Hubport Installation Guide

Introduction

Thank you for purchasing the Hubport™, a self-powered Universal Serial Bus (USB) hub designed to provide a convenient and effective means of bringing USB connectivity to your PC, server, or laptop. The Hubport also delivers the potential of Inside Out Network's flagship product — the Edgeport™ USB to Serial (RS-232) expansion module.
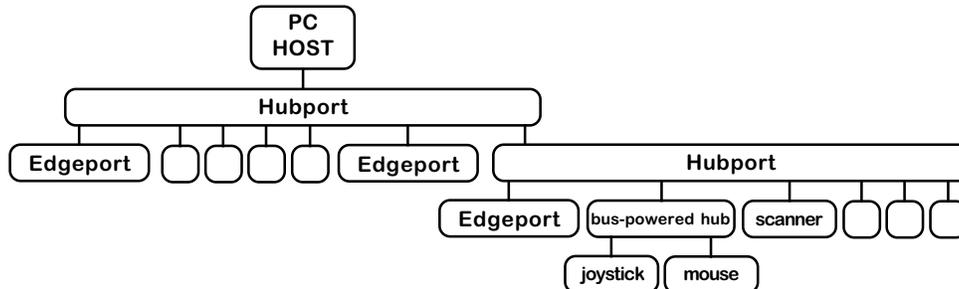

Figure 1: Example of a Typical Hub Configuration

Hubs, critical components in the plug-and-play architecture, are wiring concentrators that enable the attachment of multiple devices, thus converting a single attachment point into multiple attachment points. USB architecture allows a cascaded multiple hub configuration with certain power limitations (explained later in this section). See figure 1.

Each hub has an upstream port, connecting to the host, and multiple downstream ports, connecting to downstream devices, including other hubs. A hub can detect attachment and detachment of downstream devices and enable and monitor the distribution of the power to downstream devices via their integral hardware and the operating system.

Each USB device reports its power requirements to the operating system, which then enables and disables the device as a function of its power requirements and the amount of available power. High-speed devices typically need to be connected to a self-powered hub, such as the Hubport, which obtains power from its external power supply and provides up to 500 mA for each downstream port. Only simple devices, such as a mouse, can be connected to a bus-powered hub, which obtains power from its upstream host and provides up to 100 mA for each downstream port.

Due to the limited available power for bus-powered hubs, cascading two bus-powered hubs is an illegal topology, and devices connected to the second hub will not function. *(USB specifications limit the connection of a bus-powered hub to a self-powered hub or host only.)* Since the Hubport is a self-powered hub, it is not affected by this limitation.

Verifying Correct Installation of USB Support

If you are using Windows 98, which fully supports USB, you may proceed to "Installing Hubport." If you are using Windows 95 OSR2.1 or above, please continue with the section below.

Checking for Full USB Support in the Device Manager

1) From the main desktop area of Windows, right click on the My Computer icon and choose Properties to open the System Properties window.

2) Click once on the Device Manager tab to view a listing of installed hardware devices.

Figure 2: Example of the USB Devices Listed in the Device Manager Tab

3) In the Device Manager tab, your hardware devices are in alphabetical order and should include a Universal serial bus controller toward the bottom of the list. Double click on this device to open it.

In order for the Hubport and other USB devices to work properly at least two devices are required and will be listed. Although the exact name of each manufacturer's device listing can vary, the names of these two required USB devices should include the following descriptive words:

- USB Root Hub

- USB Host Controller

Figure 2 shows an example of what you might see listed under the Universal serial bus controller. If you do not see one or both of these devices, go to "Determining Why Support Is Not Present."

Installing Hubport

Plugging Hubport Into Your PC

Plug in the power supply. Plug the flat end of the UBS cable into the downstream A connector located in the back of your computer or USB hub port. Plug the **D-**shaped end into the Hubport.

If previously installed, the Hubport will be listed in the System Device Manager and is ready for immediate use. With the initial installation, the Update Device Driver Wizard automatically appears and you may continue with "Installing the Drivers" below. If the Update Device Driver Wizard does not appear, go to the preceeding section, "Verifying Correct Installation of USB Support."

Installing the Drivers

To install your Hubport drivers:

1 Click on NEXT to initiate a search for the updated driver device.

2) Click on FINISH to continue with the installation.

You have now successfully installed your Hubport!

Determining Why Support Is Not Present

To verify that the necessary hardware, a USB Host Controller, is installed in your system, make sure that your PC has USB connectors. If not, then this system will not support USB regardless of the Windows version. You will need to purchase a PCI USB controller card, such as the Step Up Kit™ from Inside Out Networks. If your PC has USB connectors, verify that the USB hardware is enabled in your system BIOS configuration.

In some cases your manufacturer may have elected to ship your PC without the USB support drivers installed. If the two USB device manager hardware listings are absent in your Device Manager, proceed to the next section, "Installing Microsoft USB Support."

After installing USB Support from your Microsoft Windows 95 OEM system disk, check your Device Manager again. If the two devices are not present or Windows Plug & Play does not auto detect the Hubport, try the following:

1) If only the HOST Controller is listed in the Device Manager then remove it and reboot.

2) From the Control Panel, open the System Properties and select "Check for a device labeled ?UNKNOWN." If ROOT HUB and HOST Controller are listed, then remove them and reboot.

If, after rebooting, the Add Hardware Wizard finds the USB devices and requires new drivers, such as UHCD.SYS, you can locate the drivers in the C:\WINDOWS\SYSTEM directory. If, after following the proceedures decribed in this guide, you still cannot install you Hubport, please call (512)301-7080 and ask for Technical Support.

Installing Microsoft USB Support

Microsoft provides a supplemental program (usbsupp.exe) to allow users to upgrade Windows 95 version OSR2 to support the Universal Serial Bus. In order to install this support perform the following steps:

1) Insert your Microsoft Windows 95 OEM system disk into your CD drive.

2) In the START menu, select RUN.

3) Type **<CD drive letter>:\other\usb\usbsupp**.

Follow the instructions on the screen.

After rebooting, continue with the "Installing Hubport" section.

Note that Windows 95 version 4.0.950 and 4.0.950a do not support the upgrade path to USB. Unfortunately, Microsoft has not provided an upgrade path to OSR2 from earlier versions of Windows. OSR2 must be preinstalled by your PC vendor. Contact your PC vendor for more information.

To Contact Inside Out Networks…

Our Web Page is located at **www.ionetworks.com**, where you may download drivers and get current product information. For more information on Inside Out Networks' products, you may contact us by E-Mail at **info@ionetworks.com** or at the address and telephone number below. For sales, you may contact us by E-mail at **sales@ionetworks.com**. For technical support, you may contact us at (512) 301-7080.

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