



# Video Conferencing

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QuickTime Conferencing Kit,  
QuickTime Conferencing ISDN Kit





## Basics

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### Video Conferencing





# Introduction

QuickTime Conferencing (QTC) is a system software extension. It comes with Apple Media Conference, an application program you use to set up video conferences, collaborate with others, exchange live video and sound, and share information over a network.

Apple Media Conference takes advantage of the networking capability already built into your computer so you can connect with other video conferencing systems over a local or wide area network, such as an AppleTalk local area network or the TCP/IP Internet.

This manual provides a description of the QuickTime Conferencing products and tools, their specifications, a troubleshooting guide, and a parts list.





## Other Resources

For further information, see the Owner's Manuals folder on the Service Source Companion CD for the following user manuals:

- **Camera 100 Installation Guide** covers installing and adjusting the QuickTime Conferencing camera
- **Software Installation Guide** covers installing AppleTalk and EtherTalk system updates and QuickTime Conferencing software
- **Technical Backgrounder** provides an overview of QuickTime Conferencing and its multimedia components



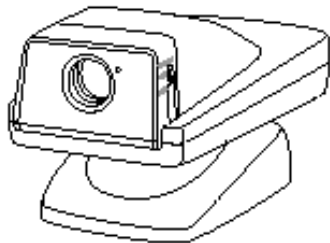


## Requirements

- Quadra 660AV or 840AV, Power Macintosh AV computer, or Power Macintosh with AV card upgrade
- 16 megabytes of DRAM (memory)
- System software 7.5 or later
- Video source (video camera or VCR)
- Audio source (PlainTalk microphone or VCR)
- Network connection (for instance, Ethernet or ISDN)
- Network Software Installer version 1.5. (this is already installed on Power Macintosh 7500 and 8500 computers)

**Note:** QuickTime Conferencing supports Apple built-in video. Apple cannot guarantee compatibility with third-party video input cards.





## QuickTime Conferencing Kit

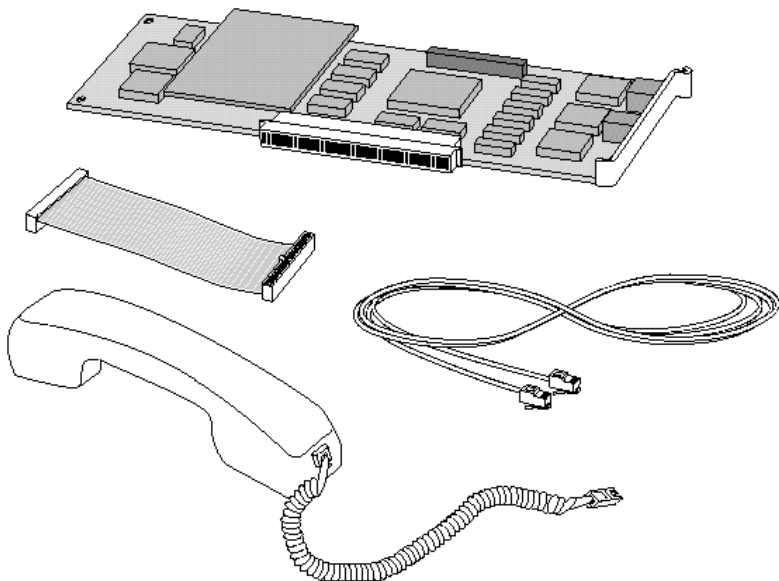
The QuickTime Conferencing (QTC) Kit consists of a QTC Camera 100 (color video camera), cables, and QuickTime Conferencing software.





## QuickTime Conferencing ISDN Kit

The QuickTime Conferencing (QTC) ISDN Kit consists of a QTC Camera 100 (color video camera), a H.320 NuBus card, a telephone handset, cables, and QuickTime Conferencing software.





## QTC Camera 100 General Description

The video camera is a CCD image sensing device capable of working in a variety of light conditions and providing video images to the video input of the computer. The external package provides a means of stable positioning in a computing work environment, while allowing the user to position the camera for a variety of image captures.

Each pixel has a color filter and lens over it. The lenses widen the effective photo diode light sensing area, making the CCD more light sensitive.







## QTC Camera 100 Connections

With the exception of the Macintosh Quadra 840 & 660 AV, Power Macintosh 7500 and 8500, this camera is connected to the back panel of a Power Macintosh AV model “S video connector” via a single cable conveying the video signal from the camera and the 12V DC supply to the camera. Only the Power Macintosh 7100AV and 8100AV uses the integrated power/video cable.

The Power Macintosh 7500 and 8500 use the separate RCA to RCA cable and S-Video to power cables. The Quadra 660AV and 840AVA use the RCA to RCA cable with a 12 Volt power adapter.





## Specifications

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Video Conferencing





## Camera Characteristics

|                      |  |
|----------------------|--|
| <b>Camera Type</b>   | 1/3 inch CCD   |
| <b>Image Size</b>    | Effective: 250,000 (512 x 492)<br>Total: 270,000 (542 x 492) |
| <b>White Balance</b> | Automatic (control range 2,700°K–6500°K)                     |
| <b>Exposure</b>      | Automatic (adjustable by volume)                             |
| <b>Focus</b>         | Manual (use iris knob to adjust the aperture manually)       |
| <b>Cable Length</b>  | 6 feet   |





## Camera Lens

**Focal Length**

6.0 mm

**F-stop**

2.8

**Focus**

Manual (2 inches to infinity)





## Camera Sensitivity

**Standard  
Illumination**

1,500 lux

**Minimum  
Illumination**

60 Hz mode: 5 lux

50 Hz mode: 10 lux

**Maximum  
Illumination**

100,000 lux





## Camera Video Output Signals

|                              |   |
|------------------------------|---|
| <b>Signal Type</b>           | NTSC composite                                      |
| <b>Impedance</b>             | 75 ohms   |
| <b>Level</b>                 | 1.0 $\pm$ 20% V <sub>p-p</sub> (75 ohms terminated) |
| <b>Signal-to-Noise Ratio</b> | 46 dB (weighted)                                    |
| <b>Horizontal Resolution</b> | 320 TV lines (center portion)                       |





## Camera Connectors

### **DC Input**

5.5 mm diameter

### **Video Output**

RCA standard jack





## Camera-Electrical

**Power Voltage**            12 V-16 V DC

**Power Consumption**    Approx. 1.9 W







## Camera-Environmental

|                    |  |
|--------------------|--|
| <b>Size</b>        | Height: 2.59 in (75 mm)<br>Width: 2.59 in (75 mm)<br>Depth: 4.88 in (124 mm) |
| <b>Weight</b>      | Approx. 200 grams  |
| <b>Temperature</b> | Operating: 0°C to 40°C<br>Storage: -20°C to 55°C for 100 hours               |
| <b>Humidity</b>    | Operating: 10% to 70%<br>Storage: 0% to 95% for 100 hours                    |





## H.320 NuBus Card Characteristics

### Connectors

NuBus:

MVIP: 10-pin HE13 connector, 1/10" spacing

DAV: Flat ribbon connector (to connect to host computer)

### Card Weight (with Daughter Card)

0.25 Kg

### Physical

Height: 4.3 in (109 mm)

Length: 10.31 in (262 mm)

Width 0.98 in (25 mm)

### Temperature range

0–50°C





## H.320 NuBus Card — Electrical

### **Electrical**

5 V NuBus Interface

### **Power Consumption**

5 V  $\pm 5\%$ , 1.6 A (nominal)  
 $\pm 12$  V negligible





## Handset-Characteristics

**Physical**

Height: 2.13 in (54 mm)  
Length: 8.54 in (217 mm)  
Width: 2.24 in (57 mm)

**Weight**

0.2 Kg

**Bandwidth**

200 Hz-4 kHz

**Power**

Supplied by H.320 card





# Troubleshooting

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## Video Conferencing





## General

The Symptom Charts included in this chapter will help you diagnose specific symptoms related to your product. Because cures are listed on the charts in the order of most likely solution, try the first cure first. Verify whether or not the product continues to exhibit the symptom. If the symptom persists, try the next cure. (Note: If you have replaced a module, reinstall the original module before you proceed to the next cure.)

If you are not sure what the problem is, or if the Symptom Charts do not resolve the problem, refer to the Flowchart for the product family.

For additional assistance, contact Apple Technical Support.





## Getting Help and Information

The Apple Media Conference Guide answers common questions about setting up and using Apple Media Conference. While you are using Apple Media Conference, if you need help or instructions, choose Apple Media Conference Guide from the Guide menu (at the upper right corner of your screen).

For general Macintosh help, go to the Finder by clicking anywhere on the desktop (the background area on your screen). Then open the Guide menu and choose Macintosh Guide.





## Symptom Charts

### Connection Problems

Keep getting disconnected

- 1 Make sure that all callers have compatible versions of the QuickTime Conferencing extension, the Apple Media Conference program, and other QuickTime Conferencing software components. If you do not know which versions are compatible with each other, make sure that you are all running the same version of the software.
- 2 Make sure the computer has enough memory and processing power for QuickTime Conferencing.
- 3 The Apple Media Conference preferences file may not be working properly. Quit the program, open the System Folder, open the Preferences folder, and look for the Apple Media Conference preferences file. Drag the file to the Trash and restart the computer.

Can't find the other machine in the PowerTalk browser, when trying to place a call.

- 1 Ensure that the other machine is connected to Ethernet.
- 2 Make sure the other machine has the same version of QTC and Apple Media Conference installed. The versions must be identical.
- 3 Ensure the other machine has a Network Identity in the Sharing Setup Control Panel.
- 4 Open the PowerTalk browser, find the other machine in the main catalog and add it to your personal catalog by highlighting it and choosing "Add" in the browser dialog box.

Can't find other machine in the Chooser when trying to place a call.

- 1 Ensure that the other machine is connected to Ethernet.
- 2 Make sure the other machine has the same version of QTC and Apple Media Conference installed. The versions must be identical.
- 3 Check the zone that the other computer is in (under Network Identity in the Sharing Setup Control Panel).







## Sound Problems

- Can't hear a caller
- 1 Adjust the loudspeaker volume on the caller's window by pressing the loudspeaker icon and adjusting the slider control that pops up.
  - 2 Check the settings in the Sound control panel. Make sure that the speaker volume slide controls are not set to zero.
  - 3 If the caller sometimes uses a CD-ROM drive to play audio CDs, make sure that Playthrough is not checked in the sound input options box in the Sound control panel.
  - 4 Ask the caller to adjust the microphone gain in the Sound Settings dialog box by pulling down the Settings menu and choosing Sound Settings. Have the caller set the gain level so that the microphone gain indicator shows green bars and occasionally peaks into one or two red bars at most.
  - 5 Have the caller check the sound source settings by choosing Source in the pop-up menu in the Sound Settings dialog box. The source settings should match the sound input port being used for the sound source.
  - 6 Have the caller pull down the Settings menu and choose Connection Setup to make sure that Sound is checked in the Connection Setup dialog box.
  - 7 The caller should check the hardware connections and make sure that the microphone or other sound source is securely connected to the computer.
- Caller can't hear you
- 1 Have the caller adjust the loudspeaker volume on the window in which you appear on the screen by pressing the loudspeaker icon and adjusting the slider control.
  - 2 Have the caller check the settings in the Sound control panel. The volume slide controls should not be set to zero.
  - 3 If you sometimes use a CD-ROM drive to play audio CDs, make sure that Playthrough is not checked in the sound input options in your Sound control panel.
  - 4 Adjust the microphone gain in the sound settings dialog box by pulling down the Settings menu and choosing Sound Settings. Set the gain level so that the microphone gain indicator shows some green bars and occasionally peaks into one or two red bars.
  - 5 If the caller still isn't getting any sound, check the sound source settings by pulling down the Settings menu, choosing Sound Settings, and choosing Source in the pop-up menu in the Sound Settings dialog box. Make sure the selected sound source matches the sound input port through which the microphone or other sound source is actually connected to the computer.





- 6 Pull down the Settings menu and choose Connection Setup to make sure that Sound is checked in the Connection Setup dialog box.
- 7 Check the hardware connections and make sure that the microphone or other input source is securely connected to the computer.

Audio sometimes “drops out” and sound quality is poor while video conferencing.

- 1 The sound throughput automatically adjusts based on the amount of network bandwidth available to it. If there is a lot of network traffic, the sound may drop out from time to time.
- 2 If the sound quality seems unusually poor, first ensure that you are talking directly into the microphone. Receiver-side audio will drop out if the person sending turns away from the microphone while speaking.
- 3 Quit Apple Media Conference and restart the application.





## Video Problems

Not sending a video signal

- 1 Pull down the Settings menu and choose Connection Setup to make sure that Video is checked in the Connection Setup dialog box.
- 2 Check the settings in the Monitors control panel and make sure that the monitor is set to display at least 256 colors. On Macintosh AV models, “thousands of colors” is recommended for the best video image. (The Macintosh Quadra 840AV requires an upgrade to 2 megabytes of video RAM to display thousands of colors.)
- 3 Check the video source settings by pulling down the Settings menu, choosing Video Settings, and choosing Source in the pop-up menu in the Video Settings dialog box. Make sure that the settings match the video source that’s connected to the video-in port.
- 4 Check the hardware connections and make sure that the video camera or other video source is securely connected to the computer.

Don't see an image in the Self View window after Apple Media Conference is launched.

- 1 Make sure Self View is open by going under the Windows Menu and choosing Self View.
- 2 Make sure the camera plugged into the correct AV port on the back of the Mac.
- 3 Make sure the lens cover aperture is open. Aperture adjustment is on the side of the camera.
- 4 The Macintosh may not have enough VRAM to display a high-resolution, color image. Go to Monitors in the Control Panel and try various resolutions and numbers of color combinations. If you are able to get a black and white video image, or an image at a lower resolution, you need more VRAM to properly display the video signal.

Video is jerky.

- 1 The video throughput automatically adjusts based on the amount of network bandwidth available to it. If there is a lot of network traffic, the video frame rate may be slow and look jerky.
- 2 If the frame rate is very slow (1–5 frames per second), or freezes entirely, quit Apple Media Conference and restart the application.

Receiving a video signal but picture quality is poor

Pull down the Settings menu, choose Video Settings, and check the settings for Image and Compression.





Video image is distorted

- 1 Make sure the settings are correct in the Video Settings dialog box. The settings should specify the video format supplied by your camera (NTSC, PAL, or SECAM). To adjust the settings, choose Video Settings from the Settings menu, choose Source from the top pop-up menu in the Video Settings dialog box, and choose the correct video format (NTSC, PAL, or SECAM) from the Format pop-up menu.
- 2 If you are using a Power Macintosh 6100AV, 7100AV, or 8100AV computer, attach the display to the standard monitor port instead of the high-density monitor port. (Shut down the computer and turn off the power before changing the display's connection.)

Image displays in black and white on a color 17-inch or larger monitor. Will not display in color.

Set resolution to 832x624 or less. Restart machine.





## Miscellaneous

Low memory warnings while using Apple Media Conference

Increase the amount of memory allocated for the Apple Media Conference program. To do this, click the Apple Media Conference icon, choose Get Info from the File menu, and increase the value in the Preferred Size box. (You must quit Apple Media Conference before increasing the available memory.) For more detailed instructions on increasing the memory allocated to a program, open the Guide menu, choose Macintosh Guide, and click the Memory topic area.

Error message when video or audio cables are plugged or unplugged during a connection

Do not plug or unplug camera, microphone, or other sound and video cables while connected to another caller, or viewing or sending a broadcast. This can temporarily disable the QuickTime software.

Can't record a caller

The caller may have denied permission. Make sure that the caller has given permission to record him or her.

