



USB Multi-port Hub User Manual



P73277

F5U116

Introduction

Please read this manual thoroughly in its entirety. Failure to follow installation and other recommended procedures may result in irreversible damage to the product, your computer and/or connected devices.

Thank you for purchasing the Belkin Components F5U116 Multi-port Hub. This product provides you with the following ports:

- Four downstream USB ports
- One parallel printer port
- Two RS-232 serial ports

USB has a simple and high-speed interface which makes adding serial devices and parallel printers almost trivial. No need to worry about addresses, IRQs, internal cards, slots, or anything complicated. Just plug it in, install the drivers, and you're ready to go.

Package Contents

- Belkin Multi-port Hub
- 6VDC, 2.5A power supply
- USB Device Cable
- Installation CD
- This manual
- Registration card

Product Detail



System Requirements

- PC with one free USB port
- Windows® 98/98 Second Edition (SE)
- CD-ROM drive

Hardware Installation

Because USB is hot swappable, you need not power down your PC.

- Connect the jack of the power adapter and plug it into the back of the Multi-port Hub
- Find an unused electrical outlet, and plug in the power adapter
- Plug the flat end (A plug) of the USB cable into a free USB port on your PC
- Plug the square end (B plug) of the USB cable into the USB upstream connector located on the back of the Multi-port Hub

Windows® will automatically detect the Multi-port Hub and start installing its drivers. Windows will prompt you for the software. See the next sections for details on how to install the software.

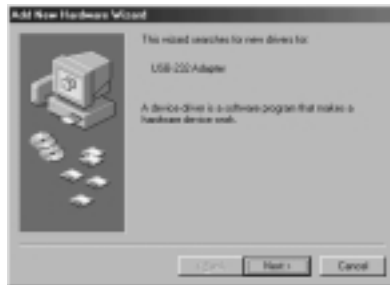
Before you can install the software, you need to know what version of Windows® you are using. If you are not sure what version of Windows® you are running, click on START, select SETTINGS, click on CONTROL PANEL, then double-click on SYSTEM. An applet will appear and provide you with your system's information.

Software Installation

Software Installation – Windows® 98 and Windows® 98 Second Edition (SE)

First, Windows® will automatically detect and install the built-in "General Purpose USB Hub" for the four downstream USB ports. You do not need to do anything.

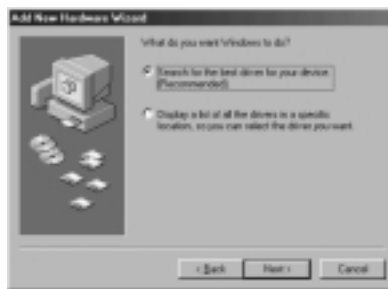
Next, Windows® will detect the two serial ports named "USB-232 Adapter". You see the following dialog box:



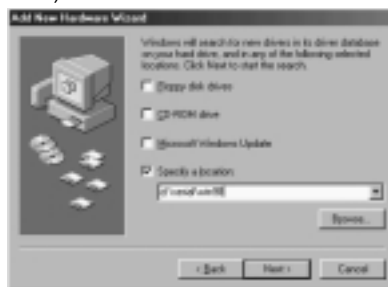
Click on Next.

Software Installation (continued)

At the next prompt, click on Next again so that Windows® searches for the best driver (recommended):



You must then tell Windows® where to get the drivers. Insert the CD-ROM in your CD-ROM drive, and click on "Specify a location". In the space provided, type "d:\serial\win98" (or substitute "d:" with the correct drive letter of your CD-ROM drive). Click on Next.

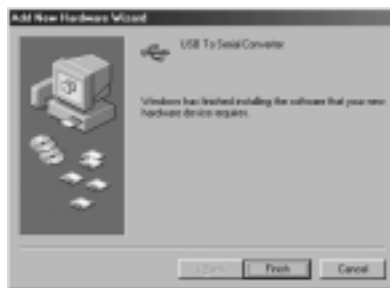


Software Installation (continued)

Windows® will read the CD-ROM and find the correct drivers. Click on Next.

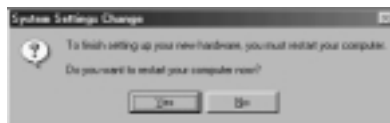


Once Windows® has finished copying the drivers, installation for the first serial port is complete. Click on Finish:

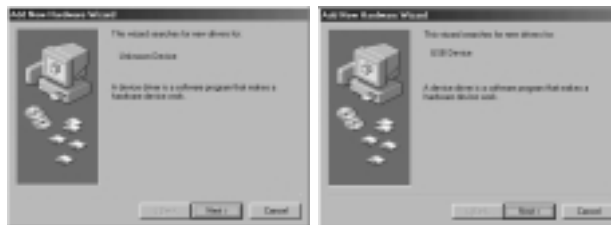


Windows® may prompt you to restart your computer. Because installation is not yet complete, click No.

Software Installation (continued)



Windows® will continue, and will detect and install the drivers for the second serial port. Then, Windows® 98 will find an "Unknown Device". Windows® 98 SE will find this device as a "USB Device". Click on Next.

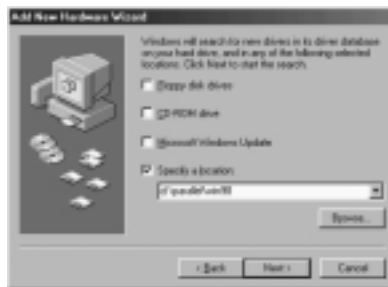


At the next prompt, click on Next again so that Windows® searches for the best driver (recommended):



Software Installation (continued)

You must then tell Windows® where to get the drivers. Make sure the Installation CD is in your CD-ROM drive, and click on "Specify a location". In the space provided, type in "d:\parallel\win98" (or substitute "d:" with the correct drive letter of your CD-ROM drive). Click on Next.

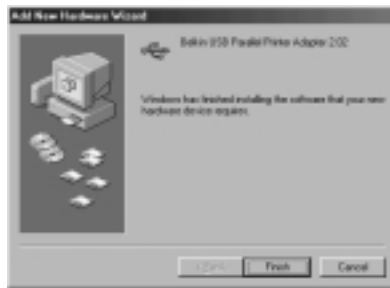


Windows® will read the CD-ROM and find the correct drivers. Click on Next.

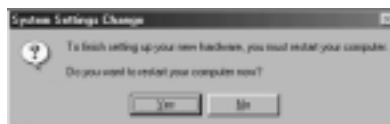


Software Installation (continued)

Once Windows® has completed copying the files, you will see the following confirmation. Click Finish.



Windows® may prompt you to restart your computer. Installation is complete, and restarting is necessary to properly configure the system registry. Click Yes.



Software Installation (continued)

Windows® should copy all the files it needs and install the Multi-port Hub completely. Windows® will begin installing the USB COM ports as COM_A and COM_B on your computer, where A and B are unused COM ports (A and B can be any number from 2 to 10). It will also finish installing the Parallel Port. You can verify whether all the ports on the Multi-port Hub are installed by looking in your "Device Manager". To get to "Device Manager" click on Start, select Settings, then click on Control Panel. Look for the "System" icon then double click it. On the Applet that appears select the "Device Manager" tab. Once you are on "Device Manager", click on the "Plus" sign on the left side of "Universal Serial Bus Controller"; this will expand it. Under "Universal Serial Bus Controller" you should see the following:

- a) General Purpose USB Hub
- b) USB to Serial Converter
- c) USB to Serial Converter

To verify that the Printer Port is installed, click on the plus sign to the left of USB Parallel Printer. You should see the following:

- a) Belkin USB Parallel Printer Adapter 2.02 (LPTUSB1)

Software Installation (continued)



You're done! You can now use the two serial ports on the Multi-port Hub as COM_A and COM_B (A and B can be any number from 2 to 10), and the parallel printer port as LPTUSB1. Take note of these port names when installing or attaching hardware to these ports. Go to page 17 for more information on installing a parallel printer.

Software Installation (continued)

Software Installation – Windows® 95

Prior to installing the Multi-port Hub drivers, you must ensure that the USB ports on your system are working properly. If you plug in the Multi-port Hub and nothing happens (with the power adapter), chances are your USB is not set up yet. You can try the following:

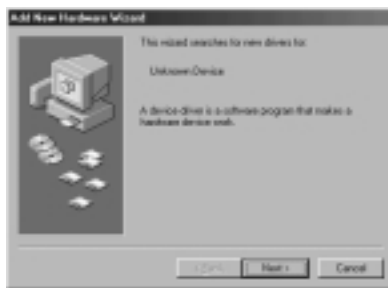
- Upgrade to Windows® 98
- Visit your computer manufacturer's website for software and/or BIOS updates
- Contact your computer manufacturer's technical support on how to enable USB on your computer

When the USB works on your computer, plugging in the Multi-port Hub will cause Windows® to detect the four downstream ports as the "General Purpose Hub", and will install its drivers automatically.

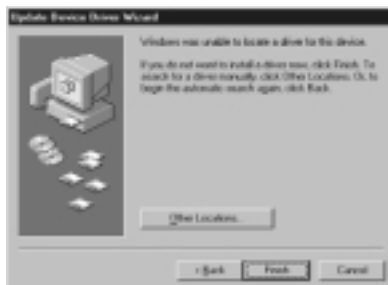
Next, Windows® will detect an "Unknown Device". This "Unknown Device" is actually the two serial ports of the Multi-port Hub.

Click Next on the following screen:

Software Installation (continued)



You must then tell Windows® where to get the drivers. Insert the CD-ROM in your CD-ROM drive, and click on "Other Locations...":



Software Installation (continued)

In the space provided, type in "d:\serial\win95" (or substitute "d:" with the correct drive letter of your CD-ROM drive).
Click on OK:



Windows will read the CD-ROM and find the correct drivers.
Click on Finish:



Software Installation (continued)

Windows® will display the following prompt. Click OK:

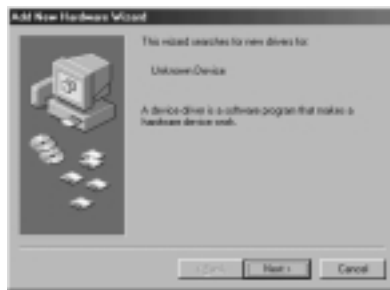


In the space provided, type in "d:\serial\win95" (or substitute "d:" with the correct drive letter of your CD-ROM drive). Click on OK:

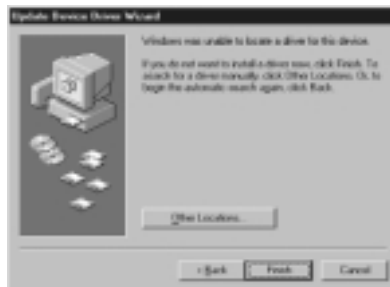


Next, Windows® will detect another "Unknown Device". This second "Unknown Device" is the parallel printer port of the Multi-port Hub. Click Next:

Software Installation (continued)

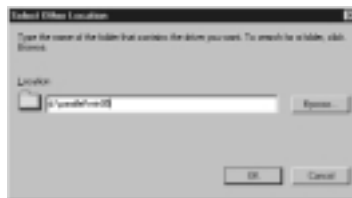


You must then tell Windows where to find the drivers. Make sure the CD is in your CD-ROM drive, and click on "Other Locations...":

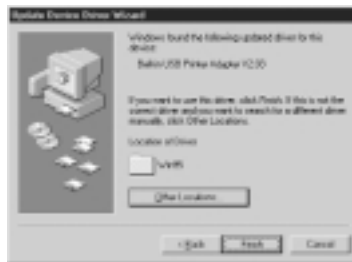


In the space provided, type "d:\paralle\win95" (or substitute "d:" with the correct drive letter of your CD-ROM drive). Click on OK:

Installing a Parallel Printer



Windows® will read the CD-ROM and find the correct drivers. Click on Finish:



Windows® will display the following prompt. Click OK:

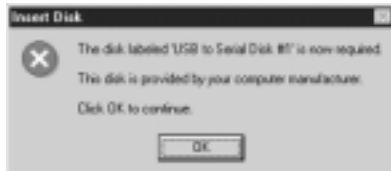


Software Installation (continued)

In the space provided, type "d:\paralle\win95" (or substitute "d:" with the correct drive letter of your CD-ROM drive).
Click on OK:



Once Windows® has completed copying the files, it may prompt you again for the serial port drivers. Click OK:



In the space provided, type "d:\serial\win95" (or substitute "d:" with the correct drive letter of your CD-ROM drive).
Click on OK:



Software Installation (continued)

Windows® should copy all the files it needs and install the Multi-port Hub completely. Windows will start installing the USB COM ports as COM_A and COM_B on your computer, where A and B are unused COM ports (A and B can be any number from 2 to 10). It will also finish installing the Parallel Port. You can verify whether all the ports on the Multi-port Hub are installed by looking in your "Device Manager". To go to "Device Manager" click on Start, select Settings, then click on Control Panel. Look for the "System" icon then double click it. On the Applet that appears select the "Device Manager" tab. Once you are on "Device Manager", click on the "Plus" sign on the left side of "Universal Serial Bus Controller"; this will expand it. Under "Universal Serial Bus Controller" you should see the following:

- a) Belkin USB Printer Adapter V2.03 (LPTUSB1)
- b) Generic USB Hub
- c) USB to Serial Converter
- d) USB to Serial Converter

Software Installation (continued)



You're done! You can now use the two serial ports on the Multi-port Hub as COM_A and COM_B (A and B can be any number from 2 to 10), and the parallel printer port as LPTUSB1. Take note of these port names when installing or attaching hardware to these ports. Skip to page 21 for more information on installing a parallel printer.

Installing a Parallel Printer

- First, connect your parallel printer to the Multi-port Hub using IEEE 1284-compliant cables (Belkin F2A046-XX where “XX” is the length in feet).
- Install your printer’s drivers using the software that came with it. Better yet, download the latest software from the printer manufacturer’s web site. When the software prompts you for the port name, select “LPTUSB1” .
- If not, open the printers folder by clicking on START, then click on SETTINGS. Right-click on your printer icon, and choose PROPERTIES. Click on the DETAILS tab. Click on the drop-down menu for “Print to the following port” , and select “LPTUSB1” . Click on APPLY:



You're done! You can now print to your printer from any Windows® application.

Adding Optional DOS Box Support

Adding Optional DOS Box Support for Serial Ports

DOS Box support for the USB Serial Adapter is useful if you intend to use DOS applications, but not necessary for Windows® applications. If you are using only Windows® applications, it is recommended that you do not install this feature as it uses resources. For more information about using DOS Box applications, see section 4.4. Enabling DOS Box support requires one IRQ and a range of eight memory locations in order to function. In addition, some DOS applications require certain IRQ and memory configurations to be associated with specific COM ports. To enable DOS Box support for a USB Serial Adapter device, follow the instructions below.

1. Right-click on the "My Computer" icon on your desktop.
2. Click "Properties" from the menu that appears.
3. Click the "Device Manager" tab on the System Properties page.
4. Click the "+" next to Ports (COM & LPT).
5. Click "USB Comm Port" (ComX) where X is the port number of the device to which you'd like to add DOS Box support.
6. Click the "Properties" button.
7. Click the "DOS Box" tab.
8. Click the box next to Enable DOS Box 16550 Emulator. A check mark will appear in the box.
9. Choose a DOS name for the port from the list box next to Logical Device Name (DOS Box). Many DOS applications will only work with COM1-COM4. If you do not want any of these, choose COMX. Click "OK".

Adding Optional DOS Box Support

10. You will be asked for the "USB to Serial installation" CD. Insert the installation CD into your CD drive and click "OK". If a dialog appears stating that a file could not be found, make sure that the "Copy files from:" edit box contains the name of your CD drive along with ".\Win98" and click "OK".

Once DOS Box support is enabled for a specific USB Serial Adapter device, an additional Port entry in the "Device Manager" will be created, labeled "16550 COM Port Emulator". You will also be able to disable and enable this feature.

To disable or re-enable DOS Box support, follow steps 1-6 above. If you are disabling DOS Box support, the check mark will disappear.

Serial Plug-and-Play Device Detection

A Plug-and-Play device, such as a modem, can be detected in one of two ways:

1. Attach the serial device to the USB Serial Adapter. Unplug the cable and plug the USB B connector to the USB Serial Adapter.

Or

Serial Plug-and-Play Device Detection

(continued)

1. Attach the serial device to the USB Serial Adapter.
2. Right-click the "My Computer" icon on your desktop.
3. Click "Properties" from the menu that appears.
4. Click the "Device Manager" tab on the System Properties page.
5. Click "Refresh".

Your Plug-and-Play device should be detected and you may be asked for a device driver if it has not been previously installed. Follow the instructions that came with your serial device to complete the installation.

Using Non Plug-and-Play Devices

Adding Non-Plug-and-Play (Legacy) Devices

Non-Plug-and-Play devices must be added through the "Add New Hardware Wizard" in the "Control Panel". Using this wizard, follow the installation instructions that came with your device.

Using USB with DOS Applications

Using the USB Serial Adapter With DOS Applications

To enable the USB Serial Adapter to work with DOS applications, follow the instructions in Adding DOS Box Support. You can choose a different name for DOS than what is used for Windows®. You may need to do this if the USB Serial Adapter has been installed as COM5 or higher, since many DOS applications will only use COM1-COM4. For instance, if you are adding DOS Box support to COM7, you can choose to have DOS applications use the device as COM2 instead, if COM2 is not already in use. COM7 would still be available for use with Windows® applications, but both COM2 and COM7 refer to the same physical device. Therefore, while a DOS application is using COM2, COM7 will be unavailable to Windows® applications and vice-versa.

Troubleshooting

Port unavailable

If the installation of the USB Serial Adapter has been completed but the port is unavailable to applications, follow the instructions below to diagnose the problem:

1. Check the LEDs on the USB Serial Adapter.
 - If the red light is on steady, skip to the next section.
 - If there are no lights on, check to make sure the device has been properly plugged in.
 - If the center, green LED is blinking steadily, the device has not been configured properly. This can happen if the wrong drivers have been installed for your operating system. If the wrong drivers have been installed or if you are not sure, follow the instructions in section 3.3, Uninstalling the USB Serial Adapter Drivers, and reinstall the software.
2. Check to make sure no other applications are using the COM port.
3. If you have enabled DOS Box support, make sure that no other applications are using the Windows® name for the COM port or the DOS name for the COM port (see section 4.4, Using the USB Serial Adapter with DOS Applications).

Communications Garbled

If you are using the USB Serial Adapter to communicate between two computers over a serial cable, make sure that the communications settings are the same on each computer. For instance, if one computer is set up for 9600-baud, 8 data bits,

Troubleshooting (continued)

no parity, one stop bit and hardware handshaking, errors can occur if the settings on the other device do not match.

Modem not detected/illegal operation in MODEM.CPL

It is possible that a modem attached to the USB Serial Adapter will not be detected or a problem will occur in MODEM.CPL if more than one USB hub is between the USB Serial Adapter and the root hub. This is a known problem in MODEM.CPL, a component of Windows® 98. The easiest solution to this problem is to attach the USB Serial Adapter to either the root hub (a USB port on the back of your PC) or to a hub that is connected to the root hub.

Information

FCC Statement

DECLARATION OF CONFORMITY WITH FCC RULES FOR ELECTROMAGNETIC COMPATIBILITY

We, Belkin Components, of 501 West Walnut Street, Compton CA 90220, declare under our sole responsibility that the product:
F5U116

to which this declaration relates:

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.

CE Declaration of Conformity

We, Belkin Components, declare under our sole responsibility that the F5U116, to which this declaration relates, is in conformity with Generic Emissions Standard EN50081-1 and with Generic Immunity Standard EN50082-1 1992.

Belkin Components Limited Lifetime Product Warranty

Belkin Components warrants this product against defects in materials and workmanship for its lifetime. If a defect is discovered, Belkin will, at its option, repair or replace the product at no charge provided it is returned during the warranty period, with transportation charges prepaid, to the authorized Belkin dealer from whom you purchased the product. Proof of purchase may be required.

This warranty does not apply if the product has been damaged by accident, abuse, misuse, or misapplication; if the product has been modified without the written permission of Belkin; or if any Belkin serial number has been removed or defaced.

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