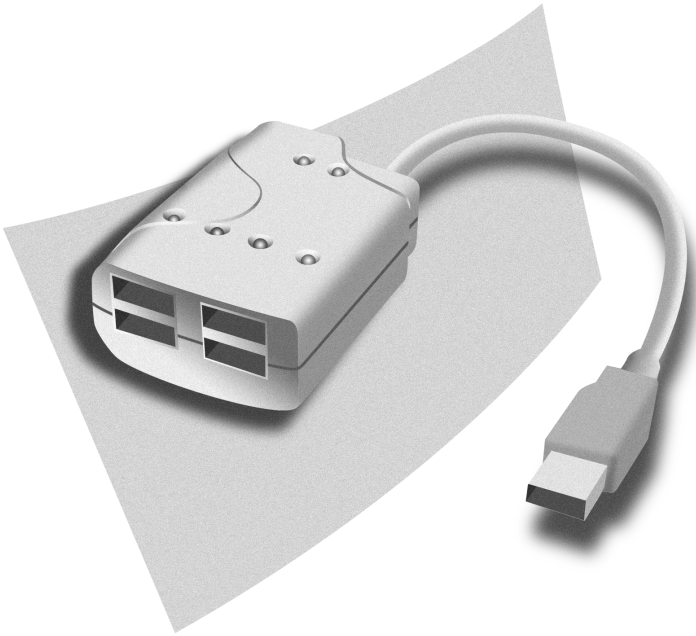


# XHub for Notebooks

## User's Guide



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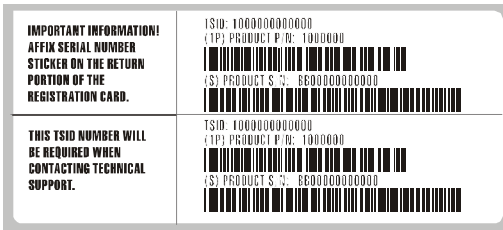
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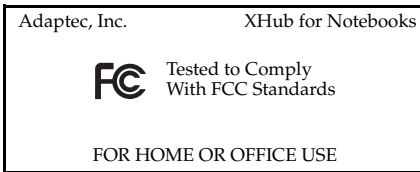
### Federal Communications Commission Radio Frequency Interference Statement

WARNING: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. However, if this equipment does cause interference to radio or television equipment reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.
- Use a shielded and properly grounded I/O cable and power cable to ensure compliance of this unit to the specified limits of the rules.

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.



### European Union Compliance Statement

This Information Technology Equipment has been tested and found to comply with EMC Directive 89/336/EEC, as amended by 92/31/EEC and 93/68/EEC, in accordance with:

- EN55022 (1998) Emissions
- EN55024 (1998) Immunity:
  - EN61000-4-2 (1998) Electrostatic discharge:  $\pm 4$  kV contact,  $\pm 8$  kV air
  - EN61000-4-3 (1998) Radiated immunity
  - EN61000-4-4 (1995) Electrical fast transients/burst:  $\pm 1$  kV AC,  $\pm 0.5$  kV I/O
  - EN61000-4-5 (1995) Surges  $\pm 1$  kV differential mode,  $\pm 2$  kV common mode
  - EN61000-4-6 (1996) Conducted immunity: 3 V
  - EN61000-4-11 (1994) Supply dips and variation: 30% and 100%

In addition, all equipment requiring U.L. listing has been found to comply with EMC Directive 73/23/EEC as amended by 93/68/EEC in accordance with EN60950 with amendments A1, A2, A3, A4, A11.



### Australian/New Zealand Compliance Statement

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to the Australian/New Zealand standard AS/NZS 3548 set out by the Spectrum Management Agency.





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This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.



### **Japanese Compliance (Voluntary Control Council Initiative)**

This equipment complies to class B Information Technology equipment based on VCCI (Voluntary Control Council for Interface). This equipment is designed for home use but it may causes radio frequency interference problem if used too near to a television or radio. Please handle it correctly per this documentation.

**In this Guide**

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## **Introduction**

Congratulations on your purchase of the Adaptec XHub for Notebooks. You can use your XHub to connect USB 1.1 and 2.0 devices to your Windows<sup>®</sup> or Macintosh<sup>®</sup> notebook or desktop computer.

This *User's Guide* shows you how to set up and use your Adaptec XHub for Notebooks.

## What's in the Package

The Adaptec XHub for Notebooks kit includes:

- AUH-4100 USB 2.0 hub
- 5 V, 2.6A power adapter
- *XHub for Notebooks Quick Start Guide*
- XHub for Notebooks CD, which includes drivers and the Adaptec USBControl device manager utility

You'll also need one high-quality USB cable for each USB device you wish to connect to your XHub. Most USB devices are sold with a USB cable. (High quality USB cables are available for purchase on the Adaptec website, at [www.adaptec.com/buy-cables](http://www.adaptec.com/buy-cables).)

## System Requirements

### Windows Computers

To use the XHub for Notebooks, you need:

- PC-compatible computer with 266 MHz or faster processor, running Windows® 98SE, Windows® Me, Windows® 2000, or Windows® XP
- CD-ROM drive
- Available USB 2.0 port (see [Maximizing XHub Performance on page 12](#) for more information)

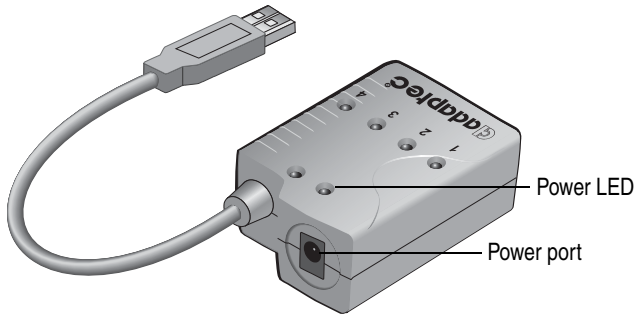
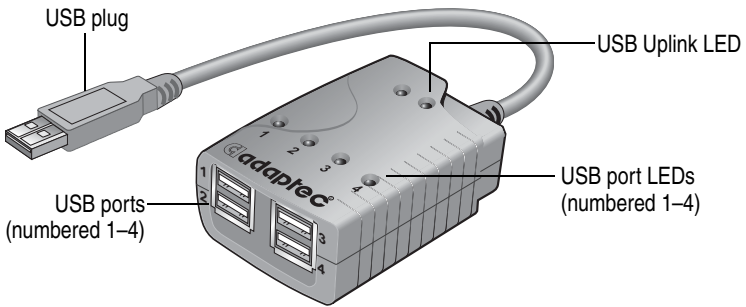
### Macintosh Computers

To use the XHub for Notebooks, you need:

- Mac OS 9.04 or later
- CD-ROM drive
- Available USB port (see [Maximizing XHub Performance on page 12](#) for more information)

# This Is Your XHub

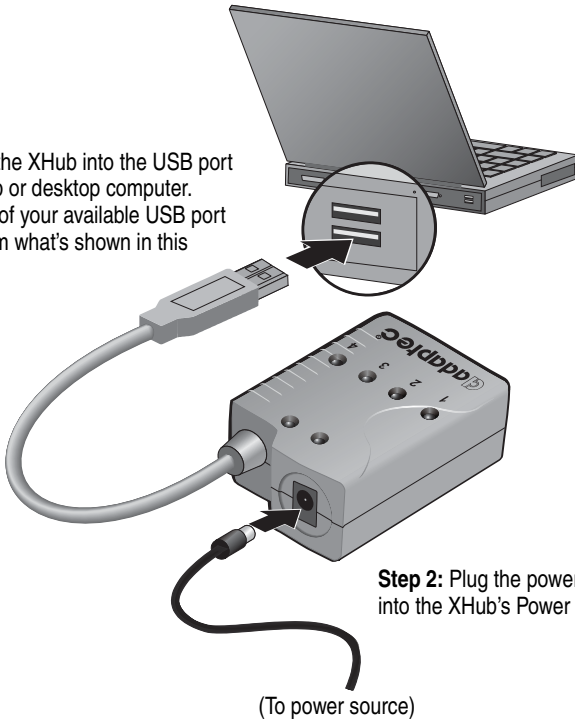
More information about your XHub is in [Technical Specifications on page 12](#).



## Plugging in Your XHub

Follow the picture below to connect your XHub. Your XHub must be connected to a USB 2.0 port for it to operate at USB 2.0 speeds. XHubs connected to bus-powered devices can operate without a power adapter. (See [Technical Specifications](#) on page 12 for limitations.)

**Step 1:** Plug the XHub into the USB port on your laptop or desktop computer. (The location of your available USB port may differ from what's shown in this example.)



**Step 2:** Plug the power adapter into the XHub's Power port.

(To power source)

## Installing Drivers

USB 2.0 driver software with hub support must be installed on your computer for the XHub for Notebooks to operate at USB 2.0 speeds. If you are using an Adaptec USB 2.0 controller, install the USB 2.0 drivers provided on the XHub for Notebooks CD.



**Note:** The drivers provided on the XHub for Notebooks CD will not work with non-Adaptec USB 2.0 controllers. Refer to your controller's manufacturer for driver information.

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Follow the instructions for your Operating System (OS) to install the USB 2.0 drivers:

- For Windows 2000, Windows Me, or Windows 98SE, see below.
- For Windows XP, see [page 6](#).
- For Macintosh, see [page 7](#).



**Note:** Adaptec *strongly recommends* that you always use the most recent drivers to maximize your XHub's performance. Regularly check the Adaptec website at [www.adaptec.com](http://www.adaptec.com) for the most up-to-date USB 2.0 drivers.

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### Windows 2000/Me/98SE

Turn on your computer and connect your AUH-4100 (see [Plugging in Your XHub on page 4](#) for instructions). Insert the XHub for Notebooks CD into your CD-ROM drive. Windows loads the driver automatically.

#### Double-checking Driver Installation

To ensure that the driver has installed properly:

- 1 On your desktop, double-click **My Computer**.
- 2 Double-click **Control Panel**.
- 3 Double-click **System**. The System Properties window opens.
- 4 Open **Device Manager**.

Adaptec USB 2.0 Hub should appear under Universal Serial Bus controllers.

## Windows XP

To install the drivers for Windows XP:

- 1 Turn on your computer and connect your AUH-4100 (see [Plugging in Your XHub on page 4](#) for instructions).
- 2 Insert the XHub for Notebooks CD into your CD-ROM drive. The Found New Hardware wizard opens.
- 3 Select **Install the software automatically...**, then click **Next**.
- 4 Click **Continue Anyway**.



- 5 Windows installs the driver. Click **Finish** to complete the installation.
- 6 Follow the steps in [Double-checking Driver Installation on page 5](#) to ensure that the driver was installed properly.

## Macintosh Operating Systems

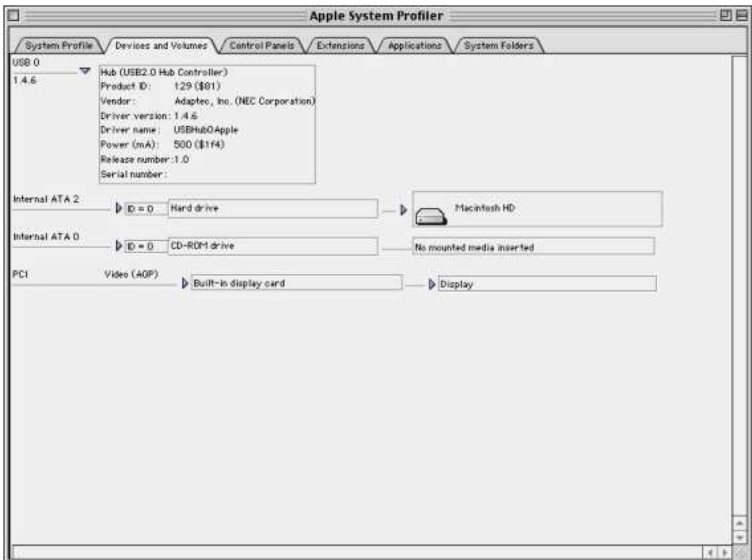
Because there are currently no USB 2.0 drivers for the Macintosh OS, you don't need a special driver to use the XHub for Notebooks with your Macintosh computer. (Your XHub for Notebooks will operate at USB 1.1 speeds.)



**Note:** The drivers included on your XHub for Notebooks CD will not work on your Macintosh computer.

To verify that the XHub for Notebooks is recognized by your system:

- 1 Turn on your computer and connect your AUH-4100 (see [Plugging in Your XHub on page 4](#) for instructions).
- 2 Open the Apple System Profiler and check that USB2.0 Hub Controller appears in Devices and Volumes under USB, as shown in the example below.





## Installing USBControl

USBControl is a software utility that helps you easily manage your USB peripherals. Using USBControl, you can find information on device performance and status, and get detailed device information and troubleshooting help.

To install USBControl, insert the XHub for Notebooks CD into your CD-ROM and follow the on-screen instructions.

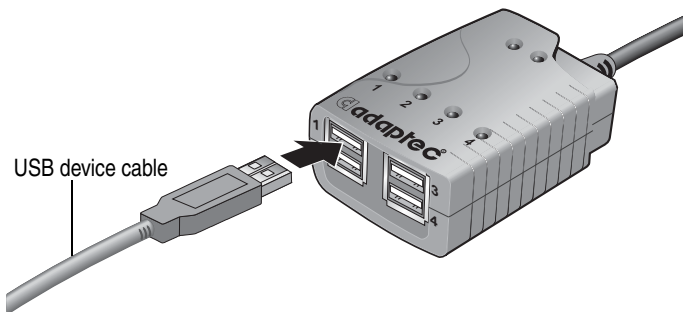
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**Note:** USBControl runs with Adaptec USB 2.0 controllers, and on Windows OSs only.


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## Plugging in Your Devices

Follow the picture below to connect your USB 1.1 and 2.0 devices to your XHub for Notebooks. You can plug devices into any of the four USB ports.



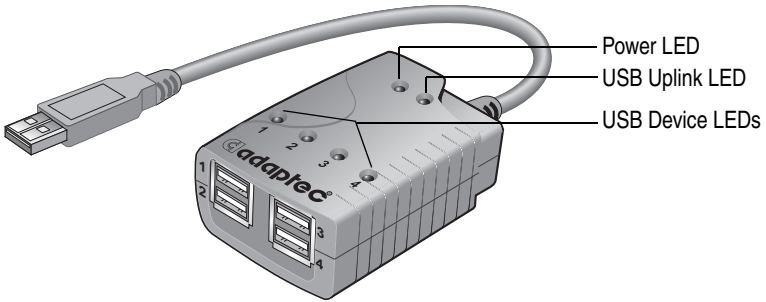
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 **Note:** USB 1.1 devices won't operate at USB 2.0 speeds, even if they're connected to USB 2.0 hubs or controllers. Your XHub must be connected to a USB 2.0 port for it and your USB 2.0 devices to operate at USB 2.0 speeds. (See [USB 1.1 vs USB 2.0 on page 11](#) for more information, and [Macintosh Operating Systems on page 7](#) for special limitations for Macintosh users.)

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## Understanding the LEDs

Your XHub for Notebooks has 6 colored LEDs to help you monitor the status of your XHub and USB devices. Refer to the figure below for the location of each LED.



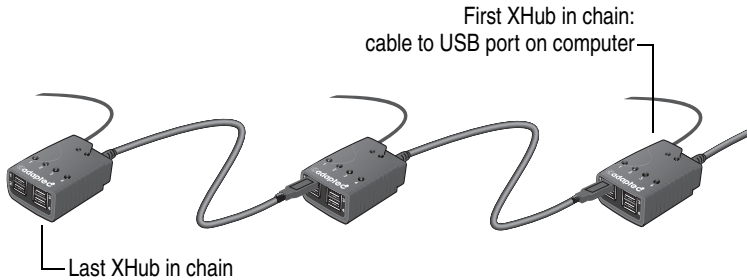
- The red Power LED indicates that the XHub is connected to a power source and that the power is on.
- The green USB Uplink LED indicates that the XHub is properly connected to a USB port on your computer, and that a USB 2.0 driver (version 3.0 or later) is installed. (See [Installing Drivers on page 5](#) for more information.)
- The four USB Device LEDs (numbered 1 through 4) indicate the status of the four USB ports on your XHub (numbered 1 through 4). When a Device LED is illuminated, a USB device is connected to the corresponding USB port.

## Daisy-Chaining XHubs

If you want to add more USB 2.0 ports to your system, Adaptec XHubs can be daisy-chained (linked in series). You can connect *up to five* XHub for Notebooks hubs. (This is a USB limitation.)

To daisy-chain XHubs:

- 1 Connect a power adapter to each XHub. (See [Plugging in Your XHub on page 4](#).)
- 2 Plug the first XHub's USB cable into the USB port on your computer.
- 3 Plug the next XHub's USB cable into a USB port on the first XHub. You can use any available USB port.



- 4 Repeat until all your XHubs are daisy-chained together.

## About USB

USB stands for Universal Serial Bus. It is the interface between your computer and the USB devices you plug into it. Your computer communicates with USB devices through the USB interface.

Some USB features are particularly important to desktop computer users:

- USB is one-size-fits-all—any USB device can be plugged into any USB port using the appropriate USB cable.
- USB devices feature plug-and-play installation—you don't have to open your computer or add special hardware to install a new USB device. Once you plug your USB device into your computer (or hub) and turn it on, you can start using it right away.
- You can hot-swap USB devices. You can easily unplug your digital camera to take away with you, or plug in your joystick during your lunch break.
- You can have many USB devices connected to your computer at once. Most newer computers come with 2 USB ports. USB hubs can provide additional ports.

### USB 1.1 vs USB 2.0

USB 2.0 transfers data at 480 Megabits per second. USB 1.1 transfers data at 12 Megabits per second—that makes USB 2.0 up to 40 times faster than USB 1.1.

USB 1.1 devices cannot operate at USB 2.0 speeds even when connected to a USB 2.0 hub or adapter.

## Maximizing XHub Performance

For your XHub for Notebooks to operate at optimum speed, it must be connected to a USB 2.0 port, and USB 2.0 driver software with hub support must be installed on your computer.



**Note:** *Macintosh users*—There are currently no USB 2.0 drivers for the Macintosh OS, and USB 2.0 PCI cards will not work on Macintosh systems. Your XHub for Notebooks will operate at USB 1.1 speeds.

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If your computer does not have a built-in USB 2.0 port, we recommend connecting the XHub for Notebooks to an Adaptec USB 2.0 card for the highest-quality USB 2.0 connection. (For information on USB 2.0 adapters, go to the Adaptec website at [www.adaptec.com](http://www.adaptec.com).)

USB 2.0 drivers with hub support can be found on the XHub for Notebooks CD included in your kit. See [Installing Drivers on page 5](#) for more information.

## Technical Specifications

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|                       |                                 |
|-----------------------|---------------------------------|
| USB Compliant Version | USB 2.0, USB Hi-Speed Certified |
| Number of USB Ports   | 4                               |
| Operating Temperature | 0 °C – 40 °C                    |
| Power Source          | Self-powered                    |
| Power Adapter Input   | AC 100 V – 240 V, 50 Hz/60 Hz   |
| Power Adapter Output  | DC 5 V/2.6 A                    |

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**Note:** The XHub for Notebooks can operate without a power adapter if it is connected to a bus-powered USB device, such as a mouse, keyboard, or zip drive. However, if the total power consumption of the USB devices connected to the XHub exceeds 490 mA, a power adapter must be used. Use Adaptec USBControl to determine the power consumption of your devices. Refer to USBControl online help for more information.

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**Adaptec, Inc.**  
691 South Milpitas Boulevard  
Milpitas, CA 95035 USA

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