

Edgeport

USB EXPANSION MODULES

Installation Guide



www.ionetworks.com

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Installation Guide

Edgeport/2

Edgeport/4

Edgeport/8

Edgeport/21

Edgeport/421

Edgeport/416

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Federal Communications Commission (FCC) Regulatory Information (USA only)

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 instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet that is on a circuit different from the receiver.
- Consult the dealer or an experienced radio/TV technician for help.

Warning: The connection of a non-shielded interface cable to this equipment will invalidate the FCC Certification for this device.

Department of Communication (DOC) Notice (Canada only)

This Class B digital apparatus meets the 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.

European Community - CE Mark Declaration of Conformity (DOC)

According to ISO/IEC Guide 22 and EN 45014

Manufacturer's Name: Inside Out Networks
Manufacturer's Addr.: 248 Addie Roy, Suite B-103 Austin, Texas 78746 USA

declares that the product

Product Name: Edgeport/2
Model Number(s): 301-1000-02, 301-1006-02, 301-1006-29
Product Name: Edgeport/4
Model Number(s): 301-1000-04, 301-1006-49, 301-1006-04, 301-1016-01
Product Name: Edgeport/8
Model Number(s): 301-1002-08
Product Name: Edgeport/21
Model Number(s): 301-1000-21
Product Name: Edgeport/421
Model Number(s): 301-1004-21
Product Name: Edgeport/416
Model Number(s): 301-1016-16, 301-1000-10
Product Options: All

conforms to the relevant EU Directives listed here:
 EMC Directive 89/336/EEC |
 Low Voltage Directive 73/23/EEC
 Amending Directive 93/68 EEC

using the relevant section of the following EU standards and other normative documents:

Safety: IEC 950:1991 +A1, A2, A3, A4
 EN 60950:1992 + A1, A2, A3, A4

EMC for All Edgeports Listed Above Except Edgeport/416

EN 55022 Class B (1994 w/A1 1995)
 EN 50082-1:1992 - Immunity to Electromagnetic Disturbance
 IEC 801-2
 IEC 801-3
 IEC 801-4

EMC for Edgeport/416 Only

The following summarizes the specifications and requirements for EN55024, EN55022 Class B & CISPR 22 Class B emission and immunity tests performed on the USB Serial Port & Hub, Edgeport/416 only. If the actual test levels are higher or different than required, these levels are listed in the appropriate tables.

EN 55022 Class B (1994 w/A1 1995)

Test	Specification EN55022	Requirement
Radiated Emissions	—	Class B
Conducted Emissions	CISPR 22	Class B

EN55024 (1998)

Test	Specification EN55024	Requirement
Electro-static Discharge	EN61000-4-2	+4 kV contact +8kV air
Radiated Immunity	EN61000-4-3	3 V/m
Electrical Fast Transient Burst	EN61000-4-4	1kV (A/C), .5kV (I/O)
Surge	EN61000-4-5	2kV common mode 1kV differential mode
Conducted Immunity	EN61000-4-6	3V rms
Magnetic Immunity	EN61000-4-8	1 A/m Not Applicable
Voltage Dips & Interrupts	EN61000-4-11	>95%, 30% & >95%

FCC Regulation - Part 15

Declaration of Conformity (DoC)

This device complies with the requirements of the Code of Federal Regulations listed below:

FCC Title 47 CFR, Part 15 Class B for a digital device.

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 Contact

Dan McCarthy
 Digi International
 Joseph-von-Fraunhofer Str. 23
 44227 Dortmund, GERMANY

UL/CSA Safety Information

This device complies with the requirements of following safety standards below:

UL 1950, 3rd edition
 CSA No. 950

Quality Manager, Austin, Texas

02/01

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Edgeport/2, Edgeport/4, Edgeport/8

The Edgeport/2™, Edgeport/4™, and Edgeport/8™ from Inside Out Networks™ are intelligent, stackable expansion modules that connect to a PC or server running Windows 95, 98, SE, CE, ME, NT 4.0, or Windows 2000 via the Universal Serial Bus (USB), providing high-speed serial connectivity. For more detailed information as well as the latest manual and technical updates, visit our website at www.ionetworks.com.

Plugging Edgeport Into Your PC

Plug the Type A end of the USB cable into the USB port located in the back of your PC or into an available USB port on a standard hub or into an Inside Out Networks Hubport. Plug the Type B end of the USB cable into the back of the Edgeport. The "USB Cabling Diagram" in the Appendix shows the two connectors and respective receptacles.

If the drivers are not already installed, you may proceed to the next section, "Installing Edgeport Drivers."

Installing Edgeport Drivers

These installation instructions are for installing the Edgeport software from CD. If you are installing from diskette and using Windows 95, 98, CE, SE, ME, or 2000, when prompted for the location of the drivers, specify your 3-1/2" floppy drive (usually a:). NT users will not be prompted and will need to locate the driver by double-clicking on their floppy drive. In either case, you will not need to specify a directory.

For Windows 95 Users

Follow the instructions described above in "Plugging Edgeport Into Your PC." After connecting the USB cable, if the Update Device Driver Wizard dialog does not appear, please review "Using USB with Windows 95" in the Appendix. Otherwise, click "**Next**" to continue with driver installation.

To install the Edgeport drivers:

- 1) Insert the "Edgeport Driver" CD into your CD-ROM drive.
- 2) After Windows fails to locate the drivers on your floppy disk drive, click "**Other Locations...**".
- 3) When the Select Other Location dialog appears, type **<CD drive letter>:\Win95** and click "**OK**".
- 4) Confirm that Windows has found the correct driver location and click "**Finish**".
- 5) When Windows prompts you for the driver disk, click "**OK**".
- 6) At the next Windows prompt, type **<CD drive letter>:\Win95** and click "**OK**".

After installing the drivers, Windows will detect your Edgeport's new COM ports and will begin to initialize them. Installation is complete when no more dialogs appear. Your new communication ports, numbered sequentially following the existing ports in your system, are now ready!

For Windows 98, CE, SE, and ME Users

- 1) Insert the "Edgeport Driver" CD into your CD-ROM drive.
- 2) Follow the instructions described in "Plugging Edgeport Into Your PC" on the previous page. After connecting the USB cable, the Add New Hardware Wizard appears. Click "**Next**".
- 3) Select "Search for the best driver for your device" and click "**Next**".
- 4) Select "Specify a location" and type in **<CD drive letter>:\Win98**. Then click "**Next**".
- 5) Confirm that Windows is pointing to **<CD drive letter>:\Win98**. Click "**Next**". Windows will then copy over the driver files.
- 6) Click "**Finish**" to complete the driver installation.

After installing the drivers, Windows will detect your Edgeport's new COM ports and will begin to initialize them. Installation is complete when no more dialogs appear. Your new communication ports, numbered sequentially following the existing ports in your system, are now ready!

For Windows NT Users

Because Microsoft does not support USB in NT4.0, Inside Out Networks supplies a USB stack that will be installed along with the necessary drivers. NOTE: You must install the drivers using an account that has administrative privileges!

To install the USB stack and Edgeport drivers:

- 1a) Insert the "Edgeport Driver" CD into your CD-ROM drive.
- 2a) When the welcome dialog appears, click the "**Install Driver**" button.
- OR -
- 1b) From the Start menu, select **Run**.
- 2b) Type **<CD drive letter>:\NT40\ip4n4XXX.exe**, and click "**OK**".

Note: "XXX" represents a version number. Example: Driver version 1.31 would be ip4n4131.exe.

Once the driver installation program has begun, follow the on screen instructions.

3a) *If you are installing drivers for the first time:* An Information dialog informs you that the installation was successful. After clicking "**OK**", the installation is complete.

3b) *If you are replacing version 1.14 or later:* Follow the on-screen instructions. Note that before beginning the installation of the drivers, all applications with open ports must be closed and all USB devices unplugged. If you close all the applications and unplug all the USB devices, then you will not need to reboot for the new drivers to take effect immediately. If any applications are left open or USB devices plugged in, you may choose to abort the installation or to continue and be required to reboot before the upgrade can take effect.

3c) *If you are replacing version 1.13 or earlier:* The Edgeport Drivers Installation Complete dialog tells you that the Edgeport drivers have been updated. Before the updates can take effect, however, you will need to reboot your computer. To reboot immediately, eject the "Edgeport Driver" disk, select the option to restart the computer now, and click "Finish".

Follow the instructions described in "Plugging Edgeport Into Your PC" on page 6. When finished with the instructions, your new communication ports, numbered sequentially following the existing ports in your system, are ready.

Note that because Windows NT 4.0 is *not* Plug-and-Play, you will *not* see a pop-up dialog box indicating that new hardware has been found. You may verify correct installation with the Edgeport Utility or USB Status Utility. See Appendix for more information.

For Windows 2000 Users

- 1) Insert the "Edgeport Driver" CD into your CD-ROM drive.
- 2) Follow the instructions described in "Plugging Edgeport Into Your PC" on page 6.
- 3) After connecting the USB cable, the Found New Hardware Wizard appears. Click "**Next**".
- 4) Select "Search for a suitable driver for my device" and click "**Next**".
- 5) Select "Specify a location" and click "**Next**".
- 6) Type in **<CD drive letter>:\Win2k** and click "**OK**".
- 7) Confirm that Windows is pointing to **<CD drive letter>:\Win2k**. Then click "**Next**".

Note: Drivers installed from the CD have received "Designed for Windows 2000" certification. Drivers downloaded from our web site may be pending certification. If so, Windows 2000 will display a warning: Digital Signature Not Found. Click "**Yes**" to continue with driver installation. If you click "**No**" you will need to contact Inside Out Networks Technical Support (512-306-0600) before installing your Edgeport.

Windows will then finish installing the driver files.

- 8) Click "**Finish**" to complete the driver installation.

After installing the drivers, Windows detects your Edgeport's new COM ports and will begin to initialize them. Installation is complete when no more dialogs appear. Your new communication ports, numbered sequentially following the existing ports in your system, are now ready!

For Mac OS Users

To install the Edgeport drivers:

- 1) After inserting the "Edgeport Driver" CD into your CD-ROM drive, an IONetworks CD-ROM icon will appear on your desktop.
- 2) Double click on this icon to open up the Edgeport folder.
- 3) Open up the MacOS folder by double clicking on it. The folder contains two installer files, one for MAC OS 8.1 called "Edgeport 1_0_2b1 Installer" and one for MAC OS 8.6 and above called "Edgeport 1_0_4 Installer".
- 4) Choose whichever installer is appropriate for your OS, double click on it and then follow the instructions on your screen.

When finished with the instructions, your new communication ports, numbered sequentially following the existing ports in your system, are ready.

Edgeport/21, Edgeport/421

The Edgeport/421™ and Edgeport/21™ from Inside Out Networks™ are multi-connector converters for mobile and high-end workstation users who need to attach multiple serial (RS-232) ports, a printer port, and USB peripherals to a single USB upstream connector.

Plugging Edgeport Into Your PC

The Edgeport/421 has two modes of operation. With the power supply installed, the hub operates as a self-powered hub with all four USB ports activated. Without the power supply installed, the hub operates as a bus-powered hub with only the first two USB ports activated. For more information about hubs, see “Understanding Hubs” in the Appendix.

NOTE: If you first install the Edgeport/421 without the power supply and then connect the power supply, you must disconnect and reconnect the USB cable on Edgeport’s back panel before it will operate as a self-powered hub and recognize the two remaining USB ports.

For the Edgeport/421, connect one end of the power supply into the back of your Edgeport/42 and the other end into an AC outlet.*

The Edgeport/21 derives its power from the host machine through the USB cable and, thus, does not require a power supply.

The “USB Cabling Diagram” in the Appendix shows the two USB connectors and respective receptacles.

For a downstream connection, plug the Type A end of the USB cable into the USB port located in the back of your PC *or* into an available USB port on a standard hub *or* into an Inside Out Networks Hubport. Plug the Type B end of the USB cable into the back of the Edgeport.

For an upstream connection, plug the Type A end of the USB cable into one of the Edgeport/421’s USB Type A slots and the Type B end of the USB cable into the upstream device (e.g. a Rapidport, Hubport or another Edgeport/421).

* Power to the Edgeport/421 may be supplied by a UL Listed Direct Plug-In Power Unit marked “Class 2” and rated 5 V dc, at least 2.5 A if used in the U.S. and Canada or a power supply with similar rating and approved by your local safety code if it is used elsewhere. For polarity, see the following:



Installing the USB Hub

For Windows 95 Users

Please review “Using USB with Windows 95” in the Appendix. After plugging Edgeport into your PC, the Update Device Driver Wizard for installing the generic USB hub may appear. If so, follow the recommended on screen instructions. Otherwise, Windows 95 will bring up the Update Device Driver Wizard for installing the Edgeport drivers, in which case you may proceed to “Installing Edgeport Drivers” on page 10.

For Windows 98, CE, SE, ME, and 2000 Users

After following the instructions described in "Plugging Edgeport Into Your PC" on page 9, hub installation will be complete and you may continue with "Installing Edgeport Drivers" on this page.

For Windows NT Users

No separate process for installing hubs on NT4 is required. Go to "Installing Edgeport Drivers" on this page.

Installing Edgeport Drivers

Installing the Edgeport/421 and Edgeport/21 is a three part process involving drivers for the USB hub, Edgeport, and printer port.

The installation instructions are for installing the Edgeport software from CD. If you are installing from diskette and using Windows 95, 98, SE, ME, or 2000, when prompted for the location of the drivers, specify your 3-1/2" floppy drive (usually **a:**). NT users will not be prompted and will need to locate the driver by double-clicking on their floppy drive. In either case, you will not need to specify a directory.

For Windows 95 Users

Follow the instructions described in "Plugging Edgeport Into Your PC" on page 9. After connecting the USB cable, if the Update Device Driver Wizard dialog does not appear, please review "Using USB with Windows 95" in the Appendix. Otherwise, click "**Next**" to continue with driver installation.

To install the Edgeport drivers:

- 1) Insert the "Edgeport Driver" CD into your CD-ROM drive.
- 2) After Windows fails to locate the drivers on your floppy disk drive, click "**Other Locations...**".
- 3) When the Select Other Location dialog appears, type **<CD drive letter>:\Win95** and click "**OK**".
- 4) Confirm that Windows is pointing to **<CD drive letter>:\Win95** and click "**Finish**".
- 5) When Windows prompts you for the driver disk, click "**OK**".
- 6) At the next Windows prompt, type **<CD drive letter>:\Win95** and click "**OK**".

After installing the drivers, Windows will detect your Edgeport's new COM ports and will begin to initialize them. Installation is complete when no more dialogs appear. Your new communication ports, numbered sequentially following the existing ports in your system, are now ready!

For Windows 98, CE, SE, and ME Users

- 1) Insert the "Edgeport Driver" CD into your CD-ROM drive.
- 2) Follow the instructions described in "Plugging Edgeport Into Your PC" on this page.
- 3) After connecting the USB cable, the Add New Hardware Wizard appears. Click "**Next**".

- 4) Select "**Search for the best driver for your device**" and click "**Next**".
- 5) Select "**Specify a location**" and type <CD drive letter>:\Win98. Then click "**Next**".
- 6) Confirm that Windows is pointing to <CD drive letter>:\Win98. Click "**Next**". Windows will then copy over the driver files.
- 7) Click "**Finish**" to complete the driver installation.

After installing the drivers, Windows will detect your Edgeport's new COM ports and will begin to initialize them. Installation is complete when no more dialogs appear. Your new communication ports, numbered sequentially following the existing ports in your system, are now ready!

For Windows NT Users

Because Microsoft does not support USB in NT4.0, Inside Out Networks supplies a USB stack that will be installed along with the necessary drivers. NOTE: You must install the drivers using an account that has administrative privileges!

To install the USB stack and Edgeport drivers:

- 1a) Insert the "Edgeport Driver" CD into your CD-ROM drive.
- 2a) When the welcome dialog appears, click the "**Install Driver**" button.
- OR -
- 1b) From the Start menu, select **Run**.
- 2b) Type <CD drive letter>:\NT40\ip4n4XXX.exe, and click "**OK**". Note: "XXX" represents a version number. Example: Driver version 1.31 would be ip4n4131.exe.

Once the driver installation program has begun, follow the on screen instructions.

- 3a) *If you are installing drivers for the first time:* An Information dialog informs you that the installation was successful. After clicking "**OK**", the installation is complete.
- 3b) *If you are replacing version 1.14 or later:* Follow the on-screen instructions. Note that before beginning the installation of the drivers, all applications with open ports must be closed and all USB devices unplugged. If you close all the applications and unplug all the USB devices, then you will not need to reboot for the new drivers to take effect immediately. If any applications are left open or USB devices plugged in, you may choose to abort the installation or to continue and be required to reboot before the upgrade can take effect.
- 3c) *If you are replacing version 1.13 or earlier:* The Edgeport Drivers Installation Complete dialog tells you that the Edgeport drivers have been updated. Before the updates can take effect, however, you will need to reboot your computer. To reboot immediately, eject the "Edgeport Driver" disk, select the option to restart the computer now, and click "Finish".

Follow the instructions described in "Plugging Edgeport Into Your PC" on page 9. When finished with the instructions, your new communication ports, numbered sequentially following the existing ports in your system, are ready!

Note that because Windows NT 4.0 is *not* Plug-and-Play, you will *not* see a pop-up dialog box indicating that new hardware has been found. You may verify correct installation with the Edgeport Utility or USB Status Utility (USB Viewer). See Appendix for more information.

For Windows 2000 Users

- 1) Insert the "Edgeport Driver" CD into your CD-ROM drive.
- 2) Follow the instructions described in "Plugging Edgeport Into Your PC" on page 9.
- 3) After connecting the USB cable, the Found New Hardware Wizard appears. Click "**Next**".
- 4) Select "**Search for a suitable driver for my device**" and click "**Next**".
- 5) Select "**Specify a location**" and click "**Next**".
- 6) Type in **<CD drive letter>:\Win2k** and click "**OK**".
- 7) Confirm that Windows is pointing to **<CD drive letter>:\Win2k** . Then click "**Next**".

Note: Drivers installed from CD have received "Designed for Windows 2000" certification. Drivers downloaded from our web site may be pending certification. If so, Windows 2000 will display a warning to this effect. Click "**OK**" to continue with driver installation.

Windows will then finish installing the driver files.

- 8) Click "**Finish**" to finish the driver installation.

Installation is complete when no more dialogs appear. Your new communication ports, numbered sequentially following the existing ports in your system, are now ready!

Installing the Printer Port

For Windows 95, 98, CE, SE, ME, 2000, and NT Users

The parallel port on your Edgeport/421 and Edgeport/21 supports only printers. To use your newly installed printer port:

- 1) From the Start menu, choose "**Settings**" and then "**Printers**."
- 2) Right click on the printer you wish to use on your new port and select "**Properties**."
- 3) In the Details tab, click on the drop down list box under "**Print to the following port**" and choose "**USBLPT1**", then click "**OK**."

Edgeport/416

The Edgeport/416™ utilizes a standards-based USB bus for connectivity, unlike many serial card products which require additional external proprietary hardware to support the same number of devices. This Edgeport also supplies four USB ports, providing users with a built-in migration path as peripherals become USB-ready. The converters can be rack mounted, and can be easily daisy-chained together. Edgeport/416 is available in two models: one with DB25 connectors and one with DB connectors. The two models are functionally equal, but differ in the type and placement of the connectors.

Plugging Edgeport Into Your PC

Connect one end of the power supply into the back of your Edgeport/416 and the other end into an AC outlet.*

The “USB Cabling Diagram” in the Appendix shows the two USB connectors and respective receptacles.

For a downstream connection, plug the Type A end of the USB cable into the USB port located in the back of your PC *or* into an available USB port on a standard hub *or* into an Inside Out Networks Hubport. Plug the Type B end of the USB cable into the back of the Edgeport/416.

For an upstream connection, plug the Type A end of the USB cable into one of the Edgeport/416's USB Type A slots and the Type B end of the USB cable into the upstream device (e.g. a Rapidport, Hubport, Edgeport/421, etc.).

* Power to the Edgeport/416 may be supplied by a UL Listed Direct Plug-In Power Unit marked “Class 2” and rated 5 V dc, at least 4.0 A if used in the U.S. and Canada or a power supply with similar rating and approved by your local safety code if it is used elsewhere. For polarity, see the following:



Installing the USB Hub

For Windows 95 Users

Please review “Using USB with Windows 95” in the Appendix. After plugging Edgeport into your PC, the Update Device Driver Wizard for installing the generic USB hub may appear. If so, follow the recommended on screen instructions. Otherwise, Windows 95 will bring up the Update Device Driver Wizard for installing the Edgeport drivers, in which case you may proceed to “Installing Edgeport Drivers” on page 14.

For Windows 98, CE, SE, ME, and 2000 Users

After following the instructions described in “Plugging Edgeport Into Your PC” on this page, hub installation will be complete and you may continue with “Installing Edgeport Drivers” on page 14.

For Windows NT Users

No separate process for installing hubs on NT4 is required. Go to “Installing Edgeport Drivers” on page 14.

Installing Edgeport Drivers

The installation instructions are for installing the Edgeport software from CD. If you are installing from diskette and using Windows 95, 98, SE, ME, or 2000, when prompted for the location of the drivers, specify your 3-1/2" floppy drive (usually a:). NT users will not be prompted and will need to locate the driver by double-clicking on their floppy drive. In either case, you will not need to specify a directory.

For Windows 95 Users

Follow the instructions described in "Plugging Edgeport Into Your PC" on this page. After connecting the USB cable, if the Update Device Driver Wizard dialog does not appear, please review "Using USB with Windows 95" in the Appendix. Otherwise, click **"Next"** to continue with driver installation.

To install the Edgeport drivers:

- 1) Insert the "Edgeport Driver" CD into your CD-ROM drive.
- 2) After Windows fails to locate the drivers on your floppy disk drive, click **"Other Locations..."**.
- 3) When the Select Other Location dialog appears, type **<CD drive letter>:\Win95** and click **"OK"**.
- 4) Confirm that Windows has found the correct driver location and click **"Finish"**.
- 5) When Windows prompts you for the driver disk, click **"OK"**.
- 6) At the next Windows prompt, type **<CD drive letter>:\Win95** and click **"OK"**.

After installing the drivers, Windows will detect your Edgeport's new COM ports and will begin to initialize them. Installation is complete when no more dialogs appear. Your new communication ports, numbered sequentially following the existing ports in your system, are now ready!

For Windows 98, CE, SE, and ME Users

- 1) Insert the "Edgeport Driver" CD into your CD-ROM drive.
- 2) Follow the instructions described in "Plugging Edgeport Into Your PC" on page 13.
- 3) After connecting the USB cable, the Add New Hardware Wizard appears. Click **"Next"**.
- 4) Select **"Search for the best driver for your device"** and click **"Next"**.
- 5) Select **"Specify a location"** and type in **<CD drive letter>:\Win98**. Then click **"Next"**.
- 6) Confirm that Windows is pointing to **<CD drive letter>:\Win98**. Click **"Next"**. Windows will then copy over the driver files.
- 7) Click **"Finish"** to complete the driver installation.

After installing the drivers, Windows will detect your Edgeport's new COM ports and will begin to initialize them. Installation is complete when no more dialogs appear. Your new communication ports, numbered sequentially following the existing ports in your system, are now ready!

For Windows NT Users

Because Microsoft does not support USB in NT4.0, Inside Out Networks supplies a USB stack that will be installed along with the necessary drivers. NOTE: You must install the drivers using an account that has administrative privileges!

To install the USB stack and Edgeport drivers:

- 1a) Insert the "Edgeport Driver" CD into your CD-ROM drive.
 - 2a) When the welcome dialog appears, click the "**Install Driver**" button.
- OR -
- 1b) From the Start menu, select **Run**.
 - 2b) Type **<CD drive letter>:\NT40\ip4n4XXX.exe**, and click "**OK**". Note: "XXX" represents a version number. Example: Driver version 1.31 would be ip4n4131.exe.

Once the driver installation program has begun, follow the on screen instructions.

3a) *If you are installing drivers for the first time:* An Information dialog informs you that the installation was successful. After clicking "**OK**", the installation is complete.

3b) *If you are replacing version 1.14 or later:* Follow the on-screen instructions. Note that before beginning the installation of the drivers, all applications with open ports must be closed and all USB devices unplugged. If you close all the applications and unplug all the USB devices, then you will not need to reboot for the new drivers to take effect immediately. If any applications are left open or USB devices plugged in, you may choose to abort the installation or to continue and be required to reboot before the upgrade can take effect.

3c) *If you are replacing version 1.13 or earlier:* The Edgeport Drivers Installation Complete dialog tells you that the Edgeport drivers have been updated. Before the updates can take effect, however, you will need to reboot your computer. To reboot immediately, eject the "Edgeport Driver" disk, select the option to restart the computer now, and click "Finish".

Follow the instructions described in "Plugging Edgeport Into Your PC" on page 13. When finished with the instructions, your new communication ports, numbered sequentially following the existing ports in your system, are ready!

Note that because Windows NT 4.0 is *not* Plug-and-Play, you will *not* see a pop-up dialog box indicating that new hardware has been found. You may verify correct installation with the Edgeport Utility or USB Status Utility (USB Viewer). See Appendix for more information.

For Windows 2000 Users

- 1) Insert the "Edgeport Driver" CD into your CD-ROM drive.
- 2) Follow the instructions described in "Plugging Edgeport Into Your PC" on page 13.
- 3) After connecting the USB cable, the Found New Hardware Wizard appears. Click "**Next**".
- 4) Select "**Search for a suitable driver for my device**" and click "**Next**".
- 5) Select "**Specify a location**" and click "**Next**".
- 6) Type **<CD drive letter>:\Win2k** and click "**OK**".

7) Confirm that Windows is pointing to <CD drive letter>:Win2k. Then click "Next".

Note: Drivers installed from CD have received "Designed for Windows 2000" certification. Drivers downloaded from our web site may be pending certification. If so, Windows 2000 will display a warning: Digital Signature Not Found. Click "Yes" to continue with driver installation. If you click "No" you will need to contact Inside Out Networks Technical Support (512-306-0600) before installing your Edgeport.

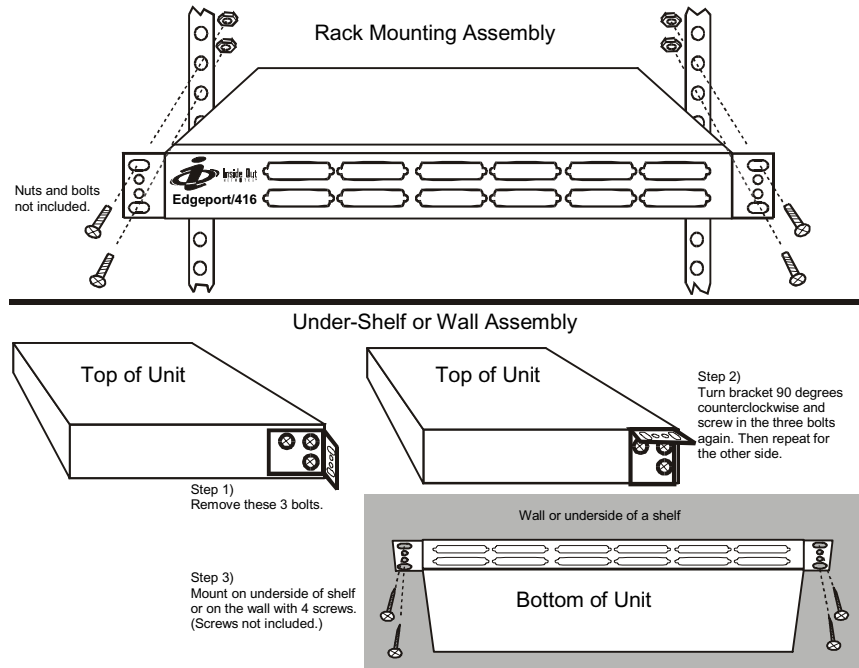
Windows will then finish installing the driver files.

8) Click "Finish" to complete the driver installation.

Installation is complete when no more dialogs appear. Your new communication ports, numbered sequentially following the existing ports in your system, are now ready!

Mounting the Edgeport/416

Use the following diagram to mount your Edgeport/416 either on a rack mounting assembly or an under-shelf assembly.



Appendix A

USB Cabling Diagram

For All Edgeport Users

Type A plug and receptacle



Type B plug and receptacle



Appendix B

Using USB with Windows 95

If you are using Windows 95 OSR2.1 or above, please continue with the sections below. If not, see the note at the end of Appendix A.

Checking for USB Hardware

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 "Installing Microsoft USB Support" on page 6.

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 Edgeport, 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 procedures described in this guide, you are still having installation problems, please call (512)306-0600 and ask for Technical Support.

Determining USB Support

If you have an earlier version than Windows 95 OSR2.1, please read the Note at the end of "Installing Microsoft USB Support" on page 6. Otherwise, to determine if your system supports USB, perform the following steps:

- 1) Insert the "Edgeport Driver" CD into your CD-ROM drive.
- 2) In the START menu, select RUN.
- 3) Type <CD drive letter>:\Win95\usbready.

One of two USB System Checker dialogs will appear. If your system does not support USB, the dialog will read, "**This system DOES NOT currently support USB!**" Proceed to "Determining Why Support Is Not Present" on page 6.

If your system supports USB, the dialog will read, "**This system DOES have support for USB**" and you may continue with the Windows 95 installation instructions for your particular Edgeport product..

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.
- 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 Edgeport 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

The above is 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" in the next section.

Determining Why Support Is Not Present*

The DETAILS button in USBREADY can help you determine what is preventing USB support.

- 1) Click on the DETAILS button.

If the USB Class Host Controller window reads, "**No USB Host Controller Found**" then the necessary hardware, a USB Host Controller, has not been detected. If your PC does not have USB connectors, 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 card from Inside Out Networks. If your PC does have USB connectors, verify that the USB hardware is enabled in your system BIOS configuration.

If the USB Class Host Controller window displays any other message, such as "**Standard,**" "**Intel,**" "**Universal,**" or "**Open**" Host Controller, then hardware support is present, but an incompatible version of Windows is currently installed.

If the Test Results Details dialog shows Windows 95 version 4.0.1111, which is Windows 95 OSR.2, proceed to "Installing Microsoft USB Support" on this page. You will need to upgrade to OSR 2.1 by installing the USB supplement before installing the Edgeport.

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 Windows 95 CD into your CD ROM drive.
- 2) In the START menu, select RUN.
- 3) Type **<CD drive letter>:\other\usb\usbsupp**.

Follow the instructions on the screen. After rebooting, return to the Windows 95 installation instructions for your particular Edgeport product. Ensure that the Test Results Details (from the Details button in the USB System Checker dialog) displays Windows 95 version 4.1212 or higher.

*Note that Windows 95 versions 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.

Appendix C

Using the Edgeport Utility Program

With Windows 95, 98, CE, SE, ME, 2000, and NT

The Edgeport configuration utility program, found in the Windows Start Programs menu, allows you to manage various resources of your Edgeport. You can check the mapping of each physical communications port to the Windows COM port numbers. You can reassign the physical ports on your Edgeport to any available Windows COM port number from 1 to 255, or give your Edgeport a user friendly Device Name. This capability is particularly helpful if you have more than one Edgeport. You may check the version numbers and other information pertaining to the Edgeport drivers.

Advanced Edgeport options are:

Option 1: Clicking the Uninstall button will remove the Edgeport device drivers and utilities.

Option 2: Allows you to configure how COM ports will be assigned.

The driver supports COM port number assignment in two ways:

1. Assign COM ports based on converter serial number.

This is the default setting. In this mode, the driver uses the serial number of each converter to uniquely identify it, and the COM port assignments for a given converter are based on its serial number. No matter which physical USB port a converter is plugged into, it will maintain its assigned COM port numbers.

2. Assign COM ports based on physical USB port.

In this mode, the driver identifies a converter based on the physical USB port it is plugged into. This effectively assigns COM port numbers to physical USB ports. No matter which converter is plugged into a given USB port, it will use the COM port numbers assigned to that USB port. This permits a converter to be replaced with a new unit, and, although the new unit has a different serial number, it will receive the same COM port assignments as the old unit because they were both plugged into the same USB port.

When using this mode, converters are identified not by their serial number, but by a 2-7 digit number that identifies which USB port it is plugged into.

After changing this setting, you will need to reboot before the change takes effect.

With Windows NT

From the Start menu, select Programs, Inside Out Networks Utilities, Edgeport Configuration Utility. The Edgeport Properties dialog contains the same functions as described above. Note, however, that you must have administrative privileges in order to change the COM port settings. For more information, see the Support section at our website, www.ionetworks.com.

Appendix D

Using the USB Status Utility (Viewer)

For Windows NT Only

The USB Status Utility can be accessed by clicking the USB icon in your system tray or by clicking on Start, Programs, Inside Out Networks Utilities, USB Status Utility. This utility lists all the USB devices installed on your PC and provides other relevant information for each device. You may also use this utility to create a log file.

Appendix E

Interpreting the System Status Light

For All Edgeport Users

Red This light signifies a loss of USB communication with the host. If the loss is due to unplugging the unit, when it is reconnected the light will blink red a few moments before turning green. Otherwise, the light indicates a problem with the drivers, which may need to be reinstalled. The red light will also blink during installation until the installation is complete.

Amber This light signifies serial port activity on the Edgeport. The amber light may also flash briefly during installation.

Green This light indicates the serial ports are successfully set up and the Edgeport is operating normally.

Appendix F

Understanding Hubs

For Edgeport/421 and Edgeport/416 Users

Hubs, critical components in the USB 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.

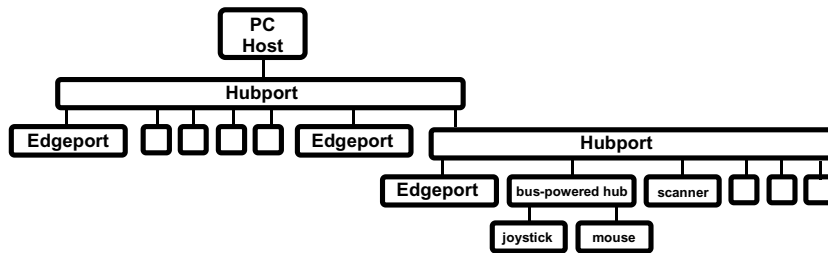


Figure 1: Example of a Typical Hub Configuration

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.* The Edgeport/421 can operate as either a bus-powered hub (with 2 ports available) or a self-powered hub (with 4 ports available), depending upon your requirements. When using the Edgeport/421 in a self-powered configuration, it is not affected by this limitation.

According to the USB Specification, the maximum limit of hubs cascaded in series cannot exceed five. In other words, you may have a maximum of five hubs between any device and the host. This does NOT mean that the maximum number of hubs in a system is five. Indeed, up to seven hubs can be connected parallel *at any given level*. You must tally both external and embedded hubs when counting downstream hubs. Since several of Inside Out Networks' products contain embedded hubs, the following lists their respective "hub equivalents."

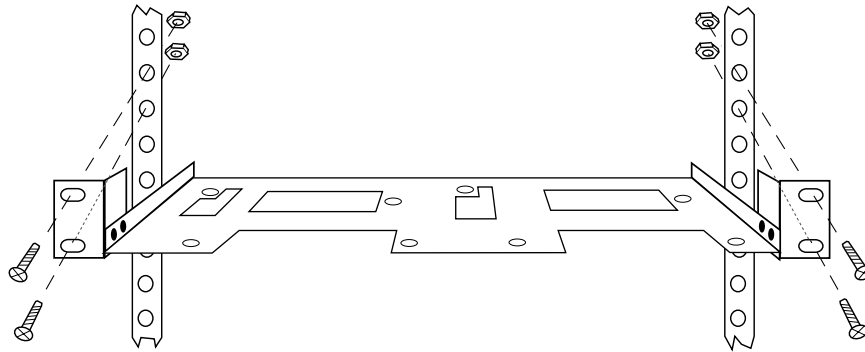
Edgeport/2 = 0	Edgeport/21 = 1
Edgeport/4 = 0	Edgeport/421 = 1
Edgeport/8 = 0	Edgeport/416 = 1

Appendix G

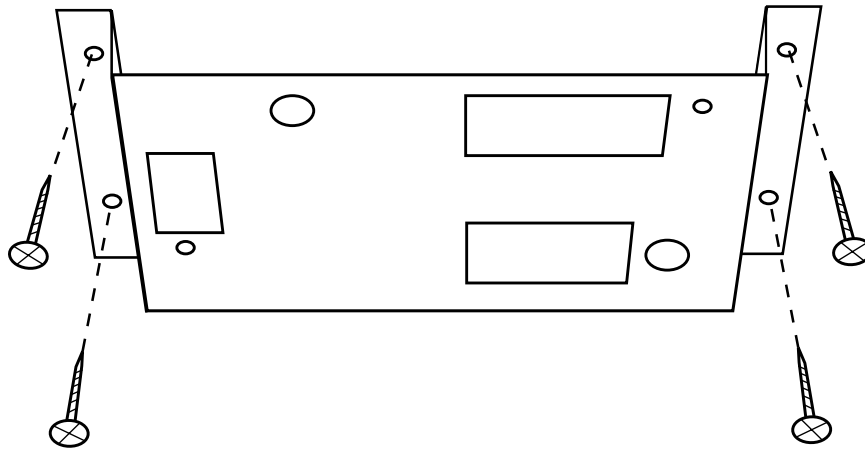
Mounting Diagrams

For All Edgeports Except Edgeport/416*

Rack Mount Kit



Under-Shelf Mounting Bracket



Nuts, bolts, and screws are not included.

* Mounting instructions for Edgeport/416 are on page 16 of this installation guide.

Revision History

<u>Revision</u>	<u>Date</u>	<u>(Page(s)/ Location)</u>	<u>Change</u>
A	12/28/00	(all)	Original
B	02/13/01	(all)	renumbered pages with title page starting as "1", (back cover) added electronic version part number, (title page) removed part numbers, (23) removed stacking instructions and added mounting diagram, (13) reworded into paragraph, (after title page) moved the fine print from end of guide and added specs & reqs for Edgeport/416 and changed year in copyright notice, (17) replaced all four graphics

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