



ExpressCard™

ExpressCard® Technology

Frequently Asked Questions

General

What is ExpressCard technology?

ExpressCard technology provides users with the ability to easily add features that aren't part of their computers when they purchase them. ExpressCard technology includes both modules and the computer slots. Users can expand the functionality of their computers by adding memory, networking, multimedia, security and wireless modules.

How is it related to the PC Card?

Both product standards were developed by PCMCIA. PC Card™ and ExpressCard® [technology](#) are used in 95%+ of notebook computers to provide added functionality for the user. ExpressCard [technology](#) replaces the PC Card as the 'next generation' solution for add-in capabilities for computers. It gives computer users access to emerging, high-speed new technologies, like digital TV and WiMax.

How is this so different from the PC Card?

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 lighter.

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 recent technology advancements to simplify the design. It can also help 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.

Who developed the standard?

The ExpressCard standard was created by a broad coalition of computer manufacturers, including Dell, Hewlett Packard, Intel, Lexar Media, Microsoft, SCM Microsystems and Texas Instruments. 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.

Are PC Cards and ExpressCard modules compatible?

The two technologies are not compatible. The decision was made to take advantage of advances in technology to simplify the design of ExpressCard products. The higher performance and smaller size offered by the new ExpressCard design outweighed the backward compatibility issues. Adapters are available for users who want to use a PC Card in an ExpressCard slot.

When is ExpressCard technology available?

It is available now, in a wide variety of notebook computers and modules.

Is there any hot application for ExpressCard?

There are a wide variety of applications for ExpressCard technology. Because consumers vary in what applications they need for their notebooks, vendors are developing and offering a wide array of products in security, multimedia, networking and memory. The ExpressCard standard was developed to accommodate this wide variety of needs.

How It Works

Are there two types of ExpressCard slots?

Yes, there are. The ExpressCard Standard supports two slots. The universal slot accepts both 54mm and 34mm modules. The 34mm slot accepts 34mm size only. Some notebooks offer both PC Card and ExpressCard slots to help ease the transition for consumers.

Why do ExpressCard modules come in two sizes?

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 34mm module will also work in the slot designed for the 54mm wide modules, but not vice versa. The two sizes accommodate the fact that some applications will not fit into the 34mm slot, such as rotating disk media and Smart Card readers.

How are ExpressCard modules inserted and ejected from the slot?

All modules are designed to be plug-n-play. The universal slot is 54mm wide. If you are inserting a 54mm module into the universal slot, find the short side of the module where you can see small metal pins. Slide that side into the ExpressCard slot and press gently. The module should pop into place automatically.

If you are inserting a 34 mm module into the universal slot, insert the module straight into the wide opening and the internal guide will gently direct the 34 mm module to the left side of the slot to connect with the computer's ExpressCard connector.

Operating System Compatibility

Does ExpressCard technology work with Windows® XP? How about the upcoming Microsoft Vista™?

ExpressCard technology is designed to be operating system independent. Products are available that work with all major operating systems.

Do ExpressCard modules work with Apple® computers?

Yes, these modules are designed to work with any operating system, including the Mac OS. Users are advised to check if the module vendor supplies the necessary Mac software drivers.

Do ExpressCard modules work with Linux computers?

ExpressCard modules should work with Linux computers. Users are advised to check that Linux drivers are available for any ExpressCard products they purchase.

ExpressCard Applications

Can ExpressCard technology be used in desktop systems?

ExpressCard technology can be incorporated into desktop systems. Manufacturers have been looking at how to use ExpressCard technology in desktops, especially small form-factor systems that share similar real estate requirements to notebook systems.

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.

Are ExpressCard modules that support EV-DO available?

EVDO or Evolution Data Only, Evolution Data Optimized (often abbreviated as EVDO, EV-DO) provides fast wireless broadband access (3G) without needing a WiFi hotspot. Your notebook is the hotspot for high-speed Internet access from anywhere. These products are available online through many wireless carriers.

Does the ExpressCard support CompactFlash®?

The ExpressCard standard supports CompactFlash in both the 34mm and Universal (54mm) slot size. ExpressCard

CompactFlash readers are currently available online. (See www.expresscard.org).

Does the ExpressCard standard support Firewire?

FireWire is supported in both sizes. Firewire 800 is available in the 54mm size and Firewire 400 in ExpressCard 34mm. Firewire was developed by Apple in 1995 for high-speed data transfer, such as digital video.

What storage media is supported?

ExpressCard technology supports any memory storage type. Six different storage types--CompactFlash, SD, xD, Memory Stick, MultiMedia Card (MMC), Memory Stick Pro—are currently being supported. You also have the option of purchasing an ExpressCard module that can be used as a storage media.

ExpressCard Industry

What is the expected adoption rate of ExpressCard technology?

ExpressCard adoption is evolving quickly as many notebook vendors have embraced this technology. Some notebooks offer both PC Card and ExpressCard slots; some have moved to ExpressCard slots only. IDC, in its Interface Report (to be published in Feb. 2007), estimates a penetration rate of 67.2% of notebooks shipped by 2010. Recent trends indicate that the adoption rate for the technology may be progressing even faster than projected.

What are the advantages of ExpressCard technology for consumers?

ExpressCard products deliver an easy, secure way of adding functionality to Apple and PC laptops – while improving speed and reliability. Users will be satisfied with their compliant ExpressCard products based on a standard embraced by leading vendors. Benefits include:

- Friendly, easy to use technology
- Hot swappable between mobile & desktop systems
- Auto-configurable
- Smaller module with higher performance
- Plug'n'play access to emerging technologies (HDTV, etc.)

Where can ExpressCard module be purchased?

Products are available directly from vendors and through resellers. Currently, notebooks are available online and through resellers. Modules are primarily available online. A list of available products can be viewed on the Where to Buy page and the Product Resource Directory at www.expresscard.org.

For more information, please visit
www.expresscard.org