor for more information.

³ Intel® High Definition Audio requires a system with an appropriate Intel chipset and a motherboard with an appropriate codec and the necessary drivers installed. System sound quality will vary depending on actual implementation, controller, codec, drivers and speakers. For more information about Intel® HD audio, refer to <http://www.intel.com/>

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64-bit computing on Intel architecture requires a computer system with a processor, chipset, BIOS, operating system, device drivers and applications enabled for Intel® 64 architecture. Performance will vary depending on your hardware and software configurations. Consult with your system vendor for more information.

Intel® High Definition Audio requires a system with an appropriate Intel chipset and a motherboard with an appropriate codec and the necessary drivers installed. System sound quality will vary depending on actual implementation, controller, codec, drivers and speakers. For more information about Intel® HD audio, refer to <http://www.intel.com/>

Home networking capability and many Intel® Viiv™ technology-based usage models will require additional hardware devices, software or services. Functionality of Intel® Viiv™ technology verified devices will vary; check product details for desired features. System and component performance and functionality will vary depending on your specific hardware and software configurations. See www.intel.com/go/viiv_info for more information.

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