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An Intel product, when used in accordance with its associated documentation, is "Year 2000 Capable" when, upon installation, it accurately stores, displays, processes, provides, and/or receives date data from, into, and between the twentieth and twenty-first centuries, including leap year calculations, provided that all other technology used in combination with said product properly exchanges date data with it.

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#### YOUR PACKAGE CONTAINS:

- Network Hub or Switch
- Quick Setup Guide
- CD that includes:
  - Network Setup Wizard that sets up files and print sharing
  - Networking Basics Guide
- Power Adapter
- CableKeeper Ring



# Intel® InBusiness™ Hubs and Switches

## Quick Setup Guide



## Intel® InBusiness™ Hubs and Switches

5-Port Hub

8-Port Hub

8-Port Hub with BNC

4-Port Fast Hub

8-Port Fast Hub

8-Port 10/100 Fast Hub

16-Port 10/100 Hub

4-Port 10/100 Switch

8-Port 10/100 Switch

16-Port 10/100 Switch

## Intel® InBusiness™ Small Business Networking Products



## About Intel® InBusiness™ Network Hubs and Switches

This family of network solutions ranges from 10Base-T hubs to 10/100 switches. The building blocks that meet your expanding network needs, these hubs and switches are easy to install and use—just plug and play.

English

## A propos des concentrateurs et commutateurs Intel® InBusiness™

Cette gamme de solutions pour réseau va des concentrateurs 10Base-T aux commutateurs 10/100. Composants de base pour répondre aux besoins de croissance de votre réseau, ces concentrateurs et commutateurs sont aussi faciles à installer qu'à utiliser—il suffit d'effectuer les connexions nécessaires et de les mettre en marche.

Français

## Intel® InBusiness™ Netzwerk-Hubs und -Switches

Diese Familie von Netzwerklösungen umfaßt das Spektrum von 10Base-T-Hubs bis 10/100-Mbit/s-Switches. Die Hubs und Switches dieser Familie sind die Bausteine, die Ihre steigenden Netzwerkanforderungen erfüllen, und aufgrund ihrer Plug & Play-Fähigkeit problemlos installiert und verwendet werden können.

Deutsch

## Informazioni su Intel® InBusiness™ Hub e Interruttori di rete

Questa famiglia di soluzioni per le reti spazia dagli hub 10Base-T agli interruttori di rete 10/100. Elementi strutturali che soddisfano le necessità delle reti in espansione, questi hub e interruttori di rete sono facili da installare e da utilizzare—come il plug and play.

Italiano

## Acerca de los concentradores y conmutadores de red Intel® InBusiness™

Esta familia de soluciones de red abarca desde los concentradores 10Base-T hasta los conmutadores 10/100. Estos concentradores y conmutadores, bloques de construcción que cumplen sus necesidades de expansión de la red, son fáciles de instalar y de usar, basta con conectarse y hacer un uso inmediato.

Español

## Sobre os Hubs e Comutadores de rede Intel® InBusiness™

Essa família de soluções para rede abrange desde hubs 10Base-T até comutadores 10/100. O equipamento que se adapta perfeitamente às necessidades da sua rede em expansão. Os hubs e comutadores são de fácil instalação e utilização—plug and play.

Português do Brasil

## 关于 Intel® InBusiness™ 网络集线器和转换器

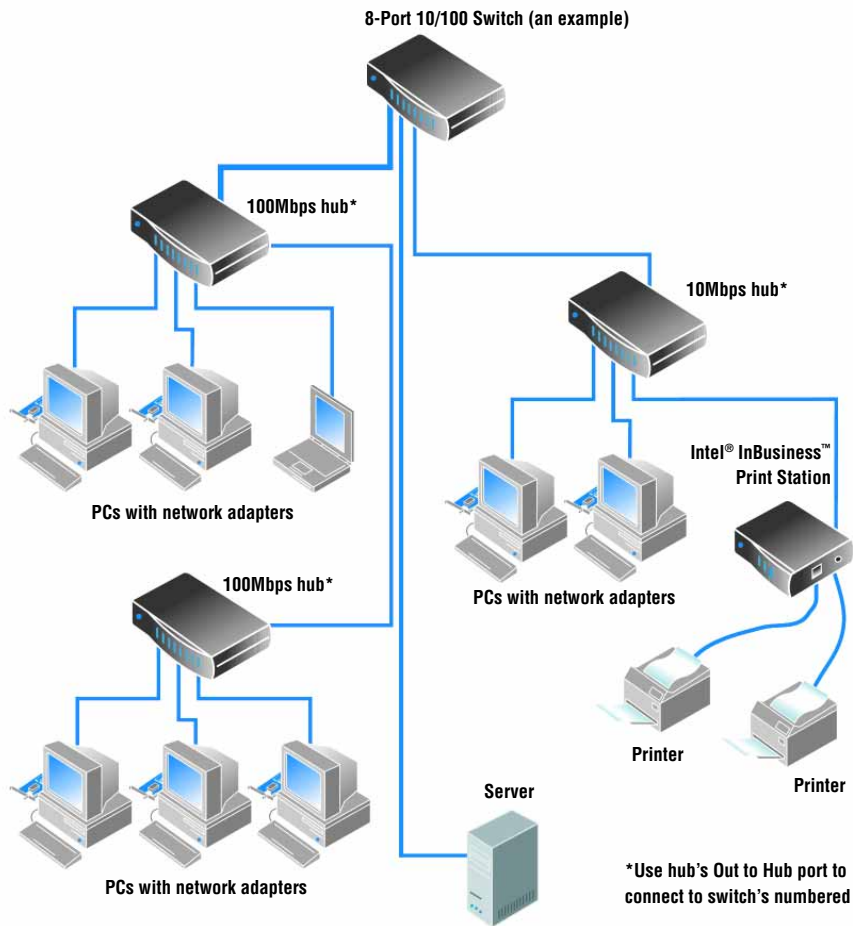
此系列网络解决方案包括 10Base-T 集线器至 10/100 转换器。建立的这些区块可以满足范围广泛的网络要求，这些集线器和转换器也十分易于安装和使用（即插即用）。

简体中文

## 關於 Intel® InBusiness™ 網路集線器與交換器

此系列的網路解決方案涉及從 10Base-T 集線器至 10/100 交換器的範圍。這些集線器與交換器如同建築磚塊，符合您擴充網路的需要，它們易於安裝和使用 — 您只需插接即可使用。

# Building your network with Intel® InBusiness™ hubs and switches



\*Use hub's Out to Hub port to connect to switch's numbered ports.

All connections shown use Category 5 network cable.

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# A quick tour

Hubs and switches let you connect the computers in your office to share resources, such as files, printers, network appliances, modems, and other peripherals. Intel® InBusiness™ hubs and switches are available in a range of operating speeds and number of connections.



## Network speeds

Intel InBusiness network products are available in standard Ethernet (10Mbps), Fast Ethernet (100Mbps), and dual Ethernet/FastEthernet (10/100Mbps) operating speeds. Hubs and switches with 10/100 ports can operate at either 10 or 100Mbps, depending on the speed of the network adapter installed in a computer. The 10/100 hubs and switches are wise investments because you can easily upgrade your networked computers from 10 to 100Mbps without replacing these hubs or switches.

## Ports and cables

The number of computers and peripherals you can connect to a hub or switch depends on the number of available ports. For example, a 5-port hub can accommodate as many as five connections. Use Category 5 cables with RJ-45 network connectors for your connections. Each cable should be less than 328 feet (100 meters) long. A cable connecting two hubs must be less than 16 feet (5 meters) long.

In addition to the numbered ports, your hub or switch has a special port labeled Out to Hub, which is reserved for connecting to another hub or switch. The Out to Hub port simplifies network expansion, as it allows you connect Intel InBusiness hubs and switches without using special “crossover” cables.

## Switches or hubs

Hubs serve as central points for data to pass across a network. You can connect hubs together to expand your network, but as the number of connections grows, the amount of traffic can slow down the network. A switch can solve that problem.

Switches can make a large network more manageable by dividing it into smaller segments. Switches also improve network speed by reducing traffic and eliminating errors. You can connect existing hubs to a switch to expand the network without slowing it down. Switches can also be connected to computers, servers and other switches.

Consider using switches if:

- Your network needs to grow beyond three linked 10Mbps hubs, or two linked 100Mbps hubs, or two linked 10/100Mbps hubs.
- Your business depends on high network performance, but performance is slowing down as your network grows.

## Networking made easy

The Intel InBusiness Network Setup Wizard CD included with your hub or switch provides software and online help to make networking easier for computers running Windows\* 95, Windows 98, or Windows NT\* 4.0.

Run the Network Setup Wizard to help you with:

- Setting up your first network
- Connecting additional computers to your network
- Sharing files and printers with other people on your network

For more information about setting up, maintaining, and expanding a small business network, see the Networking Basics online help on the Network Setup Wizard CD. Run the Network Setup Wizard CD, click More Information on the main installation screen, then click Networking Basics.

The Network Setup Wizard CD also contains support, warranty, and compliance information.



# Installation

These instructions show you how to connect your Intel InBusiness hub or switch to create a new network or expand an existing one.

## Requirements

- Install a network adapter (also called a network interface card or NIC) in each computer you connect to the network.
- Connect computers and other networked devices using Category 5 network cable with RJ-45 network connectors. Each cable segment must be less than 328 feet (100 meters) long.



**Category 5 cable with RJ-45 connector**

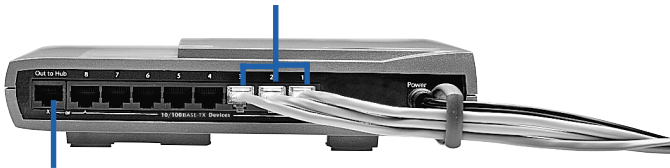
Category 5 cable resembles telephone cabling, but it's thicker and uses a wider connector. Do not use phone cable or coaxial cable.

## Connecting a new network

If you're setting up a network for the first time, connect your computers to your Intel InBusiness hub.

- 1 Plug the network cable into any numbered port on your hub. Do not use the Out to Hub port.
- 2 Plug the other end of the cable into the Ethernet port on a device to be networked, such as a computer, a print server or a file server.

**Connect computers or other networked devices to the numbered ports.**

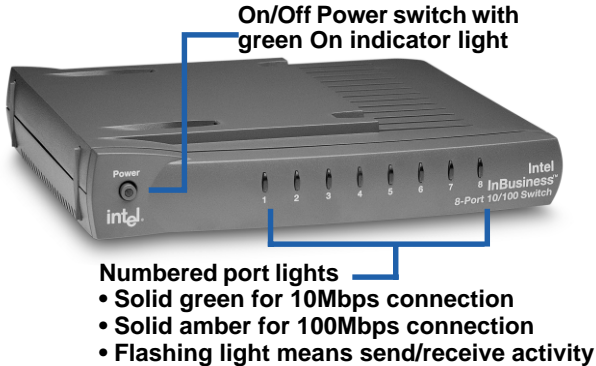


**Do not connect computers to the Out to Hub port.**

- 3 Attach the power adapter to the hub, then plug it into a power outlet.

- 4 Turn on the hub.
- 5 Turn on the computers or other devices that are connected to the hub.

On the front panel of the hub or switch, each numbered port has a corresponding light that glows or flashes to indicate an active connection. If a device is connected but the port light is not lit, see *Troubleshooting* later in this guide.



- 6 Now that you've connected the computers to the hub, you can set up the computers on your network to share files and printers. On each computer to be networked, run the Intel InBusiness Network Setup Wizard CD included with your hub.

## Expanding your network with a switch or additional hubs

When all the connections on your first hub are used, you can expand your network by connecting the hub to another hub or a switch.

Your Intel InBusiness hub or switch has a special port labeled Out to Hub that should be connected only to another hub or switch. Some hubs require a special type of cable called crossover cable to link hubs. However, on Intel InBusiness hubs and switches, the Out to Hub port is a crossover port, which means it can connect to other InBusiness hubs and switches using regular Category 5 network cables.

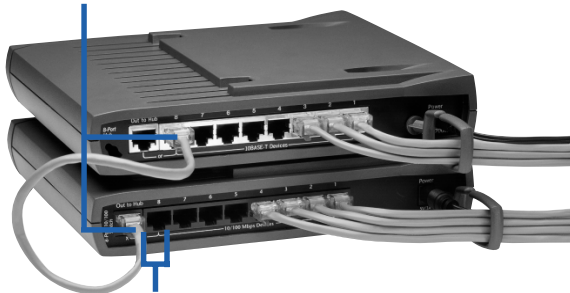
For a quick overview of network expansion, see the "Building your network with Intel InBusiness hubs and switches" diagram.

## Connecting hubs

To connect a hub (Hub 1) to another hub (Hub 2) with standard network cable, use these ports:

- **Hub 1:** Out to Hub
- **Hub 2:** Any numbered port

**Only use the Out to Hub port to connect a hub to a *numbered* port on a switch or another hub. Do not connect the Out to Hub ports of two devices.**



**Do not use Out to Hub and the adjacent port on the same hub or switch simultaneously.**

Tips:

Connect two hubs with a cable that is less than 16 feet (5 meters) long.

Do not connect a 10Mbps device to a 100Mbps device. You can connect both 10Mbps and 100Mbps devices to a 10/100Mbps hub or switch.

To expand your network beyond three linked 10 Mbps hubs, or two linked 100Mbps or 10/100Mbps hubs, you must connect to a switch.

## Connecting to a switch

To connect a hub to a switch, use these ports:

- **Hub:** Out to Hub
- **Switch:** Any numbered port

To connect a switch to another switch, use these ports:

- **Switch 1:** Out to Hub
- **Switch 2:** Any numbered port

Tip:

Connect a switch to a hub or another switch with a cable that is less than 328 feet (100 meters) long.

## Tips for keeping things neat

- Place hubs and switches in a convenient location. Snap the CableKeeper ring into its slot and rotate it to a vertical position. Draw cables through the ring.



- Stack hubs and switches vertically or horizontally using the unique SureStack™ connectors. Press together firmly to ensure a good connection.
- Note:** The 8-Port 10/100 Switch and the 8-Port 10/100 Fast Hub contain internal cooling fans. When these units are positioned vertically, place them on a hard surface to allow airflow for proper ventilation.
- To wall-mount a hub or switch, make two level marks 4-1/8 inches apart for the mounting screws. Remove the upper rubber feet on the bottom of the product to expose the mounting holes. Once screws are in position, insert the screw heads into the exposed mounting holes and gently pull product downward to secure.

# Troubleshooting

## No link lights on the hub or switch

- Check the power adapter to make sure it's plugged in. Press the power button and look for the green light to indicate the unit is on.
- Turn off the power for all devices, then turn it on again. The lights on the front panel of the hub or switch should light up if the corresponding port has a working connection.

## Unit is on but link is not active for a computer or other device

- Make sure the power for the computer or other device is on.
- Make sure your network devices are connected by Category 5 network cable with RJ-45 connectors, and that each cable is less than 328 feet (100 meters) long. If two hubs are connected, the cable must be less than 16 feet (5 meters).

## Unit is on but link is not active (continued)

- Make sure the network cables are securely connected from a hub port to a networked device with an Ethernet adapter or port on the other end.
- Replace the cable with one that's known to work.
- Make sure the network adapter is installed correctly in the networked device.
- Make sure you're not using the Out to Hub port and its adjacent numbered port at the same time.
- Make sure the cable from the Out to Hub port of one unit is not connected to the Out to Hub port of another unit.

# Register your product

You can register your Intel InBusiness hub or switch online at:

<http://www.intel.com/product/register>

# Intel Customer Support

## Internet support

You can reach Intel's Internet support services at no charge. The services contain up-to-date information about Intel products, installation instructions, and troubleshooting information.

Customer Support	<a href="http://support.intel.com/support/">http://support.intel.com/support/</a>
Corporate	<a href="http://www.intel.com">http://www.intel.com</a>
Networking products	<a href="http://www.intel.com/network/">http://www.intel.com/network/</a>
Intel® InBusiness™ products	<a href="http://www.intel.com/network/smallbiz/">http://www.intel.com/network/smallbiz/</a>
News	<a href="news://cs.intel.com">news://cs.intel.com</a>
FTP	<a href="ftp://download.intel.com">ftp://download.intel.com</a>

## Customer support technicians

Intel has technical support centers worldwide. Many of the centers are staffed by technicians who speak the local languages. You can also contact your local dealer or distributor.

US and Canada+1-916-377-7000 (07:00-17:00 M-F, Pacific Time)

### In Europe

English	+44 (0) 870 607 2439	(08:30–16:00 GMT, M-F)
French	+33 (0) 1 41 91 85 29	(08:30–16:00 GMT, M-F)
German	+49 (0) 69 9509 6099	(08:30–16:00 GMT, M-F)
Italian	+39 (0) 2 696 33276	(08:30–16:00 GMT, M-F)

### In the Asia-Pacific region

The following technical support centers are staffed from 9:00–17:00 local time, Monday through Friday.

Australia	+1-800-649-931	Hong Kong	+852-2-844-4456
Korea	+822-767-2595	Singapore	+65-831-1311
Taiwan	+2-2718-9915	New Zealand	+0-800-444-365
PRC	+800-820-1100	Philippines	+1-8001-651-0117
Indonesia	+001-803-65-7249	Malaysia	+1-800-80-1390
Thailand	+1-800-631-0003	India	+0006517, 8311-311
Pakistan	+632-636-8415	Vietnam	+632-636-8416

For a current list of all Intel support centers, the telephone numbers, and the times they are open, see: <http://support.intel.com/support/9089.htm>