Apple Token Ring 4/16 NB Card
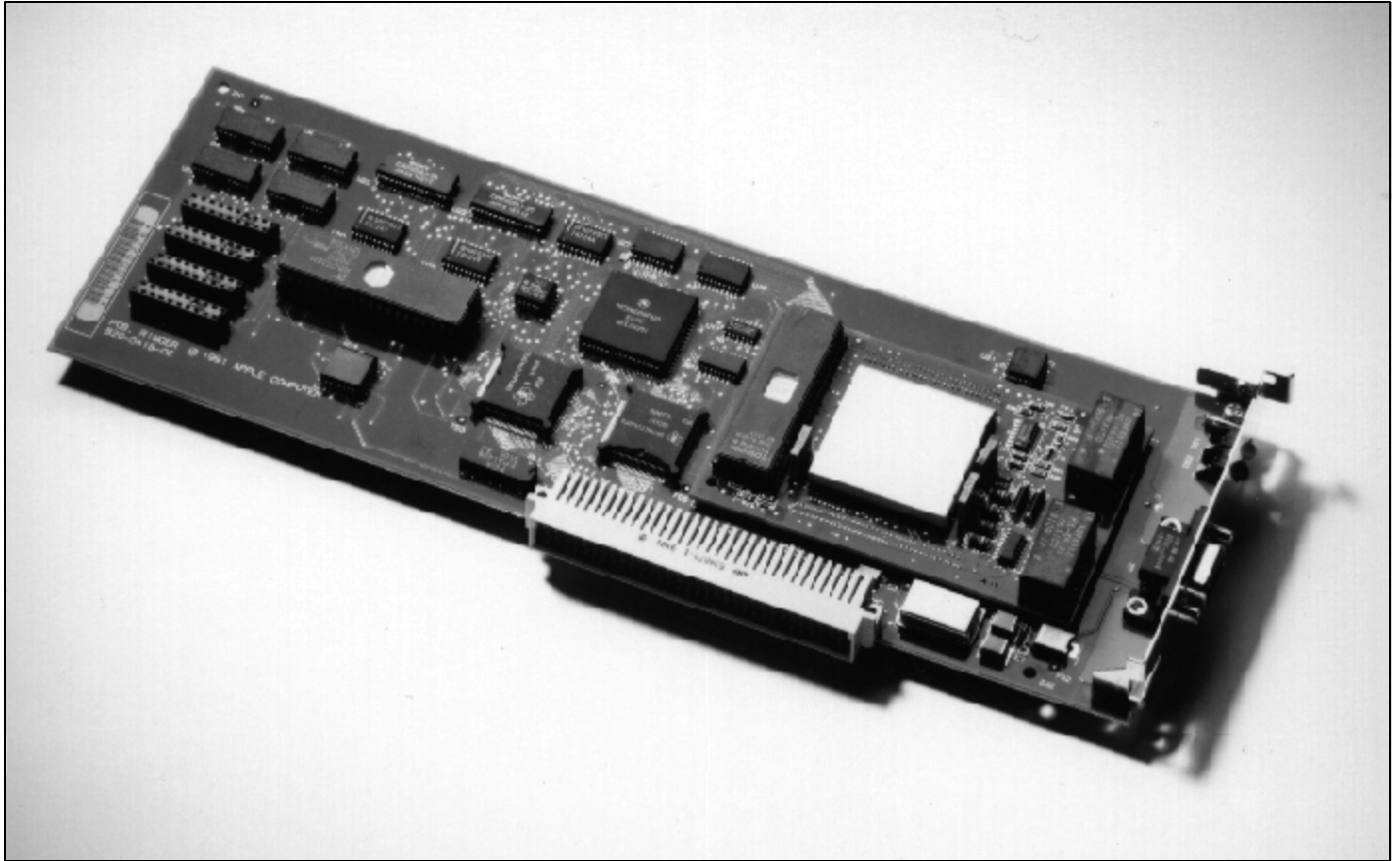

The Apple Token Ring 4/16 NB Card is a bus master network interface card that allows Macintosh computers with NuBus§ expansion slots to connect to Token Ring networks that operate at either 4 or 16 megabits per second (Mbps). The card is based on the Macintosh Coprocessor Platform, and includes its own Motorola 68000 microprocessor, 512K of RAM, and A/ROSE, a real-time, multitasking operating system that runs on the card. The card operates independently of the main Macintosh processor, executing multiple networking protocols or network application programs concurrently. This maximizes both system and network performance.

The Token Ring 4/16 NB Card uses the IBM Token Ring chip set, ensuring compatibility and interoperability with all IBM Token Ring networks that operate at 4 or 16 Mbps. The card also supports a variety of software environments, including AppleTalk, 3270, and APPC. This flexibility provides users connected to Token Ring networks with access to both local area network (LAN) and mainframe-based services.

Features

Apple Token Ring 4/16 NB Card
> Connection to IEEE 802.5 and 802.2 industry-standard Token Ring networks
> Software-switchable 4 and 16 Mbps speeds
> IBM Token Ring chip set; DB-9 connector formatting to IBM-type cabling
> Includes TokenTalk software
> Password-protected speed selection, timer settings, and locally administered address

All Macintosh Coprocessor Platform Cards
> Multiprocessor, bus master architecture
> Motorola 68000 microprocessor
> 512K RAM, expandable to 2.5 MB RAM
> Apple Real-time Multitasking Operating System Environment (A/ROSE)

Apple Token Ring 4/16 NB Card

Technical Specifications

Hardware
> Chipset: IBM Token Ring
> Connector: DB-9 connector for attaching to IBM Type 1 cabling. External adapters for Type 3 cabling are available from other vendors
> Processor: Motorola 68000 running at 10 Mhz
> Bus interface: NuBus bus master
> Memory: 512K of RAM, expandable to 2.5 megabytes
> Power requirements: 1.5 amps at 5 volts Certification: FCC Class A; VDE
> Expansion memory: When increasing memory on the card, the following specifications must be met.
  Type: Dynamic RAM
  Size: 256K x 4 (for expanding to 1 MB) or 1 MB x 4 (for expanding to 2.5 MB)
  Configuration: 4 bits wide
  Package: ZIP
  Speed: 120 ns or faster
  To expand the Token Ring 4/16 NB Card memory to 1 MB, order the Macintosh Coprocessor Platform Memory Expansion Kit (see details below under "Ordering Information and Related Products"). Or, obtain the following parts:
  Mitsubishi part M5M44C256L-12
  Hitachi part HM514256ZP-12

To expand the Token Ring 4/16 NB Card memory to 2.5 MB, obtain the following parts:
Toshiba part TC514400z-10
Texas Instruments part TMS44400-12SD

Software
> Application interface: AppleTalk, Apple 3270 API, APPC verb interface
> LLC implementation: Type 1 and Type 2
> Routing: Supports IBM source routing

Software - Configurable Card Settings
> Transmission speed: 4 or 16 megabits per second
> Token Ring address: burned-in or locally administered address
> Timers: Response (T1), Acknowledge (T2), and Inactivity (Ti)
> Card settings can be password-protected

Token Ring Cabling Specifications
Shielded twisted-pair (IBM Type 1 cabling)
> Maximum distance from multistation access unit (MAU) to device (lobe length) = 300 meters
> Maximum distance between two MAUs (trunk length) = 200 meters
> Maximum devices per ring = 260

Unshielded twisted-pair (IBM Type 3 cabling)
> Maximum distance from MAU to device (lobe length) = 100 meters
> Maximum distance between two MAUs (trunk length) = 120 meters
> Maximum devices per ring = 72

Ordering Information and Related Products

Apple Token Ring 4/16 NB Card
Order No. M0415LL/A

With your order, you'll receive:
> Apple Token Ring 4/16 NB Card
> TokenTalk software installer disk
> *Apple Token Ring 4/16 NB Card User's Guide*

Related Products
For 3270 terminal emulation and/or APPC services, order:
Apple SNA·ps Gateway version 1.1 or later. SNA·ps requires at least 1 megabyte of RAM on the card.

To increase memory, order:
Macintosh Coprocessor Platform Memory Expansion Kit. Order No. M0145LL/A

You can also use products from other vendors to increase the memory on the card. See details under "Hardware" above.