

Documentation

Mac Pro (Early 2008) - Technical Specifications

	Standard Configuration (MA970LL/A)	Build-to-Order Options
Processor	Two 2.8GHz Quad-Core Intel Xeon processors	Two 3.0GHz or 3.2GHz Quad-Core Intel Xeon processors One 2.8GHz Quad-Core Intel Xeon processor
Memory	2GB (two 1GB) of 800MHz DDR2 ECC fully buffered DIMM	4GB (four 1GB) 8GB (four 2GB) 16GB (four 4GB) 16GB (eight 2GB) 32GB (eight 4GB)
PCI Express graphics	ATI Radeon HD 2600 XT 256MB (two dual-link DVI ports)	NVIDIA GeForce 8800 GT 512MB (two dual-link DVI ports) NVIDIA Quadro FX 5600 1.5GB (stereo 3D, two dual-link DVI ports) Two ATI Radeon HD 2600 XT 256MB Three ATI Radeon HD 2600 XT 256MB Four ATI Radeon HD 2600 XT 256MB
Hard disk drive	320GB Serial ATA 3Gb/s; 7200 rpm; 8MB cache	Hard Drive Bay 1 500GB Serial ATA 3Gb/s; 7200 rpm; 16MB cache 750GB Serial ATA 3Gb/s; 7200 rpm; 16MB cache 1TB Serial ATA 3Gb/s; 7200 rpm; 32MB cache 300GB Serial Attached SCSI 3Gb/s; 15,000 rpm; 16MB cache Hard Drive Bay 2 500GB Serial ATA 3Gb/s; 7200 rpm; 16MB cache

750GB Serial ATA 3Gb/s; 7200 rpm; 16MB cache

1TB Serial ATA 3Gb/s; 7200 rpm; 32MB cache

300GB Serial Attached SCSI 3Gb/s; 15,000 rpm; 16MB cache

Hard Drive Bay 3

500GB Serial ATA 3Gb/s; 7200 rpm; 16MB cache

750GB Serial ATA 3Gb/s; 7200 rpm; 16MB cache

1TB Serial ATA 3Gb/s; 7200 rpm; 32MB cache

300GB Serial Attached SCSI 3Gb/s; 15,000 rpm; 16MB cache

Hard Drive Bay 4

500GB Serial ATA 3Gb/s; 7200 rpm; 16MB cache

750GB Serial ATA 3Gb/s; 7200 rpm; 16MB cache

1TB Serial ATA 3Gb/s; 7200 rpm; 32MB cache

300GB Serial Attached SCSI 3Gb/s; 15,000 rpm; 16MB cache

Internal RAID		Optional	Mac Pro RAID Card with 256MB cache and 72-hour cache battery backup ⁵
Optical drive	16x SuperDrive with double-layer support (DVD±R DL/DVD±RW/CD-RW)		Two 16x SuperDrive optical drives with double-layer support (DVD±R DL/DVD±RW/CD-RW)
Wireless	Bluetooth 2.0 + EDR		AirPort Extreme wireless networking ²
PCI Express		Optional	Apple Dual-Channel or Quad-Channel 4Gb Fibre Channel PCI Express Card
Displays		Optional	20-inch Apple Cinema Display (M9177LL/A) 23-inch Apple Cinema HD Display (M9178LL/A) 30-inch Apple Cinema HD Display (M9179LL/A)

Processing

- 8-core: Two 2.8GHz, 3.0GHz, or 3.2GHz Quad-Core Intel Xeon 5400 series processors
- Quad-core: One 2.8GHz Quad-Core Intel Xeon 5400 series processor
- Enhanced Intel Core microarchitecture
 - 12MB of L2 cache per processor (each pair of cores shares 6MB)
 - 128-bit SSE4 SIMD engine
 - 64-bit data paths and registers
 - Energy efficiency optimization
- 1600MHz, 64-bit dual independent frontside buses

Memory

- 800MHz DDR2 ECC fully buffered DIMM (FB-DIMM) memory
- Eight FB-DIMM slots on two memory riser cards (four slots per card) supporting up to 32GB of main memory
- 256-bit-wide memory architecture

Graphics and displays

- Double-wide, 16-lane PCI Express 2.0 graphics slot with one of the following graphics cards installed:
 - ATI Radeon HD 2600 XT with 256MB of GDDR3 memory and two dual-link DVI ports
 - NVIDIA GeForce 8800 GT with 512MB of GDDR3 memory and two dual-link DVI ports
 - NVIDIA Quadro FX 5600 with 1.5GB of GDDR3 memory, two dual-link DVI ports, and one stereo 3D port
- Multiple graphics card configurations including two, three, or four ATI Radeon HD 2600 XT cards
- 300W for up to four PCI Express graphics cards
- Support for up to eight 30-inch displays¹
- Support for digital resolutions up to 2560 by 1600 pixels
- Support for analog resolutions up to 2048 by 1536 pixels
- DVI to VGA adapter included
- Dual-display support for extended desktop and video mirroring modes

Communications

- Two independent 10/100/1000BASE-T Ethernet (RJ-45) interfaces with support for jumbo frames
- Bluetooth 2.0 + Enhanced Data Rate (EDR) up to 3Mb/s
- Optional 802.11n AirPort Extreme wireless networking²
- Optional external Apple USB Modem (RJ-11)

Storage

- Four 3.5-inch cable-free, direct-attach hard drive bays with built-in independent 3Gb/s Serial ATA channels; four internal hard drive carriers included
- Up to 4TB of internal storage³ using hard drives in the following capacities:
 - Hard drive bay 1
 - 320GB Serial ATA 3Gb/s, 7200 rpm, 8MB cache
 - 500GB Serial ATA 3Gb/s, 7200 rpm, 16MB cache
 - 750GB Serial ATA 3Gb/s, 7200 rpm, 16MB cache
 - 1TB Serial ATA 3Gb/s, 7200 rpm, 32MB cache
 - 300GB Serial Attached SCSI 3Gb/s, 15,000 rpm, 16MB cache⁴
 - Hard drive bay 2
 - 500GB Serial ATA 3Gb/s, 7200 rpm, 16MB cache
 - 750GB Serial ATA 3Gb/s, 7200 rpm, 16MB cache
 - 1TB Serial ATA 3Gb/s, 7200 rpm, 32MB cache
 - 300GB Serial Attached SCSI 3Gb/s, 15,000 rpm, 16MB cache⁴
 - Hard drive bay 3
 - 500GB Serial ATA 3Gb/s, 7200 rpm, 16MB cache
 - 750GB Serial ATA 3Gb/s, 7200 rpm, 16MB cache
 - 1TB Serial ATA 3Gb/s, 7200 rpm, 32MB cache
 - 300GB Serial Attached SCSI 3Gb/s, 15,000 rpm, 16MB cache⁴
 - Hard drive bay 4
 - 500GB Serial ATA 3Gb/s, 7200 rpm, 16MB cache
 - 750GB Serial ATA 3Gb/s, 7200 rpm, 16MB cache
 - 1TB Serial ATA 3Gb/s, 7200 rpm, 32MB cache
 - 300GB Serial Attached SCSI 3Gb/s, 15,000 rpm, 16MB cache⁴
- Optional Mac Pro RAID card with 256MB cache and 72-hour cache battery backup⁵
- 16x SuperDrive with double-layer support (DVD±R DL/DVD±RW/CD-RW)
 - Writes DVD+R and DVD-R discs at up to 16x speed
 - Writes DVD+R DL and DVD-R DL discs at up to 8x speed
 - Writes DVD+RW discs at up to 8x speed
 - Writes DVD-RW discs at up to 6x speed
 - Reads DVDs at up to 16x speed
 - Writes CD-R and CD-RW discs at up to 32x speed
 - Reads CDs at up to 32x speed
- One open optical drive bay for optional second SuperDrive

Electrical and environmental requirements

- ENERGY STAR configurations available⁶
- Line voltage: 100-120V AC or 200-240V AC (wide-range power supply input voltage)

- Frequency: 50Hz to 60Hz single phase
- Current: Maximum of 12A (low-voltage range) or 6A (high-voltage range)
- Operating temperature: 50° to 95° F (10° to 35° C)
- Storage temperature: -40° to 116° F (-40° to 47° C)
- Relative humidity: 5% to 95% noncondensing
- Maximum altitude: 10,000 feet

Peripherals and audio

- Two FireWire 800 ports (one on front panel, one on back panel)
- Two FireWire 400 ports (one on front panel, one on back panel)
- Five USB 2.0 ports (two on front panel, three on back panel)
- Two USB 2.0 ports on included keyboard
- Front-panel headphone minijack and speaker
- Optical digital audio input and output TOSLINK ports
- Analog stereo line-level input and output minijacks

PCI Express expansion⁷

- Three open full-length PCI Express expansion slots
 - One PCI Express 2.0 x16 slot
 - Two PCI Express x4 slots
- All slots provide mechanical support for 16-lane cards
- 300W combined maximum for all PCI Express slots

Software

- Mac OS X v10.5 Leopard (includes Time Machine, Quick Look, Spaces, Spotlight, Dashboard, Mail, iChat, Safari, Address Book, QuickTime, iCal, DVD Player, Photo Booth, Front Row, Xcode Developer Tools)
- iLife '08 (includes iTunes, iPhoto, iMovie, iDVD, iWeb, and GarageBand)

Size and weight

- Height: 20.1 inches (51.1 cm)
- Width: 8.1 inches (20.6 cm)
- Depth: 18.7 inches (47.5 cm)
- Weight (standard configuration): 42.4 pounds (19.2 kg)⁸

In the box

- Mac Pro
- Apple Keyboard and Mighty Mouse
- DVI to VGA adapter
- USB keyboard extension cable
- Install/restore DVDs

- Printed and electronic documentation

Upgrades

- 2GB Memory kit (MB192G/A)
- 4GB Memory kit (MB193G/A)
- 8GB Memory kit (MB194G/A)
- 500GB SATA drive kit (MA988G/A)
- 750GB SATA drive kit (MA989G/A)
- 1TB SATA drive kit (MB362G/A)
- 300GB SAS drive kit (MB195G/A)
- Mac Pro RAID Card (MA849Z/B)
- NVIDIA GeForce 8800 GT Graphics Upgrade Kit (MB137Z/A)
- ATI Radeon HD 2600 XT Graphics Upgrade Kit (MB198Z/A)
- Apple Dual-Channel 4Gb Fibre Channel PCI Express Card (MB355G/A)
- Apple Quad-Channel 4Gb Fibre Channel PCI Express Card (MB356G/A)

Accessories

- AirPort Extreme Base Station (MA073LL/A)
- AirPort Express Base Station featuring iTunes (M9470LL/A)
- Apple Wireless Keyboard (M9270LL/A)
- Apple wireless Mighty Mouse (MB111LL/A)
- Apple USB Modem (MA034Z/A)
- .Mac Subscription (MA361Z/A)
- AppleCare Protection Plan (MA516LL/A)

Applications

- Final Cut Studio (MA285Z/A)
- Final Cut Express (MA261Z/A)
- Aperture (MA438Z/A)
- Logic Pro (MA328Z/A)
- Logic Express (MA603Z/A)
- Shake (MA434Z/A)
- Mac OS X Server v10.4 (10-client license) (MA613Z/A)
- Mac OS X Server v10.4 (Unlimited-client license) (MA612Z/A)
- Apple Remote Desktop (MA231Z/A)
- iWork '08 (MA790Z/A)

1. Requires installation of four ATI Radeon HD 2600 XT graphics cards, each of which provides support for up to two 20-inch Apple Cinema Displays, 23-inch Apple Cinema HD Displays, or 30-inch Apple Cinema HD Displays.
2. Wireless Internet access requires base station or other wireless access point and Internet access (fees may apply). Achieving optimal 802.11n data rates requires that all users have an 802.11n AirPort Extreme Card and connect to an 802.11n AirPort Extreme Base Station. Speed and range will be less if an 802.11a/b/g product joins the network. Actual performance will vary based on range, connection rate, site conditions, size of network, and other factors. Range will vary with site conditions. Based on IEEE 802.11n draft specification.

- 3. 1TB = approximately 1 trillion bytes; actual formatted capacity less.
- 4. Serial Attached SCSI drives require the Mac Pro RAID Card.
- 5. Supports Mac OS X only.
- 6. 8-core 2.8GHz Mac Pro systems configured with one ATI Radeon HD 2600 XT graphics card meet ENERGY STAR requirements. 8-core 3.0GHz and 3.2GHz Mac Pro systems configured with a single graphics card meet ENERGY STAR requirements. All other Mac Pro systems meet ENERGY STAR 3.0 requirements. Systems configured with an Apple Fibre Channel or Mac Pro RAID Card do not comply with ENERGY STAR requirements.
- 7. PCI Express slots are not compatible with PCI or PCI-X expansion cards.
- 8. Actual weight varies by configuration and manufacturing process.

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Helpful?	Yes	No
Support		Mac Pro (Early 2008) - Technical Specifications