



ExpressCard® Technology

Frequently Asked Questions

ExpressCard®

General

What is ExpressCard technology?

ExpressCard technology provides notebook users with the ability to expand the functionality of their notebook systems through plug-n-play modules. Users can add applications such as memory, networking, connectivity multimedia, security and storage technology. ExpressCard and PC Card slots can be found on more than 95 percent of notebook computers.

What is the ExpressCard 2.0 Standard?

ExpressCard 2.0 is the next release of the ExpressCard Standard and is being released in first quarter 2009. It was developed to accommodate the significantly faster speeds demanded by today's high-performance mobile technologies. The ExpressCard 2.0 Standard supports transfer rates ranging up to 10 times faster than the ExpressCard Standard 1.2.

The Standard complies with the PCI Express 2.0 specification with transfer rates of up to 5Gbps, two times faster than its previous version and the new SuperSpeed USB, with speeds of 5Gbps or 10 times faster than Hi-Speed USB. ExpressCard 2.0 products will be backward compatible with previously released compliant products. The new Standard is now available, with products projected for 2010.

What are the popular ExpressCard applications?

Vendors are developing and offering a wide array of products in security, multimedia, networking and memory. Current ExpressCard "plug 'n' play" applications include memory, local area network (LAN), wireless broadband (WWAN), Wi-Fi, memory adapters, parallel adapters, serial adapters, TV tuners, smart-card readers, instrumentation, 1394A&B adapters, serial Advanced Technology Attachment (SATA) adapters and USB adapters.

ExpressCard 2.0 adds very high-performance functionality, including support for:

- eSATA or high-speed connections to external hard drives;
- Very high-performance streaming media video and external graphics adapters; and
- Very high-performance, high-capacity storage devices, such as solid-state drives.

What are the advantages of ExpressCard technology for consumers?

ExpressCard products deliver an easy, secure way of adding functionality to Mac and PC notebooks – while improving speed and reliability. ExpressCard products have been embraced by leading vendors and must pass

a rigorous compliance program to assure interoperability. Other benefits include:

- Consumer-friendly, easy to use technology;
- Plug'n'play, auto-configurable and hot swappable;
- Smaller size module supports faster performance;
- Delivers access to emerging technologies (eSATA, solid-state storage, streaming video, WiMAX).

Who developed the standard?

The ExpressCard standard was created by a broad coalition of computer manufacturers, including AMD, Dell, Fujitsu Siemens, HP, Intel, Lenovo, Lexar Media, LG Electronics, Microsoft, Qualcomm, SanDisk, Sony, Texas Instruments and Toshiba.

PCMCIA developed the new standard with assistance from the USB Implementers Forum (USB-IF*) and the PCI-SIG* (Peripheral Component Interconnect-Special Interest Group). PCMCIA is a non-profit trade association founded in 1989 to establish technical standards for PC Card technology and to promote interchangeability among computer systems.

What is the expected adoption rate of ExpressCard technology?

ExpressCard adoption is evolving quickly. Almost all consumer laptops now feature ExpressCard slots. Corporate adoption is also rising, but at a slightly slower pace. Recent trends indicate that the adoption rate may be progressing even faster than projected.

What size are ExpressCard modules?

There are two sizes of ExpressCard modules. One is 34mm wide (ExpressCard/34) and the other is 54mm (ExpressCard/54). Both modules are 75mm long and 5mm thick. The larger size module supports applications do not fit on a 34mm size module, like smart-card readers and rotating disk storage.

The Universal slot is 54mm wide and fits both modules. A 34mm slot accepts only 34mm modules. All modules are designed to be plug-n-play.

Operating System Compatibility

Which operating systems does ExpressCard technology work with?

ExpressCard technology is designed to be operating system independent. Products are available that work with all major operating systems, such as Windows, Vista, MacOS and Linux. Users are advised to check with the module vendor to see if they supply the

necessary software drivers for their ExpressCard products.

ExpressCard Applications

Does ExpressCard technology support cellular wireless access?

Yes, the ExpressCard standard supports cellular wireless access and both US and European standards, including EV-DO and HSPDA.

Does the ExpressCard standard support IEEE 1394a/b (Firewire)?

The ExpressCard Standard supports both IEEE standard 1394a/FireWire 400 and 1394b/FireWire 800 for high-speed data transfer of digital video or external disk drives.

What memory and storage media are supported?

A wide variety of storage types, including CompactFlash, SD, xD, Memory Stick, MultiMedia Card (MMC), Memory Stick Pro, are currently supported. ExpressCard 2.0 products will support solid-state storage, such as SxS.

Is ExpressCard technology used in desktop or other systems?

Manufacturers are using ExpressCard technology in small form-factor systems that share similar real estate requirements to notebook systems. For example, ExpressCard slots can be found in some netbooks, the new, streamlined computers now coming on the market. Currently, adapters are available that allow desktop systems to accept ExpressCard modules. Developers are looking at how to apply ExpressCard technology to desktops, especially small form factor, 'sealed box' systems.

ExpressCard vs. PC Card

How is it related to CardBus and PC Card?

Both product standards were developed by PCMCIA. PC Card™, CardBus® and ExpressCard® technology are used in 95%+ of notebook computers to provide added functionality for the user.

ExpressCard technology draws upon many of the features of existing PC Card technology. There are also significant differences between the two.

Size. ExpressCard modules are roughly half the size and weight.

Speed. ExpressCard modules are capable of speeds up to 2.5X faster than CardBus™ and up to 40X faster than 16-bit I/O PC Cards (depending on the application).

Design. The ExpressCard standard takes advantage of direct connection to the PCI Express® and USB® interfaces to greatly simplify the design. This helps reduce manufacturing costs.

Ease of use. The modules are hot-swappable between any ExpressCard-equipped systems. They are also plug-n-play.

Power. ExpressCard modules require less power.

While related, the two technologies are not compatible. The decision was made to take advantage of advances in technology to simplify the design of ExpressCard products.

ExpressCard Information

What does the ExpressCard orange rabbit stand for?

Compliant systems and modules are able to display the ExpressCard logo—an orange rabbit that tells consumers that ExpressCard products are interoperable, hot swappable and plug'n'play. Products that display this logo confirm that the company is an official member of PCMCIA and that the product has passed a rigorous two-step ExpressCard compliance program. A new product compliance and logo program will be phased in once the ExpressCard 2.0 Standard is released.

Where can ExpressCard modules be purchased?

Products are available directly from vendors or through resellers. They can be found online or in many retail computer stores. A list of available compliant products can be viewed at www.expresscard.org.

Where can I learn more about ExpressCard technology?

You can visit the ExpressCard web site at www.expresscard.org for news and other information about the ExpressCard Standard. A short tutorial about the technology is available at: <http://www.expresscard.org/web/site/ecu00.jsp>

For more information, please visit
www.expresscard.org