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Abstract	The ExpressCard standard features hot-plugging, which works differently on notebooks and desktop computers. This Application Note describes the important differences.

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1.0 Overview

ExpressCards offer a lot of advantages like higher bandwidth or short latencies in notebooks. With these enhancements the prior standard PCMCIA will be replaced more and more. Today most notebooks do not have PCMCIA slots anymore, but are already prepared for ExpressCard. Vector follows this development and uses the technological advantages of the ExpressCard standard in new products.

The ExpressCard standard features hot-plugging, but in certain cases it might not work properly. Read the following sections for details.

2.0 ExpressCard Insertion and Removal in Windows

2.1 Notebooks

The insertion and removal of ExpressCards in notebooks is possible at runtime with no restrictions. Windows 2000, XP and Vista are hot-plug capable and recognize those hardware changes at any time.

2.2 Desktop Computers

The hot-plug capability on desktop computers is currently restricted by the BIOS and requires ExpressCards being inserted before booting the computer. Otherwise the hardware will not be detected.

Detection is also not fully possible at runtime, if the prior detected ExpressCard is removed and plugged in again. The hardware will be deactivated in the Device Manager of Windows in this case and must be activated again manually. After an ExpressCard driver has been updated, the hardware will be deactivated, too. Reactivate the hardware in the Device Manager or reboot the system in this case.

Future BIOS versions might be able to support hot-plugging also in desktop computers.

Further technical details on this topic can be found at:

http://download.microsoft.com/download/9/c/5/9c5b2167-8017-4bae-9fde-d599bac8184a/BIOS_PCl_e_HotPlug.doc

<http://www.microsoft.com/whdc/connect/pci/default.msp>

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