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## DOS Compatibility Cards and Supported Protocols (8/96)

Article Created: 7 August 1996

### TOPIC -----

Which non-AppleTalk protocols, such as IP, IPX, and DECNet, work with the DOS Compatibility Card through the following network interfaces:

- Built-in Ethernet
- PCI Ethernet cards
- PCI Token Ring cards
- Communications Slot (Power Macintosh 5400) Ethernet cards

### DISCUSSION -----

The DOS Compatibility cards do not support Token Ring in any form, and the software on the DOS Compatibility Installer disk can only use the built-in Ethernet Interface when one is present (Communication Slot Ethernet cards can be used on computers without built-in Ethernet interfaces), it also cannot use cards in the PCI slots for I/O.

Apple's software requires that any packet coming into a Macintosh be delivered to either the Macintosh, or DOS environments (packets cannot go to both at the same time) depending on the frame type of the received packet. These destinations are determined by each OS as they register their protocol and frame types within the Macintosh computer at startup. Once a particular frame type is registered all packets of that frame type addressed to the computer are delivered to the associated environment.

This element of our architecture has been responsible for the historical limitation of running TCP/IP only in one environment at a time. TCP/IP is practically implemented only with Ethernet\_II frame types, since all packets of one frame type go to only one environment...

With the introduction of the Power Macintosh 7200/90 (in Europe ONLY), 7200/120, 7600/120, 8500/132, 8500/150, and 9500/150 a new Ethernet controller ASIC called Curio Prime is used. This chip implements two hardware Ethernet addresses for the single built-in Ethernet interface. One is used by the Mac OS and the other is for DOS Compatible use only. Since these computers have two hardware addresses the DOS compatible architecture can now deliver a particular frame type to different addresses which removes the limitation of each frame type going to only one environment.

The presence of this Curio Prime ASIC is the biggest factor in determining a particular Macintosh computer's networking capability with DOS compatible cards.

AppleTalk, IPX, TCP/IP and DECNet can be used in either OS. They can all be used by both environments if the Curio Prime ASIC is present, except for the following:

- DECNet/DOS will not run on any Macintosh computers.
- DECNet will not run on a Power Macintosh 5400 Mac OS environment.
- IPX will not run on a Power Macintosh 5400 Mac OS environment, but will run on a Power Macintosh 5400 DOS environment.

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Keywords: kwindows,knts

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19960807 15:37:52.00

Tech Info Library Article Number: 20262