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PowerBook 500 Series: PDS & PCMCIA Support (3/95)

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TOPIC -----

This article describes the Processor Direct Slot (PDS) on the PowerBook 500 series (520, 520c, 540, and 540c), and the use of the Personal Computer Memory Card Information Association (PCMCIA) adapter.

DISCUSSION -----

The PowerBook 500 series has an internal PDS connector that provides access to its 030-based I/O bus, which is accessible through a battery bay. Each of these PowerBooks has two battery bays. The left battery bay can be used as the processor direct slot for high-speed access to the system's processor.

The I/O bus provides direct access to all parts of the machine with the exception of the DRAM and ROM. An ASIC supplies bus arbitration logic to let plug in cards act a bus masters, as long as they conform to 68030 bus protocols. This PDS expansion slot can be used for different modules, and is a 16 bit 68030 16Mhz data bus that occupies the second battery on the PowerBook 500 series.

One of the possible PDS expansion options is the PCMCIA Expansion Module which slides into the left battery bay. The innovative module design provides slots for two Type I or Type II PCMCIA cards or a single Type III card. The module itself can only be installed or removed when the PowerBook power is turned off.

What is PCMCIA?

PCMCIA is a standard for small, credit-card sized modems and other external notebook computer devices. PCMCIA standards define the size and pin configuration for these devices.

Cards used in PCMCIA expansion slots, regardless of manufacturer, are commonly referred to as PC Cards.

PCMCIA Expansion Module

PCMCIA is rapidly becoming a defacto standard for all mobile computers. This Macintosh implementation offers a new level of ease-of-use not seen in the

industry's PCMCIA other implementation (DOS, Intel x86 platforms) with the use of software eject for Cards as well as the complete integration of the PCMCIA cards into the Macintosh desktop.

The PCMCIA Expansion Module can ONLY be inserted or removed while the PowerBook is off. Insertion or removal of the PDS Module at any other time will result in the PowerBook being reset.

PowerBook computers and PCMCIA expansion are a natural pair. PCMCIA provides a simple light-weight method for PowerBook expansion without adding significant power drain. The PowerBook PCMCIA implementation is a two-phase process. Initially, mass storage, memory, and modems are the only types of PCMCIA devices that are supported. A full range of PCMCIA devices, including network interface cards, will be supported in the future. If you purchase a phase one PCMCIA Expansion Module, you will be able to upgrade your units by downloading a new ROM image into the module's flash ROM. Other software, residing in the system, will also be upgraded.

Article Change History:

- 31 Mar 1995 - Reviewed for technical accuracy.
- 15 Dec 1994 - Added keyword and definition of PCMCIA; other minor changes.
- 25 Aug 1994 - Revised title slightly.

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