

TANGO™ 2.0

FireWire®/USB 1.1/2.0 PCI Combo Adapter Card

Quick Start Guide for Tango 2.0

Compatibility

At this printing, the Tango 2.0 may be used with any Mac® or Windows OS computer with an available PCI slot that meets the following requirements:

- **Macintosh Computer Requirements:**

Power Macintosh® or Macintosh clone computer running Mac OS 9.0 through Mac OS X Version 10.2.x. **Mac OS X Version 10.0 or higher is required for USB 2.0 support.**

- **PC Requirements:**

IBM PC/AT or compatible desktop computer with Pentium® II (or equivalent) or better running Windows 98 SE (Second Edition), Windows Me (Millennium Edition), Windows 2000, or Windows XP.

You Should Have

The following items should be included in your product package:

- One Tango 2.0 PCI Combo Adapter Card
- One USB 2.0 Drivers CD

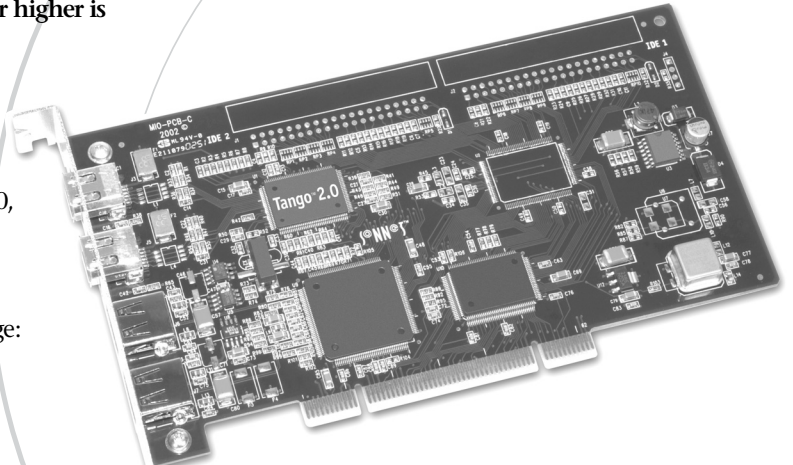
The following items may be required for installation:

- Medium Phillips screwdriver
- One or more FireWire (IEEE 1394) cables (sold separately)
- One or more USB cables (sold separately)
- One or more USB hubs (sold separately)

System Requirements

The following software drivers are required:

- FireWire driver software*
- USB driver software*



Support Notes: We recommend you make a backup of important information on your system's current hard drive(s) prior to installing new hardware or software.

When handling computer products, you must take care to prevent components from being damaged by static electricity. Before opening your computer or removing parts from their packages, always ground yourself first by touching a metal part of the computer, such as a port access cover, and work in an area free of static electricity; avoid carpeted areas. Handle all electronic components by their edges, and avoid touching connector traces and component pins.

Technical knowledge may be required to gain access to the expansion card slots in certain computer models. We recommend you first consult your computer's user manual. If you feel you are unable to install the computer hardware, contact a qualified technician.

* Depending on your operating system, you may need to install these drivers; instructions follow.



www.sonnettech.com

Remember to register your product online at <http://registration.sonnettech.com> to be informed of future upgrades and product releases.

Software updates and links are available from the Sonnet web site at www.sonnettech.com. • Online support form available at <http://supportform.sonnettech.com>

Sonnet Technologies Customer Service hours are Mon.–Fri., 7 a.m.–5 p.m. Pacific Time • Customer Service Phone: 1-949-472-2772 • E-mail: support@sonnettech.com

Sonnet Technologies, Inc., 15 Whatney, Irvine, California 92618-2808 USA • Tel: 1-949-587-3500 Fax: 1-949-457-6350

©2003 Sonnet Technologies. All rights reserved. Sonnet, the Sonnet logotype, Simply Fast, the Simply Fast logotype, and Tango are trademarks of Sonnet Technologies, Inc. Macintosh and Mac are trademarks of Apple Computer, Inc., registered in the United States and other countries. Other product names are trademarks of their respective owners. Product specifications subject to change without notice. Printed in the USA. QS-FWUSB2-E-040303

Installation Steps—Mac OS Computers



The following four pages cover the installation procedure for the Tango 2.0 card into Mac OS computers. If you have a Windows PC, skip to page 6.

Hardware Installation Preparation

Sonnet strongly recommends that you read the sections in your computer's user manual that address PCI card installation, prior to installing the Tango 2.0 card.

Tango 2.0 Card Installation Steps

1. Shut down your computer.
2. Open your computer to access the expansion card area (PCI slots); refer to your computer's user manual for specific information.
3. Locate an available PCI slot inside your computer and remove its port access cover, if present, from the rear of the computer.
4. Remove the Tango 2.0 card from its packaging.
5. Install the Tango 2.0 into the PCI slot; make sure the card is firmly seated and secured.
6. Close your computer and carefully replace its cover.

FireWire/USB Driver Installation Steps

The following section covers the installation of FireWire and USB driver software in Mac OS computers; refer to the heading that describes your setup on this or the next two pages. If you have a Windows PC, go to page 7 to find Windows driver installation information.



Support Notes: USB 2.0 is supported only under Mac OS X, Version 10.1 and higher. However, USB 2.0 peripherals are backward-compatible, and the Tango 2.0 will support them at USB 1.1 speeds (12 Mb/sec. maximum) when they are used under Mac OS 9.x.

Your system must be booted in Mac OS X in order to install the driver.

Mac OS X Version 10.2.x (Jaguar)

You must install the correct USB 2.0 driver to enable the Tango 2.0 card's USB ports to operate at USB 2.0 speeds; install the driver that corresponds to the Mac OS X Version 10.2.x. Without the driver installed, any USB 2.0 device attached to the Tango 2.0 card will operate at USB 1.1 speed.

1. Insert the USB 2.0 Drivers CD into the computer's CD-ROM drive.
2. Double-click the USB 2.0 Driver for 10.2.x folder; a new window will open.
3. Double-click the USB2EHCI_v3_0.img icon; a USB2EHCI_v3_0 disk icon will mount to the desktop.
4. Double-click the USB2EHCI_v3_0 disk icon; a new window will open.
5. Double-click the USB2EHCI_v3_0 package icon to launch the installation application.

Installation Steps—Mac OS Computers



Mac OS X Version 10.2.x ([Jaguar] continued)

6. Click the lock symbol in the bottom left corner of the window; the Authenticate window will open. Enter your password, and then click OK; the window will close.
7. Click the Mac OS X volume (drive icon) you want to install the driver onto, then click Continue, Install, and then Continue Installation; the driver will be installed. Once the driver installation has finished, click Restart; your installation is complete.

Mac OS X Version 10.1.x

You must install the correct USB 2.0 driver to enable the Tango 2.0 card's USB ports to operate at USB 2.0 speeds; install the driver that corresponds to the Mac OS X Version 10.1.x. Without the driver installed, any USB 2.0 device attached to the Tango 2.0 card will operate at USB 1.1 speed.

1. Insert the USB 2.0 Drivers CD into the computer's CD-ROM drive.
2. Double-click the USB 2.0 Driver for 10.1.x folder; a new window will open.
3. Double-click the USB2EHCI_v1075.img icon; a USB2EHCI_v1075 disk icon will mount to the desktop.
4. Double-click the USB2EHCI_v1075 disk icon; a new window will open.
5. Double-click the USB2EHCI_v1075 package icon to launch the installation application.
6. Click the lock symbol in the bottom left corner of the window; the Authenticate window will open. Enter your password, and then click OK; the window will close.
7. Click the Mac OS X volume (drive icon) you want to install the driver onto, then click Continue, Install, and then Continue Installation; the driver will be installed. Once the driver installation has finished, click Restart; your installation is complete.

Mac OS 9.2.x

If your system is already running Mac OS 9.2.x, the Apple drivers that enable the FireWire and USB ports on the Tango 2.0 have already been installed. When you upgrade to Mac OS 9.2.x, the appropriate drivers will be installed automatically.

Mac OS 9.1, Existing Installation

Complete these steps only if you installed Mac OS 9.1 before installing the Tango 2.0. Please note, if your system has built-in USB and FireWire ports, you may skip these steps.

1. Insert the Mac OS 9.1 CD into your computer's CD-ROM drive. In the finder menu, select Special: Restart, then immediately press and hold down the C key on your keyboard until your system restarts and the *Welcome to Mac OS* screen appears.

Installation Steps—Mac OS Computers



Mac OS 9.1, Existing Installation (continued)

2. Double-click the Mac OS Install application icon. In the *Select Destination* window, click the Select button. Proceed through the next several screens until you reach the *Install Software* window. Click the Customize button. In the *Custom Installation and Removal* window, deselect all the Software component check boxes (click on each check or dash until the box is empty), except Mac OS 9.1. Click the pop-up menu to the right of Mac OS 9.1. Change from “Recommended Installation” to “Customized Installation.” The *Select Mac OS 9.1 Features to Install* window will appear shortly.
3. Change “Recommended Installation” to “Customized Installation” from the pop-up menu. Deselect all the feature check boxes except “Network and Connectivity.” Click the arrow next to “Network and Connectivity” to view the features. Deselect all the features except “FireWire” and “USB Adapter Card Support”. Click OK, Start, then Continue to complete the installation. After the software is installed, quit the Mac OS Install application and restart your computer from the hard drive where Mac OS 9.1 is installed. Your installation is complete.

Mac OS 9.1 (Upgrade From Lower Mac OS Version)

Complete these steps only when upgrading your system to Mac OS 9.1 from a lower Mac OS version; FireWire and USB driver software will be installed automatically. Please note, if your system has built-in USB and FireWire ports, you may skip these steps.

1. Insert the Mac OS 9.1 CD into your computer’s CD-ROM drive. In the finder menu, select Special: Restart, then immediately press and hold down the C key on your keyboard until your system restarts and the *Welcome to Mac OS* screen appears.
2. Double-click the Mac OS Install application icon. In the *Select Destination* window, click the Options button and click the Perform Clean Installation check box that appears in the subsequent screen. Click the Select button. Proceed through the next several screens until you reach the *Install Software* window. Click OK, Start, then Continue, and complete the installation. After the software is installed, quit the Mac OS Install application and restart your computer from the hard drive where Mac OS 9.1 is installed. Your installation is complete.

Mac OS 9 (Existing Installation)

If Mac OS 9.0.x is installed in your computer, you must download and install the appropriate FireWire and USB driver software. Please note, if your system has built-in USB and FireWire ports, you may skip these steps.

1. Turn on your computer.
2. Log on to the Internet and type in www.sonnettech.com/support/tango2.
3. Locate and click on the link for FireWire and USB drivers.
4. Read the information on the page, then click on each link to download both drivers.
5. Install the drivers, then restart your computer from the hard drive where Mac OS 9 is installed. Your installation is complete.

Installation Steps—Mac OS Computers



Mac OS 9 (Upgrade From Lower Mac OS Version)

Complete these steps only when upgrading your system to Mac OS 9.0 from a lower Mac OS version.

1. Insert the Mac OS 9 CD into your computer's CD-ROM drive. In the finder menu, select Special: Restart, then immediately press and hold down the C key on your keyboard until your system restarts and the *Welcome to Mac OS* screen appears.
2. Double-click the Mac OS Install application icon. In the *Select Destination* window, click the Options button and click the Perform Clean Installation check box that appears in the subsequent screen. Click the Select button. Proceed through the next several screens until you reach the *Install Software* window. Click OK, Start, then Continue, and complete the installation. After the software is installed, quit the Mac OS Install application and restart your computer from the hard drive where Mac OS 9 is installed.
3. Log on to the Internet and type in www.sonnettech.com/support/tango2.
4. Locate and click on the link for FireWire and USB drivers.
5. Read the information on the page, then click on each link to download both drivers.
6. Install the drivers, then restart your computer; your installation is complete.



Installation Steps—Windows PCs

The following four pages cover the installation procedure for the Tango 2.0 card into Windows PCs. If you have a Mac OS computer, return to page 2.

Installation Preparation

Prior to installing the Tango 2.0 into your system, you should read the section in your computer's user manual that addresses PCI card installation.

START HERE! USB 2.0 Driver Installation—All Windows Versions

This section describes the installation of USB 2.0 drivers to enable USB 2.0 device support through the Tango 2.0; you must install these drivers prior to installing the Tango 2.0 card.

1. Turn on your computer, and wait for Windows startup to finish.
2. Insert the USB 2.0 Drivers CD into your CD-ROM drive.
3. From the taskbar, click on Start > Run...
4. Assuming D:\ is your CD-ROM drive, type D:\U2v2_1_2_1 when the *Run* window appears, and then click OK; the USB 2.0 drivers will be installed into your system.
5. When the *Finished* window appears, eject the CD from your computer's CD-ROM drive, and then click Close to restart your system and complete the installation; you may now install the Tango 2.0 card.

Tango 2.0 Card Installation Steps

1. Shut down your computer.
2. Open your computer to access its expansion card area (PCI slots); refer to your computer's user manual for specific information.
3. Remove the Tango 2.0 card from its packaging.
4. Locate an available PCI slot inside your computer and, if present, remove its port access cover from the rear of the computer.
5. Install the Tango 2.0 card into the PCI slot; make sure the card is firmly seated and secured.
6. Close your computer and carefully replace its cover.



Installation Steps—Windows PCs

FireWire/USB Driver Installation Steps

The following section covers the installation of FireWire and USB 1.1 driver software in Windows PCs; refer to the heading that describes your setup on this or the next two pages. If you have a Mac OS computer, go back to page 2 to find Mac OS driver installation information.

Windows 98 SE



Support Note: You must use the Windows 98 SE CD-ROM to install some of the drivers necessary to support the Tango 2.0 in your system.

Depending on your system's configuration before you install the Tango 2.0 (for example, you've previously installed a USB card), some of the drivers required to support the Tango 2.0 card may have already been installed. If this is the case, you may not need to perform some of the steps listed.

1. Turn on your computer; during Windows startup, *New Hardware Found* windows will briefly appear.
2. When the *Add New Hardware Wizard (PCI Standard PCI-to-PCI Bridge)* window appears, click Next.
3. When the next window appears, insert the Windows 98 SE CD into your computer's CD-ROM drive, select "Search for best driver for your device (Recommended)," and then click Next.
4. When the next window appears, click Next.
5. When the message stating "Windows is now ready to install the best driver..." appears, click Next.
6. When the message stating "Windows has finished installing the software that your new device requires," appears, click Finish; the window will close, and then several *New Hardware Found* windows will briefly appear.
7. When the next *Add New Hardware Wizard (NEC USB Open Host Controller)* window appears, click Next.
8. When the next window appears, select "Search for best driver for your device (Recommended)," and then click Next.
9. When the next window appears, click Next.
10. When the message stating "Windows has found an updated driver for this device..." click Next.
11. When the message stating "Windows is now ready to install the best driver..." appears, click Next.
12. When the message stating "Windows has finished installing the software that your new device requires," appears, click Finish; the window will close.
13. When the next *Add New Hardware Wizard (NEC USB Open Host Controller)* window appears, click Next. Note: This is correct; this driver is installed two times (once for each USB port).



Installation Steps—Windows PCs

Windows 98 SE (continued)

14. When the next window appears, select “Search for best driver for your device (Recommended),” and then click Next.
15. When the next window appears, click Next.
16. When the message stating “Windows has found an updated driver for this device...,” click Next.
17. When the message stating “Windows is now ready to install the best driver...” appears, click Next.
18. When the message stating “Windows has finished installing the software that your new device requires,” appears, click Finish; the window will close, and then *New Hardware Found* windows will appear.
19. When the *Add New Hardware Wizard (PCI OHCI Compliant IEEE 1394 Host Controller)* window appears, click Next.
20. When the next window appears, select “Search for best driver for your device (Recommended),” and then click Next.
21. When the next window appears, click Next.
22. When the message stating “Windows is now ready to install the best driver...” appears, click Next.
23. When the message stating “Windows has finished installing the software that your new device requires,” appears, click Finish; the window will close, and then *New Hardware Found* windows will appear.
24. From the Start menu, select Shut Down..., and then select Restart from the *Shut Down Windows* window to complete the driver installation.

Windows Me

1. Turn on your computer; during Windows startup, an *Updating Hardware Info* window will appear.
2. When the *Add New Hardware Wizard (PCI Standard PCI-to-PCI Bridge)* window appears, click Next.
3. When the next window appears, select “Automatic Search for a better driver (Recommended),” and then click Next.
4. When the next window appears, click Finish; the window will close, and then additional *New Hardware Found* windows will briefly appear.
5. When the next *Add New Hardware Wizard (PCI OHCI Compliant IEEE 1394 Host Controller)* window appears, click Next.
6. When the next window appears, select “Automatic Search for a better driver (Recommended),” and then click Next.



Installation Steps—Windows PCs

Windows Me (continued)

7. At the next prompt, click Yes to restart your system; your installation is now complete.

Windows 2000

1. Turn on your computer; during Windows startup, several *New Hardware Found* windows will appear, and the appropriate drivers will be installed. Your installation is complete.

Windows XP

1. Turn on your computer; during Windows startup, *Found New Hardware* pop-ups will appear.
2. When the *Found New Hardware Wizard (Sonnet USB 2.0 Host PCI Card)* window appears, click Next.
3. When the *Completing the Found New Hardware Wizard* window appears, click Finish.
4. When the *Found New Hardware Wizard (USB 2.0 Root Hub Device)* window appears, click Next.
5. When the *Completing the Found New Hardware Wizard* window appears, click Finish.
6. A *Found New Hardware* pop-up will appear, stating that the software for the new device has been installed; your installation is complete.

Using FireWire and USB Devices With The Tango 2.0

Known Issues and Advice

FireWire and USB interfaces have many technological advantages over older interfaces such as ADB, Serial, and SCSI, not the least of which is hot-plugging capability. However, there are some limitations you should be aware of, and we have listed some additional advice here. Refer to the peripheral manufacturers' web sites and user's guides for more specific information.

- **Many peripherals require additional drivers and application software to operate or have full functionality.** Software should be included with the device, or available to download from the manufacturer's web site. Check the peripheral's user's manual for information about necessary software.
- *Mac Users:* While USB keyboards and mice are compatible with Tango 2.0, certain functions cannot be supported on pre-G3 machines; this is an Apple ROM issue and not a problem with the Sonnet Tango 2.0. Because pre-G3 Macintosh computers were built before Apple added onboard USB support, certain features, including keyboard startup, wake from sleep (by pressing a key or moving the mouse), and others, will not work. We recommend that you keep an ADB keyboard and mouse connected to your system to support such functionality.
- *Mac Users:* When the Tango 2.0 is installed in a pre-G3 Macintosh computer, connected FireWire drives cannot be used as the system startup (boot) drive.
- *Mac Users:* Always unmount a drive from the desktop ("eject" it or drag it to the trash) before disconnecting it from its cable or the Tango 2.0 card.
- *Windows Users:* Always "stop", "unplug", or "eject" any drive connected to the USB or FireWire ports before disconnecting it from its cable or the Tango 2.0 card.
- Disconnecting USB or FireWire peripherals (including external storage devices, cameras, memory card readers, printers, etc.) while they are transferring or receiving data, may result in damage to the file(s) being transferred or cause your system to hang.
- Remember to connect external power supplies to the peripherals that require them. Although many peripherals may draw power directly from the Tango 2.0 card, other devices require an external power source.
- When a USB 2.0 peripheral is connected to a USB 1.1 peripheral, which is in turn connected directly to the Tango 2.0, the USB 2.0 peripheral will operate at USB 1.1 speeds. Keep USB 2.0 and USB 1.1 devices connected separately.
- Should you need to connect USB 2.0 peripherals to a hub, be sure to use a USB 2.0 hub; USB 2.0 peripherals connected to a standard USB hub will operate at USB 1.1 speed.
- When transferring data from a digital video camera using a FireWire port on the Tango 2.0, we do not recommend using another FireWire device at the same time.
- Do not connect FireWire devices in a loop, nor terminate a FireWire chain; there are no terminators or ID settings required for any FireWire device.