PC CARD STANDARD

Volume 1

Overview and Glossary

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JEIDA

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1. INTRODUCTION

This Overview describes the Personal Computer Memory Card International Association (PCMCIA) and the Japan Electronic Industry Development Association (JEIDA) PC Card™ Standard which is the result of countless hours of effort by the members of JEIDA and PCMCIA. PCMCIA and JEIDA are grateful for and acknowledge the dedicated efforts of the PCMCIA and JEIDA staff and volunteer members in the creation and production of this Standard.

1.1 PC Card Standard Overview

The Personal Computer Memory Card International Association has an international membership comprising hundreds of member companies from all disciplines: computer manufacturers, semiconductor companies, peripheral vendors, software developers, and more. The Japan Electronic Industry Development Association was established in 1958 as a non-profit organization interested in contributing to Japan's economic prosperity by stimulating development in the electronics industry. PCMCIA and JEIDA have developed a standard for a credit card-sized adapter, called a 'PC Card' that does for notebook and other portable computers what the AT bus did for desktop PCs — provide universal, non-proprietary expansion capability.

The ***Physical Specification*** defines a 68-pin interface between the peripheral card and the PC Card 'socket' into which it gets inserted. It also defines two standard form factors, full-size and Small PC Cards, each in three thicknesses, called Type I, Type II and Type III. Type I, the smallest form factor, often used for memory cards, measures 3.3 mm in thickness. Type II, available for those peripherals requiring taller components such as LAN cards and modems, measures 5 mm thick. Type III is the tallest form factor and measures 10.5 mm thick. Type III PC Cards can support small rotating disks and other tall components. Smaller size cards can always fit into larger sockets but the reverse is not true.

The ***Electrical Specification*** defines three basic classes of PC Cards: 16-bit PC Cards, 32-bit CardBus PC Cards, and Custom Interface PC Cards. Defined are characteristics of each interface including power, signaling, configuration, and timing requirements. Also, the ***PC Card Host System Specification*** describes host-side power management and a thermal ratings system.

In addition to specifying electrical and physical requirements, the ***PC Card Standard*** has also defined a software architecture to provide "plug and play" capability across the widest possible range of products. The ***Socket Services Specification*** defines a BIOS level interface that masks the hardware implementation from card vendors' drivers. It identifies how many sockets are in the host and when a card is inserted or removed from a socket. It prevents the card driver from having to talk directly to a specific chip. The ***Card Services Specification*** defines an Application Programming Interface that interfaces to Socket Services and automatically provides management of system resources, such as interrupt assignments and memory windows, for cards as they become active in the system. Also, the ***Metaformat Specification*** defines the structure and contents of card description information called the Card Information Structure.

The ***PC Card Standard*** also includes three application specific specifications. The ***Media Storage Formats Specification*** defines how data are to be formatted on some PC Card storage devices. The ***PC Card ATA Specification*** defines the operation of mass storage devices using the ANSI ATA Interface for Disk Drives in the PC Card environment. The ***XIP Specification*** defines a method to directly execute applications from ROM without loading the image into RAM. Also included is a set of ***Guidelines*** intended to assist developers with implementation examples along with further explanations of the ***PC Card Standard***.

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