



Technical Information

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Specifications for Power Macintosh 7300 series computers

Technical Information

Main unit

Processor

A PowerPC™ 604e processor at one of the following speeds:

| Processor speed | System bus speed |
|---------------------|------------------|
| 166 megahertz (MHz) | 48 MHz |
| 180 MHz | 45 MHz |
| 200 MHz | 50 MHz |

The PowerPC 604e processor has a built-in floating point unit (FPU) and is mounted on a removable card so you can upgrade it as faster processors become available.

Memory

- 16 or 32 megabytes (MB) of dynamic random-access memory (DRAM), supplied in removable Dual Inline Memory Modules (DIMMs), expandable to a maximum of 512 MB
- 2 MB of video RAM (VRAM), supplied in removable DIMMs, expandable to a maximum of 4 MB
- 4 MB of read-only memory (ROM)
- 8 kilobytes (KB) of nonvolatile parameter memory
- one 256 KB DIMM of static RAM used as a level 2 cache

For more information and instructions on expanding your DRAM, VRAM, or cache, see Chapter 8, “Installing PCI Expansion Cards and Additional Memory,” in your *Power Macintosh User’s Manual*.

Graphics modes

The table that follows shows the image sizes for monitors that can be connected to the monitor port, along with the number of colors or grays supported with 2 MB of VRAM and with the optional expansion to 4 MB of VRAM. The table also lists the screen refresh rates in hertz (Hz) and kilohertz (kHz).

Peripheral component interconnect (PCI) expansion cards that can support other monitors and special video requirements are available from other manufacturers. See your Apple-authorized dealer for information.

Note: On some monitors from manufacturers other than Apple, the connector pinout designates one pin for both green video and timing synchronization. These “sync on green” monitors are not compatible with Power Macintosh computers. If you’re not sure what type of monitor you have, check with your dealer.

Colors or grays supported

| Monitor | VIS* | Resolution | Maximum colors [†] | | Screen refresh rate | | | | | | |
|----------------------|-------|------------|-----------------------------|-----------|---------------------|------------------|------------|-----------|----------|----|--------|
| | | | 2 MB VRAM | 4 MB VRAM | Vertical (Hz) | Horizontal (kHz) | | | | | |
| 12" RGB | N/A | 512 x 384 | Millions | Millions | 60 | 24.48 | | | | | |
| 13" RGB Hi-Res | N/A | 640 x 480 | Millions | Millions | 67 | 34.971 | | | | | |
| 14" RGB Hi-Res | 11.5" | 640 x 480 | Millions | Millions | 67 | 34.971 | | | | | |
| VGA | ‡ | 640 x 480 | Millions | Millions | 60 | 31.505 | | | | | |
| | | 800 x 600 | Millions | Millions | 60 | 39.921 | | | | | |
| | | 800 x 600 | Millions | Millions | 72 | 48.1 | | | | | |
| | | 800 x 600 | Millions | Millions | 75 | 47.933 | | | | | |
| | | 1024 x 768 | Thousands | Millions | 60 | 48.294 | | | | | |
| | | 1024 x 768 | Thousands | Millions | 72 | 58.286 | | | | | |
| Full-page Monochrome | N/A | 640 x 870 | 256 | 256 | 75 | 68.773 | | | | | |
| | | | | | | | 1024 x 768 | Thousands | Millions | 75 | 60.093 |
| | | | | | | | 1024 x 768 | Thousands | Millions | 75 | 60.093 |
| Full-page RGB | ‡ | 640 x 870 | Thousands | Millions | 75 | 68.773 | | | | | |

*Viewable image size

[†]256=image depth of 8 bits, thousands=image depth of 16 bits, millions=image depth of 32 bits

[‡]Refer to the manual that came with your monitor to determine VIS.

N/A=not available

continued ►

| Monitor | VIS* | Resolution | Maximum colors ¹ | | Screen refresh rate | |
|---------------------|--------|-------------|-----------------------------|-----------|---------------------|------------------|
| | | | 2 MB VRAM | 4 MB VRAM | Vertical (Hz) | Horizontal (kHz) |
| 14" AudioVision | 11.5" | 640 x 480 | Millions | Millions | 67 | 35 |
| 16" Color | 14.8" | 832 x 624 | Millions | Millions | 75 | 49.670 |
| Two-page Monochrome | N/A | 1152 x 870 | 256 | 256 | 75 | 68.476 |
| Two-page RGB | 11.5" | 1152 x 870 | Thousands | Millions | 75 | 68.476 |
| Multiple Scan 14 | 12.4" | 640 x 480 | Millions | Millions | 67 | 34.971 |
| Multiple Scan 15 | 13.3" | 640 x 480 | Millions | Millions | 67 | 34.971 |
| | | 832 x 624 | Millions | Millions | 75 | 49.670 |
| Multiple Scan 15AV | 13.75" | 640 x 480 | Millions | Millions | 66.67 | 35.000 |
| | | 832 x 624 | Millions | Millions | 75 | 49.700 |
| | | 1024 x 768 | Thousands | Millions | 75 | 60.240 |
| Multiple Scan 17 | 16.1" | 640 x 480 | Millions | Millions | 67 | 34.971 |
| | | 832 x 624 | Millions | Millions | 75 | 49.670 |
| | | 1024 x 768 | Thousands | Millions | 75 | 60.060 |
| Multiple Scan 1705 | 15.8" | 640 x 480 | Millions | Millions | 67 | 34.971 |
| | | 832 x 624 | Millions | Millions | 75 | 49.670 |
| | | 1024 x 768 | Thousands | Millions | 75 | 60.060 |
| AppleVision 1710 | 16.1" | 640 x 480 | Millions | Millions | 67 | 34.971 |
| | | 832 x 624 | Millions | Millions | 75 | 49.670 |
| | | 1024 x 768 | Thousands | Millions | 75 | 60.060 |
| | | 1152 x 870 | Thousands | Millions | 75 | 68.476 |
| | | 1280 x 1024 | 256 | Thousands | 75 | 79.964 |
| AppleVision 1710AV | 16.1" | 640 x 480 | Millions | Millions | 67 | 34.971 |
| | | 832 x 624 | Millions | Millions | 75 | 49.670 |
| | | 1024 x 768 | Thousands | Millions | 75 | 60.060 |
| | | 1152 x 870 | Thousands | Millions | 75 | 68.476 |
| | | 1280 x 1024 | 256 | Thousands | 75 | 79.964 |
| Multiple Scan 20 | 19.1" | 640 x 480 | Millions | Millions | 67 | 34.971 |
| | | 832 x 624 | Millions | Millions | 75 | 49.670 |
| | | 1024 x 768 | Thousands | Millions | 75 | 60.060 |
| | | 1152 x 870 | Thousands | Millions | 75 | 68.476 |
| | | 1280 x 1024 | 256 | Thousands | 75 | 79.964 |

*Viewable image size

¹256=image depth of 8 bits, thousands=image depth of 16 bits, millions=image depth of 32 bits

[†]Refer to the manual that came with your monitor to determine VIS.

N/A=not available



Internal disk drives

The following drives come factory-installed in your computer:

- Apple SuperDrive 1.4 MB high-density floppy disk drive
- Apple SCSI hard disk drive (“Fast” SCSI)
- 12x-speed CD-ROM drive

For more information about “Fast” SCSI, see “SCSI Interfaces” later in this booklet.

Interfaces

- One ADB port supporting up to three ADB input devices (such as a keyboard, mouse, or trackball) daisy-chained through a low-speed, synchronous serial bus
- Monitor port supporting color and grayscale monitors of various sizes and resolutions (See “Graphics Modes” earlier in this booklet.)
- Three internal expansion card slots supporting PCI expansion cards. Install only expansion cards that come with Macintosh drivers and are compliant with the PCI 2.0 standard. NuBus™ cards cannot be used in these expansion slots.
- One printer port and one modem port. Both ports are RS-232/RS-422 serial ports, 230.4 kilobit (Kbit) per second maximum (up to 2.048 megabit [Mbit] per second if clocked externally), and are compatible with GeoPort devices such as the GeoPort Telecom Adapter.
- One built-in 10Base-T Ethernet connector for direct connection to 10Base-T networks (If both AAUI and 10Base-T connectors are plugged in, the computer uses the 10Base-T connector by default.)
- One built-in AAUI Ethernet connector for connecting to high-speed Ethernet networks. Requires the appropriate AAUI transceiver adapter (10Base-T, thin coaxial, or thick coaxial).
- One 3.5-mm sound output port for headphones or line-level devices

- One 3.5-mm sound input port for stereo sound input. The sound input port supports the Apple PlainTalk Microphone that comes with some Macintosh computers. The sound input port also supports a standard stereo (miniplug-to-RCA) cable adapter for connecting stereo equipment to your computer.
The sound input port does not support the omnidirectional microphone (the round microphone shipped with some earlier models of Macintosh) or the attenuated RCA adapter provided with some Macintosh models.

SCSI interfaces

Your computer has two SCSI interfaces:

- an internal “Fast” SCSI chain
- an external standard SCSI chain

The internal SCSI chain supports the internal hard disk and CD-ROM drive. An Apple-authorized dealer or service provider can connect one additional 3.5-inch SCSI device to the internal SCSI interface. The SCSI device must be no more than 1.625 inches (41.3 mm) high.

The internal SCSI chain supports “Fast” SCSI, which is capable of transferring data at up to 10 MB per second (twice the rate of the external standard SCSI chain). If you obtain a SCSI device that supports “Fast” SCSI, you should receive faster performance if it is connected to the internal SCSI chain.

The external SCSI chain supports up to seven external SCSI devices. For information on connecting external SCSI devices to your Macintosh, see your *Power Macintosh User’s Manual*.

All devices on the same SCSI chain must have unique ID numbers, but devices on different SCSI chains may use the same SCSI ID number. (For example, you could have a CD-ROM drive with ID number 3 connected to the internal SCSI chain and a tape drive with ID number 3 connected to the external SCSI chain.)

The drives that were installed in your computer at the factory, as well as the computer itself, have already reserved certain SCSI ID numbers. Other ID numbers are available for assignment to SCSI devices that are added after you buy your computer, as described in the following table.

| SCSI chain | SCSI ID number | Device |
|------------|----------------|--|
| Internal* | 0 | Factory-installed hard disk (terminated) |
| | 1 | Available |
| | 2 | Available |
| | 3 | Factory-installed CD-ROM drive |
| | 4 | Available |
| | 5 | Available |
| | 6 | Available |
| | 7 | Power Macintosh computer (terminated) |
| External | 0 | Available |
| | 1 | Available |
| | 2 | Available |
| | 3 | Available |
| | 4 | Available |
| | 5 | Available |
| | 6 | Available |
| | 7 | Power Macintosh computer (terminated) |

*Although five SCSI ID numbers are available for assignment, only one other SCSI device can be connected to the internal SCSI chain.

IMPORTANT The factory-installed internal hard disk and the Power Macintosh computer are both terminated. If another SCSI device is attached to the internal SCSI interface, it must not be terminated. If you attach a terminated device to the internal SCSI interface, damage to the computer’s main logic board can occur.

IMPORTANT Some older SCSI devices may require updated drivers to work with your computer. (A “driver” is special software that is installed in your System Folder.) Contact the device manufacturer for information on obtaining driver software.

Clock/calendar

- CMOS custom circuitry with long-life battery

WARNING Do not attempt to replace the clock battery yourself. If the clock begins to lose accuracy, have an Apple-authorized service provider replace the battery. The service provider will dispose of the battery according to the local environmental guidelines.

Keyboard

- Supports all Apple Desktop Bus (ADB) keyboards

Mouse

- Supports all models of the ADB mouse

Audio system

- Custom sound circuitry, including a stereo generator (digital-to-analog converter, or DAC)—capable of driving stereo miniplug headphones or audio equipment—and stereo sampling hardware (analog-to-digital converter, or ADC) for recording stereo sound
- 16-bit stereo input and output
- Sample rates of 44.1 and 22.05 kilohertz (kHz)

Typical specifications

- Sound input connector line level: 2.8 volts peak-to-peak (V_{pp}) nominal, into 3.0-kilohm ($k\Omega$) impedance (minimum)
- Sound output connector line level: 2.7 V_{pp} nominal, into 32- $k\Omega$ impedance
- Sound input signal-to-noise ratio (SNR): greater than ($>$) 83 decibels (dB) A-weighted with no audible discrete tones
- Sound output SNR: >84 dB A-weighted with no audible discrete tones
- Bandwidth: 10 Hz to 18 kHz (+0.1 dB, -3.0 dB) at 44.1-kHz sample rate

AC line input

- Line voltage: 100–130 volts (V) AC and 200–270 V AC, RMS single phase, manually configured
- Frequency: 50–60 Hz
- Power: 298 watts (W) maximum continuous; 453 W peak input

AC line output

- Output receptacle: 100–120 V, 3 amperes (A) AC, 220–240 V, 1.5 A AC RMS (determined by actual input voltage); 3 A maximum at 100 V

DC power

- Continuous output: 150 W
- Peak output (for 12 seconds at startup): 189 W

| Output voltage | Maximum current* |
|----------------|------------------|
| +5 V | 20 A† |
| +5 V (trickle) | 0.1 A |
| +3.3 V | 10 A† |
| +12 V | 5 A |
| –12 V | 0.75 A |

*Total power output cannot exceed 150 W.

† Not more than 25 A total combined current.

Power requirements for devices you can connect

Apple Desktop Bus (ADB)

- The mouse draws up to 10 milliamperes (mA).
- The keyboard draws 25–80 mA (varies with keyboard model used).
- The maximum current available for all ADB devices: 500 mA.

Note: The ADB port can support up to three ADB devices.

Audio and telecommunications devices

The following table shows power allowances for external devices connected to input ports.

| Device | Voltage | Current | Power |
|---|---------|---------|--------|
| Microphone | +5 V | 20 mA | 100 mW |
| A device connected to the printer port or modem port* | +5 V | 500 mA | 2.5 W |

*Such as the GeoPort Telecom Adapter

Expansion cards and other internal devices

If you add an expansion card or a 3.5-inch storage device to your computer, make sure the component's power requirements don't exceed the maximum power allowances allocated to it by the computer.

The maximum power allowances for expansion cards in your computer can accommodate three 15-watt or two 25-watt cards. Detailed guidelines are presented in the following table.

| Device | Voltage | Current | Power |
|---|---------|-------------|-------|
| Expansion card (15 watts)* | +5 V | 3 A | 15 W |
| | +12 V | 0.500 A | 6 W |
| | -12 V | 0.100 A | 1.2 W |
| | +3.3 V | 2 A | 6.6 W |
| Expansion card (25 watts)† | +5 V | 5 A | 25 W |
| | +12 V | 0.500 A | 6 W |
| | -12 V | 0.100 A | 1.2 W |
| | +3.3 V | 2 A | 6.6 W |
| Storage device (such as a hard disk) | +5 V | 9 A | 45 W |
| | +12 V | 3 A | 36 W |
| | +12 V | 7.5 A peak‡ | — |

*15-watt expansion cards should not consume more than 15 watts of total power.

†25-watt expansion cards should not consume more than 25 watts of total power.

‡Peak power is for startup only and must not occur in normal operation.



CD-ROM drive

Disc speed

- 12x (twelve-times speed)

Disc diameters supported

- 120 mm (4.7 inches)
- 80 mm (3.2 inches)

Data capacity

- 656 MB, Mode 1
- 748 MB, Mode 2

Modes supported

- Audio CD
- CD-ROM: Modes 1 and 2
- CD-ROM XA: Mode 2, Forms 1 and 2
- CD-I: Mode 2, Forms 1 and 2
- Photo CD: Single-session and multisession
- Video CD

Laser

- Type: Semiconductor GaAlAs laser
- Wavelength: 795 ± 25 nanometers
- Output power: 0.2 to 0.6 milliwatts
- Beam divergence: 55°

Environment

- Operating temperature: 10°C to 40°C (50°F to 104°F)
- Storage temperature: -40°C to 47°C (-40°F to 116.6°F)
- Relative humidity: 5% to 95% (noncondensing)
- Altitude: 0 to 3048 m (0 to 10,000 ft.)

Size and weight

| Weight | Height | Width | Depth |
|------------------|----------|-----------|-----------|
| Main unit | | | |
| 10 kg* | 156 mm | 365 mm | 430 mm |
| 22 lb.* | 6.15 in. | 14.37 in. | 16.93 in. |
| <hr/> | | | |
| Mouse | | | |
| 0.11 kg | 33 mm | 61 mm | 107 mm |
| 4 oz. | 1.3 in. | 2.4 in. | 4.2 in. |

*Weight varies depending on type of hard disk and may be greater if optional devices are installed.

Maximum supportable monitor weight: 70 lbs. (31.75 kg)